User Guide

AWS Support

API Version 2024-09-16

AWS Support: User Guide

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Getting started with AWS Support

AWS Support offers a range of plans that provide access to tools and expertise that support the success and operational health of your AWS solutions. All support plans provide 24/7 access to customer service, AWS documentation, technical papers, and support forums. For technical support and more resources to plan, deploy, and improve your AWS environment, you can choose a support plan for your AWS use case.

Notes

- To create a support case in the AWS Management Console, see Creating a support case.
- For more information about the different AWS Support plans, see Compare AWS Support plans and Changing AWS Support Plans.
- Support plans offer different response times for your support cases. See Choosing a severity and Response times.

Topics

Creating support cases and case management

In the AWS Management Console, you can create three types of customer cases in AWS Support:

- **Account and billing** support cases are available to all AWS customers. You can get help with billing and account questions.
- **Service limit increase** requests are available to all AWS customers. For more information about the default service quotas, formerly referred to as limits, see AWS service quotas in the *AWS General Reference*.

- **Technical** support cases connect you to technical support for help with service-related technical issues and, in some cases, third-party applications. If you have Basic Support, you can't create a technical support case.

> **Notes**
>
> - To change your support plan, see Changing AWS Support Plans.
> - To close your account, see Closing an Account in the *AWS Billing User Guide*.
> - To find common troubleshooting topics for AWS services, see Troubleshooting resources.
> - If you're a customer of an AWS Partner that is part of the AWS Partner Network, and you use Resold Support, contact your AWS Partner directly for any billing related issues. AWS Support can't assist with non-technical issues for Resold Support, such as billing and account management. For more information, see the following topics:
>   - How AWS Partners can determine AWS Support plans in an organization
>   - AWS Partner-Led Support

Creating a support case

You can create a support case in the Support Center of the AWS Management Console.

> **Notes**
>
> - You can sign in to Support Center as the *root user* of your AWS account or as an AWS Identity and Access Management (IAM) user. For more information, see Manage access to AWS Support Center.
> - If you can't sign in to Support Center and create a support case, you can use the Contact Us page instead. You can use this page to get help with billing and account issues.

To create a support case

1. Sign in to the AWS Support Center Console.

> **Tip**
>
> In the AWS Management Console, you can also choose the question mark icon () and then choose **Support Center**.

2. Choose **Create case**.
3. Choose one of the following options:

   - **Account and billing**
   - **Technical**
   - For service quota increases, choose **Looking for service limit increases?** and then follow the instructions for Creating a service quota increase.
4. Choose the **Service**, **Category**, and **Severity**.

   > **Tip**
   >
   > You can use the recommended solutions that appear for commonly asked questions.
5. Choose **Next step: Additional information**
6. On the **Additional information** page, for **Subject**, enter a title about your issue.
7. For **Description**, follow the prompts to describe your case, such as the following:

   - Error messages that you received
   - Troubleshooting steps that you followed
   - How you're accessing the service:
     - AWS Management Console
     - AWS Command Line Interface (AWS CLI)
     - API operations
8. (Optional) Choose **Attach files** to add any relevant files to your case, such as error logs or screenshots. You can attach up to three files. Each file can be up to 5 MB.
9. Choose **Next step: Solve now or contact us**.
10. On the **Contact us** page, choose your preferred language.
11. Choose your preferred contact method. You can choose one of the following options:

a. **Web** – Receive a reply in Support Center.

b. **Chat** – Start a live chat with a support agent. If you can't connect to a chat, see Troubleshooting.

c. **Phone** – Receive a phone call from a support agent. If you choose this option, enter the following information:

- **Country or region**
- **Phone number**
- **(Optional) Extension**

> **Notes**
>
> - The contact options that appear depend on the type of case and your support plan.
> - You can choose **Discard draft** to clear your support case draft.

12. (Optional) If you have a Business, Enterprise On-Ramp, or Enterprise Support plan, the **Additional contacts** option appears. You can enter the email addresses of people to notify when the status of the case changes. If you're signed in as an IAM user, include your email address. If you're signed in with your root account email address and password, you don't need to include your email address

> **Note**
>
> If you have the Basic Support plan, the **Additional contacts** option isn't available. However, the **Operations** contact specified in the **Alternate Contacts** section of the My Account page receives copies of the case correspondence, but only for the specific case types of account and billing, and technical.

13. Review your case details and then choose **Submit**. Your case ID number and summary appear.

Describing your problem

Make your description as detailed as possible. Include relevant resource information, along with anything else that might help us understand your issue. For example, to troubleshoot performance, include timestamps and logs. For feature requests or general guidance questions, include a

description of your environment and purpose. In all cases, follow the **Description Guidance** that appears on your case submission form.

When you provide as much detail as possible, you increase the chances that your case can be resolved quickly.

Choosing a severity

You might be inclined to always create a support case at the highest severity that your support plan allows. However, we recommend that you choose the highest severities for cases that can't be worked around or that directly affect production applications. For information about building your services so that losing single resources doesn't affect your applications, see the Building Fault-Tolerant Applications on AWS technical paper.

The following table lists the severity levels, response times, and example problems.

Notes

- You can't change the severity code for a support case after you create one. If your situation changes, work with the AWS Support agent for your support case.
- For more information about the severity level, see the AWS Support API Reference.

Severity	Severity level code	First-response time	Description and support plan
General guidance	`low`	24 hours	You have a general development question, or you want to request a feature. (*Developer, Business, Enterprise On-Ramp, or Enterprise Support plan)
System impaired	`normal`	12 hours	Non-critical functions of your application are behaving abnormally, or you have a time-sensitive development question. (*Developer, Business, Enterprise On-Ramp, or Enterprise Support plan)

Severity	Severity level code	First-response time	Description and support plan
Production system impaired	`high`	4 hours	Important functions of your application are impaired or degraded. (Business, Enterprise On-Ramp, or Enterprise Support plan)
Production system down	`urgent`	1 hour	Your business is significantly impacted. Important functions of your application aren't available. (Business, Enterprise On-Ramp, or Enterprise Support plan)
Business-critical system down	`critical`	15 minutes	Your business is at risk. Critical functions of your application aren't available (Enterprise Support plan). Note that this is 30 minutes for the Enterprise On-Ramp Support plan.

Response times

We make every reasonable effort to respond to your initial request within the indicated timeframe. For information about the scope of support for each AWS Support plan, see AWS Support features.

If you have a Business, Enterprise On-Ramp, or Enterprise Support plan, you have 24/7 access for technical support. *For Developer Support, response targets for support cases are calculated in business hours. Business hours are generally defined as 08:00 to 18:00 in the customer country, excluding holidays and weekends. These times can vary in countries with multiple time zones. The customer country information appears in the **Contact Information** section of the My Account page in the AWS Management Console.

Note

If you choose Japanese as your preferred contact language for support cases, support in Japanese may be available as follows:

- If you need customer service for non-technical support cases, or if you have a Developer Support plan and need technical support, support in Japanese is available during

business hours in Japan defined as 09:00 AM to 06:00 PM Japan Standard Time (GMT+9), excluding holidays and weekends.

- If you have a Business, Enterprise On-Ramp, or Enterprise Support plan, technical support is available 24/7 in Japanese.

If you choose Chinese as your preferred contact language for support cases, support in Chinese may be available as follows:

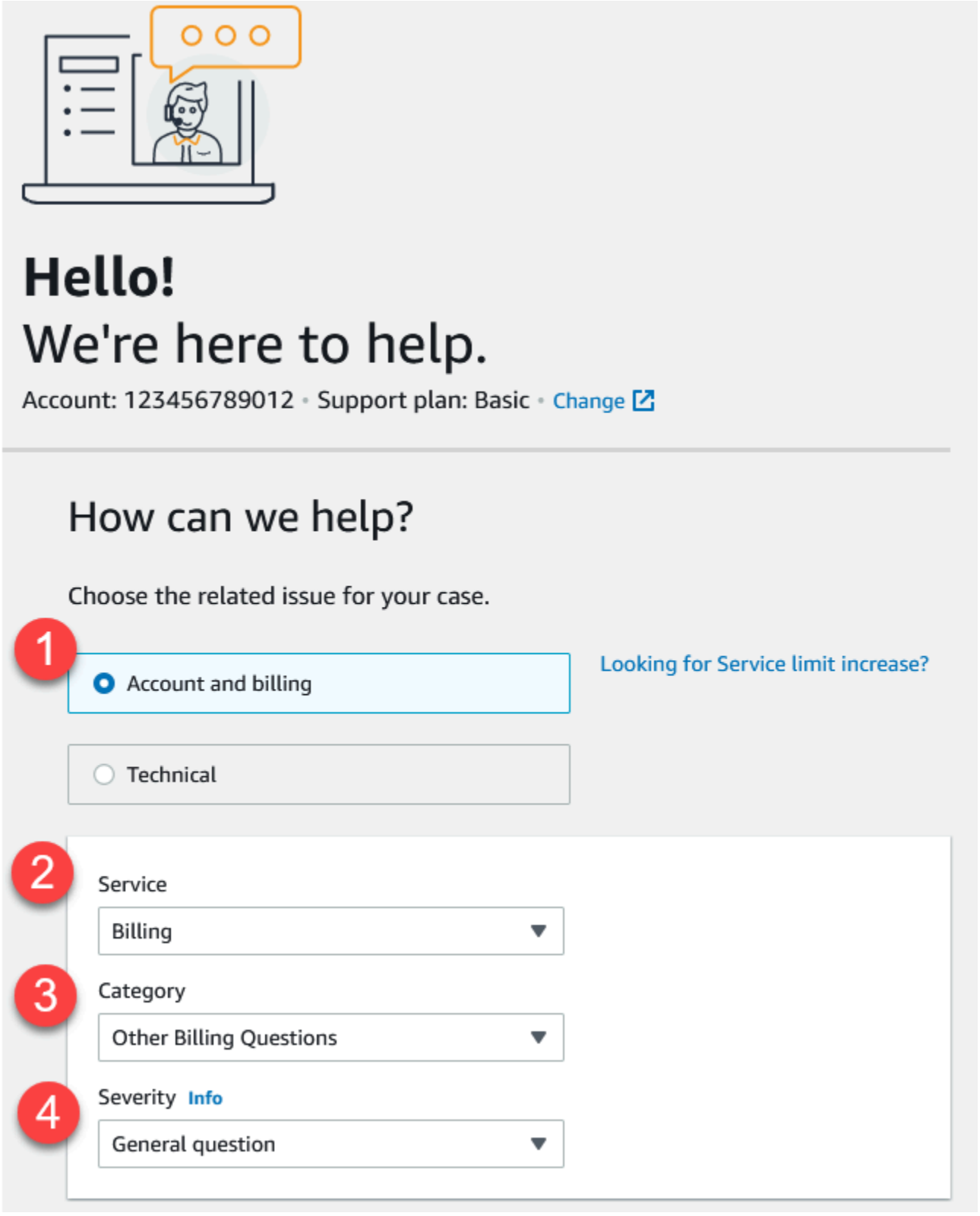
- If you need customer service for non-technical support cases, support in Chinese is available 09:00 AM to 06:00 PM (GMT+8), excluding holidays and weekends.
- If you have a Developer Support plan, technical support in Chinese is available during business hours generally defined as 8:00 AM to 6:00 PM in your country as set in My Account, excluding holidays and weekends. These times may vary in countries with multiple time zones.
- If you have a Business, Enterprise On-Ramp, or Enterprise Support plan, technical support is available 24/7 in Chinese.

If you choose Korean as your preferred contact language for support cases, support in Korean may be available as follows:

- If you need customer service for non-technical support cases, support in Korean is available during business hours in Korea defined as 09:00 AM to 06:00 PM Korean Standard Time (GMT+9), excluding holidays and weekends.
- If you have a Developer Support plan, technical support in Korean is available during business hours generally defined as 8:00 AM to 6:00 PM in your country as set in My Account, excluding holidays and weekends. These times may vary in countries with multiple time zones.
- If you have a Business, Enterprise On-Ramp, or Enterprise Support plan, technical support is available 24/7 in Korean.

Example: Create a support case for account and billing

The following example is a support case for a billing and account issue.



1. **Create case** – Choose the type of case to create. In this example, the case type is **Account and billing**.

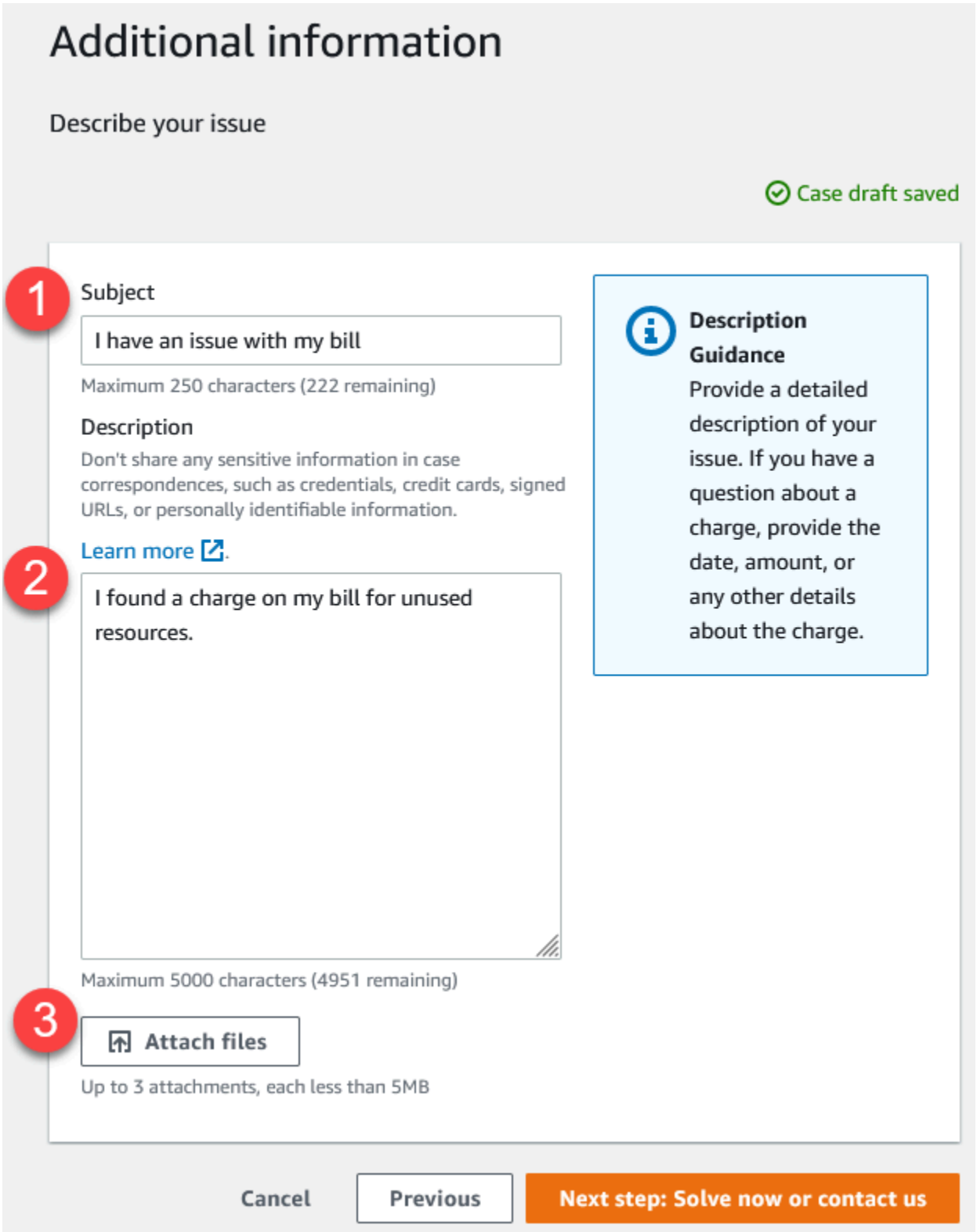
> **Note**
>
> If you have the Basic Support plan, you can't create a technical support case.

2. **Service** – If your question affects multiple services, choose the service that's most applicable.
3. **Category** – Choose the category that best fits your use case. When you choose a category, links to information that might resolve your problem appear below.
4. **Severity** – Customers with a paid support plan can choose the **General guidance** (1-day response time) or **System impaired** (12-hour response time) severity level. Customers with a Business Support plan can also choose **Production system impaired** (4-hour response) or **Production system down** (1-hour response). Customers with an Enterprise On-Ramp or Enterprise Support plan can choose **Business-critical system down** (15-minute response for Enterprise Support and 30-minute response for Enterprise On-Ramp).

   Response times are for first response from AWS Support. These response times don't apply to subsequent responses. For third-party issues, response times can be longer, depending on the availability of skilled personnel. For more information, see Choosing a severity.

   > **Note**
   >
   > Based on your category choice, you might be prompted for more information.

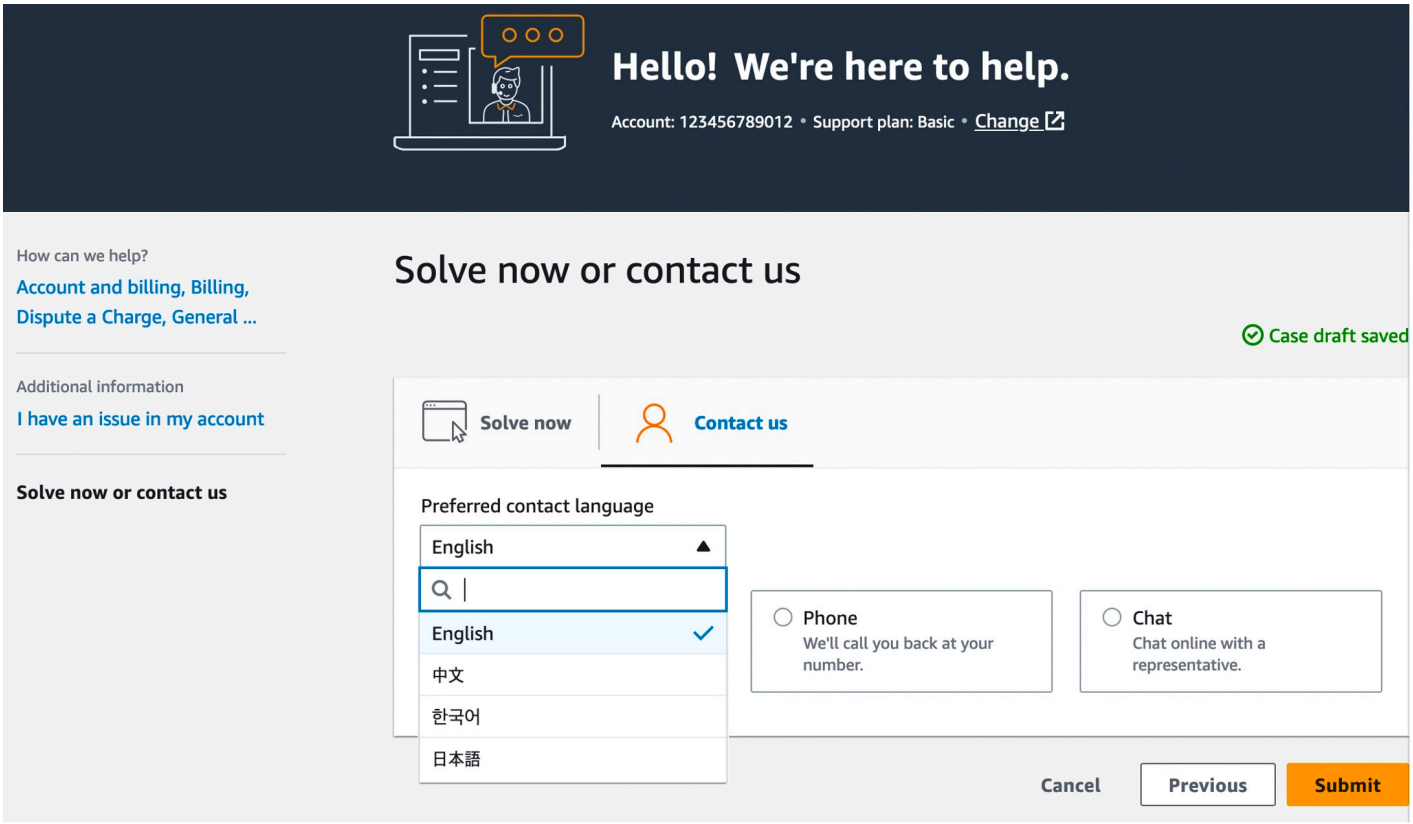
After you specify the case type and classification, you can specify the description and how you want to be contacted.



1. **Subject** – Enter a title that briefly describes your issue.

2. **Description** – Describe your support case. This is the most important information that you provide to AWS Support. For some service and category combinations, a prompt appears with related information. Use these links to help resolve your issue. For more information, see Describing your problem.
3. **Attachments** – Attach screenshots and other files that can help support agents resolve your case faster. You can attach up to three files. Each file can be up to 5 MB.

After you add your case details, you can choose how you want to be contacted.



1. **Preferred contact language** – Choose your preferred language. Currently you can choose Chinese, English, Japanese, or Korean. The customized contact options in your preferred language will be shown by your support plan.
2. Choose a contact method. The contact options that appear depend on the type of case and your support plan.
   - If you choose **Web**, you can read and respond to the case progress in Support Center.
   - Choose **Chat** or **Phone**. If you choose **Phone**, you're prompted for a callback number.
3. Choose **Submit** when your information is complete and you're ready to create the case.

Note

If you choose Japanese as your preferred contact language for support cases, support in Japanese may be available as follows:

- If you need customer service for non-technical support cases, or if you have a Developer Support plan and need technical support, support in Japanese is available during business hours in Japan defined as 09:00 AM to 06:00 PM Japan Standard Time (GMT+9), excluding holidays and weekends.
- If you have a Business, Enterprise On-Ramp, or Enterprise Support plan, technical support is available 24/7 in Japanese.

If you choose Chinese as your preferred contact language for support cases, support in Chinese may be available as follows:

- If you need customer service for non-technical support cases, support in Chinese is available 09:00 AM to 06:00 PM (GMT+8), excluding holidays and weekends.
- If you have a Developer Support plan, technical support in Chinese is available during business hours generally defined as 8:00 AM to 6:00 PM in your country as set in My Account, excluding holidays and weekends. These times may vary in countries with multiple time zones.
- If you have a Business, Enterprise On-Ramp, or Enterprise Support plan, technical support is available 24/7 in Chinese.

If you choose Korean as your preferred contact language for support cases, support in Korean may be available as follows:

- If you need customer service for non-technical support cases, support in Korean is available during business hours in Korea defined as 09:00 AM to 06:00 PM Korean Standard Time (GMT+9), excluding holidays and weekends.
- If you have a Developer Support plan, technical support in Korean is available during business hours generally defined as 8:00 AM to 6:00 PM in your country as set in My Account, excluding holidays and weekends. These times may vary in countries with multiple time zones.

- If you have a Business, Enterprise On-Ramp, or Enterprise Support plan, technical support is available 24/7 in Korean.

Troubleshooting

If you have difficulty when you create or manage your support case, see the following troubleshooting information.

I want to reopen a live chat for my case

You can reply to your existing support case to open another chat window. For more information, see Updating an existing support case.

I can't connect to a live chat

If you chose the **Chat** option but you can't connect to the chat window, first perform the following checks:

- Ensure that you've configured your browser to allow pop-up windows in Support Center.

  > **Note**
  >
  > Review the settings for your browser. For more information, see the Chrome Help and Firefox Support websites.

- Ensure that you've configured your network so that you can use AWS Support:
  - Your network can access the `*.connect.us-east-1.amazonaws.com` endpoint.

    > **Note**
    >
    > For AWS GovCloud (US), the endpoint is `*.connect-fips.us-east-1.amazonaws.com`.

  - Your firewall supports web socket connections.

If you still can’t connect to the chat window, contact AWS Support using email or phone contact options.

Creating a service quota increase

To improve the performance of your service, request increases to your service quotas (formerly referred to as limits).

> **Note**
>
> You can also use the Service Quotas service to request increases directly for your services. Currently, Service Quotas doesn't support service quotas for all services. For more information, see What is Service Quotas? in the *Service Quotas User Guide*.

To create a support case for service quota increases

1. Sign in to the AWS Support Center Console.

   > **Tip**
   >
   > In the AWS Management Console, you can also choose the question mark icon () and then choose **Support Center**.

2. Choose **Create case**.
3. Choose **Looking for service limit increases?**
4. To request an increase, follow the prompts. Possible options include the following:

   - **Limit type**
   - **Severity**

   > **Note**
   >
   > Based on your category choice, the prompts might request more information.

5. For **Requests**, choose the **Region**.
6. For **Limit**, choose the service limit type.
7. For **New limit value**, enter the value that you want.
8. (Optional) To request another increase, choose **Add another request**.

9. For **Case description**, describe your support case.
10. For **Contact options** page, choose your preferred language and how you want to be contacted. You can choose one of the following options:
    - **Web** – Receive a reply in Support Center.
    - **Chat** – Start a live chat with a support agent. If you can't connect to a chat, see Troubleshooting.
    - **Phone** – Receive a phone call from a support agent. If you choose this option, enter the following information:
        - **Country/Region**
        - **Phone number**
        - **(Optional) Extension**
11. Choose **Submit**. Your case ID number and summary appear.

Updating, resolving, and reopening your case

After you create your support case, you can monitor the status of your case in Support Center. A new case begins in the **Unassigned** state. When a support agent begins work on a case, the status changes to **Work in Progress**. The support agent might respond to your case to ask for more information (**Pending Customer Action**) or to let you know that the case is being investigated (**Pending Amazon Action**).

When your case is updated, you receive email with the correspondence and a link to the case in Support Center. Use the link in the email message to navigate to the support case. You can't respond to case correspondences by email.

Notes

- You must sign in to the AWS account that submitted the support case. If you sign in as an AWS Identity and Access Management (IAM) user, you must have the required permissions to view support cases. For more information, see Manage access to AWS Support Center.
- If you don't respond to the case within a few days, AWS Support resolves the case automatically.

- Support cases that have been in the resolved state for more than 14 days can't be reopened. If you have a similar issue that is related to the resolved case, you can create a related case. For more information, see Creating a related case.

Topics

Updating an existing support case

You can update your case to provide more information for the support agent. For example, you can reply to correspondences, start another live chat, add additional email recipients, and so on. However, you can't update the severity of a case after you've created it. For more information, see Choosing a severity.

To update an existing support case

1. Sign in to the AWS Support Center Console.

   Tip

   In the AWS Management Console, you can also choose the question mark icon () and then choose **Support Center**.

2. Under **Open support cases**, choose the **Subject** of the support case.
3. Choose **Reply**. In the **Correspondence** section, you can also make any of the following changes:

   - Provide information that the support agent requested
   - Upload file attachments
   - Change your preferred contact method

- Add email addresses to receive case updates

4. Choose **Submit**.

> **Tip**
>
> If you closed a chat window and you want to start another live chat, add a **Reply** to your support case, choose **Chat**, and then choose **Submit**. A new pop-up chat window opens.

Resolving a support case

When you're satisfied with the response or your problem is solved, you can resolve the case in Support Center.

To resolve a support case

1. Sign in to the AWS Support Center Console.

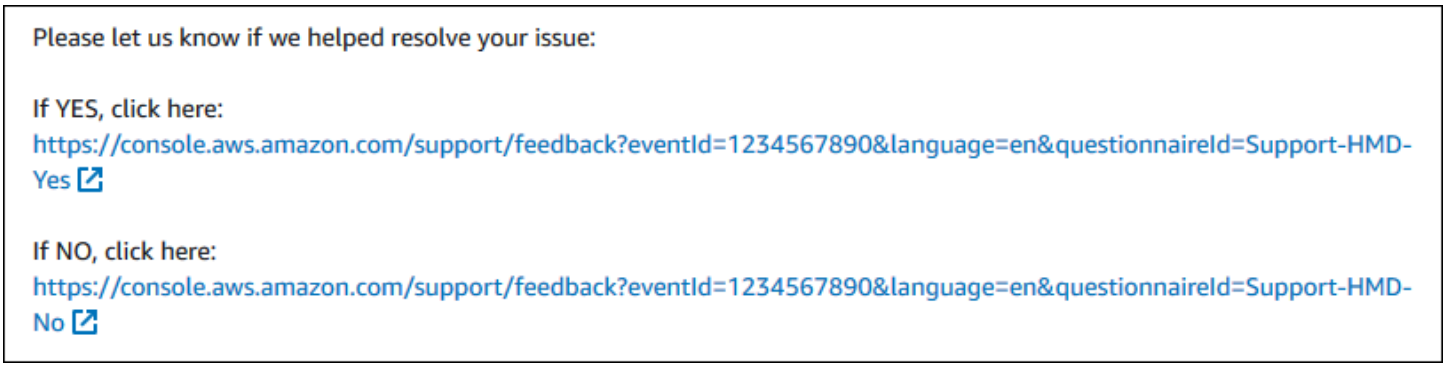
   > **Tip**
   >
   > In the AWS Management Console, you can also choose the question mark icon () and then choose **Support Center**.

2. Under **Open support cases**, choose the **Subject** of the support case that you want to resolve.
3. (Optional) Choose **Reply** and in the **Correspondence** section, enter why you're resolving the case, and then choose **Submit**. For example, you can enter information about how you fixed the issue yourself in case you need this information for future reference.
4. Choose **Resolve case**.
5. In the dialog box, choose **Ok** to resolve the case.

> **Note**
>
> If AWS Support resolved your case for you, you can use the feedback link to provide more information about your experience with AWS Support.

Example : Feedback links

The following screenshot shows the feedback links in the correspondence of a case in Support Center.



Reopening a resolved case

If you're experiencing the same issue again, you can reopen the original case. Provide details about when the issue occurred again and what troubleshooting steps that you tried. Include any related case numbers so that the support agent can refer to previous correspondences.

Notes

- You can reopen your support case up to 14 days from when your issue was resolved. However, you can't reopen a case that has been inactive for more than 14 days. You can create a new case or a related case. For more information, see Creating a related case.
- If you reopen an existing case that has different information than your current issue, the support agent might ask you to create a new case.

To reopen a resolved case

1. Sign in to the AWS Support Center Console.

   Tip

   In the AWS Management Console, you can also choose the question mark icon ( ) and then choose **Support Center**.

2. Choose **View all cases** and then choose the **Subject** or the **Case ID** of the support case that you want to reopen.
3. Choose **Reopen case**.
4. Under **Correspondence**, for **Reply**, enter the case details.
5. (Optional) Choose **Choose files** to attach files to your case. You can attach up to 3 files.
6. For **Contact methods**, choose one of the following options:
   - **Web** – Get notified by email and the Support Center.
   - **Chat** – Chat online with a support agent.
   - **Phone** – Receive a phone call from a support agent.
7. (Optional) For **Additional contacts**, enter email addresses for other people that you want to receive case correspondences.
8. Review your case details and choose **Submit**.

Creating a related case

After 14 days of inactivity, you can't reopen a resolved case. If you have a similar issue that is related to the resolved case, you can create a related case. This related case will include a link to the previously resolved case, so that the support agent can review the previous case details and correspondences. If you're experiencing a different issue, we recommend that you create a new case.

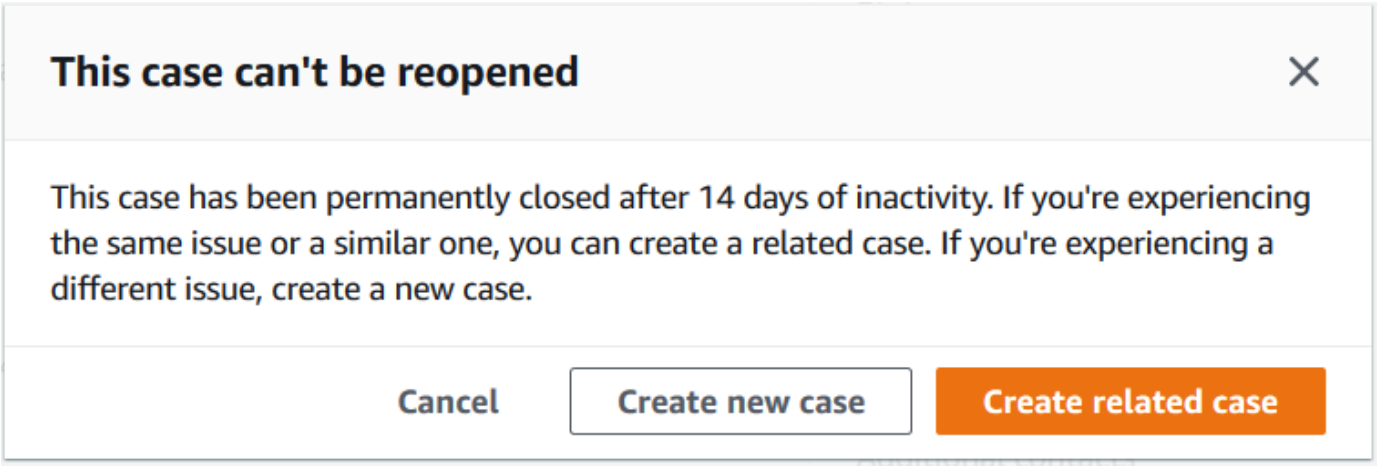
To create a related case

1. Sign in to the AWS Support Center Console.

   > **Tip**
   >
   > In the AWS Management Console, you can also choose the question mark icon () and then choose **Support Center**.

2. Choose **View all cases** and then choose the **Subject** or the **Case ID** of the support case that you want to reopen.
3. Choose **Reopen case**.

4. In the dialog box, choose **Create related case**. The previous case information will be automatically added to your related case. If you have a different issue, choose **Create new case**.

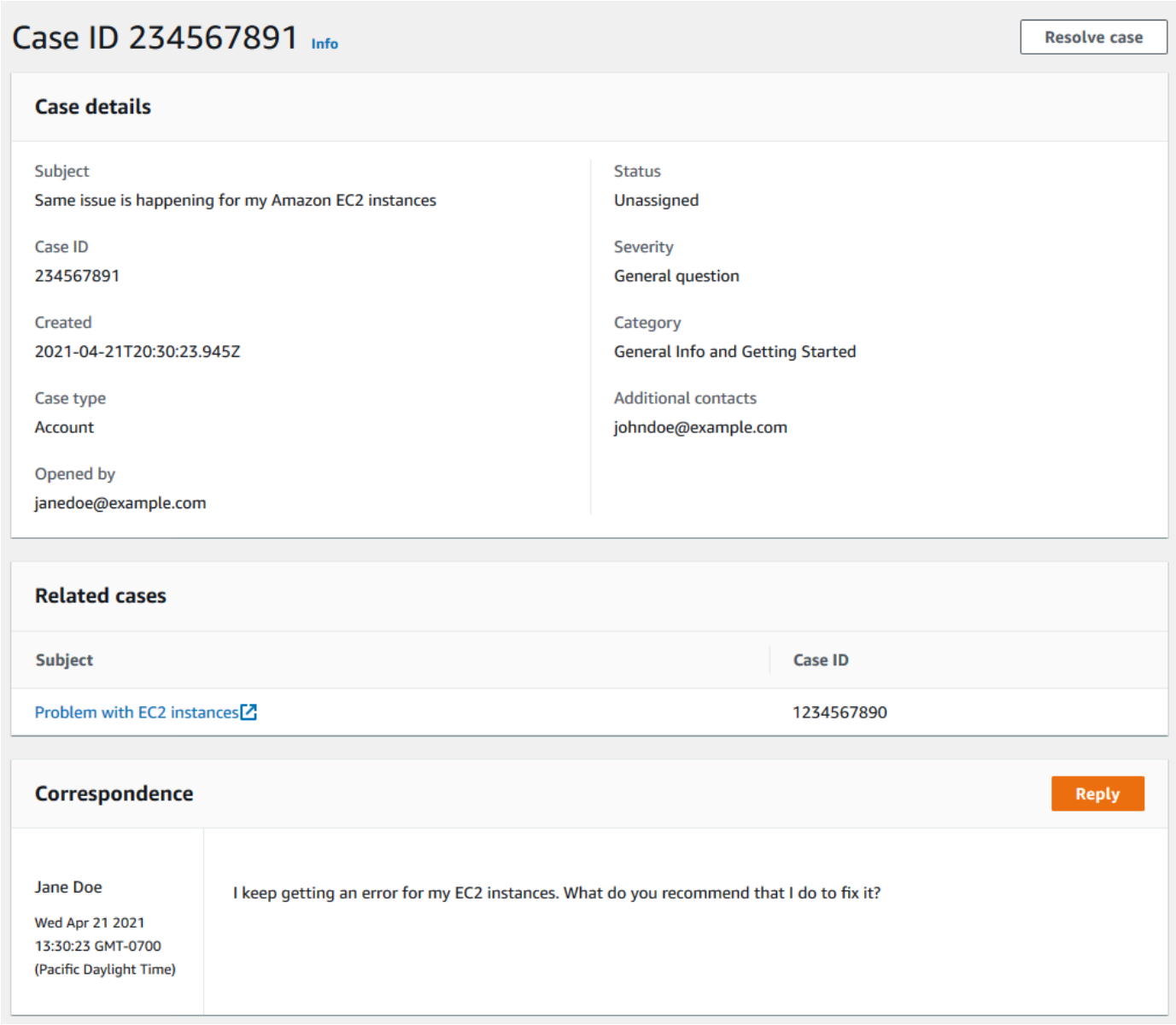


5. Follow the same steps to create your case. See Creating a support case.

> **Note**
>
> By default, your related case has the same **Type**, **Category**, and **Severity** of the previous case. You can update the case details as needed.

6. Review your case details and choose **Submit**.

   After you create your case, the previous case appears in the **Related cases** section, such as in the following example.



Case history

You can view case history information up to 24 months after you create a case.

AWS Support Recommendations

> **Note**
>
> AWS Support Recommendations is provided as a 'Preview Service' as defined by the AWS Service Terms. The Preview service is subject to change and cancellation. Learn more.

AWS Support Recommendations offers you personalized troubleshooting assistance for account and technical issues during the create case flow in the AWS Support Center console. AWS Support Recommendations relies on case details and the logged in account to respond with tailored solutions to resolve your issue.

To analyze issues, AWS Support Recommendations queries information—such as AccountID, AWS Resource identifiers, or the error message—in the scope of approved policy/user permissions. Learn more.

Topics

Manage access to AWS Support Recommendations

> **Note**
>
> AWS Support Recommendations is provided as a 'Preview Service' as defined by the AWS Service Terms. The Preview service is subject to change and cancellation. Learn more.

You can use AWS Identity and Access Management (IAM) to manage access to AWS Support Recommendations in the AWS Support Center console during the create case flow.

Topics

AWS Support Recommendations actions

You can specify AWS Support Recommendations actions in an IAM policy to provide full access, deny complete access, or provide / deny access to specific actions.

Action	Description
`StartSupportTroubleshooting`	Initiate a guided troubleshooting session to help diagnose and resolve account or technical issues during the create case flow in the AWS Support Center console.
`GetSupportTroubleshootingResponse`	Retrieve the current state and output from a troubleshooting session started with StartSupportTroubleshooting. Includes interactive requests for more information and recommendations for resolving the issue based on previous responses.

Example IAM policies for AWS Support Recommendations

You can use the following example policies to manage access to AWS Support Recommendations.

Full access to AWS Support Recommendations

The following policy allows users full access to AWS Support Recommendations.

```
{
    "Version": "2012-10-17",
    "Statement": [
        {
            "Effect": "Allow",
            "Action": [
                "supportrecommendations:StartSupportTroubleshooting",
                "supportrecommendations:GetSupportTroubleshootingResponse"
            ],
            "Resource": "*"
        }
    ]
```

```
}
```

Deny access to AWS Support Recommendations

The following policy doesn't allow users access to AWS Support Recommendations.

```
{
    "Version": "2012-10-17",
    "Statement": [
        {
            "Effect": "Deny",
            "Action": "supportrecommendations:*",
            "Resource": "*"
        }
    ]
}
```

Monitoring and logging for AWS Support Recommendations

> **Note**
>
> AWS Support Recommendations is provided as a 'Preview Service' as defined by the AWS Service Terms. The Preview service is subject to change and cancellation. Learn more.

Monitoring is an important part of maintaining the reliability, availability, and performance of AWS Support Recommendations and your other AWS solutions. AWS provides the following monitoring tool to watch AWS Support Recommendations, report when something is wrong, and take automatic actions when appropriate:

- *AWS CloudTrail* captures API calls and related events made by or on behalf of your AWS account and delivers the log files to an Amazon S3 bucket that you specify. You can identify which users and accounts called AWS, the source IP address from which the calls were made, and when the calls occurred. For more information, see the AWS CloudTrail User Guide.

Topics

- Logging AWS Support Recommendations calls with AWS CloudTrail

Logging AWS Support Recommendations calls with AWS CloudTrail

> **Note**
>
> AWS Support Recommendations is provided as a 'Preview Service' as defined by the AWS Service Terms. The Preview service is subject to change and cancellation. Learn more.

AWS Support Recommendations is integrated with AWS CloudTrail, a service that provides a record of actions taken by a user, role, or an AWS service. CloudTrail captures API calls for AWS Support Recommendations as events. The calls captured include calls from the AWS Support Center console and code calls to the AWS Support Recommendations.

If you create a trail, you can enable continuous delivery of CloudTrail events to an Amazon Simple Storage Service (Amazon S3) bucket, including events for AWS Support Recommendations. If you don't configure a trail, you can still view the most recent events in the CloudTrail console in **Event history**.

Using the information collected by CloudTrail, you can determine the request that was made to AWS Support Recommendations, the IP address from which the request was made, who made the request, when it was made, and additional details.

To learn more about CloudTrail, including how to configure and enable it, see the AWS CloudTrail User Guide.

AWS Support Recommendations information in CloudTrail

CloudTrail is enabled on your AWS account when you create the account. When supported event activity occurs in AWS Support Recommendations, that activity is recorded in a CloudTrail event along with other AWS service events in **Event history**. You can view, search, and download recent events in your AWS account. For more information, see Viewing events with CloudTrail event history.

For an ongoing record of events in your AWS account, including events for AWS Support Recommendations, create a *trail*. A trail enables CloudTrail to deliver log files to an Amazon S3 bucket. By default, when you create a trail in the console, the trail applies to all AWS Regions. The trail logs events from all Regions in the AWS partition and delivers the log files to the Amazon S3 bucket that you specify. Additionally, you can configure other AWS services to further analyze and act upon the event data collected in CloudTrail logs. For more information, see the following:

- Overview for creating a trail
- CloudTrail supported services and integrations
- Configuring Amazon SNS notifications for CloudTrail
- Receiving CloudTrail log files from multiple Regions and Receiving CloudTrail log files from multiple accounts

All AWS Support Recommendations calls are logged by CloudTrail. Every event or log entry contains information about who generated the request. The identity information helps you determine the following:

- Whether the request was made with root or AWS Identity and Access Management (IAM) user credentials.
- Whether the request was made with temporary security credentials for a role or federated user.
- Whether the request was made by another AWS service.

For more information, see the CloudTrail userIdentity element.

You can also aggregate AWS Support Recommendations log files from multiple AWS Regions and multiple AWS accounts into a single Amazon S3 bucket.

Understanding AWS Support Recommendations log file entries

A trail is a configuration that enables delivery of events as log files to an Amazon S3 bucket that you specify. CloudTrail log files contain one or more log entries. An event represents a single request from any source. It includes information about the requested operation, the date and time of the operation, request parameters, and so on. CloudTrail log files aren't an ordered stack trace of the public API calls, so they don't appear in any specific order.

Example : Log entry for `StartSupportTroubleshooting`

The following example shows a CloudTrail log entry for the `StartSupportTroubleshooting` operation.

```
{
    "eventVersion": "1.08",
    "userIdentity": {
        "type": "IAMUser",
```

```
        "principalId": "AIDACKCEVSQ6C2EXAMPLE",
        "arn": "arn:aws:iam::111122223333:user/Admin",
        "accountId": "111122223333",
        "accessKeyId": "AKIAIOSFODNN7EXAMPLE",
    },
    "eventTime": "2023-09-11T16:34:13Z",
    "eventSource": "supportrecommendations.amazonaws.com",
    "eventName": "StartSupportTroubleshooting",
    "awsRegion": "us-east-1",
    "sourceIPAddress": "72.21.198.67",
    "userAgent": "signin.amazonaws.com",
    "requestParameters": {
        "message": "..."
    },
    "responseElements": null,
    "requestID": "4c4d5fc8-c403-4f82-9544-41f820e0fa01",
    "eventID": "2f4630ac-5c27-4f0d-b93f-63742d6fc85e",
    "readOnly": true,
    "eventType": "AwsApiCall",
    "managementEvent": true,
    "recipientAccountId": "111122223333",
    "eventCategory": "Management"
}
```


Example : Log entry for `GetSupportTroubleshootingResponse`

The following example shows a CloudTrail log entry for the `GetSupportTroubleshootingResponse` operation.


```
{
    "eventVersion": "1.08",
    "userIdentity": {
        "type": "IAMUser",
        "principalId": "AIDACKCEVSQ6C2EXAMPLE",
        "arn": "arn:aws:iam::111122223333:user/Admin",
        "accountId": "111122223333",
        "accessKeyId": "AKIAIOSFODNN7EXAMPLE",
    },
    "eventTime": "2023-09-11T16:34:13Z",
    "eventSource": "supportrecommendations.amazonaws.com",
    "eventName": "GetSupportTroubleshootingResponse",
    "awsRegion": "us-east-1",
```

```
    "sourceIPAddress": "72.21.198.67",
    "userAgent": "signin.amazonaws.com",
    "requestParameters": {
        "conversationId": "..."
    },
    "responseElements": null,
    "requestID": "4c4d5fc8-c403-4f82-9544-41f820e0fa01",
    "eventID": "2f4630ac-5c27-4f0d-b93f-63742d6fc85e",
    "readOnly": true,
    "eventType": "AwsApiCall",
    "managementEvent": true,
    "recipientAccountId": "111122223333",
    "eventCategory": "Management"
}
```


Using AWS Support with an AWS SDK

AWS software development kits (SDKs) are available for many popular programming languages. Each SDK provides an API, code examples, and documentation that make it easier for developers to build applications in their preferred language.

SDK documentation	Code examples
AWS SDK for C++	AWS SDK for C++ code examples
AWS CLI	AWS CLI code examples
AWS SDK for Go	AWS SDK for Go code examples
AWS SDK for Java	AWS SDK for Java code examples
AWS SDK for JavaScript	AWS SDK for JavaScript code examples
AWS SDK for Kotlin	AWS SDK for Kotlin code examples
AWS SDK for .NET	AWS SDK for .NET code examples
AWS SDK for PHP	AWS SDK for PHP code examples
AWS Tools for PowerShell	Tools for PowerShell code examples

SDK documentation	Code examples
AWS SDK for Python (Boto3)	AWS SDK for Python (Boto3) code examples
AWS SDK for Ruby	AWS SDK for Ruby code examples
AWS SDK for Rust	AWS SDK for Rust code examples
AWS SDK for SAP ABAP	AWS SDK for SAP ABAP code examples
AWS SDK for Swift	AWS SDK for Swift code examples

Example availability

Can't find what you need? Request a code example by using the **Provide feedback** link at the bottom of this page.

About the AWS Support API

The AWS Support API provides access to some of the features in the AWS Support Center.

The API provides two different groups of operations:

- Support case management operations to manage the entire life cycle of your AWS support cases, from creating a case to resolving it
- AWS Trusted Advisor operations to access AWS Trusted Advisor checks

> **Note**
>
> You must have a Business, Enterprise On-Ramp, or Enterprise Support plan to use the AWS Support API. For more information, see AWS Support.

For more information about the operations and data types provided by AWS Support, see the AWS Support API Reference.

Topics

Support case management

You can use the API to perform the following tasks:

- Open a support case
- Get a list and detailed information about recent support cases
- Filter your search for support cases by dates and case identifiers, including resolved cases
- Add communications and file attachments to your cases, and add the email recipients for case correspondences. You can attach up to three files. Each file can be up to 5 MB
- Resolve your cases

The AWS Support API supports CloudTrail logging for support case management operations. For more information, see Logging AWS Support API calls with AWS CloudTrail.

For code examples that demonstrate how to manage the entire life cycle of a support case, see Code examples for AWS Support using AWS SDKs..

AWS Trusted Advisor

You can use the Trusted Advisor operations to perform the following tasks:

- Get the names and identifiers for the Trusted Advisor checks
- Request that a Trusted Advisor check be run against your AWS account and resources
- Get summaries and detailed information for your Trusted Advisor check results
- Refresh your Trusted Advisor checks
- Get the status of each Trusted Advisor check

The AWS Support API supports CloudTrail logging for Trusted Advisor operations. For more information, see AWS Trusted Advisor information in CloudTrail logging.

You can use Amazon CloudWatch Events to monitor for changes to your check results for Trusted Advisor. For more information, see Monitoring AWS Trusted Advisor check results with Amazon EventBridge.

For example Java code that demonstrates how to use the Trusted Advisor operations, see Using Trusted Advisor as a web service.

Endpoints

AWS Support is a global service. This means that any endpoint that you use will update your support cases in the Support Center Console.

For example, if you use the US East (N. Virginia) endpoint to create a case, you can use the US West (Oregon) or Europe (Ireland) endpoint to add a correspondence to the same case.

You can use the following endpoints for the AWS Support API:

- US East (N. Virginia) – https://support.us-east-1.amazonaws.com
- US West (Oregon) – https://support.us-west-2.amazonaws.com

- Europe (Ireland) – https://support.eu-west-1.amazonaws.com

> **Important**
>
> - If you call the CreateCase operation to create test support cases, then we recommend that you include a subject line, such as **TEST CASE-Please ignore**. After you're done with your test support case, call the ResolveCase operation to resolve it.
> - To call the AWS Trusted Advisor operations in the AWS Support API, you must use the US East (N. Virginia) endpoint. Currently, the US West (Oregon) and Europe (Ireland) endpoints don't support the Trusted Advisor operations.

For more information about AWS endpoints, see AWS Support endpoints and quotas in the *Amazon Web Services General Reference*.

Support in AWS SDKs

The AWS Command Line Interface (AWS CLI), and the AWS Software Development Kits (SDKs) include support for the AWS Support API.

For a list of languages that support the AWS Support API, choose an operation name, such as CreateCase, and in the See Also section, choose your preferred language.

AWS Support Plans

You can change your AWS Support Plans for your account based on your business needs.

Topics

Features of AWS Support Plans

AWS Support offers five support plans:

- Basic
- Developer
- Business
- Enterprise On-Ramp
- Enterprise

Basic Support offers support for account and billing questions and service quota increases. The other plans offer a number of technical support cases with pay-by-the-month pricing and no long-term contracts.

All AWS customers automatically have 24x7 access to these features of Basic Support:

- One-on-one responses to account and billing questions
- Support forums
- Service health checks
- Documentation, technical papers, and best practice guides

Customers with a Developer Support plan have access to these additional features:

- Best practice guidance
- Client-side diagnostic tools

- Building-block architecture support: guidance on how to use AWS products, features, and services together
- Supports an unlimited number of support cases that can be opened by any user with permissions.

In addition, customers with a Business, Enterprise On-Ramp, or Enterprise Support plan have access to these features:

- Use-case guidance – What AWS products, features, and services to use to best support your specific needs.
- AWS Trusted Advisor – A feature of AWS Support, which inspects customer environments and identifies opportunities to save money, close security gaps, and improve system reliability and performance. You can access all Trusted Advisor checks.
- The AWS Support API to interact with Support Center and Trusted Advisor. You can use the AWS Support API to automate support case management and Trusted Advisor operations.
- Third-party software support – Help with Amazon Elastic Compute Cloud (Amazon EC2) instance operating systems and configuration. Also, help with the performance of the most popular third-party software components on AWS. Third-party software support isn't available for customers on Basic or Developer Support plans.
- Supports an unlimited number of AWS Identity and Access Management (IAM) users who can open technical support cases.

In addition, customers with an Enterprise On-Ramp or Enterprise Support plan have access to these features:

- Application architecture guidance – Consultative guidance on how services fit together to meet your specific use case, workload, or application.
- Infrastructure event management – Short-term engagement with AWS Support to get a deep understanding of your use case. After analysis, provide architectural and scaling guidance for an event.
- Technical account manager – Work with a technical account manager (TAM) for your specific use cases and applications.
- White-glove case routing.
- Management business reviews.

For more information about features and pricing for each support plan, see AWS Support and Compare AWS Support plans. Some features, such as 24x7 phone and chat support, aren't available in all languages.

Changing AWS Support Plans

You can use the AWS Support Plans console to change your support plan for your AWS account. To change your support plan, you must have AWS Identity and Access Management (IAM) permissions or sign in to your account as a root user. For more information, see Manage access to AWS Support Plans and AWS managed policies for AWS Support Plans.

To change your support plan

1. Sign in to the AWS Support Plans console at https://console.aws.amazon.com/support/plans/home.
2. (Optional) On the **AWS Support Plans** page, compare the support plans. For more information about the pricing, visit the pricing detail page.
3. (Optional) Under **AWS Support pricing example**, choose **See examples**, and then choose one of the support plan options to see the estimated cost.
4. When you decide on a plan, choose **Review downgrade** or **Review upgrade** for the plan that you want.

   Notes

   - If you sign up for a paid support plan, you're responsible for a minimum one month subscription of AWS Support. For more information, see the AWS Support FAQs.
   - If you have an Enterprise On-Ramp or Enterprise Support plan, on the **Change plan confirmation** dialog box, contact AWS Support to change your support plan.
5. In the **Change plan confirmation** dialog box, you can expand the support items to see the features that you want to add or remove from your account.

   Under **Pricing**, you can view the projected one-time charges for the new support plan.
6. Choose **Accept and agree**.

Related information

For more information about AWS Support Plans, see the AWS Support FAQs. You can also choose **Contact us** from the Support Plans console.

To close your account, see Closing an Account in the *AWS Billing User Guide*.

AWS Trusted Advisor

Trusted Advisor draws upon best practices learned from serving hundreds of thousands of AWS customers. Trusted Advisor inspects your AWS environment, and then makes recommendations when opportunities exist to save money, improve system availability and performance, or help close security gaps.

If you have a Basic or Developer Support plan, you can use the Trusted Advisor console to access all checks in the Service Limits category and six checks in the Security category.

If you have a Business, Enterprise On-Ramp, or Enterprise Support plan, you can use the Trusted Advisor console and the AWS Trusted Advisor API to access all Trusted Advisor checks. You also can use Amazon CloudWatch Events to monitor the status of Trusted Advisor checks. For more information, see Monitoring AWS Trusted Advisor check results with Amazon EventBridge.

You can access Trusted Advisor in the AWS Management Console. For more information about controlling access to the Trusted Advisor console, see Manage access to AWS Trusted Advisor.

For more information, see Trusted Advisor.

Topics

Get started with Trusted Advisor Recommendations

You can use the Trusted Advisor Recommendations page of the Trusted Advisor console to review check results for your AWS account and then follow the recommended steps to fix any issues. For example, Trusted Advisor might recommend that you delete unused resources to reduce your monthly bill, such as an Amazon Elastic Compute Cloud (Amazon EC2) instance.

You can also use the AWS Trusted Advisor API to perform operations on your Trusted Advisor checks. For more information, see the AWS Trusted Advisor API Reference

Topics

Sign in to the Trusted Advisor console

You can view the checks and the status of each check in the Trusted Advisor console.

> **Note**
>
> You must have AWS Identity and Access Management (IAM) permissions to access the Trusted Advisor console. For more information, see Manage access to AWS Trusted Advisor.

To sign in to the Trusted Advisor console

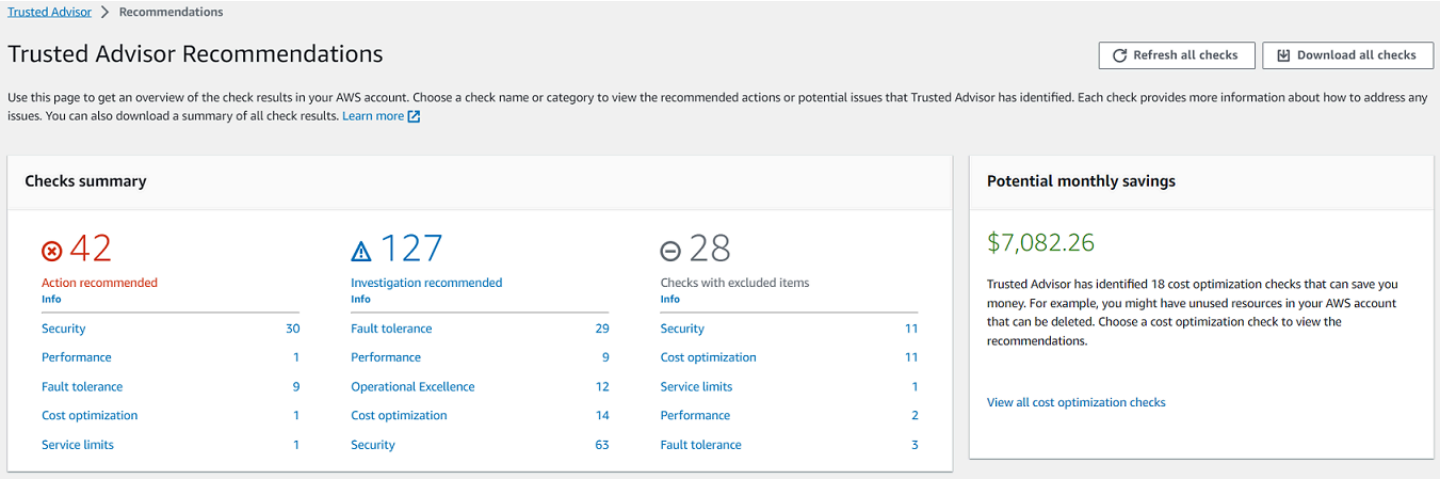
1. Sign in to the Trusted Advisor console at https://console.aws.amazon.com/trustedadvisor/home.
2. On the **Trusted Advisor Recommendations** page, view the summary for each check category:

- **Action recommended (red)** – Trusted Advisor recommends an action for the check. For example, a check that detects a security issue for your IAM resources might recommend urgent steps.
- **Investigation recommended (yellow)** – Trusted Advisor detects a possible issue for the check. For example, a check that reaches a quota for a resource might recommend ways to delete unused resources.
- **Checks with excluded items (gray)** – The number of checks that have excluded items, such as resources that you want a check to ignore. For example, this might be Amazon EC2 instances that you don't want the check to evaluate.

3. You can do the following on the **Trusted Advisor Recommendations** page:
   - To refresh all checks in your account, choose **Refresh all checks**.
   - To create an .xls file that includes all check results, choose **Download all checks**.
   - Under **Checks summary**, choose a check category, such as **Security**, to view the results.
   - Under **Potential monthly savings**, you can view how much you can save for your account and the cost optimization checks for recommendations.
   - Under **Recent changes**, you can view changes to check statuses within the last 30 days. Choose a check name to view the latest results for that check or choose the arrow icon to view the next page.

Example : Trusted Advisor Recommendations

The following example shows a summary of the check results for an AWS account.



View check categories

You can view the check descriptions and results for the following check categories:

- **Cost optimization** – Recommendations that can potentially save you money. These checks highlight unused resources and opportunities to reduce your bill.
- **Performance** – Recommendations that can improve the speed and responsiveness of your applications.
- **Security** – Recommendations for security settings that can make your AWS solution more secure.
- **Fault tolerance** – Recommendations that help increase the resiliency of your AWS solution. These checks highlight redundancy shortfalls and overused resources.
- **Service limits** – Checks the usage for your account and whether your account approaches or exceeds the limit (also known as quotas) for AWS services and resources.
- **Operational Excellence** – Recommendations to help you operate your AWS environment effectively, and at scale.

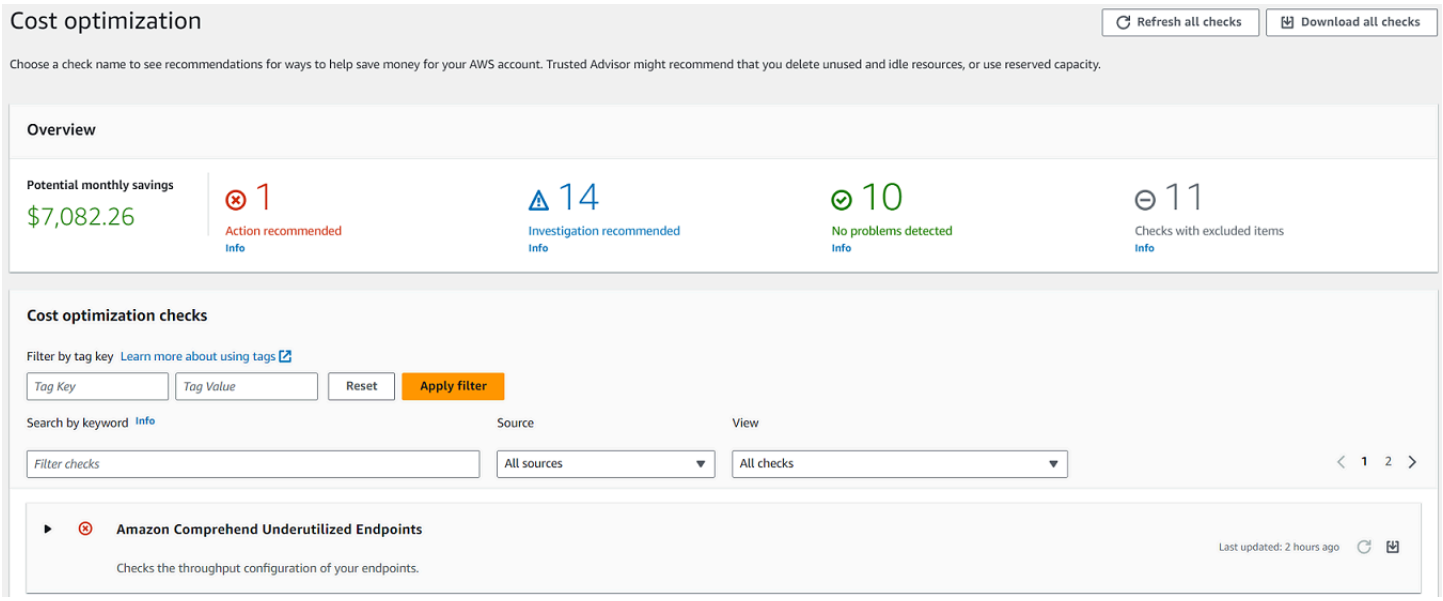
To view check categories

1. Sign in to the Trusted Advisor console at https://console.aws.amazon.com/trustedadvisor/home.
2. In the navigation pane, choose the check category.
3. On the category page, view the summary for each check category:
   - **Action recommended (red)** – Trusted Advisor recommends an action for the check.
   - **Investigation recommended (yellow)** – Trusted Advisor detects a possible issue for the check.
   - **No problems detected (green)** – Trusted Advisor doesn't detect an issue for the check.
   - **Excluded items (gray)** – The number of checks that have excluded items, such as resources that you want a check to ignore.
4. For each check, choose the refresh icon () to refresh this check.

5. Choose the download icon
   (⬇)
   to create an .xls file that includes the results for this check.

Example : Cost optimization category

The following example shows 10 (green) checks that don't have any issues.



View specific checks

Expand a check to view the full check description, your affected resources, any recommended steps, and links to more information.

To view a specific check

1. Sign in to the Trusted Advisor console at https://console.aws.amazon.com/trustedadvisor/home.
2. In the navigation pane, choose a check category.
3. Choose the check name to view the description and the following details:
   - **Alert Criteria** – Describes the threshold when a check will change status.
   - **Recommended Action** – Describes the recommended actions for this check.
   - **Additional Resources** – Lists related AWS documentation.

- A table that lists the affected items in your account. You can include or exclude these items from check results.

4. (Optional) To exclude items so that they don't appear in check results:

   a. Select an item and choose **Exclude & Refresh**.

   b. To view all excluded items, choose **Excluded items**.

5. (Optional) To include items so that the check evaluates them again:

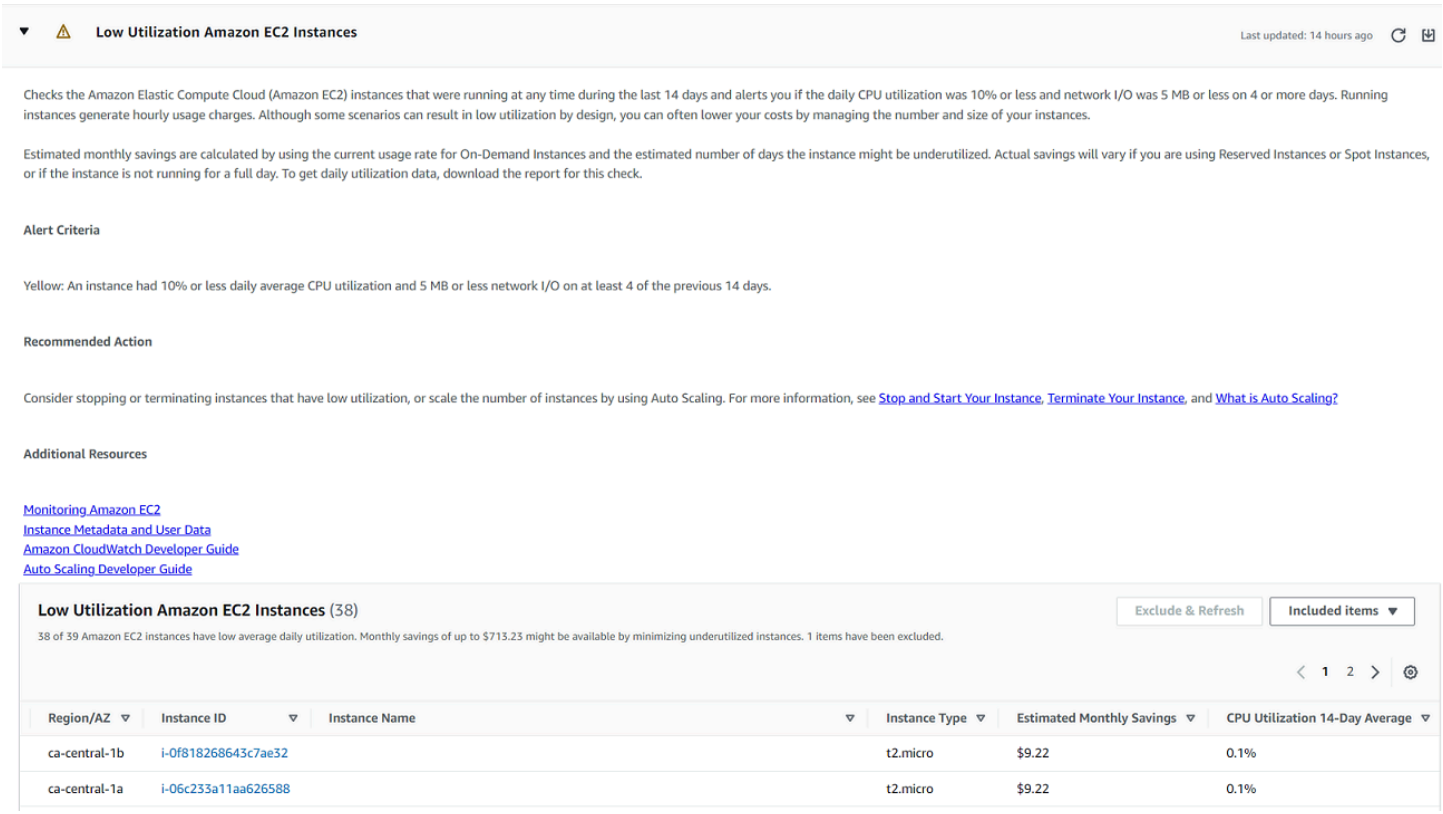
   a. Choose **Excluded items**, select an item, and then choose **Include & Refresh**.

   b. To view all included items, choose **Included items**.

6. Choose the settings icon
   ( ).
   In the **Preferences** dialog box, you can specify the number of items or the properties to display, and then choose **Confirm**.

Example : Cost optimization check

The following **Low Utilization Amazon EC2 Instances** check lists the affected instances in the account. This check identifies 38 Amazon EC2 instances that have low usage and recommends that you stop or terminate the resources.



Filter your checks

On the check category pages, you can specify which check results that you want to view. For example, you might filter by checks that have detected errors in your account so that you can investigate urgent issues first.

If you have checks that evaluate items in your account, such as AWS resources, you can use tag filters to only show items that have the specified tag.

To filter your checks

1. Sign in to the Trusted Advisor console at https://console.aws.amazon.com/trustedadvisor/home.
2. In the navigation pane or the **Trusted Advisor Recommendations** page, choose the check category.
3. For **Search by keyword**, enter a keyword from the check name or description to filter your results.
4. For the **View** list, specify which checks to view:

   - **All checks** – List all checks for this category.

- **Action recommended** – List checks that recommend that you take action. These checks are highlighted in red.
- **Investigation recommended** – List checks that recommend that you take possible action. These checks are highlighted in yellow.
- **No problems detected** – List checks that don't have any issues. These checks are highlighted in green.
- **Checks with excluded items** – List checks that you specified to exclude items from the check results.

5. If you added tags to your AWS resources, such as Amazon EC2 instances or AWS CloudTrail trails, you can filter your results so that the checks only show items that have the specified tag.

   For **Filter by tag**, enter a tag key and value, and then choose **Apply filter**.
6. In the table for the check, the check results only show items that have the specified key and value.
7. To clear the filter by tags, choose **Reset**.

Related information

For more information about tagging for Trusted Advisor, see the following topics:

- AWS Support enables tagging capabilities for Trusted Advisor
- Tagging AWS resources in the *AWS General Reference*

Refresh check results

You can refresh checks to get the latest results for your account. If you have a Developer or Basic Support plan, you can sign in to the Trusted Advisor console to refresh the checks. If you have a Business, Enterprise On-Ramp, or Enterprise Support plan, Trusted Advisor automatically refreshes the checks in your account on a weekly basis.

To refresh Trusted Advisor checks

1. Navigate to the AWS Trusted Advisor console at https://console.aws.amazon.com/trustedadvisor.
2. On the **Trusted Advisor Recommendations** or a check category page, choose **Refresh all checks**.

You can also refresh specific checks in the following ways:

- Choose the refresh icon
  ()
  for an individual check.
- Use the RefreshTrustedAdvisorCheck API operation.

Notes

- Trusted Advisor automatically refreshes some checks several times a day, such as the **AWS Well-Architected high risk issues for reliability** check. It might take a few hours for changes to appear in your account. For these automatically refreshed checks, you can't choose the refresh icon
  ()
  to manually refresh your results.
- If you enabled AWS Security Hub for your account, you can't use the Trusted Advisor console to refresh Security Hub controls. For more information, see Refresh your Security Hub findings.

Download check results

You can download check results to get an overview of Trusted Advisor in your account. You can download results for all checks or a specific check.

To download check results from Trusted Advisor Recommendations

1. Navigate to the AWS Trusted Advisor console at https://console.aws.amazon.com/trustedadvisor.
   - To download all check results, in the **Trusted Advisor Recommendations** or a check category page, choose **Download all checks**.
   - To download a check result for a specific check, choose the check name, and then choose the download icon
     ().

2. Save or open the .xls file. The file contains the same summary information from the Trusted Advisor console, such as the check name, description, status, affected resources, and so on.

Organizational view

You can set up the organizational view feature to create a report for all member accounts in your AWS organization. For more information, see Organizational view for AWS Trusted Advisor.

Preferences

On the **Manage Trusted Advisor** page, you can disable Trusted Advisor.

On the **Notifications** page, you can configure your weekly email messages for the check summary. See Set up notification preferences.

On the **Your organization** page, you can enable or disable trusted access with AWS Organizations. This is required for the Organizational view for AWS Trusted Advisor feature, Trusted Advisor Priority, and Trusted Advisor Engage.

Set up notification preferences

Specify who can receive the weekly Trusted Advisor email messages for check results and the language. You receive an email notification about your check summary for Trusted Advisor Recommendations once a week.

The email notifications for Trusted Advisor Recommendations don't include results for Trusted Advisor Priority. For more information, see Manage Trusted Advisor Priority notifications.

To set up notification preferences

1. Sign in to the Trusted Advisor console at https://console.aws.amazon.com/trustedadvisor/home.
2. In the navigation pane, under **Preferences**, choose **Notifications**.
3. For **Recommendations**, select whom to notify for your check results. You can add and remove contacts from the Account Settings page in the AWS Billing and Cost Management console.
4. For **Language**, choose the language for the email message.
5. Choose **Save your preferences**.

Set up organizational view

If you set up your account with AWS Organizations, you can create reports for all member accounts in your organization. For more information, see Organizational view for AWS Trusted Advisor.

Disable Trusted Advisor

When you disable this service, Trusted Advisor won't perform any checks on your account. Anyone who tries to access the Trusted Advisor console or use the API operations will receive an access denied error message.

To disable Trusted Advisor

1. Sign in to the Trusted Advisor console at https://console.aws.amazon.com/trustedadvisor/home.
2. In the navigation pane, under **Preferences**, choose **Manage Trusted Advisor**.
3. Under **Trusted Advisor**, turn off **Enabled**. This action disables Trusted Advisor for all checks in your account.
4. You can then manually delete the AWSServiceRoleForTrustedAdvisor from your account. For more information, see Deleting a service-linked role for Trusted Advisor.

Related information

For more information about Trusted Advisor, see the following topics:

- How do I start using Trusted Advisor?
- AWS Trusted Advisor check reference

Get started with the Trusted Advisor API

The AWS Trusted Advisor API Reference is intended for programmers that need detailed information about the Trusted Advisor API operations and data types. This API provides access to Trusted Advisor recommendations for your account or all the accounts within your AWS Organization. The Trusted Advisor API uses HTTP methods that returns results in JSON format.

Note

- You must have a Business, Enterprise On-Ramp, or Enterprise Support plan to use the Trusted Advisor API
- If you call the AWS Trusted Advisor API from an account that doesn't have a Business, Enterprise On-Ramp, or Enterprise Support plan, then you receive an Access Denied exception. For more information about changing your support plan, see AWS Support.

You can use the AWS Trusted Advisor API to get a list of checks and their descriptions, recommendations, and resources for recommendations. You can also update the lifecycle of recommendations. To manage recommendations, use the following API operations:

- Use the ListChecks, ListRecommendations, GetRecommendation, and ListRecommendationResources API operations to view recommendations and corresponding accounts and resources.
- Use The UpdateRecommendationLifecycle API operation to update the lifecycle of a recommendation that's managed by Trusted Advisor Priority.
- Use The BatchUpdateRecommendationResourceExclusion API operation to include or exclude one or more resources from your Trusted Advisor results.
- The ListOrganizationRecommendations, GetOrganizationRecommendation, ListOrganizationRecommendationResources, ListOrganizationRecommendationAccounts, and UpdateOrganizationRecommendationLifecycle API calls support only recommendations that are managed by Trusted Advisor Priority. These recommendations are also referred to as prioritized recommendations. You can view and manage your prioritized recommendations from a management or delegated admin account if you have activated Trusted Advisor Priority. If Priority isn't activated, then you receive an Access Denied exception when you make requests.

For more information, see AWS Trusted Advisor in the AWS Support User Guide.

For authentication of requests, see the Signature Version 4 Signing Process.

Using Trusted Advisor as a web service

> **Note**
>
> Trusted Advisor operations will not be supported by the AWS Trusted Advisor Support API in 2024. Please use the new AWS Trusted Advisor API to programmatically access best practice checks and recommendations.

The AWS Support service enables you to write applications that interact with AWS Trusted Advisor. This topic shows you how to get a list of Trusted Advisor checks, refresh one of them, and then get the detailed results from the check. These tasks are demonstrated in Java. For information about support for other languages, see Tools for Amazon Web Services.

Topics

Get the list of available Trusted Advisor checks

The following Java code snippet creates an instance of an AWS Support client that you can use to call all Trusted Advisor API operations. Next, the code gets the list of Trusted Advisor checks and their corresponding `CheckId` values by calling the DescribeTrustedAdvisorChecks API operation. You can use this information to build user interfaces that enable users to select the check they want to run or refresh.

```
private static AWSSupport createClient()
{
    return AWSSupportClientBuilder.defaultClient();
}
// Get the List of Available Trusted Advisor Checks
public static void getTAChecks() {
    // Possible language parameters: "en" (English), "ja" (Japanese), "fr" (French),
 "zh" (Chinese)
```

```
    DescribeTrustedAdvisorChecksRequest request = new
 DescribeTrustedAdvisorChecksRequest().withLanguage("en");
    DescribeTrustedAdvisorChecksResult result =
 createClient().describeTrustedAdvisorChecks(request);
    for (TrustedAdvisorCheckDescription description : result.getChecks()) {
        // Do something with check description.
        System.out.println(description.getId());
        System.out.println(description.getName());
    }
}
```

Refresh the list of available Trusted Advisor checks

The following Java code snippet creates an instance of an AWS Support client that you can use to refresh Trusted Advisor data.

```
// Refresh a Trusted Advisor Check
// Note: Some checks are refreshed automatically, and they cannot be refreshed by using
 this operation.
// Specifying the check ID of a check that is automatically refreshed causes an
 InvalidParameterValue error.
public static void refreshTACheck(final String checkId) {
    RefreshTrustedAdvisorCheckRequest request = new
 RefreshTrustedAdvisorCheckRequest().withCheckId(checkId);
    RefreshTrustedAdvisorCheckResult result =
 createClient().refreshTrustedAdvisorCheck(request);
    System.out.println("CheckId: " + result.getStatus().getCheckId());
    System.out.println("Milliseconds until refreshable: " +
 result.getStatus().getMillisUntilNextRefreshable());
    System.out.println("Refresh Status: " + result.getStatus().getStatus());
}
```

Poll a Trusted Advisor check for status changes

After you submit the request to run a Trusted Advisor check to generate the latest status data, you use the DescribeTrustedAdvisorCheckRefreshStatuses API operation to request the progress of the check's run, and when new data is ready for the check.

The following Java code snippet gets the status of the check requested in the following section, using the value corresponding in the `CheckId` variable. In addition, the code demonstrates several other uses of the Trusted Advisor service:

1. You can call `getMillisUntilNextRefreshable` by traversing the objects contained in the `DescribeTrustedAdvisorCheckRefreshStatusesResult` instance. You can use the value returned to test whether you want your code to proceed with refreshing the check.
2. If `timeUntilRefreshable` equals zero, you can request a refresh of the check.
3. Using the status returned, you can continue to poll for status changes; the code snippet sets the polling interval to a recommended ten seconds. If the status is either `enqueued` or `in_progress`, the loop returns and requests another status. If the call returns `successful`, the loop terminates.
4. Finally, the code returns an instance of a `DescribeTrustedAdvisorCheckResultResult` data type that you can use to traverse the information produced by the check.

Note: Use a single refresh request before polling for the status of the request.

```
// Retrieves TA refresh statuses. Multiple checkId's can be submitted.
public static List<TrustedAdvisorCheckRefreshStatus> getTARefreshStatus(final String...
 checkIds) {
    DescribeTrustedAdvisorCheckRefreshStatusesRequest request =
            new
 DescribeTrustedAdvisorCheckRefreshStatusesRequest().withCheckIds(checkIds);
    DescribeTrustedAdvisorCheckRefreshStatusesResult result =
            createClient().describeTrustedAdvisorCheckRefreshStatuses(request);
    return result.getStatuses();
}
// Retrieves a TA check status, and checks to see if it has finished processing.
public static boolean isTACheckStatusInTerminalState(final String checkId) {
    // Since we only submitted one checkId to getTARefreshStatus, just retrieve the
 only element in the list.
    TrustedAdvisorCheckRefreshStatus status = getTARefreshStatus(checkId).get(0);
    // Valid statuses are:
    // 1. "none", the check has never been refreshed before.
    // 2. "enqueued", the check is waiting to be processed.
    // 3. "processing", the check is in the midst of being processed.
    // 4. "success", the check has succeeded and finished processing - refresh data is
 available.
    // 5. "abandoned", the check has failed to process.
    return status.getStatus().equals("abandoned") ||
 status.getStatus().equals("success");
}
// Enqueues a Trusted Advisor check refresh. Periodically polls the check refresh
 status for completion.
```

```
public static TrustedAdvisorCheckResult getFreshTACheckResult(final String checkId)
 throws InterruptedException {
    refreshTACheck(checkId);
    while(!isTACheckStatusInTerminalState(checkId)) {
        Thread.sleep(10000);
    }
    return getTACheckResult(checkId);
}
// Retrieves fresh TA check data whenever possible.
// Note: Some checks are refreshed automatically, and they cannot be refreshed by using
 this operation. This method
// is only functional for checks that can be refreshed using the
 RefreshTrustedAdvisorCheck operation.
public static void pollForTACheckResultChanges(final String checkId) throws
 InterruptedException {
    String checkResultStatus = null;
    do {
        TrustedAdvisorCheckResult result = getFreshTACheckResult(checkId);
        if (checkResultStatus != null && !checkResultStatus.equals(result.getStatus()))
 {
            break;
        }
        checkResultStatus = result.getStatus();
        // The rule refresh has completed, but due to throttling rules the checks may
 not be refreshed again
        // for a short period of time.
        // Since we only submitted one checkId to getTARefreshStatus, just retrieve the
 only element in the list.
        TrustedAdvisorCheckRefreshStatus refreshStatus =
 getTARefreshStatus(checkId).get(0);
        Thread.sleep(refreshStatus.getMillisUntilNextRefreshable());
    } while(true);
    // Signal that a TA check has changed check result status here.
}
```

Request a Trusted Advisor check result

After you select the check for the detailed results that you want, you submit a request by using the DescribeTrustedAdvisorCheckResult API operation.

> **Tip**
>
> The names and descriptions for Trusted Advisor checks are subject to change. We recommend that you specify the check ID in your code to uniquely identify a check. You can use the DescribeTrustedAdvisorChecks API operation to get the check ID.

The following Java code snippet uses the `DescribeTrustedAdvisorChecksResult` instance referenced by the variable `result`, which was obtained in the preceding code snippet. Rather than defining a check interactively through a user interface, After you submit the request to run the snippet submits a request for the first check in the list to be run by specifying an index value of 0 in each `result.getChecks().get(0)` call. Next, the code defines an instance of `DescribeTrustedAdvisorCheckResultRequest`, which it passes to an instance of `DescribeTrustedAdvisorCheckResultResult` called `checkResult`. You can use the member structures of this data type to view the results of the check.

```
// Request a Trusted Advisor Check Result
public static TrustedAdvisorCheckResult getTACheckResult(final String checkId) {
    DescribeTrustedAdvisorCheckResultRequest request = new
 DescribeTrustedAdvisorCheckResultRequest()
            // Possible language parameters: "en" (English), "ja" (Japanese),
 "fr" (French), "zh" (Chinese)
            .withLanguage("en")
            .withCheckId(checkId);
    DescribeTrustedAdvisorCheckResultResult requestResult =
 createClient().describeTrustedAdvisorCheckResult(request);
    return requestResult.getResult();
}
```

Note: Requesting a Trusted Advisor Check Result doesn't generate updated results data.

Show details of a Trusted Advisor check

The following Java code snippet iterates over the `DescribeTrustedAdvisorCheckResultResult` instance returned in the previous section to get a list of resources flagged by the Trusted Advisor check.

```
// Show ResourceIds for flagged resources.
for (TrustedAdvisorResourceDetail flaggedResource :
```

```
    result1.getResult().getFlaggedResources())
{
    System.out.println(
        "The resource for this ResourceID has been flagged: " +
        flaggedResource.getResourceId());
}
```

Organizational view for AWS Trusted Advisor

Organizational view lets you view Trusted Advisor checks for all accounts in your AWS Organizations. After you enable this feature, you can create reports to aggregate the check results for all member accounts in your organization. The report includes a summary of check results and information about affected resources for each account. For example, you can use the reports to identify which accounts in your organization are using AWS Identity and Access Management (IAM) with the IAM Use check or whether you have recommended actions for Amazon Simple Storage Service (Amazon S3) buckets with the Amazon S3 Bucket Permissions check.

Topics

Prerequisites

You must meet the following requirements to enable organizational view:

- Your accounts must be members of an AWS Organization.
- Your organization must have all features enabled for Organizations. For more information, see Enabling all features in your organization in the *AWS Organizations User Guide*.

- The management account in your organization must have a Business, Enterprise On-Ramp, or Enterprise Support plan. You can find your support plan from the AWS Support Center or from the Support plans page. See Compare AWS Support plans.
- You must sign in as a user in the management account (or assumed equivalent role). Whether you sign in as an IAM user or an IAM role, you must have a policy with the required permissions. See Using IAM policies to allow access to organizational view.

Enable organizational view

After you meet the prerequisites, follow these steps to enable organizational view. After you enable this feature, the following happens:

- Trusted Advisor is enabled as a *trusted service* in your organization. For more information, see Enabling trusted access with other AWS services in the *AWS Organizations User Guide*.
- The `AWSServiceRoleForTrustedAdvisorReporting` service-linked-role is created for you in the management account in your organization. This role includes the permissions that Trusted Advisor needs to call Organizations on your behalf. This service-linked role is locked, and you can't delete it manually. For more information, see Using service-linked roles for Trusted Advisor.

You enable organizational view from the Trusted Advisor console.

To enable organizational view

1. Sign in as an administrator in the organization's management account and open the AWS Trusted Advisor console at https://console.aws.amazon.com/trustedadvisor.
2. In the navigation pane, under **Preferences**, choose **Your organization**.
3. Under **Enable trusted access with AWS Organizations**, turn on **Enabled**.

> **Note**
>
> Enabling organizational view for the management account doesn't provide the same checks for all member accounts. For example, if your member accounts all have Basic Support, those accounts won't have the same checks available as your management account. The AWS Support plan determines which Trusted Advisor checks are available for an account.

Refresh Trusted Advisor checks

Before you create a report for your organization, we recommend that you refresh the statuses of your Trusted Advisor checks. You can download a report without refreshing your Trusted Advisor checks, but your report might not have the latest information.

If you have a Business, Enterprise On-Ramp, or Enterprise Support plan, Trusted Advisor automatically refreshes the checks in your account on a weekly basis.

> **Note**
>
> If you have accounts in your organization that have a Developer or Basic support plan, a user for those accounts must sign in to the Trusted Advisor console to refresh the checks. You can't refresh checks for all accounts from the organization's management account.

To refresh Trusted Advisor checks

1. Navigate to the AWS Trusted Advisor console at https://console.aws.amazon.com/trustedadvisor.
2. On the **Trusted Advisor Recommendations** page, choose the **Refresh all checks**. This refreshes all checks in your account.

You can also refresh specific checks in the following ways:

- Use the RefreshTrustedAdvisorCheck API operation.
- Choose the refresh icon () for an individual check.

Create organizational view reports

After you enable organizational view, you can create reports so that you can view Trusted Advisor check results for your organization.

You can create up to 50 reports. If you create reports beyond this quota, Trusted Advisor deletes the earliest report. You can't recover deleted reports.

To create organizational view reports

1. Sign in to the organization's management account and open the AWS Trusted Advisor console at https://console.aws.amazon.com/trustedadvisor.
2. In the navigation pane, choose **Organizational View**.
3. Choose **Create report**.
4. By default, the report includes all AWS Regions, check categories, checks, and resource statuses. On the **Create report** page, you can use the filter options to customize your report. For example, you can clear the **All** option for **Region**, and then specify the individual Regions to include in the report.

   a. Enter a **Name** for the report.

   b. For **Format**, choose **JSON** or **CSV**.

   c. For **Region**, specify the AWS Regions or choose **All**.

   d. For **Check category**, choose the check category or choose **All**.

   e. For **Checks**, choose the specific checks for that category or choose **All**.

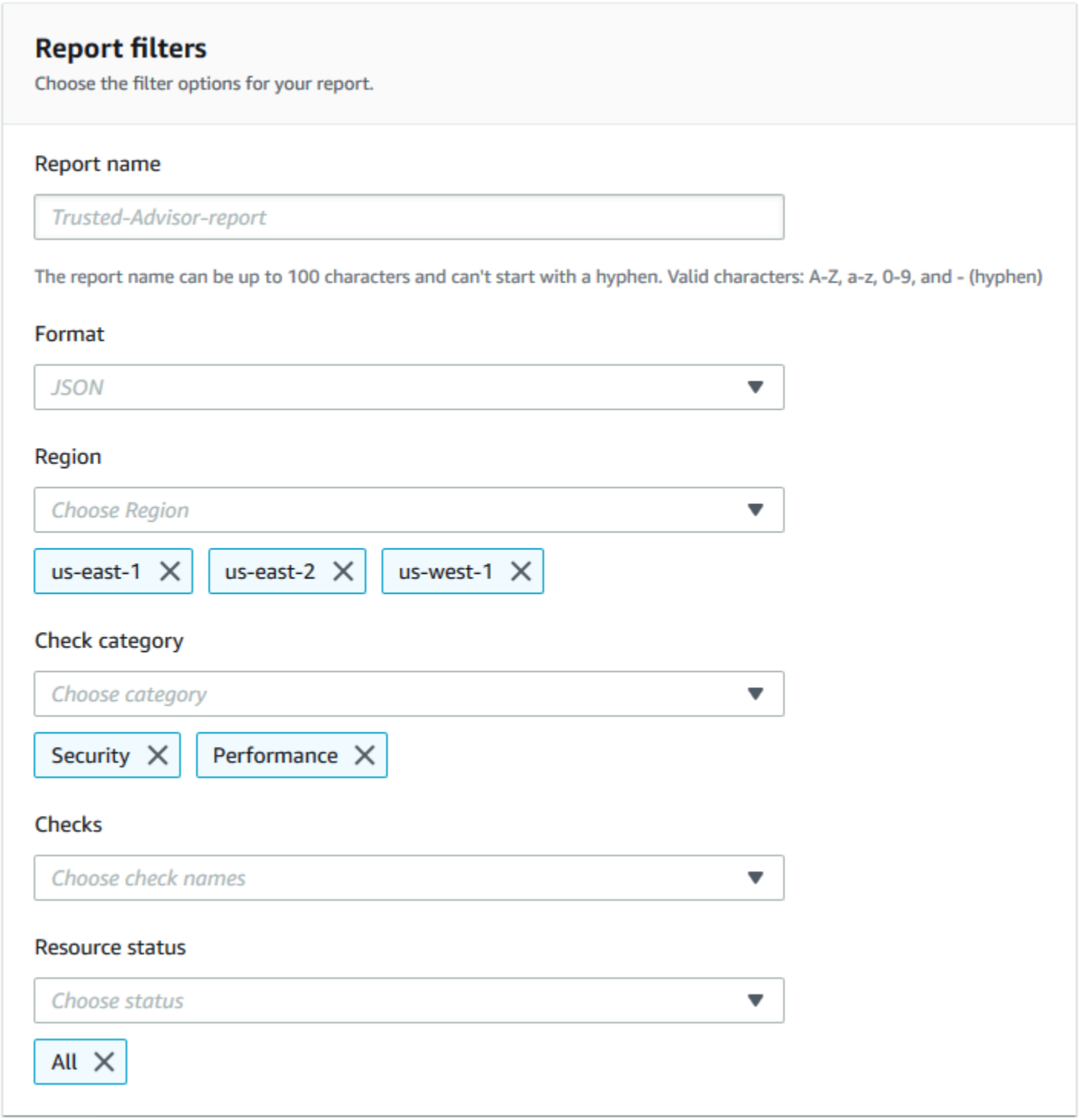
   > **Note**
   >
   > The **Check category** filter overrides the **Checks** filter. For example, if you choose the **Security** category and then choose a specific check name, your report includes all check results for that category. To create a report for only specific checks, keep the default **All** value for **Check category** and then choose your check names.

   f. For **Resource status**, choose the status to filter, such as **Warning**, or choose **All**.
5. For **AWS Organization**, select the organizational units (OUs) to include in your report. For more information about OUs, see Managing organizational units in the *AWS Organizations User Guide*.
6. Choose **Create report**.

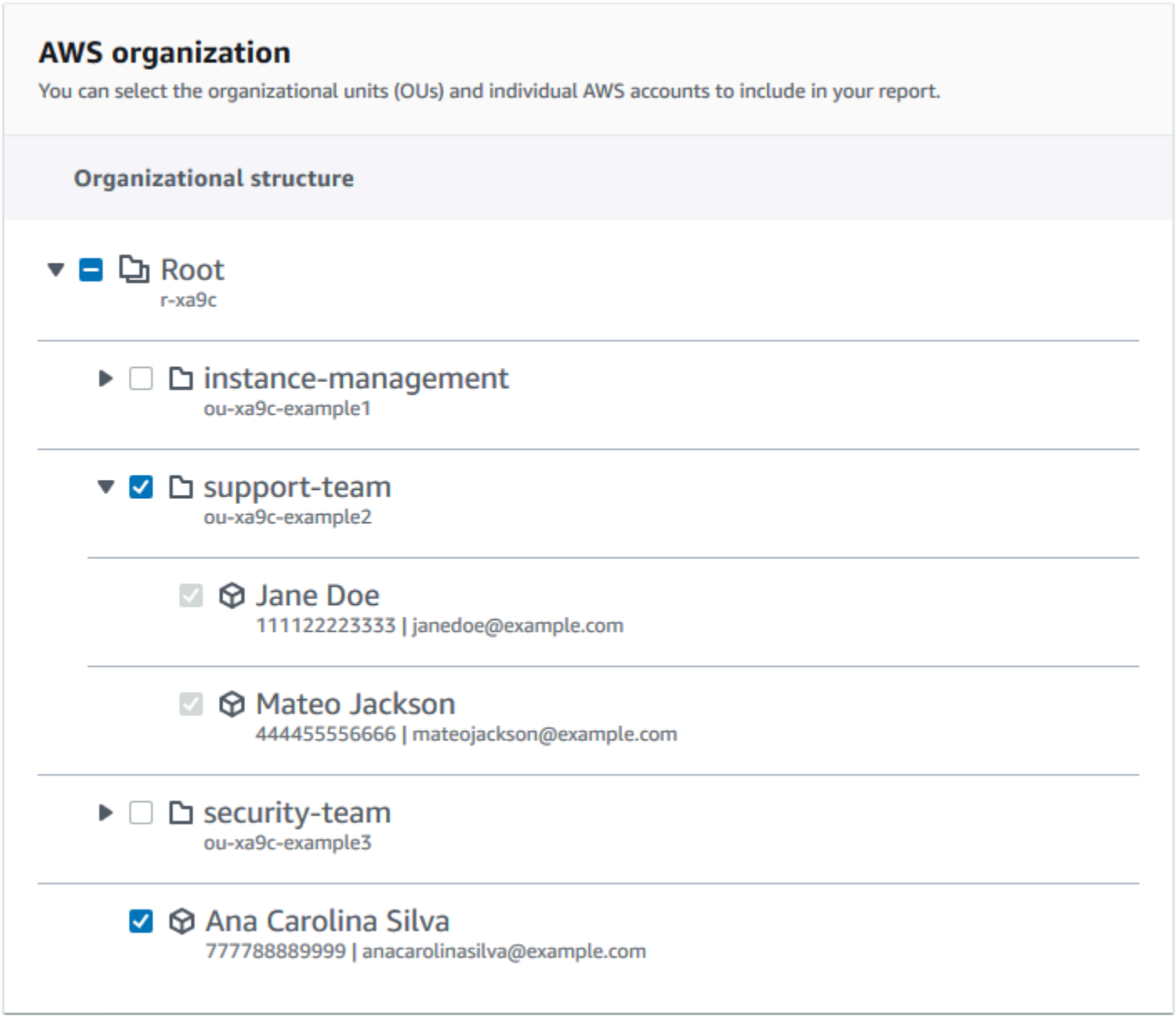
Example : Create report filter options

The following example creates a JSON report for the following:

- Three AWS Regions
- All **Security** and **Performance** checks



In the following example, the report includes the **support-team** OU and one AWS account that are part of the organization.



Notes

- The amount of time it takes to create the report depends on the number of accounts in the organization and the number of resources in each account.
- You can't create more than one report at a time unless the current report has been running for more than 6 hours.
- Refresh the page if you don't see the report appear on the page.

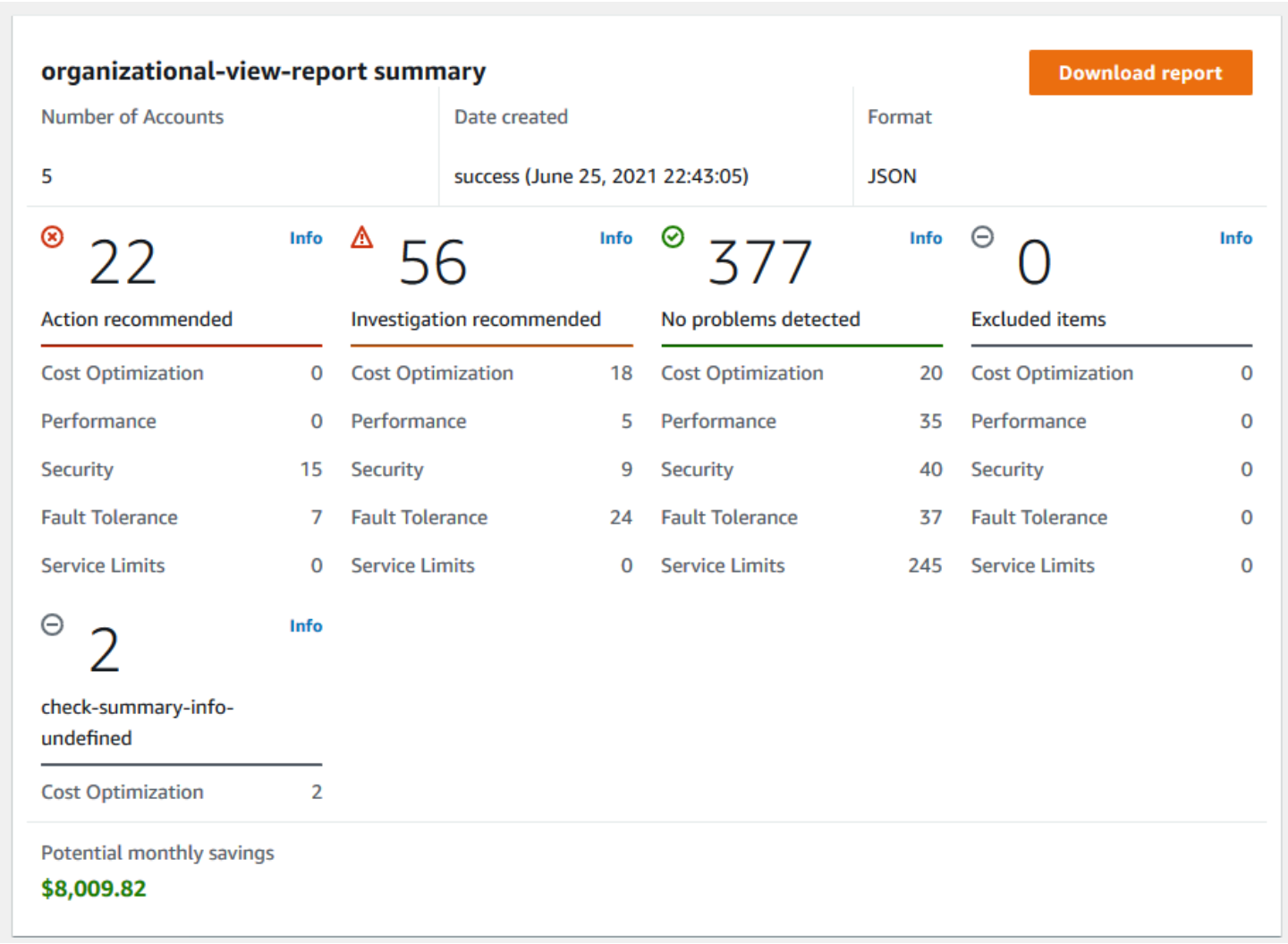
View the report summary

After the report is ready, you can view the report summary from the Trusted Advisor console. This lets you quickly view the summary of your check results across your organization.

To view the report summary

1. Sign in to the organization's management account and open the AWS Trusted Advisor console at https://console.aws.amazon.com/trustedadvisor.
2. In the navigation pane, choose **Organizational View**.
3. Choose the report name.
4. On the **Summary** page, view the check statuses for each category. You can also choose **Download report**.

Example : Report summary for an organization



Download an organizational view report

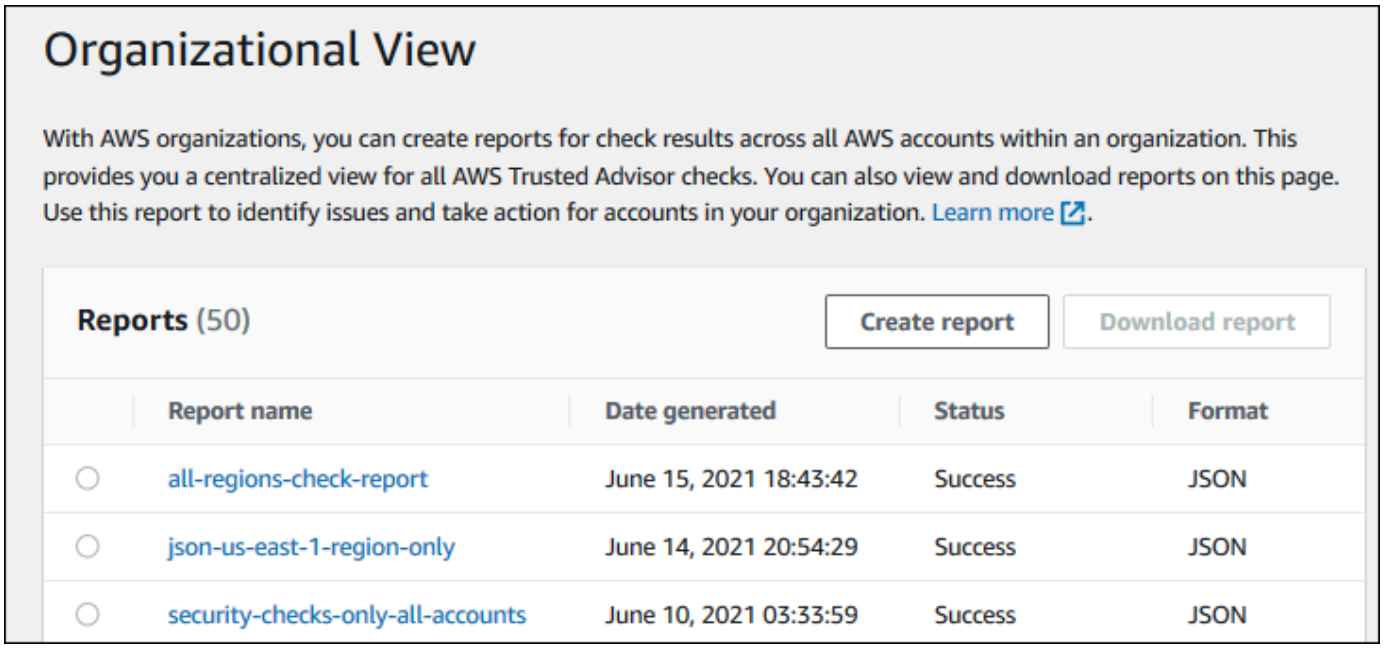
After your report is ready, download it from the Trusted Advisor console. The report is a .zip file that contains three files:

- `summary.json` – Contains a summary of the check results for each check category.
- `schema.json` – Contains the schema for the specified checks in the report.
- A resources file (.json or .csv) – Contains detailed information about the check statuses for resources in your organization.

To download an organizational view report

1. Sign in to the organization's management account and open the AWS Trusted Advisor console at https://console.aws.amazon.com/trustedadvisor.
2. In the navigation pane, choose **Organizational View**.

   The **Organizational View** page displays the available reports to download.
3. Select a report, choose **Download report**, and then save the file. You can only download one report at a time.



4. Unzip the file.
5. Use a text editor to open the `.json` file or a spreadsheet application to open the `.csv` file.

> **Note**
>
> You might receive multiple files if your report is 5 MB or larger.

Example : summary.json file

The `summary.json` file shows the number of accounts in the organization and the statuses of the checks in each category.

Trusted Advisor uses the following color code for check results:

- `Green` – Trusted Advisor doesn't detect an issue for the check.
- `Yellow` – Trusted Advisor detects a possible issue for the check.
- `Red` – Trusted Advisor detects an error and recommends an action for the check.
- `Blue` – Trusted Advisor can't determine the status of the check.

In the following example, two checks are `Red`, one is `Green`, and one is `Yellow`.


```
{
    "numAccounts": 3,
    "filtersApplied": {
        "accountIds": ["123456789012","111122223333","111111111111"],
        "checkIds": "All",
        "categories": [
            "security",
            "performance"
        ],
        "statuses": "All",
        "regions": [
            "us-west-1",
            "us-west-2",
            "us-east-1"
        ],
        "organizationalUnitIds": [
            "ou-xa9c-EXAMPLE1",
            "ou-xa9c-EXAMPLE2"
        ]
    },
    "categoryStatusMap": {
        "security": {
            "statusMap": {
                "ERROR": {
                    "name": "Red",
                    "count": 2
                },
                "OK": {
                    "name": "Green",
                    "count": 1
                },
                "WARN": {
                    "name": "Yellow",
                    "count": 1
```

```
                }
            },
            "name": "Security"
        }
    },
    "accountStatusMap": {
        "123456789012": {
            "security": {
                "statusMap": {
                    "ERROR": {
                        "name": "Red",
                        "count": 2
                    },
                    "OK": {
                        "name": "Green",
                        "count": 1
                    },
                    "WARN": {
                        "name": "Yellow",
                        "count": 1
                    }
                },
                "name": "Security"
            }
        }
    }
}
```

Example : schema.json file

The `schema.json` file includes the schema for the checks in the report. The following example includes the IDs and properties for the IAM Password Policy (Yw2K9puPzl) and IAM Key Rotation (DqdJqYeRm5) checks.

```
{
    "Yw2K9puPzl": [
        "Password Policy",
        "Uppercase",
        "Lowercase",
        "Number",
        "Non-alphanumeric",
        "Status",
        "Reason"
```

```
    ],
    "DqdJqYeRm5": [
        "Status",
        "IAM User",
        "Access Key",
        "Key Last Rotated",
        "Reason"
    ],
    ...
}
```

Example : resources.csv file

The `resources.csv` file includes information about resources in the organization. This example shows some of the data columns that appear in the report, such as the following:

- Account ID of the affected account
- The Trusted Advisor check ID
- The resource ID
- Timestamp of the report
- The full name of the Trusted Advisor check
- The Trusted Advisor check category
- The account ID of the parent organizational unit (OU) or root

AccountId	CheckId	ResourceId	TimeStamp	CheckName	Category
1.11122E+11	Qch7DwouX1	LnW14f1M40NMjmMLvY5	1.58983E+12	Low Utilization Amazon EC2 Instances	Cost Optimizing
1.11122E+11	HCP4007jGY	dJrQZXw36ZdswBeo9WUl	1.58983E+12	Security Groups - Specific Ports Unrestricted	Security
1.11122E+11	HCP4007jGY	1hzakmTbWd5UmAM_a0L	1.58983E+12	Security Groups - Specific Ports Unrestricted	Security
4.44456E+11	1iG5NDGVre	dJrQZXw36ZdswBeo9WUl	1.58983E+12	Security Groups - Unrestricted Access	Security
4.44456E+11	1iG5NDGVre	1hzakmTbWd5UmAM_a0L	1.58983E+12	Security Groups - Unrestricted Access	Security
4.44456E+11	Pfx0RwqBli	vioZmlba45kf2JWIe_W0j5	1.58983E+12	Amazon S3 Bucket Permissions	Security
4.44456E+11	Pfx0RwqBli	wAvASS3YOwy6WWxIBHf	1.58983E+12	Amazon S3 Bucket Permissions	Security
1.23457E+11	Pfx0RwqBli	LIc4zRaUSiIGRSlmqaMa5V	1.58983E+12	Amazon S3 Bucket Permissions	Security
1.23457E+11	Pfx0RwqBli	gWB27TMXof2evYzMSYBg	1.58983E+12	Amazon S3 Bucket Permissions	Security
7.77789E+11	Pfx0RwqBli	M3LBsF0e15Cl9Mxppapcx	1.58983E+12	Amazon S3 Bucket Permissions	Security
7.77789E+11	Yw2K9puPzl	47DEQpj8HBSa-_TImW-5J	1.58983E+12	IAM Password Policy	Security
7.77789E+11	H7lgTzjTYb	1xHQ5ovV8bS0H1Z-t7Kbib	1.58983E+12	Amazon EBS Snapshots	Fault Tolerance
7.77789E+11	wuy7G1zxql	10F6p6VAF0F-MuL6Dc-dl1	1.58983E+12	Amazon EC2 Availability Zone Balance	Fault Tolerance

The resources file only contains entries if a check result exists at the resource level. You might not see checks in the report for the following reasons:

- Some checks, such as **MFA on Root Account**, don't have resources and won't appear in the report. Checks without resources appear in the `summary.json` file instead.
- Some checks only show resources if they are `Red` or `Yellow`. If all resources are `Green`, they might not appear in your report.
- If an account isn't enabled for a service that requires the check, the check might not appear in the report. For example, if you're not using Amazon Elastic Compute Cloud Reserved Instances in your organization, the Amazon EC2 Reserved Instance Lease Expiration check won't appear in your report.
- The account hasn't refreshed check results. This might happen when users with a Basic or Developer support plan sign in to the Trusted Advisor console for the first time. If you have a Business, Enterprise On-Ramp, or Enterprise Support plan, it can take up to one week from account sign up for users to see check results. For more information, see Refresh Trusted Advisor checks.
- If only the organization's management account enabled recommendations for checks, the report won't include resources for other accounts in the organization.

For the resources file, you can use common software such as Microsoft Excel to open the .csv file format. You can use the .csv file for one-time analysis of all checks across all accounts in your organization. If you want to use your report with an application, you can download the report as a .json file instead.

The .json file format provides more flexibility than the .csv file format for advanced use cases such as aggregation and advanced analytics with multiple datasets. For example, you can use a SQL interface with an AWS service such as Amazon Athena to run queries on your reports. You can also use Amazon QuickSight to create dashboards and visualize your data. For more information, see Using other AWS services to view Trusted Advisor reports.

Disable organizational view

Follow this procedure to disable organizational view. You must sign in to the organization's management account or assume a role with the required permissions to disable this feature. You can't disable this feature from another account in the organization.

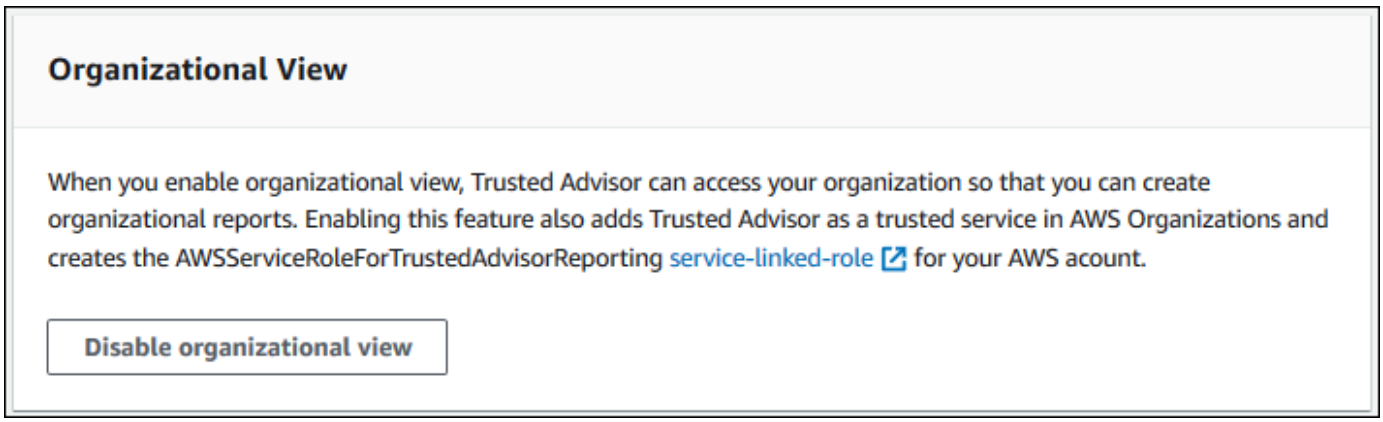
After you disable this feature, the following happens:

- Trusted Advisor is removed as a trusted service in Organizations.

- The `AWSServiceRoleForTrustedAdvisorReporting` service-linked role is unlocked in the organization's management account. This means you can delete it manually, if needed.
- You can't create, view, or download reports for your organization. To access previously created reports, you must reenable organizational view from the Trusted Advisor console. See Enable organizational view.

To disable organizational view for Trusted Advisor

1. Sign in to the organization's management account and open the AWS Trusted Advisor console at https://console.aws.amazon.com/trustedadvisor.
2. In the navigation pane, choose **Preferences**.
3. Under **Organizational View**, choose **Disable organizational view**.



After you disable organizational view, Trusted Advisor no longer aggregates checks from other AWS accounts in your organization. However, the `AWSServiceRoleForTrustedAdvisorReporting` service-linked role remains on the organization's management account until you delete it through the IAM console, IAM API, or AWS Command Line Interface (AWS CLI). For more information, see Deleting a service-linked role in the *IAM User Guide*.

> **Note**
>
> You can use other AWS services to query and visualize your data for organizational view reports. For more information, see the following resources:
>
> - View AWS Trusted Advisor recommendations at scale with AWS Organizations in the *AWS Management & Governance Blog*

- Using other AWS services to view Trusted Advisor reports

Using IAM policies to allow access to organizational view

You can use the following AWS Identity and Access Management (IAM) policies to allow users or roles in your account access to organizational view in AWS Trusted Advisor.

Example : Full access to organizational view

The following policy allows full access to the organizational view feature. A user with these permissions can do the following:

- Enable and disable organizational view
- Create, view, and download reports

```
{
    "Version": "2012-10-17",
    "Statement": [
        {
            "Sid": "ReadStatement",
            "Effect": "Allow",
            "Action": [
                "organizations:ListAccountsForParent",
                "organizations:ListAccounts",
                "organizations:ListRoots",
                "organizations:DescribeOrganization",
                "organizations:ListOrganizationalUnitsForParent",
                "organizations:ListAWSServiceAccessForOrganization",
                "trustedadvisor:DescribeAccount",
                "trustedadvisor:DescribeChecks",
                "trustedadvisor:DescribeCheckSummaries",
                "trustedadvisor:DescribeAccountAccess",
                "trustedadvisor:DescribeOrganization",
                "trustedadvisor:DescribeReports",
                "trustedadvisor:DescribeServiceMetadata",
                "trustedadvisor:DescribeOrganizationAccounts",
                "trustedadvisor:ListAccountsForParent",
                "trustedadvisor:ListRoots",
                "trustedadvisor:ListOrganizationalUnitsForParent"
            ],
```

```
            "Resource": "*"
        },
        {
            "Sid": "CreateReportStatement",
            "Effect": "Allow",
            "Action": [
                "trustedadvisor:GenerateReport"
            ],
            "Resource": "*"
        },
        {
            "Sid": "ManageOrganizationalViewStatement",
            "Effect": "Allow",
            "Action": [
                "organizations:EnableAWSServiceAccess",
                "organizations:DisableAWSServiceAccess",
                "trustedadvisor:SetOrganizationAccess"
            ],
            "Resource": "*"
        },
        {
            "Sid": "CreateServiceLinkedRoleStatement",
            "Effect": "Allow",
            "Action": "iam:CreateServiceLinkedRole",
            "Resource": "arn:aws:iam::*:role/aws-service-role/
reporting.trustedadvisor.amazonaws.com/AWSServiceRoleForTrustedAdvisorReporting"
        }
    ]
}
```

Example : Read access to organizational view

The following policy allows read-only access to organizational view for Trusted Advisor. A user with these permissions can only view and download existing reports.

```
{
    "Version": "2012-10-17",
    "Statement": [
        {
            "Sid": "ReadStatement",
            "Effect": "Allow",
            "Action": [
                "organizations:ListAccountsForParent",
```

```
                "organizations:ListAccounts",
                "organizations:ListRoots",
                "organizations:DescribeOrganization",
                "organizations:ListOrganizationalUnitsForParent",
                "organizations:ListAWSServiceAccessForOrganization",
                "trustedadvisor:DescribeAccount",
                "trustedadvisor:DescribeChecks",
                "trustedadvisor:DescribeCheckSummaries",
                "trustedadvisor:DescribeAccountAccess",
                "trustedadvisor:DescribeOrganization",
                "trustedadvisor:DescribeReports",
                "trustedadvisor:ListAccountsForParent",
                "trustedadvisor:ListRoots",
                "trustedadvisor:ListOrganizationalUnitsForParent"
            ],
            "Resource": "*"
        }
    ]
}
```

You can also create your own IAM policy. For more information, see Creating IAM Policies in the *IAM User Guide*.

Note

If you enabled AWS CloudTrail in your account, the following roles can appear in your log entries:

- `AWSServiceRoleForTrustedAdvisorReporting` – The service-linked role that Trusted Advisor uses to access accounts in your organization.
- `AWSServiceRoleForTrustedAdvisor` – The service-linked role that Trusted Advisor uses to access services in your organization.

For more information about service-linked roles, see Using service-linked roles for Trusted Advisor.

Using other AWS services to view Trusted Advisor reports

Follow this tutorial to upload and view your data by using other AWS services. In this topic, you create an Amazon Simple Storage Service (Amazon S3) bucket to store your report and an AWS CloudFormation template to create resources in your account. Then, you can use Amazon Athena to analyze or run queries for your report or Amazon QuickSight to visualize that data in a dashboard.

For information and examples for visualizing your report data, see the View AWS Trusted Advisor recommendations at scale with AWS Organizations in the *AWS Management & Governance Blog*.

Prerequisites

Before you start this tutorial, you must meet the following requirements:

- Sign in as an AWS Identity and Access Management (IAM) user with administrator permissions.
- Use the US East (N. Virginia) AWS Region to quickly set up your AWS services and resources.
- Create an Amazon QuickSight account. For more information, see Getting Started with Data Analysis in Amazon QuickSight in the *Amazon QuickSight User Guide*.

Upload the report to Amazon S3

After you download your `resources.json` report, upload the file to Amazon S3. You must use a bucket in the US East (N. Virginia) Region.

To upload the report to an Amazon S3 bucket

1. Sign in to the AWS Management Console at https://console.aws.amazon.com/.
2. Use the **Region selector** and choose the US East (N. Virginia) Region.
3. Open the Amazon S3 console at https://console.aws.amazon.com/s3/.
4. From the list of buckets, choose an S3 bucket, and then copy the name. You use the name in the next procedure.
5. On the *`bucket-name`* page, choose **Create folder**, enter the name **`folder1`**, and then choose **Save**.
6. Choose the **folder1**.
7. In **folder1**, choose **Upload** and choose the `resources.json` file.
8. Choose **Next**, keep the default options, and then choose **Upload**.

> **Note**
>
> If you upload a new report to this bucket, rename the `.json` files each time you upload them so that you don't override the existing reports. For example, you can add the timestamp to each file, such as `resources-timestamp.json`, `resources-timestamp2.json`, and so on.

Create your resources using AWS CloudFormation

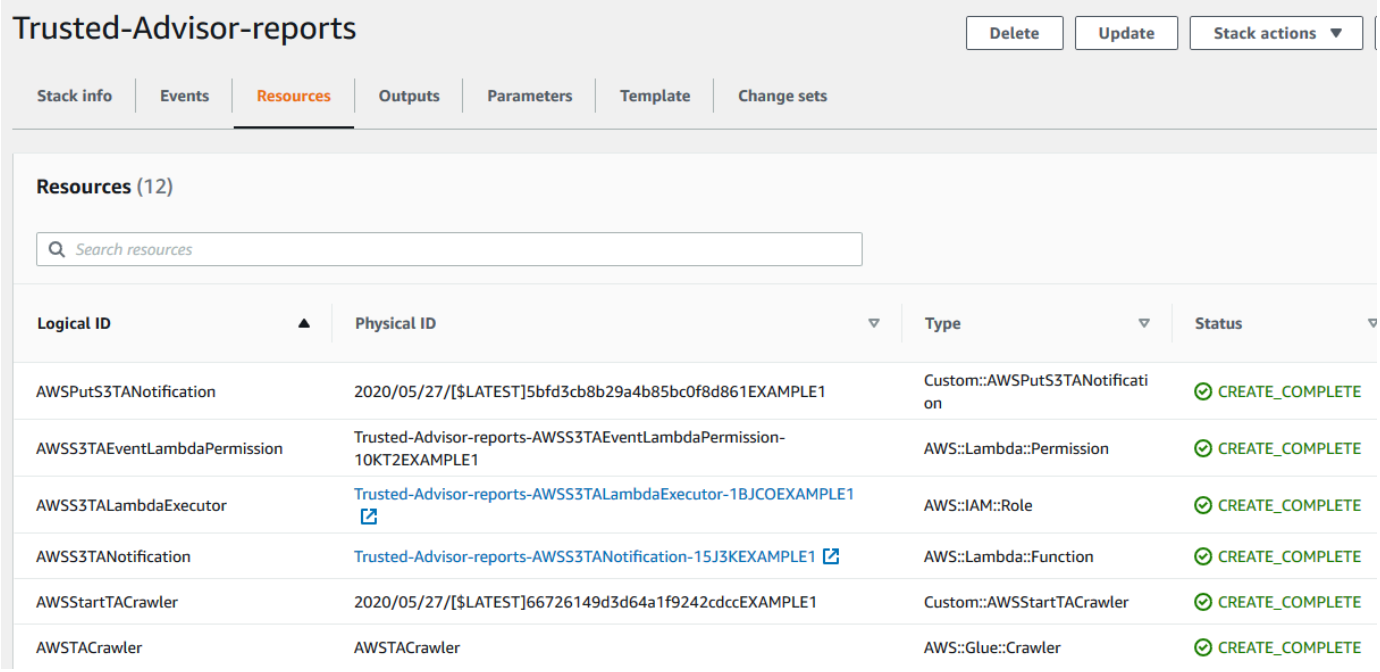
After you upload your report to Amazon S3, upload the following YAML template to AWS CloudFormation. This template tells AWS CloudFormation what resources to create for your account so that other services can use the report data in the S3 bucket. The template creates resources for IAM, AWS Lambda, and AWS Glue.

To create your resources with AWS CloudFormation

1. Download the trusted-advisor-reports-template.zip file.
2. Unzip the file.
3. Open the template file in a text editor.
4. For the `BucketName` and `FolderName` parameters, replace the values for *`your-bucket-name-here`* and *`folder1`* with the bucket name and folder name in your account.
5. Save the file.
6. Open the AWS CloudFormation console at https://console.aws.amazon.com/cloudformation.
7. If you haven't already, in the **Region selector**, choose the US East (N. Virginia) Region.
8. In the navigation pane, choose **Stacks**.
9. Choose **Create stack** and choose **With new resources (standard)**.
10. On the **Create stack** page, under **Specify template**, choose **Upload a template file**, and then choose **Choose file**.
11. Choose the YAML file and choose **Next**.
12. On the **Specify stack details** page, enter a stack name such as **`Organizational-view-Trusted-Advisor-reports`**, and choose **Next**.
13. On the **Configure stack options** page, keep the default options, and then choose **Next**.

14. On the **Review `Organizational-view-Trusted-Advisor-reports`** page, review your options. At the bottom of the page, select the check box for **I acknowledge that AWS CloudFormation might create IAM resources**.
15. Choose **Create stack**.

    The stack takes about 5 minutes to create.
16. After the stack creates successfully, the **Resources** tab appears like the following example.



Query the data in Amazon Athena

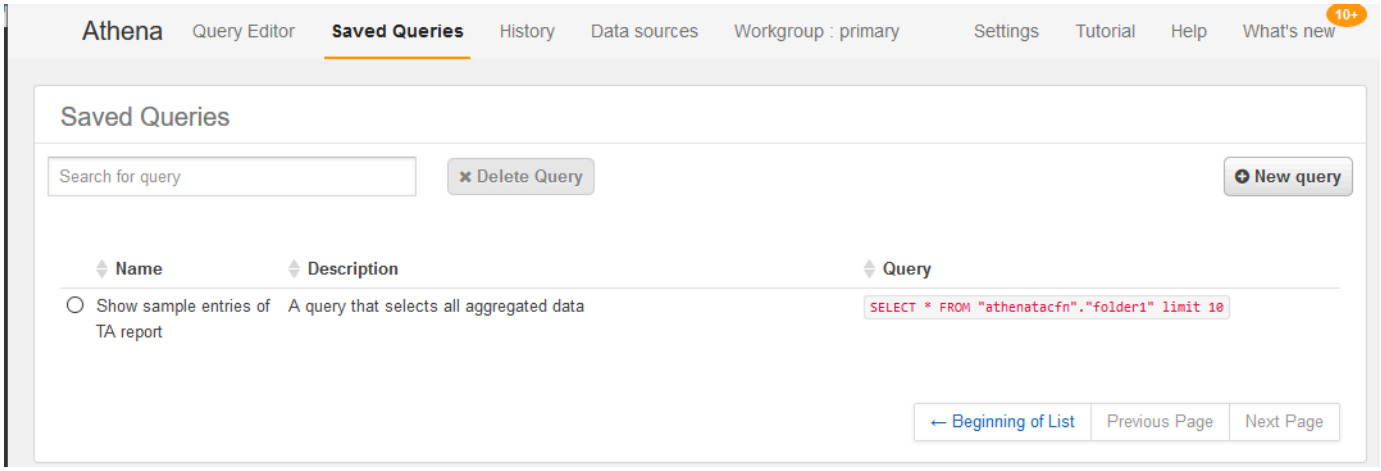
After you have your resources, you can view the data in Athena. Use Athena to create queries and analyze the results of the report, such as looking up specific check results for accounts in the organization.

Notes

- Use the US East (N. Virginia) Region.
- If you're new to Athena, you must specify a query result location before you can run a query for your report. We recommend that you specify a different S3 bucket for this location. For more information, see Specifying a query result location in the *Amazon Athena User Guide*.

To query the data in Athena

1. Open the Athena console at https://console.aws.amazon.com/athena/.
2. If you haven't already, in the **Region selector**, choose the US East (N. Virginia) Region.
3. Choose **Saved Queries** and in search field, enter **`Show sample`**.
4. Choose the query that appears, such as **Show sample entries of TA report**.



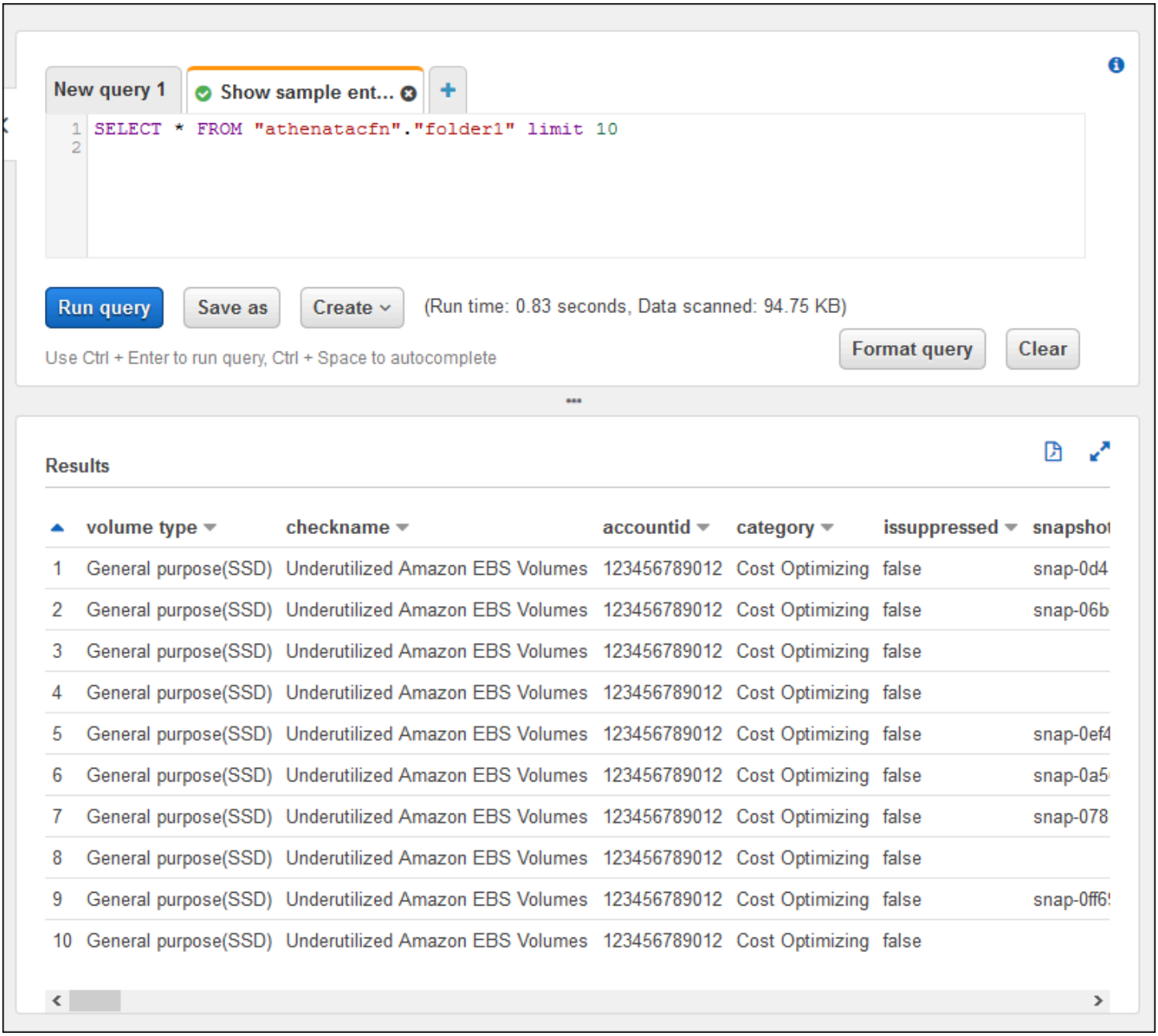
   The query should look like the following.

```
SELECT * FROM "athenatacfn"."folder1" limit 10
```

5. Choose **Run query**. Your query results appear.

Example : Athena query

The following example shows 10 sample entries from the report.



	volume type	checkname	accountid	category	issuppressed	snapshot
1	General purpose(SSD)	Underutilized Amazon EBS Volumes	123456789012	Cost Optimizing	false	snap-0d4
2	General purpose(SSD)	Underutilized Amazon EBS Volumes	123456789012	Cost Optimizing	false	snap-06b
3	General purpose(SSD)	Underutilized Amazon EBS Volumes	123456789012	Cost Optimizing	false	
4	General purpose(SSD)	Underutilized Amazon EBS Volumes	123456789012	Cost Optimizing	false	
5	General purpose(SSD)	Underutilized Amazon EBS Volumes	123456789012	Cost Optimizing	false	snap-0ef4
6	General purpose(SSD)	Underutilized Amazon EBS Volumes	123456789012	Cost Optimizing	false	snap-0a5
7	General purpose(SSD)	Underutilized Amazon EBS Volumes	123456789012	Cost Optimizing	false	snap-078
8	General purpose(SSD)	Underutilized Amazon EBS Volumes	123456789012	Cost Optimizing	false	
9	General purpose(SSD)	Underutilized Amazon EBS Volumes	123456789012	Cost Optimizing	false	snap-0ff6
10	General purpose(SSD)	Underutilized Amazon EBS Volumes	123456789012	Cost Optimizing	false	

For more information, see Running SQL Queries Using Amazon Athena in the *Amazon Athena User Guide*.

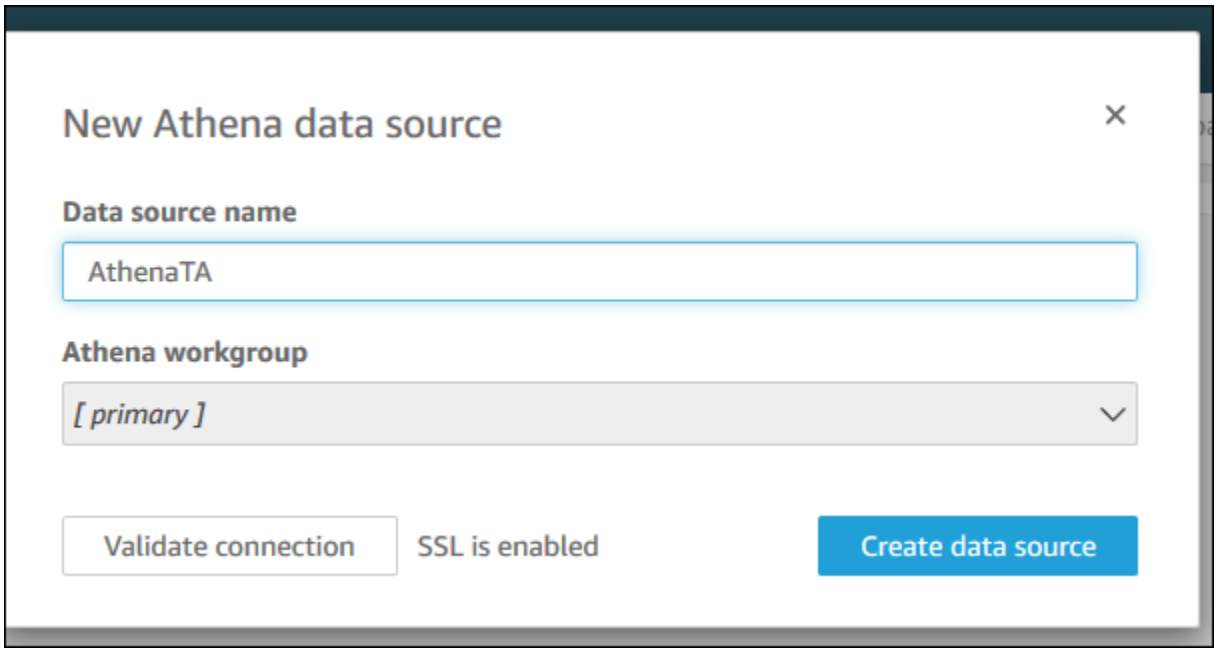
Create a dashboard in Amazon QuickSight

You can also set up Amazon QuickSight so that you can view your data in a dashboard and visualize your report information.

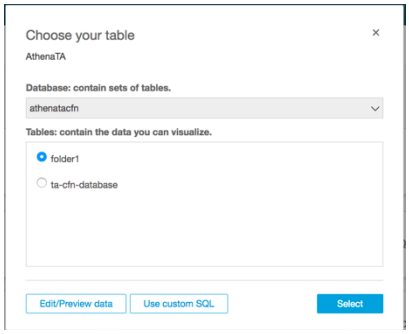
> **Note**
>
> You must use the US East (N. Virginia) Region.

To create a dashboard in Amazon QuickSight

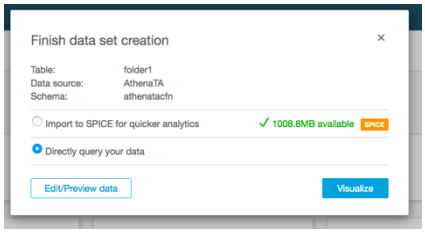
1. Navigate to the Amazon QuickSight console and sign in to your account.
2. Choose **New analysis**, **New dataset**, and then choose **Athena**.
3. In the **New Athena data source** dialog box, enter a data source name such as **AthenaTA**, and then choose **Create data source**.



4. In the **Choose your table** dialog box, choose the **athenatacfn** table, choose **folder1**, and then choose **Select**.



5. In the **Finish data set creation** dialog box, choose **Directly query your data**, and then choose **Visualize**.

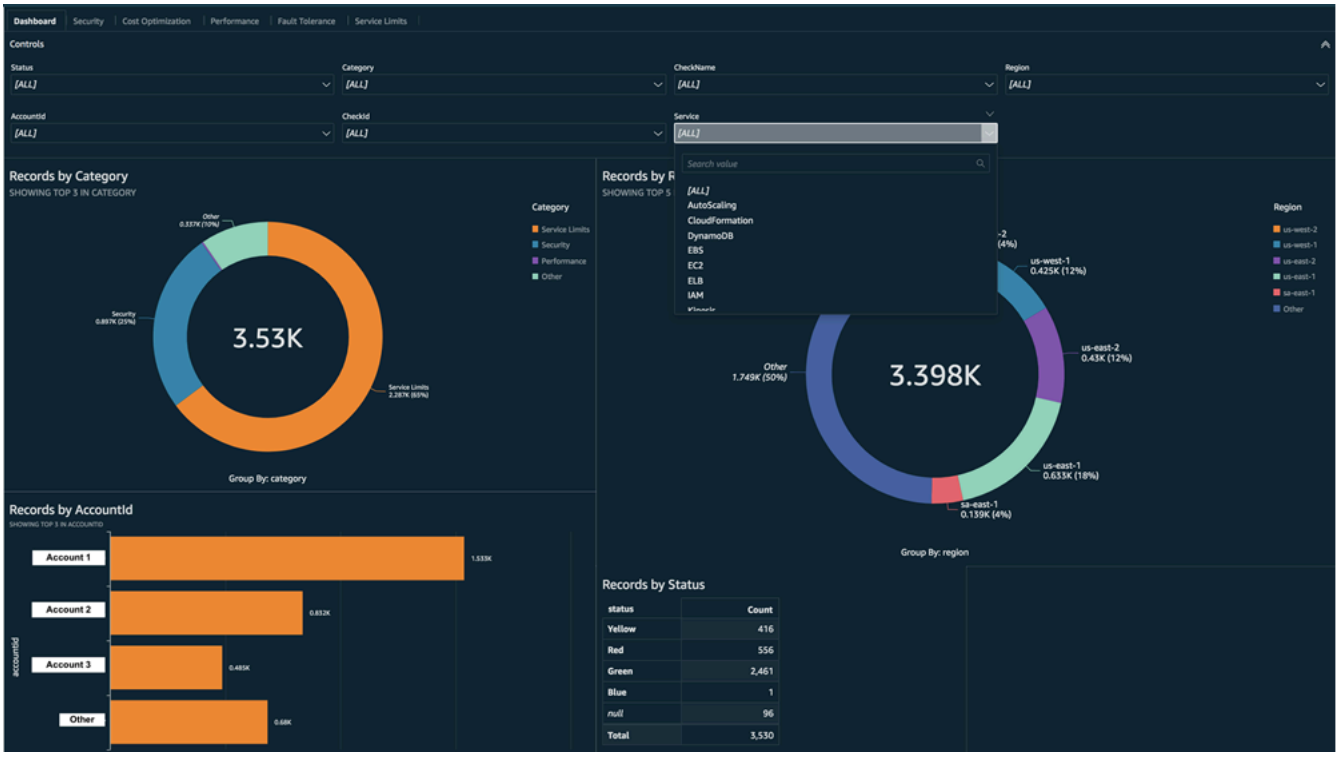


You can now create a dashboard in Amazon QuickSight. For more information, see Working with Dashboards in the *Amazon QuickSight User Guide*.

Example : Amazon QuickSight dashboard

The following example dashboard shows information about the Trusted Advisor checks, such as the following:

- Affected account IDs
- Summary by AWS Regions
- Check categories
- Check statuses
- Number of entries in the report for each account



> **Note**
>
> If you have permission errors while creating your dashboard, make sure that Amazon QuickSight can use Athena. For more information, see I Can't Connect to Amazon Athena in the *Amazon QuickSight User Guide*.

For more information and examples for visualizing your report data, see the View AWS Trusted Advisor recommendations at scale with AWS Organizations in the *AWS Management & Governance Blog*.

Troubleshooting

If you have issues with this tutorial, see the following troubleshooting tips.

I'm not seeing the latest data in my report

When you create a report, the organizational view feature doesn't automatically refresh the Trusted Advisor checks in your organization. To get the latest check results, refresh the checks for the management account and each member account in the organization. For more information, see Refresh Trusted Advisor checks.

I have duplicate columns in the report

The Athena console might show the following error in your table if your report has duplicate columns.

```
HIVE_INVALID_METADATA: Hive metadata for table folder1 is invalid: Table descriptor contains duplicate columns
```

For example, if you added a column in your report that already exists, this can cause issues when you try to view the report data in the Athena console. You can follow these steps to fix this issue.

Find duplicate columns

You can use the AWS Glue console to view the schema and quickly identify if you have duplicate columns in your report.

To find duplicate columns

1. Open the AWS Glue console at https://console.aws.amazon.com/glue/.

2. If you haven't already, in the **Region selector**, choose the US East (N. Virginia) Region.
3. In the navigation pane, choose **Tables**.
4. Choose your folder name, such as ***`folder1`***, and then under **Schema**, view the values for **Column name**.

   If you have a duplicate column, you must upload a new report to your Amazon S3 bucket. See the following Upload a new report section.

Upload a new report

After you identify the duplicate column, we recommend that you replace the existing report with a new one. This ensures that the resources created from this tutorial use the latest report data from your organization.

To upload a new report

1. If you haven't already, refresh your Trusted Advisor checks for the accounts in your organization. See Refresh Trusted Advisor checks.
2. Create and download another JSON report in the Trusted Advisor console. See Create organizational view reports. You must use a JSON file for this tutorial.
3. Sign in to the AWS Management Console and open the Amazon S3 console at https://console.aws.amazon.com/s3/.
4. Choose your Amazon S3 bucket and choose the *`folder1`* folder.
5. Select the previous *`resources`*`.json` reports and choose **Delete**.
6. In the **Delete objects** page, under **Permanently delete objects?**, enter **`permanently delete`**, and then choose **Delete objects**.
7. In your S3 bucket, choose **Upload** and then specify the new report. This action automatically updates your Athena table and AWS Glue crawler resources with the latest report data. It can take a few minutes to refresh your resources.
8. Enter a new query in the Athena console. See Query the data in Amazon Athena.

> **Note**
>
> If you still have issues with this tutorial, you can create a technical support case in the AWS Support Center.

View AWS Trusted Advisor checks powered by AWS Config

AWS Config is a service that continually assesses, audits, and evaluates your resource configurations for your desired settings. AWS Config provides managed rules, which are predefined, customizable compliance checks that AWS Config uses to evaluate if your AWS resources comply with common best practices.

The AWS Config console guides you through the configuration and activation of managed rules. You can also use the AWS Command Line Interface (AWS CLI) or AWS Config API to pass the JSON code that defines your configuration of a managed rule. You can customize the behavior of a managed rule to suit your needs. You can customize the rule's parameters to define attributes that your resources must have to comply with the rule. To learn more about enabling AWS Config, see the AWS Config Developer Guide.

AWS Config managed rules power a set of Trusted Advisor checks across all categories. When you enable certain managed rules, the corresponding Trusted Advisor checks are automatically enabled. To see which Trusted Advisor checks are powered by specific AWS Config managed rules, see AWS Trusted Advisor check reference.

The AWS Config powered checks are available to customers with AWS Business Support, AWS Enterprise On-Ramp, and AWS Enterprise Support plans. If you enable AWS Config and you have one of these AWS Support plans, then you automatically see recommendations powered by corresponding deployed AWS Config managed rules.

> **Note**
>
> Results for these checks are automatically refreshed based on change-triggered updates to AWS Config managed rules. Refresh requests are not allowed. Currently, you can't exclude resources from these checks.

Troubleshooting

If you have issues with this integration, see the following troubleshooting information.

Contents

- I deployed the same AWS Config managed rule twice, what will I see in Trusted Advisor?
- I turned off recording for AWS Config in an AWS Region. What will I see in Trusted Advisor?

I just enabled recording and managed rules for AWS Config, but I don't see corresponding Trusted Advisor checks.

After the AWS Config rule generates evalution results, you see the results in Trusted Advisor in near real-time. If you have issues with this feature, create a technical support case in the AWS Support Center.

I deployed the same AWS Config managed rule twice, what will I see in Trusted Advisor?

You see separate entries in the Trusted Advisor check results for each managed rule that you install.

I turned off recording for AWS Config in an AWS Region. What will I see in Trusted Advisor?

If you turned off resource recording for AWS Config in an AWS Region, then Trusted Advisor no longer receives data for corresponding managed rules and checks in that Region. Existing managed rule results remain in AWS Config and in Trusted Advisor until AWS Config expires, based on the recorder retention policy. If you delete a managed rule, then the Trusted Advisor check data usually deletes in near real-time.

Viewing AWS Security Hub controls in AWS Trusted Advisor

After you enable AWS Security Hub for your AWS account, you can view your security controls and their findings in the Trusted Advisor console. You can use Security Hub controls to identify security vulnerabilities in your account in the same way that you can use Trusted Advisor checks. You can view the check's status, the list of affected resources, and then follow Security Hub recommendations to address your security issues. You can use this feature to find security recommendations from Trusted Advisor and Security Hub in one convenient location.

Notes

- From Trusted Advisor, you can view controls in the AWS Foundational Security Best Practices security standard *except* for controls that have the Category: Recover >

Resilience. For a list of supported controls, see AWS Foundational Security Best Practices controls in the *AWS Security Hub User Guide*.

For more information about the Security Hub categories, see Control categories.

- Currently, when Security Hub adds new controls to the AWS Foundational Security Best Practices security standard, there can be a delay of two to four weeks before you can view them in Trusted Advisor. This time frame is best effort and isn't guaranteed.

Topics

Prerequisites

You must meet the following requirements to enable the Security Hub integration with Trusted Advisor:

- You must have a Business, Enterprise On-Ramp, or Enterprise Support plan for this feature. You can find your support plan from the AWS Support Center or from the Support plans page. For more information, see Compare AWS Support plans.
- You must enable resource recording in AWS Config for the AWS Regions that you want for your Security Hub controls. For more information, see Enabling and configuring AWS Config.
- You must enable Security Hub and select the **AWS Foundational Security Best Practices v1.0.0** security standard. If you haven't done so already, see Setting up AWS Security Hub in the *AWS Security Hub User Guide*.

Note

If you already completed these prerequisites, you can skip to View your Security Hub findings.

About AWS Organizations accounts

If you already completed the prerequisites for a management account, this integration is enabled automatically for all member accounts in your organization. Individual member accounts don't need to contact AWS Support to enable this feature. However, member accounts in your organization must enable Security Hub if they want to see their findings in Trusted Advisor.

If you want to disable this integration for a specific member account, see Disable this feature for AWS Organizations accounts.

View your Security Hub findings

After you enable Security Hub for your account, it can take up to 24 hours for your Security Hub findings to appear in the **Security** page of the Trusted Advisor console.

To view your Security Hub findings in Trusted Advisor

1. Navigate to the Trusted Advisor console, and then choose the **Security** category.
2. In the **Search by keyword** field, enter the control name or description in the field.

> **Tip**
>
> For **Source**, you can choose **AWS Security Hub** to filter for Security Hub controls.

3. Choose the Security Hub control name to view the following information:

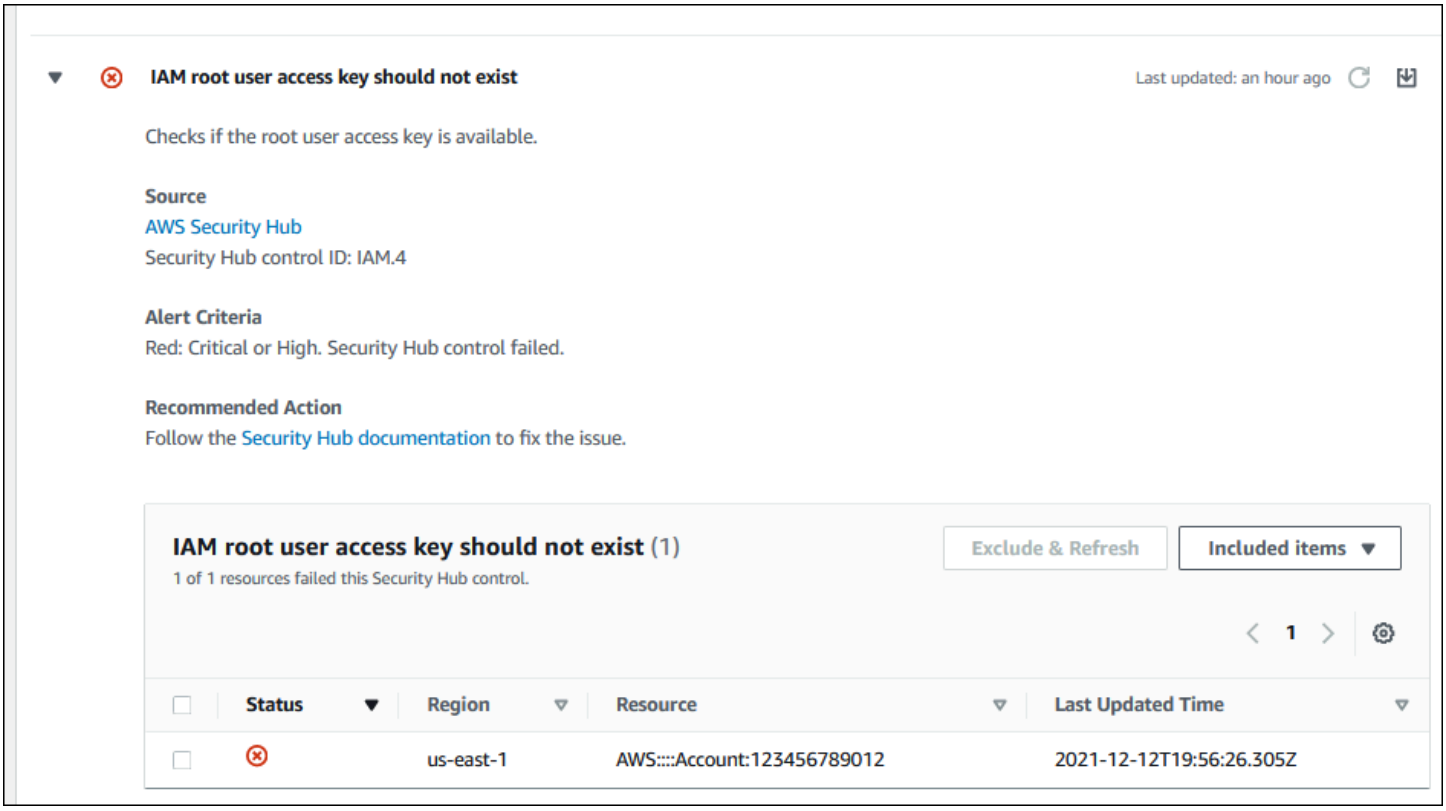
- **Description** – Describes how this control checks your account for security vulnerabilities.
- **Source** – Whether the check comes from AWS Trusted Advisor or AWS Security Hub. For Security Hub controls, you can find the control ID.
- **Alert Criteria** – The status of the control. For example, if Security Hub detects an important issue, the status might be **Red: Critical or High**.
- **Recommended Action** – Use the Security Hub documentation link to find the recommended steps to fix the issue.
- **Security Hub resources** – You can find the resources in your account where Security Hub has detected an issue.

Notes

- You must use Security Hub to exclude resources from your findings. Currently, you can't use the Trusted Advisor console to exclude items from Security Hub controls. For more information, see Setting the workflow status for findings.
- The organizational view feature supports this integration with Security Hub. You can view your findings for your Security Hub controls across your organization, and then create and download reports. For more information, see Organizational view for AWS Trusted Advisor.

Example Example : Security Hub control for IAM user access key should not exist

The following is an example finding for a Security Hub control in the Trusted Advisor console.



Refresh your Security Hub findings

After you enable a security standard, it can take up to two hours for Security Hub to have findings for your resources. It can then take up to 24 hours for that data to appear in the Trusted Advisor

console. If you recently enabled the **AWS Foundational Security Best Practices v1.0.0** security standard, check the Trusted Advisor console again later.

Note

- The refresh schedule for each Security Hub control is *periodic* or *change triggered*. Currently, you can't use the Trusted Advisor console or the AWS Support API to refresh your Security Hub controls. For more information, see Schedule for running security checks.
- You must use Security Hub if you want to exclude resources from your findings. Currently, you can't use the Trusted Advisor console to exclude items from Security Hub controls. For more information, see Setting the workflow status for findings.

Disable Security Hub from Trusted Advisor

Follow this procedure if you don't want your Security Hub information to appear in the Trusted Advisor console. This procedure only disables the Security Hub integration with Trusted Advisor. It won't affect your configurations with Security Hub. You can continue to use the Security Hub console to view your security controls, resources, and recommendations.

To disable the Security Hub integration

1. Contact AWS Support and request to disable the Security Hub integration with Trusted Advisor.

   After AWS Support disables this feature, Security Hub no longer sends data to Trusted Advisor. Your Security Hub data will be removed from Trusted Advisor.
2. If you want to enable this integration again, contact AWS Support.

Disable this feature for AWS Organizations accounts

If you already completed the previous procedure for a management account, Security Hub integration is automatically removed from all member accounts in your organization. Individual member accounts in your organization don't need to contact AWS Support separately.

If you're a member account in an organization, you can contact AWS Support to remove this feature from only your account.

Troubleshooting

If you're having issues with this integration, see the following troubleshooting information.

Contents

I don't see Security Hub findings in the Trusted Advisor console

Verify that you completed the following steps:

- You have a Business, Enterprise On-Ramp, or Enterprise Support plan.
- You enabled resource recording in AWS Config within the same Region as Security Hub.
- You enabled Security Hub and selected the **AWS Foundational Security Best Practices v1.0.0** security standard.
- New controls from Security Hub are added as checks in Trusted Advisor within two to four weeks. See the note.

For more information, see the Prerequisites.

I configured Security Hub and AWS Config correctly, but my findings are still missing

It can take up to two hours for Security Hub to have findings for your resources. It can then take up to 24 hours for that data to appear in the Trusted Advisor console. Check the Trusted Advisor console again later.

Notes

- Only your findings for controls in the AWS Foundational Security Best Practices security standard will appear in Trusted Advisor *except* for controls that have the **Category: Recover > Resilience**.
- If there's a service issue with Security Hub or Security Hub isn't available, it can take up to 24 hours for your findings to appear in Trusted Advisor. Check the Trusted Advisor console again later.

I want to disable specific Security Hub controls

Security Hub sends your data to Trusted Advisor automatically. If you disable a Security Hub control or no longer have resources for that control, your findings won't appear in Trusted Advisor.

You can sign in to the Security Hub console and verify if your control is enabled or disabled.

If you disable a Security Hub control or disable all controls for the AWS Foundational Security Best Practices security standard, your findings are archived within the next five days. This five-day period to archive is approximate and best effort only, and isn't guaranteed. When your findings are archived, they are removed from Trusted Advisor.

For more information, see the following topics:

- Disabling and enabling individual controls
- Disabling or enabling a security standard

I want to find my excluded Security Hub resources

From the Trusted Advisor console, you can choose your Security Hub control name, and then choose the **Excluded items** option. This option displays all resources that are suppressed in Security Hub.

If the workflow status for a resource is set to SUPPRESSED, then that resource is an excluded item in Trusted Advisor. You can't suppress Security Hub resources from the Trusted Advisor console. To do so, use the Security Hub console. For more information, see Setting the workflow status for findings.

I want to enable or disable this feature for a member account that belongs to an AWS organization

By default, member accounts inherit the feature from the management account for AWS Organizations. If the management account has enabled the feature, then all accounts in the organization will also have the feature. If you have a member account and want to make specific changes for your account, you must contact AWS Support.

I see multiple AWS Regions for the same affected resource for a Security Hub check

Some AWS services are global and aren't specific to a Region, such as IAM and Amazon CloudFront. By default, global resources such as Amazon S3 buckets appear in the US East (N. Virginia) Region.

For Security Hub checks that evaluate resources for global services, you might see more than one item for affected resources. For example, if the `Hardware MFA should be enabled for the root user` check identifies that your account hasn't activated this feature, then you will see multiple Regions in the table for the same resource.

You can configure Security Hub and AWS Config so that multiple Regions won't appear for the same resource. For more information, see AWS Foundational Best Practices controls that you might want to disable.

I turned off Security Hub or AWS Config in a Region

If you stop resource recording with AWS Config or disable Security Hub in an AWS Region, Trusted Advisor no longer receives data for any controls in that Region. Trusted Advisor removes your Security Hub findings within 7-9 days. This time frame is best effort and isn't guaranteed. For more information, see Disabling Security Hub.

To disable this feature for your account, see Disable Security Hub from Trusted Advisor.

My control is archived in Security Hub, but I still see the findings in Trusted Advisor

When the `RecordState` status changes to `ARCHIVED` for a finding, Trusted Advisor deletes the finding for that Security Hub control from your account. You might still see the finding in Trusted Advisor for up to 7-9 days before it's deleted. This time frame is best effort and isn't guaranteed.

I still can't view my Security Hub findings

If you still have issues with this feature, you can create a technical support case in the AWS Support Center.

Opt in AWS Compute Optimizer for Trusted Advisor checks

Compute Optimizer is a service that analyzes the configuration and utilization metrics of your AWS resources. This service reports whether your resources are correctly configured for efficiency and reliability. It also suggests improvements you can implement to improve workload performance. With Compute Optimizer, you view the same recommendations in your Trusted Advisor checks.

You can opt in either your AWS account only, or all member accounts that are part of an organization in AWS Organizations. For more information, see Getting started in the *AWS Compute Optimizer User Guide*.

Once you opt in for Compute Optimizer, the following checks receive data from your Lambda functions and Amazon EBS volumes. It can take up to 12 hours to generate the findings and optimization recommendations. It can then take up to 48 hours to view your results in Trusted Advisor for the following checks:

Cost optimization

- Amazon EBS over-provisioned volumes
- AWS Lambda over-provisioned functions for memory size

Performance

- Amazon EBS under-provisioned volumes
- AWS Lambda under-provisioned functions for memory size

Notes

- Results for these checks are automatically refreshed several times daily. Refresh requests are not allowed. It might take a few hours for changes to appear. Currently, you can't exclude resources from these checks.

- Trusted Advisor already has the Underutilized Amazon EBS Volumes and the Overutilized Amazon EBS Magnetic Volumes checks.

  Once you opt in with Compute Optimizer, we recommend that you use the new Amazon EBS over-provisioned volumes and Amazon EBS under-provisioned volumes checks instead.

Related information

For more information, see the following topics:

- Viewing Amazon EBS volume recommendations in the *AWS Compute Optimizer User Guide*
- Viewing Lambda function recommendations in the *AWS Compute Optimizer User Guide*
- Configuring Lambda function memory in the *AWS Lambda Developer Guide*
- Request modifications to your Amazon EBS volumes in the *Amazon EC2 User Guide*

Get started with AWS Trusted Advisor Priority

Trusted Advisor Priority helps you secure and optimize your AWS account to follow AWS best practices. With Trusted Advisor Priority, your AWS account team can proactively monitor your account and create prioritized recommendations when they identify opportunities for you.

For example, your account team can identify if your AWS account root user lacks multi-factor authentication (MFA). Your account team can create a recommendation so that you can take immediate action on a check, such as `MFA on Root Account`. The recommendation appears as an active **prioritized recommendation** on the Trusted Advisor Priority page of the Trusted Advisor console. You then follow the recommendations to resolve it.

Trusted Advisor Priority recommendations come from these two sources:

- AWS services – Services such as Trusted Advisor, AWS Security Hub, and AWS Well-Architected automatically create recommendations. Your account team shares these recommendations with you so that those recommendations appear in Trusted Advisor Priority.
- Your account team – Your account team can create manual recommendations.

Trusted Advisor Priority helps you focus on the most important recommendations. You and your account team can monitor the recommendation lifecycle, from the point when your account team shared the recommendation, up to the point when you acknowledge, resolve, or dismiss it. You can use Trusted Advisor Priority to find recommendations for all member accounts in your organization.

Topics

Prerequisites

You must meet the following requirements to use Trusted Advisor Priority:

- You must have an Enterprise Support plan.
- Your account must be part of an organization that has enabled all features in AWS Organizations. For more information, see Enabling all features in your organization in the *AWS Organizations User Guide*.
- Your organization must have enabled trusted access to Trusted Advisor. To enable trusted access, log in as the management account. Open the Your organization page in the Trusted Advisor console.
- You must be signed in to your AWS account to view Trusted Advisor Priority recommendations for your account.

- You must be signed in to the organization's management account or a delegated administrator account to view aggregated recommendations across your organization. For instructions on how to register delegated administrator accounts, see Register delegated administrators.
- You must have AWS Identity and Access Management (IAM) permissions to access Trusted Advisor Priority. For information on how to control access to Trusted Advisor Priority, see Manage access to AWS Trusted Advisor and AWS managed policies for AWS Trusted Advisor.

Enable Trusted Advisor Priority

Ask your account team to enable this feature for you. You must have an Enterprise Support plan and be the management account owner for your organization. If the Trusted Advisor Priority page in the console says that you need trusted access with AWS Organizations, then choose **Enable trusted access with AWS Organizations**. For more information, see the Prerequisites section.

View prioritized recommendations

After your account team enables Trusted Advisor Priority for you, you can view the latest recommendations for your AWS account.

To view your prioritized recommendations

1. Sign in to the Trusted Advisor console at https://console.aws.amazon.com/trustedadvisor/home.
2. On the **Trusted Advisor Priority** page, you can view the following items:

   If you're using an AWS Organizations Management or Delegated Administrator account, then switch to the **My Account** tab.

   - **Actions needed** – The number of recommendations that are pending a response or are in progress.
   - **Overview** – The following information:
     - Dismissed recommendations in the last 90 days
     - Resolved recommendations in the last 90 days
     - Recommendations without an update in over 30 days
     - Average time to resolve recommendations

3. On the **Active** tab, the **Active prioritized recommendations** show recommendations that your account team prioritized for you. The **Closed** tab shows resolved or dismissed recommendations.

   - To filter your results, use the following options:

     - **Recommendation** – Enter keywords to search by name. This can be a check name, or a custom name that your account team created.
     - **Status** – Whether the recommendation is pending a response, in progress, dismissed, or resolved.
     - **Source** – The origin of a prioritized recommendation. The recommendation can come from AWS services, your AWS account team, or a planned service event.
     - **Category** – The recommendation category, such as security or cost optimization.
     - **Age** – When your account team shared the recommendation with you.

4. Choose a recommendation to learn more about its details, the affected resources, and the recommended actions. You can then acknowledge or dismiss the recommendation.

To view prioritized recommendations across all accounts in your AWS organization

Both the management account and the Trusted Advisor Priority delegated administrators can view recommendations aggregated across your organization.

> **Note**
>
> Member accounts don't have access to aggregated recommendations.

1. Sign in to the Trusted Advisor console at https://console.aws.amazon.com/trustedadvisor/home.
2. On the **Trusted Advisor Priority** page, make sure that you're on the **My Organization** tab.
3. To view recommendations for one account, select an account from the **Select an account from your organization** dropdown list. Or, you can view recommendations across all your accounts.

   On the **My Organization** tab, you can view the following items:

   - **Actions needed:** The number of recommendations across your organization that are pending a response or are in progress.

- **Overview:** Shows the following items:

  - Dismissed recommendations in the last 90 days.

  - Resolved recommendations in the last 90 days.

  - Recommendations without an update in over 30 days.

  - The average time taken to resolve recommendations.

4. Under the **Active** tab, the **Active prioritized recommendations** section shows recommendations that your account team prioritized for you. The **Closed** tab shows resolved or dismissed recommendations.

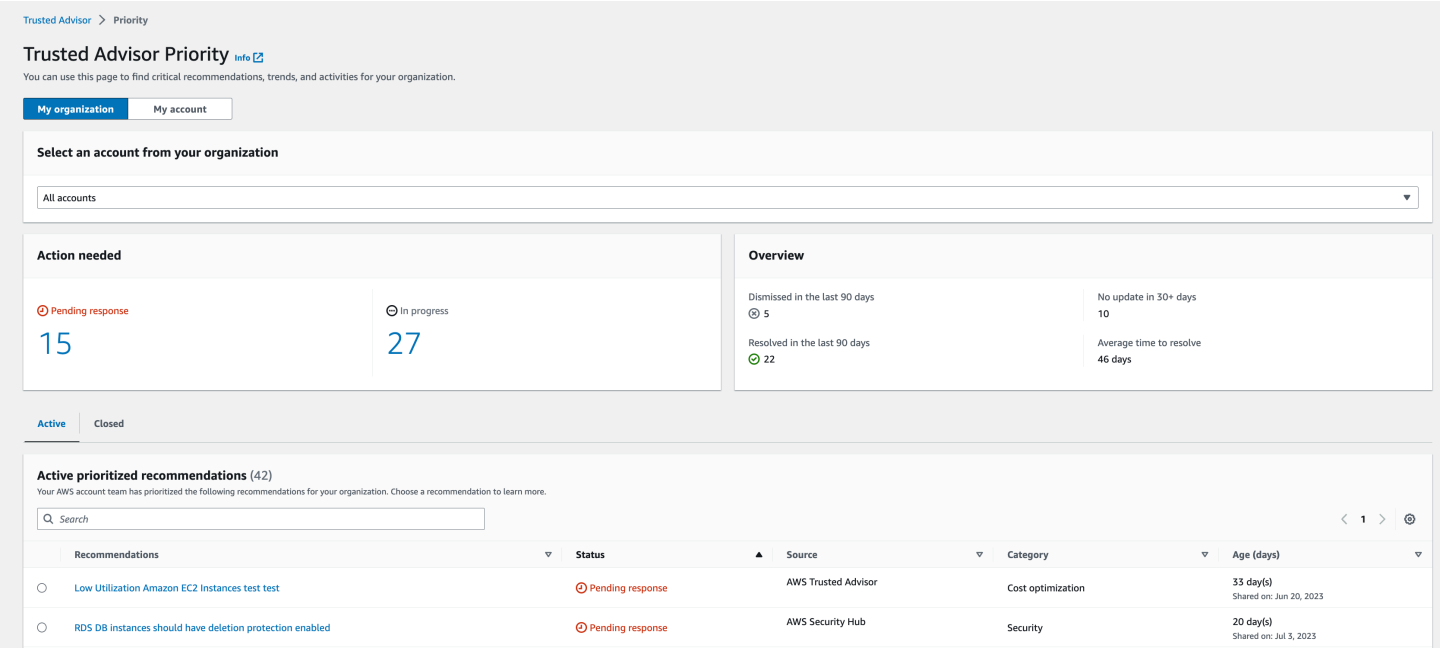
   To filter your results, use the following options:

   - **Recommendation** – Enter keywords to search by name. This can be either a check name, or a custom name that your account team created.
   - **Status** – Whether the recommendation is pending a response, in progress, dismissed, or resolved.
   - **Source** – The origin of a prioritized recommendation. The recommendation can come from AWS services, your AWS account team, or a planned service event.
   - **Category** – The recommendation category, such as security or cost optimization.
   - **Age** – When your account team shared the recommendation with you.

5. Choose a recommendation to see additional details, affected accounts and resources, and the recommended actions. You can then acknowledge or dismiss the recommendation.

Example : Trusted Advisor Priority recommendations

The following example shows 15 recommendations that are pending a response and 27 recommendations that are in progress under the **Action needed** section. The following image shows two of the recommendations that are pending response in the **Active prioritized recommendation** tab.



Acknowledge a recommendation

Under the **Active** tab, you can learn more about the recommendation and then decide if you want to acknowledge it.

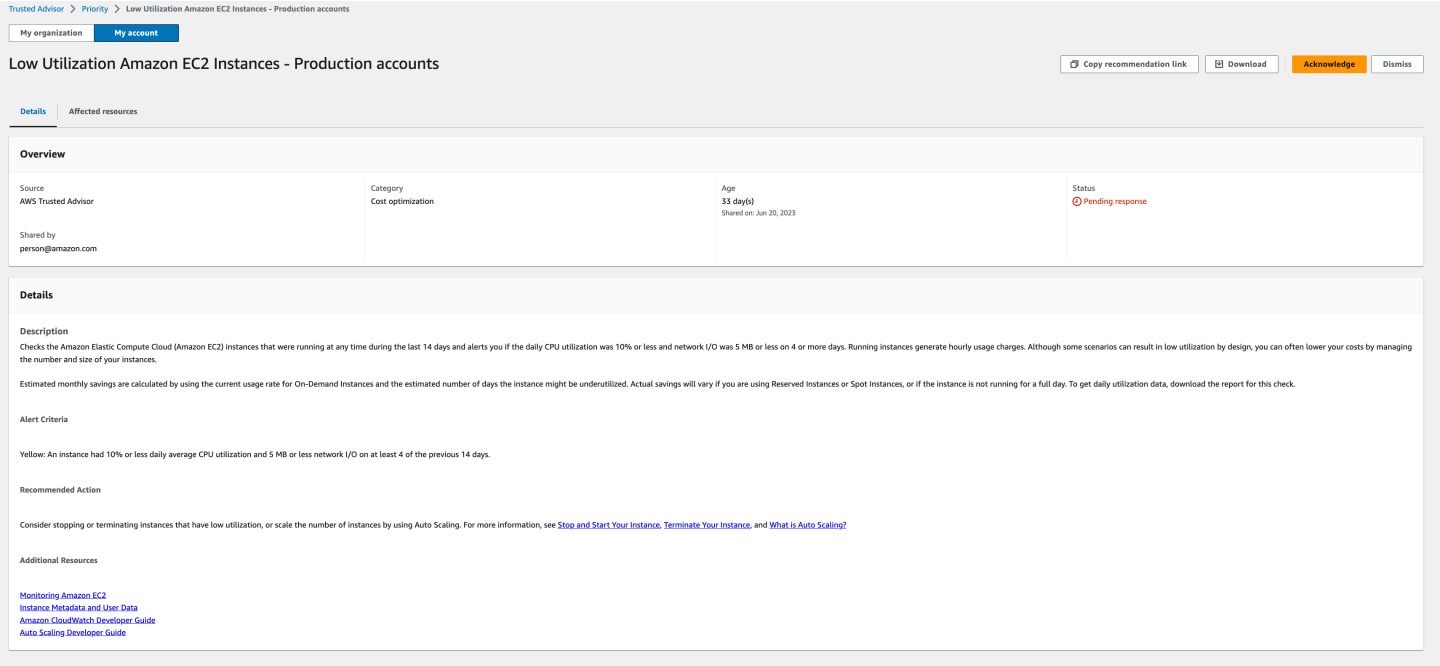
To acknowledge a recommendation

1. Sign in to the Trusted Advisor console at https://console.aws.amazon.com/trustedadvisor/home.
2. If you're using an AWS Organizations Management or Delegated Administrator account, then switch to the **My Account** tab.
3. On the **Trusted Advisor Priority** page, under the **Active** tab, choose a recommendation name.
4. In the **Details** section, you can review the recommended actions to resolve the recommendation.
5. In the **Affected resources** section, you can review the affected resources and filter by *Status*.
6. Choose **Acknowledge**.
7. In the **Acknowledge recommendation** dialog box, choose **Acknowledge**.

   The recommendation status changes to **In progress**. Recommendations in progress or pending a response appear in the **Active** tab on the Trusted Advisor Priority page.
8. Follow the recommended actions to resolve the recommendation. For more information, see Resolve a recommendation.

Example : Manual recommendation from Trusted Advisor Priority

The following image shows the **Low Utilization EC2 Instances** recommendation that is pending a response.



To acknowledge a recommendation for all accounts in your AWS organization

The management account or the Trusted Advisor delegated administrators can acknowledge a recommendation for all of the affected accounts.

> **Note**
>
> Member accounts don't have access to aggregated recommendations.

1. Sign in to the Trusted Advisor console at https://console.aws.amazon.com/trustedadvisor/home.
2. On the **Trusted Advisor Priority** page, make sure that you're on the **My organization** tab.
3. In the **Active** tab, select a recommendation name.
4. Choose **Acknowledge**.
5. In the **Acknowledge recommendation** dialog box, choose **Acknowledge**.

   The recommendation status changes to **In progress**.

6. Follow the recommended actions to resolve the recommendation. For more information, see Resolve a recommendation.
7. To view the recommendation details, choose the recommendation name.

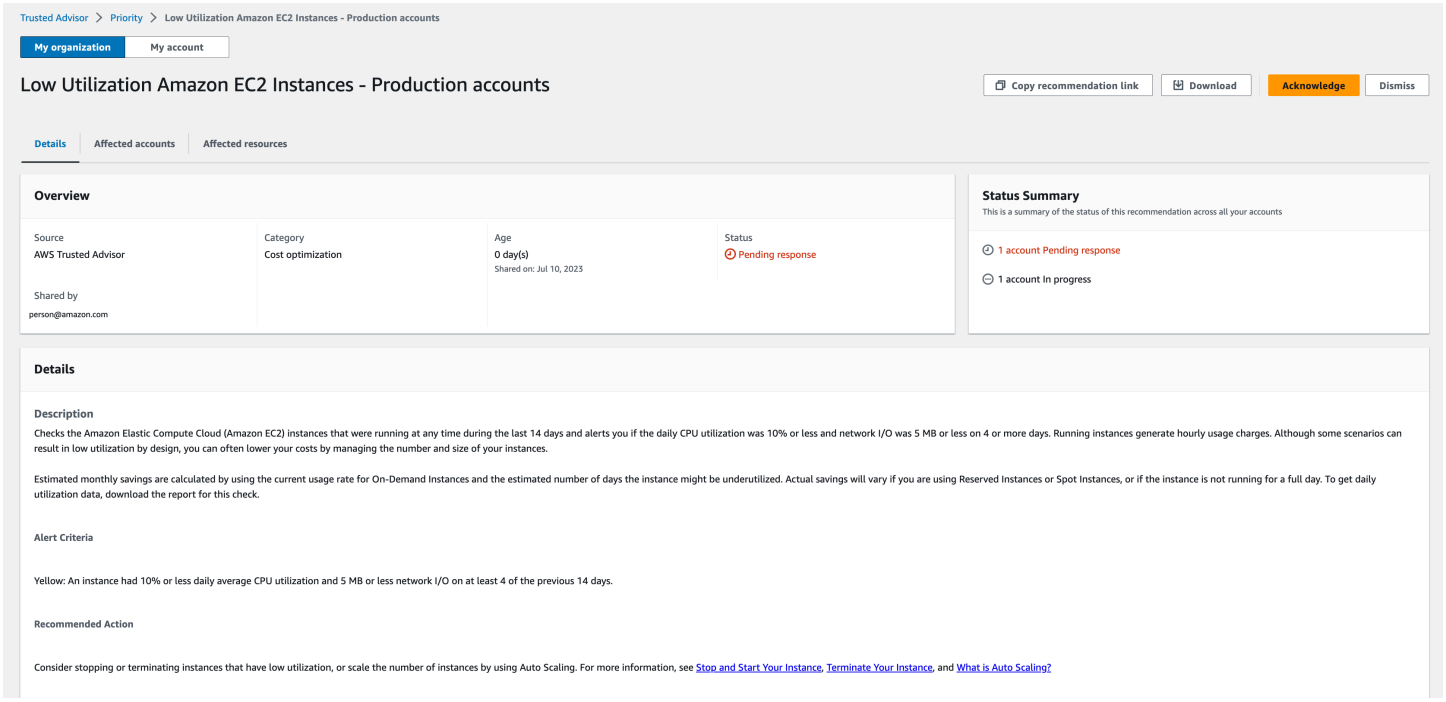
   In the **Details** section, you can review the following information about the recommendation:

   - An **Overview** of the recommendation and a **Details** section covering the recommendation actions to complete.

     A **Status summary** that shows recommendations across all affected accounts.
   - In the **Affected accounts** section, you can review the affected resources across all your accounts. You can filter by **Account number** and **Status**.
   - In the **Affected resources** section, you can review the affected resources across all your accounts. You can filter by **Account number** and **Status**.

Example : Manual recommendation from Trusted Advisor Priority

The following image shows the **Low Utilization Amazon EC2 Instances** recommendation that's pending a response. One affected account has acknowledged the recommendation. Another account is pending a response, making the recommendation status **Pending response**.



Dismiss a recommendation

You can also dismiss a recommendation. This means that you acknowledge the recommendation, but you won't address it. You can dismiss a recommendation if it's not relevant to your account. For example, if you have a test AWS account that you plan to delete, you don't need to follow the recommended actions.

To dismiss a recommendation

1. Sign in to the Trusted Advisor console at https://console.aws.amazon.com/trustedadvisor/home.
2. If you're using an AWS Organizations Management or Delegated Administrator account, then switch to the **My Account** tab.
3. On the **Trusted Advisor Priority** page, under the **Active** tab, choose a recommendation name.
4. On the recommendation detail page, review the information about the affected resources.
5. If this recommendation doesn't apply for your account, choose **Dismiss**.
6. In the **Dismiss recommendation** dialog box, select a reason why you won't address the recommendation.
7. (Optional) Enter a note detailing why you're dismissing the recommendation. If you choose **Other**, you must enter a description in the **Note** section.
8. Choose **Dismiss**. The recommendation status changes to **Dismissed** and appears in the **Closed** tab on the Trusted Advisor Priority page.

To dismiss a recommendation for all the accounts in your AWS organization

The management account or the delgated administrator of Trusted Advisor Priority can dismiss a recommendation for all of their accounts.

1. Sign in to the Trusted Advisor console at https://console.aws.amazon.com/trustedadvisor/home.
2. On the Trusted Advisor Priority page, make sure that you're on the **My Organization** tab.
3. In the **Active** tab, select a recommendation name.
4. If this recommendation doesn't apply for your account, then choose **Dismiss**.
5. In the **Dismiss recommendation** dialog box, select a reason why you won't address the recommendation.

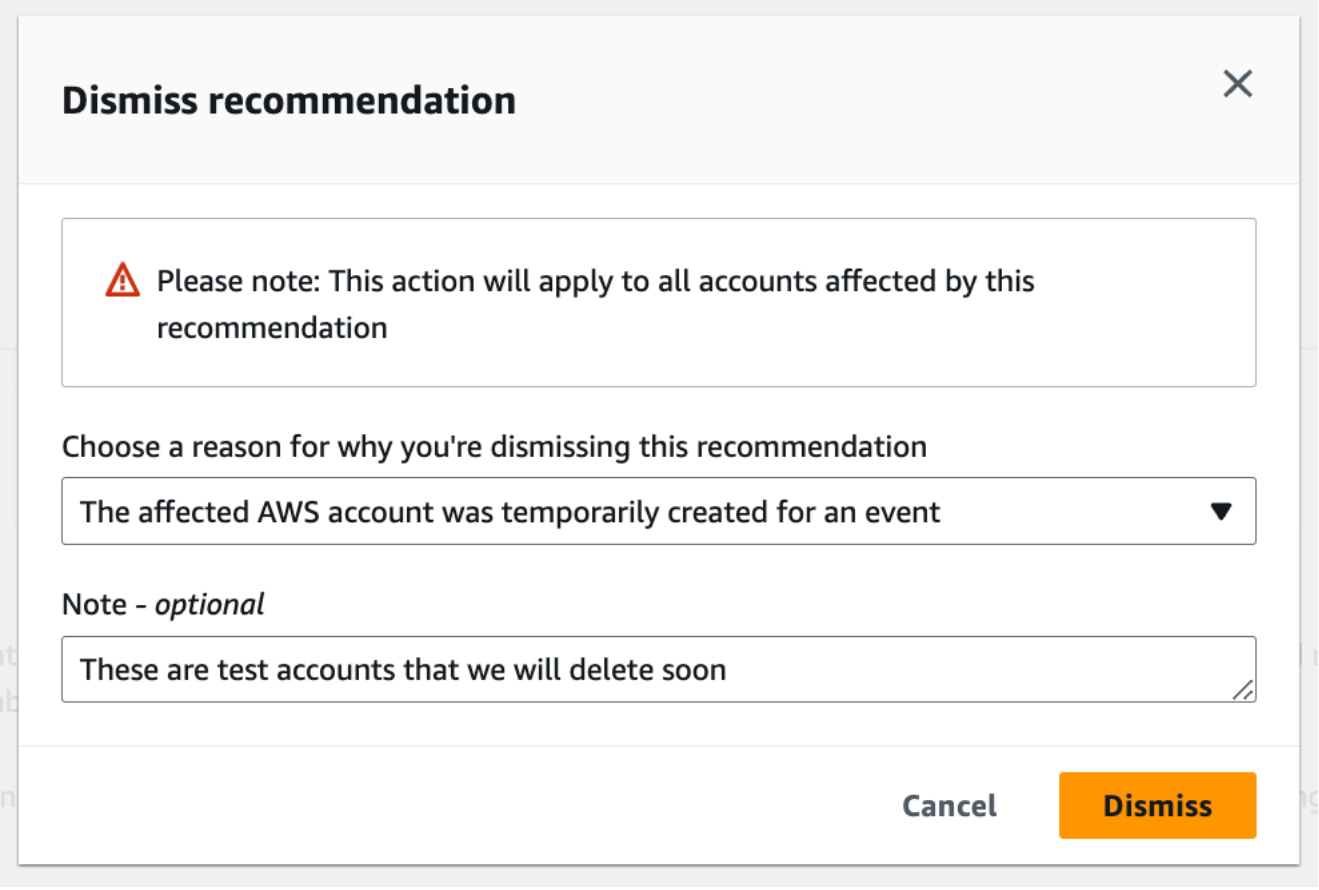
6. (Optional) Enter a note detailing why you're dismissing the recommendation. If you choose **Other**, then you must enter a description in the **Note** section.
7. Choose **Dismiss**. The recommendation status changes to **Dismissed**. The recommendation appears in the **Closed** tab on the Trusted Advisor Priority page.

> **Note**
>
> You can choose the recommendation name and choose **View note** to find the reason for dismissal. If your account team dismissed the recommendation for you, their email address appears next to the note.

Trusted Advisor Priority also notifies your account team that you dismissed the recommendation.

Example : Dismiss a recommendation from Trusted Advisor Priority

The following example shows how you can dismiss a recommendation.



Resolve a recommendation

After you acknowledge the recommendation and complete the recommended actions, you can resolve the recommendation.

> **Tip**
>
> After you resolve a recommendation, you can't reopen it. If you want to revisit the recommendation again later, see Dismiss a recommendation.

To resolve a recommendation

1. Sign in to the Trusted Advisor console at https://console.aws.amazon.com/trustedadvisor/home.
2. On the Trusted Advisor Priority page, make sure that you're on the **My Organization** tab.
3. On the **Trusted Advisor Priority** page, select the recommendation, and then choose **Resolve**.
4. In the **Resolve recommendation** dialog box, choose **Resolve**. Resolved recommendations appear under the **Closed** tab on the Trusted Advisor Priority page. Trusted Advisor Priority notifies your account team that you resolved the recommendation.

To resolve a recommendation for all accounts in your AWS organization

The management account or the Trusted Advisor Priority delegated administrators can resolve a recommendation for all their accounts.

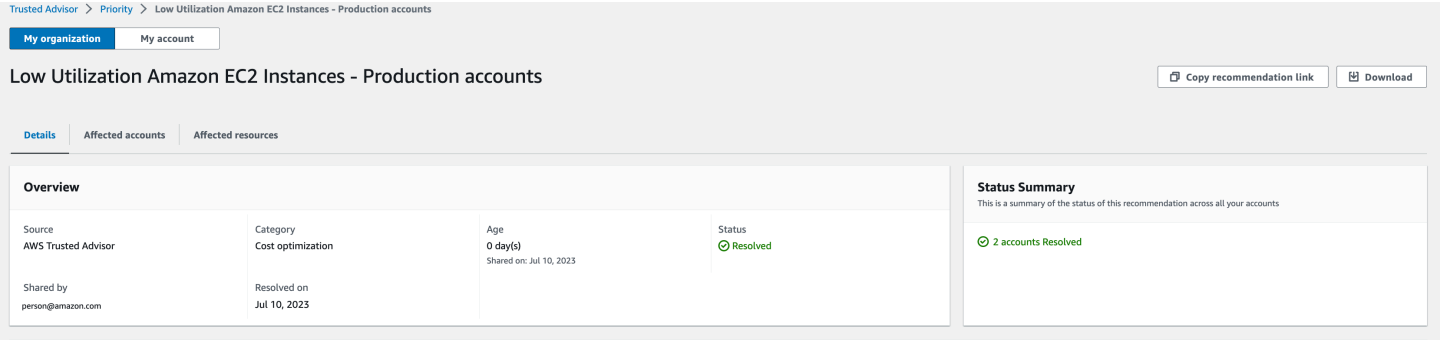
> **Note**
>
> Member accounts don't have access to aggregated recommendations.

1. Sign in to the Trusted Advisor console at https://console.aws.amazon.com/trustedadvisor/home.
2. If you're using an AWS Organizations Management or Delegated Administrator account, switch to the **My Account** tab.
3. In the **Active** tab, select a recommendation name.

4. If the recommendation doesn't apply for your account, choose **Resolve**.
5. In the **Resolve recommendation** dialog box, choose **Resolve**. Resolved recommendations appear under the **Closed** tab on the Trusted Advisor Priority page. Trusted Advisor Priority notifies your account team that you resolved the recommendation.

Example : Manual recommendation from Trusted Advisor Priority

The following example shows a resolved **Low Utilization Amazon EC2 Instances** recommendation.



Reopen a recommendation

After you dismiss a recommendation, you or your account team can reopen the recommendation.

To reopen a recommendation

1. Sign in to the Trusted Advisor console at https://console.aws.amazon.com/trustedadvisor/home.
2. If you're using an AWS Organizations Management or Delegated Administrator account, then switch to the **My Account** tab.
3. On the **Trusted Advisor Priority** page, choose the **Closed** tab.
4. Under **Closed recommendations**, select a recommendation that was **Dismissed**, and then choose **Reopen**.
5. In the **Reopen recommendation** dialog box, describe why you're reopening the recommendation.
6. Choose **Reopen**. The recommendation status changes to **In progress** and appears under the **Active** tab.

> **Tip**
>
> You can choose the recommendation name and then choose **View note** to find the reason for reopening. If your account team reopened the recommendation for you, their name appears next to the note.

7. Follow the steps in the recommendation details.

To reopen a recommendation for all accounts in your AWS organization

The management account or the Trusted Advisor Priority delegated administrators can reopen a recommendation for all of their accounts.

> **Note**
>
> Member accounts don't have access to aggregated recommendations.

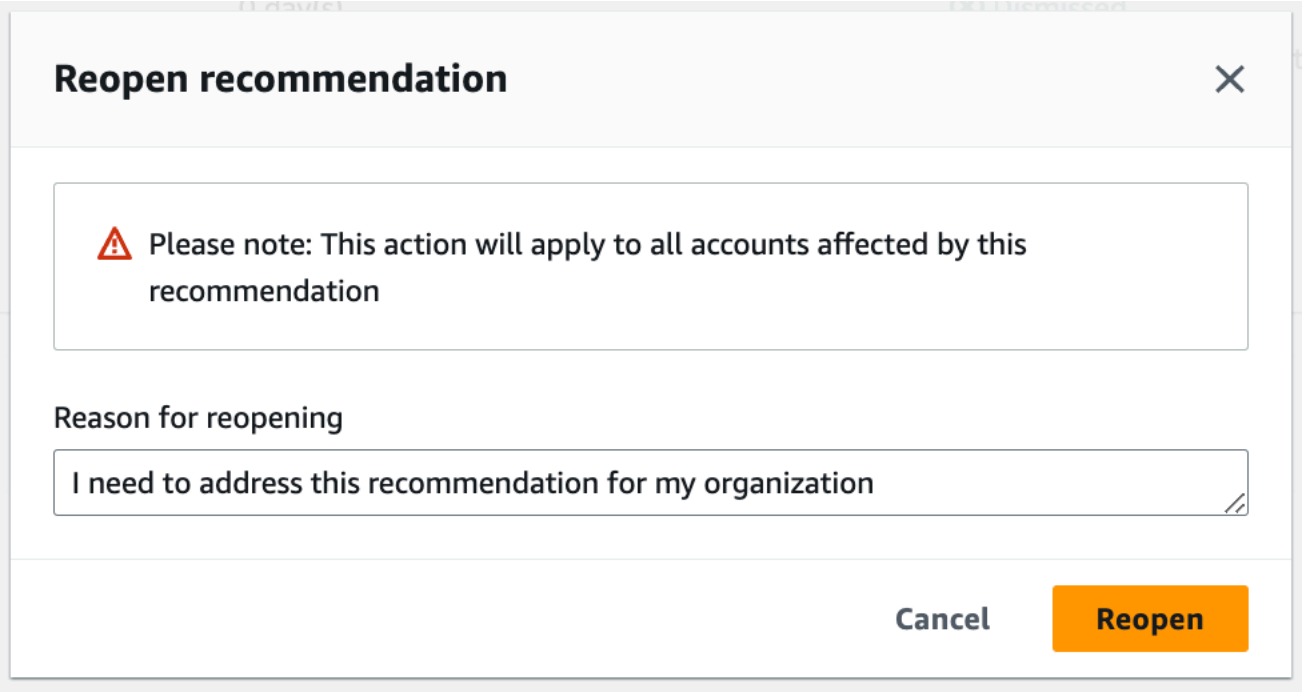
1. Sign in to the Trusted Advisor console at https://console.aws.amazon.com/trustedadvisor/home.
2. On the Trusted Advisor Priority page, make sure that you're on the **My Organization** tab.
3. Under **Closed** recommendations, select a recommendation that was **Dismissed**, and then choose **Reopen**.
4. In the **Reopen recommendation** dialog box, describe why you're reopening the recommendation.
5. Choose **Reopen**. The recommendation status changes to **In progress** and appears under the **Active** tab.

> **Tip**
>
> You can choose the recommendation name and choose **View note** to find the reason for reopening. If your account team reopened the recommendation for you, their name appears next to the note.

6. Follow the steps in the recommendation details.

Example : Reopen a recommendation from Trusted Advisor Priority

The following example shows a recommendation that you want to reopen.



Download recommendation details

You can also download the results of a prioritized recommendation from Trusted Advisor Priority.

> **Note**
>
> Currently, you can download only one recommendation at a time.

To download a recommendation

1. Sign in to the Trusted Advisor console at https://console.aws.amazon.com/trustedadvisor/home.
2. On the **Trusted Advisor Priority** page, select the recommendation, and then choose **Download**.
3. Open the file to view the recommendation details.

Register delegated administrators

You can add member accounts that are part of your organization as delegated administrators. Delegated administrator accounts can review, acknowledge, resolve, dismiss, and reopen recommendations in Trusted Advisor Priority.

After you register an account, you must grant the delegated administrator the required AWS Identity and Access Management permissions to access Trusted Advisor Priority. For more information, see Manage access to AWS Trusted Advisor and AWS managed policies for AWS Trusted Advisor.

You can register up to five member accounts. Only the management account can add delegated administrators for the organization. You must be signed in to the organization's management account to register or deregister a delegated administrator.

To register a delegated administrator

1. Sign in to the Trusted Advisor console at https://console.aws.amazon.com/trustedadvisor/home as the management account.
2. In the navigation pane, under **Preferences**, choose **Your organization**.
3. Under **Delegated administrator**, choose **Register new account**.
4. In the dialog box, enter the member account ID, and then choose **Register**.
5. (Optional) To deregister an account, select an account and choose **Deregister**. In the dialog box, choose **Deregister** again.

Deregister delegated administrators

When you deregister a member account, that account no longer has the same access to Trusted Advisor Priority as the management account. Accounts that are no longer delegated administrators won't receive email notifications from Trusted Advisor Priority.

To deregister a delegated administrator

1. Sign in to the Trusted Advisor console at https://console.aws.amazon.com/trustedadvisor/home as the management account.
2. In the navigation pane, under **Preferences**, choose **Your organization**.
3. Under **Delegated administrator**, select an account and then choose **Deregister**.

4. In the dialog box, choose **Deregister**.

Manage Trusted Advisor Priority notifications

Trusted Advisor Priority delivers notifications through email. This email notification includes a summary of the recommendations that your account team prioritized for you. You can specify the frequency that you receive updates from Trusted Advisor Priority.

If you registered member accounts as delegated administrators, they can also set up their accounts to receive Trusted Advisor Priority email notifications.

Trusted Advisor Priority email notifications don't include check results for individual accounts and are separate from the weekly notification for Trusted Advisor Recommendations. For more information, see Set up notification preferences.

> **Note**
>
> Only the management account or delegated administrator can set up Trusted Advisor Priority email notifications.

To manage your Trusted Advisor Priority notifications

1. Sign in to the Trusted Advisor console at https://console.aws.amazon.com/trustedadvisor/home as a management or delegated administrator account.
2. In the navigation pane, under **Preferences**, choose **Notifications**.
3. Under **Priority**, you can select the following options.
   a. **Daily** – Receive an email notification daily.
   b. **Weekly** – Receive an email notification once a week.
   c. Choose the notifications to receive:
      - Summary of prioritized recommendations
      - Resolution dates
4. For **Recipients**, select other contacts that you want to receive the email notifications. You can add and remove contacts from the Account Settings page in the AWS Billing and Cost Management console.

5. For **Language**, choose the language for the email notification.
6. Choose **Save your preferences**.

> **Note**
>
> Trusted Advisor Priority sends email notifications from the noreply@notifications.trustedadvisor.us-west-2.amazonaws.com address. You might need to verify that your email client doesn't identify these emails as spam.

Disable Trusted Advisor Priority

Contact your account team and ask that they disable this feature for you. After this feature is disabled, prioritized recommendations no longer appear in your Trusted Advisor console.

If you disable Trusted Advisor Priority and then enable it again later, you can still view the recommendations that your account team sent before you disabled Trusted Advisor Priority.

Get started with AWS Trusted Advisor Engage (Preview)

> **Note**
>
> AWS Trusted Advisor Engage is in preview release and is subject to change. You can see preview service terms here https://aws.amazon.com/service-terms/.

You can use AWS Trusted Advisor Engage to get the most out of your AWS Support Plans by making it easy for you to see, request and track all your proactive engagements, and communicate with your AWS account team about ongoing engagements.

For example, you can request a “Management Business Review” towards your AWS account team by going into the **Engage** page within the AWS Trusted Advisor console. Then, an AWS expert will be assigned to your request, and follow through the entire engagement.

Topics

- View the Engagements Dashboard
- View the Catalog of Engagement Types
- Request an Engagement
- Edit an Engagement
- Submit Attachments and Notes
- Change the Engagement Status
- Differentiate Between Recommended and Requested Engagements
- Search Engagements

Prerequisites

You must take necessary action to satisfy the following requirements in order to use Trusted Advisor Engage:

- You must have an Enterprise On-Ramp Support plan.
- Your account must be part of an organization which has enabled all features in AWS Organizations. For more information, see Enabling all features in your organization in the *AWS Organizations User Guide*.
- Your organization must have enabled trusted access to Trusted Advisor. You can enable trusted access by logging in as the management account and going to the Your organization page in the Trusted Advisor console.
- You must have AWS Identity and Access Management (IAM) permissions to access Trusted Advisor Engage. For information about how to control access to Trusted Advisor Engage, see Manage access to AWS Trusted Advisor.

> **Note**
>
> Any account within an AWS Organization can create an engagement request. If an Engagement-owning account moves to a different AWS Organization, the Engagement will only be accessible by the account. To limit controls, see Example Service Control Policies for AWS Trusted Advisor.

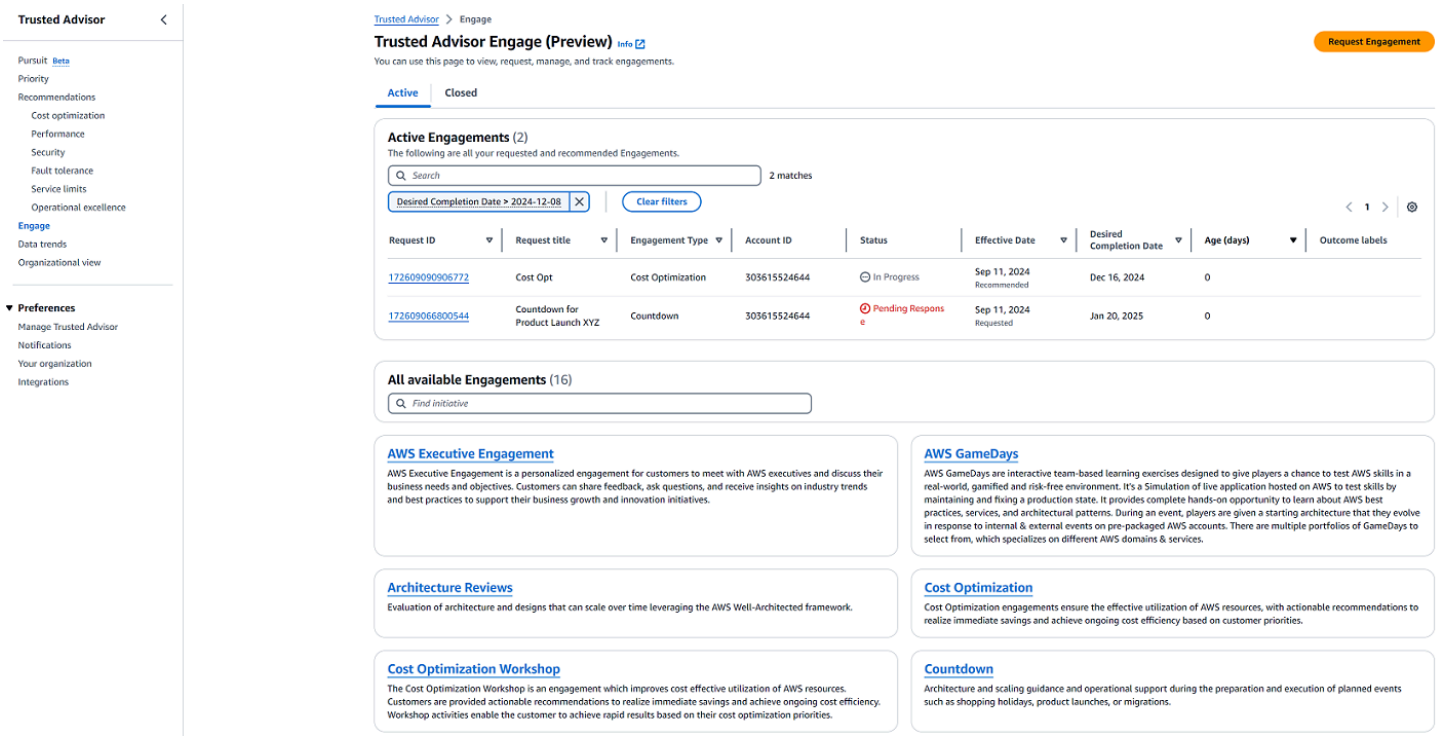
View the Engagements Dashboard

After you have obtained access rights, you can access the Trusted Advisor Engage page within the Trusted Advisor console to view a dashboard where you can manage engagements with your AWS account team.

To manage your Engagements:

1. Sign in to the Trusted Advisor console at https://console.aws.amazon.com/trustedadvisor/home.
2. On the **Trusted Advisor Engage** page, you can view the:
   - **Request Engagement** Button
   - **Active Engagements** Table
   - **Closed Engagements** Table
   - **All Available Engagements** Catalog

Example : Engagements Dashboard



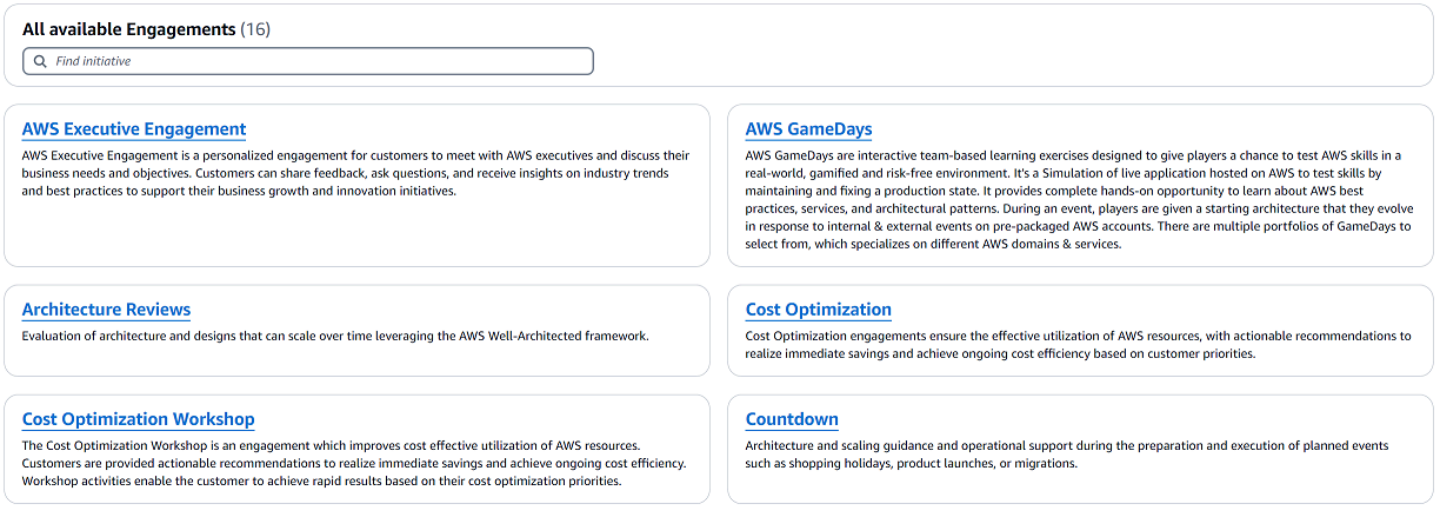
View the Catalog of Engagement Types

You can view the catalog of engagement types to find the latest types of engagements that you can request towards your AWS account team.

To view the catalog of engagement types:

1. Sign in to the Trusted Advisor console at https://console.aws.amazon.com/trustedadvisor/home.
2. On the **Trusted Advisor Engage** page, you can find the catalog of Engagement types.

Example : Engagement Types Catalog



Request an Engagement

You can request engagements to your AWS account team according to the engagement types included in your AWS Support Plan.

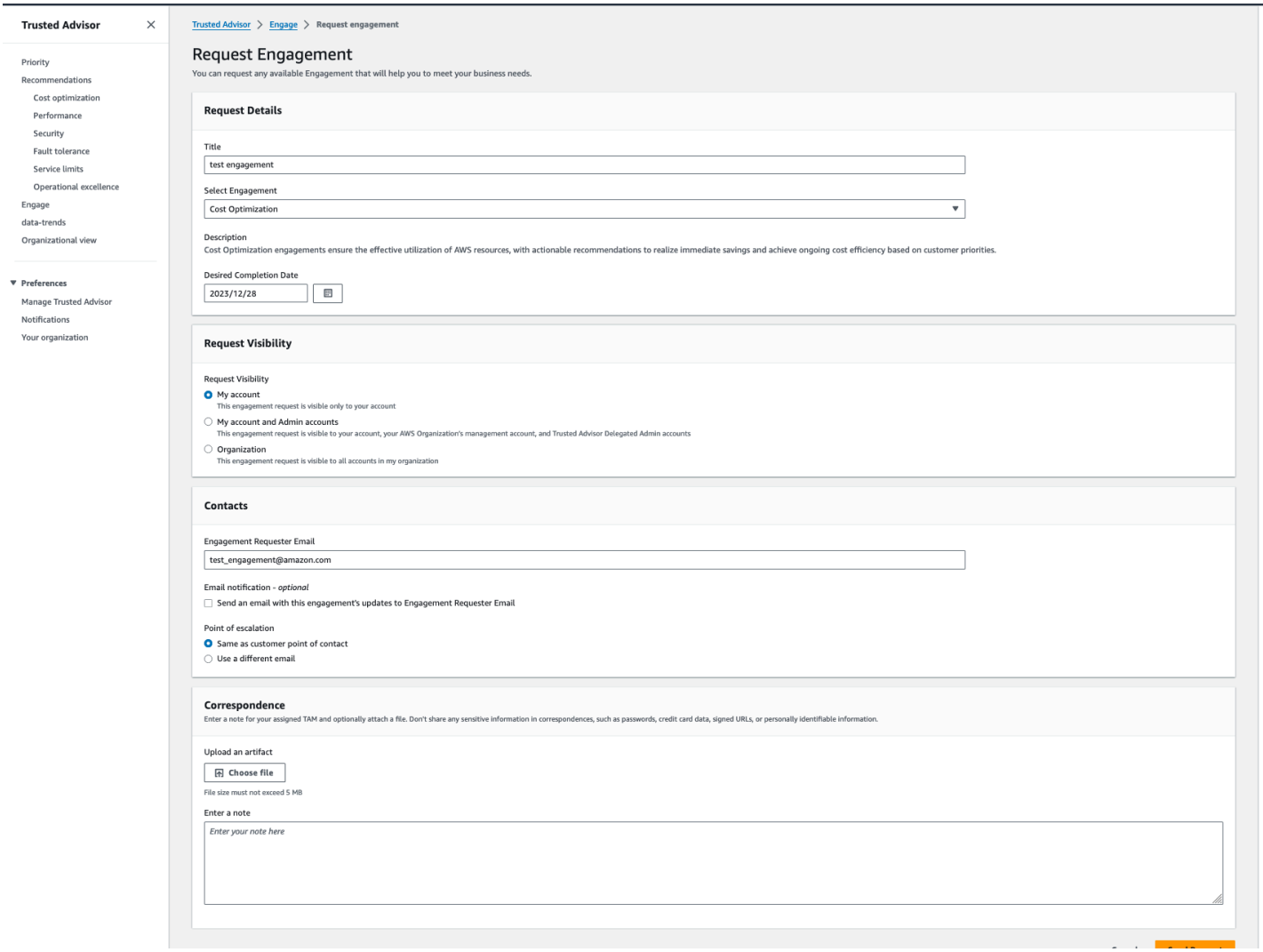
To request an Engagement:

1. Sign in to the Trusted Advisor console at https://console.aws.amazon.com/trustedadvisor/home.
2. On the **Trusted Advisor Engage** page, choose **Request Engagement**.
3. Fill out the:
   - **Title**

- **Select Engagement**: the type of Engagement you want to request.
- **Desired Completion Date**: the desired completion date of the Engagement. Each Engagement Type has a different lead time which is calculated in the minimum desired completion date.
- **Request Visibility**:
  - **My account**: this engagement request is visible only to your account.
  - **My account and Admin accounts**: this engagement request is visible to your account, and the Management account and all Delegated Admin accounts of your AWS Organization.
  - **Organization**: This engagement request is visible to all accounts in your AWS Organization.
- **Engagement Requester Email**: the email address that AWS will use as the primary point of contact for this Engagement.
- **Email notification settings**: choose if the Engagement Requester Email will receive email notifications about the engagement.
- **Point of escalation**: the email address that AWS will use when an escalation is required for this Engagement.
- **Correspondence**: a note and an optional file attachment for you to provide details regarding this Engagement.

4. Choose **Send Request**.

Example : Request Engagement



Edit an Engagement

You can edit details on your engagement request.

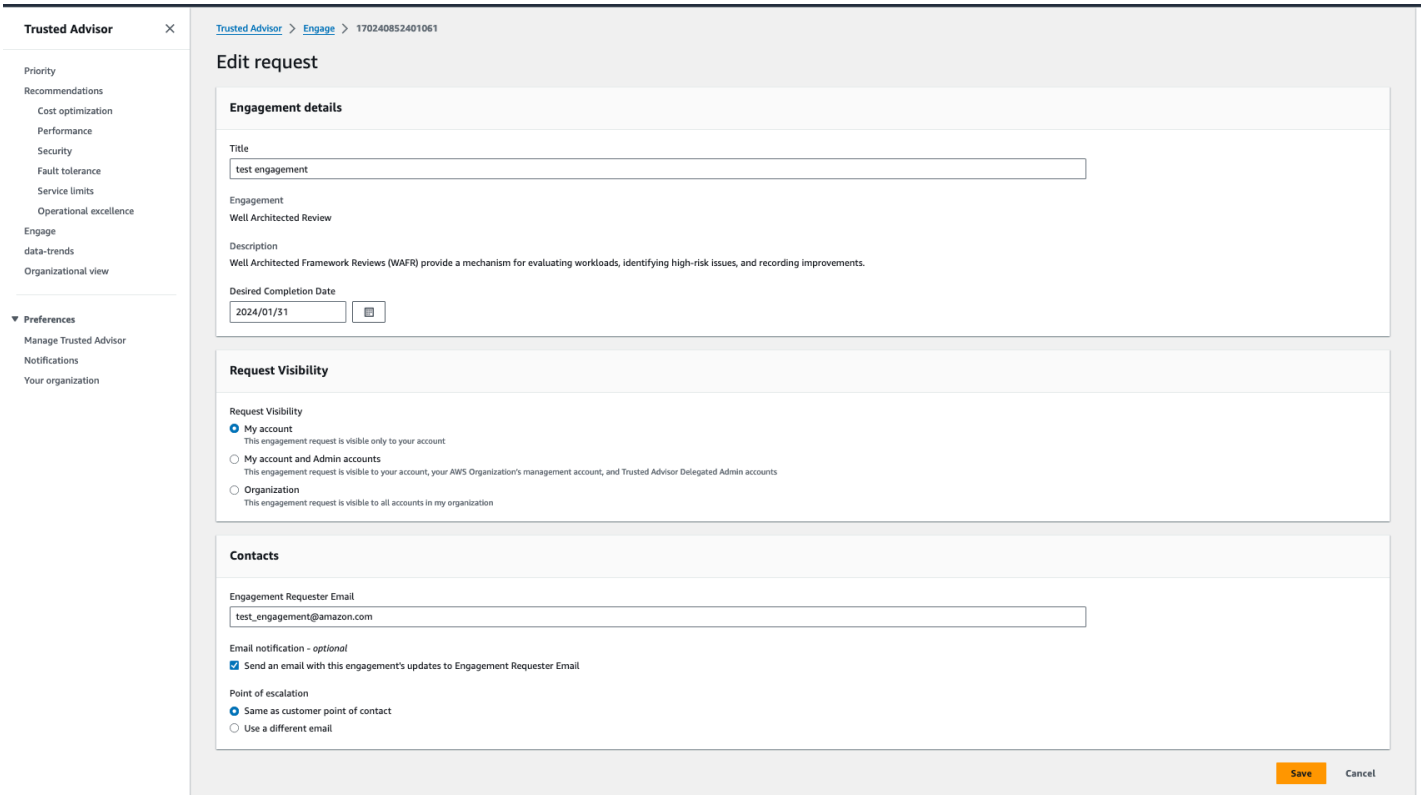
To edit an Engagement:

1. Sign in to the Trusted Advisor console at https://console.aws.amazon.com/trustedadvisor/home.
2. On the **Trusted Advisor Engage** page, select an existing engagement.
3. Select **Edit**.
4. You can edit the:
   - **Title**

- **Desired Completion Date**: the desired completion date of the Engagement. Each Engagement Type has a different lead time which is calculated in the minimum desired completion date.
- **Request Visibility**:
  - **My account**: this engagement request is visible only to your account.
  - **My account and Admin accounts**: this engagement request is visible to your account, and the Management account and all Delegated Admin accounts of your AWS Organization.
  - **Organization**: This engagement request is visible to all accounts in your AWS Organization.
- **Engagement Requester Email**: the email address that AWS will use as the primary point of contact for this Engagement.
- **Email notification settings**: choose if the Engagement Requester Email will receive email notifications about the engagement.
- **Point of escalation**: the email address that AWS will use when an escalation is required for this Engagement.

5. Choose **Save**.

Example : Edit Engagement



Submit Attachments and Notes

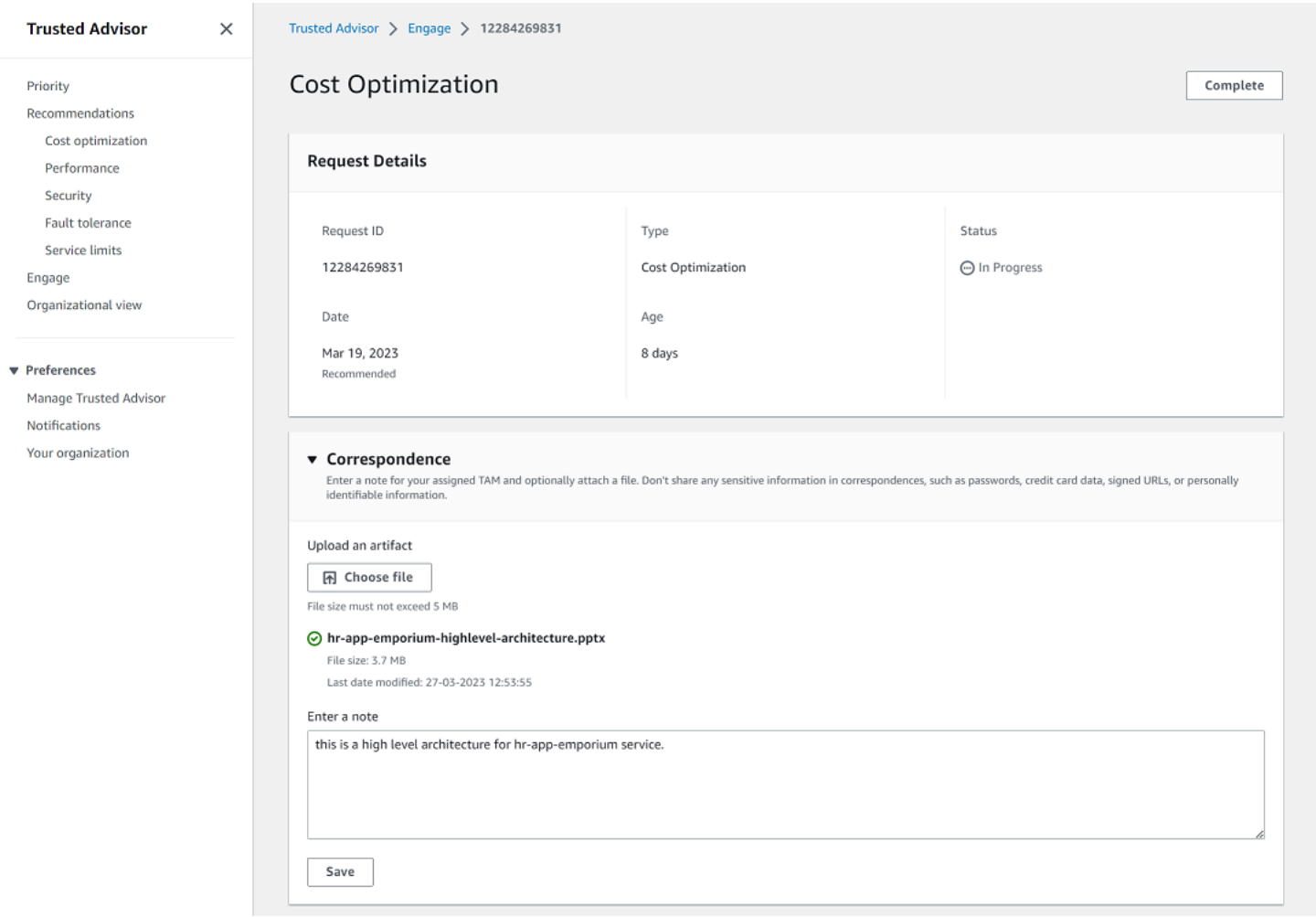
You can communicate with your AWS account team on individual engagements by sending notes and file attachments to support your engagement request. You can include a single attachment and note per communication, you can only attach files to an engagement with the same AWS account which requested the engagement, and you can not delete attachments or notes after a communication has been sent.

To attach files or add notes to an Active Engagement request:

1. Sign in to the Trusted Advisor console at https://console.aws.amazon.com/trustedadvisor/home.
2. On the **Trusted Advisor Engage** page, choose the ID of the **active engagement** to which you would like to attach files or add notes.
3. Choose **Correspondence** to expand the form.
4. Enter a note for your assigned TAM and optionally attach a file. Don't share any sensitive information in correspondences, such as passwords, credit card data, signed URLs, or personally identifiable information.

5. Choose **Save**.

Example : Add Note and Attach File to an Engagement



Change the Engagement Status

You can change that status of engagements to cancel engagements which are pending response, complete engagements which are in progress, and reopen engagements which have been marked as cancelled or closed.

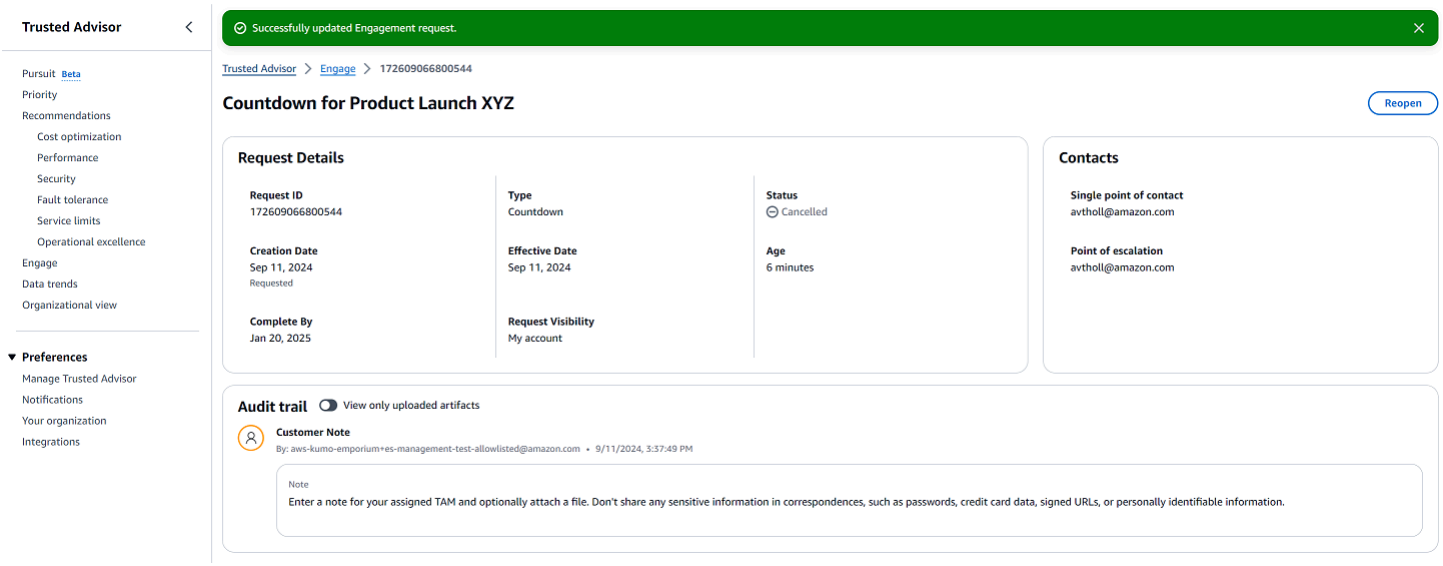
To change the status of an Engagement:

1. Sign in to the Trusted Advisor console at https://console.aws.amazon.com/trustedadvisor/home.
2. On the **Trusted Advisor Engage** page, choose the ID of the **active engagement** of which you would like to change the status.

3. On the **Engagement** details page, you can change the status to **Cancelled** or **Complete**.

   - You are able to select **Cancel** when engagement status is **Pending Response**.
   - You are able to select **Complete** when engagement status is **In Progress**.
   - You are able to select **Reopen** for closed engagements. Cancelled engagements move to **Pending Response**, while Complete engagements move to **In Progress**.

Example : Change Engagement Status



Differentiate Between Recommended and Requested Engagements

You can identify the source of engagements to know whether an engagement was requested by you or recommended by your AWS account team.

To view different sources of Active Engagements:

1. Sign in to the Trusted Advisor console at https://console.aws.amazon.com/trustedadvisor/home.
2. On the **Trusted Advisor Engage** page, view the **Effective Date** column to distinguish between **Recommended** and **Requested** Engagements:

   - **Recommended**: Engagement request created by your AWS account teams.
   - **Requested**: Engagement request created by the user.

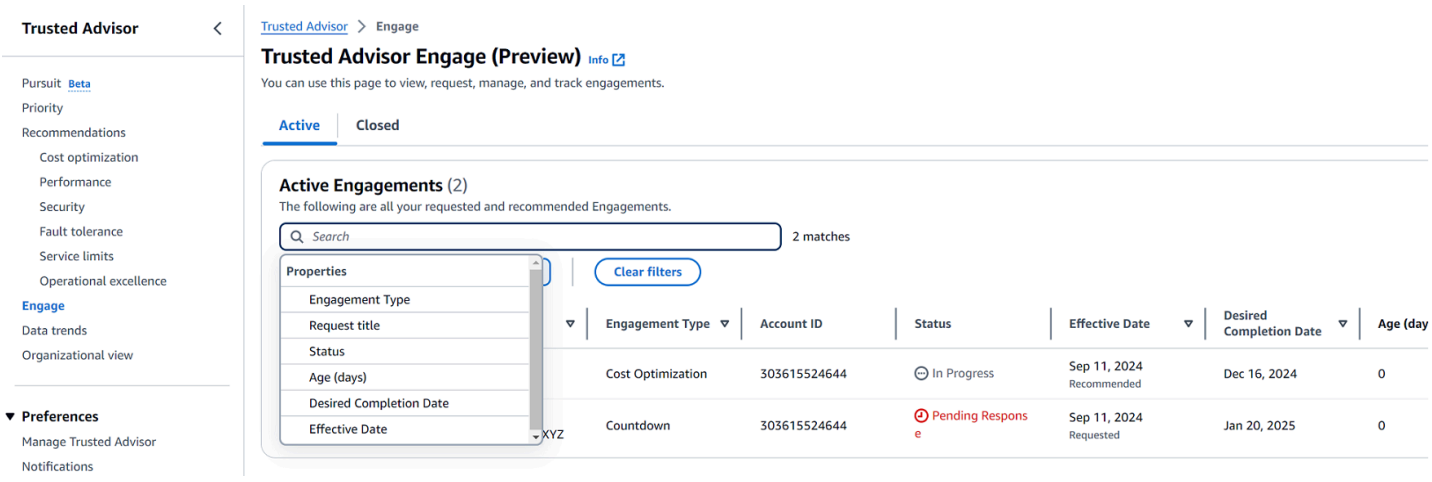
Search Engagements

You can search your existing active and closed engagements using filters.

To search Engagements:

1. Sign in to the Trusted Advisor console at https://console.aws.amazon.com/trustedadvisor/home.
2. On the **Trusted Advisor Engage** page, you can select from the following filters:
   - **Age (days)**
   - **Engagement Type**
   - **Request Title**
   - **Status**
   - **Desired Completion Date**
   - **Effective Date**

Example : Search Engagements



AWS Trusted Advisor check reference

You can view all Trusted Advisor check names, descriptions, and IDs in the following reference. You can also sign in to the Trusted Advisor console to view more information about the checks, recommended actions, and their statuses.

If you have a Business, Enterprise On-Ramp, or Enterprise Support plan, you can also use the AWS Trusted Advisor API and the AWS Command Line Interface (AWS CLI) to access your checks. For more information, see the following topics:

- Get started with the Trusted Advisor API
- AWS Trusted Advisor API Reference

> **Note**
>
> If you have a Basic Support and Developer Support plan, you can use the Trusted Advisor console to access all checks in the Service limits category and the following checks in the security category:
>
> - Amazon EBS Public Snapshots
> - Amazon RDS Public Snapshots
> - Amazon S3 Bucket Permissions
> - MFA on Root Account
> - Security Groups – Specific Ports Unrestricted

Check categories

- Cost optimization
- Performance
- Security
- Fault tolerance
- Service limits
- Operational Excellence

Cost optimization

You can use the following checks for the cost optimization category.

Check names

- AWS Account Not Part of AWS Organizations

- Amazon Comprehend Underutilized Endpoints
- Amazon EBS over-provisioned volumes
- Amazon EC2 instances consolidation for Microsoft SQL Server
- Amazon EC2 instances over-provisioned for Microsoft SQL Server
- Amazon EC2 Instances Stopped
- Amazon EC2 Reserved Instance Lease Expiration
- Amazon EC2 Reserved Instance Optimization
- Amazon ECR Repository Without Lifecycle Policy Configured
- Amazon ElastiCache Reserved Node Optimization
- Amazon OpenSearch Service Reserved Instance Optimization
- Amazon RDS Idle DB Instances
- Amazon Redshift Reserved Node Optimization
- Amazon Relational Database Service (RDS) Reserved Instance Optimization
- Amazon Route 53 Latency Resource Record Sets
- Amazon S3 Bucket Lifecycle Policy Configured
- Amazon S3 Incomplete Multipart Upload Abort Configuration
- Amazon S3 version-enabled buckets without lifecycle policies configured
- AWS Lambda Functions with Excessive Timeouts
- AWS Lambda Functions with High Error Rates
- AWS Lambda over-provisioned functions for memory size
- AWS Well-Architected high risk issues for cost optimization
- Idle Load Balancers
- Inactive AWS Network Firewall
- Inactive NAT Gateways
- Low Utilization Amazon EC2 Instances
- Network Firewall endpoint AZ Independence
- Savings Plan
- Unassociated Elastic IP Addresses
- Underutilized Amazon EBS Volumes

- Underutilized Amazon Redshift Clusters

AWS Account Not Part of AWS Organizations

Description

Checks if an AWS account is part of AWS Organizations under the appropriate management account.

AWS Organizations is an account management service for consolidating multiple AWS accounts into a centrally-managed organization. This enables you to centrally structure accounts for billing consolidation and implement ownership and security policies as your workloads scale on AWS.

You can specify the management account id using the **MasterAccountId** parameter of the AWS Config rules.

For more information, see What is AWS Organizations?

> **Note**
>
> Results for this check are automatically refreshed several times daily, and refresh requests are not allowed. It might take a few hours for changes to appear. Currently, you can't exclude resources from this check.

Check ID

`c18d2gz127`

Source

`AWS Config Managed Rule: account-part-of-organizations`

Alert Criteria

Yellow: This AWS account is not part of AWS Organizations.

Recommended Action

Add this AWS account as part of AWS Organizations.

For more information, see Tutorial: Creating and configuring an organization.

Report columns

- Status
- Region
- Resource
- AWS Config Rule
- Input Parameters
- Last Updated Time

Amazon Comprehend Underutilized Endpoints

Description

Checks the throughput configuration of your endpoints. This check alerts you when endpoints are not actively used for real-time inference requests. An endpoint that isn't used for more than 15 consecutive days is considered underutilized. All endpoints accrue charges based on both the throughput set, and the length of time that the endpoint is active.

> **Note**
>
> This check is automatically refreshed once a day. Currently, you can't exclude resources from this check.

Check ID

`Cm24dfsM12`

Alert Criteria

Yellow: The endpoint is active, but hasn't been used for real-time inference requests in the past 15 days.

Recommended Action

If the endpoint hasn't been used in the past 15 days, we recommend that you define a scaling policy for the resource by using Application Autoscaling.

If the endpoint has a scaling policy defined and hasn't been used in the past 30 days, consider deleting the endpoint and using asynchronous inference. For more information, see Deleting an endpoint with Amazon Comprehend.

Report columns

- Status
- Region
- Endpoint ARN
- Provisioned Inference Unit
- AutoScaling Status
- Reason
- Last Updated Time

Amazon EBS over-provisioned volumes

Description

Checks the Amazon Elastic Block Store (Amazon EBS) volumes that were running at any time during the lookback period. This check alerts you if any EBS volumes were over-provisioned for your workloads. When you have over-provisioned volumes, you're paying for unused resources. Although some scenarios can result in low optimization by design, you can often lower your costs by changing the configuration of your EBS volumes. Estimated monthly savings are calculated by using the current usage rate for EBS volumes. Actual savings will vary if the volume isn't present for a full month.

> **Note**
>
> Results for this check are automatically refreshed several times daily, and refresh requests are not allowed. It might take a few hours for changes to appear. Currently, you can't exclude resources from this check.

Check ID

`COr6dfpM03`

Alert Criteria

Yellow: An EBS Volume that was over-provisioned during the lookback period. To determine if a volume is over-provisioned, we consider all default CloudWatch metrics (including IOPS and throughput). The algorithm used to identify over-provisioned EBS volumes follows AWS best practices. The algorithm is updated when a new pattern has been identified.

Recommended Action

Consider downsizing volumes that have low utilization.

For more information, see Opt in AWS Compute Optimizer for Trusted Advisor checks.

Report columns

- Status
- Region
- Volume ID
- Volume Type
- Volume Size (GB)
- Volume Baseline IOPS
- Volume Burst IOPS
- Volume Burst Throughput
- Recommended Volume Type
- Recommended Volume Size (GB)
- Recommended Volume Baseline IOPS
- Recommended Volume Burst IOPS
- Recommended Volume Baseline Throughput
- Recommended Volume Burst Throughput
- Lookback Period (days)
- Savings Opportunity (%)
- Estimated Monthly Savings
- Estimated Monthly Savings Currency
- Last Updated Time

Amazon EC2 instances consolidation for Microsoft SQL Server

Description

Checks your Amazon Elastic Compute Cloud (Amazon EC2) instances that are running SQL Server in the past 24 hours. This check alerts you if your instance has less than the minimum

number of SQL Server licenses. From the Microsoft SQL Server Licensing Guide, you are paying 4 vCPU licenses even if an instance has only 1 or 2 vCPUs. You can consolidate smaller SQL Server instances to help lower costs.

> **Note**
>
> Results for this check are automatically refreshed several times daily, and refresh requests are not allowed. It might take a few hours for changes to appear. Currently, you can't exclude resources from this check.

Check ID

`Qsdfp3A4L2`

Alert Criteria

Yellow: An instance with SQL Server has less than 4 vCPUs.

Recommended Action

Consider consolidating smaller SQL Server workloads into instances with at least 4 vCPUs.

Additional Resources

- Microsoft SQL Server on AWS
- Microsoft Licensing on AWS
- Microsoft SQL Server Licensing Guide

Report columns

- Status
- Region
- Instance ID
- Instance Type
- vCPU
- Minimum vCPU
- SQL Server Edition
- Last Updated Time

Amazon EC2 instances over-provisioned for Microsoft SQL Server

Description

Checks your Amazon Elastic Compute Cloud (Amazon EC2) instances that are running SQL Server in the past 24 hours. An SQL Server database has a compute capacity limit for each instance. An instance with SQL Server Standard edition can use up to 48 vCPUs. An instance with SQL Server Web can use up to 32 vCPUs. This check alerts you if an instance exceeds this vCPU limit.

If your instance is over-provisioned, you pay full price without realizing an improvement in performance. You can manage the number and size of your instances to help lower costs.

Estimated monthly savings are calculated by using the same instance family with the maximum number of vCPUs that an SQL Server instance can use and the On-Demand pricing. Actual savings will vary if you're using Reserved Instances (RI) or if the instance isn't running for a full day.

> **Note**
>
> Results for this check are automatically refreshed several times daily, and refresh requests are not allowed. It might take a few hours for changes to appear. Currently, you can't exclude resources from this check.

Check ID

`Qsdfp3A4L1`

Alert Criteria

- Red: An instance with SQL Server Standard edition has more than 48 vCPUs.
- Red: An instance with SQL Server Web edition has more than 32 vCPUs.

Recommended Action

For SQL Server Standard edition, consider changing to an instance in the same instance family with 48 vCPUs. For SQL Server Web edition, consider changing to an instance in the same instance family with 32 vCPUs. If it is memory intensive, consider changing to memory optimized R5 instances. For more information, see Best Practices for Deploying Microsoft SQL Server on Amazon EC2.

Additional Resources

- Microsoft SQL Server on AWS
- You can use Launch Wizard to simplify your SQL Server deployment on EC2.

Report columns

- Status
- Region
- Instance ID
- Instance Type
- vCPU
- SQL Server Edition
- Maximum vCPU
- Recommended Instance Type
- Estimated Monthly Savings
- Last Updated Time

Amazon EC2 Instances Stopped

Description

Checks if there are Amazon EC2 instances that have been stopped for more than 30 days.

You can specify the allowed number of days value in the **AllowedDays** of AWS Config parameters.

For more information, see Why am I being charged for Amazon EC2 when all my instances were terminated?

> **Note**
>
> Results for this check are automatically refreshed several times daily, and refresh requests are not allowed. It might take a few hours for changes to appear. Currently, you can't exclude resources from this check.

Check ID

`c18d2gz150`

Source

`AWS Config Managed Rule: ec2-stopped-instance`

Alert Criteria

- Yellow: There are Amazon EC2 instances stopped for more than the allowed number of days.

Recommended Action

Review the Amazon EC2 instances that have been stopped for 30 days or more. To avoid incuring unnecessary costs, terminate any instances that are no longer needed.

For more information, see Terminate your instance.

Additional Resources

- Amazon EC2 On-Demand Pricing

Report columns

- Status
- Region
- Resource
- AWS Config Rule
- Input Parameters
- Last Updated Time

Amazon EC2 Reserved Instance Lease Expiration

Description

Checks for Amazon EC2 Reserved Instances that are scheduled to expire within the next 30 days, or have expired in the preceding 30 days.

Reserved Instances don't renew automatically. You can continue using an Amazon EC2 instance covered by the reservation without interruption, but you will be charged On-Demand rates. New Reserved Instances can have the same parameters as the expired ones, or you can purchase Reserved Instances with different parameters.

The estimated monthly savings is the difference between the On-Demand and Reserved Instance rates for the same instance type.

Check ID

`1e93e4c0b5`

Alert Criteria

- Yellow: The Reserved Instance lease expires in less than 30 days.
- Yellow: The Reserved Instance lease expired in the preceding 30 days.

Recommended Action

Consider purchasing a new Reserved Instance to replace the one that is nearing the end of its term. For more information, see How to Purchase Reserved Instances and Buying Reserved Instances.

Additional Resources

- Reserved Instances
- Instance Types

Report columns

- Status
- Zone
- Instance Type
- Platform
- Instance Count
- Current Monthly Cost
- Estimated Monthly Savings
- Expiration Date
- Reserved Instance ID
- Reason

Amazon EC2 Reserved Instance Optimization

Description

An important part of using AWS involves balancing your Reserved Instance (RI) purchase against your On-Demand Instance usage. This check provides recommendations on which RIs will help reduce the costs incurred from using On-Demand Instances.

We create these recommendations by analyzing your On-Demand usage for the past 30 days. We then categorizing the usage into eligible categories for reservations. We simulate every combination of reservations in the generated category of usage to identify the recommended number of each type of RI to purchase. This process of simulation and optimization allows us to maximize your cost savings. This check covers recommendations based on Standard Reserved Instances with the partial upfront payment option.

This check is not available to accounts linked in consolidated billing. The recommendations for this check are only available for the paying account.

Check ID

`cX3c2R1chu`

Alert Criteria

Yellow: Optimizing the use of partial upfront RIs can help reduce costs.

Recommended Action

See the Cost Explorer page for more detailed and customized recommendations. Additionally, refer to the buying guide to understand how to purchase RIs and the options available.

Additional Resources

- Information on RIs and how they can save you money can be found here.
- For more information on this recommendation, see Reserved Instance Optimization Check Questions in the Trusted Advisor FAQs.

Report columns

- Region
- Instance Type
- Platform
- Recommended Number of RIs to Purchase

- Expected Average RI Utilization
- Estimated Savings with Recommendations (Monthly)
- Upfront Cost of RIs
- Estimated costs of RIs (Monthly)
- Estimated On-Demand Cost Post Recommended RI Purchase (Monthly)
- Estimated Break Even (Months)
- Lookback Period (Days)
- Term (Years)

Amazon ECR Repository Without Lifecycle Policy Configured

Description

Checks if a private Amazon ECR repository has at least one lifecycle policy configured. Lifecycle policies allow you to define a set of rules to automatically clean up old or unused container images. This gives you control over the lifecycle management of the images, allows Amazon ECR repositories to be better organized, and helps to lower overall storage costs.

For more information, see Lifecycle policies.

Check ID

`c18d2gz128`

Source

`AWS Config Managed Rule: ecr-private-lifecycle-policy-configured`

Alert Criteria

Yellow: An Amazon ECR private repository doesn't have any lifecycle policies configured.

Recommended Action

Consider creating at least one lifecycle policy for your private Amazon ECR repository.

For more information, see Creating a lifecycle policy.

Additional Resources

- Lifecycle policies.
- Creating a lifecycle policy.

- Examples of lifecycle policies.

Report columns

- Status
- Region
- Resource
- AWS Config Rule
- Input Parameters
- Last Updated Time

Amazon ElastiCache Reserved Node Optimization

Description

Checks your usage of ElastiCache and provides recommendations on purchase of Reserved Nodes. These recommendations are offered to reduce the costs incurred from using ElastiCache On-Demand. We create these recommendations by analyzing your On-Demand usage for the past 30 days.

We use this analysis to simulate every combination of reservations in the generated usage category. This allows us to recommend the number of each type of Reserved Node to purchase to maximize your savings. This check covers recommendations based on the partial upfront payment option with a 1-year or 3-year commitment.

This check is not available to accounts linked in consolidated billing. The recommendations for this check are only available for the paying account.

Check ID

`h3L1otH3re`

Alert Criteria

Yellow: Optimizing the purchase of ElastiCache Reserved Nodes can help reduce costs.

Recommended Action

See the Cost Explorer page for more detailed recommendations, customization options (for exampe, look-back period, payment option, and so on.) and to purchase ElastiCache Reserved Nodes.

Additional Resources

- Information on ElastiCache Reserved Nodes and how they can save you money can be found here.
- For more information on this recommendation, see Reserved Instance Optimization Check Questions in the Trusted Advisor FAQs.
- For more detailed description of fields, see Cost Explorer documentation

Report columns

- Region
- Family
- Node Type
- Product Description
- Recommended number of Reserved Nodes to purchase
- Expected Average Reserved Node Utilization
- Estimated Savings with Recommendations (monthly)
- Upfront Cost of Reserved Nodes
- Estimated cost of Reserved Nodes (monthly)
- Estimated On-Demand Cost Post Recommended Reserved Nodes Purchase (monthly)
- Estimated Break Even (months)
- Lookback Period (days)
- Term (years)

Amazon OpenSearch Service Reserved Instance Optimization

Description

Checks your usage of Amazon OpenSearch Service and provides recommendations on purchase of Reserved Instances. These recommendations are offered to reduce the costs incurred from using OpenSearch On-Demand. We create these recommendations by analyzing your On-Demand usage for the past 30 days.

We use this analysis to simulate every combination of reservations in the generated usage category. This allows us to recommend the number of each type of Reserved Instance to purchase to maximize your savings. This check covers recommendations based on partial upfront payment option with a 1-year or 3-year commitment.

This check is not available to accounts linked in consolidated billing. The recommendations for this check are only available for the paying account.

Check ID

`7ujm6yhn5t`

Alert Criteria

Yellow: Optimizing the purchase of Amazon OpenSearch Service Reserved Instances can help reduce costs.

Recommended Action

See the Cost Explorer page for more detailed recommendations, customization options (e.g. look-back period, payment option, etc.) and to purchase Amazon OpenSearch Service Reserved Instances.

Additional Resources

- Information on Amazon OpenSearch Service Reserved Instances and how they can save you money can be found here.
- For more information on this recommendation, see Reserved Instance Optimization Check Questions in the Trusted Advisor FAQs.
- For more detailed description of fields, see Cost Explorer documentation

Report columns

- Region
- Instance Class
- Instance Size
- Recommended number of Reserved Instances to purchase
- Expected Average Reserved Instance Utilization
- Estimated Savings with Recommendation (monthly)
- Upfront Cost of Reserved Instances
- Estimated cost of Reserved Instances (monthly)
- Estimated On-Demand Cost Post Recommended Reserved Instance Purchase (monthly)
- Estimated Break Even (months)
- Lookback Period (days)
- Term (years)

Amazon RDS Idle DB Instances

Description

Checks the configuration of your Amazon Relational Database Service (Amazon RDS) for any database (DB) instances that appear to be idle.

If a DB instance has not had a connection for a prolonged period of time, you can delete the instance to reduce costs. A DB instance is considered idle if the instance hasn't had a connection in the past 7 days. If persistent storage is needed for data on the instance, you can use lower-cost options such as taking and retaining a DB snapshot. Manually created DB snapshots are retained until you delete them.

Check ID

`Ti39halfu8`

Alert Criteria

Yellow: An active DB instance has not had a connection in the last 7 days.

Recommended Action

Consider taking a snapshot of the idle DB instance and then either stopping it or deleting it. Stopping the DB instance removes some of the costs for it, but does not remove storage costs. A stopped instance keeps all automated backups based upon the configured retention period. Stopping a DB instance usually incurs additional costs when compared to deleting the instance and then retaining only the final snapshot. See Stopping an Amazon RDS instance temporarily and Deleting a DB Instance with a Final Snapshot.

Additional Resources

Back Up and Restore

Report columns

- Region
- DB Instance Name
- Multi-AZ
- Instance Type
- Storage Provisioned (GB)
- Days Since Last Connection
- Estimated Monthly Savings (On Demand)

Amazon Redshift Reserved Node Optimization

Description

Checks your usage of Amazon Redshift and provides recommendations on purchase of Reserved Nodes to help reduce costs incurred from using Amazon Redshift On-Demand.

We generate these recommendations by analyzing your On-Demand usage for the past 30 days. We use this analysis to simulate every combination of reservations in the generated usage category. This allows us to identify the best number of each type of Reserved Nodes to purchase to maximize your savings. This check covers recommendations based on partial upfront payment option with a 1-year or 3-year commitment.

This check is not available to accounts linked in consolidated billing. The recommendations for this check are only available for the paying account.

Check ID

`1qw23er45t`

Alert Criteria

Yellow: Optimizing the purchase of Amazon Redshift Reserved Nodes can help reduce costs.

Recommended Action

See the Cost Explorer page for more detailed recommendations, customization options (e.g. look-back period, payment option, etc.) and to purchase Amazon Redshift Reserved Nodes.

Additional Resources

- Information on Amazon Redshift Reserved Nodes and how they can save you money can be found here.
- For more information on this recommendation, see Reserved Instance Optimization Check Questions in the Trusted Advisor FAQs.
- For more detailed description of fields, see Cost Explorer documentation

Report columns

- Region
- Family
- Node Type
- Recommended number of Reserved Nodes to purchase
- Expected Average Reserved Node Utilization

- Estimated Savings with Recommendation (monthly)
- UpFront Cost of Reserved Nodes
- Estimated cost of Reserved Nodes (monthly)
- Estimated On-Demand Cost Post Recommended Reserved Nodes Purchase (monthly)
- Estimated Break Even (months)
- Lookback Period (days)
- Term (years)

Amazon Relational Database Service (RDS) Reserved Instance Optimization

Description

Checks your usage of RDS and provides recommendations on purchase of Reserved Instances to help reduce costs incurred from using RDS On-Demand.

We generate these recommendations by analyzing your On-Demand usage for the past 30 days. We use this analysis to simulate every combination of reservations in the generated usage category. This allows us to identify the best number of each type of Reserved Instance to purchase to maximize your savings. This check covers recommendations based on partial upfront payment option with 1-year or 3-year commitment.

This check is not available to accounts linked in consolidated billing. The recommendations for this check are only available for the paying account.

Check ID

`1qazXsw23e`

Alert Criteria

Yellow: Optimizing the purchase of Amazon RDS Reserved Instances can help reduce costs.

Recommended Action

See the Cost Explorer page for more detailed recommendations, customization options (e.g. look-back period, payment option, etc.) and to purchase Amazon RDS Reserved Instances.

Additional Resources

- Information on Amazon RDS Reserved Instances and how they can save you money can be found here.

- For more information on this recommendation, see Reserved Instance Optimization Check Questions in the Trusted Advisor FAQs.
- For more detailed description of fields, see Cost Explorer documentation

Report columns

- Region
- Family
- Instance Type
- Licence Model
- Database Edition
- Database Engine
- Deployment Option
- Recommended number of Reserved Instances to purchase
- Expected Average Reserved Instance Utilization
- Estimated Savings with Recommendation (monthly)
- Upfront Cost of Reserved Instances
- Estimated cost of Reserved Instances (monthly)
- Estimated On-Demand Cost Post Recommended Reserve Instance Purchase (monthly)
- Estimated Break Even (months)
- Lookback Period (days)
- Term (years)

Amazon Route 53 Latency Resource Record Sets

Description

Checks for Amazon Route 53 latency record sets that are configured inefficiently.

To allow Amazon Route 53 to route queries to the AWS Region with the lowest network latency, you should create latency resource record sets for a particular domain name (such as example.com) in different Regions. If you create only one latency resource record set for a domain name, all queries are routed to one Region, and you pay extra for latency-based routing without getting the benefits.

Hosted zones created by AWS services won't appear in your check results.

Check ID

`51fC20e7I2`

Alert Criteria

Yellow: Only one latency resource record set is configured for a particular domain name.

Recommended Action

If you have resources in multiple regions, be sure to define a latency resource record set for each region. See Latency-Based Routing.

If you have resources in only one AWS Region, consider creating resources in more than one AWS Region and define latency resource record sets for each; see Latency-Based Routing.

If you don't want to use multiple AWS Regions, you should use a simple resource record set. See Working with Resource Record Sets.

Additional Resources

- Amazon Route 53 Developer Guide
- Amazon Route 53 Pricing

Report columns

- Hosted Zone Name
- Hosted Zone ID
- Resource Record Set Name
- Resource Record Set Type

Amazon S3 Bucket Lifecycle Policy Configured

Description

Checks if an Amazon S3 bucket has a lifecycle policy configured. An Amazon S3 lifecycle policy ensures that Amazon S3 objects inside the bucket are stored cost-effectively throughout their lifecycle. This is important for meeting regulatory requirements for data retention and storage. The policy configuration is a set of rules that define actions applied by the Amazon S3 service to a group of objects. A lifecycle policy allows you to automate transitioning objects to lower-cost storage classes or deleting them as they age. For example, you can transition an object to Amazon S3 Standard-IA storage 30 days after creation, or to Amazon S3 Glacier after 1 year.

You can also define object expiration so that Amazon S3 deletes the object on your behalf after a certain period of time.

You can adjust the check configuration using the parameters in your AWS Config rules

For more information, see Managing your storage lifecycle.

> **Note**
>
> Results for this check are automatically refreshed several times daily, and refresh requests are not allowed. It might take a few hours for changes to appear. Currently, you can't exclude resources from this check.

Check ID

`c18d2gz100`

Source

`AWS Config Managed Rule: s3-lifecycle-policy-check`

Alert Criteria

Yellow: Amazon S3 bucket has no lifecycle policy configured.

Recommended Action

Make sure that you have a lifecycle policy configured in your Amazon S3 bucket.

If your organization does not have a retention policy in place, consider using Amazon S3 Intelligent-Tiering to optimize cost.

For information on how to define your Amazon S3 lifecycle policy, see Setting lifecycle configuration on a bucket.

For information on Amazon S3 Intelligent-Tiering, see Amazon S3 Intelligent-Tiering storage class

Additional Resources

Setting lifecycle configuration on a bucket

Examples of S3 Lifecycle configuration

Report columns

- Status
- Region
- Resource
- AWS Config Rule
- Input Parameteres

Amazon S3 Incomplete Multipart Upload Abort Configuration

Description

Checks that each Amazon S3 bucket is configured with a lifecycle rule to abort multipart uploads that remain incomplete after 7 days. Using a lifecycle rule to abort these incomplete uploads and delete the associated storage is recommended.

> **Note**
>
> Results for this check are automatically refreshed one or more times each day, and refresh requests are not allowed. It might take a few hours for changes to appear. Currently, you can't exclude resources from this check.

Check ID

`c1cj39rr6v`

Alert Criteria

Yellow: The lifecycle configuration bucket does not contain a lifecycle rule to abort all multipart uploads that remain incomplete after 7 days.

Recommended Action

Review lifecycle configuration for buckets without a lifecycle rule that would cleanup all incomplete multipart uploads. Uploads that are not completed after 24 hours are unlikely to be completed. Click here to follow instructions to create a lifecycle rule. It is recommended that this is applied to all objects in your bucket. If you have a need to apply other lifecycle actions to selected objects in your bucket, you can have multiple rules with different filters. Check the storage lens dashboard or call the ListMultipartUpload API for more information.

Additional Resources

Creating a lifecycle configuration

Discovering and Deleting Incomplete Multipart Uploads to Lower Amazon S3 Costs

Uploading and copying objects using multipart upload

Lifecycle configuration elements

Elements to describe lifecycle actions

Lifecycle configuration to abort multipart uploads

Report columns

- Status
- Region
- Bucket Name
- Bucket ARN
- Lifecycle rule for deleting incomplete MPU
- Days After Initiation
- Last Updated Time

Amazon S3 version-enabled buckets without lifecycle policies configured

Description

Checks if Amazon S3 version-enabled buckets have a lifecycle policy configured..

For more information, see Managing your storage lifecycle.

You can specify the bucket names that you want to check using the **bucketNames** parameters in your AWS Config rules.

> **Note**
>
> Results for this check are automatically refreshed several times daily, and refresh requests are not allowed. It might take a few hours for changes to appear. Currently, you can't exclude resources from this check.

Check ID

`c18d2gz171`

Source

`AWS Config Managed Rule: s3-version-lifecycle-policy-check`

Alert Criteria

Yellow: An Amazon S3 version-enabled bucket with doesn't have a lifecycle policy configured.

Recommended Action

Configure lifecycle policies for your Amazon S3 buckets to manage your objects so that they are stored cost effectively throughout their lifecycle.

For more information, see Setting lifecycle configuration on a bucket.

Additional Resources

Managing your storage lifecycle

Setting lifecycle configuration on a bucket

Report columns

- Status
- Region
- Resource
- AWS Config Rule
- Input Parameters
- Last Updated Time

AWS Lambda Functions with Excessive Timeouts

Description

Checks for Lambda functions with high timeout rates that might result in high cost.

Lambda charges based on run time and number of requests for your function. Function timeouts result in errors that may cause retries. Retrying functions will incur additionally request and run time charges.

> **Note**
>
> Results for this check are automatically refreshed several times daily, and refresh requests are not allowed. It might take a few hours for changes to appear. Currently, you can't exclude resources from this check.

Check ID

`L4dfs2Q3C3`

Alert Criteria

Yellow: Functions where > 10% of invocations end in an error due to a timeout on any given day within the last 7 days.

Recommended Action

Inspect function logging and X-ray traces to determine the contributor to the high function duration. Implement logging in your code at relevant parts, such as before or after API calls or database connections. By default, AWS SDK clients timeouts may be longer than the configured function duration. Adjust API and SDK connection clients to retry or fail within the function timeout. If the expected duration is longer than the configured timeout, you can increase the timeout setting for the function. For more information, see Monitoring and troubleshooting Lambda applications.

Additional Resources

- Monitoring and troubleshooting Lambda applications
- Lambda Function Retry Timeout SDK
- Using AWS Lambda with AWS X-Ray
- Accessing Amazon CloudWatch logs for AWS Lambda
- Error Processor Sample Application for AWS Lambda

Report columns

- Status
- Region
- Function ARN
- Max Daily Timeout Rate

- Date of Max Daily Timeout Rate
- Average Daily Timeout Rate
- Function Timeout Settings (millisecond)
- Lost Daily Compute Cost
- Average Daily Invokes
- Current Day Invokes
- Current Day Timeout Rate
- Last Updated Time

AWS Lambda Functions with High Error Rates

Description

Checks for Lambda functions with high error rates that might result in higher costs.

Lambda charges are based on the number of requests and aggregate run time for your function. Function errors may cause retries that incur additional charges.

> **Note**
>
> Results for this check are automatically refreshed several times daily, and refresh requests are not allowed. It might take a few hours for changes to appear. Currently, you can’t exclude resources from this check.

Check ID

`L4dfs2Q3C2`

Alert Criteria

Yellow: Functions where > 10% of invocations end in error on any given day within the last 7 days.

Recommended Action

Consider the following guidelines to reduce errors. Function errors include errors returned by the function's code and errors returned by the function's runtime.

To help you troubleshoot Lambda errors, Lambda integrates with services like Amazon CloudWatch and AWS X-Ray. You can use a combination of logs, metrics, alarms, and X-Ray tracing to quickly detect and identify issues in your function code, API, or other resources that support your application. For more information, see Monitoring and troubleshooting Lambda applications.

For more information on handling errors with specific runtimes, see Error handling and automatic retries in AWS Lambda.

For additional troubleshooting, see Troubleshooting issues in Lambda.

You can also choose from an ecosystem of monitoring and observability tools provided by AWS Lambda partners. For more information, see AWS Lambda Partners.

Additional Resources

- Error Handling and Automatic Retries in AWS Lambda
- Monitoring and Troubleshooting Lambda applications
- Lambda Function Retry Timeout SDK
- Troubleshooting issues in Lambda
- API Invoke Errors
- Error Processor Sample Application for AWS Lambda

Report columns

- Status
- Region
- Function ARN
- Max Daily Error Rate
- Date for Max Error Rate
- Average Daily Error Rate
- Lost Daily Compute Cost
- Current Day Invokes
- Current Day Error Rate
- *Average Daily Invokes
- Last Updated Time

AWS Lambda over-provisioned functions for memory size

Description

Checks the AWS Lambda functions that were invoked at least once during the lookback period. This check alerts you if any of your Lambda functions were over-provisioned for memory size. When you have Lambda functions that are over-provisioned for memory sizes, you're paying for unused resources. Although some scenarios can result in low utilization by design, you can often lower your costs by changing the memory configuration of your Lambda functions. Estimated monthly savings are calculated by using the current usage rate for Lambda functions.

> **Note**
>
> Results for this check are automatically refreshed several times daily, and refresh requests are not allowed. It might take a few hours for changes to appear. Currently, you can't exclude resources from this check.

Check ID

`COr6dfpM05`

Alert Criteria

Yellow: A Lambda function that was over-provisioned for memory size during the lookback period. To determine if a Lambda function is over-provisioned, we consider all default CloudWatch metrics for that function. The algorithm used to identify over-provisioned Lambda functions for memory size follows AWS best practices. The algorithm is updated when a new pattern has been identified.

Recommended Action

Consider reducing the memory size of your Lambda functions.

For more information, see Opt in AWS Compute Optimizer for Trusted Advisor checks.

Report columns

- Status
- Region
- Function Name
- Function Version

- Memory Size (MB)
- Recommended Memory Size (MB)
- Lookback Period (days)
- Savings Opportunity (%)
- Estimated Monthly Savings
- Estimated Monthly Savings Currency
- Last Updated Time

AWS Well-Architected high risk issues for cost optimization

Description

Checks for high risk issues (HRIs) for your workloads in the cost optimization pillar. This check is based on your AWS-Well Architected reviews. Your check results depend on whether you completed the workload evaluation with AWS Well-Architected.

> **Note**
>
> Results for this check are automatically refreshed several times daily, and refresh requests are not allowed. It might take a few hours for changes to appear. Currently, you can't exclude resources from this check.

Check ID

`Wxdfp4B1L1`

Alert Criteria

- Red: At least one active high risk issue was identified in the cost optimization pillar for AWS Well-Architected.
- Green: No active high risk issues were detected in the cost optimization pillar for AWS Well-Architected.

Recommended Action

AWS Well-Architected detected high risk issues during your workload evaluation. These issues present opportunities to reduce risk and save money. Sign in to the AWS Well-Architected tool to review your answers and take action to resolve your active issues.

Report columns

- Status
- Region
- Workload ARN
- Workload Name
- Reviewer Name
- Workload Type
- Workload Started Date
- Workload Last Modified Date
- Number of identified HRIs for Cost Optimization
- Number of HRIs resolved for Cost Optimization
- Number of questions answered for Cost Optimization
- Total number of questions in Cost Optimization pillar
- Last Updated Time

Idle Load Balancers

Description

Checks your Elastic Load Balancing configuration for load balancers that are idle.

Any load balancer that is configured accrues charges. If a load balancer has no associated back-end instances, or if network traffic is severely limited, the load balancer is not being used effectively. This check currently only checks for Classic Load Balancer type within ELB service. It does not include other ELB types (Application Load Balancer, Network Load Balancer).

Check ID

`hjLMh88uM8`

Alert Criteria

- Yellow: A load balancer has no active back-end instances.
- Yellow: A load balancer has no healthy back-end instances.
- Yellow: A load balancer has had less than 100 requests per day for the last 7 days.

Recommended Action

If your load balancer has no active back-end instances, consider registering instances or deleting your load balancer. See Registering Your Amazon EC2 Instances with Your Load Balancer or Delete Your Load Balancer.

If your load balancer has no healthy back-end instances, see Troubleshooting Elastic Load Balancing: Health Check Configuration.

If your load balancer has had a low request count, consider deleting your load balancer. See Delete Your Load Balancer.

Additional Resources

- Managing Load Balancers
- Troubleshoot Elastic Load Balancing

Report columns

- Region
- Load Balancer Name
- Reason
- Estimated Monthly Savings

Inactive AWS Network Firewall

Description

Checks your AWS Network Firewall endpoints and alerts you when the Network Firewall appears to be inactive.

A Network Firewall is considered to be inactive if all its endpoints have no data processed the last 30 days. Network Firewall endpoints incur hourly charges. This check alerts you to Network Firewall with no data processed in the last 30 days. It's a best practice to either remove unused Network Firewalls or update your architecture.

Check ID

`c2v1fg0bfw`

Alert Criteria

- Yellow: The Network Firewall processed 0 bytes in the last 30 days.

- Green: The Network Firewall processed more than 0 bytes in the last 30 days.

Recommended Action

If the Network Firewall wasn't used in the last 30 days, then consider deleting the Network Firewall.

If a Transit Gateway is used for inter-VPC communication, then consider deploying your Network Firewalls in a centralized network inspection architectures. This can reduce the hourly charges on inactive Network Firewalls.

Additional Resources

AWS Network Firewall Pricing

Inspection Deployment Models with AWS Network Firewall

Report columns

- Status
- Region
- Network Firewall Arn
- VPC Id
- Subnets
- TotalBytesProcessed
- Last Updated Time

Inactive NAT Gateways

Description

Checks your NAT Gateways for inactive gateways. A NAT Gateway is considered to be inactive if no data (0 bytes) was processed in the last 30 days. NAT Gateways have hourly charges and data processed charges.

Check ID

`c2vlfg022t`

Alert Criteria

- Yellow: The NAT Gateway processed 0 bytes in the last 30 days

- Green: The NAT Gateway processed more than 0 bytes in the last 30 days

Recommended Action

Consider deleting any NAT Gateways that weren't used in the last 30 days and that aren't required for external network access outside the VPC.

If a Transit Gateway is used for inter-VPC communication, then consider deploying a centralized NAT Gateway for egress to internet architecture. This can reduce the hourly cost from inactive NAT Gateways.

Additional Resources

NAT Gateway Pricing

Centralized egress to internet

Report columns

- Status
- Region
- NAT Gateway Id
- Subnet Id
- VPC Id
- TotalBytesFromDest
- TotalBytesFromSrc
- TotalBytes
- Last Updated Time

Low Utilization Amazon EC2 Instances

Description

Checks the Amazon Elastic Compute Cloud (Amazon EC2) instances that were running at any time during the last 14 days. This check alerts you if the daily CPU utilization was 10% or less and network I/O was 5 MB or less for at least 4 days.

Running instances generate hourly usage charges. Although some scenarios can result in low utilization by design, you can often lower your costs by managing the number and size of your instances.

Estimated monthly savings are calculated by using the current usage rate for On-Demand Instances and the estimated number of days the instance might be underutilized. Actual savings will vary if you are using Reserved Instances or Spot Instances, or if the instance is not running for a full day. To get daily utilization data, download the report for this check.

Check ID

`Qch7DwouX1`

Alert Criteria

Yellow: An instance had 10% or less daily average CPU utilization and 5 MB or less network I/O on at least 4 of the previous 14 days.

Recommended Action

Consider stopping or terminating instances that have low utilization, or scale the number of instances by using Auto Scaling. For more information, see Stop and Start Your Instance, Terminate Your Instance, and What is Auto Scaling?

Additional Resources

- Monitoring Amazon EC2
- Instance Metadata and User Data
- Amazon CloudWatch User Guide
- Auto Scaling Developer Guide

Report columns

- Region/AZ
- Instance ID
- Instance Name
- Instance Type
- Estimated Monthly Savings
- CPU Utilization 14-day Average
- Network I/O 14-Day Average
- Number of Days Low Utilization

Network Firewall endpoint AZ Independence

Description

Checks if your AWS Network Firewall endpoints are configured as a route destination from another Availability Zone (AZ).

Network Firewall endpoints forward network traffic to a Network Firewall for inspection. Each Network Firewall endpoint operates within a designated AZ and is built with redundancy only in that AZ. Your resources in a particular AZ should use a Network Firewall endpoint in the same AZ. This makes sure that any potential outage of a Network Firewall endpoint or its AZ doesn't impact your resources in another AZ. Network traffic that originates in a different AZ for traffic inspection incurs cross-AZ data transfer charges. It's a best practice to make sure that all resources in a specific AZ use a Network Firewall in the same AZ to avoid cross-AZ data charges.

Check ID

`7040ea389a`

Alert Criteria

- Yellow: Traffic from a subnet in one AZ is being routed through a Network Firewall endpoint in a different AZ.
- Green: Traffic from a subnet in one AZ is being routed through a Network Firewall endpoint in the same AZ.

Recommended Action

Check the AZ of your subnet and route traffic through a Network Firewall endpoint in the same AZ.

If there is no Network Firewall endpoint in the AZ, then create a new Network Firewall and route your subnet traffic through it.

If the same route table is associated across multiple subnets in different AZs, then keep this route table associated to the subnets that reside in the same AZ as the Network Firewall endpoint. For subnets in other AZs, associate a separate route table with a route to a Network Firewall endpoint in that AZ.

It's a best practice to choose a maintenance window for architecture changes in your Amazon VPC.

Additional Resources

Data Transfer within the same AWS Region

Understanding data transfer charges

Availability Zone Independence

High Level steps for implementing a firewall

Creating a firewall

AWS Well-Architected Tool - Use bulkhead architectures to limit scope of impact

Report columns

- Status
- Region
- Network Firewall Endpoint Id
- Network Firewall Arn
- Network Firewall Endpoint Subnet
- Network Firewall Endpoint AZ
- Cross AZ Subnets List
- Last Updated Time

Savings Plan

Description

Checks your usage of Amazon EC2, Fargate, and Lambda over the last 30 days and provides Savings Plan purchase recommendations. These recommendations allow you to commit to a consistent usage amount measured in dollars per hour for a one- or three-year term in exchange for discounted rates.

These are sourced from AWS Cost Explorer, which can get more detailed recommendation information. You can also purchase a savings plan through Cost Explorer. These recommendations should be considered an alternative to your RI recommendations. We suggest that you act on one set of recommendations only. Acting on both sets can lead to over-commitment.

This check is not available to accounts linked in consolidated billing. The recommendations for this check are only available for the paying account.

Check ID

`vZ2c2W1srf`

Alert Criteria

Yellow: Optimizing the purchase of Savings Plans can help reduce costs.

Recommended Action

See the Cost Explorer page for more detailed and customized recommendations and to purchase Savings Plans.

Additional Resources

- Savings Plan User Guide
- Savings Plans FAQ

Report columns

- Savings Plan type
- Payment option
- Upfront cost
- Hourly commitment to purchase
- Estimated average utilization
- Estimated monthly savings
- Estimated savings percentage
- Term (Years)
- Lookback Period (Days)

Unassociated Elastic IP Addresses

Description

Checks for Elastic IP addresses (EIPs) that are not associated with a running Amazon Elastic Compute Cloud (Amazon EC2) instance.

EIPs are static IP addresses designed for dynamic cloud computing. Unlike traditional static IP addresses, EIPs mask the failure of an instance or Availability Zone by remapping a public IP

address to another instance in your account. A nominal charge is imposed for an EIP that is not associated with a running instance.

Check ID

Z4AUBRNSmz

Alert Criteria

Yellow: An allocated Elastic IP address (EIP) is not associated with a running Amazon EC2 instance.

Recommended Action

Associate the EIP with a running active instance, or release the unassociated EIP. For more information, see Associating an Elastic IP Address with a Different Running Instance and Releasing an Elastic IP Address.

Additional Resources

Elastic IP Addresses

Report columns

- Region
- IP Address

Underutilized Amazon EBS Volumes

Description

Checks Amazon Elastic Block Store (Amazon EBS) volume configurations and warns when volumes appear to be underutilized.

Charges begin when a volume is created. If a volume remains unattached or has very low write activity (excluding boot volumes) for a period of time, the volume is underutilized. We recommend that you remove underutilized volumes to reduce costs.

Check ID

DAvU99Dc4C

Alert Criteria

Yellow: A volume is unattached or had less than 1 IOPS per day for the past 7 days.

Recommended Action

Consider creating a snapshot and deleting the volume to reduce costs. For more information, see Creating an Amazon EBS Snapshot and Deleting an Amazon EBS Volume.

Additional Resources

- Amazon Elastic Block Store (Amazon EBS)
- Monitoring the Status of Your Volumes

Report columns

- Region
- Volume ID
- Volume Name
- Volume Type
- Volume Size
- Monthly Storage Cost
- Snapshot ID
- Snapshot Name
- Snapshot Age

> **Note**
>
> If you opted in your account for AWS Compute Optimizer, we recommend that you use the Amazon EBS over-provisioned volumes check instead. For more information, see Opt in AWS Compute Optimizer for Trusted Advisor checks.

Underutilized Amazon Redshift Clusters

Description

Checks your Amazon Redshift configuration for clusters that appear to be underutilized.

If an Amazon Redshift cluster has not had a connection for a prolonged period of time, or is using a low amount of CPU, you can use lower-cost options such as downsizing the cluster, or

shutting down the cluster and taking a final snapshot. Final snapshots are retained even after you delete your cluster.

Check ID

`G31sQ1E9U`

Alert Criteria

- Yellow: A running cluster has not had a connection in the last 7 days.
- Yellow: A running cluster had less than 5% cluster-wide average CPU utilization for 99% of the last 7 days.

Recommended Action

Consider shutting down the cluster and taking a final snapshot, or downsizing the cluster. See Shutting Down and Deleting Clusters and Resizing a Cluster.

Additional Resources

Amazon CloudWatch User Guide

Report columns

- Status
- Region
- Cluster
- Instance Type
- Reason
- Estimated Monthly Savings

Performance

Improve the performance of your service by checking your service quotas (formerly referred to as limits), so that you can take advantage of provisioned throughput, monitor for overutilized instances, and detect any unused resources.

You can use the following checks for the performance category.

Check names

- Amazon Aurora DB cluster under-provisioned for read workload

- Amazon DynamoDB Auto Scaling Not Enabled
- Amazon EBS Optimization Not Enabled
- Amazon EBS Provisioned IOPS (SSD) Volume Attachment Configuration
- Amazon EBS under-provisioned volumes
- Amazon EC2 Auto Scaling Group is not Associated with a Launch Template
- Amazon EC2 to EBS Throughput Optimization
- EC2 Virtualization Type is Paravirtual
- Amazon ECS Memory Hard Limit
- Amazon EFS Throughput Mode Optimization
- Amazon RDS autovacuum parameter is turned off
- Amazon RDS DB clusters support only up to 64 TiB volume
- Amazon RDS DB instances in the clusters with heterogeneous instance classes
- Amazon RDS DB instances in the clusters with heterogeneous instance sizes
- Amazon RDS DB memory parameters are diverging from default
- Amazon RDS enable_indexonlyscan parameter is turned off
- Amazon RDS enable_indexscan parameter is turned off
- Amazon RDS general_logging parameter is turned on
- Amazon RDS InnoDB_Change_Buffering parameter using less than optimum value
- Amazon RDS innodb_open_files parameter is low
- Amazon RDS innodb_stats_persistent parameter is turned off
- Amazon RDS instance under-provisioned for system capacity
- Amazon RDS magnetic volume is in use
- Amazon RDS parameter groups not using huge pages
- Amazon RDS query cache parameter is turned on
- Amazon RDS resources instance class update is required
- Amazon RDS resources major versions update is required
- Amazon RDS resources using end of support engine edition under license-included
- Amazon Route 53 Alias Resource Record Sets

- AWS Lambda under-provisioned functions for memory size
- AWS Lambda Functions without Concurrency Limit Configured
- AWS Well-Architected high risk issues for performance
- CloudFront Alternate Domain Names
- CloudFront Content Delivery Optimization
- CloudFront Header Forwarding and Cache Hit Ratio
- High CPU Utilization Amazon EC2 Instances

Amazon Aurora DB cluster under-provisioned for read workload

Description

Checks whether Amazon Aurora DB cluster has the resources to support a read workload.

Check ID

`c1qf5bt038`

Alert Criteria

Yellow:

Increased database reads: The database load was high and the database was reading more rows than writing or updating the rows.

Recommended Action

We recommend that you tune your queries to decrease the database load or add a reader DB instance to your DB cluster with the same instance class and size as the writer DB instance in the cluster. The current configuration has at least one DB instance with a continuously high database load caused mostly by read operations. Distribute these operations by adding another DB instance to the cluster and directing the read workload to the DB cluster read-only endpoint.

Additional Resources

An Aurora DB cluster has one reader endpoint for read-only connections. This endpoint uses load balancing to manage the queries contributing the most to database load in your DB cluster. The reader endpoint directs these statements to the Aurora Read Replicas and reduces

the load on the primary instance. The reader endpoint also scales the capacity to handle concurrent SELECT queries with the number of Aurora Read Replicas in the cluster.

For more information, see Adding Aurora Replicas to a DB Cluster and Managing performance and scaling for Aurora DB clusters.

Report columns

- Status
- Region
- Resource
- Increased database read (count)
- Last detection period
- Last Updated Time

Amazon DynamoDB Auto Scaling Not Enabled

Description

Checks if your Amazon DynamoDB tables and global secondary indexes have auto scaling or on-demand enabled.

Amazon DynamoDB auto scaling uses the Application Auto Scaling service to dynamically adjust provisioned throughput capacity on your behalf in response to actual traffic patterns. This enables a table or a global secondary index to increase its provisioned read and write capacity to handle sudden increases in traffic, without throttling. When the workload decreases, Application Auto Scaling decreases the throughput so that you don't pay for unused provisioned capacity.

You can adjust the check configuration using the parameters in your AWS Config rules.

For more information, see Managing throughput capacity automatically with DynamoDB auto scaling.

> **Note**
>
> Results for this check are automatically refreshed several times daily, and refresh requests are not allowed. It might take a few hours for changes to appear. Currently, you can’t exclude resources from this check.

Check ID

c18d2gz136

Source

AWS Config Managed Rule: dynamodb-autoscaling-enabled

Alert Criteria

Yellow: Auto scaling is not enabled for your DynamoDB tables and/or global secondary indexes.

Recommended Action

Unless you already have a mechanism to automatically scale the provisioned throughput of your DynamoDB table and/or the global secondary indexes based on your workload requirement, consider turning on auto scaling for your Amazon DynamoDB tables.

For more information, see Using the AWS Management Console with DynamoDB auto scalingp.

Additional Resources

Managing throughput capacity automatically with DynamoDB auto scaling

Report columns

- Status
- Region
- Resource
- AWS Config Rule
- Input Parameters
- Last Updated Time

Amazon EBS Optimization Not Enabled

Description

Checks if Amazon EBS optimization is enabled for your Amazon EC2 instances.

An Amazon EBS–optimized instance uses an optimized configuration stack and provides additional, dedicated capacity for Amazon EBS I/O. This optimization provides the best

performance for your Amazon EBS volumes by minimizing contention between Amazon EBS I/O and other traffic from your instance..

For more information, see Amazon EBS–optimized instances.

> **Note**
>
> Results for this check are automatically refreshed several times daily, and refresh requests are not allowed. It might take a few hours for changes to appear. Currently, you can't exclude resources from this check.

Check ID

`c18d2gz142`

Source

AWS Config Managed Rule: ebs-optimized-instance

Alert Criteria

Yellow: Amazon EBS optimization is not enabled on supported Amazon EC2 instances.

Recommended Action

Turn on Amazon EBS optimization on supported instances.

For more information, see Enable EBS optimization at launch.

Additional Resources

Amazon EBS–optimized instances

Report columns

- Status
- Region
- Resource
- AWS Config Rule
- Input Parameters
- Last Updated Time

Amazon EBS Provisioned IOPS (SSD) Volume Attachment Configuration

Description

Checks for Provisioned IOPS (SSD) volumes that are attached to an Amazon EBS optimizable Amazon Elastic Compute Cloud (Amazon EC2) instance that is not EBS-optimized.

Provisioned IOPS (SSD) volumes in the Amazon Elastic Block Store (Amazon EBS) are designed to deliver the expected performance only when they are attached to an EBS-optimized instance.

Check ID

`PPkZrjsH2q`

Alert Criteria

Yellow: An Amazon EC2 instance that can be EBS-optimized has an attached Provisioned IOPS (SSD) volume but the instance is not EBS-optimized.

Recommended Action

Create a new instance that is EBS-optimized, detach the volume, and reattach the volume to your new instance. For more information, see Amazon EBS-Optimized Instances and Attaching an Amazon EBS Volume to an Instance.

Additional Resources

- Amazon EBS Volume Types
- Amazon EBS Volume Performance

Report columns

- Status
- Region/AZ
- Volume ID
- Volume Name
- Volume Attachment
- Instance ID
- Instance Type
- EBS Optimized

Amazon EBS under-provisioned volumes

Description

Checks the Amazon Elastic Block Store (Amazon EBS) volumes that were running at any time during the lookback period. This check alerts you if any EBS volumes were under-provisioned for your workloads. Consistent high utilization can indicate optimized, steady performance, but can also indicate that an application does not have enough resources.

> **Note**
>
> Results for this check are automatically refreshed several times daily, and refresh requests are not allowed. It might take a few hours for changes to appear. Currently, you can't exclude resources from this check.

Check ID

`COr6dfpM04`

Alert Criteria

Yellow: An EBS Volume that was under-provisioned during the lookback period. To determine if a volume is under-provisioned, we consider all default CloudWatch metrics (including IOPS and throughput). The algorithm used to identify under-provisioned EBS volumes follows AWS best practices. The algorithm is updated when a new pattern has been identified.

Recommended Action

Consider upsizing volumes that have high utilization.

For more information, see Opt in AWS Compute Optimizer for Trusted Advisor checks.

Report columns

- Status
- Region
- Volume ID
- Volume Type
- Volume Size (GB)
- Volume Baseline IOPS

- Volume Burst IOPS
- Volume Burst Throughput
- Recommended Volume Type
- Recommended Volume Size (GB)
- Recommended Volume Baseline IOPS
- Recommended Volume Burst IOPS
- Recommended Volume Baseline Throughput
- Recommended Volume Burst Throughput
- Lookback Period (days)
- Performance Risk
- Last Updated Time

Amazon EC2 Auto Scaling Group is not Associated with a Launch Template

Description

Checks if an Amazon EC2 Auto Scaling group is created from an Amazon EC2 launch template.

Use a launch template to create your Amazon EC2 Auto Scaling groups to ensure access to the latest Auto Scaling group features and improvements. For example, versioning and multiple instance types.

For more information, see Launch templates.

> **Note**
>
> Results for this check are automatically refreshed several times daily, and refresh requests are not allowed. It might take a few hours for changes to appear. Currently, you can't exclude resources from this check.

Check ID

`c18d2gz102`

Source

AWS Config Managed Rule: autoscaling-launch-template

Alert Criteria

Yellow: The Amazon EC2 Auto Scaling group isn't associated with a valid launch template.

Recommended Action

Use an Amazon EC2 launch template to create your Amazon EC2 Auto Scaling groups.

For more information, see Create a launch template for an Auto Scaling group.

Additional Resources

- Launch templates
- Create a launch template

Report columns

- Status
- Region
- Resource
- AWS Config Rule
- Input Parameters
- Last Updated Time

Amazon EC2 to EBS Throughput Optimization

Description

Checks for Amazon EBS volumes whose performance might be affected by the maximum throughput capability of the Amazon EC2 instance they are attached to.

To optimize performance, you should ensure that the maximum throughput of an Amazon EC2 instance is greater than the aggregate maximum throughput of the attached EBS volumes. This check computes the total EBS volume throughput for each five-minute period in the preceding day (based on Coordinated Universal Time (UTC)) for each EBS-optimized instance and alerts you if usage in more than half of those periods was greater than 95% of the maximum throughput of the EC2 instance.

Check ID

Bh2xRR2FGH

Alert Criteria

Yellow: In the preceding day (UTC), the aggregate throughput (megabytes/sec) of the EBS volumes attached to the EC2 instance exceeded 95% of the published throughput between the instance and the EBS volumes more than 50% of time.

Recommended Action

Compare the maximum throughput of your Amazon EBS volumes (see Amazon EBS Volume Types) with the maximum throughput of the Amazon EC2 instance they are attached to. See Instance Types That Support EBS Optimization.

Consider attaching your volumes to an instance that supports higher throughput to Amazon EBS for optimal performance.

Additional Resources

- Amazon EBS Volume Types
- Amazon EBS-Optimized Instances
- Monitoring the Status of Your Volumes
- Attaching an Amazon EBS Volume to an Instance
- Detaching an Amazon EBS Volume from an Instance
- Deleting an Amazon EBS Volume

Report columns

- Status
- Region
- Instance ID
- Instance Type
- Time Near Maximum

EC2 Virtualization Type is Paravirtual

Description

Checks if the virtualization type of an Amazon EC2 instance is paravirtual.

It's a best practice that you use Hardware Virtual Machine (HVM) instances instead of paravirtual instances, when possible. This is because of enhancements in HVM virtualization and the availability of PV drivers for HVM AMIs, which have closed the performance gap that historically

existed between PV and HVM guests. It's important to note that current generation instance types do not support PV AMIs. Therefore, choosing an HVM instance type provides the best performance and compatibility with modern hardware.

For more information, see Linux AMI virtualization types.

> **Note**
>
> Results for this check are automatically refreshed several times daily, and refresh requests are not allowed. It might take a few hours for changes to appear. Currently, you can't exclude resources from this check.

Check ID

`c18d2gz148`

Source

AWS Config Managed Rule: ec2-paravirtual-instance-check

Alert Criteria

Yellow: The virtualization type of Amazon EC2 instances is paravirtual.

Recommended Action

Use HVM virtualization for your Amazon EC2 instances, and use a compatible instance type.

For information on choosing the appropriate virtualization type, see Compatibility for changing the instance type.

Additional Resources

Compatibility for changing the instance type

Report columns

- Status
- Region
- Resource
- AWS Config Rule
- Input Parameters
- Last Updated Time

Amazon ECS Memory Hard Limit

Description

Checks if Amazon ECS task definitions have a set memory limit for its container definitions. The total amount of memory reserved for all containers within a task must be lower than the task memory value.

For more information, see Container definitions.

> **Note**
>
> Results for this check are automatically refreshed several times daily, and refresh requests are not allowed. It might take a few hours for changes to appear. Currently, you can't exclude resources from this check.

Check ID

`c18d2gz176`

Source

AWS Config Managed Rule: ecs-task-definition-memory-hard-limit

Alert Criteria

Yellow: Amazon ECS memory hard limit is not set.

Recommended Action

Allocate memory for your Amazon ECS tasks to avoid running out of memory. If your container attempts to exceed the specified memory, then the container is terminated.

For more information, see How can I allocate memory to tasks in Amazon ECS?.

Additional Resources

Cluster reservation

Report columns

- Status
- Region
- Resource

- AWS Config Rule
- Input Parameters
- Last Updated Time

Amazon EFS Throughput Mode Optimization

Description

Checks whether the customer's Amazon EFS file system is currently configured to use Bursting Throughput mode.

File systems in EFS's Bursting Throughput mode [1] deliver a consistent baseline level of throughput (50 KiB/s per GiB of data in EFS Standard storage), and use a credit model to deliver higher levels of "burst throughput" performance when "burst credits" are available. When you exhaust your burst credits, your file system performance is throttled to this lower, baseline level, which can result in slowness, timeouts, or other forms of performance impact for your end users or applications.

Check ID

`c1dfprch02`

Alert Criteria

- Yellow: File system is using Bursting throughput mode.

Recommended Action

To allow your users and applications to achieve their desired throughput, we recommend that you update your file system configuration to Elastic Throughput mode [2]. When in Elastic Throughput mode, your file system can achieve up to 10 GiB/s of read throughput or 3 GiB/s of write throughput — depending on the AWS Region [3], and you only pay for the throughput you use. Please note that you can update your file system configuration to switch between Elastic and Bursting throughput modes on demand, and that File Systems in Elastic Throughput mode accrue additional charges for data transfer [4].

Additional Resources

- [1] Amazon EFS Performance Throughput Modes
- [2] Amazon EFS Performance Elastic Throughput Mode
- [3] Amazon EFS Quotas and Limits
- [4] Amazon EFS Pricing

Report columns

- Status
- Region
- EFS File System ID
- Throughput mode
- Last Updated Time

Amazon RDS autovacuum parameter is turned off

Description

The autovacuum parameter is turned off for your DB instances. Turning autovacuum off increases the table and index bloat and impacts the performance.

We recommend that you turn on autovacuum in your DB parameter groups.

> **Note**
>
> Results for this check are automatically refreshed several times daily, and refresh requests are not allowed. It might take a few hours for changes to appear. Currently, you can't exclude resources from this check.

> **Note**
>
> When a DB instance or DB cluster is stopped, you can view the Amazon RDS recommendations in Trusted Advisor for 3 to 5 days. After five days, the recommendations are not available in Trusted Advisor. To view the recommendations, open the Amazon RDS console, and then choose **Recommendations**.
> If you delete a DB instance or DB cluster, then recommendations associated with those instances or clusters are not available in Trusted Advisor or the Amazon RDS management console.

Check ID

`c1qf5bt025`

Alert Criteria

Yellow: DB parameter groups have autovacuum turned off.

Recommended Action

Turn on the autovacuum parameter in your DB parameter groups.

Additional Resources

PostgreSQL database requires periodic maintenance which is known as vacuuming. Autovacuum in PostgreSQL automates running **VACCUUM** and **ANALYZE** commands. This process gathers the table statistics and deletes the dead rows. When autovacuum is turned off, the increase of the table, index bloat, stale statistics will impact the database performance.

For more information, see Understanding autovacuum in Amazon RDS for PostgreSQL environments.

Report columns

- Status
- Region
- Resource
- Parameter Name
- Recommended Value
- Last Updated Time

Amazon RDS DB clusters support only up to 64 TiB volume

Description

Your DB clusters support volumes up to 64 TiB. The latest engine versions support volumes up to 128 TiB. We recommend that you upgrade the engine version of your DB cluster to latest versions to support volumes up to 128 TiB.

> **Note**
>
> Results for this check are automatically refreshed several times daily, and refresh requests are not allowed. It might take a few hours for changes to appear. Currently, you can't exclude resources from this check.

> **Note**
>
> When a DB instance or DB cluster is stopped, you can view the Amazon RDS recommendations in Trusted Advisor for 3 to 5 days. After five days, the recommendations are not available in Trusted Advisor. To view the recommendations, open the Amazon RDS console, and then choose **Recommendations**.
> If you delete a DB instance or DB cluster, then recommendations associated with those instances or clusters are not available in Trusted Advisor or the Amazon RDS management console.

Check ID

`c1qf5bt017`

Alert Criteria

Yellow: DB clusters have support for volumes only up to 64 TiB.

Recommended Action

Upgrade the engine version of your DB clusters to support volumes up to 128 TiB.

Additional Resources

When you scale up your application on a single Amazon Aurora DB cluster, you may not reach the limit if the storage limit is 128 TiB. The increased storage limit helps to avoid deleting the data or splitting the database across multiple instances.

For more information, see Amazon Aurora size limits.

Report columns

- Status
- Region
- Resource
- Engine Name
- Engine Version Current
- Recommended Value
- Last Updated Time

Amazon RDS DB instances in the clusters with heterogeneous instance classes

Description

We recommend that you use the same DB instance class and size for all the DB instances in your DB cluster.

> **Note**
>
> Results for this check are automatically refreshed several times daily, and refresh requests are not allowed. It might take a few hours for changes to appear. Currently, you can't exclude resources from this check.

> **Note**
>
> When a DB instance or DB cluster is stopped, you can view the Amazon RDS recommendations in Trusted Advisor for 3 to 5 days. After five days, the recommendations are not available in Trusted Advisor. To view the recommendations, open the Amazon RDS console, and then choose **Recommendations**.
> If you delete a DB instance or DB cluster, then recommendations associated with those instances or clusters are not available in Trusted Advisor or the Amazon RDS management console.

Check ID

`c1qf5bt009`

Alert Criteria

Red: DB clusters have the DB instances with heterogeneous instance classes.

Recommended Action

Use the same instance class and size for all the DB instances in your DB cluster.

Additional Resources

When the DB instances in your DB cluster use different DB instance classes or sizes, there can be an imbalance in the workload for the DB instances. During a failover, one of the reader DB

instance changes to a writer DB instance. If the DB instances use the same DB instance class and size, the workload can be balanced for the DB instances in your DB cluster.

For more information, see Aurora Replicas.

Report columns

- Status
- Region
- Resource
- Recommended Value
- Engine Name
- Last Updated Time

Amazon RDS DB instances in the clusters with heterogeneous instance sizes

Description

We recommend that you use the same DB instance class and size for all the DB instances in your DB cluster.

> **Note**
>
> Results for this check are automatically refreshed several times daily, and refresh requests are not allowed. It might take a few hours for changes to appear. Currently, you can't exclude resources from this check.

> **Note**
>
> When a DB instance or DB cluster is stopped, you can view the Amazon RDS recommendations in Trusted Advisor for 3 to 5 days. After five days, the recommendations are not available in Trusted Advisor. To view the recommendations, open the Amazon RDS console, and then choose **Recommendations**.
> If you delete a DB instance or DB cluster, then recommendations associated with those instances or clusters are not available in Trusted Advisor or the Amazon RDS management console.

Check ID

`c1qf5bt008`

Alert Criteria

Red: DB clusters have the DB instances with heterogeneous instance sizes.

Recommended Action

Use the same instance class and size for all the DB instances in your DB cluster.

Additional Resources

When the DB instances in your DB cluster use different DB instance classes or sizes, there can be an imbalance in the workload for the DB instances. During a failover, one of the reader DB instance changes to a writer DB instance. If the DB instances use the same DB instance class and size, the workload can be balanced for the DB instances in your DB cluster.

For more information, see Aurora Replicas.

Report columns

- Status
- Region
- Resource
- Recommended Value
- Engine Name
- Last Updated Time

Amazon RDS DB memory parameters are diverging from default

Description

The memory parameters of the DB instances are significantly different from the default values. These settings can impact performance and cause errors.

We recommend that you reset the custom memory parameters for the DB instance to their default values in the DB parameter group.

> **Note**
>
> Results for this check are automatically refreshed several times daily, and refresh requests are not allowed. It might take a few hours for changes to appear. Currently, you can't exclude resources from this check.

> **Note**
>
> When a DB instance or DB cluster is stopped, you can view the Amazon RDS recommendations in Trusted Advisor for 3 to 5 days. After five days, the recommendations are not available in Trusted Advisor. To view the recommendations, open the Amazon RDS console, and then choose **Recommendations**.
> If you delete a DB instance or DB cluster, then recommendations associated with those instances or clusters are not available in Trusted Advisor or the Amazon RDS management console.

Check ID

`c1qf5bt020`

Alert Criteria

Yellow: DB parameter groups have memory parameters that diverge considerably from the default values.

Recommended Action

Reset the memory parameters to their default values.

Additional Resources

For more information, see Best practices for configuring parameters for Amazon RDS for MySQL, part 1: Parameters related to performance.

Report columns

- Status
- Region
- Resource
- Parameter Name

- Recommended Value
- Last Updated Time

Amazon RDS enable_indexonlyscan parameter is turned off

Description

The query planner or optimizer can't use the index-only scan plan type when it is turned off.

We recommend that you set the **enable_indexonlyscan** parameter value to 1.

> **Note**
>
> Results for this check are automatically refreshed several times daily, and refresh requests are not allowed. It might take a few hours for changes to appear. Currently, you can’t exclude resources from this check.

> **Note**
>
> When a DB instance or DB cluster is stopped, you can view the Amazon RDS recommendations in Trusted Advisor for 3 to 5 days. After five days, the recommendations are not available in Trusted Advisor. To view the recommendations, open the Amazon RDS console, and then choose **Recommendations**.
> If you delete a DB instance or DB cluster, then recommendations associated with those instances or clusters are not available in Trusted Advisor or the Amazon RDS management console.

Check ID

`c1qf5bt028`

Alert Criteria

Yellow: DB parameter groups have **enable_indexonlyscan** parameter turned off.

Recommended Action

Set the parameter **enable_indexonlyscan** to 1.

Additional Resources

When you turn off **enable_indexonlyscan** parameter, it prevents the query planner from selecting an optimal execution plan. The query planner uses a different plan type, such as index scan which can increase the query cost and execution time. The index only scan plan type retrieves the data without accessing the table data.

For more information, see enable_indexonlyscan (boolean) on the PostgreSQL documentation website.

Report columns

- Status
- Region
- Resource
- Parameter Name
- Recommended Value
- Last Updated Time

Amazon RDS enable_indexscan parameter is turned off

Description

The query planner or optimizer can't use the index scan plan type when it is turned off.

We recommend that you set the **enable_indexscan** parameter value to 1.

> **Note**
>
> Results for this check are automatically refreshed several times daily, and refresh requests are not allowed. It might take a few hours for changes to appear. Currently, you can’t exclude resources from this check.

> **Note**
>
> When a DB instance or DB cluster is stopped, you can view the Amazon RDS recommendations in Trusted Advisor for 3 to 5 days. After five days, the

recommendations are not available in Trusted Advisor. To view the recommendations, open the Amazon RDS console, and then choose **Recommendations**.
If you delete a DB instance or DB cluster, then recommendations associated with those instances or clusters are not available in Trusted Advisor or the Amazon RDS management console.

Check ID

`c1qf5bt029`

Alert Criteria

Yellow: DB parameter groups have **enable_indexscan** parameter turned off.

Recommended Action

Set the parameter **enable_indexscan** to 1.

Additional Resources

When you turn off **enable_indexscan** parameter, it prevents the query planner from selecting an optimal execution plan. The query planner uses a different plan type, such as index scan which can increase the query cost and execution time.

For more information, see enable_indexscan (boolean) on the PostgreSQL documentation website.

Report columns

- Status
- Region
- Resource
- Parameter Name
- Recommended Value
- Last Updated Time

Amazon RDS general_logging parameter is turned on

Description

The general logging is turned on for your DB instance. This setting is useful while troubleshooting the database issues. However, turning on general logging increases the amount of I/O operations and allocated storage space, which might result in contention and performance degradation.

Check your requirements for general logging usage. We recommend that you set the **general_logging** parameter value to **0**.

> **Note**
>
> Results for this check are automatically refreshed several times daily, and refresh requests are not allowed. It might take a few hours for changes to appear. Currently, you can't exclude resources from this check.

> **Note**
>
> When a DB instance or DB cluster is stopped, you can view the Amazon RDS recommendations in Trusted Advisor for 3 to 5 days. After five days, the recommendations are not available in Trusted Advisor. To view the recommendations, open the Amazon RDS console, and then choose **Recommendations**.
> If you delete a DB instance or DB cluster, then recommendations associated with those instances or clusters are not available in Trusted Advisor or the Amazon RDS management console.

Check ID

`c1qf5bt037`

Alert Criteria

Yellow: DB parameter groups have **general_logging** turned on.

Recommended Action

Check your requirements for general logging usage. If it isn't mandatory, we recommend that you to set the **general_logging** parameter value to **0**.

Additional Resources

The general query log is turned on when the **general_logging** parameter value is 1. The general query log contains records of the database server operations. The server writes information to this log when clients connect or disconnect and the logs contain each SQL statement received from the clients. The general query log is useful when you suspect an error in a client and you want to find the information the client to sent to the database server.

For more information, see Overview of RDS for MySQL database logs.

Report columns

- Status
- Region
- Resource
- Parameter Name
- Recommended Value
- Last Updated Time

Amazon RDS InnoDB_Change_Buffering parameter using less than optimum value

Description

Change buffering allows a MySQL DB instance to defer a few writes, which are required to maintain secondary indexes. This feature was useful in environments with slow disks. The change buffering configuration improved the DB performance slightly but caused a delay in crash recovery and long shutdown times during upgrade.

We recommend that you set the value of **innodb_change_buffering** parameter to **NONE**.

> **Note**
>
> Results for this check are automatically refreshed several times daily, and refresh requests are not allowed. It might take a few hours for changes to appear. Currently, you can’t exclude resources from this check.

> **Note**
>
> When a DB instance or DB cluster is stopped, you can view the Amazon RDS recommendations in Trusted Advisor for 3 to 5 days. After five days, the recommendations are not available in Trusted Advisor. To view the recommendations, open the Amazon RDS console, and then choose **Recommendations**.
> If you delete a DB instance or DB cluster, then recommendations associated with those instances or clusters are not available in Trusted Advisor or the Amazon RDS management console.

Check ID

`c1qf5bt021`

Alert Criteria

Yellow: DB parameter groups have **innodb_change_buffering** parameter set to a low optimum value.

Recommended Action

Set **innodb_change_buffering** parameter value to **NONE** in your DB parameter groups.

Additional Resources

For more information, see Best practices for configuring parameters for Amazon RDS for MySQL, part 1: Parameters related to performance.

Report columns

- Status
- Region
- Resource
- Parameter Name
- Recommended Value
- Last Updated Time

Amazon RDS innodb_open_files parameter is low

Description

The innodb_open_files parameter controls the number of files InnoDB can open at one time. InnoDB opens all of the log and system tablespace files when mysqld is running.

Your DB instance has a low value for the maximum number of files InnoDB can open at one time. We recommend that you set the innodb_open_files parameter to a minimum value of 65.

> **Note**
>
> Results for this check are automatically refreshed several times daily, and refresh requests are not allowed. It might take a few hours for changes to appear. Currently, you can't exclude resources from this check.

> **Note**
>
> When a DB instance or DB cluster is stopped, you can view the Amazon RDS recommendations in Trusted Advisor for 3 to 5 days. After five days, the recommendations are not available in Trusted Advisor. To view the recommendations, open the Amazon RDS console, and then choose **Recommendations**.
> If you delete a DB instance or DB cluster, then recommendations associated with those instances or clusters are not available in Trusted Advisor or the Amazon RDS management console.

Check ID

`c1qf5bt033`

Alert Criteria

Yellow: DB parameter groups have the InnoDB open files setting misconfigured.

Recommended Action

Set the innodb_open_files parameter to a minimum value of 65.

Additional Resources

The innodb_open_files parameter controls the number of files InnoDB can open at one time. InnoDB keeps all the log files and the system tablespace files open when mysqld is running. InnoDB also needs to open a few .ibd files, if file-per-table storage model is used. When the innodb_open_files setting is low, it impacts the database performance and the server may fail to start.

For more information, see InnoDB Startup Options and System Variables - innodb_open_files on the MySql documentation website.

Report columns

- Status
- Region
- Resource
- Parameter Name
- Recommended Value
- Last Updated Time

Amazon RDS innodb_stats_persistent parameter is turned off

Description

Your DB instance isn't configured to persist the InnoDB statistics to the disk. When the statistics aren't stored, they are recalculated each time the instance restarts and the table accessed. This leads to variations in the query execution plan. You can modify the value of this global parameter at the table level.

We recommend that you set the **innodb_stats_persistent** parameter value to **ON**.

> **Note**
>
> Results for this check are automatically refreshed several times daily, and refresh requests are not allowed. It might take a few hours for changes to appear. Currently, you can’t exclude resources from this check.

> **Note**
>
> When a DB instance or DB cluster is stopped, you can view the Amazon RDS recommendations in Trusted Advisor for 3 to 5 days. After five days, the recommendations are not available in Trusted Advisor. To view the recommendations, open the Amazon RDS console, and then choose **Recommendations**.
> If you delete a DB instance or DB cluster, then recommendations associated with those instances or clusters are not available in Trusted Advisor or the Amazon RDS management console.

Check ID

`c1qf5bt032`

Alert Criteria

Yellow: DB parameter groups have optimizer statistics that aren't persisted to the disk.

Recommended Action

Set the **innodb_stats_persistent** parameter value to **ON**.

Additional Resources

If the **innodb_stats_persistent** parameter is set to **ON**, then the optimizer statistics are persisted when the instance restarts. This improves the execution plan stability and consistent query performance. You can modify global statistics persistence at the table level by using the clause **STATS_PERSISTENT** when you create or alter a table.

For more information, see Best practices for configuring parameters for Amazon RDS for MySQL, part 1: Parameters related to performance.

Report columns

- Status
- Region
- Resource
- Parameter Name
- Recommended Value
- Last Updated Time

Amazon RDS instance under-provisioned for system capacity

Description

Checks whether Amazon RDS instance or Amazon Aurora DB instance has the required system capacity to operate.

Check ID

`c1qf5bt039`

Alert Criteria

Yellow:

Out-of-memory kills: When a process on the database host is stopped because of memory reduction at the OS level, the Out Of Memory (OOM) kills counter increases.

Excessive swapping: os.memory.swap.in and os.memory.swap.out metric values were high.

Recommended Action

We recommend that you tune your queries to use less memory or use a DB instance type with higher allocated memory. When the instance is running low on memory, this impacts the database performance.

Additional Resources

Out-of-memory kills were detected: Linux kernel invokes the Out of Memory (OOM) Killer when the processes running on the host require more than the memory physically available from the operating system. In this case, the OOM Killer reviews all the running processes, and stops one or more processes, in order to free up system memory and keep the system running.

Swapping is detected: When the memory isn't sufficient on the database host, the operating system sends a few minimum used pages to the disk in the swap space. This offloading process impacts the database performance.

For more information, see Amazon RDS Instance Types and Scaling yourAmazon RDS instance.

Report columns

- Status
- Region
- Resource
- Out-of-memory kills (count)

- Excessive swapping (count)
- Last detection period
- Last Updated Time

Amazon RDS magnetic volume is in use

Description

Your DB instances are using magnetic storage. Magnetic storage isn't recommended for most of the DB instances. Choose a different storage type: General Purpose (SSD) or Provisioned IOPS.

> **Note**
>
> Results for this check are automatically refreshed several times daily, and refresh requests are not allowed. It might take a few hours for changes to appear. Currently, you can’t exclude resources from this check.

> **Note**
>
> When a DB instance or DB cluster is stopped, you can view the Amazon RDS recommendations in Trusted Advisor for 3 to 5 days. After five days, the recommendations are not available in Trusted Advisor. To view the recommendations, open the Amazon RDS console, and then choose **Recommendations**.
> If you delete a DB instance or DB cluster, then recommendations associated with those instances or clusters are not available in Trusted Advisor or the Amazon RDS management console.

Check ID

`c1qf5bt000`

Alert Criteria

Yellow: Amazon RDS resources are using magnetic storage.

Recommended Action

Choose a different storage type: General Purpose (SSD) or Provisioned IOPS.

Additional Resources

Magnetic storage is an earlier generation storage type. The General Purpose (SSD) or Provisioned IOPS is the recommended storage type for new storage requirements. These storage types provide higher and consistent performance, and improved storage size options.

For more information, see Previous generation volumes.

Report columns

- Status
- Region
- Resource
- Recommended Value
- Engine Name
- Last Updated Time

Amazon RDS parameter groups not using huge pages

Description

Large pages can increase database scalability, but your DB instance isn't using large pages. We recommend that you set the **use_large_pages** parameter value to **ONLY** in the DB parameter group for your DB instance.

> **Note**
>
> Results for this check are automatically refreshed several times daily, and refresh requests are not allowed. It might take a few hours for changes to appear. Currently, you can’t exclude resources from this check.

> **Note**
>
> When a DB instance or DB cluster is stopped, you can view the Amazon RDS recommendations in Trusted Advisor for 3 to 5 days. After five days, the recommendations are not available in Trusted Advisor. To view the recommendations, open the Amazon RDS console, and then choose **Recommendations**.

If you delete a DB instance or DB cluster, then recommendations associated with those instances or clusters are not available in Trusted Advisor or the Amazon RDS management console.

Check ID

`c1qf5bt024`

Alert Criteria

Yellow: DB parameter groups don't use large pages.

Recommended Action

Set the **use_large_pages** parameter value to **ONLY** in your DB parameter groups.

Additional Resources

For more information, see Turning on HugePages for an RDS for Oracle instance.

Report columns

- Status
- Region
- Resource
- Parameter Name
- Recommended Value
- Last Updated Time

Amazon RDS query cache parameter is turned on

Description

When changes require that your query cache is purged, your DB instance will appear to stall. Most workloads don't benefit from a query cache. The query cache was removed from MySQL version 8.0. We recommend that you set the query_cache_type parameter to 0.

> **Note**
>
> Results for this check are automatically refreshed several times daily, and refresh requests are not allowed. It might take a few hours for changes to appear. Currently, you can't exclude resources from this check.

> **Note**
>
> When a DB instance or DB cluster is stopped, you can view the Amazon RDS recommendations in Trusted Advisor for 3 to 5 days. After five days, the recommendations are not available in Trusted Advisor. To view the recommendations, open the Amazon RDS console, and then choose **Recommendations**.
> If you delete a DB instance or DB cluster, then recommendations associated with those instances or clusters are not available in Trusted Advisor or the Amazon RDS management console.

Check ID

`c1qf5bt022`

Alert Criteria

Yellow: DB parameter groups have query cache turned on.

Recommended Action

Set the query_cache_type parameter value to 0 in your DB parameter groups.

Additional Resources

For more information, see Best practices for configuring parameters for Amazon RDS for MySQL, part 1: Parameters related to performance.

Report columns

- Status
- Region
- Resource
- Parameter Name
- Recommended Value

- Last Updated Time

Amazon RDS resources instance class update is required

Description

Your database is running a previous generation DB instance class. We have replaced DB instance classes from a previous generation with DB instance classes with better cost, performance, or both. We recommend that you run your DB instance with a DB instance class from a newer generation.

> **Note**
>
> Results for this check are automatically refreshed several times daily, and refresh requests are not allowed. It might take a few hours for changes to appear. Currently, you can't exclude resources from this check.

> **Note**
>
> When a DB instance or DB cluster is stopped, you can view the Amazon RDS recommendations in Trusted Advisor for 3 to 5 days. After five days, the recommendations are not available in Trusted Advisor. To view the recommendations, open the Amazon RDS console, and then choose **Recommendations**.
> If you delete a DB instance or DB cluster, then recommendations associated with those instances or clusters are not available in Trusted Advisor or the Amazon RDS management console.

Check ID

`c1qf5bt015`

Alert Criteria

Red: DB instances are using end of support DB instance class.

Recommended Action

Upgrade to latest DB instance class.

Additional Resources

For more information, see Supported DB engines for DB instance classes.

Report columns

- Status
- Region
- Resource
- DB Instance Class
- Recommended Value
- Engine Name
- Last Updated Time

Amazon RDS resources major versions update is required

Description

Databases with the current major version for the DB engine won't be supported. We recommend that you upgrade to the latest major version which includes new functionality and enhancements.

> **Note**
>
> Results for this check are automatically refreshed several times daily, and refresh requests are not allowed. It might take a few hours for changes to appear. Currently, you can’t exclude resources from this check.

> **Note**
>
> When a DB instance or DB cluster is stopped, you can view the Amazon RDS recommendations in Trusted Advisor for 3 to 5 days. After five days, the recommendations are not available in Trusted Advisor. To view the recommendations, open the Amazon RDS console, and then choose **Recommendations**.
> If you delete a DB instance or DB cluster, then recommendations associated with those instances or clusters are not available in Trusted Advisor or the Amazon RDS management console.

Check ID

`c1qf5bt014`

Alert Criteria

Red: RDS resources are using end of support major versions.

Recommended Action

Upgrade to the latest major version for the DB engine.

Additional Resources

Amazon RDS releases new versions for the supported database engines to maintain your databases with the latest version. The new released versions may include bug fixes, security enhancements, and other improvements for the database engine. You can minimize the downtime required for the DB instance upgrade by using a blue/green deployment.

For more information, see the following resources:

- Upgrading a DB instance engine version
- Amazon Aurora updates
- Using Amazon RDS Blue/Green Deployments for database updates

Report columns

- Status
- Region
- Resource
- Engine Name
- Engine Current Version
- Recommended Value
- Last Updated Time

Amazon RDS resources using end of support engine edition under license-included

Description

We recommend that you upgrade the major version to the latest engine version supported by Amazon RDS to continue with the current license support. The engine version of your database won't be supported with the current license.

> **Note**
>
> Results for this check are automatically refreshed several times daily, and refresh requests are not allowed. It might take a few hours for changes to appear. Currently, you can’t exclude resources from this check.

> **Note**
>
> When a DB instance or DB cluster is stopped, you can view the Amazon RDS recommendations in Trusted Advisor for 3 to 5 days. After five days, the recommendations are not available in Trusted Advisor. To view the recommendations, open the Amazon RDS console, and then choose **Recommendations**.
> If you delete a DB instance or DB cluster, then recommendations associated with those instances or clusters are not available in Trusted Advisor or the Amazon RDS management console.

Check ID

`c1qf5bt016`

Alert Criteria

Red: Amazon RDS resources are using end of support engine edition under license-included model.

Recommended Action

We recommend that you upgrade your database to the latest supported version in Amazon RDS to continue using the licensed model.

Additional Resources

For more information, see Oracle major version upgrades.

Report columns

- Status
- Region
- Resource
- Engine Name
- Engine Version Current
- Recommended Value
- Engine Name
- Last Updated Time

Amazon Route 53 Alias Resource Record Sets

Description

Checks for resource record sets that can be changed to alias resource record sets to improve performance and save money.

An alias resource record set routes DNS queries to an AWS resource (for example, an Elastic Load Balancing load balancer or an Amazon S3 bucket) or to another Route 53 resource record set. When you use alias resource record sets, Route 53 routes your DNS queries to AWS resources free of charge.

Hosted zones created by AWS services won't appear in your check results.

Check ID

`B913Ef6fb4`

Alert Criteria

- Yellow: A resource record set is a CNAME to an Amazon S3 website.
- Yellow: A resource record set is a CNAME to an Amazon CloudFront distribution.
- Yellow: A resource record set is a CNAME to an Elastic Load Balancing load balancer.

Recommended Action

Replace the listed CNAME resource record sets with alias resource record sets; see Choosing Between Alias and Non-Alias Resource Record Sets.

You also need to change the record type from CNAME to A or AAAA, depending on the AWS resource. See Values that You Specify When You Create or Edit Amazon Route 53 Resource Record Sets.

Additional Resources

Routing Queries to AWS Resources

Report columns

- Status
- Hosted Zone Name
- Hosted Zone ID
- Resource Record Set Name
- Resource Record Set Type
- Resource Record Set Identifier
- Alias Target

AWS Lambda under-provisioned functions for memory size

Description

Checks the AWS Lambda functions that were invoked at least once during the lookback period. This check alerts you if any of your Lambda functions were under-provisioned for memory size. When you have Lambda functions that are under-provisioned for memory size, these functions take longer time to complete.

> **Note**
>
> Results for this check are automatically refreshed several times daily, and refresh requests are not allowed. It might take a few hours for changes to appear. Currently, you can't exclude resources from this check.

Check ID

`COr6dfpM06`

Alert Criteria

Yellow: A Lambda function that was under-provisioned for memory size during the lookback period. To determine if a Lambda function is under-provisioned, we consider all default CloudWatch metrics for that function. The algorithm used to identify under-provisioned Lambda functions for memory size follows AWS best practices. The algorithm is updated when a new pattern has been identified.

Recommended Action

Consider increasing the memory size of your Lambda functions.

For more information, see Opt in AWS Compute Optimizer for Trusted Advisor checks.

Report columns

- Status
- Region
- Function Name
- Function Version
- Memory Size (MB)
- Recommended Memory Size (MB)
- Lookback Period (days)
- Performance Risk
- Last Updated Time

AWS Lambda Functions without Concurrency Limit Configured

Description

Checks if AWS Lambda functions are configured with function-level concurrent execution limit.

Concurrency is the number of in-flight requests your AWS Lambda function is handling at the same time. For each concurrent request, Lambda provisions a separate instance of your execution environment.

You can specify the minimum and maximum reserved concurrency limit using the **concurrencyLimitLow** and **ConcurrencyLimitHigh** parameters in your AWS Config rules.

For more information, see Lambda function scaling.

> **Note**
>
> Results for this check are automatically refreshed several times daily, and refresh requests are not allowed. It might take a few hours for changes to appear. Currently, you can't exclude resources from this check.

Check ID

`c18d2gz181`

Source

AWS Config Managed Rule: lambda-concurrency-check

Alert Criteria

Yellow: Lambda function has no concurrency limit configured.

Recommended Action

Make sure that your Lambda functions have concurrency configured. A concurrency limit for your Lambda functions helps make sure that your function processes requests reliably and predictably. A concurrency limit reduces the risk of your function being overwhelmed due to a sudden surge in traffic.

For more information, see Configuring reserved concurrency.

Additional Resources

- Lambda function scaling
- Configuring reserved concurrency

Report columns

- Status
- Region
- Resource

- AWS Config Rule
- Input Parameters
- Last Updated Time

AWS Well-Architected high risk issues for performance

Description

Checks for high risk issues (HRIs) for your workloads in the performance pillar. This check is based on your AWS-Well Architected reviews. Your check results depend on whether you completed the workload evaluation with AWS Well-Architected.

> **Note**
>
> Results for this check are automatically refreshed several times daily, and refresh requests are not allowed. It might take a few hours for changes to appear. Currently, you can't exclude resources from this check.

Check ID

`Wxdfp4B1L2`

Alert Criteria

- Red: At least one active high risk issue was identified in the performance pillar for AWS Well-Architected.
- Green: No active high risk issues were detected in the performance pillar for AWS Well-Architected.

Recommended Action

AWS Well-Architected detected high risk issues during your workload evaluation. These issues present opportunities to reduce risk and save money. Sign in to the AWS Well-Architected tool to review your answers and take action to resolve your active issues.

Report columns

- Status
- Region
- Workload ARN

- Workload Name
- Reviewer Name
- Workload Type
- Workload Started Date
- Workload Last Modified Date
- Number of identified HRIs for Performance
- Number of HRIs resolved for Performance
- Number of questions answered for Performance
- Total number of questions in Performance pillar
- Last Updated Time

CloudFront Alternate Domain Names

Description

Checks Amazon CloudFront distributions for alternate domain names (CNAMES) that have incorrectly configured DNS settings.

If a CloudFront distribution includes alternate domain names, the DNS configuration for the domains must route DNS queries to that distribution.

> **Note**
>
> This check assumes Amazon Route 53 DNS and Amazon CloudFront distribution are configured in the same AWS account. As such the alert list might include resources otherwise working as expected due to DNS setting outsides of this AWS account.

Check ID

`N420c450f2`

Alert Criteria

- Yellow: A CloudFront distribution includes alternate domain names, but the DNS configuration is not correctly set up with a CNAME record or an Amazon Route 53 alias resource record.

- Yellow: A CloudFront distribution includes alternate domain names, but Trusted Advisor could not evaluate the DNS configuration because there were too many redirects.
- Yellow: A CloudFront distribution includes alternate domain names, but Trusted Advisor could not evaluate the DNS configuration for some other reason, most likely because of a timeout.

Recommended Action

Update the DNS configuration to route DNS queries to the CloudFront distribution; see Using Alternate Domain Names (CNAMEs).

If you're using Amazon Route 53 as your DNS service, see Routing Traffic to an Amazon CloudFront Web Distribution by Using Your Domain Name. If the check timed out, try refreshing the check.

Additional Resources

Amazon CloudFront Developer Guide

Report columns

- Status
- Distribution ID
- Distribution Domain Name
- Alternate Domain Name
- Reason

CloudFront Content Delivery Optimization

Description

Checks for cases where data transfer from Amazon Simple Storage Service (Amazon S3) buckets could be accelerated by using Amazon CloudFront, the AWS global content delivery service.

When you configure CloudFront to deliver your content, requests for your content are automatically routed to the nearest edge location where content is cached. This routing allows content to be delivered to your users with the best possible performance. A high ratio of data transferred out compared to the data stored in the bucket indicates that you could benefit from using Amazon CloudFront to deliver the data.

Check ID

796d6f3D83

Alert Criteria

- Yellow: The amount of data transferred out of the bucket to your users by GET requests in the 30 days preceding the check is at least 25 times greater than the average amount of data stored in the bucket.
- Red: The amount of data transferred out of the bucket to your users by GET requests in the 30 days preceding the check is at least 10 TB and at least 25 times greater than the average amount of data stored in the bucket.

Recommended Action

Consider using CloudFront for better performance. See Amazon CloudFront Product Details.

If the data transferred is 10 TB per month or more, see Amazon CloudFront Pricing to explore possible cost savings.

Additional Resources

- Amazon CloudFront Developer Guide
- AWS Case Study: PBS

Report columns

- Status
- Region
- Bucket Name
- S3 Storage (GB)
- Data Transfer Out (GB)
- Ratio of Transfer to Storage

CloudFront Header Forwarding and Cache Hit Ratio

Description

Checks the HTTP request headers that CloudFront currently receives from the client and forwards to your origin server.

Some headers, such as date, or user-agent, significantly reduce the cache hit ratio (the proportion of requests that are served from a CloudFront edge cache). This increases the load on your origin and reduces performance, because CloudFront must forward more requests to your origin.

Check ID

N415c450f2

Alert Criteria

Yellow: One or more request headers that CloudFront forwards to your origin might significantly reduce your cache hit ratio.

Recommended Action

Consider whether the request headers provide enough benefit to justify the negative effect on the cache hit ratio. If your origin returns the same object regardless of the value of a given header, we recommend that you don't configure CloudFront to forward that header to the origin. For more information, see Configuring CloudFront to Cache Objects Based on Request Headers.

Additional Resources

- Increasing the Proportion of Requests that Are Served from CloudFront Edge Caches
- CloudFront Cache Statistics Reports
- HTTP Request Headers and CloudFront Behavior

Report columns

- Distribution ID
- Distribution Domain Name
- Cache Behavior Path Pattern
- Headers

High CPU Utilization Amazon EC2 Instances

Description

Checks the Amazon Elastic Compute Cloud (Amazon EC2) instances that were running at any time during the last 14 days. An alert is sent if daily CPU utilization was greater than 90% on four or more days.

Consistent high utilization can indicate optimized, steady performance. However, it can also indicate that an application does not have enough resources. To get daily CPU utilization data, download the report for this check.

Check ID

`ZRxQlPsb6c`

Alert Criteria

Yellow: An instance had more than 90% daily average CPU utilization on at least 4 of the previous 14 days.

Recommended Action

Consider adding more instances. For information about scaling the number of instances based on demand, see What is Auto Scaling?

Additional Resources

- Monitoring Amazon EC2
- Instance Metadata and User Data
- Amazon CloudWatch User Guide
- Amazon EC2 Auto Scaling User Guide

Report columns

- Region/AZ
- Instance ID
- Instance Type
- Instance Name
- 14-Day Average CPU Utilization
- Number of Days over 90% CPU Utilization

Security

You can use the following checks for the security category.

> **Note**
>
> If you enabled Security Hub for your AWS account, you can view your findings in the Trusted Advisor console. For information, see Viewing AWS Security Hub controls in AWS Trusted Advisor.
> You can view all controls in the AWS Foundational Security Best Practices security standard *except* for controls that have the **Category: Recover > Resilience**. For a list of supported

controls, see AWS Foundational Security Best Practices controls in the *AWS Security Hub User Guide*.

Check names

- Amazon CloudWatch Log Group Retention Period
- Amazon EC2 instances with Microsoft SQL Server end of support
- Amazon EC2 instances with Microsoft Windows Server end of support
- Amazon EC2 instances with Ubuntu LTS end of standard support
- Amazon EFS clients not using data-in-transit encryption
- Amazon EBS Public Snapshots
- Amazon RDS Aurora storage encryption is turned off
- Amazon RDS engine minor version upgrade is required
- Amazon RDS Public Snapshots
- Amazon RDS Security Group Access Risk
- Amazon RDS storage encryption is turned off
- Amazon Route 53 mismatching CNAME records pointing directly to S3 buckets
- Amazon Route 53 MX Resource Record Sets and Sender Policy Framework
- Amazon S3 Bucket Permissions
- Amazon VPC Peering Connections with DNS Resolution Disabled
- Application Load Balancer Target Groups Encrypted Protocol
- AWS Backup Vault Without Resource-based Policy to Prevent Deletion of Recovery Points
- AWS CloudTrail Logging
- AWS Lambda Functions Using Deprecated Runtimes
- AWS Well-Architected high risk issues for security
- CloudFront Custom SSL Certificates in the IAM Certificate Store
- CloudFront SSL Certificate on the Origin Server
- ELB Listener Security
- Classic Load Balancer Security Groups
- Exposed Access Keys
- IAM Access Key Rotation

- IAM Password Policy
- IAM SAML 2.0 Identity Provider
- MFA on Root Account
- Root User Access Key
- Security Groups – Specific Ports Unrestricted
- Security Groups – Unrestricted Access

Amazon CloudWatch Log Group Retention Period

Description

Checks if Amazon CloudWatch log group retention period is set to 365 days or other specified number.

By default, logs are kept indefinitely and never expire. However, you can adjust the retention policy for each log group to comply with industry regulations or legal requirements for a specific period.

You can specify the minimum retention time and log group names using the **LogGroupNames** and **MinRetentionTime** parameters in your AWS Config rules.

> **Note**
>
> Results for this check are automatically refreshed several times daily, and refresh requests are not allowed. It might take a few hours for changes to appear. Currently, you can't exclude resources from this check.

Check ID

`c18d2gz186`

Source

`AWS Config Managed Rule: cw-loggroup-retention-period-check`

Alert Criteria

Yellow: Retention period of an Amazon CloudWatch log group is less than the desired minimum number of days.

Recommended Action

Configure a retention period of more than 365 days for your log data stored in Amazon CloudWatch Logs to meet compliance requirements.

For more information, see Change log data retention in CloudWatch Logs.

Additional Resources

Altering CloudWatch log retention

Report columns

- Status
- Region
- Resource
- AWS Config Rule
- Input Parameters
- Last Updated Time

Amazon EC2 instances with Microsoft SQL Server end of support

Description

Checks the SQL Server versions for Amazon Elastic Compute Cloud (Amazon EC2) instances running in the past 24 hours. This check alerts you if the versions are near or have reached the end of support. Each SQL Server version offers 10 years of support, including 5 years of mainstream support and 5 years of extended support. After the end of support, the SQL Server version won't receive regular security updates. Running applications with unsupported SQL Server versions can bring security or compliance risks.

> **Note**
>
> Results for this check are automatically refreshed several times daily, and refresh requests are not allowed. It might take a few hours for changes to appear. Currently, you can't exclude resources from this check.

Check ID

`Qsdfp3A4L3`

Alert Criteria

- Red: An EC2 instance has an SQL Server version that reached the end of support.
- Yellow: An EC2 instance has an SQL Server version that will reach the end of support in 12 months.

Recommended Action

To modernize your SQL Server workloads, consider refactoring to AWS Cloud native databases like Amazon Aurora. For more information, see Modernize Windows Workloads with AWS.

To move to a fully managed database, consider replatforming to Amazon Relational Database Service (Amazon RDS). For more information, see Amazon RDS for SQL Server.

To upgrade your SQL Server on Amazon EC2, consider using the automation runbook to simplify your upgrade. For more information, see the AWS Systems Manager documentation.

If you can't upgrade your SQL Server on Amazon EC2, consider the End-of-Support Migration Program (EMP) for Windows Server. For more information, see the EMP Website.

Additional Resources

- Get ready for SQL Server end of support with AWS
- Microsoft SQL Server on AWS

Report columns

- Status
- Region
- Instance ID
- SQL Server Version
- Support Cycle
- End of Support
- Last Updated Time

Amazon EC2 instances with Microsoft Windows Server end of support

Description

This check alerts you if the versions are near or have reached the end of support. Each Windows Server version offers 10 years of support. This includes 5 years of mainstream support and 5

years of extended support. After the end of support, the Windows Server version won't receive regular security updates. If you run applications with unsupported Windows Server versions, you risk the security or compliance of these applications.

> **Note**
>
> Results for this check are automatically refreshed several times daily, and refresh requests are not allowed. It might take a few hours for changes to appear. Currently, you can't exclude resources from this check.

Check ID

`Qsdfp3A4L4`

Alert Criteria

- Red: An EC2 instance has a Windows Server version that reached the end of support (Windows Server 2003, 2003 R2, 2008, and 2008 R2).
- Yellow: An EC2 instance has a Windows Server version that will reach the end of support in less than 18 months (Windows Server 2012 and 2012 R2).

Recommended Action

To modernize your Windows Server workloads, consider the various options available on Modernize Windows Workloads with AWS.

To upgrade your Windows Server workloads to run on more recent versions of Windows Server, you can use an automation runbook. For more information, see the AWS Systems Manager documentation.

Please follow the set of steps below:

- Upgrade the Windows Server version
- Hard stop and start upon upgrading
- If using EC2Config, please migrate to EC2Launch

Report columns

- Status
- Region
- Instance ID

- Windows Server Version
- Support Cycle
- End of Support
- Last Updated Time

Amazon EC2 instances with Ubuntu LTS end of standard support

Description

This check alerts you if the versions are near or have reached the end of standard support. It is important to take action – either by migrating to the next LTS or upgrading to Ubuntu Pro. After the end of support, your 18.04 LTS machines will not receive any security updates. With an Ubuntu Pro subscription, your Ubuntu 18.04 LTS deployment can receive Expanded Security Maintenance (ESM) until 2028. Security vulnerabilities that remain unpatched open your systems to hackers and the potential of a major breach.

> **Note**
>
> Results for this check are automatically refreshed several times daily, and refresh requests are not allowed. It might take a few hours for changes to appear. Currently, you can't exclude resources from this check.

Check ID

`c1dfprch15`

Alert Criteria

Red: An Amazon EC2 instance has an Ubuntu version that reached the end of standard support (Ubuntu 18.04 LTS, 18.04.1 LTS, 18.04.2 LTS, 18.04.3 LTS, 18.04.4 LTS, 18.04.5 LTS, and 18.04.6 LTS).

Yellow: An Amazon EC2 instance has an Ubuntu version that will reach the end of standard support in less than 6 months (Ubuntu 20.04 LTS, 20.04.1 LTS, 20.04.2 LTS, 20.04.3 LTS, 20.04.4 LTS, 20.04.5 LTS, and 20.04.6 LTS).

Green: All Amazon EC2 instances are compliant.

Recommended Action

To upgrade the Ubuntu 18.04 LTS instances to a supported LTS version, please follow the steps mentioned in this article. To upgrade the Ubuntu 18.04 LTS instances to Ubuntu Pro, visit AWS License Manager console and follow the steps mentioned in the AWS License Manager user guide. You can also refer to the Ubuntu blog showing a step by step demo of upgrading Ubuntu instances to Ubuntu Pro.

Additional Resources

For information about pricing, reach out to AWS Support.

Report columns

- Status
- Region
- Ubuntu Lts Version
- Expected End Of Support Date
- Instance ID
- Support Cycle
- Last Updated Time

Amazon EFS clients not using data-in-transit encryption

Description

Checks if Amazon EFS file system is mounted using data-in-transit encryption. AWS recommends that customers use data-in-transit encryption for all data flows to protect data from accidental exposure or unauthorized access. Amazon EFS recommends clients use the '-o tls' mount setting using the Amazon EFS mount helper to encrypt data in transit using TLS v1.2.

Check ID

`c1dfpnchv1`

Alert Criteria

Yellow: One or more NFS clients for your Amazon EFS file system are not using the recommended mount settings that provide data-in-transit encryption.

Green: All NFS clients for your Amazon EFS file system are using the recommended mount settings that provide data-in-transit encryption.

Recommended Action

To take advantage of data-in-transit encryption feature on Amazon EFS, we recommend that you remount your file system using the Amazon EFS mount helper and the recommended mount settings.

> **Note**
>
> Some Linux distributions don't include a version of stunnel that supports TLS features by default. If you're using an unsupported Linux distribution (see Supported distributions in the *Amazon Elastic File System User Guide*), then it's a best practice that you upgrade it before remounting with the recommended mount setting.

Additional Resources

- Encrypting data in transit

Report columns

- Status
- Region
- EFS File System ID
- AZs with Unencrypted Connections
- Last Updated Time

Amazon EBS Public Snapshots

Description

Checks the permission settings for your Amazon Elastic Block Store (Amazon EBS) volume snapshots and alerts you if any snapshots are publicly accessible.

When you make a snapshot public, you give all AWS accounts and users access to all the data on the snapshot. To share a snapshot only with specific users or accounts, mark the snapshot as private. Then, specify the user or accounts that you want to share the snapshot data with. Note that if you have Block Public Access enabled in 'block all sharing' mode, then your public snapshots aren't publicly accessible and don't appear in the results of this check.

> **Note**
>
> Results for this check are automatically refreshed several times daily, and refresh requests are not allowed. It might take a few hours for changes to appear.

Check ID

`ePs02jT06w`

Alert Criteria

Red: The EBS volume snapshot is publicly accessible.

Recommended Action

Unless you are certain that you want to share all the data in the snapshot with all AWS accounts and users, modify the permissions: mark the snapshot as private, and then specify the accounts that you want to give permissions to. For more information, see Sharing an Amazon EBS Snapshot. Use Block Public Access for EBS Snapshots to control the settings that allow public access to your data. This check can't be excluded from view in the Trusted Advisor console.

To modify permissions for your snapshots directly, use a runbook in the AWS Systems Manager console. For more information, see `AWSSupport-ModifyEBSSnapshotPermission`.

Additional Resources

Amazon EBS Snapshots

Report columns

- Status
- Region
- Volume ID
- Snapshot ID
- Description

Amazon RDS Aurora storage encryption is turned off

Description

Amazon RDS supports encryption at rest for all the database engines by using the keys that you manage in AWS Key Management Service. On an active DB instance with Amazon RDS encryption, the data stored at rest in the storage is encrypted, similar to automated backups, read replicas, and snapshots.

If encryption isn't turned on while creating an Aurora DB cluster, then you must restore a decrypted snapshot to an encrypted DB cluster.

> **Note**
>
> Results for this check are automatically refreshed several times daily, and refresh requests are not allowed. It might take a few hours for changes to appear. Currently, you can’t exclude resources from this check.

> **Note**
>
> When a DB instance or DB cluster is stopped, you can view the Amazon RDS recommendations in Trusted Advisor for 3 to 5 days. After five days, the recommendations are not available in Trusted Advisor. To view the recommendations, open the Amazon RDS console, and then choose **Recommendations**.
> If you delete a DB instance or DB cluster, then recommendations associated with those instances or clusters are not available in Trusted Advisor or the Amazon RDS management console.

Check ID

`c1qf5bt005`

Alert Criteria

Red: Amazon RDS Aurora resources don't have encryption enabled.

Recommended Action

Turn on encryption of data at rest for your DB cluster.

Additional Resources

You can turn on encryption while creating a DB instance or use a workaround to turn on the encryption on an active DB instance. You can't modify a decrypted DB cluster to an encrypted DB cluster. However, you can restore a decrypted snapshot to an encrypted DB cluster. When you restore from the decrypted snapshot, you must specify a AWS KMS key.

For more information, see Encrypting Amazon Aurora resources.

Report columns

- Status
- Region
- Resouce
- Engine Name
- Last Updated Time

Amazon RDS engine minor version upgrade is required

Description

Your database resources aren't running the latest minor DB engine version. The latest minor version contains the latest security fixes and other improvements.

> **Note**
>
> Results for this check are automatically refreshed several times daily, and refresh requests are not allowed. It might take a few hours for changes to appear. Currently, you can’t exclude resources from this check.

> **Note**
>
> When a DB instance or DB cluster is stopped, you can view the Amazon RDS recommendations in Trusted Advisor for 3 to 5 days. After five days, the recommendations are not available in Trusted Advisor. To view the recommendations, open the Amazon RDS console, and then choose **Recommendations**.

If you delete a DB instance or DB cluster, then recommendations associated with those instances or clusters are not available in Trusted Advisor or the Amazon RDS management console.

Check ID

`c1qf5bt003`

Alert Criteria

Yellow: Amazon RDS resources aren't running the latest minor DB engine version.

Recommended Action

Upgrade to the latest engine version.

Additional Resources

We recommend that you maintain your database with the latest DB engine minor version as this version includes the latest security and functionality fixes. The DB engine minor version upgrades contain only the changes which are backward-compatible with earlier minor versions of the same major version of the DB engine.

For more information, see Upgrading a DB instance engine version.

Report columns

- Status
- Region
- Resouce
- Engine Name
- Engine Version Current
- Recommended Value
- Last Updated Time

Amazon RDS Public Snapshots

Description

Checks the permission settings for your Amazon Relational Database Service (Amazon RDS) DB snapshots and alerts you if any snapshots are marked as public.

When you make a snapshot public, you give all AWS accounts and users access to all the data on the snapshot. If you want to share a snapshot only with specific users or accounts, mark the snapshot as private. Then, specify the user or accounts you want to share the snapshot data with.

> **Note**
>
> Results for this check are automatically refreshed several times daily, and refresh requests are not allowed. It might take a few hours for changes to appear.

Check ID

`rSs93HQwa1`

Alert Criteria

Red: The Amazon RDS snapshot is marked as public.

Recommended Action

Unless you are certain you want to share all the data in the snapshot with all AWS accounts and users, modify the permissions: mark the snapshot as private, and then specify the accounts that you want to give permissions to. For more information, see Sharing a DB Snapshot or DB Cluster Snapshot. This check can't be excluded from view in the Trusted Advisor console.

To modify permissions for your snapshots directly, you can use a runbook in the AWS Systems Manager console. For more information, see `AWSSupport-ModifyRDSSnapshotPermission`.

Additional Resources

Backing Up and Restoring Amazon RDS DB Instances

Report columns

- Status

- Region
- DB Instance or Cluster ID
- Snapshot ID

Amazon RDS Security Group Access Risk

Description

Checks security group configurations for Amazon Relational Database Service (Amazon RDS) and warns when a security group rule grants overly permissive access to your database. The recommended configuration for a security group rule is to allow access only from specific Amazon Elastic Compute Cloud (Amazon EC2) security groups or from a specific IP address.

> **Note**
>
> This check evaluates only security groups that are attached toAmazon RDS instances running outside on an Amazon VPC.

Check ID

`nNauJisYIT`

Alert Criteria

- Yellow: A DB security group rule references an Amazon EC2 security group that grants global access on one of these ports: 20, 21, 22, 1433, 1434, 3306, 3389, 4333, 5432, 5500.
- Red: A DB security group rule grants global access (the CIDR rule suffix is /0).
- Green: A DB security group doesn't include permissive rules.

Recommended Action

EC2-Classic was retired on August 15, 2022. It's recommend to move your Amazon RDS instances to a VPC and use Amazon EC2 security groups. For more information of moving your DB instance to a VPC see Moving a DB instance not in a VPC into a VPC.

If you are unable to migrate your Amazon RDS instances to a VPC, then review your security group rules and restrict access to authorized IP addresses or IP ranges. To edit a security group, use the AuthorizeDBSecurityGroupIngress API or the AWS Management Console. For more information, see Working with DB Security Groups.

Additional Resources

- Amazon RDS Security Groups
- Classless Inter-Domain Routing
- List of TCP and UDP port numbers

Report columns

- Status
- Region
- RDS Security Group Name
- Ingress Rule
- Reason

Amazon RDS storage encryption is turned off

Description

Amazon RDS supports encryption at rest for all the database engines by using the keys that you manage in AWS Key Management Service. On an active DB instance with Amazon RDS encryption, the data stored at rest in the storage is encrypted, similar to automated backups, read replicas, and snapshots.

If encryption isn't turned on while creating a DB instance, then you must restore an encrypted copy of the decrypted snapshot before you turn on the encryption.

> **Note**
>
> Results for this check are automatically refreshed several times daily, and refresh requests are not allowed. It might take a few hours for changes to appear. Currently, you can’t exclude resources from this check.

> **Note**
>
> When a DB instance or DB cluster is stopped, you can view the Amazon RDS recommendations in Trusted Advisor for 3 to 5 days. After five days, the recommendations are not available in Trusted Advisor. To view the recommendations, open the Amazon RDS console, and then choose **Recommendations**.

If you delete a DB instance or DB cluster, then recommendations associated with those instances or clusters are not available in Trusted Advisor or the Amazon RDS management console.

Check ID

`c1qf5bt006`

Alert Criteria

Red: Amazon RDS resources don't have encryption enabled.

Recommended Action

Turn on encryption of data at rest for your DB instance.

Additional Resources

You can encrypt a DB instance only when you create the DB instance. To encrypt an existing active DB instance:

Create an encrypted copy of the original DB instance

1. Create a snapshot of your DB instance.
2. Create an encrypted copy of the snapshot created in step 1.
3. Restore a DB instance from the encrypted snapshot.

For more information, see the following resources:

- Encrypting Amazon RDS resources
- Copying a DB snapshot

Report columns

- Status
- Region
- Resouce
- Engine Name
- Last Updated Time

Amazon Route 53 mismatching CNAME records pointing directly to S3 buckets

Description

Checks the Amazon Route 53 Hosted Zones with CNAME records pointing directly to Amazon S3 bucket hostnames and alerts if your CNAME does not match with your S3 bucket name.

Check ID

`c1ng44jvbm`

Alert Criteria

Red: Amazon Route 53 Hosted Zone has CNAME records pointing to mismatching S3 bucket hostnames.

Green: No mismatching CNAME records found in your Amazon Route 53 Hosted Zone.

Recommended Action

When pointing CNAME records to S3 bucket hostnames, you must make sure that a matching bucket exists for any CNAME or alias record you configure. By doing this, you avoid the risk of your CNAME records being spoofed. You also prevent any unauthorized AWS user from hosting faulty or malicious web content with your domain.

To avoid pointing CNAME records directly to S3 bucket hostnames, consider using origin access control (OAC) to access your S3 bucket web assets through Amazon CloudFront.

For more information about associating CNAME with an Amazon S3 bucket hostname, see Customizing Amazon S3 URLs with CNAME records.

Additional Resources

- How to associate a hostname with an Amazon S3 bucket
- Restricting access to an Amazon S3 origin with CloudFront

Report columns

- Status
- Hosted Zone ID
- Hosted Zone ARN
- Matching CNAME Records
- Mismatching CNAME Records

- Last Updated Time

Amazon Route 53 MX Resource Record Sets and Sender Policy Framework

Description

For each MX record, checks for an associated TXT record that contains a valid SPF value. The TXT record value must start with “v=spf1". SPF record types are deprecated by the Internet Engineering Task Force (IETF). With Route 53, I'ts a best practice to use a TXT record instead of an SPF record. Trusted Advisor reports this check as green when an MX record has at least one associated TXT record with a valid SPF value.

Check ID

`c9D319e7sG`

Alert Criteria

- Green: An MX resource record set has a TXT resource record that contains a valid SPF value.
- Yellow: An MX resource record set has a TXT or SPF resource record that contains a valid SPF value.
- Red: An MX resource record set doesn't have a TXT or SPF resource record that contains a valid SPF value.

Recommended Action

For each MX resource record set, create a TXT resource record set that contains a valid SPF value. For more information, see Sender Policy Framework: SPF Record Syntax and Creating Resource Record Sets By Using the Amazon Route 53 Console.

Additional Resources

- MX record type
- SPF record type
- re:Post Guidance
- RFC 7208

Report columns

- Hosted Zone Name
- Hosted Zone ID
- Resource Record Set Name

- Status

Amazon S3 Bucket Permissions

Description

Checks buckets in Amazon Simple Storage Service (Amazon S3) that have open access permissions, or that allow access to any authenticated AWS user.

This check examines explicit bucket permissions, as well as bucket policies that might override those permissions. Granting list access permissions to all users for an Amazon S3 bucket is not recommended. These permissions can lead to unintended users listing objects in the bucket at high frequency, which can result in higher than expected charges. Permissions that grant upload and delete access to everyone can lead to security vulnerabilities in your bucket.

Check ID

`Pfx0RwqBli`

Alert Criteria

- Yellow: The bucket ACL allows List access for **Everyone** or **Any Authenticated AWS User**.
- Yellow: A bucket policy allows any kind of open access.
- Yellow: Bucket policy has statements that grant public access. The **Block public and cross-account access to buckets that have public policies** setting is turned on and has restricted access to only authorized users of that account until public statements are removed.
- Yellow: Trusted Advisor does not have permission to check the policy, or the policy could not be evaluated for other reasons.
- Red: The bucket ACL allows upload and delete access for **Everyone** or **Any Authenticated AWS User**.
- Green: All Amazon S3 are compliant based on the ACL and/or bucket policy.

Recommended Action

If a bucket allows open access, determine if open access is truly needed. For example to host a static website, you can use Amazon CloudFront to serve the content hosted on Amazon S3. See Restricting access to anAmazon S3 origin in the Amazon CloudFront Developer Guide. When possible,, update the bucket permissions to restrict access to the owner or specific users. Use Amazon S3 Block Public Access to control the settings that allow public access to your data. See Setting Bucket and Object Access Permissions.

Additional Resources

Managing Access Permissions to Your Amazon S3 Resources

Configuring block public access settings for your Amazon S3 buckets

Report columns

- Status
- Region Name
- Region API Parameter
- Bucket Name
- ACL Allows List
- ACL Allows Upload/Delete
- Policy Allows Access

Amazon VPC Peering Connections with DNS Resolution Disabled

Description

Checks if your VPC peering connections have DNS resolution turned on for both the acceptor and requester VPCs.

DNS resolution for a VPC peering connection allows the resolution of public DNS hostnames to private IPv4 addresses when queried from your VPC. This allows the use of DNS names for communication between resources in peered VPCs. DNS resolution in your VPC peering connections makes application development and management simpler and less error-prone, and it ensures that resources always communicate privately over the VPC peering connection.

You can specify the VPC IDs, using the **vpcIds** parameters in your AWS Config rules.

For more information, see Enable DNS resolution for a VPC peering connection.

> **Note**
>
> Results for this check are automatically refreshed several times daily, and refresh requests are not allowed. It might take a few hours for changes to appear. Currently, you can't exclude resources from this check.

Check ID

`c18d2gz124`

Source

`AWS Config Managed Rule: vpc-peering-dns-resolution-check`

Alert Criteria

Yellow: DNS resolution is not enabled for both the acceptor and the requestor VPCs in a VPC peering connection.

Recommended Action

Turn on DNS resolution for your VPC peering connections.

Additional Resources

- Modify VPC peering connection options
- DNS attributes in your VPC

Report columns

- Status
- Region
- Resource
- AWS Config Rule
- Input Parameters
- Last Updated Time

Application Load Balancer Target Groups Encrypted Protocol

Description

Checks Application Load Balancer (ALB) target groups are using HTTPS protocol to encrypt communication in transit for back-end target types of instance or IP. HTTPS requests between ALB and back-end targets help to maintain data confidentiality for data in transit.

Check ID

`c2vlfg0p1w`

Alert Criteria

- Yellow: Application Load Balancer target group using HTTP.

- Green: Application Load Balancer target group using HTTPS.

Recommended Action

Configure back-end target types of instnace or IP to support HTTPS access, and change target group to use HTTPS protocol to encrypt communication between ALB and back-end target types of instance or IP.

Additional Resources

Enforce encryption in transit

Application Load Balancer Target Types

Application Load Balancer Routing Configuration

Data Protection in Elastic Load Balancing

Report columns

- Status
- Region
- ALB Arn
- ALB Name
- ALB VPC Id
- Target Group Arn
- Target Group Name
- Target Group Protocol
- Last Updated Time

AWS Backup Vault Without Resource-based Policy to Prevent Deletion of Recovery Points

Description

Checks if AWS Backup vaults have an attached resource-based policy that prevents recovery point deletion.

The resource-based policy prevents unexpected deletion of recovery points, which allows you to enforce access control with least privileges against your backup data.

You can specify the AWS Identity and Access Management ARNs that you don't want the rule to check in the **principalArnList** parameter of your AWS Config rules.

> **Note**
>
> Results for this check are automatically refreshed several times daily, and refresh requests are not allowed. It might take a few hours for changes to appear. Currently, you can’t exclude resources from this check.

Check ID

`c18d2gz152`

Source

`AWS Config Managed Rule: backup-recovery-point-manual-deletion-disabled`

Alert Criteria

Yellow: There are AWS Backup vaults that don't have a resource-based policy to prevent deletion of recovery points.

Recommended Action

Create resource-based policies for your AWS Backup vaults to prevent unexpected deletion of recovery points.

The policy must include a "Deny" statement with backup:DeleteRecoveryPoint, backup:UpdateRecoveryPointLifecycle, and backup:PutBackupVaultAccessPolicy permissions.

For more information, see Set access policies on backup vaults.

Report columns

- Status
- Region
- Resource
- AWS Config Rule
- Input Parameters
- Last Updated Time

AWS CloudTrail Logging

Description

Checks your use of AWS CloudTrail. CloudTrail provides increased visibility into activity in your AWS account by recording information about AWS API calls made on the account. You can use these logs to determine, for example, what actions a particular user has taken during a specified time period, or which users have taken actions on a particular resource during a specified time period.

Because CloudTrail delivers log files to an Amazon Simple Storage Service (Amazon S3) bucket, CloudTrail must have write permissions for the bucket. If a trail applies to all Regions (the default when creating a new trail), the trail appears multiple times in the Trusted Advisor report.

Check ID

`vjafUGJ9H0`

Alert Criteria

- Yellow: CloudTrail reports log delivery errors for a trail.
- Red: A trail has not been created for a Region, or logging is turned off for a trail.

Recommended Action

To create a trail and start logging from the console, go to the AWS CloudTrail console.

To start logging, see Stopping and Starting Logging for a Trail.

If you receive log delivery errors, check to make sure that the bucket exists and that the necessary policy is attached to the bucket. See Amazon S3 Bucket Policy.

Additional Resources

- AWS CloudTrail User Guide
- Supported Regions
- Supported Services

Report columns

- Status
- Region
- Trail Name

- Logging Status
- Bucket Name
- Last Delivery Date

AWS Lambda Functions Using Deprecated Runtimes

Description

Checks for Lambda functions whose $LATEST version is configured to use a runtime that is approaching deprecation, or is deprecated. Deprecated runtimes are not eligible for security updates or technical support

> **Note**
>
> Results for this check are automatically refreshed several times daily, and refresh requests are not allowed. It might take a few hours for changes to appear. Currently, you can't exclude resources from this check.

Published Lambda function versions are immutable, which means they can be invoked but not updated. Only the $LATEST version for a Lambda function can be updated. For more information, see Lambda function versions.

Check ID

`L4dfs2Q4C5`

Alert Criteria

- Red: The function's $LATEST version is configured to use a runtime that is already deprecated.
- Yellow: The function's $LATEST version is running on a runtime that will be deprecated within 180 days.

Recommended Action

If you have functions that are running on a runtime that is approaching deprecation, you should prepare for migration to a supported runtime. For more information, see Runtime support policy.

We recommend that you delete earlier function versions that you're no longer using.

Additional Resources

Lambda runtimes

Report columns

- Status
- Region
- Function ARN
- Runtime
- Days to Deprecation
- Deprecation Date
- Average Daily Invokes
- Last Updated Time

AWS Well-Architected high risk issues for security

Description

Checks for high risk issues (HRIs) for your workloads in the security pillar. This check is based on your AWS-Well Architected reviews. Your check results depend on whether you completed the workload evaluation with AWS Well-Architected.

> **Note**
>
> Results for this check are automatically refreshed several times daily, and refresh requests are not allowed. It might take a few hours for changes to appear. Currently, you can't exclude resources from this check.

Check ID

`Wxdfp4B1L3`

Alert Criteria

- Red: At least one active high risk issue was identified in the security pillar for AWS Well-Architected.
- Green: No active high risk issues were detected in the security pillar for AWS Well-Architected.

Recommended Action

AWS Well-Architected detected high risk issues during your workload evaluation. These issues present opportunities to reduce risk and save money. Sign in to the AWS Well-Architected tool to review your answers and take action to resolve your active issues.

Report columns

- Status
- Region
- Workload ARN
- Workload Name
- Reviewer Name
- Workload Type
- Workload Started Date
- Workload Last Modified Date
- Number of identified HRIs for Security
- Number of HRIs resolved for Security
- Number of questions for Security
- Total number of questions in Security pillar
- Last Updated Time

CloudFront Custom SSL Certificates in the IAM Certificate Store

Description

Checks the SSL certificates for CloudFront alternate domain names in the IAM certificate store. This check alerts you if a certificate is expired, will expire soon, uses outdated encryption, or is not configured correctly for the distribution.

When a custom certificate for an alternate domain name expires, browsers that display your CloudFront content might show a warning message about the security of your website. Certificates that are encrypted by using the SHA-1 hashing algorithm are being deprecated by most web browsers such as Chrome and Firefox.

A certificate must contain a domain name that matches either the Origin Domain Name or the domain name in the host header of a viewer request. If it doesn't match, CloudFront returns an

HTTP status code of 502 (bad gateway) to the user. For more information, see Using Alternate Domain Names and HTTPS.

Check ID

N425c450f2

Alert Criteria

- Red: A custom SSL certificate is expired.
- Yellow: A custom SSL certificate expires in the next seven days.
- Yellow: A custom SSL certificate was encrypted by using the SHA-1 hashing algorithm.
- Yellow: One or more of the alternate domain names in the distribution don't appear either in the Common Name field or the Subject Alternative Names field of the custom SSL certificate.

Recommended Action

We recommend using AWS Certificate Manager to provision, manage, and deploy your server certificates. With ACM, you can request a new certificate or deploy an existing ACM or external certificate to AWS resources. Certificates provided by ACM are free and can be automatically renewed. For more information about using ACM, see the AWS Certificate Manager User Guide. To check Regions ACM supports, see AWS Certificate Manager endpoints and quotas in the AWS General Reference.

Renew expired certificates or certificates that are about to expire. For more information on renewing a certificate see Managing server certificates in IAM.

Replace a certificate that was encrypted by using the SHA-1 hashing algorithm with a certificate that is encrypted by using the SHA-256 hashing algorithm.

Replace the certificate with a certificate that contains the applicable values in the Common Name or Subject Alternative Domain Names fields.

Additional Resources

Using an HTTPS Connection to Access Your Objects

Importing Certificates

AWS Certificate Manager User Guide

Report columns

- Status
- Distribution ID

- Distribution Domain Name
- Certificate Name
- Reason

CloudFront SSL Certificate on the Origin Server

Description

Checks your origin server for SSL certificates that are expired, about to expire, missing, or that use outdated encryption. If a certificate has one of these issues, CloudFront responds to requests for your content with HTTP status code 502, Bad Gateway.

Certificates that were encrypted by using the SHA-1 hashing algorithm are being deprecated by web browsers such as Chrome and Firefox. Depending on the number of SSL certificates that you have associated with your CloudFront distributions, this check might add a few cents per month to your bill with your web hosting provider, for example, AWS if you're using Amazon EC2 or Elastic Load Balancing as the origin for your CloudFront distribution. This check does not validate your origin certificate chain or certificate authorities. You can check these in your CloudFront configuration.

Check ID

`N430c450f2`

Alert Criteria

- Red: An SSL certificate on your origin has expired or is missing.
- Yellow: An SSL certificate on your origin expires in the next thirty days.
- Yellow: An SSL certificate on your origin was encrypted by using the SHA-1 hashing algorithm.
- Yellow: An SSL certificate on your origin can't be located. The connection might have failed due to timeout, or other HTTPS connection problems.

Recommended Action

Renew the certificate on your origin if it has expired or is about to expire.

Add a certificate if one does not exist.

Replace a certificate that was encrypted by using the SHA-1 hashing algorithm with a certificate that is encrypted by using the SHA-256 hashing algorithm.

Additional Resources

Using Alternate Domain Names and HTTPS

Report columns

- Status
- Distribution ID
- Distribution Domain Name
- Origin
- Reason

ELB Listener Security

Description

Checks for classic load balancers with listeners that don't use the recommended security configurations for encrypted communication. AWS recommends that you use a secure protocol (HTTPS or SSL), up-to-date security policies, and ciphers and protocols that are secure. When you use a secure protocol for a front-end connection (client to load balancer), the requests are encrypted between your clients and the load balancer. This creates a more secure environment. Elastic Load Balancing provides predefined security policies with ciphers and protocols that adhere to AWS security best practices. New versions of predefined policies are released as new configurations become available.

Check ID

`a2sEc6ILx`

Alert Criteria

- Red: A load balancer has no listeners configured with a secure protocol (HTTPS).
- Yellow: A load balancer HTTPS listener is configured with a Security Policy that contains a weak cipher.
- Yellow: A load balancer HTTPS listener is not configured with the recommended Security Policy.
- Green: A load balancer has at least one HTTPS listener AND all HTTPS listeners are configured with the recommended policy.

Recommended Action

If the traffic to your load balancer must be secure, use either the HTTPS or the SSL protocol for the front-end connection.

Upgrade your load balancer to the latest version of the predefined SSL security policy.

Use only the recommended ciphers and protocols.

For more information, see Listener Configurations for Elastic Load Balancing.

Additional Resources

- Listener Configurations Quick Reference
- Update SSL Negotiation Configuration of Your Load Balancer
- SSL Negotiation Configurations for Elastic Load Balancing
- SSL Security Policy Table

Report columns

- Status
- Region
- Load Balancer Name
- Load Balancer Port
- Reason

Classic Load Balancer Security Groups

Description

Checks for load balancers configured with a security group that allows access to ports that are not configured for the load balancer.

If a security group allows access to ports that are not configured for the load balancer, the risk of loss of data or malicious attacks increases.

Check ID

`xSqX82fQu`

Alert Criteria

- Yellow: The inbound rules of an Amazon VPC security group associated with a load balancer allow access to ports that are not defined in the load balancer's listener configuration.

- Green: The inbound rules of an Amazon VPC security group associated with a load balancer do not allow access to ports that are not defined in the load balancers listener configuration.

Recommended Action

Configure the security group rules to restrict access to only those ports and protocols that are defined in the load balancer listener configuration, plus the ICMP protocol to support Path MTU Discovery. See Listeners for Your Classic Load Balancer and Security Groups for Load Balancers in a VPC.

If a security group is missing, apply a new security group to the load balancer. Create security group rules that restrict access to only those ports and protocols that are defined in the load balancer listener configuration. See Security Groups for Load Balancers in a VPC.

Additional Resources

- Elastic Load Balancing User Guide
- Migrate your Classic Load Balancer
- Configure Your Classic Load Balancer

Report columns

- Status
- Region
- Load Balancer Name
- Security Group IDs
- Reason

Exposed Access Keys

Description

Checks popular code repositories for access keys that have been exposed to the public and for irregular Amazon Elastic Compute Cloud (Amazon EC2) usage that could be the result of a compromised access key.

An access key consists of an access key ID and the corresponding secret access key. Exposed access keys pose a security risk to your account and other users, could lead to excessive charges from unauthorized activity or abuse, and violate the AWS Customer Agreement.

If your access key is exposed, take immediate action to secure your account. To protect your account from excessive charges, AWS temporarily limits your ability to create some AWS resources. This does not make your account secure. It only partially limits the unauthorized usage for which you could be charged.

> **Note**
>
> This check doesn't guarantee the identification of exposed access keys or compromised EC2 instances. You are ultimately responsible for the safety and security of your access keys and AWS resources.
> Results for this check are automatically refreshed, and refresh requests are not allowed.
> Currently, you can't exclude resources from this check.

If a deadline is shown for an access key, AWS may suspend your AWS account if the unauthorized usage is not stopped by that date. If you believe an alert is in error, contact AWS Support.

The information displayed in Trusted Advisor might not reflect the most recent state of your account. No exposed access keys are marked as resolved until all exposed access keys on the account have been resolved. This data synchronization can take up to one week.

Check ID

`12Fnkpl8Y5`

Alert Criteria

- Red: Potentially compromised – AWS has identified an access key ID and corresponding secret access key that have been exposed on the Internet and may have been compromised (used).
- Red: Exposed – AWS has identified an access key ID and corresponding secret access key that have been exposed on the Internet.
- Red: Suspected - Irregular Amazon EC2 usage indicates that an access key may have been compromised, but it has not been identified as exposed on the Internet.

Recommended Action

Delete the affected access key as soon as possible. If the key is associated with an IAM user, see Managing Access Keys for IAM Users.

Check your account for unauthorized usage. Sign in to the AWS Management Console and check each service console for suspicious resources. Pay special attention to running Amazon EC2

instances, Spot Instance requests, access keys, and IAM users. You can also check overall usage on the Billing and Cost Management console.

Additional Resources

- Best Practices for Managing AWS Access Keys
- AWS Security Audit Guidelines

Report columns

- Access Key ID
- User Name (IAM or Root)
- Fraud Type
- Case ID
- Time Updated
- Location
- Deadline
- Usage (USD per Day)

IAM Access Key Rotation

Description

Checks for active IAM access keys that have not been rotated in the last 90 days.

When you rotate your access keys regularly, you reduce the chance that a compromised key could be used without your knowledge to access resources. For the purposes of this check, the last rotation date and time is when the access key was created or most recently activated. The access key number and date come from the `access_key_1_last_rotated` and `access_key_2_last_rotated` information in the most recent IAM credential report.

Because the regeneration frequency of a credential report is restricted, refreshing this check might not reflect recent changes. For more information, see Getting Credential Reports for Your AWS account.

In order to create and rotate access keys, a user must have the appropriate permissions. For more information, see Allow Users to Manage Their Own Passwords, Access Keys, and SSH Keys.

Check ID

`DqdJqYeRm5`

Alert Criteria

- Green: The access key is active and has been rotated in the last 90 days.
- Yellow: The access key is active and has been rotated in the last 2 years, but more than 90 days ago.
- Red: The access key is active and has not been rotated in the last 2 years.

Recommended Action

Rotate access keys on a regular basis. See Rotating Access Keys and Managing Access Keys for IAM Users.

Additional Resources

- IAM Best Practices
- How to rotate access keys for IAM users

Report columns

- Status
- IAM user
- Access Key
- Key Last Rotated
- Reason

IAM Password Policy

Description

Checks the password policy for your account and warns when a password policy is not enabled, or if password content requirements have not been enabled.

Password content requirements increase the overall security of your AWS environment by enforcing the creation of strong user passwords. When you create or change a password policy, the change is enforced immediately for new users but does not require existing users to change their passwords.

Check ID

`Yw2K9puPzl`

Alert Criteria

- Green: A password policy is enabled with recommended content requirement enabled.

- Yellow: A password policy is enabled, but at least one content requirement is not enabled.

Recommended Action

If some content requirements are not enabled, consider enabling them. If no password policy is enabled, create and configure one. See Setting an Account Password Policy for IAM Users.

To access the AWS Management Console, IAM users need passwords. As a best practice, AWS highly recommends that instead of creating IAM users, you use federation. Federation allows users to use their existing corporate credentials to log into the AWS Management Console. Use IAM Identity Center to create or federate the user, and then assume an IAM role into an account.

To learn more about identity providers and federation, see Identity providers and federation in the IAM User Guide. To learn more about IAM Identity Center, see the IAM Identity Center User Guide.

Additional Resources

Managing Passwords

Report columns

- Password Policy
- Uppercase
- Lowercase
- Number
- Non-alphanumeric

IAM SAML 2.0 Identity Provider

Description

Checks if the AWS account is configured for access via an identity provider (IdP) that supports SAML 2.0. Be sure to follow best practices when you centralize identities and configure users in an external identity provider or AWS IAM Identity Center.

Check ID

`c2vlfg0p86`

Alert Criteria

- Yellow: This account isn't configured for access via an identity provider (IdP) that supports SAML 2.0.

- Green: This account is configured for access via an identity provider (IdP) that supports SAML 2.0.

Recommended Action

Activate IAM Identity Center for the AWS account. For more information, see EnablingIAM Identity Center. After you turn on IAM Identity Center, you can then perform common tasks like creating a permission set and assigning access for Identity Center groups. For more information, see Common tasks.

It's a best practice to manage human users in IAM Identity Center. But you can activate federated user access with IAM for human users in the short-term for small scale deployments. For more information see SAML 2.0 federation.

Additional Resources

What is IAM Identity Center?

What IsIAM?

Report columns

- Status
- AWS account Id
- Last Updated Time

MFA on Root Account

Description

Checks the root account and warns if multi-factor authentication (MFA) is not enabled.

For increased security, we recommend that you protect your account by using MFA, which requires a user to enter a unique authentication code from their MFA hardware or virtual device when interacting with the AWS Management Console and associated websites.

> **Note**
>
> For your AWS Organizations management account, AWS requires multi-factor authentication (MFA) for the root user when accessing theAWS Management Console. For your AWS Organizations member accounts, AWS recommends the use of MFA. Also, you can use an AWS Organizations Service Control Policy (SCP) to effectively block all

root actions . For more information, please see Best practices for member accounts in AWS Organizations User Guide.

Check ID

7DAFEmoDos

Alert Criteria

Red: MFA is not enabled on the root account.

Recommended Action

Log in to your root account and activate an MFA device. See Checking MFA Status and Setting Up an MFA Device.

You can activate MFA on your account at any time by visiting the Security Credentials page. To do this, choose the account menu drop-down in theAWS Management Console. AWS supports multiple industry standard forms of MFA, such as FIDO2 and virtual authenticators. This gives the flexibility to choose a MFA device that meets your needs. It's a best practice to you register more than one MFA device for resiliency in the event that one of your MFA devices is lost or stops working.

Additional Resources

Please refer to General steps for activating MFA devices and Enable a virtual MFA device for your AWS account root user (console) in theIAM User Guide for additional information.

Root User Access Key

Description

Checks if the root user access key is present. It's strongly recommended that you don't create access key pairs for your root user. Because only a few tasks require the root user and you typically perform those tasks infrequently, it’s a best practice to log in to the AWS Management Console to perform the root user tasks. Before you create access keys, review the alternatives to long-term access keys.

Check ID

c2vlfg0f4h

Alert Criteria

Red: The root user access key is present

Green: The root user access key isn't present

Recommended Action

Delete the access key(s) for the root user. See Deleting access keys for the root user. This task must be performed by the root user. You can't perform these steps as an IAM user or role.

Additional Resources

Tasks that require root user credentials

Resetting a lost or forgotten root user password

Report columns

- Status
- Account ID
- Last Updated Time

Security Groups – Specific Ports Unrestricted

Description

Checks security groups for rules that allow unrestricted access (0.0.0.0/0) to specific ports.

Unrestricted access increases opportunities for malicious activity (hacking, denial-of-service attacks, loss of data). The ports with highest risk are flagged red, and those with less risk are flagged yellow. Ports flagged green are typically used by applications that require unrestricted access, such as HTTP and SMTP.

If you have intentionally configured your security groups in this manner, we recommend using additional security measures to secure your infrastructure (such as IP tables).

> **Note**
>
> This check only evaluates security groups that you create and their inbound rules for IPv4 addresses. Security groups created by AWS Directory Service are flagged as red or

yellow, but they don't pose a security risk and can be excluded. For more information, see the Trusted Advisor FAQ.

Check ID

HCP4007jGY

Alert Criteria

- Green: Security Group provides unrestricted access on ports 80, 25, 443, or 465.
- Red: Security Group is attached to a resource and provides unrestricted access to port 20, 21, 22 , 1433, 1434, 3306, 3389, 4333, 5432, or 5500.
- Yellow: Security Group provides unrestricted access to any other port.
- Yellow: Security Group is not attached to any resource and provides unrestricted access.

Recommended Action

Restrict access to only those IP addresses that require it. To restrict access to a specific IP address, set the suffix to /32 (for example, 192.0.2.10/32). Be sure to delete overly permissive rules after creating rules that are more restrictive.

Review and delete unused security groups. You can use AWS Firewall Manager to centrally configure and manage security groups at scale across AWS accounts, For more information, see the AWS Firewall Manager documentation.

Consider using Systems Manager Sessions Manager for SSH (Port 22) and RDP (Port 3389) access to EC2 instances. With sessions manager, you can access your EC2 instances without enabling port 22 and 3389 in the security group.

Additional Resources

- Amazon EC2 Security Groups

  List of TCP and UDP port numbers
- Classless Inter-Domain Routing
- Working with Session Manager
- AWS Firewall Manager

Report columns

- Status

- Region
- Security Group Name
- Security Group ID
- Protocol
- From Port
- To Port
- Association

Security Groups – Unrestricted Access

Description

Checks security groups for rules that allow unrestricted access to a resource.

Unrestricted access increases opportunities for malicious activity (hacking, denial-of-service attacks, loss of data).

> **Note**
>
> This check evaluates only security groups that you create and their inbound rules for IPv4 addresses. Security groups created by AWS Directory Service are flagged as red or yellow, but they don't pose a security risk and can be excluded. For more information, see the Trusted Advisor FAQ.

Check ID

`1iG5NDGVre`

Alert Criteria

- Green: A security group rule has a source IP address with a /0 suffix for ports 25, 80, or 443.
- Yellow: A security group rule has a source IP address with a /0 suffix for ports other than 25, 80, or 443 and security group is attached to a resource.
- Red: A security group rule has a source IP address with a /0 suffix for ports other than 25, 80, or 443 and security group is not attached to a resource.

Recommended Action

Restrict access to only those IP addresses that require it. To restrict access to a specific IP address, set the suffix to /32 (for example, 192.0.2.10/32). Be sure to delete overly permissive rules after creating rules that are more restrictive.

Review and delete unused security groups. You can use AWS Firewall Manager to centrally configure and manage security groups at scale across AWS accounts, For more information, see the AWS Firewall Manager documentation.

Consider using Systems Manager Sessions Manager for SSH (Port 22) and RDP (Port 3389) access to EC2 instances. With sessions manager, you can access your EC2 instances without enabling port 22 and 3389 in the security group.

Additional Resources

- Amazon EC2 Security Groups
- Classless Inter-Domain Routing
- Working with Session Manager
- AWS Firewall Manager

Report columns

- Status
- Region
- Security Group Name
- Security Group ID
- Protocol
- From Port
- To Port
- IP Range
- Association

Fault tolerance

You can use the following checks for the fault tolerance category.

Check names

- ALB Multi-AZ
- Amazon Aurora MySQL cluster backtracking not enabled
- Amazon Aurora DB Instance Accessibility
- Amazon CloudFront Origin Failover
- Amazon Comprehend Endpoint Access Risk
- Amazon DocumentDB Single AZ Clusters
- Amazon DynamoDB Point-in-time Recovery
- Amazon DynamoDB Table Not Included in Backup Plan
- Amazon EBS Not Included in AWS Backup Plan
- Amazon EBS Snapshots
- Amazon EC2 Auto Scaling does not have ELB Health Check Enabled
- Amazon EC2 Auto Scaling Group has Capacity Rebalancing Enabled
- Amazon EC2 Auto Scaling is not deployed in multiple AZs or does not meet the minimum number of AZs
- Amazon EC2 Availability Zone Balance
- Amazon EC2 Detailed Monitoring Not Enabled
- Amazon ECS AWSLogs driver in blocking mode
- Amazon ECS service using a single AZ
- Amazon ECS Multi-AZ placement strategy
- Amazon EFS No Mount Target Redundancy
- Amazon EFS not in AWS Backup Plan
- Amazon ElastiCache Multi-AZ clusters
- ElastiCache (Redis OSS) Clusters Automatic Backup
- Amazon MemoryDB Multi-AZ clusters
- Amazon MSK brokers hosting too many partitions
- Amazon MSK Cluster Multi-AZ
- Amazon OpenSearch Service domains with less than three data nodes
- Amazon RDS Backups

- Amazon RDS DB clusters have one DB instance
- Amazon RDS DB clusters with all instances in the same Availability Zone
- Amazon RDS DB clusters with all reader instances in the same Availability Zone
- Amazon RDS DB Instance Enhanced Monitoring not enabled
- Amazon RDS DB instances have storage autoscaling turned off
- Amazon RDS DB instances not using Multi-AZ deployment
- Amazon RDS DiskQueueDepth
- Amazon RDS FreeStorageSpace
- Amazon RDS log_output parameter is set to table
- Amazon RDS innodb_default_row_format parameter setting is unsafe
- Amazon RDS innodb_flush_log_at_trx_commit parameter is not 1
- Amazon RDS max_user_connections parameter is low
- Amazon RDS Multi-AZ
- Amazon RDS Not In AWS Backup Plan
- Amazon RDS Read Replicas are open in writable mode
- Amazon RDS resource automated backups is turned off
- Amazon RDS sync_binlog parameter is turned off
- RDS DB Cluster has no Multi-AZ replication enabled
- RDS Multi-AZ Standby Instance Not Enabled
- Amazon RDS ReplicaLag
- Amazon RDS synchronous_commit parameter is turned off
- Amazon Redshift cluster automated snapshots
- Amazon Route 53 Deleted Health Checks
- Amazon Route 53 Failover Resource Record Sets
- Amazon Route 53 High TTL Resource Record Sets
- Amazon Route 53 Name Server Delegations
- Amazon Route 53 Resolver Endpoint Availability Zone Redundancy
- Amazon S3 Bucket Logging
- Amazon S3 Bucket Replication Not Enabled

- Amazon S3 Bucket Versioning
- Application, Network, and Gateway Load Balancers Not Spanning Multiple Availability Zones
- Auto Scaling available IPs in Subnets
- Auto Scaling Group Health Check
- Auto Scaling Group Resources
- AWS CloudHSM clusters running HSM instances in a single AZ
- AWS Direct Connect Location Resiliency
- AWS Lambda functions without a dead-letter queue configured
- AWS Lambda On Failure Event Destinations
- AWS Lambda VPC-enabled Functions without Multi-AZ Redundancy
- AWS Outposts Single Rack deployment
- AWS Resilience Hub Application Component check
- AWS Resilience Hub policy breached
- AWS Resilience Hub resilience scores
- AWS Resilience Hub assessment age
- AWS Site-to-Site VPN has at least one tunnel in DOWN status
- AWS Well-Architected high risk issues for reliability
- Classic Load Balancer has no multiple AZs configured
- CLB Connection Draining
- ELB Target Imbalance
- Load Balancer Optimization
- NAT Gateway AZ Independence
- Network Firewall Multi-AZ
- Network Load Balancers Cross Load Balancing
- NLB - Internet-facing resource in private subnet
- NLB Multi-AZ
- Number of AWS Regions in an Incident Manager replication set
- Single AZ Application Check
- VPC interface endpoint network interfaces in multiple AZs

- VPN Tunnel Redundancy
- ActiveMQ Availability Zone Redundancy
- RabbitMQ Availability Zone Redundancy

ALB Multi-AZ

Description

Checks if your Application Load Balancers are configured to use more than one Availability Zone (AZ). An AZ is a distinct location that is insulated from failures in other zones. Configure your load balancer in multiple AZs in the same Region to help improve your workload availability.

> **Note**
>
> Results for this check are automatically refreshed several times daily, and refresh requests are not allowed. It might take a few hours for changes to appear. Currently, you can't exclude resources from this check.

Check ID

`c1dfprch08`

Alert Criteria

Yellow: ALB is in a single AZ.

Green: ALB has two or more AZs.

Recommended Action

Make sure that your load balancer is configured with at least two Availability Zones.

For more information, see Availability Zones for your Application Load Balancer.

Additional Resources

For more information, see the following documentation:

- How Elastic Load Balancing works
- Regions, Availability Zones, and Local Zones

Report columns

- Status
- Region
- ALB Name
- ALB Rule
- ALB ARN
- Number of AZs
- Last Updated Time

Amazon Aurora MySQL cluster backtracking not enabled

Description

Checks if an Amazon Aurora MySQL cluster has backtracking enabled.

Amazon Aurora MySQL cluster backtracking is a feature that allows you to restore an Aurora DB cluster to a previous point in time without creating a new cluster. It enables you to roll back your database to a specific point in time within a retention period, without the need to restore from a snapshot.

You can adjust the backtracking time window (hours) in the **BacktrackWindowInHours** parameter of the AWS Config rules.

For more information, see Backtracking an Aurora DB cluster.

> **Note**
>
> Results for this check are automatically refreshed several times daily, and refresh requests are not allowed. It might take a few hours for changes to appear. Currently, you can't exclude resources from this check.

Check ID

`c18d2gz131`

Source

`AWS Config Managed Rule: aurora-mysql-backtracking-enabled`

Alert Criteria

Yellow: Amazon Aurora MySQL clusters backtracking is not enabled.

Recommended Action

Turn on backtracking for your Amazon Aurora MySQL cluster.

For more information, see Backtracking an Aurora DB cluster.

Additional Resources

Backtracking an Aurora DB cluster

Report columns

- Status
- Region
- Resource
- AWS Config Rule
- Input Parameters
- Last Updated Time

Amazon Aurora DB Instance Accessibility

Description

Checks for cases where an Amazon Aurora DB cluster has both private and public instances.

When your primary instance fails, a replica can be promoted to a primary instance. If that replica is private, users who have only public access would no longer be able to connect to the database after failover. We recommend that all the DB instances in a cluster have the same accessibility.

Check ID

`xuy7H1avtl`

Alert Criteria

Yellow: The instances in an Aurora DB cluster have different accessibility (a mix of public and private).

Recommended Action

Modify the `Publicly Accessible` setting of the instances in the DB cluster so that they are all either public or private. For details, see the instructions for MySQL instances at Modifying a DB Instance Running the MySQL Database Engine.

Additional Resources

Fault Tolerance for an Aurora DB Cluster

Report columns

- Status
- Region
- Cluster
- Public DB Instances
- Private DB Instances
- Reason

Amazon CloudFront Origin Failover

Description

Checks that an origin group is configured for distributions that include two origins in Amazon CloudFront.

For more information, see Optimizing high availability with CloudFront origin failover.

> **Note**
>
> Results for this check are automatically refreshed several times daily, and refresh requests are not allowed. It might take a few hours for changes to appear. Currently, you can't exclude resources from this check.

Check ID

`c18d2gz112`

Source

`AWS Config Managed Rule: cloudfront-origin-failover-enabled`

Alert Criteria

Yellow: Amazon CloudFront origin failover is not enabled.

Recommended Action

Make sure that you turn on the origin failover feature for your CloudFront distributions to help ensure high availability of your content deilivery to end users. When you turn on this feature, traffic is automatically routed to the backup origin server if the primary origin server is unavailable. This minimizes potential downtime and ensures continuous availability of your content.

Report columns

- Status
- Region
- Resource
- AWS Config Rule
- Input Parameters
- Last Updated Time

Amazon Comprehend Endpoint Access Risk

Description

Checks the AWS Key Management Service (AWS KMS) key permissions for an endpoint where the underlying model was encrypted by using customer managed keys. If the customer managed key is disabled, or the key policy was changed to alter the allowed permissions for Amazon Comprehend, the endpoint availability might be affected.

> **Note**
>
> Results for this check are automatically refreshed several times daily, and refresh requests are not allowed. It might take a few hours for changes to appear. Currently, you can’t exclude resources from this check.

Check ID

`Cm24dfsM13`

Alert Criteria

Red: The customer managed key is disabled or the key policy was changed to alter the allowed permissions for Amazon Comprehend access.

Recommended Action

If the customer managed key was disabled, we recommend that you enable it. For more information, see Enabling keys. If the key policy was altered and you want to keep using the endpoint, we recommend that you update the AWS KMS key policy. For more information, see Changing a key policy.

Additional Resources

AWS KMS Permissions

Report columns

- Status
- Region
- Endpoint ARN
- Model ARN
- KMS KeyId
- Last Updated Time

Amazon DocumentDB Single AZ Clusters

Description

Checks if there are Amazon DocumentDB clusters configured as Single-AZ.

Running Amazon DocumentDB workloads in a Single-AZ architecture is not sufficient for highly critical workloads and it can take up to 10 minutes to recover from a component failure. Customers should deploy replica instances in additional availability zones to ensure availability during maintenance, instance failures, component failures, or availability zone failures.

> **Note**
>
> Results for this check are automatically refreshed one or more times each day, and refresh requests are not allowed. It might take a few hours for changes to appear. Currently, you can't exclude resources from this check.

Check ID

c15vnddn2x

Alert Criteria

Yellow: Amazon DocumentDB cluster has instances in less than three availability zones.

Green: Amazon DocumentDB cluster has instances in three availability zones.

Recommended Action

If your application requires high availability, modify your DB instance to enable Multi-AZ using replica instances. See Amazon DocumentDB High Availability and Replication

Additional Resources

Understanding Amazon DocumentDB Cluster Fault Tolerance

Regions and Availability Zones

Report columns

- Status
- Region
- Availability Zone
- DB Cluster Identifier
- DB Cluster ARN
- Last Updated Time

Amazon DynamoDB Point-in-time Recovery

Description

Checks if point-in time-recovery is enabled for your Amazon DynamoDB tables.

Point-in time-recovery helps protect your DynamoDB tables from accidental write or delete operations. With point-in time-recovery, you don't have to worry about creating, maintaining, or scheduling on-demand backups. Point-in time-recovery restores tables to any point in time during the last 35 days. DynamoDB maintains incremental backups of your table.

For more information, see Point-in-time recovery for DynamoDB.

> **Note**
>
> Results for this check are automatically refreshed several times daily, and refresh requests are not allowed. It might take a few hours for changes to appear. Currently, you can't exclude resources from this check.

Check ID

`c18d2gz138`

Source

`AWS Config Managed Rule: dynamodb-pitr-enabled`

Alert Criteria

Yellow: Point-in-time recovery is not enabled for your DynamoDB tables.

Recommended Action

Turn on point-in-time recovery in Amazon DynamoDB to continuously back up your table data.

For more information, see Point-in-time recovery: How it works.

Additional Resources

Point-in-time recovery for DynamoDB

Report columns

- Status
- Region
- Resource
- AWS Config Rule
- Input Parameters
- Last Updated Time

Amazon DynamoDB Table Not Included in Backup Plan

Description

Checks if Amazon DynamoDB tables are part of an AWS Backup plan.

AWS Backup provides incremental backups for DynamoDB tables that capture changes made since the last backup. Including DynamoDB tables in an AWS Backup plan helps protect your data from accidental data loss scenarios and automates the backup process. This provides a reliable and scalable backup solution for your DynamoDB tables, helping to ensure that your valuable data is protected and available for recovery as needed.

For more information, see Creating backups of DynamoDB tables with AWS Backup

> **Note**
>
> Results for this check are automatically refreshed several times daily, and refresh requests are not allowed. It might take a few hours for changes to appear. Currently, you can't exclude resources from this check.

Check ID

`c18d2gz107`

Source

`AWS Config Managed Rule: dynamodb-in-backup-plan`

Alert Criteria

Yellow: Amazon DynamoDB table is not included in AWS Backup plan.

Recommended Action

Ensure that your Amazon DynamoDB tables are part of an AWS Backup plan.

Additional Resources

Scheduled backups

What is AWS Backup?

Creating backup plans using the AWS Backup console

Report columns

- Status
- Region
- Resource
- AWS Config Rule

- Input Parameters
- Last Updated Time

Amazon EBS Not Included in AWS Backup Plan

Description

Checks if Amazon EBS volumes are present in backup plans for AWS Backup.

Include Amazon EBS volumes in an AWS Backup plan to automate regular backups for the data stored on those volumes. This protects you against data loss, makes data management easier, and allows for data restoration when needed. A backup plan helps to ensure that your data is safe and that you're able to meet recovery time and point objectives (RTO/RPO) for your application and services.

For more information, see Creating a backup plan

> **Note**
>
> Results for this check are automatically refreshed several times daily, and refresh requests are not allowed. It might take a few hours for changes to appear. Currently, you can't exclude resources from this check.

Check ID

`c18d2gz106`

Source

`AWS Config Managed Rule: ebs-in-backup-plan`

Alert Criteria

Yellow: Amazon EBS volume is not included in AWS Backup plan.

Recommended Action

Make sure that your Amazon EBS volumes are part of an AWS Backup plan.

Additional Resources

Creating backup plans using the AWS Backup console

What is AWS Backup?

Getting started 3: Create a scheduled backup

Report columns

- Status
- Region
- Resource
- AWS Config Rule
- Input Parameters
- Last Updated Time

Amazon EBS Snapshots

Description

Checks the age of the snapshots for your Amazon EBS volumes (either available or in-use). Failures can occur even if Amazon EBS volumes are replicated. Snapshots are persisted toAmazon S3 for durable storage and point-in-time recovery.

Check ID

`H7IgTzjTYb`

Alert Criteria

- Yellow: The most recent volume snapshot is between 7 and 30 days old.
- Red: The most recent volume snapshot is more than 30 days old.
- Red: The volume does not have a snapshot.

Recommended Action

Create weekly or monthly snapshots of your volumes. For more information, see Creating an Amazon EBS Snapshot.

To automate the creation of EBS snapshots, you can consider using AWS Backup or Amazon Data Lifecycle Manager.

Additional Resources

Amazon Elastic Block Store (Amazon EBS)

Amazon EBS Snapshots

AWS Backup

Amazon Data Lifecycle Manager

Report columns

- Status
- Region
- Volume ID
- Volume Name
- Snapshot ID
- Snapshot Name
- Snapshot Age
- Volume Attachment
- Reason

Amazon EC2 Auto Scaling does not have ELB Health Check Enabled

Description

Checks if your Amazon EC2 Auto Scaling groups that are associated with a Classic Load Balancer are using Elastic Load Balancing health checks. The default health checks for an Auto Scaling group are Amazon EC2 status checks only. If an instance fails these status checks, it is marked unhealthy and is terminated. Amazon EC2 Auto Scaling launches a new replacement instance. The Elastic Load Balancing health check periodically monitors Amazon EC2 instances to detect and terminate unhealthy instances and then launch new instances.

For more information, see Add Elastic Load Balancing health checks.

> **Note**
>
> Results for this check are automatically refreshed several times daily, and refresh requests are not allowed. It might take a few hours for changes to appear. Currently, you can't exclude resources from this check.

Check ID

`c18d2gz104`

Source

`AWS Config Managed Rule: autoscaling-group-elb-healthcheck-required`

Alert Criteria

Yellow: Amazon EC2 Auto Scaling group attached to Classic Load Balancer has not enabled Elastic Load Balancing health checks.

Recommended Action

Ensure that your Auto Scaling groups that are associated with a Classic Load Balancer use Elastic Load Balancing health checks.

Elastic Load Balancing health checks report if the load balancer is healthy and available to handle requests. This ensures high availability for your application.

For more information, see Add Elastic Load Balancing health checks to an Auto Scaling group

Report columns

- Status
- Region
- Resource
- AWS Config Rule
- Input Parameters
- Last Updated Time

Amazon EC2 Auto Scaling Group has Capacity Rebalancing Enabled

Description

Checks if Capacity Rebalancing is enabled for Amazon EC2 Auto Scaling groups that use multiple instance types.

Configuring Amazon EC2 Auto Scaling groups with capacity rebalancing helps ensure that Amazon EC2 instances are evenly distributed across Availability Zones, regardless of instance

types and purchasing options. It uses a target tracking policy associated with the group, such as CPU utilization or network traffic.

For more information, see Auto Scaling groups with multiple instance types and purchase options.

> **Note**
>
> Results for this check are automatically refreshed several times daily, and refresh requests are not allowed. It might take a few hours for changes to appear. Currently, you can't exclude resources from this check.

Check ID

`AWS Config c18d2gz103`

Source

AWS Config Managed Rule: autoscaling-capacity-rebalancing

Alert Criteria

Yellow: Amazon EC2 Auto Scaling group capacity rebalancing is not enabled.

Recommended Action

Ensure that capacity rebalancing is enabled for your Amazon EC2 Auto Scaling groups that use multiple instance types.

For more information, see Enable Capacity Rebalancing (console)

Report columns

- Status
- Region
- Resource
- AWS Config Rule
- Input Parameters
- Last Updated Time

Amazon EC2 Auto Scaling is not deployed in multiple AZs or does not meet the minimum number of AZs

Description

Checks if the Amazon EC2 Auto Scaling group is deployed in multiple Availability Zones, or the minimum number of Availability Zones specified. Deploy Amazon EC2 instances in multiple Availability Zones to ensure high availability.

You can adjust the minimum number of Availability Zones using the **minAvailibilityZones** parameter in your AWS Config rules.

For more information, see Auto Scaling groups with multiple instance types and purchase options.

Check ID

`c18d2gz101`

Source

`AWS Config Managed Rule: autoscaling-multiple-az`

Alert Criteria

Red: The Amazon EC2 Auto Scaling group doesn't have multiple AZs configured, or doesn't meet the minimum number of AZs specified.

Recommended Action

Make sure that your Amazon EC2 Auto Scaling group is configured with multiple AZs. Deploy Amazon EC2 instances in multiple Availability Zones to ensure high availability.

Additional Resources

Create an Auto Scaling group using a launch template

Create an Auto Scaling group using a launch configuration

Report columns

- Status
- Region
- Resource
- AWS Config Rule

- Input Parameters
- Last Updated Time

Amazon EC2 Availability Zone Balance

Description

Checks the distribution of Amazon Elastic Compute Cloud (Amazon EC2) instances across Availability Zones in a Region.

Availability Zones are distinct locations that are insulated from failures in other Availability Zones. This allows inexpensive, low-latency network connectivity between Availability Zones in the same Region. By launching instances in multiple Availability Zones in the same Region, you can help protect your applications from a single point of failure.

Check ID

`wuy7G1zxql`

Alert Criteria

- Yellow: The Region has instances in multiple zones, but the distribution is uneven (the difference between the highest and lowest instance counts in utilized Availability Zones is greater than 20%).
- Red: The Region has instances only in a single Availability Zone.

Recommended Action

Balance your Amazon EC2 instances evenly across multiple Availability Zones. You can do this by launching instances manually or by using Auto Scaling to do it automatically. For more information, see Launch Your Instance and Load Balance Your Auto Scaling Group.

Additional Resources

Amazon EC2 Auto Scaling User Guide

Report columns

- Status
- Region
- Zone a Instances
- Zone b Instances
- Zone c Instances

- Zone e Instances
- Zone f Instances
- Reason

Amazon EC2 Detailed Monitoring Not Enabled

Description

Checks if detailed monitoring is enabled for yourAmazon EC2 instances.

Amazon EC2 detailed monitoring provides more frequent metrics, published at one-minute intervals, instead of the five-minute intervals used in Amazon EC2 basic monitoring. Enabling detailed monitoring for Amazon EC2 helps you better manage your Amazon EC2 resources, so that you can find trends and take action faster.

For more information, see Basic monitoring and detailed monitoring.

> **Note**
>
> Results for this check are automatically refreshed several times daily, and refresh requests are not allowed. It might take a few hours for changes to appear. Currently, you can't exclude resources from this check.

Check ID

`AWS Config c18d2gz144`

Source

AWS Config Managed Rule: ec2-instance-detailed-monitoring-enabled

Alert Criteria

Yellow: Detailed monitoring is not enabled for Amazon EC2 instances.

Recommended Action

Turn on detailed monitoring for your Amazon EC2 instances to increase the frequency at which Amazon EC2 metric data is published to Amazon CloudWatch (from 5-minute to 1-minute intervals).

Report columns

- Status
- Region
- Resource
- AWS Config Rule
- Input Parameters
- Last Updated Time

Amazon ECS AWSLogs driver in blocking mode

Description

Checks for Amazon ECS task definitions configured with the AWSLogs logging driver in blocking mode. A driver configured in the blocking mode risks system availability.

> **Note**
>
> Results for this check are automatically refreshed one or more times each day, and refresh requests are not allowed. It might take a few hours for changes to appear. Currently, you can't exclude resources from this check.

Check ID

`c1dvkm4z6b`

Alert Criteria

Yellow: The awslogs driver logging configuration parameter mode is set to blocking or missing. A missing mode parameter indicates a default blocking configurations.

Green: Amazon ECS task definition is not using the awslogs driver or the awslogs driver is configured in non-blocking mode.

Recommended Action

To mitigate the availability risk, consider changing the task definition AWSLogs driver configuration from blocking to non-blocking. With non-blocking mode, you will have to set a value for the max-buffer-size parameter. For more information and guidance on configuration

parameters, see . See Preventing log loss with non-blocking mode in the AWSLogs container log driver

Additional Resources

Using the AWS logs log driver

Choosing container logging options to avoid backpressure

Preventing log loss with non-blocking mode in the AWSLogs container log driver

Report columns

- Status
- Region
- Task Definition ARN
- Container Definition Names
- Last Updated Time

Amazon ECS service using a single AZ

Description

Checks that your service configuration uses a single Availability Zone (AZ).

An AZ is a distinct location that is insulated from failures in other zones. This supports inexpensive, low-latency network connectivity between AZs in the same AWS Region. By launching instances in multiple AZs in the same Region, you can help protect your applications from a single point of failure.

> **Note**
>
> Results for this check are automatically refreshed several times daily, and refresh requests are not allowed. It might take a few hours for changes to appear. Currently, you can't exclude resources from this check.

Check ID

`c1z7dfpz01`

Alert Criteria

- Yellow: An Amazon ECS service is running all tasks in a single AZ.
- Green: An Amazon ECS service is running tasks in at least two different AZs.

Recommended Action

Create at least one more task for the service in a different AZ.

Additional Resources

Amazon ECS capacity and availability

Report columns

- Status
- Region
- ECS Cluster Name/ECS Service Name
- Number of Availability Zones
- Last Updated Time

Amazon ECS Multi-AZ placement strategy

Description

Checks that your Amazon ECS service uses the spread placement strategy based on Availability Zone (AZ). This strategy distributes tasks across Availability Zones in the same AWS Region and can help protect your applications from a single point of failure.

For tasks that run as part of an Amazon ECS service, spread is the default task placement strategy.

This check also verifies that spread is the first or only strategy in your list of enabled placement strategies.

> **Note**
>
> Results for this check are automatically refreshed several times daily, and refresh requests are not allowed. It might take a few hours for changes to appear. Currently, you can't exclude resources from this check.

Check ID

`c1z7dfpz02`

Alert Criteria

- Yellow: Spread by availability zone is disabled or isn't the first strategy in your list of enabled placement strategies for your Amazon ECS service.
- Green: Spread by availability zone is the first strategy in your list of enabled placement strategies or the only placement strategy enabled for your Amazon ECS service.

Recommended Action

Enable the spread task placement strategy to distribute tasks across multiple AZs. Verify that spread by availability zone is the first strategy for all enabled task placement strategies or the only strategy used. If you choose to manage AZ placement, you can use a mirrored service in another AZ to mitigate these risks.

Additional Resources

Amazon ECS task placement strategies

Report columns

- Status
- Region
- ECS Cluster Name/ECS Service Name
- Spread Task Placement Strategy Enabled and Applied Correctly
- Last Updated Time

Amazon EFS No Mount Target Redundancy

Description

Checks if mount targets exist in multiple Availability Zones for an Amazon EFS file system.

An Availability Zone is a distinct location that is insulated from failures in other zones. By creating mount targets in multiple geographically separated Availability Zones within an AWS Region, you can achieve the highest levels of availability and durability for your Amazon EFS file systems.

> **Note**
>
> Results for this check are automatically refreshed several times daily, and refresh requests are not allowed. It might take a few hours for changes to appear. Currently, you can't exclude resources from this check.

Check ID

`c1dfprch01`

Alert Criteria

- Yellow: File system has 1 mount target created in a single Availability Zone.

  Green: File system has 2 or more mount targets created in multiple Availability Zones.

Recommended Action

For EFS file systems using One Zone storage classes, we recommend you create new file systems that use Standard storage classes by restoring a backup to a new file system. Then create mount targets in multiple Availability Zones.

For EFS file systems using Standard storage classes, we recommend you create mount targets in multiple Availability Zones.

Additional Resources

- Managing mount targets using the Amazon EFS console
- Amazon EFS Quotas and Limits

Report columns

- Status
- Region
- EFS File System ID
- Number of mount targets
- Number of AZs
- Last Updated Time

Amazon EFS not in AWS Backup Plan

Description

Checks if Amazon EFS file systems are included in backup plans with AWS Backup.

AWS Backup is a unified backup service designed to simplify the creation, migration, restoration, and deletion of backups, while providing improved reporting and auditing.

For more information, see Backing up your Amazon EFS file systems.

Check ID

`c18d2gz117`

Source

`AWS Config Managed Rule: EFS_IN_BACKUP_PLAN`

Alert Criteria

Red: Amazon EFS are not included in AWS Backup plan.

Recommended Action

Make sure that your Amazon EFS file systems are included in your AWS Backup plan to protect against accidental data loss or data corruption.

Additional Resources

Backing up your Amazon EFS file systems

Amazon EFS Backup and Restore using AWS Backup.

Report columns

- Status
- Region
- Resource
- AWS Config Rule
- Input Parameters
- Last Updated Time

Amazon ElastiCache Multi-AZ clusters

Description

Checks for ElastiCache clusters that deploy in a single Availability Zone (AZ). This check alerts you if Multi-AZ is inactive in a cluster.

Deployments in multiple AZs enhance ElastiCache cluster availability by asynchronously replicating to read-only replicas in a different AZ. When planned cluster maintenance occurs, or a primary node is unavailable, ElastiCache automatically promotes a replica to primary. This failover allows cluster write operations to resume, and doesn't require an administrator to intervene.

> **Note**
>
> Results for this check are automatically refreshed several times daily, and refresh requests are not allowed. It might take a few hours for changes to appear. Currently, you can’t exclude resources from this check.

Check ID

`ECHdfsQ402`

Alert Criteria

- Green: Multi-AZ is active in the cluster.
- Yellow: Multi-AZ is inactive in the cluster.

Recommended Action

Create at least one replica per shard, in an AZ that is different than the primary.

Additional Resources

For more information, see Minimizing downtime in ElastiCache (Redis OSS) with Multi-AZ.

Report columns

- Status
- Region
- Cluster Name

- Last Updated Time

ElastiCache (Redis OSS) Clusters Automatic Backup

Description

Checks if the Amazon ElastiCache (Redis OSS) clusters have automatic backup turned on and if the snapshot retention period is above the specified or 15 day default limit. When automatic backups are enabled, ElastiCache creates a backup of the cluster on a daily basis.

You can specify your desired snapshot retention limit using the **snapshotRetentionPeriod** parameters of your AWS Config rules.

For more information, see Backup and restore for ElastiCache (Redis OSS).

> **Note**
>
> Results for this check are automatically refreshed several times daily, and refresh requests are not allowed. It might take a few hours for changes to appear. Currently, you can't exclude resources from this check.

Check ID

`c18d2gz178`

Source

`AWS Config Managed Rule: elasticache-redis-cluster-automatic-backup-check`

Alert Criteria

Red: Amazon ElastiCache (Redis OSS) clusters do not have automatic backup turned on or the snapshot retention period is below the limit.

Recommended Action

Make sure that Amazon ElastiCache (Redis OSS) clusters have automatic backup turned on and the snapshot retention period is above the specified or 15 day default limit. Automatic backups can help guard against data loss. In the event of a failure, you can create a new cluster, restoring your data from the most recent backup.

For more information, see Backup and restore for ElastiCache (Redis OSS).

Additional Resources

For more information, see Scheduling automatic backups.

Report columns

- Status
- Region
- Cluster Name
- Last Updated Time

Amazon MemoryDB Multi-AZ clusters

Description

Checks for MemoryDB clusters that deploy in a single Availability Zone (AZ). This check alerts you if Multi-AZ is inactive in a cluster.

Deployments in multiple AZs enhance MemoryDB cluster availability by asynchronously replicating to read-only replicas in a different AZ. When planned cluster maintenance occurs, or a primary node is unavailable, MemoryDB automatically promotes a replica to primary. This failover allows cluster write operations to resume, and doesn't require an administrator to intervene.

> **Note**
>
> Results for this check are automatically refreshed several times daily, and refresh requests are not allowed. It might take a few hours for changes to appear. Currently, you can’t exclude resources from this check.

Check ID

`MDBdfsQ401`

Alert Criteria

- Green: Multi-AZ is active in the cluster.
- Yellow: Multi-AZ is inactive in the cluster.

Recommended Action

Create at least one replica per shard, in an AZ that is different than the primary.

Additional Resources

For more information, see Minimizing downtime in MemoryDB with Multi-AZ.

Report columns

- Status
- Region
- Cluster Name
- Last Updated Time

Amazon MSK brokers hosting too many partitions

Description

Checks that the brokers of a Managed Streaming for Kafka (MSK) Cluster do not have more than the recommended number of partitions assigned.

Check ID

`Cmsvnj8vf1`

Alert Criteria

- Red: Your MSK broker has reached or exceeded 100% of the recommended maximum partition limit
- Yellow: Your MSK has reached 80% of the recommended maximum partition limit

Recommended Action

Follow the MSK recommended best practices to scale your MSK Cluster or delete any unused partitions.

Additional Resources

- Right-sizing your Cluster

Report columns

- Status
- Region

- Cluster ARN
- Broker ID
- Partition Count

Amazon MSK Cluster Multi-AZ

Description

Checks the number of Availability Zones (AZs) for your Amazon MSK provisioned cluster. The Amazon MSK cluster is formed of several brokers that work together and distribute the data and load. Production might be interrupted during maintenance or broker issues in a 2-AZ cluster.

Check ID

`90046ff5b5`

Alert Criteria

- Yellow: The Amazon MSK cluster is provisioned with brokers in only two AZs
- Green: The Amazon MSK cluster is provisioned with brokers across three or more AZs

Recommended Action

To increase availability of the cluster, you can create another cluster in a 3 AZs setup. Then migrate the existing cluster to the new cluster that you created. You can use Amazon MSK replication for this migration.

Additional Resources

Amazon MSK high availability

Amazon MSK migration

Report columns

- Status
- Region
- MSK Cluster ARN
- Number of AZs
- Last Updated Time

Amazon OpenSearch Service domains with less than three data nodes

Description

Checks if Amazon OpenSearch Service domains are configured with at least three data nodes and ZoneAwarenessEnabled is true. With ZoneAwarenessEnabled enabled, Amazon OpenSearch Service ensures that each primary shard and its corresponding replica are allocated in different Availability Zones.

For more information, see Configuring a multi-AZ domain in Amazon OpenSearch Service.

> **Note**
>
> Results for this check are automatically refreshed several times daily, and refresh requests are not allowed. It might take a few hours for changes to appear. Currently, you can't exclude resources from this check.

Check ID

`c18d2gz183`

Source

`AWS Config Managed Rule: opensearch-data-node-fault-tolerance`

Alert Criteria

Yellow: Amazon OpenSearch Service domains are configured with less than three data nodes.

Recommended Action

Make sure that Amazon OpenSearch Service domains are configured with a minimum of three data nodes. Configure a multi-AZ domain to enhance the availability of the Amazon OpenSearch Service cluster by allocating nodes and replicating data across three Availability Zones within the same Region. This prevents data loss and minimizes downtime in the event of node or data center (AZ) failure.

For more information, see Increase availability for Amazon OpenSearch Service by deploying in three Availability Zones.

Additional Resources

- Increase availability for Amazon OpenSearch Service by deploying in three Availability Zones

Report columns

- Status
- Region
- Resource
- AWS Config Rule
- Input Parameters
- Last Updated Time

Amazon RDS Backups

Description

Checks for automated backups of Amazon RDS DB instances.

By default, backups are enabled with a retention period of one day. Backups reduce the risk of unexpected data loss and allow for point-in-time recovery.

Check ID

opQPADkZvH

Alert Criteria

Red: A DB instance has the backup retention period set to 0 days.

Recommended Action

Set the retention period for the automated DB instance backup to 1 to 35 days as appropriate to the requirements of your application. See Working With Automated Backups.

Additional Resources

Getting Started with Amazon RDS

Report columns

- Status
- Region/AZ
- DB Instance
- VPC ID
- Backup Retention Period

Amazon RDS DB clusters have one DB instance

Description

Add at least another DB instance to the DB cluster to improve availability and performance.

> **Note**
>
> Results for this check are automatically refreshed several times daily, and refresh requests are not allowed. It might take a few hours for changes to appear. Currently, you can't exclude resources from this check.

> **Note**
>
> When a DB instance or DB cluster is stopped, you can view the Amazon RDS recommendations in Trusted Advisor for 3 to 5 days. After five days, the recommendations are not available in Trusted Advisor. To view the recommendations, open the Amazon RDS console, and then choose **Recommendations**.
> If you delete a DB instance or DB cluster, then recommendations associated with those instances or clusters are not available in Trusted Advisor or the Amazon RDS management console.

Check ID

`c1qf5bt011`

Alert Criteria

Yellow: DB clusters have only one DB instance.

Recommended Action

Add a reader DB instance to the DB cluster.

Additional Resources

In the current configuration, one DB instance is used for both read and write operations. You can add another DB instance to allow read redistribution and a failover option.

For more information, see High availability for Amazon Aurora.

Report columns

- Status
- Region
- Resource
- Engine Name
- DB Instance Class
- Last Updated Time

Amazon RDS DB clusters with all instances in the same Availability Zone

Description

The DB clusters are currently in a single Availability Zone. Use multiple Availability Zones to improve the availability.

> **Note**
>
> Results for this check are automatically refreshed several times daily, and refresh requests are not allowed. It might take a few hours for changes to appear. Currently, you can't exclude resources from this check.

> **Note**
>
> When a DB instance or DB cluster is stopped, you can view the Amazon RDS recommendations in Trusted Advisor for 3 to 5 days. After five days, the recommendations are not available in Trusted Advisor. To view the recommendations, open the Amazon RDS console, and then choose **Recommendations**.
> If you delete a DB instance or DB cluster, then recommendations associated with those instances or clusters are not available in Trusted Advisor or the Amazon RDS management console.

Check ID

`c1qf5bt007`

Alert Criteria

Yellow: DB clusters have all the instances in the same Availability Zone.

Recommended Action

Add the DB instances to multiple Availability Zones in your DB cluster.

Additional Resources

We recommend that you add the DB instances to multiple Availability Zones in a DB cluster. Adding DB instances to multiple Availability Zones improvesthe availability of your DB cluster.

For more information, see High availability for Amazon Aurora.

Report columns

- Status
- Region
- Resource
- Engine Name
- Last Updated Time

Amazon RDS DB clusters with all reader instances in the same Availability Zone

Description

Your DB cluster has all the reader instances in the same Availability Zone. We recommend that you distribute the Reader instances across multiple Availability Zones in your DB cluster.

Distribution increases the availability of the database, and improves the response time by reducing network latency between clients and the database.

> **Note**
>
> Results for this check are automatically refreshed several times daily, and refresh requests are not allowed. It might take a few hours for changes to appear. Currently, you can't exclude resources from this check.

> **Note**
>
> When a DB instance or DB cluster is stopped, you can view the Amazon RDS recommendations in Trusted Advisor for 3 to 5 days. After five days, the recommendations are not available in Trusted Advisor. To view the recommendations, open the Amazon RDS console, and then choose **Recommendations**.
> If you delete a DB instance or DB cluster, then recommendations associated with those instances or clusters are not available in Trusted Advisor or the Amazon RDS management console.

Check ID

`c1qf5bt018`

Alert Criteria

Red: DB clusters have the reader instances in the same Availability Zone.

Recommended Action

Distribute the reader instances across multiple Availability Zones.

Additional Resources

Availability Zones (AZs) are locations that are distinct from each other to provide isolation in case of outages within each AWS Region. We recommend that you distribute the primary instance and reader instances in your DB cluster across multiple AZs to improve the availability of your DB cluster. You can create a Multi-AZ cluster using the AWS Management Console, AWS CLI, or Amazon RDS API when you create the cluster. You can modify the existing Aurora cluster to a Multi-AZ cluster by adding a new reader instance and specifying a different AZ.

For more information, see High availability for Amazon Aurora.

Report columns

- Status
- Region
- Resource
- Engine Name
- Last Updated Time

Amazon RDS DB Instance Enhanced Monitoring not enabled

Description

Checks if your Amazon RDS DB instances have Enhanced Monitoring enabled.

Amazon RDS Enhanced Monitoring provides metrics in real time for the operating system (OS) that your DB instance runs on. All system metrics and process information for your Amazon RDS DB instances can be view on the Amazon RDS console. And, you can customize the dashboard. With Enhanced Monitoring, you have visibility of your Amazon RDS instance operation status in near real time, allowing you to respond to operational issues faster.

You can specify your desired monitoring interval using the **monitoringInterval** parameter of your AWS Config rules.

For more information, see Overview of Enhanced Monitoring and OS metrics in Enhanced Monitoring.

> **Note**
>
> Results for this check are automatically refreshed several times daily, and refresh requests are not allowed. It might take a few hours for changes to appear. Currently, you can't exclude resources from this check.

Check ID

`c18d2gz158`

Source

`AWS Config Managed Rule: rds-enhanced-monitoring-enabled`

Alert Criteria

Yellow: Your Amazon RDS DB instances don't have Enhanced Monitoring enabled or are not configured with the desired interval.

Recommended Action

Enable Enhanced Monitoring for your Amazon RDS DB instances to improve the visibility of your Amazon RDS instance operation status.

For more information, see Monitoring OS metrics with Enhanced Monitoring.

Additional Resources

OS metrics in Enhanced Monitoring

Report columns

- Status
- Region
- Resource
- AWS Config Rule
- Input Parameters
- Last Updated Time

Amazon RDS DB instances have storage autoscaling turned off

Description

Amazon RDS storage autoscaling isn't turned on for your DB instance. When there is an increase in the database workload, RDS Storage autoscaling automatically scales the storage capacity with zero downtime.

> **Note**
>
> Results for this check are automatically refreshed several times daily, and refresh requests are not allowed. It might take a few hours for changes to appear. Currently, you can’t exclude resources from this check.

> **Note**
>
> When a DB instance or DB cluster is stopped, you can view the Amazon RDS recommendations in Trusted Advisor for 3 to 5 days. After five days, the recommendations are not available in Trusted Advisor. To view the recommendations, open the Amazon RDS console, and then choose **Recommendations**.
> If you delete a DB instance or DB cluster, then recommendations associated with those instances or clusters are not available in Trusted Advisor or the Amazon RDS management console.

Check ID

`c1qf5bt013`

Alert Criteria

Red: DB instances don't have storage autoscaling turned on.

Recommended Action

Turn on Amazon RDS storage autoscaling with a specified maximum storage threshold.

Additional Resources

Amazon RDS storage autoscaling automatically scales storage capacity with zero downtime when the database workload increases. Storage autoscaling monitors the storage usage and automatically scales up the capacity when the usage is close to the provisioned storage capacity. You can specify a maximum limit on the storage that Amazon RDS can allocate to the DB instance. There is no additional cost for storage autoscaling. You pay only for the Amazon RDS resources that are allocated to your DB instance. We recommend that you turn on Amazon RDS storage autoscaling.

For more information, see Managing capacity automatically with Amazon RDS storage autoscaling.

Report columns

- Status
- Region
- Resource
- Recommended Value
- Engine Name
- Last Updated Time

Amazon RDS DB instances not using Multi-AZ deployment

Description

We recommend that you use Multi-AZ deployment. The Multi-AZ deployments enhance the availability and durability of the DB instance.

> **Note**
>
> Results for this check are automatically refreshed several times daily, and refresh requests are not allowed. It might take a few hours for changes to appear. Currently, you can't exclude resources from this check.

> **Note**
>
> When a DB instance or DB cluster is stopped, you can view the Amazon RDS recommendations in Trusted Advisor for 3 to 5 days. After five days, the recommendations are not available in Trusted Advisor. To view the recommendations, open the Amazon RDS console, and then choose **Recommendations**.
> If you delete a DB instance or DB cluster, then recommendations associated with those instances or clusters are not available in Trusted Advisor or the Amazon RDS management console.

Check ID

`c1qf5bt019`

Alert Criteria

Yellow: DB instances aren't using Multi-AZ deployment.

Recommended Action

Set up Multi-AZ for the impacted DB instances.

Additional Resources

In an Amazon RDS Multi-AZ deployment, Amazon RDS automatically creates a primary database instance and replicates the data to an instance in a different availability zone. When it detects a failure, Amazon RDS automatically fails over to a standby instance without manual intervention.

For more information, see Pricing.

Report columns

- Status
- Region

- Resource
- Engine Name
- Last Updated Time

Amazon RDS DiskQueueDepth

Description

Checks to see if the CloudWatch metric DiskQueueDepth shows that number of queued writes to the RDS Instance database storage has grown to a level where an operational investigation should be suggested.

Check ID

`Cmsvnj8db3`

Alert Criteria

- Red: DiskQueueDepth CloudWatch metric has exceeded 10
- Yellow: DiskQueueDepth CloudWatch metric is greater than 5 but less than or equal to 10
- Green: DiskQueueDepth CloudWatch metric is less than or equal to 5

Recommended Action

Consider moving to instances and storage volumes that support the read/write characteristics.

Report columns

- Status
- Region
- DB Instance ARN
- DiskQueueDepth Metric

Amazon RDS FreeStorageSpace

Description

Checks to see if the FreeStorageSpace CloudWatch metric for an RDS database instance has increased above an operationally reasonable threshold.

Check ID

`Cmsvnj8db2`

Alert Criteria

- Red: FreeStorageSpace has reached / exceeded 90% of total capacity
- Yellow: FreeStorageSpace is between 80% and 90% of total capacity
- Green: FreeStorageSpace is less than 80% of total capacity

Recommended Action

Scale up the storage space for the RDS database instance that is running low on free storage using the Amazon RDS Management Console, Amazon RDS API or AWS Command Line Interface.

Report columns

- Status
- Region
- DB Instance ARN
- FreeStorageSpace Metric (MB)
- DB Instance Allocated Storage (MB)
- DB Instance Storage Used Percent

Amazon RDS log_output parameter is set to table

Description

When **log_output** is set to **TABLE**, more storage is used than when **log_output** is set to **FILE**. We recommend that you set the parameter to **FILE**, to avoid reaching the storage size limit.

> **Note**
>
> Results for this check are automatically refreshed several times daily, and refresh requests are not allowed. It might take a few hours for changes to appear. Currently, you can't exclude resources from this check.

> **Note**
>
> When a DB instance or DB cluster is stopped, you can view the Amazon RDS recommendations in Trusted Advisor for 3 to 5 days. After five days, the

recommendations are not available in Trusted Advisor. To view the recommendations, open the Amazon RDS console, and then choose **Recommendations**.
If you delete a DB instance or DB cluster, then recommendations associated with those instances or clusters are not available in Trusted Advisor or the Amazon RDS management console.

Check ID

`c1qf5bt023`

Alert Criteria

Yellow: DB parameter groups have **log_output** parameter set to **TABLE**.

Recommended Action

Set the **log_output** parameter value to **FILE** in your DB parameter groups.

Additional Resources

For more information, see MySQL database log files.

Report columns

- Status
- Region
- Resource
- Parameter Name
- Recommended Value
- Last Updated Time

Amazon RDS innodb_default_row_format parameter setting is unsafe

Description

Your DB instance encounters a known issue: A table created in a MySQL version lower than 8.0.26 with the **row_format** set to **COMPACT** or **REDUNDANT** is inaccessible and unrecoverable when the index exceeds 767 bytes.

We recommend that you set the **innodb_default_row_format** parameter value to **DYNAMIC**.

> **Note**
>
> Results for this check are automatically refreshed several times daily, and refresh requests are not allowed. It might take a few hours for changes to appear. Currently, you can't exclude resources from this check.

> **Note**
>
> When a DB instance or DB cluster is stopped, you can view the Amazon RDS recommendations in Trusted Advisor for 3 to 5 days. After five days, the recommendations are not available in Trusted Advisor. To view the recommendations, open the Amazon RDS console, and then choose **Recommendations**.
> If you delete a DB instance or DB cluster, then recommendations associated with those instances or clusters are not available in Trusted Advisor or the Amazon RDS management console.

Check ID

`c1qf5bt036`

Alert Criteria

Red: DB parameter groups have an unsafe setting for the **innodb_default_row_format** parameter.

Recommended Action

Set the **innodb_default_row_format** parameter to **DYNAMIC**.

Additional Resources

When a table is created with MySQL version lower than 8.0.26 with **row_format** set to **COMPACT** or **REDUNDANT**, creating indexes with a key prefix shorter than 767 bytes isn't enforced. After the database restarts, these tables can't be accessed or recovered.

For more information, see Changes in MySQL 8.0.26 (2021-07-20, General Availability)n on the MySQL documentation website.

Report columns

- Status

- Region
- Resource
- Parameter Name
- Recommended Value
- Last Updated Time

Amazon RDS innodb_flush_log_at_trx_commit parameter is not 1

Description

The value of the **innodb_flush_log_at_trx_commit** parameter of your DB instance isn't a safe value. This parameter controls the persistence of commit operations to disk.

We recommend that you set the **innodb_flush_log_at_trx_commit** parameter to 1.

> **Note**
>
> Results for this check are automatically refreshed several times daily, and refresh requests are not allowed. It might take a few hours for changes to appear. Currently, you can’t exclude resources from this check.

> **Note**
>
> When a DB instance or DB cluster is stopped, you can view the Amazon RDS recommendations in Trusted Advisor for 3 to 5 days. After five days, the recommendations are not available in Trusted Advisor. To view the recommendations, open the Amazon RDS console, and then choose **Recommendations**.
> If you delete a DB instance or DB cluster, then recommendations associated with those instances or clusters are not available in Trusted Advisor or the Amazon RDS management console.

Check ID

`c1qf5bt030`

Alert Criteria

Yellow: DB parameter groups have **innodb_flush_log_at_trx_commit** set to other than 1.

Recommended Action

Set the **innodb_flush_log_at_trx_commit** parameter value to 1

Additional Resources

The database transaction is durable when the log buffer is saved to the durable storage. However, saving to the disk impacts performance. Depending on the value set for **innodb_flush_log_at_trx_commit** parameter, the behavior of how logs are written and saved to the disk can vary.

- When the parameter value is 1, the logs are written and saved to the disk after each committed transaction.
- When the parameter value is 0, the logs are written and saved to the disk once per second.
- When the parameter value is 2, the logs are written after each transaction is committed and saved to the disk once per second. The data moves from the InnoDB memory buffer to the operating system's cache which is also in the memory.

> **Note**
>
> When the parameter value is not 1, InnoDB doesn't assure ACID properties. The recent transactions for the last second may be lost when the database crashes.

For more information, see Best practices for configuring parameters for Amazon RDS for MySQL, part 1: Parameters related to performance.

Report columns

- Status
- Region
- Resource
- Parameter Name
- Recommended Value
- Last Updated Time

Amazon RDS max_user_connections parameter is low

Description

Your DB instance has a low value for the maximum number of simultaneous connections for each database account.

We recommend setting the **max_user_connections** parameter to a number greater than **5**.

> **Note**
>
> Results for this check are automatically refreshed several times daily, and refresh requests are not allowed. It might take a few hours for changes to appear. Currently, you can't exclude resources from this check.

> **Note**
>
> When a DB instance or DB cluster is stopped, you can view the Amazon RDS recommendations in Trusted Advisor for 3 to 5 days. After five days, the recommendations are not available in Trusted Advisor. To view the recommendations, open the Amazon RDS console, and then choose **Recommendations**.
> If you delete a DB instance or DB cluster, then recommendations associated with those instances or clusters are not available in Trusted Advisor or the Amazon RDS management console.

Check ID

`c1qf5bt034`

Alert Criteria

Yellow: DB parameter groups have **max_user_connections** misconfigured.

Recommended Action

Increase the value of the **max_user_connections** parameter to a number greater than **5**.

Additional Resources

The **max_user_connections** setting controls the maximum number of simultaneous connections allowed for a MySQL user account. Reaching this connection limit cause failures in the Amazon RDS instance administration operations, such as backup, patching, and parameters changes.

For more information, see Setting Account Resource Limits on the MySQL documentation website.

Report columns

- Status
- Region
- Resource
- Parameter Name
- Recommended Value
- Last Updated Time

Amazon RDS Multi-AZ

Description

Checks for DB instances that are deployed in a single Availability Zone (AZ).

Multi-AZ deployments enhance database availability by synchronously replicating to a standby instance in a different Availability Zone. During planned database maintenance, or the failure of a DB instance or Availability Zone, Amazon RDS automatically fails over to the standby. This failover allows database operations to resume quickly without administrative intervention. Because Amazon RDS does not support Multi-AZ deployment for Microsoft SQL Server, this check does not examine SQL Server instances.

Check ID

`f2iK5R6Dep`

Alert Criteria

Yellow: A DB instance is deployed in a single Availability Zone.

Recommended Action

If your application requires high availability, modify your DB instance to enable Multi-AZ deployment. See High Availability (Multi-AZ).

Additional Resources

Regions and Availability Zones

Report columns

- Status
- Region/AZ
- DB Instance
- VPC ID
- Multi-AZ

Amazon RDS Not In AWS Backup Plan

Description

Checks if your Amazon RDS DB instances are included in a backup plan in AWS Backup.

AWS Backup is a fully managed backup service that makes it easy to centralize and automate backing up data across AWS services.

Including your Amazon RDS DB instance in a backup plan is important for regulatory compliance obligations, disaster recovery, business policies for data protection, and business continuity goals.

For more information, see What is AWS Backup?.

> **Note**
>
> Results for this check are automatically refreshed several times daily, and refresh requests are not allowed. It might take a few hours for changes to appear. Currently, you can't exclude resources from this check.

Check ID

`c18d2gz159`

Source

`AWS Config Managed Rule: rds-in-backup-plan`

Alert Criteria

Yellow: An Amazon RDS DB instance is not included in a backup plan with AWS Backup.

Recommended Action

Include your Amazon RDS DB instances in a backup plan with AWS Backup.

For more information, see Amazon RDS Backup and Restore Using AWS Backup.

Additional Resources

Assigning resources to a backup plan

Report columns

- Status
- Region
- Resource
- AWS Config Rule
- Input Parameters
- Last Updated Time

Amazon RDS Read Replicas are open in writable mode

Description

Your DB instance has a read replica in writable mode, which allows updates from clients.

We recommend that you set the the **read_only** parameter to **TrueIfReplica** so that the read replicas isn't in writable mode.

> **Note**
>
> Results for this check are automatically refreshed several times daily, and refresh requests are not allowed. It might take a few hours for changes to appear. Currently, you can’t exclude resources from this check.

> **Note**
>
> When a DB instance or DB cluster is stopped, you can view the Amazon RDS recommendations in Trusted Advisor for 3 to 5 days. After five days, the recommendations are not available in Trusted Advisor. To view the recommendations, open the Amazon RDS console, and then choose **Recommendations**.
> If you delete a DB instance or DB cluster, then recommendations associated with those instances or clusters are not available in Trusted Advisor or the Amazon RDS management console.

Check ID

`c1qf5bt035`

Alert Criteria

Yellow: DB parameter groups turn on writable mode for the read replicas.

Recommended Action

Set the **read_only** parameter value to **TrueIfReplica**.

Additional Resources

The **read_only** parameter controls the write permission from the clients to a database instance. The default value for this parameter is **TrueIfReplica**. For a replica instance, **TrueIfReplica** sets the **read_only** value to ON (1) and disables any write activity from the clients. For a master/writer instance, **TrueIfReplica** sets the value to OFF (0) and enables the write activity from the clients for the instance. When the read replica is opened in writable mode, the data stored in this instance may diverge from the primary instance which causes replication errors.

For more information, see Best practices for configuring parameters for Amazon RDS for MySQL, part 2: Parameters related to replication on the MySQL documentation website.

Report columns

- Status
- Region
- Resource
- Parameter Name

- Recommended Value
- Last Updated Time

Amazon RDS resource automated backups is turned off

Description

Automated backups are disabled on your DB resources. Automated backups enable point-in-time recovery of your DB instance.

> **Note**
>
> Results for this check are automatically refreshed several times daily, and refresh requests are not allowed. It might take a few hours for changes to appear. Currently, you can't exclude resources from this check.

> **Note**
>
> When a DB instance or DB cluster is stopped, you can view the Amazon RDS recommendations in Trusted Advisor for 3 to 5 days. After five days, the recommendations are not available in Trusted Advisor. To view the recommendations, open the Amazon RDS console, and then choose **Recommendations**.
> If you delete a DB instance or DB cluster, then recommendations associated with those instances or clusters are not available in Trusted Advisor or the Amazon RDS management console.

Check ID

`c1qf5bt001`

Alert Criteria

Red: Amazon RDS resources don't have automated backups turned on

Recommended Action

Turn on automated backups with a retention period of up to 14 days.

Additional Resources

Automated backups enable point-in-time recovery of your DB instances. We recommend turning on automated backups. When you turn on automated backups for a DB instance, Amazon RDS automatically performs a full backup of your data daily during your preferred backup window. The backup captures transaction logs when there are updates to your DB instance. You get backup storage up to the storage size of your DB instance at no additional cost.

For more information, see the following resources:

- Enabling automated backups
- Demystifying Amazon RDS backup storage costs

Report columns

- Status
- Region
- Resource
- Recommended Value
- Engine Name
- Last Updated Time

Amazon RDS sync_binlog parameter is turned off

Description

The synchronization of the binary log to disk isn't enforced before the transaction commits are acknowledged in your DB instance.

We recommend that you set the **sync_binlog** parameter value to **1**.

> **Note**
>
> Results for this check are automatically refreshed several times daily, and refresh requests are not allowed. It might take a few hours for changes to appear. Currently, you can’t exclude resources from this check.

> **Note**
>
> When a DB instance or DB cluster is stopped, you can view the Amazon RDS recommendations in Trusted Advisor for 3 to 5 days. After five days, the recommendations are not available in Trusted Advisor. To view the recommendations, open the Amazon RDS console, and then choose **Recommendations**.
> If you delete a DB instance or DB cluster, then recommendations associated with those instances or clusters are not available in Trusted Advisor or the Amazon RDS management console.

Check ID

`c1qf5bt031`

Alert Criteria

Yellow: DB parameter groups have synchronous binary logging turned off.

Recommended Action

Set the **sync_binlog** parameter to **1**.

Additional Resources

The **sync_binlog** parameter controls how MySQL pushes the binary log to disk. When the value of this parameter is set to **1**, it turns on binary log synchronization to disk before transactions are committed. When the value of this parameter is set to **0**, it turns off the binary log synchronization to the disk. Typically, MySQL server depends on the operating system to push the binary log to disk regularly similar to other files. The **sync_binlog** parameter value set to **0** can enhance the performance. However, during a power failure or an operating system crash, the server loses all the committed transactions that weren't synchronized to the binary logs.

For more information, see Best practices for configuring parameters for Amazon RDS for MySQL, part 2: Parameters related to replication.

Report columns

- Status
- Region
- Resource

- Parameter Name
- Recommended Value
- Last Updated Time

RDS DB Cluster has no Multi-AZ replication enabled

Description

Checks if your Amazon RDS DB clusters have Multi-AZ replication enabled.

A Multi-AZ DB cluster has a writer DB instance and two reader DB instances in three separate Availability Zones. Multi-AZ DB clusters provide high availability, increased capacity for read workloads, and lower latency when compared to Multi-AZ deployments.

For more information, see Creating a Multi-AZ DB cluster.

> **Note**
>
> Results for this check are automatically refreshed several times daily, and refresh requests are not allowed. It might take a few hours for changes to appear. Currently, you can't exclude resources from this check.

Check ID

`c18d2gz161`

Source

`AWS Config Managed Rule: rds-cluster-multi-az-enabled`

Alert Criteria

Yellow: Your Amazon RDS DB cluster does not have Multi-AZ replication configured

Recommended Action

Turn on Multi-AZ DB cluster deployment when you create an Amazon RDS DB cluster.

For more information, see Creating a Multi-AZ DB cluster.

Additional Resources

Multi-AZ DB cluster deployments

Report columns

- Status
- Region
- Resource
- AWS Config Rule
- Input Parameters
- Last Updated Time

RDS Multi-AZ Standby Instance Not Enabled

Description

Checks if your Amazon RDS DB instances have a Multi-AZ standby replica configured.

Amazon RDS Multi-AZ provides high availability and durabiliy for database instances by replicating data to a standby replica in a different Availability Zone. This provides automatic failover, improve performance, and enhances data durability. In a Multi-AZ DB instance deployment, Amazon RDS automatically provisions and maintains a synchronous standby replica in a different Availability Zone. The primary DB instance is synchronously replicated across Availability Zones to a standby replica to provide data redundancy and minimize latency spikes during system backups. Running a DB instance with high availability enhances availability during planned system maintenance. It can also help protect your databases against DB instance failure and Availability Zone disruption.

For more information, see Multi-AZ DB instance deployments.

> **Note**
>
> Results for this check are automatically refreshed several times daily, and refresh requests are not allowed. It might take a few hours for changes to appear. Currently, you can't exclude resources from this check.

Check ID

`c18d2gz156`

Source

`AWS Config Managed Rule: rds-multi-az-support`

Alert Criteria

Yellow: An Amazon RDS DB instance does not have a Multi-AZ replica configured.

Recommended Action

Turn on Multi-AZ deployment when you create an Amazon RDS DB instance.

This check can't be excluded from view in the Trusted Advisor console.

Additional Resources

Multi-AZ DB instance deployments

Report columns

- Status
- Region
- Resource
- AWS Config Rule
- Input Parameters
- Last Updated Time

Amazon RDS ReplicaLag

Description

Checks to see if the ReplicaLag CloudWatch metric for an RDS database instance has increased above an operationally reasonable threshold over the past week.

ReplicaLag metric measures the number of seconds a read replica is behind the primary instance. Replication lag occurs when the asynchronous updates made to the read replica cannot keep up with the updates happening on the primary database instance. In the event of a failure to the primary instance, data could be missing from the read replica if the ReplicaLag is above an operationally reasonable threshold.

Check ID

`Cmsvnj8db1`

Alert Criteria

- Red: ReplicaLag metric exceeded 60 seconds at least once during the week.
- Yellow: ReplicaLag metric exceeded 10 seconds at least once during the week.
- Green: ReplicaLag is less than 10 seconds.

Recommended Action

There are several possible causes for ReplicaLag to increase beyond operationally safe levels. For example, it can be caused by recently replaced/launched replica instances from older backups and these replicas requiring substantial time to “catch-up” to the primary database instance and live transactions. This ReplicaLag may dwindle over time as catch-up occurs. Another example could be that the transaction velocity able to be achieved on the primary database instance is higher than the replication process or replica infrastructure is able to match. This ReplicaLag may grow over time as replication fails to keep pace with the primary database performance. Finally, the workload may be bursty throughout different periods of the day/month/etc. that result in occasional ReplicaLag to fall behind. Your team should investigate which possible root cause has contributed to high ReplicaLag for the database, and possibly change the database instance type or other characteristics of the workload to ensure data continuity on the replica matches your requirements.

Additional Resources

- Working with read replicas for Amazon RDS for PostgreSQL
- Working with MySQL replication in Amazon RDS
- Working with MySQL read replicas

Report columns

- Status
- Region
- DB Instance ARN
- ReplicaLag Metric

Amazon RDS synchronous_commit parameter is turned off

Description

When the **synchronous_commit** parameter is turned off, data can be lost in a database crash. The durability of the database is at risk.

We recommend that you turn on the **synchronous_commit** parameter.

> **Note**
>
> Results for this check are automatically refreshed several times daily, and refresh requests are not allowed. It might take a few hours for changes to appear. Currently, you can't exclude resources from this check.

> **Note**
>
> When a DB instance or DB cluster is stopped, you can view the Amazon RDS recommendations in Trusted Advisor for 3 to 5 days. After five days, the recommendations are not available in Trusted Advisor. To view the recommendations, open the Amazon RDS console, and then choose **Recommendations**.
> If you delete a DB instance or DB cluster, then recommendations associated with those instances or clusters are not available in Trusted Advisor or the Amazon RDS management console.

Check ID

`c1qf5bt026`

Alert Criteria

Red: DB parameter groups have **synchronous_commit** parameter turned off.

Recommended Action

Turn on **synchronous_commit** parameter in your DB parameter groups.

Additional Resources

The **synchronous_commit** parameter defines the Write-Ahead Logging (WAL) process completion before the database server sends a successful notification to the client. This commit is called as an asynchronous commit because the client acknowledges the commit before WAL saves the transaction in the disk. If the **synchronous_commit** parameter is turned off, then the transactions can be lost, DB instance durability might be compromised, and data might be lost when a database crashes.

For more information, see MySQL database log files.

Report columns

- Status
- Region
- Resource
- Parameter Name
- Recommended Value
- Last Updated Time

Amazon Redshift cluster automated snapshots

Description

Checks if automated snapshots are enabled for your Amazon Redshift clusters.

Amazon Redshift automatically takes incremental snapshots that track changes to the cluster since the previous automated snapshot. Automated snapshots retain all of the data required to restore a cluster from a snapshot. To disable automated snapshots, set the retention period to zero. You can't disable automated snapshots for RA3 node types.

You can specify your desired minimum and maximum retention period using the **MinRetentionPeriod** and **MaxRetentionPeriod** parameter of your AWS Config rules.

Amazon Redshift snapshots and backups

> **Note**
>
> Results for this check are automatically refreshed several times daily, and refresh requests are not allowed. It might take a few hours for changes to appear. Currently, you can’t exclude resources from this check.

Check ID

`c18d2gz135`

Source

`AWS Config Managed Rule: redshift-backup-enabled`

Alert Criteria

Red: Amazon Redshift does not have automated snapshots configured within the desired retention period.

Recommended Action

Make sure that automated snapshots are enabled for your Amazon Redshift clusters.

For more information, see Managing snapshots using the console.

Additional Resources

Amazon Redshift snapshots and backups

For more information, see Working with backups.

Report columns

- Status
- Region
- Resource
- AWS Config Rule
- Input Parameters
- Last Updated Time

Amazon Route 53 Deleted Health Checks

Description

Checks for resource record sets that are associated with health checks that have been deleted.

Route 53 does not prevent you from deleting a health check that is associated with one or more resource record sets. If you delete a health check without updating the associated resource record sets, the routing of DNS queries for your DNS failover configuration will not work as intended.

Hosted zones created by AWS services won't appear in your check results.

Check ID

Cb877eB72b

Alert Criteria

Yellow: A resource record set is associated with a health check that has been deleted.

Recommended Action

Create a new health check and associate it with the resource record set. See Creating, Updating, and Deleting Health Checks and Adding Health Checks to Resource Record Sets.

Additional Resources

- Amazon Route 53 Health Checks and DNS Failover
- How Health Checks Work in Simple Amazon Route 53 Configurations

Report columns

- Hosted Zone Name
- Hosted Zone ID
- Resource Record Set Name
- Resource Record Set Type
- Resource Record Set Identifier

Amazon Route 53 Failover Resource Record Sets

Description

Checks for Amazon Route 53 failover resource record sets that have a misconfiguration.

When Amazon Route 53 health checks determine that the primary resource is unhealthy, Amazon Route 53 responds to queries with a secondary, backup resource record set. You must create correctly configured primary and secondary resource record sets for failover to work.

Hosted zones created by AWS services won't appear in your check results.

Check ID

`b73EEdD790`

Alert Criteria

- Yellow: A primary failover resource record set does not have a corresponding secondary resource record set.

- Yellow: A secondary failover resource record set does not have a corresponding primary resource record set.
- Yellow: Primary and secondary resource record sets that have the same name are associated with the same health check.

Recommended Action

If a failover resource set is missing, create the corresponding resource record set. See Creating Failover Resource Record Sets.

If your resource record sets are associated with the same health check, create separate health checks for each one. See Creating, Updating, and Deleting Health Checks.

Additional Resources

Amazon Route 53 Health Checks and DNS Failover

Report columns

- Hosted Zone Name
- Hosted Zone ID
- Resource Record Set Name
- Resource Record Set Type
- Reason

Amazon Route 53 High TTL Resource Record Sets

Description

Checks for resource record sets that can benefit from having a lower time-to-live (TTL) value.

TTL is the number of seconds that a resource record set is cached by DNS resolvers. When you specify a long TTL, DNS resolvers take longer to request updated DNS records, which can cause unnecessary delay in rerouting traffic (for example, when DNS Failover detects and responds to a failure of one of your endpoints). This check looks only at records with a policy of Failover, or if there is an associated health check.

Hosted zones created by AWS services won't appear in your check results.

Check ID

`C056F80cR3`

Alert Criteria

- Yellow: A resource record set whose routing policy is Failover has a TTL greater than 60 seconds.
- Green: A resource record either has no failover policy, or has a failover policy with a TTL less than 60.

Recommended Action

Enter a TTL value of 60 seconds for the listed resource record sets. For more information, see Working with Resource Record Sets.

Additional Resources

Amazon Route 53 Health Checks and DNS Failover

Report columns

- Status
- Hosted Zone Name
- Hosted Zone ID
- Resource Record Set Name
- Resource Record Set Type
- Resource Record Set ID
- TTL

Amazon Route 53 Name Server Delegations

Description

Checks for Amazon Route 53 hosted zones for which your domain registrar or DNS is not using the correct Route 53 name servers.

When you create a hosted zone, Route 53 assigns a delegation set of four name servers. The names of these servers are ns-###.awsdns-##.com, .net, .org, and .co.uk, where ### and ## typically represent different numbers. Before Route 53 can route DNS queries for your domain, you must update your registrar's name server configuration to remove the name servers that the registrar assigned. Then, you must add all four name servers in the Route 53 delegation set. For maximum availability, you must add all four Route 53 name servers.

Hosted zones created by AWS services won't appear in your check results.

Check ID

`cF171Db240`

Alert Criteria

Yellow: A hosted zone for which the registrar for your domain does not use all four of the Route 53 name servers in the delegation set.

Recommended Action

Add or update name server records with your registrar or with the current DNS service for your domain to include all four of the name servers in your Route 53 delegation set. To find these values, see Getting the Name Servers for a Hosted Zone. For information about adding or updating name server records, see Creating and Migrating Domains and Subdomains to Amazon Route 53.

Additional Resources

Working with Hosted Zones

Report columns

- Hosted Zone Name
- Hosted Zone ID
- Number of Name Server Delegations Used

Amazon Route 53 Resolver Endpoint Availability Zone Redundancy

Description

Checks to see if your service configuration has IP addresses specified in at least two Availability Zones (AZs) for redundancy. An AZ is a distinct location that is insulated from failures in other zones. By specifying IP addresses in multiple AZs in the same Region, you can help protect your applications from a single point of failure.

Check ID

`Chrv231ch1`

Alert Criteria

- Yellow: IP addresses are specified only in one AZ

- Green: IP addresses are specified in at least two AZs

Recommended Action

Specify IP addresses in at least two Availability Zones for redundancy.

Additional Resources

- If you require more than one elastic network interface endpoint to be available at all times, we recommend that you create at least one more network interface than you need, to make sure you have additional capacity available for handling possible traffic surges. The additional network interface also ensures availability during service operations like maintenance or upgrades.
- High availability for Resolver endpoints

Report columns

- Status
- Region
- Resource ARN
- Number of AZs

Amazon S3 Bucket Logging

Description

Checks the logging configuration of Amazon Simple Storage Service (Amazon S3) buckets.

When server access logging is enabled, detailed access logs are delivered hourly to a bucket that you choose. An access log record contains details about each request, such as the request type, the resources specified in the request, and the time and date the request was processed. By default, bucket logging is not enabled. You should enable logging if you want to perform security audits or learn more about users and usage patterns.

When logging is initially enabled, the configuration is automatically validated. However, future modifications can result in logging failures. This check examines explicit Amazon S3 bucket permissions, but it does not examine associated bucket policies that might override the bucket permissions.

Check ID

`BueAdJ7NrP`

Alert Criteria

- Yellow: The bucket does not have server access logging enabled.
- Yellow: The target bucket permissions do not include the root account, so Trusted Advisor cannot check it.
- Red: The target bucket does not exist.
- Red: The target bucket and the source bucket have different owners.
- Red: The log deliverer does not have write permissions for the target bucket.

Recommended Action

Enable bucket logging for most buckets. See Enabling Logging Using the Console and Enabling Logging Programmatically.

If the target bucket permissions do not include the root account and you want Trusted Advisor to check the logging status, add the root account as a grantee. See Editing Bucket Permissions.

If the target bucket does not exist, select an existing bucket as a target or create a new one and select it. See Managing Bucket Logging.

If the target and source have different owners, change the target bucket to one that has the same owner as the source bucket. See Managing Bucket Logging.

If the log deliverer does not have write permissions for the target (write not enabled), grant Upload/Delete permissions to the Log Delivery group. See Editing Bucket Permissions.

Additional Resources

- Working with Buckets
- Server Access Logging
- Server Access Log Format
- Deleting Log Files

Report columns

- Status
- Region
- Bucket Name
- Target Name
- Target Exists
- Same Owner

- Write Enabled
- Reason

Amazon S3 Bucket Replication Not Enabled

Description

Checks if your Amazon S3 buckets have replication rules enabled for Cross-Region Replication, Same-Region Replication, or both.

Replication is the automatic, asynchronous copying of objects across buckets in the same or different AWS Regions. Replication copies newly created objects and object updates from a source bucket to a destination bucket or buckets. Use Amazon S3 bucket replication to help improve the resilience and compliance of your applications and data storage.

For more information, see Replicating objects.

> **Note**
>
> Results for this check are automatically refreshed several times daily, and refresh requests are not allowed. It might take a few hours for changes to appear. Currently, you can't exclude resources from this check.

Check ID

`c18d2gz119`

Source

`AWS Config Managed Rule: s3-bucket-replication-enabled`

Alert Criteria

Yellow: Amazon S3 bucket replication rules are not enabled for Cross-Region Replication, Same-Region Replication, or both.

Recommended Action

Turn on Amazon S3 bucket replication rules to improve the resiliency and compliance of your applications and data storage.

For more information, see View your backup jobs and recovery points and Setting up replication.

Additional Resources

Walkthroughs: Examples for configuring replication

Report columns

- Status
- Region
- Resource
- AWS Config Rule
- Input Parameters
- Last Updated Time

Amazon S3 Bucket Versioning

Description

Checks for Amazon Simple Storage Service buckets that do not have versioning enabled, or that have versioning suspended.

When versioning is enabled, you can easily recover from both unintended user actions and application failures. Versioning allows you to preserve, retrieve, and restore any version of any object stored in a bucket. You can use lifecycle rules to manage all versions of your objects, as well as their associated costs, by automatically archiving objects to the Glacier storage class. Rules can also be configured to remove versions of your objects after a specified period of time. You can also require multi-factor authentication (MFA) for any object deletions or configuration changes to your buckets.

Versioning can't be deactivated after it has been enabled. However, it can be suspended, which prevents new versions of objects from being created. Using versioning can increase your costs for Amazon S3, because you pay for storage of multiple versions of an object.

Check ID

`R365s2Qddf`

Alert Criteria

- Green: Versioning is enabled for the bucket.

- Yellow: Versioning is not enabled for the bucket.
- Yellow: Versioning is suspended for the bucket.

Recommended Action

Enable bucket versioning on most buckets to prevent accidental deletion or overwriting. See Using Versioning and Enabling Versioning Programmatically.

If bucket versioning is suspended, consider re-enabling versioning. For information on working with objects in a versioning-suspended bucket, see Managing Objects in a Versioning-Suspended Bucket.

When versioning is enabled or suspended, you can define lifecycle configuration rules to mark certain object versions as expired or to permanently remove unneeded object versions. For more information, see Object Lifecycle Management.

MFA Delete requires additional authentication when the versioning status of the bucket is changed or when versions of an object are deleted. It requires the user to enter credentials and a code from an approved authentication device. For more information, see MFA Delete.

Additional Resources

Working with Buckets

Report columns

- Status
- Region
- Bucket Name
- Versioning
- MFA Delete Enabled

Application, Network, and Gateway Load Balancers Not Spanning Multiple Availability Zones

Description

Checks If your load balancers (Application, Network, and Gateway Load Balancer) are configured with subnets across multiple Availability Zones.

You can specify your desired minimum Availability Zones in the **minAvailabilityZones** parameters of your AWS Config rules.

For more information, see Availability Zones for your Application Load Balancer, Availability Zones - Network Load Balancers, and Create a Gateway Load Balancer.

> **Note**
>
> Results for this check are automatically refreshed several times daily, and refresh requests are not allowed. It might take a few hours for changes to appear. Currently, you can't exclude resources from this check.

Check ID

`c18d2gz169`

Source

`AWS Config Managed Rule: elbv2-multiple-az`

Alert Criteria

Yellow: Application, Network, or Gateway Load Balancers configured with subnets in less than two Availability Zones.

Recommended Action

Configure your Application, Network, and Gateway Load Balancers with subnets across multiple Availability Zones.

Additional Resources

Availability Zones for your Application Load Balancer

Availability Zones (Elastic Load Balancing)

Create a Gateway Load Balancer

Report columns

- Status
- Region
- Resource

- AWS Config Rule
- Input Parameters
- Last Updated Time

Auto Scaling available IPs in Subnets

Description

Checks that sufficient available IPs remain among targeted Subnets.Having sufficient IPs available for use would help when Auto Scaling Group reaches its maximum size and needs to launch additional instances.

Check ID

`Cjxm268ch1`

Alert Criteria

- Red: The maximum number of instances and IP addresses that could be created by an ASG exceed the number of IP addresses remaining in the configured subnets.
- Green: There are sufficient IP addresses available for the remaining scale possible in the ASG.

Recommended Action

Increase the number of available IP addresses

Report columns

- Status
- Region
- Resource ARN
- Maximum instances that can be created
- Number of available instances

Auto Scaling Group Health Check

Description

Examines the health check configuration for Auto Scaling groups.

If Elastic Load Balancing is being used for an Auto Scaling group, the recommended configuration is to enable an Elastic Load Balancing health check. If an Elastic Load Balancing

health check is not used, Auto Scaling can only act upon the health of the Amazon Elastic Compute Cloud (Amazon EC2) instance. Auto Scaling will not act on the application running on the instance.

Check ID

CL0G40CD08

Alert Criteria

- Yellow: An Auto Scaling group has an associated load balancer, but the Elastic Load Balancing health check is not enabled.
- Yellow: An Auto Scaling group does not have an associated load balancer, but the Elastic Load Balancing health check is enabled.

Recommended Action

If the Auto Scaling group has an associated load balancer, but the Elastic Load Balancing health check is not enabled, see Add an Elastic Load Balancing Health Check to your Auto Scaling Group.

If the Elastic Load Balancing health check is enabled, but no load balancer is associated with the Auto Scaling group, see Set Up an Auto-Scaled and Load-Balanced Application.

Additional Resources

Amazon EC2 Auto Scaling User Guide

Report columns

- Status
- Region
- Auto Scaling Group Name
- Load Balancer Associated
- Health Check

Auto Scaling Group Resources

Description

Checks the availability of resources associated with launch configurations and your Auto Scaling groups.

Auto Scaling groups that point to unavailable resources cannot launch new Amazon Elastic Compute Cloud (Amazon EC2) instances. When properly configured, Auto Scaling causes the number of Amazon EC2 instances to increase seamlessly during demand spikes, and decrease automatically during demand lulls. Auto Scaling groups and launch configurations that point to unavailable resources do not operate as intended.

Check ID

`8CNsSllI5v`

Alert Criteria

- Red: An Auto Scaling group is associated with a deleted load balancer.
- Red: A launch configuration is associated with a deleted Amazon Machine Image (AMI).

Recommended Action

If the load balancer has been deleted, either create a new load balancer or target group then associate it to the Auto Scaling group, or create a new Auto Scaling group without the load balancer. For information about creating a new Auto Scaling group with a new load balancer, see Set Up an Auto-Scaled and Load-Balanced Application. For information about creating a new Auto Scaling group without a load balancer, see Create Auto Scaling Group in Getting Started With Auto Scaling Using the Console.

If the AMI has been deleted, create a new launch template or launch template version using a valid AMI and associate it with an Auto Scaling group. See Create Launch Configuration in Getting Started With Auto Scaling Using the Console.

Additional Resources

- Troubleshooting Auto Scaling: Amazon EC2 AMIs
- Troubleshooting Auto Scaling: Load Balancer Configuration
- Amazon EC2 Auto Scaling User Guide

Report columns

- Status
- Region
- Auto Scaling Group Name
- Launch Type
- Resource Type

- Resource Name

AWS CloudHSM clusters running HSM instances in a single AZ

Description

Checks your clusters that run HSM instances in a single Availability Zone (AZ). This check alerts you if your clusters are at risk of not having the most recent backup.

> **Note**
>
> Results for this check are automatically refreshed several times daily, and refresh requests are not allowed. It might take a few hours for changes to appear. Currently, you can't exclude resources from this check.

Check ID

`hc0dfs7601`

Alert Criteria

- Yellow: A CloudHSM cluster is running all HSM instances in a single Availability Zone for more than 1 hour.
- Green: A CloudHSM cluster is running all HSM instances in at least two different Availability Zones.

Recommended Action

Create at least one more instance for the cluster in a different Availability Zone.

Additional Resources

Best practices for AWS CloudHSM

Report columns

- Status
- Region
- Cluster ID
- Number of HSM Instances

- Last Updated Time

AWS Direct Connect Location Resiliency

Description

Checks the resilience of the AWS Direct Connect used to connect your on-premises to each Direct Connect gateway or virtual private gateway.

This check alerts you if any Direct Connect gateway or virtual private gateway isn't configured with virtual interfaces across at least two distinct Direct Connect locations. Lack of location resiliency can result in unexpected downtime during maintenance, a fiber cut, a device failure, or a complete location failure.

> **Note**
>
> Results for this check are automatically refreshed several times daily, and refresh requests are not allowed. It might take a few hours for changes to appear.

> **Note**
>
> Direct Connect is implemented with Transit Gateway using Direct Connect gateway.

Check ID

`c1dfpnchv2`

Alert Criteria

Red: The Direct Connect gateway or virtual private gateway is configured with one or more virtual interfaces on a single Direct Connect device.

Yellow: The Direct Connect gateway or virtual private gateway is configured with virtual interfaces across multiple Direct Connect devices in a single Direct Connect location.

Green: The Direct Connect gateway or virtual private gateway is configured with virtual interfaces across two or more distinct Direct Connect locations.

Recommended Action

To build Direct Connect location resiliency, you can configure the Direct Connect gateway or virtual private gateway to connect to at least two distinct Direct Connect locations. For more information, see AWS Direct Connect Resiliency Recommendation.

Additional Resources

AWS Direct Connect Resiliency Recommendations

AWS Direct Connect Failover Test

Report columns

- Status
- Region
- Last Updated Time
- Resiliency Status
- Location
- Connection ID
- Gateway ID

AWS Lambda functions without a dead-letter queue configured

Description

Checks if an AWS Lambda function is configured with a dead-letter queue.

A dead-letter queue is a feature of AWS Lambda that allows you to capture and analyze failed events, providing a way to handle those events accordingly. Your code might raise an exception, time out, or run out of memory, resulting in failed asynchronous executions of your Lambda function. A dead-letter queue stores messages from failed invocations, providing a way to handle the messages and troubleshoot the failures.

You can specify the dead-letter queue resource that you want to check using the **dlqArns** parameter in your AWS Config rules.

For more information, see Dead-letter queues.

> **Note**
>
> Results for this check are automatically refreshed several times daily, and refresh requests are not allowed. It might take a few hours for changes to appear. Currently, you can't exclude resources from this check.

Check ID

`c18d2gz182`

Source

`AWS Config Managed Rule: lambda-dlq-check`

Alert Criteria

Yellow: AWS Lambda function has no dead-letter queue configured.

Recommended Action

Make sure that your AWS Lambda functions have a dead-letter queue configured to control message handling for all failed asynchronous invocations.

For more information, see Dead-letter queues.

Additional Resources

- Robust Serverless Application Design with AWS Lambda Dead Letter Queues

Report columns

- Status
- Region
- Resource
- AWS Config Rule
- Input Parameters
- Last Updated Time

AWS Lambda On Failure Event Destinations

Description

Checks that Lambda functions in your account have On Failure event destination or Dead Letter Queue (DLQ) configured for asynchronous invocations, so that records from failed invocations can be routed to a destination for further investigation or processing.

> **Note**
>
> Results for this check are automatically refreshed several times daily, and refresh requests are not allowed. It might take a few hours for changes to appear. Currently, you can't exclude resources from this check.

Check ID

`c1dfprch05`

Alert Criteria

- Yellow: Function does not have any On Failure event destination or DLQ configured.

Recommended Action

Please set up On Failure event destination or DLQ for your Lambda functions to send failed invocations along with other details to one of the available destination AWS services for further debugging or processing.

Additional Resources

- Asynchronous Invocation
- AWS Lambda On Failure Event Destinations

Report columns

- Status
- Region
- The function with version which is flagged.
- Current day async requests dropped percentage
- Current day async requests

- Average daily async requests dropped percentage
- Average daily async requests
- Last Updated Time

AWS Lambda VPC-enabled Functions without Multi-AZ Redundancy

Description

Checks the $LATEST version of VPC-enabled Lambda functions that are vulnerable to service interruption in a single Availability Zone. It's a best practice that VPC-enabled functions are connected to multiple Availability Zones for high availability.

> **Note**
>
> Results for this check are automatically refreshed several times daily, and refresh requests are not allowed. It might take a few hours for changes to appear. Currently, you can't exclude resources from this check.

Check ID

`L4dfs2Q4C6`

Alert Criteria

Yellow: The $LATEST version of a VPC-enabled Lambda function is connected to subnets in a single Availability Zone.

Recommended Action

When configuring functions for access to your VPC, choose subnets in multiple Availability Zones to ensure high availability.

Additional Resources

- Configuring a Lambda function to access resources in a VPC
- Resilience in AWS Lambda

Report columns

- Status

- Region
- Function ARN
- VPC ID
- Average daily Invokes
- Last Updated Time

AWS Outposts Single Rack deployment

Description

Checks for Outposts Racks balance. This evaluates if a customers Outposts instances are deployed across multiple Outposts Racks or to a single Outpost Rack. A single Outposts rack creates a single point of failure for issues that involve a single Rack (for example, environmental failures). These scenarios can be mitigated by deploying outposts across multiple Racks.

Check ID

`c243hjzrhn`

Alert Criteria

- Yellow: Your Outpost is deployed on single Rack
- Green: Your Outpost is deployed across multiple Racks.

Recommended Action

If you are running production workloads on AWS Outposts, then its a best practice to use the following resilient architecture. A single AWS Outposts rack creates a single point of failure. Consider adding a second AWS Outposts rack to that location with enough capacity for a failover event, and then distribute workloads across racks.

Additional Resources

Failure mode 4: Racks or data centers

Report columns

- Status
- Resource ARN
- AZ
- Number of Racks

- Last Updated Time

AWS Resilience Hub Application Component check

Description

Checks if an Application Component (AppComponent) in your application is unrecoverable. If an AppComponent doesn't recover in the case of a disruption event, you might experience unknown data loss and system downtime.

> **Note**
>
> Results for this check are automatically refreshed several times daily, and refresh requests are not allowed. It might take a few hours for changes to appear.

Check ID

`RH23stmM04`

Alert Criteria

Red: AppComponent is unrecoverable.

Recommended Action

To ensure that your AppComponent is recoverable, review and implement the resiliency recommendations, and then run a new assessment. For more information about reviewing the resiliency recommendations, see Additional Resources.

Additional Resources

Reviewing resiliency recommendations

AWS Resilience Hub concepts

AWS Resilience Hub User Guide

Report columns

- Status
- Region

- Application Name
- AppComponent Name
- Last Updated Time

AWS Resilience Hub policy breached

Description

Checks Resilience Hub for applications that don't meet the recovery time objective (RTO) and recovery point objective (RPO) that the policy defines. The check alerts you if your application doesn't meet the RTO and RPO objectives you've set for an application in Resilience Hub.

> **Note**
>
> Results for this check are automatically refreshed, and refresh requests are not allowed. Currently, you can't exclude resources from this check.

Check ID

`RH23stmM02`

Alert Criteria

- Green: The application has a policy and meets the RTO and RPO objectives.
- Yellow: The application hasn't been assessed yet.
- Red: The application has a policy but doesn't meet the RTO and RPO objectives.

Recommended Action

Sign in to the Resilience Hub console and review the recommendations so that your application meets the RTO and RPO objectives.

Additional Resources

Resilience Hub concepts

Report columns

- Status
- Region

- Application Name
- Last Updated Time

AWS Resilience Hub resilience scores

Description

Checks if you have run an assessment for your applications in Resilience Hub. This check alerts you if your resilience scores are below a specific value.

> **Note**
>
> Results for this check are automatically refreshed, and refresh requests are not allowed. Currently, you can't exclude resources from this check.

Check ID

`RH23stmM01`

Alert Criteria

- Green: Your application has a resilience score of 70 or greater.
- Yellow: Your application has a resilience score of 40 through 69.
- Yellow: The application hasn't been assessed yet.
- Red: Your application has a resilience score of less than 40.

Recommended Action

Sign in to the Resilience Hub console and run an assessment for your application. Review the recommendations to improve the resilience score.

Additional Resources

Resilience Hub concepts

Report columns

- Status
- Region
- Application Name

- Application Resilience Score
- Last Updated Time

AWS Resilience Hub assessment age

Description

Checks how long since you last ran an application assessment. This check alerts you if you haven't run an application assessment for a specified number of days.

> **Note**
>
> Results for this check are automatically refreshed several times daily, and refresh requests are not allowed. It might take a few hours for changes to appear. Currently, you can't exclude resources from this check.

Check ID

`RH23stmM03`

Alert Criteria

- Green: Your application assessment ran in the last 30 days.
- Yellow: Your application assessment hasn't run in the last 30 days.

Recommended Action

Sign in to the Resilience Hub console and run an assessment for your application.

Additional Resources

Resilience Hub concepts

Report columns

- Status
- Region
- Application Name
- Days Since the Last Assessment Ran
- Last Assessment Run Time

- Last Updated Time

AWS Site-to-Site VPN has at least one tunnel in DOWN status

Description

Checks the number of tunnels that are active for each of your AWS Site-to-Site VPNs.

A VPN should have two tunnels configured at all times. This provides redundancy in case of outage or planned maintenance of the devices at the AWS endpoint. For some hardware, only one tunnel is active at a time. If a VPN has no active tunnels, charges for the VPN might still apply.

For more information, see What is AWS Site-to-Site VPN?

> **Note**
>
> Results for this check are automatically refreshed several times daily, and refresh requests are not allowed. It might take a few hours for changes to appear. Currently, you can't exclude resources from this check.

Check ID

`c18d2gz123`

Source

`AWS Config Managed Rule: vpc-vpn-2-tunnels-up`

Alert Criteria

Yellow: A Site-to-Site VPN has at least one tunnel DOWN.

Recommended Action

Make sure that two tunnels are configured for VPN connections. And, if your hardware supports it, then make sure that both tunnels are active. If you no longer need a VPN connection, then delete it to avoid charges.

For more information, see Your customer gateway device and the content available on the AWS Knowledge Center.

Additional Resources

- AWS Site-to-Site VPN User Guide
- Adding a Virtual Private Gateway to Your VPC

Report columns

- Status
- Region
- Resource
- AWS Config Rule
- Input Parameters
- Last Updated Time

AWS Well-Architected high risk issues for reliability

Description

Checks for high risk issues (HRIs) for your workloads in the reliability pillar. This check is based on your AWS-Well Architected reviews. Your check results depend on whether you completed the workload evaluation with AWS Well-Architected.

> **Note**
>
> Results for this check are automatically refreshed several times daily, and refresh requests are not allowed. It might take a few hours for changes to appear. Currently, you can't exclude resources from this check.

Check ID

`Wxdfp4B1L4`

Alert Criteria

- Red: At least one active high risk issue was identified in the reliability pillar for AWS Well-Architected.
- Green: No active high risk issues were detected in the reliability pillar for AWS Well-Architected.

Recommended Action

AWS Well-Architected detected high risk issues during your workload evaluation. These issues present opportunities to reduce risk and save money. Sign in to the AWS Well-Architected tool to review your answers and take action to resolve your active issues.

Report columns

- Status
- Region
- Workload ARN
- Workload Name
- Reviewer Name
- Workload Type
- Workload Started Date
- Workload Last Modified Date
- Number of identified HRIs for Reliability
- Number of HRIs resolved for Reliability
- Number of questions answered for Reliability
- Total number of questions in Reliability pillar
- Last Updated Time

Classic Load Balancer has no multiple AZs configured

Description

Checks if Classic Load Balancer spans multiple Availability Zones (AZs).

A load balancer distributes incoming application traffic across multiple Amazon EC2 instances in multiple Availability Zones. By default, the load balancer distributes traffic evenly across the Availability Zones that you enable for your load balancer. If one Availability Zone experiences an outage, then load balancer nodes automatically forward requests to the healthy registered instances in one or more Availability Zones.

You can adjust the minimum number of Availability Zones using the **minAvailabilityZones** parameter in your AWS Config rules

For more information, see What is a Classic Load Balancer?.

> **Note**
>
> Results for this check are automatically refreshed several times daily, and refresh requests are not allowed. It might take a few hours for changes to appear. Currently, you can't exclude resources from this check.

Check ID

`c18d2gz154`

Source

`AWS Config Managed Rule: clb-multiple-az`

Alert Criteria

Yellow: Classic Load Balancer does not have Multi-AZ configured or does not meet the minimum number of AZs specified.

Recommended Action

Make sure that your Classic Load Balancers have multiple Availability Zones configured. Span your load balancer across multiple AZs to make sure that you have high availability of your application.

For more information, see Tutorial: Create a Classic Load Balancer.

Report columns

- Status
- Region
- Resource
- AWS Config Rule
- Input Parameters
- Last Updated Time

CLB Connection Draining

Description

Checks for Classic load balancers that do not have connection draining enabled.

When connection draining is not enabled and you deregister an Amazon EC2 instance from a Classic load balancer, the Classic load balancer stops routing traffic to that instance and closes the connection. When connection draining is enabled, the Classic load balancer stops sending new requests to the deregistered instance but keeps the connection open to serve active requests.

Check ID

`7qGXsKIUw`

Alert Criteria

- Yellow: Connection draining is not enabled for a Classic load balancer.
- Green: Connection draining is enabled for Classic load balancer. .

Recommended Action

Enable connection draining for the Classic load balancer. For more information, see Connection Draining and Enable or Disable Connection Draining for Your Load Balancer.

Additional Resources

Elastic Load Balancing Concepts

Report columns

- Status
- Region
- Load Balancer Name
- Reason

ELB Target Imbalance

Description

Checks the target groups' target distribution across Availability Zones (AZs) for Application Load Balancer (ALB), Network Load Balancer (NLB), and Gateway Load Balancer (GWLB).

This check doesn't includes load balancers that are configured with a single AZ and where the difference in number of targets between the most and least populated AZ's is equal to or lesser than 1.

Check ID

b92b83d667

Alert Criteria

- Red: A single AZ represents more than 66% of the load balancer capacity.
- Yellow: A single AZ represents more than 50% of the load balancer capacity.
- Green: No AZs represents more than 50% of the load balancer capacity.

Recommended Action

For better resilience, make sure that your targets groups have same number of targets across AZs.

Additional Resources

Target groups for your Application Load Balancers

Register targets with your Application Load Balancer target group

Report columns

- Status
- Region
- Load Balancer Name
- Load Balancer Type
- Target Group ARN (arn)
- Difference in registered targets across AZs
- Last Updated Time

Load Balancer Optimization

Description

Checks your load balancer configuration.

To help increase the level of fault tolerance in Amazon Elastic Compute Cloud (Amazon EC2) when using Elastic Load Balancing , we recommend running an equal number of instances across multiple Availability Zones in a Region. A load balancer that is configured accrues charges, so this is a cost-optimization check as well.

Check ID

`iqdCTZKCUp`

Alert Criteria

- Yellow: A load balancer is enabled for a single Availability Zone.
- Yellow: A load balancer is enabled for an Availability Zone that has no active instances.
- Yellow: The Amazon EC2 instances that are registered with a load balancer are unevenly distributed across Availability Zones. (The difference between the highest and lowest instance counts in utilized Availability Zones is more than 1, and the difference is more than 20% of the highest count.)

Recommended Action

Ensure that your load balancer points to active and healthy instances in at least two Availability Zones. For more information, see Add Availability Zone.

If your load balancer is configured for an Availability Zone with no healthy instances, or if there is an imbalance of instances across the Availability Zones, determine if all the Availability Zones are necessary. Omit any unnecessary Availability Zones and ensure there is a balanced distribution of instances across the remaining Availability Zones. For more information, see Remove Availability Zone.

Additional Resources

- Availability Zones and Regions
- Managing Load Balancers
- Best Practices in Evaluating Elastic Load Balancing

Report columns

- Status
- Region
- Load Balancer Name
- # of Zones
- Zone a Instances
- Zone b Instances
- Zone c Instances
- Zone d Instances
- Zone e Instances
- Zone f Instances

- Reason

NAT Gateway AZ Independence

Description

Checks if your NAT Gateways are configured with Availability Zone (AZ) independence.

A NAT Gateway enables resources in your private subnet to securely connect to services outside the subnet using the NAT Gateway's IP addresses and drops any unsolicited inbound traffic. Each NAT Gateway operates within a designated Availability Zone (AZ) and is built with redundancy in that AZ only. Therefore, your resources in a particular AZ should use a NAT Gateway in the same AZ so that any potential outage of a NAT Gateway or its AZ does not impact your resources in another AZ.

> **Note**
>
> Results for this check are automatically refreshed several times daily, and refresh requests are not allowed. It might take a few hours for changes to appear. Currently, you can't exclude resources from this check.

Check ID

`c1dfptbg10`

Alert Criteria

- Red: Traffic from your subnet in one AZ is being routed through a NATGW in a different AZ.
- Green: Traffic from your subnet in one AZ is being routed through a NATGW in the same AZ.

Recommended Action

Please check the AZ of your subnet and route traffic through a NAT Gateway in the same AZ.

If there is no NATGW in the AZ, please create one and then route your subnet traffic through it.

If you have the same route table associated across subnets in different AZs, keep this route table associated to the subnets that reside in the same AZ as the NAT Gateway and for subnets in the other AZ, please associate a separate route table with a route to a NAT Gateway in this other AZ.

We recommend choosing a maintenance window for architecture changes in your Amazon VPC.

Additional Resources

- How to create a NAT Gateway
- How to configure routes for different NAT Gateway use cases

Report columns

- Status
- Region
- NAT Availability Zone
- NAT ID
- Subnet Availability Zone
- Subnet ID
- Route Table ID
- NAT ARN
- Last Updated Time

Network Firewall Multi-AZ

Description

Checks if your Network Firewalls are configured to use more than one Availability Zone (AZ) for firewall endpoints.

An AZ is a distinct location that's insulated from failures in other zones. If the Network Firewall endpoint is deployed in only 1 AZ, then it can be a single point of failure and can impair workloads from other AZs using the Network Firewall for traffic inspection. It's a best practice to configure your Network Firewalls in multiple AZs in the same Region to mprove your workload availability.

Check ID

`c2vlfg0gqd`

Alert Criteria

- Yellow: Network Firewall endpoint is deployed in 1 AZ.
- Green: Network Firewall endpoints is deployed in at least two AZs.

Recommended Action

Make sure that your Network Firewall is configured with at least two AZs for production workloads.

Additional Resources

VPC subnet configuration forAWS Network Firewall

Creating a firewall

Availability Zone

AWS Well-Architected Tool - Deploy the workload to multiple locations

Appliance in a shared services VPC

Report columns

- Status
- Region
- Network Firewall Arn
- VPC Id
- Network Firewall Subnets
- Network Firewall Subnets AZs
- Last Updated Time

Network Load Balancers Cross Load Balancing

Description

Checks if cross-zone load balancing is enabled on Network Load Balancers.

Cross-zone load balancing helps maintain even distribution of incoming traffic across instances in different Availability Zones. This prevents the load balancer from routing all traffic to instances in the same Availability Zone, which can cause uneven traffic distribution and potential overloading. The feature also helps application reliability by automatically routing traffic to healthy instances in other Availability Zones in the event of a single Availability Zone failure.

For more information, see Cross-zone load balancing.

> **Note**
>
> Results for this check are automatically refreshed several times daily, and refresh requests are not allowed. It might take a few hours for changes to appear. Currently, you can't exclude resources from this check.

Check ID

`c18d2gz105`

Source

`AWS Config Managed Rule: nlb-cross-zone-load-balancing-enabled`

Alert Criteria

- Yellow: Network Load Balancer does not have cross-zone load balancing enabled.

Recommended Action

Ensure that cross-zone load balancing is enabled on Network Load Balancers.

Additional Resources

Cross-zone load balancing (Network Load Balancers)

Report columns

- Status
- Region
- Resource
- AWS Config Rule
- Input Parameters
- Last Updated Time

NLB - Internet-facing resource in private subnet

Description

Checks if an internet-facing Network Load Balancer (NLB) is configured with a private subnet. An internet-facing Network Load Balancer (NLB) must be configured in public subnets in order

to receive traffic. A public subnet is defined as a subnet that has a direct route to an internet gateway. If the subnet is configured as private, then it's Availability Zone (AZ) doesn't receive traffic, which can cause availability issues.

> **Note**
>
> Results for this check are automatically refreshed several times daily, and refresh requests are not allowed. It might take a few hours for changes to appear. Currently, you can't exclude resources from this check.

Check ID

`c1dfpnchv4`

Alert Criteria

Red: NLB is configured with one or more private subnets

Green: No private subnet is configured for internet-facing NLB

Recommended Action

Confirm that the subnets configured in an internet-facing load balancer are public. A public subnet is defined as a subnet that has a direct route to an internet gateway. Use one of following options:

- Create a new load balancer and select a different subnet with a direct route to an internet gateway.
- Change the subnet that's currently attached to the load balancer from private to public. To do this, change its route table and associate an internet gateway.

Additional Resources

- Configure a load balancer and a listener
- Subnets for your VPC
- Associate a gateway with a route table

Report columns

- Status
- Region

- NLB Arn
- NLB Name
- Subnet ID
- NLB Scheme
- Subnet Type
- Last Updated Time

NLB Multi-AZ

Description

Checks if your Network Load Balancers are configured to use more than one Availability Zone (AZ). An AZ is a distinct location that is insulated from failures in other zones. Configure your load balancer in multiple AZs in the same Region to help improve your workload availability.

> **Note**
>
> Results for this check are automatically refreshed several times daily, and refresh requests are not allowed. It might take a few hours for changes to appear. Currently, you can't exclude resources from this check.

Check ID

`c1dfprch09`

Alert Criteria

Yellow: NLB is in a single AZ.

Green: NLB has two or more AZs.

Recommended Action

Make sure that your load balancer is configured with at least two Availability Zones.

Additional Resources

For more information, see the following documentation:

- Availability Zones
- AWS Well-Architected - Deploy the workload to multiple locations
- Regions and Availability Zones

Report columns

- Status
- Region
- Number of AZs
- NLB ARN
- NLB Name
- Last Updated Time

Number of AWS Regions in an Incident Manager replication set

Description

Checks that an Incident Manager replication set's configuration uses more than one AWS Region to support regional failover and response. For incidents created by CloudWatch alarms or EventBridge events, Incident Manager creates an incident in the same AWS Region as the alarm or event rule. If Incident Manager is temporarily unavailable in that Region, the system attempts to create an incident in another Region in the replication set. If the replication set includes only one Region, the system fails to create an incident record while Incident Manager is unavailable.

> **Note**
>
> Results for this check are automatically refreshed several times daily, and refresh requests are not allowed. It might take a few hours for changes to appear. Currently, you can't exclude resources from this check.

Check ID

`cIdfp1js9r`

Alert Criteria

- Green: The replication set contains more than one Region.

- Yellow: The replication set contains one Region.

Recommended Action

Add at least one more Region to the replication set.

Additional Resources

For more information, see Cross-region Incident management.

Report columns

- Status
- Multi-region
- Replication Set
- Last Updated Time

Single AZ Application Check

Description

Checks through network patterns if your egress network traffic is routing through a single Availability Zone (AZ).

An AZ is a distinct location that is insulated from any impact in other zones. By spreading your service across multiple AZs, you limit the blast radius of an AZ failure.

> **Note**
>
> Results for this check are automatically refreshed several times daily, and refresh requests are not allowed. It might take a few hours for changes to appear. Currently, you can't exclude resources from this check.

Check ID

`c1dfptbg11`

Alert Criteria

- Yellow: Your application may be deployed in only one AZ based on observed egress network patterns. If this is true and your application expects high availability, we recommend that you

provision your application resources and implement your network flows to utilize multiple Availability Zones.

Recommended Action

If your application requires high availability, consider implementing a multi-AZ architecture for higher availability.

Report columns

- Status
- Region
- VPC ID
- Last Updated Time

VPC interface endpoint network interfaces in multiple AZs

Description

Checks if your AWS PrivateLink VPC interface endpoints are configured to use more than one Availability Zone (AZ). An AZ is a distinct location that is insulated from failures in other zones. This supports inexpensive, low-latency network connectivity between AZs in the same AWS Region. Select subnets in multiple AZs when you create interface endpoints to help protect your applications from a single point of failure.

> **Note**
>
> This check currently includes only interface endpoints.

> **Note**
>
> Results for this check are automatically refreshed several times daily, and refresh requests are not allowed. It might take a few hours for changes to appear. Currently, you can't exclude resources from this check.

Check ID

`c1dfprch10`

Alert Criteria

Yellow: VPC endpoint is in a single AZ.

Green: VPC endpoint is in at least two AZs.

Recommended Action

Make sure that your VPC interface endpoint is configured with at least two Availability Zones.

Additional Resources

For more information, see the following documentation:

- Access an AWS service using an interface VPC endpoint
- Private IP address of the endpoint network interface
- AWS PrivateLink concepts
- Regions and Availability Zones

Report columns

- Status
- Region
- VPC Endpoint ID
- Is Multi AZ
- Last Updated Time

VPN Tunnel Redundancy

Description

Checks the number of tunnels that are active for each of your Site-to-Site VPNs.

A VPN should have two tunnels configured at all times. This provides redundancy in case of outage or planned maintenance of the devices at the AWS endpoint. For some hardware, only one tunnel is active at a time. If a VPN has no active tunnels, charges for the VPN might still apply. For more information, see AWS Site-to-Site VPN User Guide.

Check ID

`S45wrEXrLz`

Alert Criteria

- Yellow: A VPN has one active tunnel (this is normal for some hardware).
- Yellow: A VPN has no active tunnels.

Recommended Action

Be sure that two tunnels are configured for your VPN connection, and that both are active if your hardware supports it. If you no longer need a VPN connection, you can delete it to avoid charges. For more information, see Your customer gateway device or Delete a Site-to-Site VPN connection.

Additional Resources

- AWS Site-to-Site VPN User Guide
- Create a target gateway

Report columns

- Status
- Region
- VPN ID
- VPC
- Virtual Private Gateway
- Customer Gateway
- Active Tunnels
- Reason

ActiveMQ Availability Zone Redundancy

Description

Checks that Amazon MQ for ActiveMQ brokers are configured for high availability with an active/standby broker in multiple Availability Zones.

> **Note**
>
> Results for this check are automatically refreshed several times daily, and refresh requests are not allowed. It might take a few hours for changes to appear. Currently, you can't exclude resources from this check.

Check ID

`c1t3k8mqv1`

Alert Criteria

- Yellow: An Amazon MQ for ActiveMQ broker is configured in a single Availability Zone.

  Green: An Amazon MQ for ActiveMQ broker is configured in at least two Availability Zones.

Recommended Action

Create a new broker with active/standby deployment mode.

Additional Resources

- Creating an ActiveMQ broker

Report columns

- Status
- Region
- ActiveMQ Broker ID
- Broker Engine Type
- Deployment Mode
- Last Updated Time

RabbitMQ Availability Zone Redundancy

Description

Checks that Amazon MQ for RabbitMQ brokers are configured for high availability with cluster instances in multiple Availability Zones.

> **Note**
>
> Results for this check are automatically refreshed several times daily, and refresh requests are not allowed. It might take a few hours for changes to appear. Currently, you can't exclude resources from this check.

Check ID

`c1t3k8mqv2`

Alert Criteria

- Yellow: An Amazon MQ for RabbitMQ broker is configured in a single Availability Zone.

  Green: An Amazon MQ for RabbitMQ broker is configured in multiple Availability Zones.

Recommended Action

Create a new broker with the cluster deployment mode.

Additional Resources

- Creating a RabbitMQ broker

Report columns

- Status
- Region
- RabbitMQ Broker ID
- Broker Engine Type
- Deployment Mode
- Last Updated Time

Service limits

See the following checks for the service limits (also known as quotas) category.

All checks in this category have the following descriptions:

Alert Criteria

- Yellow: 80% of limit reached.
- Red: 100% of limit reached.
- Blue: Trusted Advisor was unable to retrieve utilization or limits in one or more AWS Regions.

Recommended Action

If you expect to exceed a service limit, request an increase directly from the Service Quotas console. If Service Quotas doesn't support your service yet, you can open a support case in Support Center.

Report columns

- Status

- Service
- Region
- Limit Amount
- Current Usage

> **Note**
>
> - Values are based on a snapshot, so your current usage might differ. Quota and usage data can take up to 24 hours to reflect any changes. In cases where quotas have been recently increased, you might temporarily see utilization that exceeds the quota.

Check names

- Auto Scaling Groups
- Auto Scaling Launch Configurations
- CloudFormation Stacks
- DynamoDB Read Capacity
- DynamoDB Write Capacity
- EBS Active Snapshots
- EBS Cold HDD (sc1) Volume Storage
- EBS General Purpose SSD (gp2) Volume Storage
- EBS General Purpose SSD (gp3) Volume Storage
- EBS Magnetic (standard) Volume Storage
- EBS Provisioned IOPS SSD (io1) Volume Aggregate IOPS
- EBS Provisioned IOPS SSD (io1) Volume Storage
- EBS Provisioned IOPS SSD (io2) Volume Storage
- EBS Throughput Optimized HDD (st1) Volume Storage
- EC2 On-Demand Instances
- EC2 Reserved Instance Leases
- EC2-Classic Elastic IP Addresses
- EC2-VPC Elastic IP Address

- ELB Application Load Balancers
- ELB Classic Load Balancers
- ELB Network Load Balancers
- IAM Group
- IAM Instance Profiles
- IAM Policies
- IAM Roles
- IAM Server Certificates
- IAM Users
- Kinesis Shards per Region
- Lambda Code Storage Usage
- RDS Cluster Parameter Groups
- RDS Cluster Roles
- RDS Clusters
- RDS DB Instances
- RDS DB Manual Snapshots
- RDS DB Parameter Groups
- RDS DB Security Groups
- RDS Event Subscriptions
- RDS Max Auths per Security Group
- RDS Option Groups
- RDS Read Replicas per Master
- RDS Reserved Instances
- RDS Subnet Groups
- RDS Subnets per Subnet Group
- RDS Total Storage Quota
- Route 53 Hosted Zones
- Route 53 Max Health Checks
- Route 53 Reusable Delegation Sets
- Route 53 Traffic Policies

- Route 53 Traffic Policy Instances
- SES Daily Sending Quota
- VPC
- VPC Internet Gateways

Auto Scaling Groups

Description

Checks for usage that is more than 80% of the Auto Scaling Groups quota.

Check ID

`fW7HH0l7J9`

Additional Resources

Auto Scaling quotas

Auto Scaling Launch Configurations

Description

Checks for usage that is more than 80% of the Auto Scaling launch configurations quota.

Check ID

`aW7HH0l7J9`

Additional Resources

Auto Scaling quotas

CloudFormation Stacks

Description

Checks for usage that is more than 80% of the CloudFormation stacks quota.

Check ID

`gW7HH0l7J9`

Additional Resources

AWS CloudFormation quotas

DynamoDB Read Capacity

Description

Checks for usage that is more than 80% of the DynamoDB provisioned throughput limit for reads per AWS account.

Check ID

`6gtQddfEw6`

Additional Resources

DynamoDB quotas

DynamoDB Write Capacity

Description

Checks for usage that is more than 80% of the DynamoDB provisioned throughput limit for writes per AWS account.

Check ID

`c5ftjdfkMr`

Additional Resources

DynamoDB quotas

EBS Active Snapshots

Description

Checks for usage that is more than 80% of the EBS active snapshots quota.

Check ID

`eI7KK0l7J9`

Additional Resources

Amazon EBS limits

EBS Cold HDD (sc1) Volume Storage

Description

Checks for usage that is more than 80% of the EBS Cold HDD (sc1) volume storage quota.

Check ID

gH5CC0e3J9

Additional Resources

Amazon EBS limits

EBS General Purpose SSD (gp2) Volume Storage

Description

Checks for usage that is more than 80% of the EBS General Purpose SSD (gp2) volume storage quota.

Check ID

dH7RR0l6J9

Additional Resources

Amazon EBS limits

EBS General Purpose SSD (gp3) Volume Storage

Description

Checks for usage that is more than 80% of the EBS General Purpose SSD (gp3) volume storage quota.

Check ID

dH7RR0l6J3

Additional Resources

Amazon EBS limits

EBS Magnetic (standard) Volume Storage

Description

Checks for usage that is more than 80% of the EBS Magnetic (standard) volume storage quota.

Check ID

`cG7HH0l7J9`

Additional Resources

Amazon EBS limits

EBS Provisioned IOPS SSD (io1) Volume Aggregate IOPS

Description

Checks for usage that is more than 80% of the EBS Provisioned IOPS SSD (io1) volume aggregate IOPS quota.

Check ID

`tV7YY0l7J9`

Additional Resources

Amazon EBS limits

EBS Provisioned IOPS SSD (io1) Volume Storage

Description

Checks for usage that is more than 80% of the EBS Provisioned IOPS SSD (io1) volume storage quota.

Check ID

`gI7MM0l7J9`

Additional Resources

Amazon EBS limits

EBS Provisioned IOPS SSD (io2) Volume Storage

Description

Checks for usage that is more than 80% of the EBS Provisioned IOPS SSD (io2) volume storage quota.

Check ID

`gI7MM0l7J2`

Additional Resources

Amazon EBS limits

EBS Throughput Optimized HDD (st1) Volume Storage

Description

Checks for usage that is more than 80% of the EBS Throughput Optimized HDD (st1) volume storage quota.

Check ID

`wH7DD0l3J9`

Additional Resources

Amazon EBS limits

EC2 On-Demand Instances

Description

Checks for usage that is more than 80% of the EC2 On-Demand Instances quota.

Check ID

`0Xc6LMYG8P`

Additional Resources

Amazon EC2 quotas

EC2 Reserved Instance Leases

Description

Checks for usage that is more than 80% of the EC2 Reserved Instance leases quota.

Check ID

`iH7PP0l7J9`

Additional Resources

Amazon EC2 quotas

EC2-Classic Elastic IP Addresses

Description

Checks for usage that is more than 80% of the EC2-Classic Elastic IP addresses quota.

Check ID

`aW9HH0l8J6`

Additional Resources

Amazon EC2 quotas

EC2-VPC Elastic IP Address

Description

Checks for usage that is more than 80% of the EC2-VPC Elastic IP address quota.

Check ID

`lN7RR0l7J9`

Additional Resources

VPC Elastic IP quotas

ELB Application Load Balancers

Description

Checks for usage that is more than 80% of the ELB Application Load Balancers quota.

Check ID

`EM8b3yLRTr`

Additional Resources

Elastic Load Balancing quotas

ELB Classic Load Balancers

Description

Checks for usage that is more than 80% of the ELB Classic Load Balancers quota.

Check ID

`iK7O00l7J9`

Additional Resources

Elastic Load Balancing quotas

ELB Network Load Balancers

Description

Checks for usage that is more than 80% of the ELB Network Load Balancers quota.

Check ID

`8wIqYSt25K`

Additional Resources

Elastic Load Balancing quotas

IAM Group

Description

Checks for usage that is more than 80% of the IAM group quota.

Check ID

sU7XX0l7J9

Additional Resources

IAM quotas

IAM Instance Profiles

Description

Checks for usage that is more than 80% of the IAM instance profiles quota.

Check ID

n07SS0l7J9

Additional Resources

IAM quotas

IAM Policies

Description

Checks for usage that is more than 80% of the IAM policies quota.

Check ID

pR7UU0l7J9

Additional Resources

IAM quotas

IAM Roles

Description

Checks for usage that is more than 80% of the IAM roles quota.

Check ID

oQ7TT0l7J9

Additional Resources

IAM quotas

IAM Server Certificates

Description

Checks for usage that is more than 80% of the IAM server certificates quota.

Check ID

rT7WW0l7J9

Additional Resources

IAM quotas

IAM Users

Description

Checks for usage that is more than 80% of the IAM users quota.

Check ID

qS7VV0l7J9

Additional Resources

IAM quotas

Kinesis Shards per Region

Description

Checks for usage that is more than 80% of the Kinesis shards per Region quota.

Check ID

`bW7HH017J9`

Additional Resources

Kinesis quotas

Lambda Code Storage Usage

Description

Checks for code storage usage that is more than 80% of the account limit.

> **Note**
>
> Results for this check are automatically refreshed several times daily, and refresh requests are not allowed. It might take a few hours for changes to appear. Currently, you can't exclude resources from this check.

Check ID

`c1dfprch07`

Alert Criteria

- Yellow: 80% of limit reached.

Recommended Action

Please identify unused lambda functions or versions and remove them to free up the code storage for your account in the region. If you need additional storage, please create a support case in Support Center. If you expect to exceed a service limit, request an increase directly from the Service Quotas console. If Service Quotas doesn't support your service yet, you can open a support case in Support Center.

Additional Resources

- Lambda Code Storage Usage

Report columns

- Status
- Region
- The qualified function ARN for this resource.
- The function code storage usage in MegaBytes with 2 decimals.
- The amount of versions in the function
- Last Updated Time

RDS Cluster Parameter Groups

Description

Checks for usage that is more than 80% of the RDS cluster parameter groups quota.

Check ID

`jtlIMO3qZM`

Additional Resources

Amazon RDS quotas

RDS Cluster Roles

Description

Checks for usage that is more than 80% of the RDS cluster roles quota.

Check ID

`7fuccf1Mx7`

Additional Resources

Amazon RDS quotas

RDS Clusters

Description

Checks for usage that is more than 80% of the RDS clusters quota.

Check ID

`gjqMBn6pjz`

Additional Resources

Amazon RDS quotas

RDS DB Instances

Description

Checks for usage that is more than 80% of the RDS DB instances quota.

Check ID

`XG0aXHpIEt`

Additional Resources

Amazon RDS quotas

RDS DB Manual Snapshots

Description

Checks for usage that is more than 80% of the RDS DB manual snapshots quota.

Check ID

`dV84wpqRUs`

Additional Resources

Amazon RDS quotas

RDS DB Parameter Groups

Description

Checks for usage that is more than 80% of the RDS DB parameter groups quota.

Check ID

`jEECYg2YVU`

Additional Resources

Amazon RDS quotas

RDS DB Security Groups

Description

Checks for usage that is more than 80% of the RDS DB security groups quota.

Check ID

`gfZAn3W7wl`

Additional Resources

Amazon RDS quotas

RDS Event Subscriptions

Description

Checks for usage that is more than 80% of the RDS event subscriptions quota.

Check ID

`keAhfbH5yb`

Additional Resources

Amazon RDS quotas

RDS Max Auths per Security Group

Description

Checks for usage that is more than 80% of the RDS max auths per security group quota.

Check ID

dBkuNCvqn5

Additional Resources

Amazon RDS quotas

RDS Option Groups

Description

Checks for usage that is more than 80% of the RDS option groups quota.

Check ID

3Njm0DJQO9

Additional Resources

Amazon RDS quotas

RDS Read Replicas per Master

Description

Checks for usage that is more than 80% of the RDS read replicas per master quota.

Check ID

pYW8UkYz2w

Additional Resources

Amazon RDS quotas

RDS Reserved Instances

Description

Checks for usage that is more than 80% of the RDS Reserved Instances quota.

Check ID

`UUDv0a5r34`

Additional Resources

Amazon RDS quotas

RDS Subnet Groups

Description

Checks for usage that is more than 80% of the RDS subnet groups quota.

Check ID

`dYWBaXaaMM`

Additional Resources

Amazon RDS quotas

RDS Subnets per Subnet Group

Description

Checks for usage that is more than 80% of the RDS subnets per subnet group quota.

Check ID

`jEhCtdJK0Y`

Additional Resources

Amazon RDS quotas

RDS Total Storage Quota

Description

Checks for usage that is more than 80% of the RDS total storage quota.

Check ID

`P1jhKWEmLa`

Additional Resources

Amazon RDS quotas

Route 53 Hosted Zones

Description

Checks for usage that is more than 80% of the Route 53 hosted zones quota per account.

Check ID

`dx3xfcdfMr`

Additional Resources

Route 53 quotas

Route 53 Max Health Checks

Description

Checks for usage that is more than 80% of the Route 53 health checks quota per account.

Check ID

`ru4xfcdfMr`

Additional Resources

Route 53 quotas

Route 53 Reusable Delegation Sets

Description

Checks for usage that is more than 80% of the Route 53 reusable delegation sets quota per account.

Check ID

`ty3xfcdfMr`

Additional Resources

Route 53 quotas

Route 53 Traffic Policies

Description

Checks for usage that is more than 80% of the Route 53 traffic policies quota per account.

Check ID

`dx3xfbjfMr`

Additional Resources

Route 53 quotas

Route 53 Traffic Policy Instances

Description

Checks for usage that is more than 80% of the Route 53 traffic policy instances quota per account.

Check ID

`dx8afcdfMr`

Additional Resources

Route 53 quotas

SES Daily Sending Quota

Description

Checks for usage that is more than 80% of the Amazon SES daily sending quota.

Check ID

`hJ7NN0l7J9`

Additional Resources

Amazon SES quotas

VPC

Description

Checks for usage that is more than 80% of the VPC quota.

Check ID

`jL7PP0l7J9`

Additional Resources

VPC quotas

VPC Internet Gateways

Description

Checks for usage that is more than 80% of the VPC Internet gateways quota.

Check ID

`kM7QQ0l7J9`

Additional Resources

VPC quotas

Operational Excellence

You can use the following checks for the operational excellence category.

Check names

- Amazon API Gateway Not Logging Execution Logs
- Amazon API Gateway REST APIs Without X-Ray Tracing Enabled
- Amazon CloudFront Access Log Configured
- Amazon CloudWatch Alarm Action is Disabled
- Amazon EC2 Instance Not Managed by AWS Systems Manager
- Amazon ECR Repository With Tag Immutability Disabled
- Amazon ECS clusters with Container Insights disabled
- Amazon ECS task logging not enabled
- Amazon OpenSearch Service logging CloudWatch not configured
- Amazon RDS DB instances in the clusters with heterogeneous parameter groups
- Amazon RDS Enhanced Monitoring is turned off
- Amazon RDS Performance Insights is turned off
- Amazon RDS track_counts parameter is turned off
- Amazon Redshift cluster audit logging
- Amazon S3 Access Logs Enabled
- Amazon S3 does not have Event Notifications enabled
- Amazon SNS Topics Not Logging Message Delivery Status
- Amazon VPC Without Flow Logs
- Application Load Balancers and Classic Load Balancers Without Access Logs Enabled
- AWS CloudFormation Stack Notification
- AWS CloudTrail data events logging for objects in an S3 bucket
- AWS CodeBuild Project Logging
- AWS CodeDeploy Auto Rollback and Monitor Enabled
- AWS CodeDeploy Lambda is using all-at-once deployment configuration
- AWS Elastic Beanstalk Enhanced Health Reporting is not Configured
- AWS Elastic Beanstalk with Managed Platform Updates Disabled
- AWS Fargate platform version is not latest
- AWS Systems Manager State Manager Association in Non-compliant Status
- CloudTrail trails are not configured with Amazon CloudWatch Logs

- Elastic Load Balancing Deletion Protection Not Enabled for Load Balancers
- RDS DB Cluster Deletion Protection Check
- RDS DB Instance Automatic Minor Version Upgrade Check

Amazon API Gateway Not Logging Execution Logs

Description

Checks if Amazon API Gateway has CloudWatch Logs turned on at the desired logging level.

Turn on CloudWatch logging for REST API methods or WebSocket API routes in Amazon API Gateway to collect execution logs in CloudWatch Logs for requests received by your APIs. The information contained in the execution logs helps identify and troubleshoot issues related to your API.

You can specify the logging level (ERROR, INFO) ID in the **loggingLevel** parameter in the AWS Config rules.

Refer to the REST API or WebSocket API documentation for more information about CloudWatch logging in Amazon API Gateway.

> **Note**
>
> Results for this check are automatically refreshed several times daily, and refresh requests are not allowed. It might take a few hours for changes to appear. Currently, you can't exclude resources from this check.

Check ID

```
c18d2gz125
```

Source

```
AWS Config Managed Rule: api-gw-execution-logging-enabled
```

Alert Criteria

Yellow: The CloudWatch logging setting for execution log collection isn't enabled at the desired logging level for an Amazon API Gateway.

Recommended Action

Turn on CloudWatch logging for execution logs for your Amazon API Gateway REST APIs or WebSocket APIs with the appropriate logging level (ERROR, INFO).

For more information, see Create a flow log

Additional Resources

- Setting up CloudWatch logging for a REST API in API Gateway
- Configuring logging for a WebSocket API

Report columns

- Status
- Region
- Resource
- AWS Config Rule
- Input Parameters
- Last Updated Time

Amazon API Gateway REST APIs Without X-Ray Tracing Enabled

Description

Checks if Amazon API Gateway REST APIs have AWS X-Ray tracing turned on.

Turn on X-Ray tracing for your REST APIs to allow API Gateway to sample API invocation requests with trace information. This allows you to take advantage of AWS X-Ray to trace and analyze requests as they travel through your API Gateway REST APIs to the downstream services.

For more information, see Tracing user requests to REST APIs using X-Ray.

> **Note**
>
> Results for this check are automatically refreshed several times daily, and refresh requests are not allowed. It might take a few hours for changes to appear. Currently, you can't exclude resources from this check.

Check ID

`c18d2gz126`

Source

`AWS Config Managed Rule: api-gw-xray-enabled`

Alert Criteria

Yellow: X-Ray tracing is not turned on for an API Gateway REST API.

Recommended Action

Turn on X-Ray tracing for your API Gateway REST APIs.

For more information, see Setting up AWS X-Ray with API Gateway REST APIs.

Additional Resources

- Tracing user requests to REST APIs using X-Ray
- What is AWS X-Ray?

Report columns

- Status
- Region
- Resource
- AWS Config Rule
- Input Parameters
- Last Updated Time

Amazon CloudFront Access Log Configured

Description

Checks if Amazon CloudFront distributions are configured to capture information from Amazon S3 server access logs. Amazon S3 server access logs contain detailed information about every user request that CloudFront receives.

You can adjust the the name of the Amazon S3 bucket for storing server access logs, using the **S3BucketName** parameter in your AWS Config rules.

For more information, see Configuring and using standard logs (access logs).

> **Note**
>
> Results for this check are automatically refreshed several times daily, and refresh requests are not allowed. It might take a few hours for changes to appear. Currently, you can't exclude resources from this check.

Check ID

`c18d2gz110`

Source

`AWS Config Managed Rule: cloudfront-accesslogs-enabled`

Alert Criteria

Yellow: Amazon CloudFront access logging is not enabled

Recommended Action

Make sure that you turn on CloudFront access logging to capture detailed information about every user request that CloudFront receives.

You can turn on standard logs when you create or update a distribution.

For more information, see Values that you specify when you create or update a distribution.

Additional Resources

- Values that you specify when you create or update a distribution
- Configuring and using standard logs (access logs)

Report columns

- Status
- Region
- Resource
- AWS Config Rule
- Input Parameters
- Last Updated Time

Amazon CloudWatch Alarm Action is Disabled

Description

Checks if your Amazon CloudWatch alarm action is in a disabled state.

You can use the AWS CLI to enable or disable the action feature in your alarm. Or, you can programatically disable or enable the action feature using the AWS SDK. When the alarm action feature is turned off, CloudWatch doesn't perform any defined action in any state (OK, INSUFFICIENT_DATA, ALARM).

> **Note**
>
> Results for this check are automatically refreshed several times daily, and refresh requests are not allowed. It might take a few hours for changes to appear. Currently, you can’t exclude resources from this check.

Check ID

`c18d2gz109`

Source

`AWS Config Managed Rule: cloudwatch-alarm-action-enabled-check`

Alert Criteria

Yellow: Amazon CloudWatch alarm action is not enabled. No action is performed in any alarm state.

Recommended Action

Enable actions in your CloudWatch alarms unless you have a valid reason to disable them, such as for testing purposes.

If the CloudWatch alarm is no longer needed, delete it to avoid incurring unnecessary costs.

For more information, see enable-alarm-actions in the AWS CLI Command Reference and func (*CloudWatch) EnableAlarmActions in the AWS SDK for Go API Reference.

Report columns

- Status

- Region
- Resource
- AWS Config Rule
- Input Parameters
- Last Updated Time

Amazon EC2 Instance Not Managed by AWS Systems Manager

Description

Checks if the Amazon EC2 instances in your account are managed by AWS Systems Manager.

Systems Manager helps you understand and control the current state of your Amazon EC2 instance and OS configurations. With Systems Manager, you can collect software configuration and inventory information about your fleet of instances, including the software installed on them. This allows you to track detailed system configuration, OS patch levels, application configurations, and other details about your deployment.

For more information, see Setting up Systems Manager for EC2 instances.

> **Note**
>
> Results for this check are automatically refreshed several times daily, and refresh requests are not allowed. It might take a few hours for changes to appear. Currently, you can't exclude resources from this check.

Check ID

`c18d2gz145`

Source

`AWS Config Managed Rule: ec2-instance-managed-by-systems-manager`

Alert Criteria

Yellow: The Amazon EC2 instances are not managed by Systems Manager.

Recommended Action

Configure your Amazon EC2 instance to be managed by Systems Manager.

This check can't be excluded from view in the Trusted Advisor console.

For more information, see Why is my EC2 instance not displaying as a managed node or showing a "Connection lost" status in Systems Manager?.

Additional Resources

Setting up Systems Manager for EC2 instances

Report columns

- Status
- Region
- Resource
- AWS Config Rule
- Input Parameters
- Last Updated Time

Amazon ECR Repository With Tag Immutability Disabled

Description

Checks if a private Amazon ECR repository has image tag immutability turned on.

Turn on image tag immutability for a private Amazon ECR repository to prevent image tags from being overwritten. This allows you to rely on descriptive tags as a reliable mechanism to track and uniquely identify images.For example, if image tag immutability is turned on, then users can reliably use an image tag to correlate a deployed image version with the build that produced such image.

For more information, see Image tag mutability.

> **Note**
>
> Results for this check are automatically refreshed several times daily, and refresh requests are not allowed. It might take a few hours for changes to appear. Currently, you can’t exclude resources from this check.

Check ID

`c18d2gz129`

Source

`AWS Config Managed Rule: ecr-private-tag-immutability-enabled`

Alert Criteria

Yellow: An Amazon ECR private repository doesn't have tag immutability turned on.

Recommended Action

Turn on image tag immutability for your Amazon ECR private repositories.

For more information, see Image tag mutability.

Report columns

- Status
- Region
- Resource
- AWS Config Rule
- Input Parameters
- Last Updated Time

Amazon ECS clusters with Container Insights disabled

Description

Checks if Amazon CloudWatch Container Insights is turned on for your Amazon ECS clusters.

CloudWatch Container Insights collects, aggregates, and summarizes metrics and logs from your containerized applications and microservices. The metrics include utilization for resources such as CPU, memory, disk, and network.

For more information, see Amazon ECS CloudWatch Container Insights.

> **Note**
>
> Results for this check are automatically refreshed several times daily, and refresh requests are not allowed. It might take a few hours for changes to appear. Currently, you can't exclude resources from this check.

Check ID

`c18d2gz173`

Source

`AWS Config Managed Rule: ecs-container-insights-enabled`

Alert Criteria

Yellow: Amazon ECS cluster does not have container insights enabled.

Recommended Action

Turn on CloudWatch Container Insights on your Amazon ECS clusters.

For more information, see Using Container Insights.

Additional Resources

Amazon ECS CloudWatch Container Insights

Report columns

- Status
- Region
- Resource
- AWS Config Rule
- Input Parameters
- Last Updated Time

Amazon ECS task logging not enabled

Description

Checks if log configuration is set on active Amazon ECS task definitions.

Checking the log configuration in your Amazon ECS task definitions makes sure that logs generated by containers are properly configured and stored. This helps identify and troubleshoot issues more quickly, optimize performance, and meet compliance requirements.

By default, the logs that are captured show the command output that you typically see in an interactive terminal if you ran the container locally. The awslogs driver passes these logs from Docker to Amazon CloudWatch Logs.

For more information, see Using the awslogs log driver.

> **Note**
>
> Results for this check are automatically refreshed several times daily, and refresh requests are not allowed. It might take a few hours for changes to appear. Currently, you can't exclude resources from this check.

Check ID

`c18d2gz175`

Source

`AWS Config Managed Rule: ecs-task-definition-log-configuration`

Alert Criteria

Yellow: Amazon ECS task definition does not have a logging configuration.

Recommended Action

Consider specifying the log driver configuration in container definition to send log information to CloudWatch Logs or a different logging driver.

For more information, see LogConfiguration.

Additional Resources

Consider specifying the log driver configuration in container definition to send log information to CloudWatch Logs or a different logging driver.

For more information, see Example task definitions.

Report columns

- Status

- Region
- Resource
- AWS Config Rule
- Input Parameters
- Last Updated Time

Amazon OpenSearch Service logging CloudWatch not configured

Description

Checks if Amazon OpenSearch Service domains are configured to send logs to Amazon CloudWatch Logs.

Monitoring logs is crucial for maintaining the reliability, availability, and performance of OpenSearch Service.

Search slow logs, indexing slow logs, and error logs are useful for troubleshooting performance and stability issues your workload. These logs need to be enabled to capture data.

You can specify which log types that you want to filter (error, search, index) using the **logTypes** parameter in your AWS Config rules.

For more information, see Monitoring Amazon OpenSearch Service domains.

> **Note**
>
> Results for this check are automatically refreshed several times daily, and refresh requests are not allowed. It might take a few hours for changes to appear. Currently, you can't exclude resources from this check.

Check ID

`c18d2gz184`

Source

`AWS Config Managed Rule: opensearch-logs-to-cloudwatch`

Alert Criteria

Yellow: Amazon OpenSearch Service does not have a logging configuration with Amazon CloudWatch Logs

Recommended Action

Configure OpenSearch Service domains to publish logs to CloudWatch Logs.

For more information, see Enabling log publishing (console).

Additional Resources

- Monitoring OpenSearch Service cluster metrics with Amazon CloudWatch

Report columns

- Status
- Region
- Resource
- AWS Config Rule
- Input Parameters
- Last Updated Time

Amazon RDS DB instances in the clusters with heterogeneous parameter groups

Description

We recommend that all of the DB instances in the DB cluster use the same DB parameter group.

> **Note**
>
> Results for this check are automatically refreshed several times daily, and refresh requests are not allowed. It might take a few hours for changes to appear. Currently, you can't exclude resources from this check.

> **Note**
>
> When a DB instance or DB cluster is stopped, you can view the Amazon RDS recommendations in Trusted Advisor for 3 to 5 days. After five days, the

recommendations are not available in Trusted Advisor. To view the recommendations, open the Amazon RDS console, and then choose **Recommendations**.
If you delete a DB instance or DB cluster, then recommendations associated with those instances or clusters are not available in Trusted Advisor or the Amazon RDS management console.

Check ID

`c1qf5bt010`

Alert Criteria

Yellow: DB clusters have the DB instances with heterogeneous parameter groups.

Recommended Action

Associate the DB instance with the DB parameter group associated with the writer instance in your DB cluster.

Additional Resources

When the DB instances in your DB cluster use different DB parameter groups, there can be an inconsistent behavior during a failover or compatibility issues between the DB instances in your DB cluster.

For more information, see Working with parameter groups.

Report columns

- Status
- Region
- Resource
- Recommended Value
- Engine Name
- Last Updated Time

Amazon RDS Enhanced Monitoring is turned off

Description

Your database resources don't have Enhanced Monitoring turned on. Enhanced Monitoring provides real-time operating system metrics for monitoring and troubleshooting.

> **Note**
>
> Results for this check are automatically refreshed several times daily, and refresh requests are not allowed. It might take a few hours for changes to appear. Currently, you can’t exclude resources from this check.

> **Note**
>
> When a DB instance or DB cluster is stopped, you can view the Amazon RDS recommendations in Trusted Advisor for 3 to 5 days. After five days, the recommendations are not available in Trusted Advisor. To view the recommendations, open the Amazon RDS console, and then choose **Recommendations**.
> If you delete a DB instance or DB cluster, then recommendations associated with those instances or clusters are not available in Trusted Advisor or the Amazon RDS management console.

Check ID

`c1qf5bt004`

Alert Criteria

Yellow: Amazon RDS resources don't have Enhanced Monitoring turned on.

Recommended Action

Turn on Enhanced Monitoring.

Additional Resources

Enhanced Monitoring for Amazon RDS provides additional visibility on the health of your DB instances. We recommend that you turn on Enhanced Monitoring. When the Enhanced

Monitoring option is turned on for your DB instance, it collects vital operating system metrics and process information.

For more information, see Monitoring OS metrics with Enhanced Monitoring.

Report columns

- Status
- Region
- Resource
- Recommended Value
- Engine Name
- Last Updated Time

Amazon RDS Performance Insights is turned off

Description

Amazon RDS Performance Insights monitors your DB instance load to help you analyze and resolve database performance issues. We recommend that you turn on Performance Insights.

> **Note**
>
> Results for this check are automatically refreshed several times daily, and refresh requests are not allowed. It might take a few hours for changes to appear. Currently, you can't exclude resources from this check.

> **Note**
>
> When a DB instance or DB cluster is stopped, you can view the Amazon RDS recommendations in Trusted Advisor for 3 to 5 days. After five days, the recommendations are not available in Trusted Advisor. To view the recommendations, open the Amazon RDS console, and then choose **Recommendations**.
> If you delete a DB instance or DB cluster, then recommendations associated with those instances or clusters are not available in Trusted Advisor or the Amazon RDS management console.

Check ID

`c1qf5bt012`

Alert Criteria

Yellow: Amazon RDS resources don't have Performance Insights turned on.

Recommended Action

Turn on Performance Insights.

Additional Resources

Performance Insights uses a lightweight data collection method that doesn't impact the performance of your applications. Performance Insights helps you assess the database load quickly.

For more information, see Monitoring DB load with Performance Insights on Amazon RDS.

Report columns

- Status
- Region
- Resource
- Recommended Value
- Engine Name
- Last Updated Time

Amazon RDS track_counts parameter is turned off

Description

When the **track_counts** parameter is turned off, the database doesn't collect the database activity statistics. Autovacuum requires these statistics to work correctly.

We recommend that you set **track_counts** parameter to 1

> **Note**
>
> Results for this check are automatically refreshed several times daily, and refresh requests are not allowed. It might take a few hours for changes to appear. Currently, you can't exclude resources from this check.

> **Note**
>
> When a DB instance or DB cluster is stopped, you can view the Amazon RDS recommendations in Trusted Advisor for 3 to 5 days. After five days, the recommendations are not available in Trusted Advisor. To view the recommendations, open the Amazon RDS console, and then choose **Recommendations**.
> If you delete a DB instance or DB cluster, then recommendations associated with those instances or clusters are not available in Trusted Advisor or the Amazon RDS management console.

Check ID

`c1qf5bt027`

Alert Criteria

Yellow: DB parameter groups have **track_counts** parameter turned off.

Recommended Action

Set **track_counts** parameter to 1

Additional Resources

When **track_counts** parameter is turned off, it disables the collection of database activity statistics. The autovacuum daemon requires the collected statistics to identify the tables for autovacuum and autoanalyze.

For more information, see Run-time Statistics for PostgreSQL on the PostgreSQL documentation website.

Report columns

- Status

- Region
- Resource
- Parameter Value
- Recommended Value
- Last Updated Time

Amazon Redshift cluster audit logging

Description

Checks if your Amazon Redshift clusters have database audit logging turned on. Amazon Redshift logs information about connections and user activities in your database.

You can specify your desired logging Amazon S3 bucket name to match in the **bucketNames** parameter of your AWS Config rules.

For more information, see Database audit logging.

> **Note**
>
> Results for this check are automatically refreshed several times daily, and refresh requests are not allowed. It might take a few hours for changes to appear. Currently, you can't exclude resources from this check.

Check ID

`c18d2gz134`

Source

`AWS Config Managed Rule: redshift-audit-logging-enabled`

Alert Criteria

Yellow: An Amazon Redshift cluster has database audit logging disabled

Recommended Action

Turn on logging and monitoring for your Amazon Redshift clusters.

For more information, see Configuring auditing using the console.

Additional Resources

Logging and monitoring in Amazon Redshift

Report columns

- Status
- Region
- Resource
- AWS Config Rule
- Input Parameters
- Last Updated Time

Amazon S3 Access Logs Enabled

Description

Checks the logging configuration of Amazon Simple Storage Service buckets.

Activating server access logging delivers detailed hourly access logs to a specified Amazon S3 bucket. Access logs contain request details including type, specified resources, and processing time/date. Logging is turned off by default. Customers should activate access logging to perform security audits or analyze user behavior and usage patterns.

When logging is initially activated, the configuration is automatically validated. However, future modifications can result in logging failures. Note that currently this check doesn't examine Amazon S3 bucket write permissions.

Check ID

`c1fd6b96l4`

Alert Criteria

- Yellow: The bucket does not have server access logging enabled.
- Yellow: The target bucket permissions do not include the root account, so Trusted Advisor cannot check it.
- Red: The target bucket does not exist.

- Red: The target bucket and the source bucket have different owners.
- Green: Bucket has server access logging enabled, the target exists, and permissions to write to target exists

Recommended Action

Activate server access logging for all relevant Amazon S3 buckets. Server access logs provide an audit trail that can be used to understand bucket access patterns and investigate suspicious activity. Activating logging on all applicable buckets will improve visibility into access events across your Amazon S3 environment. See Enabling Logging Using the Console and Enabling Logging Programmatically.

If the target bucket permissions do not include the root account and you want Trusted Advisor to check the logging status, add the root account as a grantee. See Editing Bucket Permissions.

If the target bucket does not exist, select an existing bucket as a target or create a new one and select it. See Managing Bucket Logging.

If the target and source have different owners, change the target bucket to one that has the same owner as the source bucket. See Managing Bucket Logging.

Additional Resources

Working with buckets

Server access logging

Server access log format

Deleting log files

Report columns

- Status
- Region
- Resource ARN
- Bucket Name
- Target Name
- Target Exists

- Same Owner
- Write Enabled
- Reason
- Last Updated Time

Amazon S3 does not have Event Notifications enabled

Description

Checks if Amazon S3 Event Notifications is enabled or is correctly configured with the desired destination or types.

The Amazon S3 Event Notifications feature sends notifications when certain events happen in your Amazon S3 buckets. Amazon S3 can send notification messages to Amazon SQS queues, Amazon SNS topics, and AWS Lambda functions.

You can specify your desired destination and event types using the **destinationArn** and **eventTypes** parameters of your AWS Config rules.

For more information, see Amazon S3 Event Notifications.

> **Note**
>
> Results for this check are automatically refreshed several times daily, and refresh requests are not allowed. It might take a few hours for changes to appear. Currently, you can't exclude resources from this check.

Check ID

```
c18d2gz163
```

Source

```
AWS Config Managed Rule: s3-event-notifications-enabled
```

Alert Criteria

Yellow: Amazon S3 does not have Event Notifications enabled, or not configured with the desired destination or types.

Recommended Action

Configure Amazon S3 Event Notfiications for object and bucket events.

For more information, see Enabling and configuring event notifications using the Amazon S3 console.

Report columns

- Status
- Region
- Resource
- AWS Config Rule
- Input Parameters
- Last Updated Time

Amazon SNS Topics Not Logging Message Delivery Status

Description

Checks if Amazon SNS topics have message delivery status logging turned on.

Configure Amazon SNS topics for logging message delivery status to help provide better operational insights. For example, message delivery logging verifies if a message was delivered to a particular Amazon SNS endpoint. And, it also helps identify the response sent from the endpoint.

For more information, see Amazon SNS message delivery status.

> **Note**
>
> Results for this check are automatically refreshed several times daily, and refresh requests are not allowed. It might take a few hours for changes to appear. Currently, you can't exclude resources from this check.

Check ID

`c18d2gz121`

Source

`AWS Config Managed Rule: sns-topic-message-delivery-notification-enabled`

Alert Criteria

Yellow: Message delivery status logging is not turned on for an Amazon SNS topic.

Recommended Action

Turn on message delivery status logging for your SNS topics.

For more information, see Configuring delivery status logging using the AWS Management Console.

Report columns

- Status
- Region
- Resource
- AWS Config Rule
- Input Parameters
- Last Updated Time

Amazon VPC Without Flow Logs

Description

Checks if Amazon Virtual Private Cloud Flow Logs are created for a VPC.

You can specify the traffic type using the **trafficType** parameter in your AWS Config rules.

For more information, see Logging IP traffic using VPC Flow Logs.

> **Note**
>
> Results for this check are automatically refreshed several times daily, and refresh requests are not allowed. It might take a few hours for changes to appear. Currently, you can't exclude resources from this check.

Check ID

`c18d2gz122`

Source

`AWS Config Managed Rule: vpc-flow-logs-enabled`

Alert Criteria

Yellow: VPCs do not have Amazon VPC Flow Logs.

Recommended Action

Create VPC Flow Logs for each of your VPCs.

For more information, see Create a flow log

Report columns

- Status
- Region
- Resource
- AWS Config Rule
- Input Parameters
- Last Updated Time

Application Load Balancers and Classic Load Balancers Without Access Logs Enabled

Description

Checks if Application Load Balancers and Classic Load Balancers have access logging enabled.

Elastic Load Balancing provides access logs that capture detailed information about requests sent to your load balancer. Each log contains information such as the time the request was received, the client's IP address, latencies, request paths, and server responses. You can use these access logs to analyze traffic patterns and troubleshoot issues.

Access logs are an optional feature of Elastic Load Balancing that is disabled by default. After you enable access logs for your load balancer, Elastic Load Balancing captures the logs and stores them in the Amazon S3 bucket that you specify.

You can specify the access log Amazon S3 bucket that you want to check using the **s3BucketNames** parameter in your AWS Config rules.

For more information, see Access logs for your Application Load Balancer or Access logs for your Classic Load Balancer.

> **Note**
>
> Results for this check are automatically refreshed several times daily, and refresh requests are not allowed. It might take a few hours for changes to appear. Currently, you can't exclude resources from this check.

Check ID

`c18d2gz167`

Source

`AWS Config Managed Rule: elb-logging-enabled`

Alert Criteria

Yellow: Access logs feature not enabled for an Application Load Balancer or Classic Load Balancer.

Recommended Action

Enable access logs for your Application Load Balancers and Classic Load Balancers.

For more information, see Enable access logs for your Application Load Balancer or Enable access logs for your Classic Load Balancer.

Report columns

- Status
- Region
- Resource
- AWS Config Rule
- Input Parameters
- Last Updated Time

AWS CloudFormation Stack Notification

Description

Checks if all of your AWS CloudFormation stacks use Amazon SNS to receive notifications when an event occurs.

You can configure this check to look for specific Amazon SNS topic ARNs using parameters in your AWS Config rules.

For more information, see Setting AWS CloudFormationstack options.

> **Note**
>
> Results for this check are automatically refreshed several times daily, and refresh requests are not allowed. It might take a few hours for changes to appear. Currently, you can't exclude resources from this check.

Check ID

`c18d2gz111`

Source

`AWS Config Managed Rule: cloudformation-stack-notification-check`

Alert Criteria

Yellow: Amazon SNS event notifications for your AWS CloudFormation stacks are not turned on.

Recommended Action

Make sure that your AWS CloudFormation stacks use Amazon SNS to receive notifications when an event occurs.

Monitoring stack events helps you to respond quickly to unauthorized actions that might alter your AWS environment.

Additional Resources

How can I receive an email alert when my AWS CloudFormation stack enters ROLLBACK_IN_PROGRESS status?

Report columns

- Status
- Region
- Resource
- AWS Config Rule
- Input Parameters
- Last Updated Time

AWS CloudTrail data events logging for objects in an S3 bucket

Description

Checks if at least one AWS CloudTrail trail logs Amazon S3 data events for all of your Amazon S3 buckets.

For more information, see Logging Amazon S3 API calls using AWS CloudTrail.

> **Note**
>
> Results for this check are automatically refreshed several times daily, and refresh requests are not allowed. It might take a few hours for changes to appear. Currently, you can't exclude resources from this check.

Check ID

`c18d2gz166`

Source

`AWS Config Managed Rule: cloudtrail-s3-dataevents-enabled`

Alert Criteria

Yellow: AWS CloudTrail event logging for Amazon S3 buckets is not configured

Recommended Action

Enable CloudTrail event logging for Amazon S3 buckets and objects to track requests for target bucket access.

For more information, see Enabling CloudTrail event logging for S3 buckets and objects.

Report columns

- Status
- Region
- Resource
- AWS Config Rule
- Input Parameters
- Last Updated Time

AWS CodeBuild Project Logging

Description

Checks if the AWS CodeBuild project environment uses logging. Logging options can be logs in Amazon CloudWatch Logs, or built in a specified Amazon S3 bucket, or both. Enabling logging in a CodeBuild project can provide several benefits such as debugging and auditing.

You can specify the name of the Amazon S3 bucket or CloudWatch Logs group for storing the logs, using the **s3BucketNames** or **cloudWatchGroupNames** parameter in your AWS Config rules.

For more information, see Monitoring AWS CodeBuild.

> **Note**
>
> Results for this check are automatically refreshed several times daily, and refresh requests are not allowed. It might take a few hours for changes to appear. Currently, you can't exclude resources from this check.

Check ID

```
c18d2gz113
```

Source

```
AWS Config Managed Rule: codebuild-project-logging-enabled
```

Alert Criteria

Yellow: AWS CodeBuild project logging is not enabled.

Recommended Action

Make sure that logging is turned on in your AWS CodeBuild project. This check can't be excluded from view in the AWS Trusted Advisor console.

For more information, see Logging and monitoring in AWS CodeBuild.

Report columns

- Status
- Region
- Resource
- AWS Config Rule
- Input Parameters
- Last Updated Time

AWS CodeDeploy Auto Rollback and Monitor Enabled

Description

Checks if the deployment group is configured with automatic deployment rollback and deployment monitoring with alarms attached. If something goes wrong during a deployment, it is automatically rolled back, and your application remains in a stable state

For more information, see Redeploy and roll back a deployment with CodeDeploy.

> **Note**
>
> Results for this check are automatically refreshed several times daily, and refresh requests are not allowed. It might take a few hours for changes to appear. Currently, you can’t exclude resources from this check.

Check ID

`c18d2gz114`

Source

`AWS Config Managed Rule: codedeploy-auto-rollback-monitor-enabled`

Alert Criteria

Yellow: AWS CodeDeploy automatic deployment rollback and deployment monitoring are not enabled.

Recommended Action

Configure a deployment group or deployment to automatically roll back when a deployment fails or when a monitoring threshold you specify is met.

Configure alarm to monitor various metrics, such as CPU usage, memory usage, or network traffic, during the deployment process. If any of these metrics exceed certain thresholds, the alarms trigger, and the deployment is stopped or rolled back.

For information on setting up automatic rollbacks and configuring alarms for your deployment groups, see Configure advanced options for a deployment group.

Additional Resources

What is CodeDeploy?

Report columns

- Status
- Region
- Resource
- AWS Config Rule
- Input Parameters
- Last Updated Time

AWS CodeDeploy Lambda is using all-at-once deployment configuration

Description

Checks if the AWS CodeDeploy deployment group for AWS Lambda compute platform is using all-at-once deployment configuration.

To reduce the risk of deployment failures of your Lambda functions in CodeDeploy, it's a best practice to use the canary or linear deployment configuration instead of the default option where all traffic is shifted from the original Lambda function to the updated function at once.

For more information, see Lambda function versions and Deployment configuration.

> **Note**
>
> Results for this check are automatically refreshed several times daily, and refresh requests are not allowed. It might take a few hours for changes to appear. Currently, you can't exclude resources from this check.

Check ID

`c18d2gz115`

Source

`AWS Config Managed Rule: codedeploy-lambda-allatonce-traffic-shift-disabled`

Alert Criteria

Yellow: AWS CodeDeploy Lambda deployment uses the all-at-once deployment configuration to shift all traffic to the updated Lambda functions at once.

Recommended Action

Use the Canary or Linear deployment configuration of CodeDeploy deployment group for the Lambda compute platform.

Additional Resources

Deployment configuration

Report columns

- Status
- Region
- Resource
- AWS Config Rule
- Input Parameters
- Last Updated Time

AWS Elastic Beanstalk Enhanced Health Reporting is not Configured

Description

Checks if an AWS Elastic Beanstalk environment is configured for enhanced health reporting.

Elastic Beanstalk enhanced health reporting provides detailed performance metrics, such as CPU usage, memory usage, network traffic, and infrastructure health information, such as number of instances and load balancer status.

For more information, see Enhanced health reporting and monitoring.

> **Note**
>
> Results for this check are automatically refreshed several times daily, and refresh requests are not allowed. It might take a few hours for changes to appear. Currently, you can't exclude resources from this check.

Check ID

`c18d2gz108`

Source

`AWS Config Managed Rule: beanstalk-enhanced-health-reporting-enabled`

Alert Criteria

Yellow: Elastic Beanstalk environment is not configured for enhanced health reporting

Recommended Action

Make sure that an Elastic Beanstalk environment is configured for enhanced health reporting.

For more information, see Enabling enhanced health reporting using the Elastic Beanstalk console.

Additional Resources

- Enabling Elastic Beanstalk enhanced health reporting
- Enhanced health reporting and monitoring

Report columns

- Status

- Region
- Resource
- AWS Config Rule
- Input Parameters
- Last Updated Time

AWS Elastic Beanstalk with Managed Platform Updates Disabled

Description

Checks if managed platform updates in Elastic Beanstalk environments and configuration templates are enabled.

AWS Elastic Beanstalk regularly releases platform updates to provide fixes, software updates, and new features. With managed platform updates,Elastic Beanstalk can automatically perform platform updates for new patch and minor platform versions.

You can specify your desired update level in the **UpdateLevel** parameters of your AWS Config rules.

For more information, see Updating your Elastic Beanstalk environment's platform version.

> **Note**
>
> Results for this check are automatically refreshed several times daily, and refresh requests are not allowed. It might take a few hours for changes to appear. Currently, you can’t exclude resources from this check.

Check ID

`c18d2gz177`

Source

`AWS Config Managed Rule: elastic-beanstalk-managed-updates-enabled`

Alert Criteria

Yellow: AWS Elastic Beanstalk managed platform updates is not configured at all, including at a minor or patch level.

Recommended Action

Enable managed platform updates in your Elastic Beanstalk environments, or configure it at a minor or update level.

For more information, see Managed platform updates.

Additional Resources

- Enabling Elastic Beanstalk enhanced health reporting
- Enhanced health reporting and monitoring

Report columns

- Status
- Region
- Resource
- AWS Config Rule
- Input Parameters
- Last Updated Time

AWS Fargate platform version is not latest

Description

Checks if Amazon ECS is running the latest platform version of AWS Fargate. The Fargate platform version refers to a specific runtime environment for Fargate task infrastructure. It's a combination of the kernel and container runtime versions. New platform versions are released as runtime environment evolves. For example, if there are kernel or operating system updates, new features, bug fixes, or security updates.

For more information, see Fargate task maintenance.

> **Note**
>
> Results for this check are automatically refreshed several times daily, and refresh requests are not allowed. It might take a few hours for changes to appear. Currently, you can’t exclude resources from this check.

Check ID

`c18d2gz174`

Source

`AWS Config Managed Rule: ecs-fargate-latest-platform-version`

Alert Criteria

Yellow: Amazon ECS is not running on the latest version of the Fargate platform.

Recommended Action

Update to the latest Fargate platform version.

For more information, see Fargate task maintenance.

Report columns

- Status
- Region
- Resource
- AWS Config Rule
- Input Parameters
- Last Updated Time

AWS Systems Manager State Manager Association in Non-compliant Status

Description

Checks if the status of the AWS Systems Manager association compliance is COMPLIANT or NON_COMPLIANT after the association execution on the instance.

State Manager, a capability of AWS Systems Manager, is a secure and scalable configuration management service that automates the process of keeping your managed nodes and other AWS resources in a state that you define. A State Manager association is a configuration that you assign to your AWS resources. The configuration defines the state that you want to maintain on your resources, so it helps you to achieve the target, such as avoidance of configuration drifts across your Amazon EC2 instances.

For more information, see AWS Systems Manager State Manager.

> **Note**
>
> Results for this check are automatically refreshed several times daily, and refresh requests are not allowed. It might take a few hours for changes to appear. Currently, you can't exclude resources from this check.

Check ID

`c18d2gz147`

Source

`AWS Config Managed Rule: ec2-managedinstance-association-compliance-status-check`

Alert Criteria

Yellow: The status of the AWS Systems Manager association compliance is NON_COMPLIANT.

Recommended Action

Validate the status of the State Manager associations, and then take any needed actions to return the status back to COMPLIANT.

For more information, see About State Manager.

Additional Resources

AWS Systems Manager State Manager

Report columns

- Status
- Region
- Resource
- AWS Config Rule
- Input Parameters
- Last Updated Time

CloudTrail trails are not configured with Amazon CloudWatch Logs

Description

Checks if AWS CloudTrail trails are configured to send logs to CloudWatch Logs.

Monitor CloudTrail Log files with CloudWatch Logs to trigger an automated response when critical events are captured in AWS CloudTrail.

For more information, see Monitoring CloudTrail Log Files with CloudWatch Logs.

> **Note**
>
> Results for this check are automatically refreshed several times daily, and refresh requests are not allowed. It might take a few hours for changes to appear. Currently, you can't exclude resources from this check.

Check ID

`c18d2gz164`

Source

`AWS Config Managed Rule: cloud-trail-cloud-watch-logs-enabled`

Alert Criteria

Yellow: AWS CloudTrail is not set up with CloudWatch Logs integration.

Recommended Action

Configure CloudTrail trails to send log events to CloudWatch Logs.

For more information, see Creating CloudWatch alarms for CloudTrail events: examples.

Report columns

- Status
- Region
- Resource
- AWS Config Rule

- Input Parameters
- Last Updated Time

Elastic Load Balancing Deletion Protection Not Enabled for Load Balancers

Description

Checks if deletion protection is turned on for your load balancers.

Elastic Load Balancing supports deletion protection for your Application Load Balancers, Network Load Balancers, and Gateway Load Balancers. Turn on deletion protection to prevent your load balancer from accidental deletion. Deletion protection is turned off by default when you create a load balancer. If your load balancers are part of a production environment, then consider turning on deletion protection.

Access logs are an optional feature of Elastic Load Balancing that is disabled by default. After you enable access logs for your load balancer, Elastic Load Balancing captures the logs and stores them in the Amazon S3 bucket that you specify.

For more information, see Application Load Balancer Deletion protection, Network Load Balancers Deletion protection, or Gateway Load Balancers Deletion protection.

> **Note**
>
> Results for this check are automatically refreshed several times daily, and refresh requests are not allowed. It might take a few hours for changes to appear. Currently, you can't exclude resources from this check.

Check ID

`c18d2gz168`

Source

`AWS Config Managed Rule: elb-deletion-protection-enabled`

Alert Criteria

Yellow: Deletion protection is not enabled for a load balancer.

Recommended Action

Turn on deletion protection for your Application Load Balancers, Network Load Balancers, and Gateway Load Balancers.

For more information, see Application Load Balancer Deletion protection, Network Load Balancers Deletion protection, or Gateway Load Balancers Deletion protection.

Report columns

- Status
- Region
- Resource
- AWS Config Rule
- Input Parameters
- Last Updated Time

RDS DB Cluster Deletion Protection Check

Description

Checks if your Amazon RDS DB clusters have deletion protection enabled.

When a cluster is configured with deletion protection, the database cannot be deleted by any user.

Deletion protection is available for Amazon Aurora and RDS for MySQL, RDS for MariaDB, RDS for Oracle, RDS for PostgreSQL, and RDS for SQL Server database instances in all AWS Regions.

For more information, see Deletion protection for Aurora clusters.

Check ID

`c18d2gz160`

Source

`AWS Config Managed Rule: rds-cluster-deletion-protection-enabled`

Alert Criteria

Yellow: You have Amazon RDS DB clusters that don't have deletion protection enabled.

Recommended Action

Turn on deletion protection when you create an Amazon RDS DB cluster.

You can only delete clusters that don't have deletion protection enabled. Enabling deletion protection adds an extra layer of protection and avoids data loss from accidental or non-accidental deletion of a database instance. Deletion protection also helps meet regulatory compliance requirements and ensure business continuity.

For more information, see Deletion protection for Aurora clusters.

> **Note**
>
> Results for this check are automatically refreshed several times daily, and refresh requests are not allowed. It might take a few hours for changes to appear. Currently, you can’t exclude resources from this check.

Additional Resources

Deletion protection for Aurora clusters

Report columns

- Status
- Region
- Resource
- AWS Config Rule
- Input Parameters
- Last Updated Time

RDS DB Instance Automatic Minor Version Upgrade Check

Description

Checks if Amazon RDS DB instances have automatic minor version upgrades configured.

Turn on automatic minor version upgrades for an Amazon RDS instance to make sure that the database is always running the latest secure and stable version. Minor upgrades provide security

updates, bug fixes, performance improvements, and maintain compatibility with existing applications.

For more information, see Upgrading a DB instance engine version.

> **Note**
>
> Results for this check are automatically refreshed several times daily, and refresh requests are not allowed. It might take a few hours for changes to appear. Currently, you can't exclude resources from this check.

Check ID

`c18d2gz155`

Source

`AWS Config Managed Rule: rds-automatic-minor-version-upgrade-enabled`

Alert Criteria

Yellow: RDS DB instance does not have automatic minor version upgrades turned on.

Recommended Action

Turn on automatic minor version upgrades when you create a Amazon RDS DB instance.

When you turn on minor version upgrade, the database version automatically upgrades if it is running a minor version of the DB engine that is lower than the Manually upgrading the engine version.

Report columns

- Status
- Region
- Resource
- AWS Config Rule
- Input Parameters
- Last Updated Time

Change log for AWS Trusted Advisor

See the following topic for recent changes to Trusted Advisor checks.

> **Note**
>
> If you use the Trusted Advisor console or the AWS Support API, checks that were removed won't appear in check results. If you use any of the removed checks such as specifying the check ID in an AWS Support API operation or your code, you must remove these checks to avoid API call errors.

For more information about the available checks, see the AWS Trusted Advisor check reference.

Added 9 new checks

Trusted Advisor added 9 new checks on August 23, 2024:

- c2vlfg0p86 - [IAM] - SAML 2.0 Identity Provider
- 7040ea389a - Network Firewall endpoint Cross-AZ Data Transfer
- c2vlfg0bfw - Low utilization Network Firewall
- c2vlfg0gqd - Network Firewall Multi-AZ
- c2vlfg0p1w - Application Load Balancer Target Groups encrypted protocol
- c2vlfg022t - [NAT Gateway] - Underutilized Resource
- c243hjzrhn - AWS Outposts Single Rack deployment
- b92b83d667 - ELB Target Imbalance
- 90046ff5b5 - MSK availability is limited to two zones

For more information, see the AWS Trusted Advisor check reference.

Updated 1 Security check and added 1 Security check

Trusted Advisor updated 1 Operational Excellence checks on August 22, 2024:

- c1fd6b96l4

Trusted Advisor added 1 Security checks on August 22, 2024:

- c2vlfg0f4h

For more information, see the AWS Trusted Advisor check reference.

Updated 6 Security checks

Trusted Advisor updated 6 Security checks on August 20, 2024:

- nNauJisYIT
- c9D319e7sG
- a2sEc6ILx
- HCP4007jGY
- 1iG5NDGVre
- Yw2K9puPzl

For more information, see the AWS Trusted Advisor check reference.

Updated 1 fault tolerance checks

Trusted Advisor updated the 1 fault tolerance check and 1 security on August 12, 2024:

- VPN Tunnel Redundancy
- Amazon RDS engine minor version upgrade is required

For more information, see the AWS Trusted Advisor check reference.

Updated 9 checks

Trusted Advisor updated the 9 checks on July 21, 2024:

- 7qGXsKIUw
- ZRxQlPsb6c
- N425c450f2
- 7DAFEmoDos
- Pfx0RwqBli
- H7IgTzjTYb

- C056F80cR3
- Yw2K9puPzl
- xSqX82fQu

For more information, see the AWS Trusted Advisor check reference.

Removed 5 checks and added 1 check

Trusted Advisor deprecated 3 Fault Tolerance checks, 1 Perfomance check, and 1 Security check on May 15, 2024:

- IAM Use
- ELB Cross-Zone Load Balancing
- Overutilized Amazon EBS Magnetic Volumes
- Large Number of EC2 Security Group Rules Applied to an Instance
- Large Number of Rules in an EC2 Security Group

Trusted Advisor added 1 new security check on May 15, 2024:

- Amazon S3 Server Access Logs Enabled

For more information, see the AWS Trusted Advisor check reference.

Removed fault tolerance checks

Trusted Advisor deprecated 3 Fault Tolerance check on April 25, 2024:

- AWS Direct Connect Connection Redundancy
- AWS Direct Connect Location Redundancy
- AWS Direct Connect Virtual Interface Redundancy

For more information, see the AWS Trusted Advisor check reference.

New fault tolerance check

Trusted Advisor added 1 Fault Tolerance check on February 29, 2024:

- NLB - Internet-facing resource in private subnet

For more information, see the AWS Trusted Advisor check reference.

Updated fault tolerance and security checks

Trusted Advisor added 1 new Fault Tolerance check and amended 1 existing Fault tolerance and 1 Security check on March 28 2024:

- Added AWS Resilience Hub Application Component check
- Updated AWS Lambda VPC-enabled Functions without Multi-AZ Redundancy
- Updated AWS Lambda Functions Using Deprecated Runtimes

For more information, see the AWS Trusted Advisor check reference.

New fault tolerance check

Trusted Advisor added 1 Fault Tolerance check on January 31, 2024:

- AWS Direct Connect Location Resiliency

For more information, see the AWS Trusted Advisor check reference.

Updated fault tolerance check

Trusted Advisor amended 1 Fault Tolerance check on January 08, 2024:

- Amazon RDS innodb_flush_log_at_trx_commit parameter is not 1

For more information, see the AWS Trusted Advisor check reference.

Updated security check

Trusted Advisor amended 1 Security check on December 21, 2023:

- AWS Lambda Functions Using Deprecated Runtimes

For more information, see the AWS Trusted Advisor check reference.

New security and performance checks

Trusted Advisor added 2 new Security checks and 2 new Performance checks on December 20, 2023:

- Amazon EFS clients not using data-in-transit encryption
- Amazon Aurora DB cluster under-provisioned for read workload
- Amazon RDS instance under-provisioned for system capacity
- Amazon EC2 instances with Ubuntu LTS end of standard support

For more information, see the AWS Trusted Advisor check reference.

New security check

Trusted Advisor added 1 new Security check on December 15, 2023:

- Amazon Route 53 mismatching CNAME records pointing directly to S3 buckets

For more information, see the AWS Trusted Advisor check reference.

New fault tolerance and cost optimization checks

Trusted Advisor added 2 new Fault Tolerance checks and 1 new Cost Optimization check on December 07, 2023:

- Amazon DocumentDB Single-AZ clusters
- Amazon S3 Incomplete Multipart Upload Abort Configuration
- Amazon ECS AWSLogs driver in blocking mode

For more information, see the AWS Trusted Advisor check reference.

New fault tolerance checks

Trusted Advisor added 3 new fault tolerance checks on November 17, 2023:

- ALB Multi-AZ

- NLB Multi-AZ
- VPC interface endpoint network interfaces in multiple AZs

For more information, see the AWS Trusted Advisor check reference.

New checks for Amazon RDS

Trusted Advisor added 37 new checks for Amazon RDS on November 15, 2023.

For more information, see the AWS Trusted Advisor check reference.

New AWS Trusted Advisor API

AWS Trusted Advisor introduces new APIs to enable you to programmatically access Trusted Advisor best practice checks, recommendations, and prioritized recommendations. Trusted Advisor APIs enable you to programmatically integrate Trusted Advisor with your preferred operational tool to automate and optimize your workloads at scale. Available to Business, Enterprise On-Ramp, or Enterprise Support customers, the new APIs provide access to Trusted Advisor recommendations for your account or all the linked accounts within a payer account. Enterprise Support customers with access to management or delegated administrator accounts can additionally programmatically retrieve prioritized recommendations across their organization.

The new Trusted Advisor APIs will replace the 3 functionalities previously offered through AWS Support API (SAPI). SAPI will continue to offer case and other support information.

Trusted Advisor APIs are generally available in the US East (Ohio), US East (N. Virginia), US West (Oregon), Asia Pacific (Seoul), Asia Pacific (Sydney), and Europe (Ireland) Regions.

To learn more, please visit the AWS Trusted Advisor API page.

Trusted Advisor check removal

Trusted Advisor removed the following checks on November 9, 2023.

Check name	Check category	Check ID
EBS volumes should be attached to EC2 instances	Security	`Hs4Ma3G119`

Check name	Check category	Check ID
S3 buckets should have server-side encryption enabled	Security	Hs4Ma3G167
CloudFront distributions should have origin access identity enabled	Security	Hs4Ma3G195

Integration of AWS Config checks into Trusted Advisor

Trusted Advisor added 64 new checks powered by AWS Config on October 30, 2023.

For more information, see the View AWS Trusted Advisor checks powered by AWS Config.

New fault tolerance checks

Trusted Advisor added the following checks on October 12, 2023.

- Amazon RDS ReplicaLag
- Amazon RDS FreeStorageSpace
- Amazon RDS DiskQueueDepth
- Amazon Route 53 Resolver Endpoint Availability Zone Redundancy
- Auto Scaling available IPs in Subnets
- Amazon MSK brokers hosting too many partitions

For more information, see the Fault tolerance category.

New service limits check

Trusted Advisor added the following check on August 17, 2023.

- Lambda Code Storage Usage

For more information, see the Service limits category.

New fault tolerance check

Trusted Advisor added the following check on August 3, 2023.

- AWS Lambda On Failure Event Destinations

For more information, see the Fault tolerance category.

New fault tolerance and performance checks

Trusted Advisor added the following checks on June 1, 2023.

- Amazon EFS No Mount Target Redundancy
- Amazon EFS Throughput Mode Optimization
- ActiveMQ Availability Zone Redundancy
- RabbitMQ Availability Zone Redundancy

For more information, see the Fault tolerance category and Performance category.

New fault tolerance checks

Trusted Advisor added the following checks on May 16, 2023.

- NAT Gateway AZ Independence
- Single AZ Application Check

For more information, see the Fault tolerance category.

New fault tolerance checks

Trusted Advisor added the following checks on April 27, 2023.

- Number of AWS Regions in an Incident Manager replication set
- AWS Resilience Hub assessment age

For more information, see the Fault tolerance category.

Region Expansion of Amazon ECS Fault Tolerance Checks

Trusted Advisor expanded the following checks into additional regions on April 27, 2023. Trusted Advisor checks for Amazon ECS are now available in all regions where Amazon ECS is generally available.

- Amazon ECS service using a single AZ
- Amazon ECS Multi-AZ placement strategy

Regions expanded into include Africa (Cape Town), Asia Pacific (Hong Kong), Asia Pacific (Hyderabad), Asia Pacific (Jakarta), Asia Pacific (Melbourne), Europe (Milan), Europe (Spain), Europe (Zurich), Middle East (Bahrain), Middle East (UAE).

New fault tolerance checks

Trusted Advisor added the following checks on March 30, 2023.

- Amazon ECS service using a single AZ
- Amazon ECS Multi-AZ placement strategy

For more information, see the Fault tolerance category.

New fault tolerance checks

Trusted Advisor added the following checks on December 15, 2022.

- AWS CloudHSM clusters running HSM instances in a single AZ
- Amazon ElastiCache Multi-AZ clusters
- Amazon MemoryDB Multi-AZ clusters

To receive results in Trusted Advisor for your AWS CloudHSM, ElastiCache, and MemoryDB clusters, you must have clusters in your Availability Zones. For more information, see the following documentation:

- AWS CloudHSM User Guide
- Amazon MemoryDB Developer Guide
- Amazon ElastiCache (Redis OSS) User Guide

Trusted Advisor updated the following check information on December 15, 2022.

- AWS Resilience Hub policy breached – App Name was updated to Application Name
- AWS Resilience Hub resilience scores – App Name and App Resilience Score were updated to Application Name and Application Resilience Score

For more information, see the Fault tolerance category.

Updates to the Trusted Advisor integration with AWS Security Hub

Trusted Advisor made the following update on November 17, 2022.

If you disable Security Hub or AWS Config for an AWS Region, Trusted Advisor now removes your control findings for that AWS Region within 7-9 days. Previously, the time frame to remove your Security Hub data from Trusted Advisor was 90 days.

For more information, see the following sections in the Troubleshooting topic:

- I turned off Security Hub or AWS Config in a Region
- My control is archived in Security Hub, but I still see the findings in Trusted Advisor

New fault tolerance checks for AWS Resilience Hub

Trusted Advisor added the following checks on November 17, 2022.

- AWS Resilience Hub policy breached
- AWS Resilience Hub resilience scores

You can use these checks to view the latest resilience policy status and resilience score for your applications. Resilience Hub provides you with a central place to define, track, and manage the resiliency and availability of your applications.

To receive results in Trusted Advisor for your Resilience Hub applications, you must deploy an AWS application and use Resilience Hub to track the resiliency posture of the application. For more information, see the AWS Resilience Hub User Guide.

To receive results in Trusted Advisor for your ElastiCache and MemoryDB clusters, you must have clusters in your Availability Zones. For more information, see the following documentation:

- Amazon MemoryDB Developer Guide
- Amazon ElastiCache (Redis OSS) User Guide

For more information, see the Fault tolerance category.

Update to the Trusted Advisor console

Trusted Advisor added the following change on November 16, 2022.

The Trusted Advisor Dashboard in the console is now Trusted Advisor Recommendations. The Trusted Advisor Recommendations page still shows the check results and the available checks for each category for your AWS account.

This name change only updates the Trusted Advisor console. You can continue to use the Trusted Advisor console and the Trusted Advisor operations in the AWS Support API as usual.

For more information, see Get started with Trusted Advisor Recommendations.

New checks for Amazon EC2

Trusted Advisor added the following check on September 1, 2022.

- Amazon EC2 instances with Microsoft Windows Server end of support

For more information, see the Security category.

Added Security Hub checks to Trusted Advisor

As of June 23, 2022, Trusted Advisor only supports Security Hub controls available through April 7, 2022. This release supports all controls in the AWS Foundational Security Best Practices security standard except for controls in the Category: Recover > Resilience. For more information, see Viewing AWS Security Hub controls in AWS Trusted Advisor.

For a list of supported controls, see AWS Foundational Security Best Practices controls in the *AWS Security Hub User Guide*.

Added checks from AWS Compute Optimizer

Trusted Advisor added the following checks on May 4, 2022.

Check name	Check category	Check ID
Amazon EBS over-provisioned volumes	Cost optimization	`COr6dfpM03`
Amazon EBS under-provisioned volumes	Performance	`COr6dfpM04`
AWS Lambda over-provisioned functions for memory size	Cost optimization	`COr6dfpM05`
AWS Lambda under-provisioned functions for memory size	Performance	`COr6dfpM06`

You must opt in your AWS account for Compute Optimizer so that these checks can receive data from your Lambda and Amazon EBS resources. For more information, see Opt in AWS Compute Optimizer for Trusted Advisor checks.

Updates to the Exposed Access Keys check

Trusted Advisor updated the following check on April 25, 2022.

Check name	Check category	Check ID
Exposed Access Keys	Security	`12Fnkpl8Y5`

Trusted Advisor now refreshes this check for you automatically. This check can't be refreshed manually from the Trusted Advisor console or the AWS Support API. If your application or code refreshes this check for your AWS account, we recommend that you update it to no longer refresh this check. Otherwise, you will receive the `InvalidParameterValue` error.

Any access keys that you excluded before this update will no longer be excluded and will appear as affected resources. You can't exclude access keys from your check results. For more information, see Exposed Access Keys.

Note

If you created your AWS account after April 25, 2022, the check results for Exposed Access Keys initially shows the gray icon () even for unexposed access keys. This means that Trusted Advisor hasn't identified any changes to the check.
If Trusted Advisor identifies a resource at risk, the status changes to the action recommended icon ().
After you fix or delete the resource, the check result shows the check mark icon ().

Updated checks for AWS Direct Connect

Trusted Advisor updated the following checks on March 29, 2022.

Check name	Check category	Check ID
AWS Direct Connect Connection Redundancy	Fault tolerance	`0t121N1Ty3`
AWS Direct Connect Location Redundancy	Fault tolerance	`8M012Ph3U5`
AWS Direct Connect Virtual Interface Redundancy	Fault tolerance	`4g3Nt5M1Th`

- The value for the **Region** column now shows the AWS Region code instead of the full name. For example, resources in US East (N. Virginia) will now have the `us-east-1` value.
- The value for the **Time Stamp** column now appears in the RFC 3339 format, such as `2022-03-30T01:02:27.000Z`.
- Resources that don't have any detected problems will now appear in the check table. These resources will have a check mark icon

( ) next to them.

Previously, only resources that Trusted Advisor recommended that you investigate appeared in the table. These resources have a warning icon ( ) next to them.

AWS Security Hub controls added to the AWS Trusted Advisor console

AWS Trusted Advisor added 111 Security Hub controls to the **Security** category on January 18, 2022.

You can view your findings for Security Hub controls from the AWS Foundational Security Best Practices security standard. This integration doesn't include controls that have the **Category: Recover > Resilience**.

For more information about this feature, see Viewing AWS Security Hub controls in AWS Trusted Advisor.

New checks for Amazon EC2 and AWS Well-Architected

Trusted Advisor added the following checks on December 20, 2021.

- Amazon EC2 instances consolidation for Microsoft SQL Server
- Amazon EC2 instances over-provisioned for Microsoft SQL Server
- Amazon EC2 instances with Microsoft SQL Server end of support
- AWS Well-Architected high risk issues for cost optimization
- AWS Well-Architected high risk issues for performance
- AWS Well-Architected high risk issues for security
- AWS Well-Architected high risk issues for reliability

For more information, see the AWS Trusted Advisor check reference.

Updated check name for Amazon OpenSearch Service

Trusted Advisor updated the name for the Amazon OpenSearch Service Reserved Instance Optimization check on September 8, 2021.

The check recommendations, category, and ID are the same.

Check name	Check category	Check ID
Amazon OpenSearch Service Reserved Instance Optimization	Cost optimization	`7ujm6yhn5t`

> **Note**
>
> If you use Trusted Advisor for Amazon CloudWatch metrics, the metric name for this check is also updated. For more information, see Creating Amazon CloudWatch alarms to monitor AWS Trusted Advisor metrics.

Added checks for Amazon Elastic Block Store volume storage

Trusted Advisor added the following checks on June 8, 2021.

Check name	Check category	Check ID
EBS General Purpose SSD (gp3) Volume Storage	Service limits	`dH7RR0l6J3`
EBS Provisioned IOPS SSD (io2) Volume Storage	Service limits	`gI7MM0l7J2`

Added checks for AWS Lambda

Trusted Advisor added the following checks on March 8, 2021.

Check name	Check category	Check ID
AWS Lambda Functions with Excessive Timeouts	Cost optimization	L4dfs2Q3C3
AWS Lambda Functions with High Error Rates	Cost optimization	L4dfs2Q3C2
AWS Lambda Functions Using Deprecated Runtimes	Security	L4dfs2Q4C5
AWS Lambda VPC-enabled Functions without Multi-AZ Redundancy	Fault tolerance	L4dfs2Q4C6

For more information about how to use these checks with Lambda, see Example AWS Trusted Advisor workflow to view recommendations in the *AWS Lambda Developer Guide*.

Trusted Advisor check removal

Trusted Advisor removed the following check for the AWS GovCloud (US) Region on March 8, 2021.

Check name	Check category	Check ID
EC2 Elastic IP Addresses	Service limits	aW9HH0l8J6

Updated checks for Amazon Elastic Block Store

Trusted Advisor updated the unit of Amazon EBS volume from gibibyte (GiB) to tebibyte (TiB) for the following checks on March 5, 2021.

> **Note**
>
> If you use Trusted Advisor for Amazon CloudWatch metrics, the metric names for these five checks are also updated. For more information, see Creating Amazon CloudWatch alarms to monitor AWS Trusted Advisor metrics.

Check name	Check category	Check ID	Updated CloudWatch metric for ServiceLimit
EBS Cold HDD (sc1) Volume Storage	Service limits	gH5CC0e3J9	Cold HDD (sc1) volume storage (TiB)
EBS General Purpose SSD (gp2) Volume Storage	Service limits	dH7RR0l6J9	General Purpose SSD (gp2) volume storage (TiB)
EBS Magnetic (standard) Volume Storage	Service limits	cG7HH0l7J9	Magnetic (standard) volume storage (TiB)
EBS Provisioned IOPS SSD (io1) Volume Storage	Service limits	gI7MM0l7J9	Provisioned IOPS (SSD) storage (TiB)
EBS Throughput Optimized HDD (st1) Volume Storage	Service limits	wH7DD0l3J9	Throughput Optimized HDD (st1) volume storage (TiB)

Trusted Advisor check removal

Note

Trusted Advisor removed the following checks on November 18, 2020.

Checks removed on November 18, 2020	Check category	Check ID
EC2Config Service for EC2 Windows Instances	Fault tolerance	V77i0LlBqz

Checks removed on November 18, 2020	Check category	Check ID
ENA Driver Version for EC2 Windows Instances	Fault tolerance	TyfdMXG69d
NVMe Driver Version for EC2 Windows Instances	Fault tolerance	yHAGQJV9K5
PV Driver Version for EC2 Windows Instances	Fault tolerance	Wnwm9Il5bG
EBS Active Volumes	Service limits	fH7LL0l7J9

Amazon Elastic Block Store no longer has a limit on the number of volumes that you can provision.

You can monitor your Amazon EC2 instances and verify they are up to date by using AWS Systems Manager Distributor, other third-party tools, or write your own scripts to return driver information for Windows Management Instrumentation (WMI).

Trusted Advisor check removal

Trusted Advisor removed the following check on February 18, 2020.

Check name	Check category	Check ID
Service Limits	Performance	eW7HH0l7J9

AWS Support App in Slack

You can use the AWS Support App to manage your AWS support cases in Slack. Invite your team members to chat channels, respond to case updates, and chat directly with support agents. Use the AWS Support App to manage support cases quickly in Slack.

Use the AWS Support App to do the following:

- Create, update, search for, and resolve support cases in Slack channels
- Attach files to support cases
- Request quota increases from Service Quotas
- Share support case details with your team without leaving the Slack channel
- Start a live chat session with support agents

When you create, update, or resolve a support case in the AWS Support App, the case is also updated in the AWS Support Center Console. You don't need to sign in to the Support Center Console to manage your support cases separately.

Notes

- The response times for support cases are the same, whether you created the case from Slack or from the Support Center Console.
- You can create a support case for account and billing support, service quota increases, and technical support.

Topics

- Resolving a support case in Slack
- Reopening a support case in Slack
- Requesting service quota increases
- Deleting a Slack channel configuration from the AWS Support App
- Deleting a Slack workspace configuration from the AWS Support App
- AWS Support App in Slack commands
- View AWS Support App correspondences in the AWS Support Center Console
- Creating AWS Support App in Slack resources with AWS CloudFormation

Prerequisites

You must meet the following requirements to use the AWS Support App in Slack:

- You have a Business, Enterprise On-Ramp, or Enterprise Support plan. You can find your support plan from the AWS Support Center Console or from the Support plans page. For more information, see Compare AWS Support plans.
- You have a Slack workspace and channel for your organization. You must be a Slack workspace administrator, or have permission to add apps to that Slack workspace. For more information, see the Slack Help Center.
- You sign in to the AWS account as an AWS Identity and Access Management (IAM) user or role with the required permissions. For more information, see Managing access to the AWS Support App widget.
- You will need to create an IAM role that has the required permissions to perform actions for you. The AWS Support App uses this role to make API calls to different services. For more information, see Managing access to the AWS Support App.

Topics

- Managing access to the AWS Support App widget
- Managing access to the AWS Support App

Managing access to the AWS Support App widget

You can attach an AWS Identity and Access Management (IAM) policy to grant an IAM user permission to configure the AWS Support App widget in the AWS Support Center Console.

For more information about how to add a policy to an IAM entity, see Adding IAM identity permissions (console) in the IAM User Guide.

> **Note**
>
> You can also sign in as the root user in your AWS account, but we don't recommend that you do this. For more information about root user access, see Safeguard your root user credentials and don't use them for everyday tasks in the *IAM User Guide*.

Example IAM policy

You can attach the following policy to an entity, such as an IAM user or group. This policy allows a user to authorize a Slack workspace and configure Slack channels in the Support Center Console.

```
{
    "Version": "2012-10-17",
    "Statement": [
        {
            "Effect": "Allow",
            "Action": [
                "supportapp:GetSlackOauthParameters",
                "supportapp:RedeemSlackOauthCode",
                "supportapp:DescribeSlackChannels",
                "supportapp:ListSlackWorkspaceConfigurations",
                "supportapp:ListSlackChannelConfigurations",
                "supportapp:CreateSlackChannelConfiguration",
                "supportapp:DeleteSlackChannelConfiguration",
                "supportapp:DeleteSlackWorkspaceConfiguration",
                "supportapp:GetAccountAlias",
                "supportapp:PutAccountAlias",
                "supportapp:DeleteAccountAlias",
                "supportapp:UpdateSlackChannelConfiguration",
                "iam:ListRoles"
            ],
            "Resource": "*"
        }
    ]
}
```

Permissions required to connect the AWS Support App to Slack

The AWS Support App includes permission-only actions that don't directly correspond to an API operation. These actions are indicated in the Service Authorization Reference with [permission only].

The AWS Support App uses the following API actions to connect to Slack and then lists your *public* Slack channels in the AWS Support Center Console:

- `supportapp:GetSlackOauthParameters`
- `supportapp:RedeemSlackOauthCode`
- `supportapp:DescribeSlackChannels`

These API actions are not intended to be called by your code. Therefore, these API actions are not included in the AWS CLI and AWS SDKs.

Managing access to the AWS Support App

After you have permissions to the AWS Support App widget, you must also create an AWS Identity and Access Management (IAM) role. This role performs actions from other AWS services for you, such as the AWS Support API and Service Quotas.

You then attach an IAM policy to this role so that the role has the required permissions to complete these actions. You choose this role when you create your Slack channel configuration in the Support Center Console.

Users in your Slack channel have the same permissions that you grant to the IAM role. For example, if you specify read-only access to your support cases, then users in your Slack channel can view your support cases, but can't update them.

> **Important**
>
> When you request a live chat with a support agent and choose new private channel as your live chat channel preference, the AWS Support App creates a separate Slack channel. This Slack channel has the same permissions as the channel where you created the case or initiated the chat.

If you change the IAM role or the IAM policy, your changes apply to the Slack channel that you configured and to any new live chat Slack channels that the AWS Support App creates for you.

Follow these procedures to create your IAM role and policy.

Topics

Use an AWS managed policy or create a customer managed policy

To grant your role permissions, you can use either an AWS managed policy or a customer managed policy.

Tip

If you don't want to create a policy manually, we recommend that you use an AWS managed policy instead and skip this procedure. Managed policies automatically have the required permissions for the AWS Support App. You don't need to update the policies manually. For more information, see AWS managed policies for AWS Support App in Slack.

Follow this procedure to create a customer managed policy for your role. This procedure uses the JSON policy editor in the IAM console.

To create a customer managed policy for the AWS Support App

1. Sign in to the AWS Management Console and open the IAM console at https://console.aws.amazon.com/iam/.
2. In the navigation pane, choose **Policies**.
3. Choose **Create policy**.
4. Choose the **JSON** tab.
5. Enter your JSON, and then replace the default JSON in the editor. You can use the example policy.

6. Choose **Next: Tags**.
7. (Optional) You can use tags as key–value pairs to add metadata to the policy.
8. Choose **Next: Review**.
9. On the **Review policy** page, enter a **Name**, such as *AWSSupportAppRolePolicy*, and a **Description** (optional).
10. Review the **Summary** page to see the permissions that the policy allows and then choose **Create policy**.

This policy defines the actions that the role can take. For more information, see Creating IAM policies (console) in the *IAM User Guide*.

Example IAM policy

You can attach the following example policy to your IAM role. This policy allows the role to have full permissions to all required actions for the AWS Support App. After you configure a Slack channel with the role, any user in your channel has the same permissions.

> **Note**
>
> For a list of AWS managed policies, see AWS managed policies for AWS Support App in Slack.

You can update the policy to remove a permission from the AWS Support App.

```
{
    "Version": "2012-10-17",
    "Statement": [
        {
            "Effect": "Allow",
            "Action": [
                "servicequotas:GetRequestedServiceQuotaChange",
                "servicequotas:GetServiceQuota",
                "servicequotas:RequestServiceQuotaIncrease",
                "support:AddAttachmentsToSet",
                "support:AddCommunicationToCase",
                "support:CreateCase",
                "support:DescribeCases",
                "support:DescribeCommunications",
```

```
                "support:DescribeSeverityLevels",
                "support:InitiateChatForCase",
                "support:ResolveCase"
            ],
            "Resource": "*"
        },
        {
            "Effect": "Allow",
            "Action": "iam:CreateServiceLinkedRole",
            "Resource": "*",
            "Condition": {
                "StringEquals": {"iam:AWSServiceName": "servicequotas.amazonaws.com"}
            }
        }
    ]
}
```

For descriptions for each action, see the following topics in the *Service Authorization Reference*:

- Actions, resources, and condition keys for AWS Support
- Actions, resources, and condition keys for Service Quotas
- Actions, resources, and condition keys for AWS Identity and Access Management

Create an IAM role

After you have your policy, you must create an IAM role, and then attach the policy to that role. You choose this role when you create a Slack channel configuration in the Support Center Console.

To create a role for the AWS Support App

1. Sign in to the AWS Management Console and open the IAM console at https://console.aws.amazon.com/iam/.
2. In the navigation pane, choose **Roles**, and then choose **Create role**.
3. For **Select trusted entity**, choose **AWS service**.
4. Choose **AWS Support App**.
5. Choose **Next: Permissions**.
6. Enter the policy name. You can choose the AWS managed policy or choose a customer managed policy that you created, such as *`AWSSupportAppRolePolicy`*. Then select the check box next to the policy.

7. Choose **Next: Tags**.
8. (Optional) You can use tags as key–value pairs to add metadata to the role.
9. Choose **Next: Review**.
10. For **Role name**, enter a name, such as *AWSSupportAppRole*.
11. (Optional) For **Role description**, enter a description for the role.
12. Review the role and then choose **Create role**. You can now choose this role when you configure a Slack channel in the Support Center Console. See Configuring a Slack channel.

For more information, see Creating a role for an AWS service in the *IAM User Guide*.

Troubleshooting

See the following topics to manage access to the AWS Support App.

Contents

I want to restrict specific users in my Slack channel from specific actions

By default, users in your Slack channel have the same permissions specified in the IAM policy that you attach to the IAM role that you create. This means anyone in the channel has read or write access to your support cases, whether or not they have an AWS account or an IAM user.

We recommend the following best practices:

- Configure private Slack channels with the AWS Support App
- Only invite users to your channel who need access to your support cases
- Use an IAM policy that has the minimum required permissions to the AWS Support App. See AWS managed policies for AWS Support App in Slack.

When I configure a Slack channel, I don't see the IAM role that I created

If your IAM role doesn't appear in the **IAM role for the AWS Support App** list, this means that the role doesn't have the AWS Support App as a trusted entity, or that the role was deleted. You can update the existing role, or create another one. See Create an IAM role.

My IAM role is missing a permission

The IAM role that you create for your Slack channel needs permissions to perform the actions that you want. For example, if you want your users in Slack to create support cases, the role must have the `support:CreateCase` permission. The AWS Support App assumes this role to perform these actions for you.

If you receive an error about a missing permission from the AWS Support App, verify that the policy attached to your role has the required permission.

See the previous Example IAM policy.

A Slack error says that my IAM role isn't valid

Verify that you chose the correct role for your channel configuration.

To verify your role

1. Sign in to the AWS Support Center Console at https://console.aws.amazon.com/support/app#/config page.
2. Choose the channel that you configured with the AWS Support App.
3. From the **Permissions** section, find the IAM role name that you chose.
   - To change the role, choose **Edit**, choose another role, and then choose **Save**.
   - To update the role or the policy attached to the role, sign in to the IAM console.

The AWS Support App says that I'm missing an IAM role for Service Quotas

You must have the `AWSServiceRoleForServiceQuotas` role in your account to request quota increases from Service Quotas. If you receive an error about a missing resource, complete one of the following steps:

- Use the Service Quotas console to request a quota increase. After you make a successful request, Service Quotas creates this role for you automatically. Then, you can use the AWS Support App to request quota increases in Slack. For more information, see Requesting a quota increase.

- Update the IAM policy attached to your role. This grants the role permission to Service Quotas. The following section in the Example IAM policy allows the AWS Support App to create the Service Quotas role for you.

```
{
    "Effect": "Allow",
    "Action": "iam:CreateServiceLinkedRole",
    "Resource": "*",
    "Condition": {
        "StringEquals": {"iam:AWSServiceName": "servicequotas.amazonaws.com"}
     }
}
```

If you delete the IAM role that you configure for your channel, you must manually create the role or update the IAM policy to allow the AWS Support App to create one for you.

Authorize a Slack workspace

After you authorize your workspace and give the AWS Support App permission to access it, you then need an AWS Identity and Access Management (IAM) role for your AWS account. The AWS Support App uses this role to call API operations from AWS Support and Service Quotas for you. For example, the AWS Support App uses the role to call the `CreateCase` operation to create a support case for you in Slack.

Notes

- The Slack channel inherits permissions from the IAM role. This means that any user in the Slack channel has the same permissions that are specified in the IAM policy that is attached to the role.

  For example, if your IAM policy allows the role to have full read and write permissions to your support cases, anyone in your Slack channel can create, update, and resolve your support cases. If your IAM policy allows the role read-only permissions, then users in your Slack channel only have read permissions to your support cases.
- We recommend that you add the Slack workspaces and channels that you need to manage your support operations. We recommend that you configure private channels and only invite required users.

You must authorize each Slack workspace that you want to use for your AWS account. If you have multiple AWS accounts, you must sign in to each account and repeat the following procedure to authorize the workspace. If your account belongs to an organization in AWS Organizations and you want to authorize multiple accounts, skip to Authorize multiple accounts.

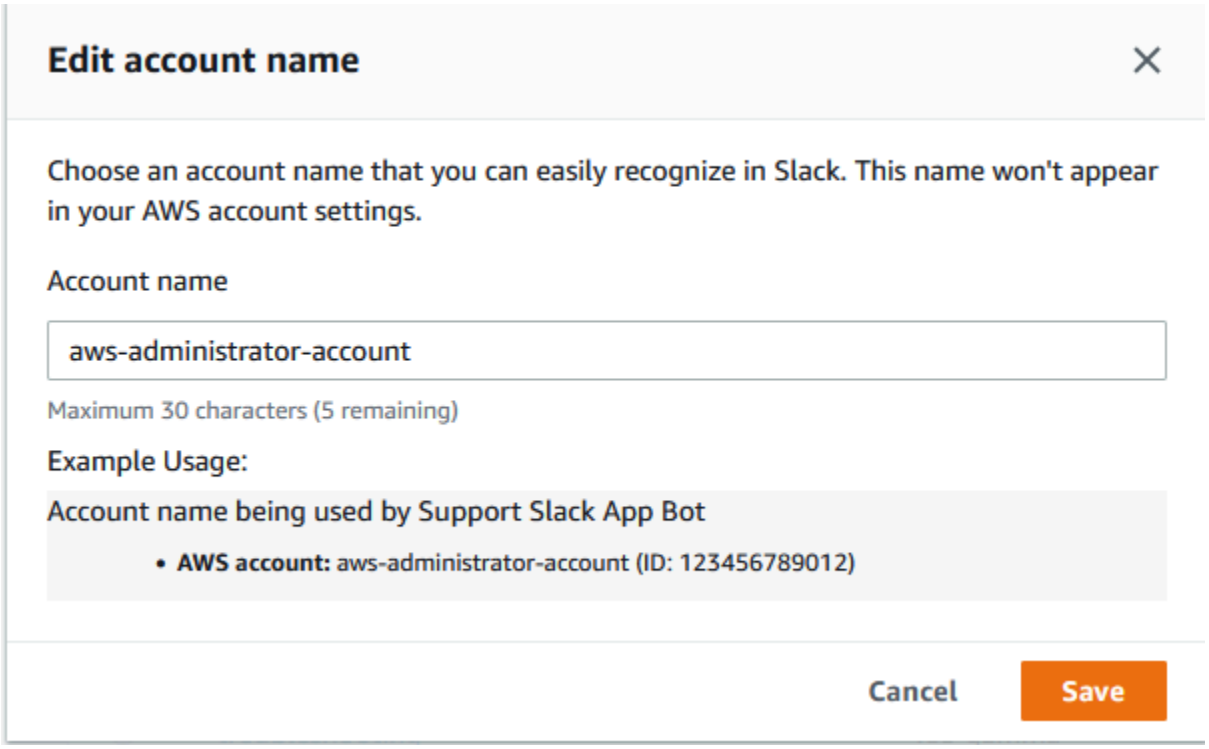
To authorize the Slack workspace for your AWS account

1. Sign in to the **AWS Support Center Console** and choose **Slack configuration**.
2. On the **Getting started** page, choose **Authorize workspace**.
3. If you're not already signed in to Slack, on the **Sign in to your workspace** page, enter your workspace name, and then choose **Continue**.
4. On the **AWS Support is requesting permission to access the your-workspace-name Slack** page, choose **Allow**.

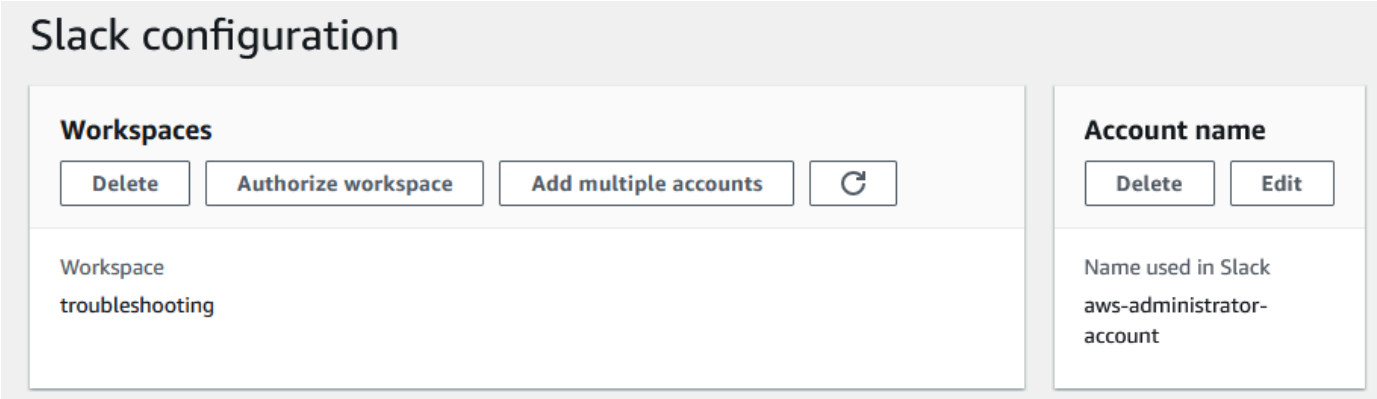
   > **Note**
   >
   > If you can't allow Slack to access your workspace, make sure that you have permissions from your Slack administrator to add the AWS Support App to the workspace. See Prerequisites.

   On the **Slack configuration** page, your workspace name appears under **Workspaces**.
5. (Optional) To add more workspaces, choose **Authorize workspace** and repeat steps 3-4. You can add up to five workspaces to your account.
6. (Optional) By default, your AWS account ID number appears as the account name in your Slack channel. To change this value, under **Account name**, choose **Edit**, enter your account name, and then choose **Save**.

   > **Tip**
   >
   > Use a name that you and your team can easily recognize. The AWS Support App uses this name to identify your account in the Slack channel. You can update this name at any time.



Your workspace and account name appear on the **Slack configuration** page.



Authorize multiple accounts

To authorize multiple AWS accounts to use Slack workspaces, you can use AWS CloudFormation or Terraform to create your AWS Support App resources.

Configuring a Slack channel

After you authorize your Slack workspace, you can configure your Slack channels to use the AWS Support App.

The channel where you invite and add the AWS Support App is where you can create and search for cases, and receive case notifications. This channel shows case updates, such as newly created or resolved cases, added correspondences, and shared case details.

The Slack channel inherits permissions from the IAM role. This means that any user in the Slack channel has the same permissions that are specified in the IAM policy that is attached to the role.

For example, if your IAM policy allows the role to have full read and write permissions to your support cases, anyone in your Slack channel can create, update, and resolve your support cases. If your IAM policy allows the role read-only permissions, then users in your Slack channel only have read permissions to your support cases.

You can add up to 20 channels for an account. A Slack channel can have up to 100 AWS accounts. This means that only 100 accounts can add the same Slack channel to the AWS Support App. We recommend that you only add the accounts that you need to manage support cases for your organization. This can reduce the number of notifications that you receive in the channel so that you and your team have fewer distractions.

Each AWS account must configure a Slack channel separately in the AWS Support App. This way, the AWS Support App can access the support cases in that AWS account. If another AWS account in your organization already invited the AWS Support App to that Slack channel, skip to step 3.

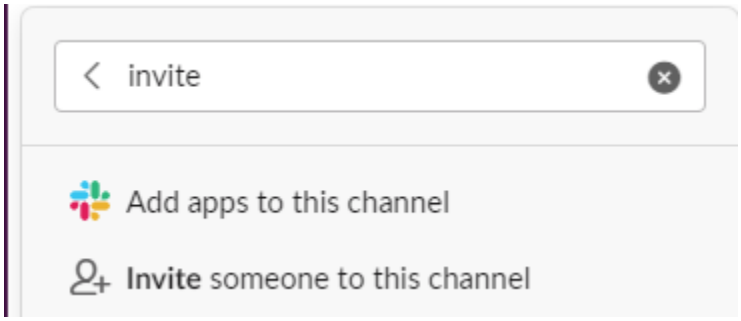
> **Note**
>
> You can configure channels that are part of Slack Connect and channels that are shared with multiple workspaces. However, only the first workspace that configured the shared channel for an AWS account can use the AWS Support App. The AWS Support App returns an error message if you try to configure the same Slack channel for another workspace.

To configure a Slack channel

1. From your Slack application, choose the Slack channel that you want to use with the AWS Support App.

2. Complete the following steps to invite the AWS Support App to your channel:

   a. Choose the **+** icon and enter `invite`, and then, when prompted, choose **Add apps to this channel**.

   b. To search for the app, under **Add apps to channelName** enter **AWS Support App**.

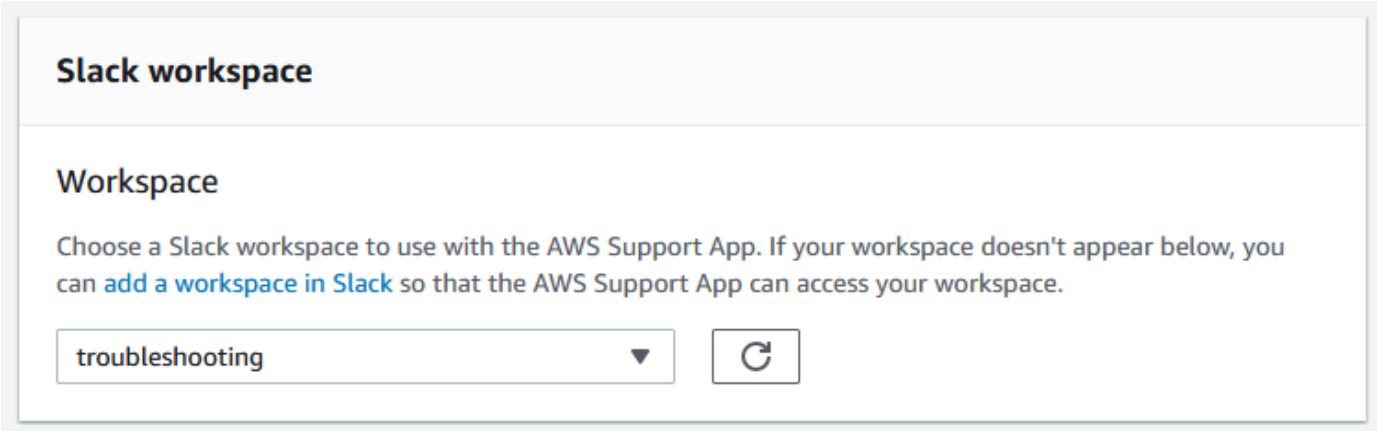
   c. Choose **Add** next to the **AWS Support App**.

3. Sign in to the [Support Center Console] and choose **Slack configuration**.

4. Choose **Add channel**.

5. On the **Add channel** page, under **Workspace**, choose the workspace name that you previously authorized. You can choose the refresh icon if the workspace name doesn't appear in the list.

6. Under **Slack channel**, for **Channel type**, choose one of the following:

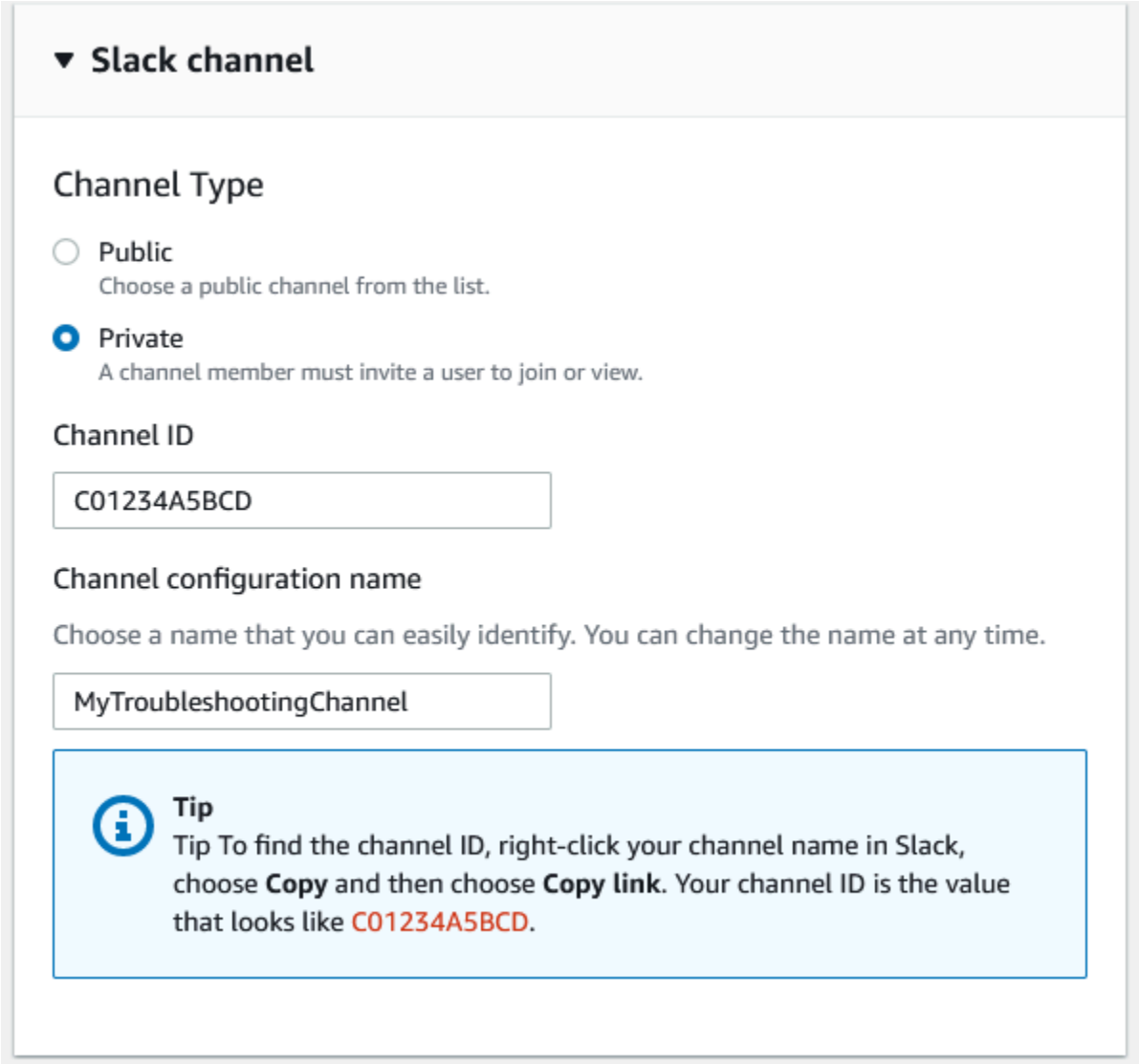
   - **Public** – Under **Public channel**, choose the Slack channel that you invited the AWS Support App to (step 2). If your channel doesn't appear in the list, choose the refresh icon and try again.

- **Private** – Under **Channel ID**, enter the ID or the URL of the Slack channel that you invited the AWS Support App to.

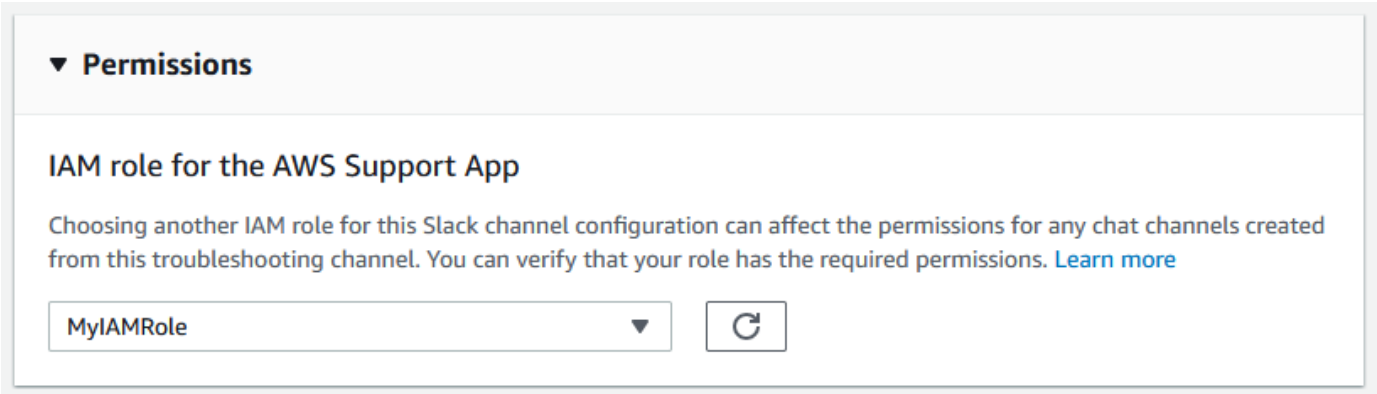
  > **Tip**
  >
  > To find the channel ID, open the context (right-click) menu for the channel name in Slack, and then choose **Copy**, and then choose **Copy link**. Your channel ID is the value that looks like *C01234A5BCD*.

7. Under **Channel configuration name**, enter a name that easily identifies your Slack channel configuration for the AWS Support App. This name appears only in your AWS account and doesn't appear in Slack. You can rename your channel configuration later.

   Your Slack channel type might look like the following example.



8. Under **Permissions**, for **IAM role for the AWS Support App in Slack**, choose a role that you created for the AWS Support App. Only roles that have the AWS Support App as a trusted entity appear in the list.



> **Note**
>
> If you haven't created a role or don't see your role in the list, see Managing access to the AWS Support App.

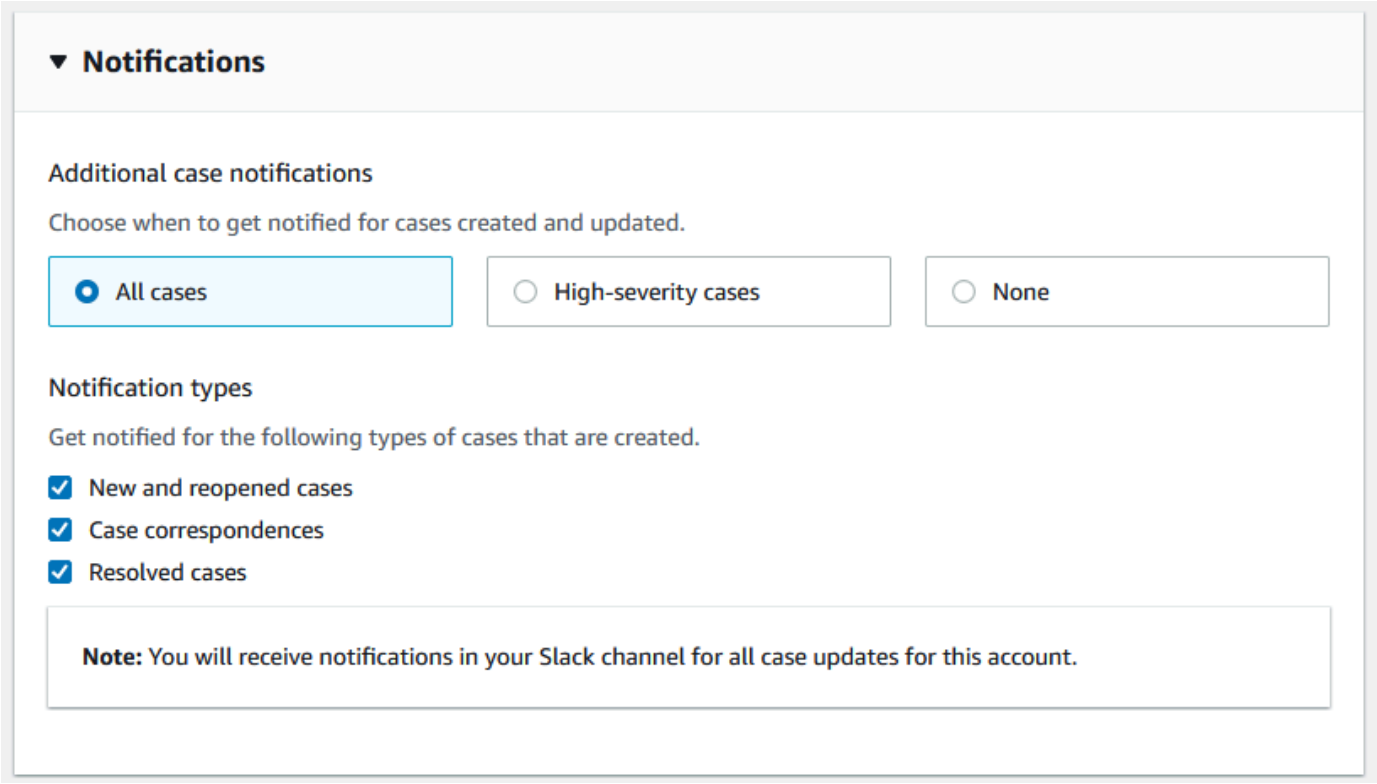
9. Under **Notifications**, specify how to get notified for cases.

   - **All cases** – Get notified for all case updates.
   - **High-severity cases** – Get notified for only cases that affect a production system or higher. For more information, see Choosing a severity.
   - **None** – Don't get notified for case updates.

10. (Optional) If you choose **All cases** or **High-severity cases**, you must select at least one of the following options:

    - **New and reopened cases**
    - **Case correspondences**
    - **Resolved cases**

    The following channel receives case notifications for all case updates in Slack.



11. Review your configuration and choose **Add channel**. Your channel appears in the **Slack configuration** page.

Update your Slack channel configuration

After you configured your Slack channel, you can update them later to change the IAM role or case notification.

To update your Slack channel configuration

1. Sign in to the Support Center Console and choose **Slack configuration**.
2. Under **Channels**, choose the channel configuration that you want.
3. On the ***channelName*** page, you can do the following tasks:
   - Choose **Rename** to update your channel configuration name. This name only appears in your AWS account and won't appear in Slack.
   - Choose **Delete** to delete the channel configuration from the AWS Support App. See Deleting a Slack channel configuration from the AWS Support App.
   - Choose **Open in Slack** to open the Slack channel in your browser.
   - Choose **Edit** to change the IAM role or notifications.

Creating support cases in a Slack channel

After you authorize your Slack workspace and add your Slack channel, you can create a support case in your Slack channel.

To create a support case in Slack

1. In your Slack channel, enter the following command:

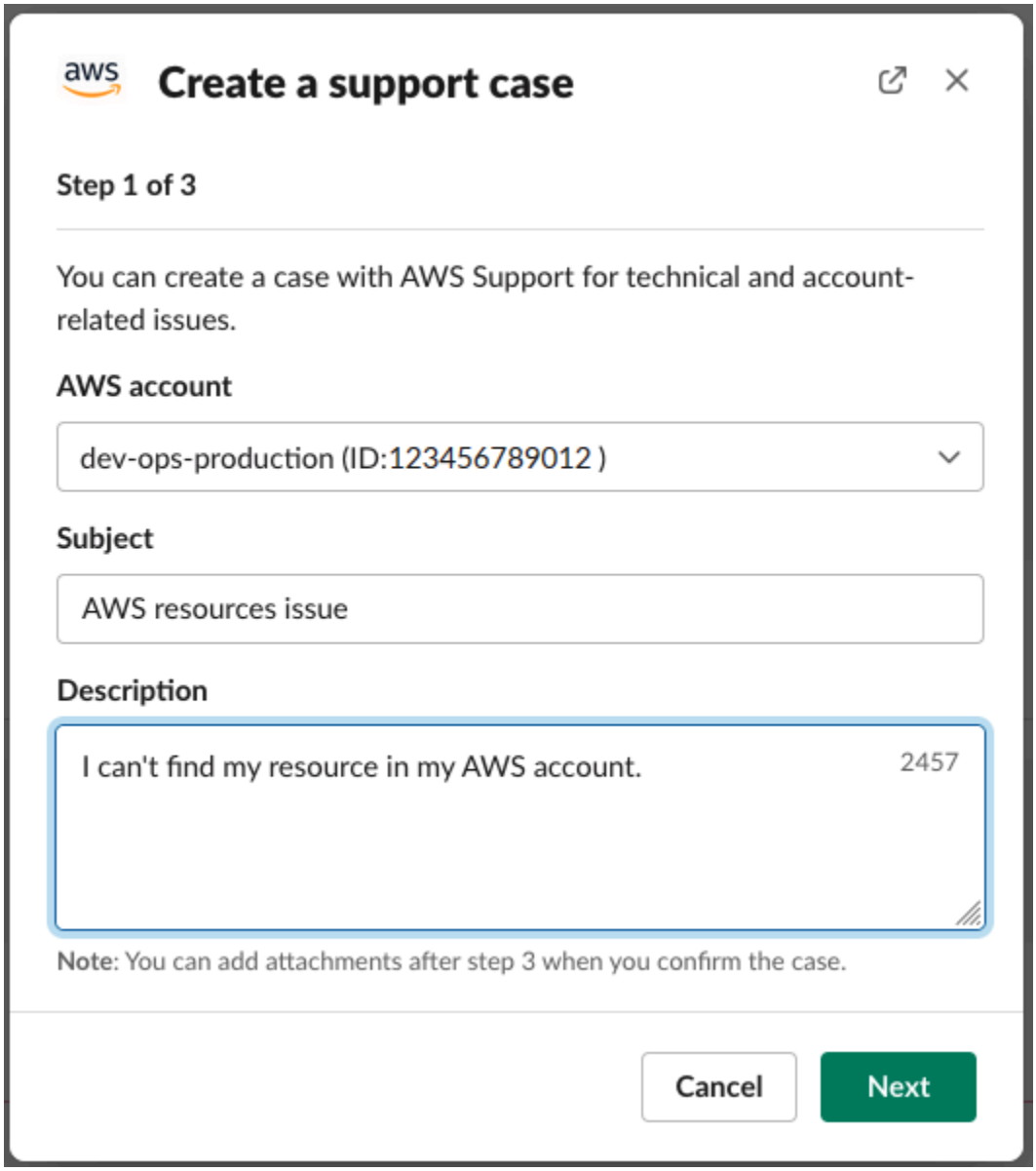
   ```
   /awssupport create
   ```

2. In the **Create a support case** dialog box, do the following:

   a. If you configured more than one account for this Slack channel, for **AWS account**, choose the account ID. If you created an account name, this value appears next to the account ID. For more information, see Authorize a Slack workspace.

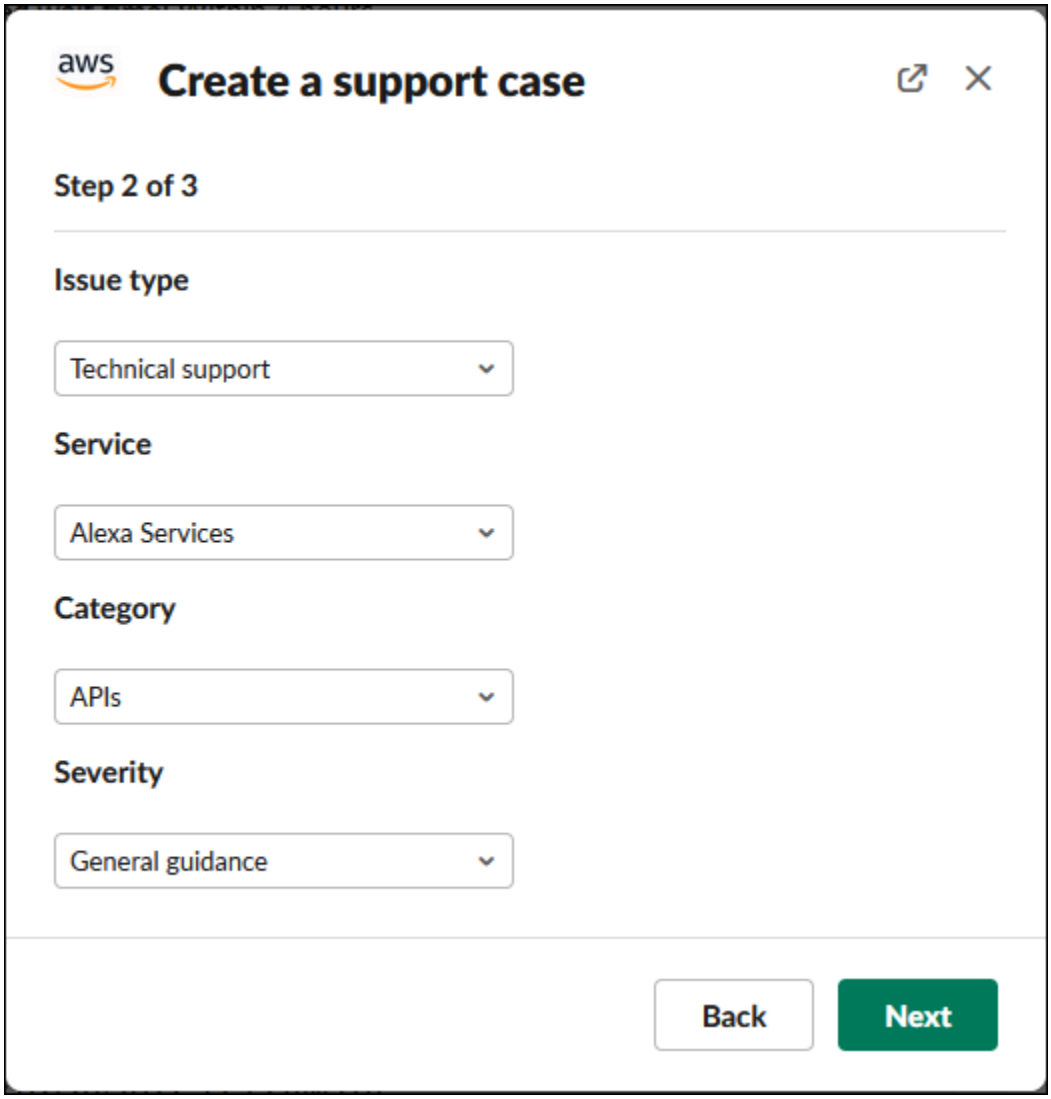
   b. For **Subject**, enter a title for the support case.

   c. For **Description**, describe the support case. Provide details, such as how you're using an AWS service and what troubleshooting steps you tried.



3. Choose **Next**.
4. On the **Create a support case** dialog box, specify the following options:
   a. Choose the **Issue type**.
   b. Choose the **Service**.
   c. Choose the **Category**.
   d. Choose the **Severity**.
   e. Review your case details and choose **Next**.

   The following example shows a technical support case for Alexa Services.

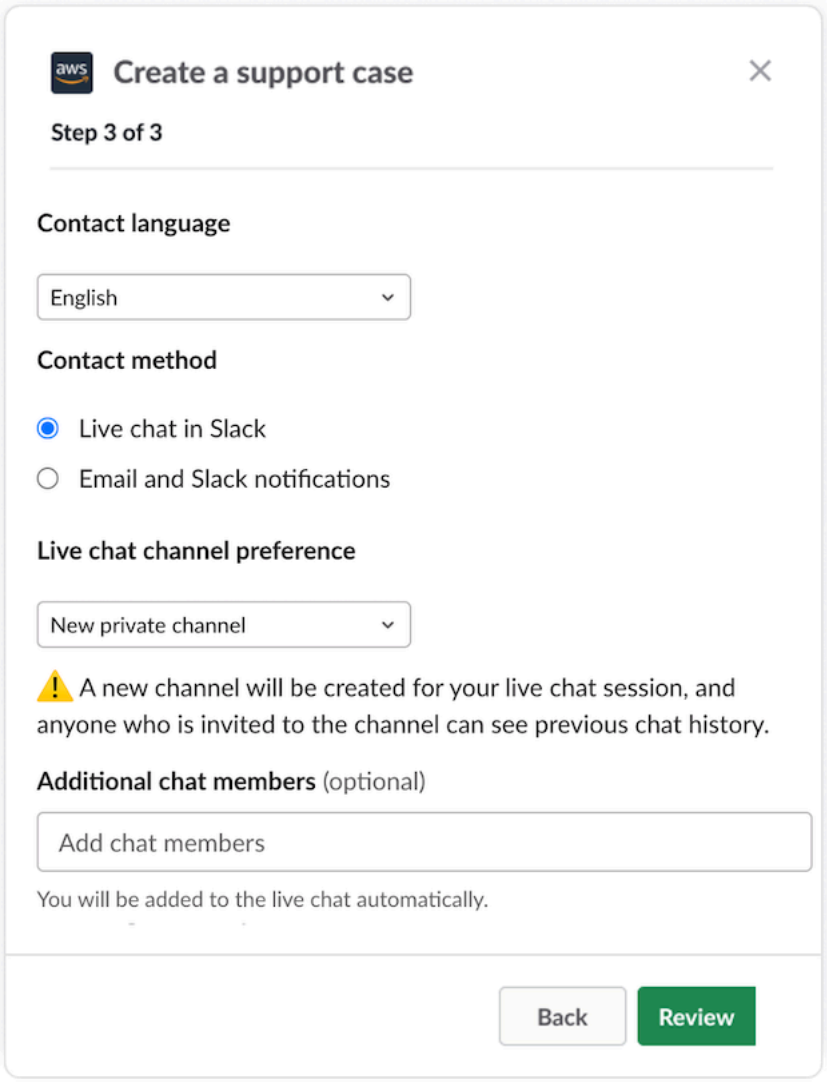


5. For **Contact language**, choose your preferred language for your support case.

> **Note**
>
> Japanese language support isn't available for live chat in Slack for account and billing cases.

6. For **Contact method**, choose **Email and Slack notifications** or **Live chat in Slack**.

   The following example shows how to choose a live chat in Slack.



a. If you choose **Live chat in Slack**, choose **New private channel** or **Current channel** as your **Live chat channel preference**. **New private channel** will create a separate private channel for you to chat with the AWS Support agent, and **Current channel** will use a thread in the current channel for you to chat with the AWS Support agent.

b. (Optional) If you choose **Live chat in Slack**, you can enter the names of other Slack members. For **New private channel**, the AWS Support App will automatically add you and selected members to the new channel. For **Current channel**, the AWS Support App will automatically tag you and selected members in the chat thread when the AWS Support agent joins.

Important

- We recommend that you only add chat members that you want to have access to your support case details and chat history.
- If you start a new live chat session for an existing support case, the AWS Support App uses the same chat channel or thread that was used for a previous live chat. The AWS Support App also uses the same live chat channel preference that was used previously.
- The **Current channel** option is only available if the chat is requested from a private channel. We recommend that you only use this option if you want all channel members to have access to your chat.

7. (Optional) For **Additional contacts to notify**, enter email addresses to also receive updates about this support case. You can add up to 10 email addresses.
8. Choose **Review**.
9. In the Slack channel, review the case details. You can do the following:
   - Choose **Edit** to change the case details.
   - Add a file to your case. To do so, follow these steps:
     a. Choose **Attach file**, choose the **+** icon in Slack, and choose **Your computer**.
     b. Navigate to and choose your file.
     c. In the **Upload a file** dialog box, enter `@awssupport`, and press the send message  icon.

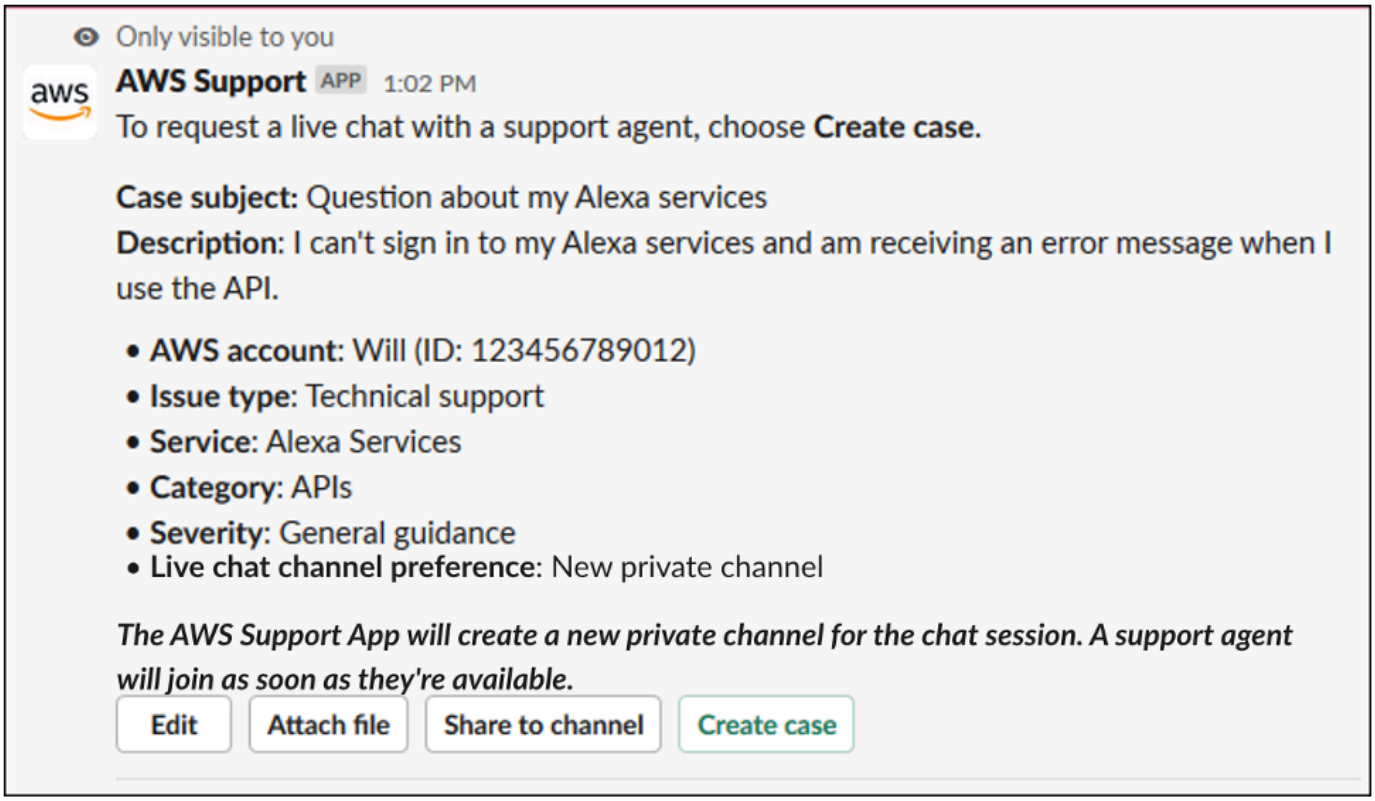
Notes

- You can attach up to three files. Each file can be up to 5 MB.
- If you attach a file to your support case, you must submit your case within 1 hour. If you don't, you must add the files again.

- Choose **Share to channel** to share the case details with others in the Slack channel. You can use this option to share the case details with your team before you create the case.

10. Review your case details, and then choose **Create case**.

    The following example shows a technical support case for Alexa Services.



    After you create a support case, it might take a few minutes for your case details to appear.

11. When your support case is updated, you can choose **See details** to view your case information. You can then do the following:

    - Choose **Share to channel** to share the case details with others in the Slack channel.
    - Choose **Reply** to add a correspondence.
    - Choose **Resolve case**.

> **Note**
>
> If you didn't choose to receive automatic case updates in Slack, you can search for the support case to find the **See details** option.

Replying to support cases in Slack

You can add updates to your case such as case details and attachments, and reply to responses from the support agent.

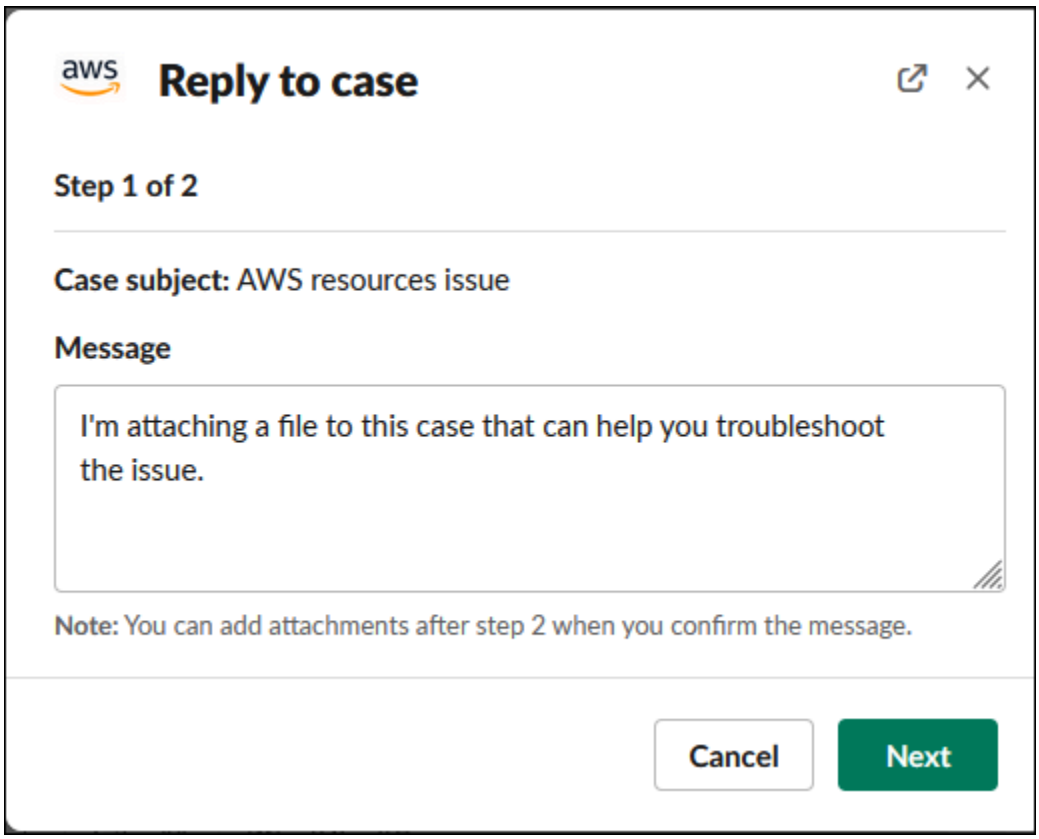
Note

- You can also use the AWS Support Center Console to reply to support agents. For more information, see Updating, resolving, and reopening your case.
- You cannot add correspondences to cases from chat channels created by the AWS Support App. Live chat channels only send messages to agents during the live chat.

To reply to a support case in Slack

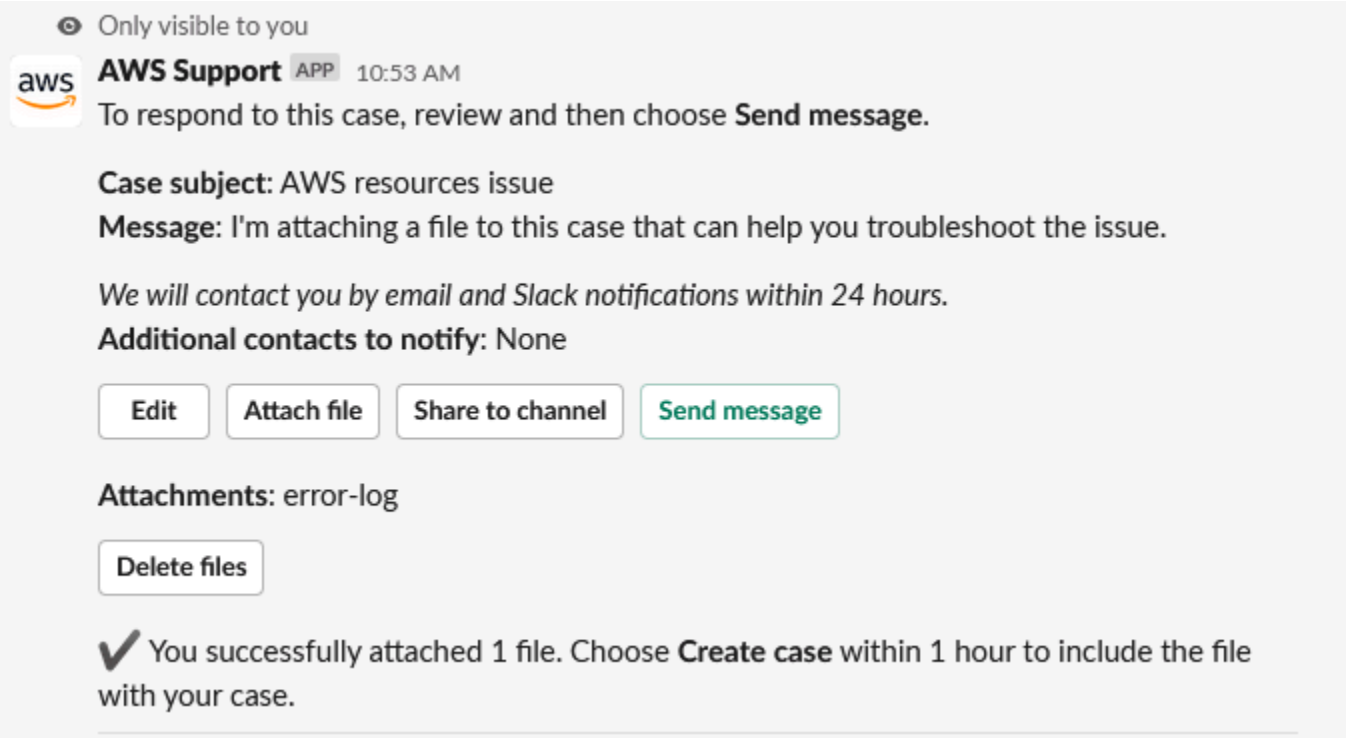
1. In your Slack channel, choose the case that you want to respond to. You can enter `/awssupport search` to find your support case.
2. Choose **See details** next to the case that you want.
3. At the bottom of the case details, choose **Reply**.

4. In the **Reply to case** dialog box, enter a brief description of the issue in the **Message** field. Then choose **Next**.



5. Choose your contact method. The available contact methods depend on your case type and support plan.
6. (Optional) For **Additional contacts to notify**, enter additional email addresses that you want to receive updates about this support case. You can add up to 10 email addresses.
7. Choose **Review**. You can then choose if you want to edit your reply, attach files, or share to the channel.
8. When you're ready to reply, choose **Send message**.
9. (Optional) To view previous correspondence for your case, choose **Previous correspondence**. To view shortened messages, choose **Show full message**.

Example : Reply to a case in Slack



Join a live chat session with AWS Support

When you request a live chat for your case, you choose to either use a new chat channel or a thread in the current channel for you and the AWS Support agent. Use this chat channel or thread to communicate with the support agent and any others that you invited to the live chat.

Important

Anyone who joins a channel with a live chat can view details about the specific support case and the chat history. Its a best practice to add only users that require access to your support cases. Any member of a chat channel or thread can also participate in an active chat.

Note

Live chat channels and threads also receive notifications when a correspondence is added to the case outside of the live chat session. This occurs before, during, and after a chat session, so you can use a chat channel or thread to monitor all updates for a case. If you

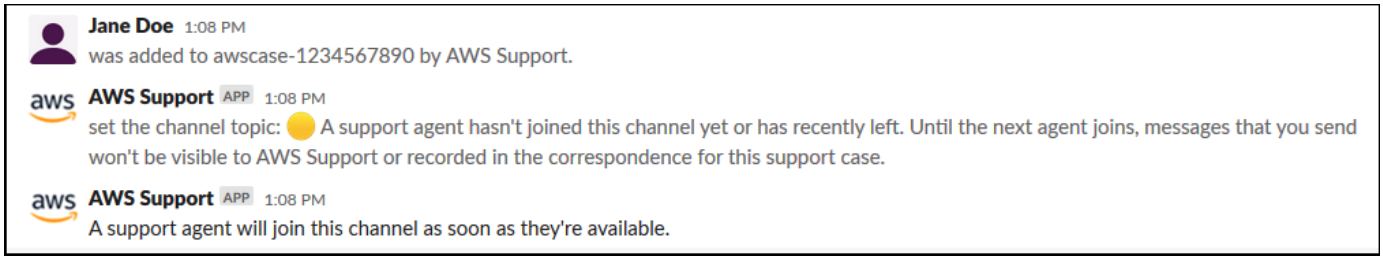
chose to use a new chat channel, use the configuration channel that you invited the AWS Support App to reply to these correspondences.

To join a live chat session with AWS Support in a new channel

1. In the Slack application, navigate to the channel that the AWS Support App creates for you. The channel name includes your support case ID, such as *awscase-1234567890*.

   > **Note**
   >
   > The AWS Support App adds a pinned message to the live chat channel that contains details about your support case. From the pinned message, you can end the chat or resolve the case. You can find all pinned messages in this channel under the channel name.

2. When the support agent joins the channel, you can chat about your support case. Until a support agent joins the channel, the agent won't see messages in that chat and the messages don't appear in your case correspondence.

3. (Optional) Add other members to the chat channel. By default, chat channels are private.
4. After the support agent joins the chat, the chat channel is active and the AWS Support App records the chat.

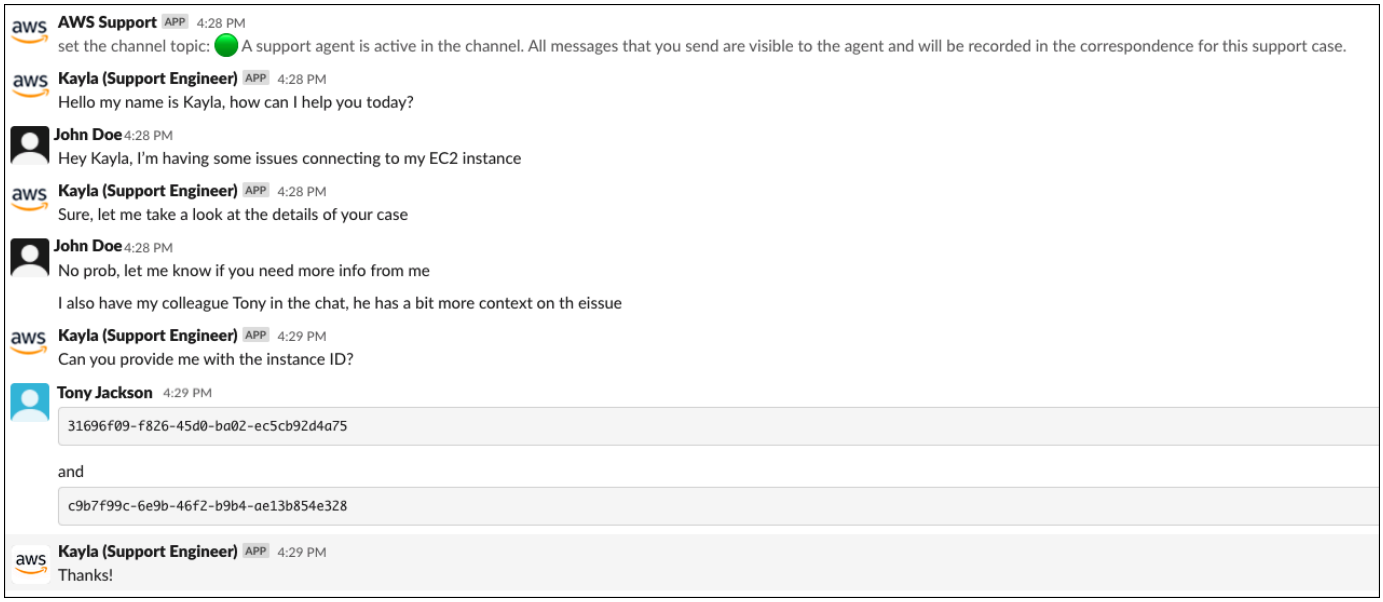
   You can chat with the agent about your support case and upload any file attachments to the channel. The AWS Support App automatically saves your files and chat log to your case correspondence.

   > **Note**
   >
   > When you chat with a support agent, note the following differences in Slack for the AWS Support App:

- Support agents can't view shared messages or threads. To share text from a message or thread, enter the text as a new message.
- If you edit or delete a message, the agent still sees the original message. You must enter your new message again to show the revision.

Example : Live chat session

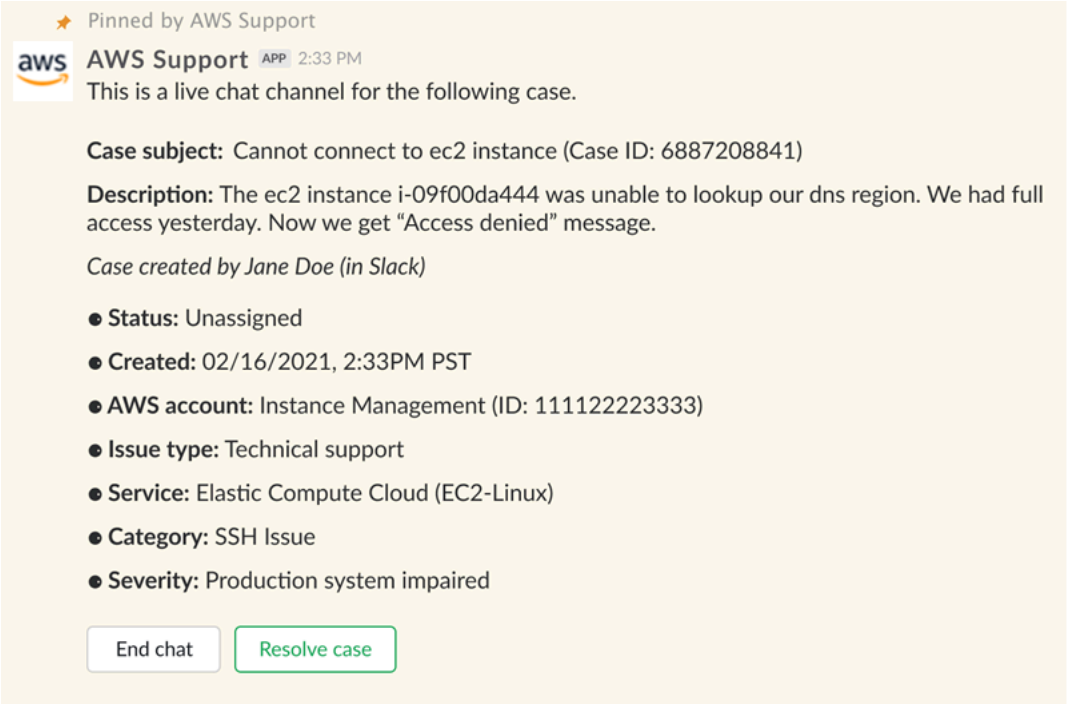
The following is an example of a live chat session with a support agent to fix a connectivity issue for two Amazon Elastic Compute Cloud (Amazon EC2) instances.



5. (Optional) To stop the live chat, choose **End chat**. The support agent leaves the channel and the AWS Support App stops recording the live chat. You can find the chat history attached to the case correspondence for this support case.
6. If the issue is resolved, you can choose **Resolve case** from the pinned message or enter `/awssupport resolve`.

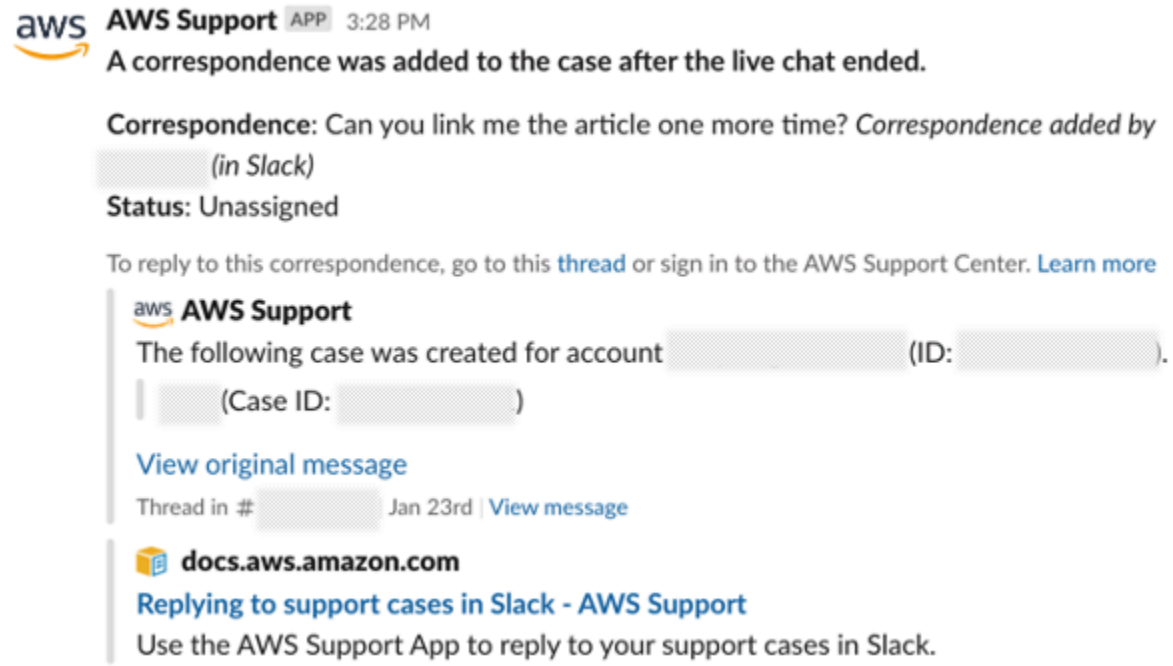
Example : End a live chat

The following pinned message shows the case details about an Amazon EC2 instance. You can find the pinned messages under the Slack channel name.



Example : Correspondence notification in chat channel

The following is an example of a live chat channel receiving a notification when the another collaborator adds an update after the chat has ended.

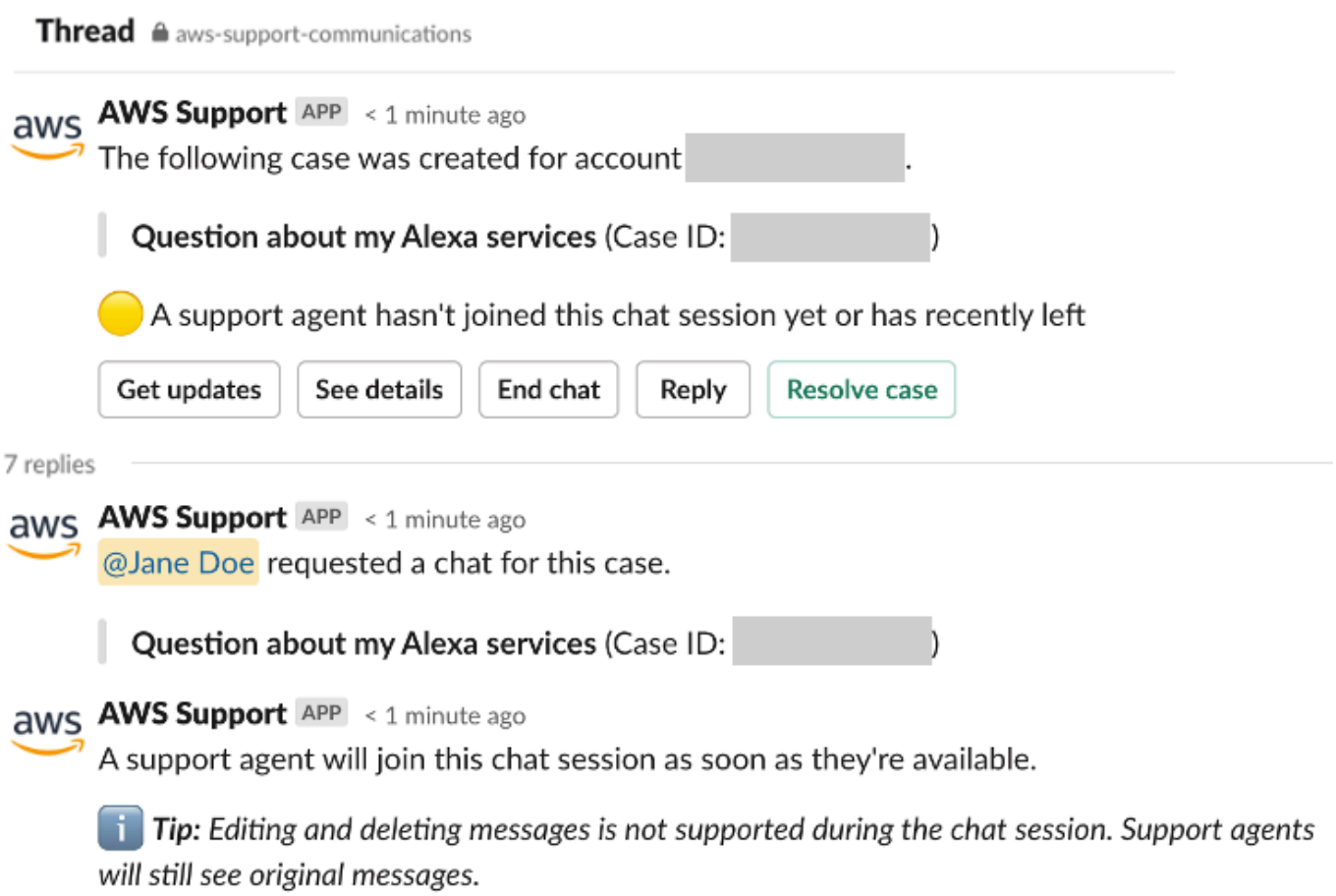


The notification will indicate the chat status (requested, in progress, or ended) and whether the correspondence was added by an agent or by another collaborator. The Support App will also attempt to link back to the original Slack thread or channel where this chat was requested. You can reply to this case from that channel, or any other channel with access to this case.

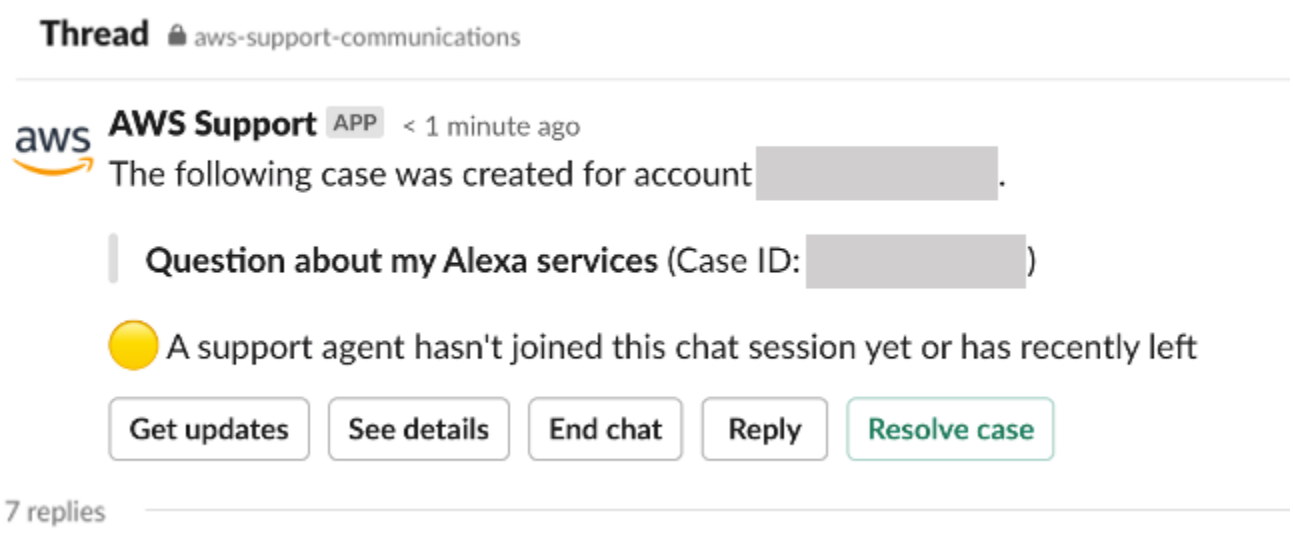
To join a live chat session with AWS Support in the current channel

1. In the Slack application, navigate to the thread in the current channel that the AWS Support App uses for the chat. In most cases, this will be the thread that started when the case was first created.
2. When the support agent joins the thread, you can chat about your support case. Until a support agent joins the thread, the agent won't see messages in that thread, and the messages won't appear in your case correspondence when the chat ends.

> **Note**
>
> Messages sent to this channel outside of the chat thread are never seen by AWS Support, even while a chat is active.



3. (Optional) Tag other channel members to notify them on the chat thread.
4. After the support agent joins the chat, the chat thread is active and the AWS Support App records the chat. Similar to the new chat channel option, you can chat with the agent about your support case and upload any file attachments to the thread. The AWS Support App automatically saves your files and chat log to your case correspondence.
5. (Optional) To stop the live chat, choose End chat from the initial message for this thread. The support agent leaves the thread and the AWS Support App stops recording the live chat. You can find the chat history attached to the case correspondence for this support case.
6. If the issue is resolved, you can choose Resolve case from the initial message for this thread.



Searching for support cases in Slack

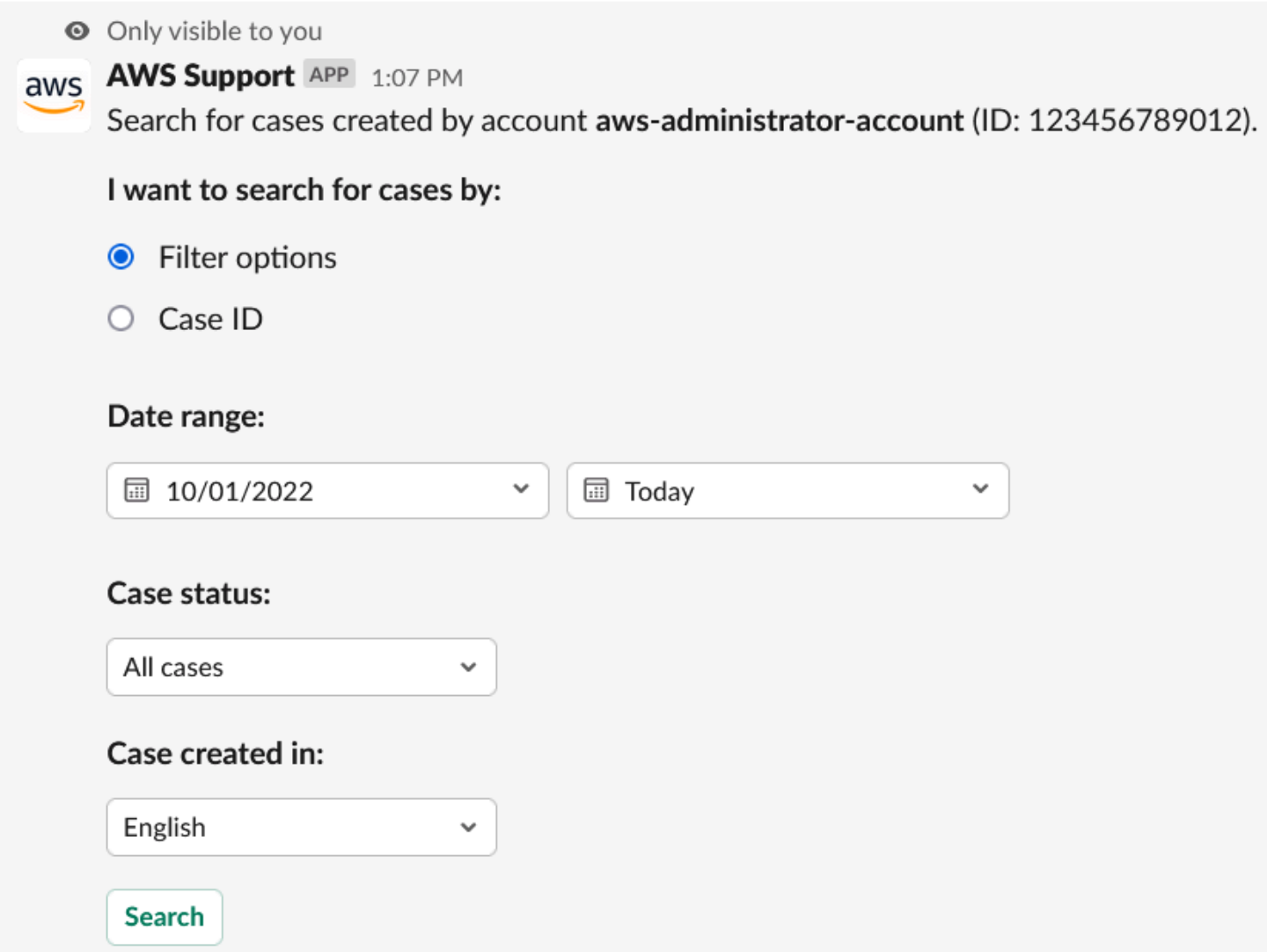
From your Slack channel, you can search for support cases from your AWS account and from other accounts that configured the same channel and workspace. For example, if your account (123456789012) and your coworker's account (111122223333) have configured the same workspace and channels in the AWS Support Center Console, you can use the AWS Support App to search for each other's support cases.

To filter your search results, you can use the following options:

- Account ID
- Case ID
- Case status
- Contact language
- Date range

Example : Search for cases in Slack

The following example shows how to search by **Filter options** for a single account by specifying the date range, case status, and contact language.



To search for a support case in Slack

1. In the Slack channel, enter the following command:

   ```
   /awssupport search
   ```

2. For the **I want to search for cases by:** option, choose one of the following:

   A. **Filter options** – You can filter cases with the following options:

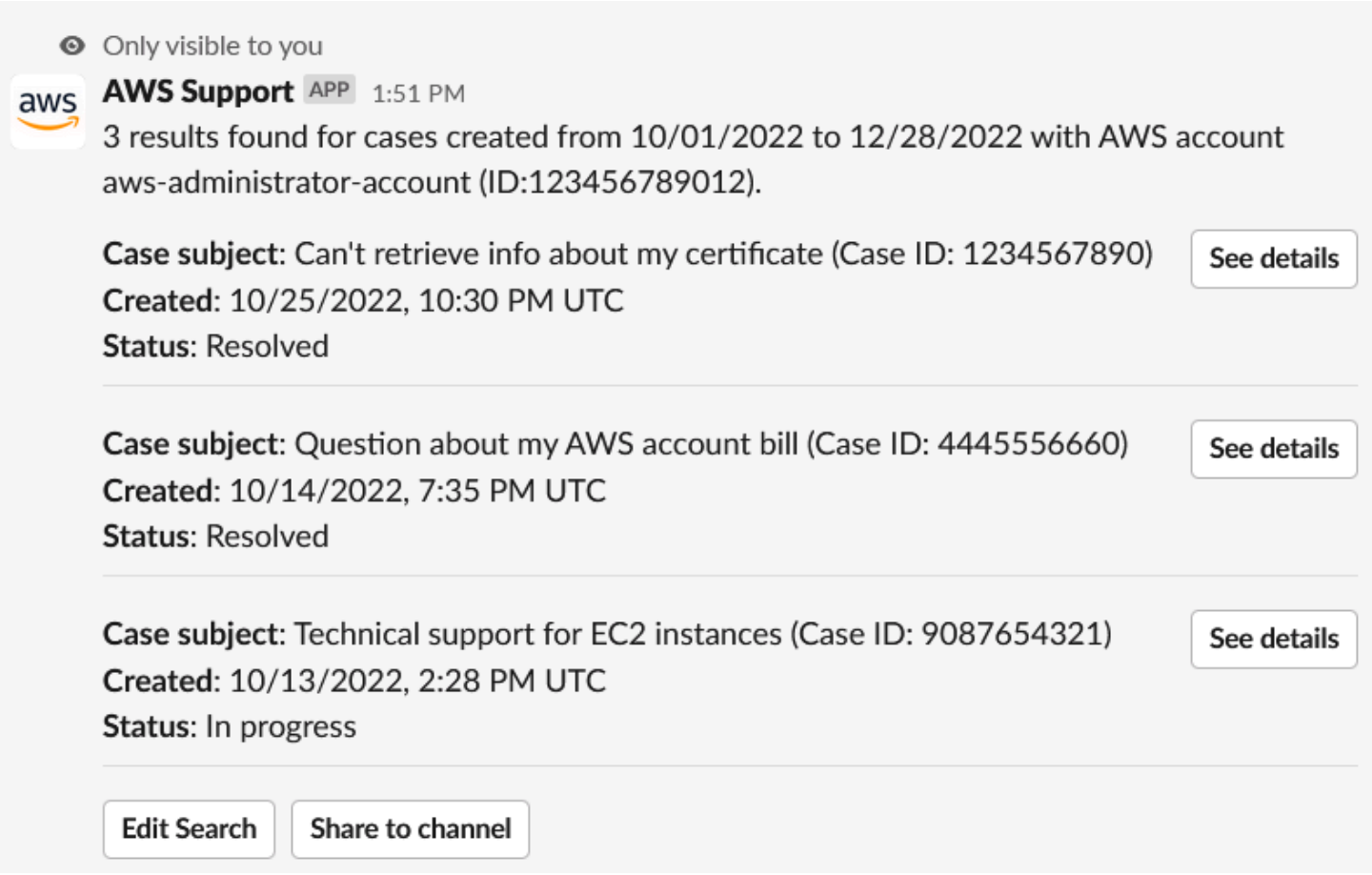
   - **AWS account** – This list only appears if you have multiple accounts in the channel.
   - **Date range** – The date the case was created.
   - **Case status** – The current case status, such as **All open cases** or **Resolved**.
   - **Case created in** – The contact language for the case.

B. **Case ID** – Enter the case ID. You can only enter one case ID at a time. If you have multiple accounts in the channel, choose the AWS account to search for the case.

3. Choose **Search**. Your search results appear in Slack.

Use your search results

The following example returns three support cases from one AWS account.



After you receive your search results, you can do the following:

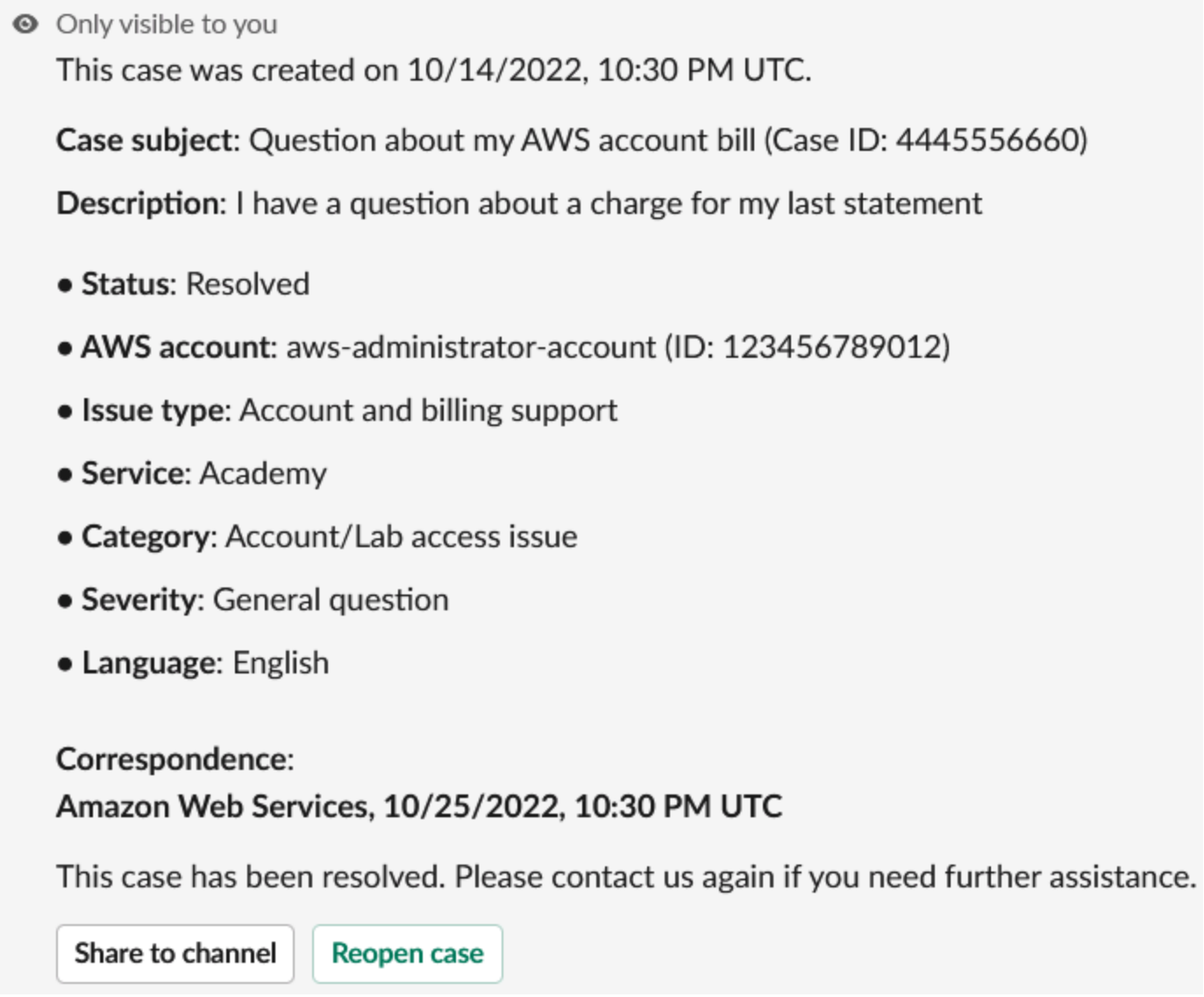
To use your search results

1. Choose **Edit Search** to change your previous filter options or case ID.
2. Choose **Share to channel** to share the search results with the channel.
3. Choose **See details** for more information about a case. You can choose **Show full message** to view the rest of the latest correspondence.

4. If you searched by **Filter options**, search results can return multiple cases. Choose **Next 5 results** or **Previous 5 results** to view the next or previous 5 cases.

Example : Resolved support case

The following example shows a resolved support case for an account and billing issue after choosing **See details**.

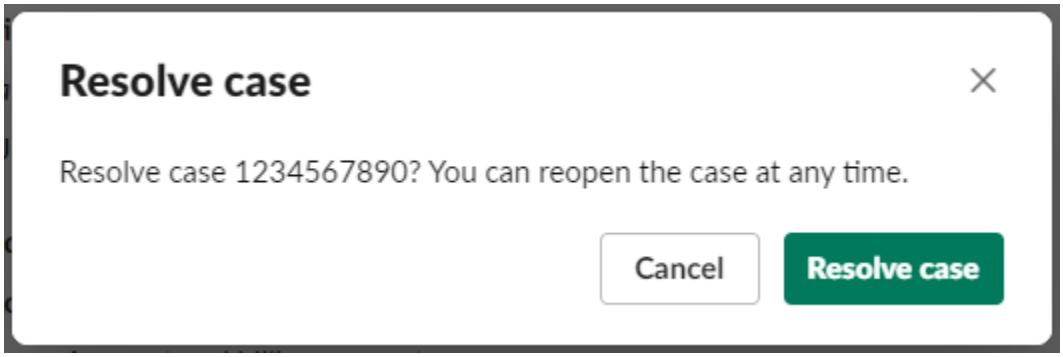


Resolving a support case in Slack

If you don't need your support case anymore, or you fixed the issue, you can resolve a support case directly in Slack. This also resolves the case in the AWS Support Center Console. After you resolve a case, you can reopen the case later.

To resolve a support case in Slack

1. In your Slack channel, navigate to the support case. See Searching for support cases in Slack.
2. Choose **See details** for the case.
3. Choose **Resolve case**.
4. In the **Resolve case** dialog box, choose **Resolve case**. You can reopen a case in the Slack channel or from the Support Center Console.

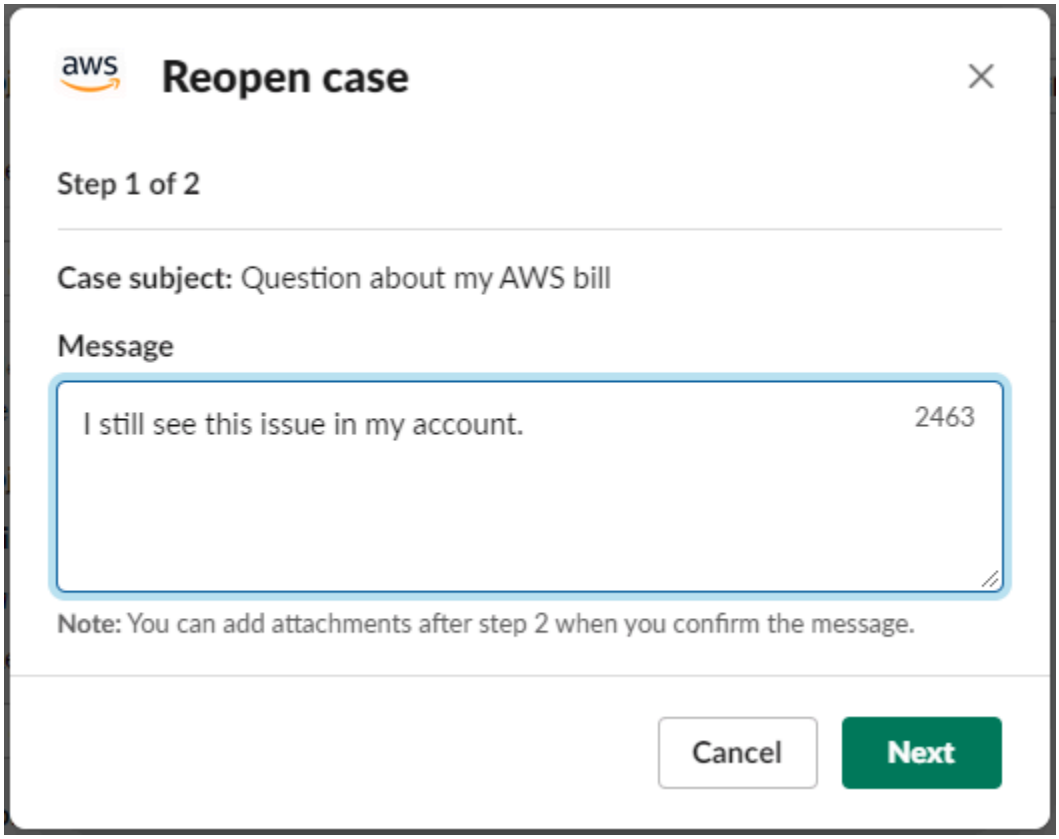


Reopening a support case in Slack

After you resolve a support case, you can reopen the case from Slack.

To reopen a support case in Slack

1. Find the support case to reopen in Slack. See Searching for support cases in Slack.
2. Choose **See details**.
3. Choose **Reopen case**.
4. In the **Reopen case** dialog box, enter a brief description of the issue in the **Message** field.
5. Choose **Next**.



6. (Optional) Enter additional contacts.
7. Choose **Review**.
8. Review your case details, and then choose **Send message**. Your case reopens. If you requested a new live chat with a support agent, Slack uses the same chat channel or thread as the one that was used for a previous live chat. If you requested a live chat in a new channel and you haven't had one so far, a new chat channel opens. If you requested a live chat in the current channel and you haven't had one so far, a thread in the current channel is used.

Requesting service quota increases

You can request service quota increases for your account from your Slack channel.

To request service quota increases

1. In the Slack channel, enter the following command:

   ```
   /awssupport quota
   ```

2. From the **Increase service quota** dialog box, enter the following information:

a. Choose the **AWS account**.

b. Choose the **AWS Region**.

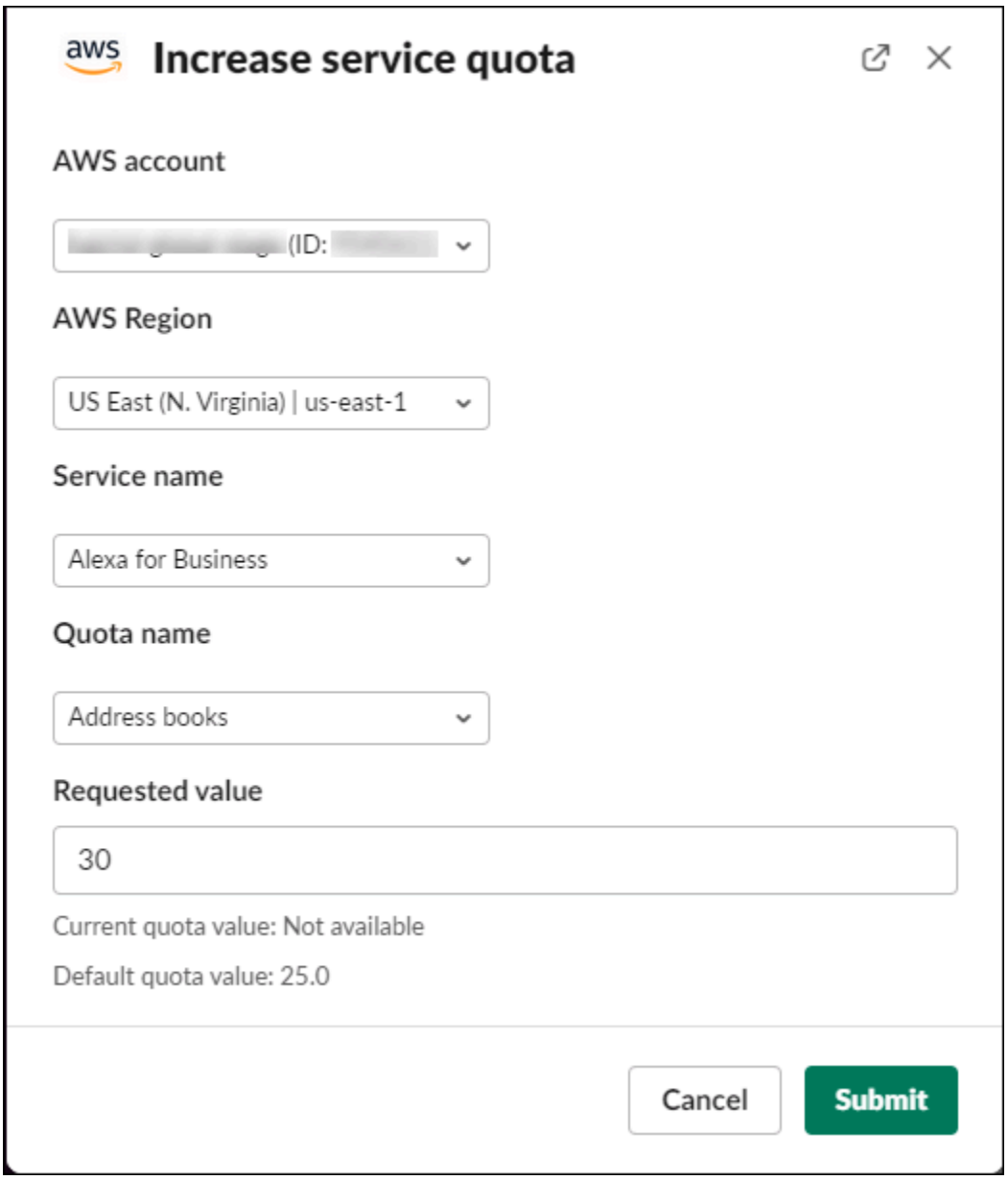
c. Choose the **Service name**.

d. Choose the **Quota name**.

e. Enter the **Requested value** for the quota increase. You must enter a value greater than the default quota.

3. Choose **Submit**.

Example : Quota increase for Alexa for Business



You can also view your requests from the Service Quotas console. For more information, see Requesting a quota increase in the *Service Quotas User Guide*.

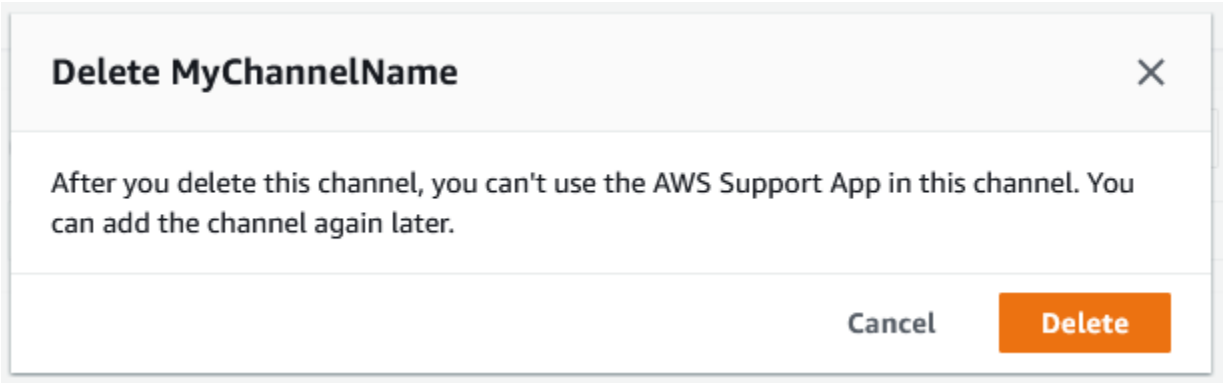
Deleting a Slack channel configuration from the AWS Support App

You can delete a channel configuration from the AWS Support App if you don't need it. This action only removes the channel from the AWS Support App and the AWS Support Center Console. Your channel isn't deleted from Slack.

You can add up to 20 channels for your AWS account. If you already reached this quota, you must delete a channel before you can add another one.

To delete a Slack channel configuration

1. Sign in to the **Support Center Console** and choose **Slack configuration**.
2. On the **Slack configuration** page, under **Channels**, choose the channel name, and then choose **Delete**.
3. In the **Delete channel name** dialog box, choose **Delete**. You can add this channel to the AWS Support App again later.



Deleting a Slack workspace configuration from the AWS Support App

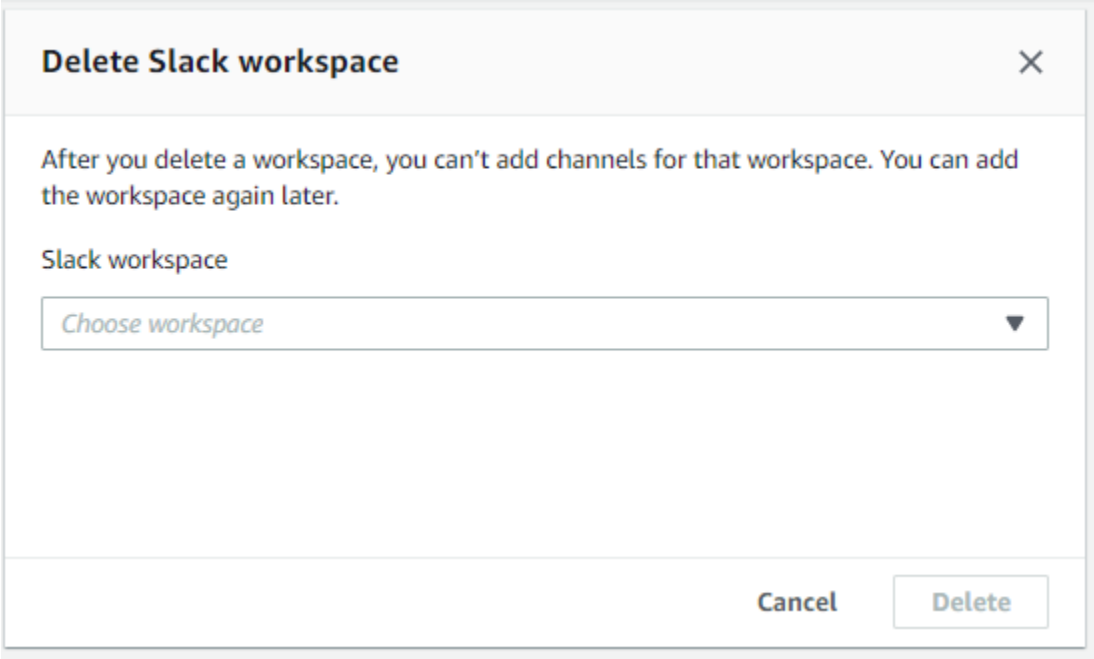
You can delete a workspace configuration from the AWS Support App if you don't need it. This action only removes the workspace from the AWS Support App and the AWS Support Center Console. Your workspace isn't deleted from Slack.

You can add up to 5 workspaces for your AWS account. If you already reached this quota, you must delete a Slack workspace before you can add another one.

> **Note**
>
> If you added channels from this workspace to the AWS Support App, you must first delete these channels before you can delete the workspace. See Deleting a Slack channel configuration from the AWS Support App.

To delete a Slack workspace configuration

1. Sign in to the **AWS Support Center Console** and choose **Slack configuration**.
2. On the **Slack configuration** page, under **Slack workspaces**, choose **Delete a workspace**.
3. In the **Delete Slack workspace** dialog box, choose the Slack workspace name, and then choose **Delete**. You can add the workspace to your AWS account again later.



AWS Support App in Slack commands

Slack channel commands

You can enter the following commands in the Slack channel where you invited the AWS Support App. This Slack channel name also appears as a configured channel in the AWS Support Center Console.

`/awssupport create` or `/awssupport create-case`

Create a support case.

`/awssupport search` or `/awssupport search-case`

Search for cases. You can search for support cases for the AWS accounts that configured the AWS Support App for the same Slack channel.

`/awssupport quota` or `/awssupport service-quota-increase`

Request a service quota increase.

Live chat channel commands

You can enter the following commands in the live chat channel. This is the channel that the AWS Support App creates for you if you choose a new channel for your chat with AWS Support. Chat channels include your support case ID, such as *awscase-1234567890*.

> **Note**
>
> The following commands are not available when using a thread in the current channel for a live chat. Instead, use the buttons attached to the initial thread message to end a chat, invite a new agent, or resolve the case.

`/awssupport endchat`

Remove the support agent and end the live chat session.

`/awssupport invite`

Invite a new support agent to this channel.

`/awssupport resolve`

Resolve this support case.

View AWS Support App correspondences in the AWS Support Center Console

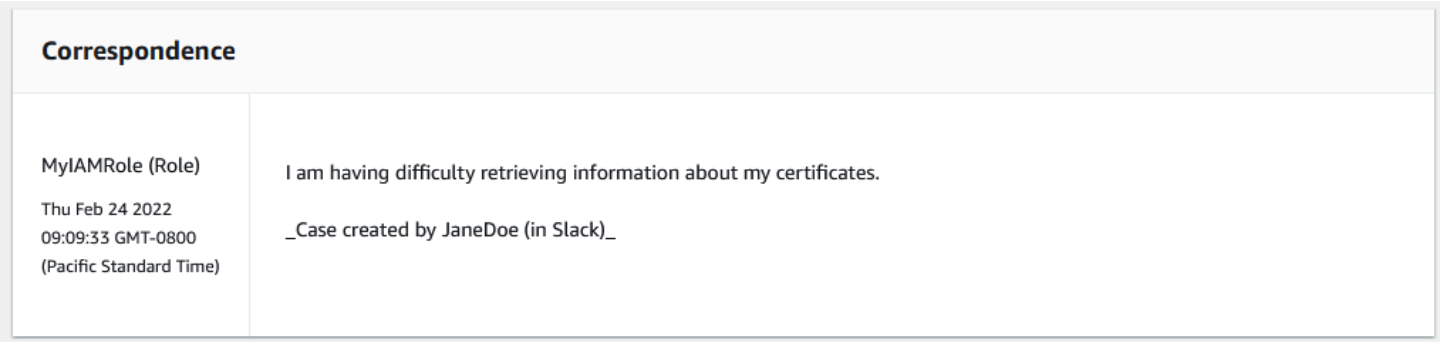
When you create, update, or resolve support cases for your account in the Slack channel, you can also sign in to the Support Center Console to view your cases. You can view the case correspondences to determine whether the case was updated in the Slack channel, view the chat history with a support agent, and find any attachments that you uploaded from Slack.

To view case correspondences from Slack

1. Sign in to the **AWS Support Center Console** for your account.
2. Choose your support case.
3. In the **Correspondence**, you can view whether the case was created and updated from the Slack channel.

Example : Support case

In the following screenshot, Jane Doe reopened a support case in Slack. This correspondence appears for the support case in the Support Center Console.



Creating AWS Support App in Slack resources with AWS CloudFormation

AWS Support App in Slack is integrated with AWS CloudFormation, a service that helps you to model and set up your AWS resources so that you can spend less time creating and managing your resources and infrastructure. You create a template that describes all the AWS resources that you want (such as your AccountAlias and SlackChannelConfiguration), and AWS CloudFormation provisions and configures those resources for you.

When you use AWS CloudFormation, you can reuse your template to set up your AWS Support App resources consistently and repeatedly. Describe your resources once, and then provision the same resources over and over in multiple AWS accounts and Regions.

AWS Support App and AWS CloudFormation templates

To provision and configure resources for AWS Support App and related services, you must understand AWS CloudFormation templates. Templates are formatted text files in JSON or YAML. These templates describe the resources that you want to provision in your AWS CloudFormation stacks. If you're unfamiliar with JSON or YAML, you can use AWS CloudFormation Designer to help you get started with AWS CloudFormation templates. For more information, see What is AWS CloudFormation Designer? in the *AWS CloudFormation User Guide*.

AWS Support App supports creating your AccountAlias and SlackChannelConfiguration in AWS CloudFormation. For more information, including examples of JSON and YAML templates for the AccountAlias and SlackChannelConfiguration resources, see the AWS Support App resource type reference in the *AWS CloudFormation User Guide*.

Create Slack configuration resources for your organization

You can use CloudFormation templates to create the resources that you need for the AWS Support App. If you're the management account for your organization, you can use the templates to create these resources for your member accounts in AWS Organizations.

For example, you might use a template to create the same Slack workspace configuration for all accounts in the organization, but then use separate templates to create different Slack channel configurations for specific AWS accounts or organizational units (OUs). You can also use a template to create a Slack workspace configuration so that member accounts can then configure the Slack channels that they want for their AWS accounts.

You can choose whether to use CloudFormation templates or not. If you don't use CloudFormation templates, you can complete the following manual steps instead:

- Create the AWS Support App resources in the AWS Support Center Console.
- Create a support case with AWS Support to authorize multiple accounts to use the AWS Support App.
- Call the RegisterSlackWorkspaceForOrganization API operation to register a Slack workspace for your account. The CloudFormation stack calls this API operation for you.

Follow these procedures to upload the CloudFormation template to your organization. You can use the example templates from the AWS Support App resource type reference page.

The templates tell CloudFormation to create the following resources:

- A Slack channel configuration.
- A Slack workspace configuration.
- An IAM role with the `AWSSupportSlackAppCFNRole` name. The AWSSupportAppFullAccess AWS managed policy is attached.

Contents

Update your CloudFormation templates for Slack

To get started, use the following templates to create your stack. You must replace the templates with valid values for your Slack workspace and channel.

> **Note**
>
> We don't recommend the use of the template to create an AccountAlias resource for your organization. The AccountAlias resource uniquely identifies an AWS account in the AWS Support App. Your member accounts can enter an account name in the Support Center Console. For more information, see Authorize a Slack workspace.

To update your CloudFormation templates for Slack

1. If you're the management account for an organization, you must manually authorize a Slack workspace for your account before your member accounts can use CloudFormation to create the resources. If you haven't already done so, see Authorize a Slack workspace.
2. From the AWS Support App resource type reference page, copy the JSON or YAML template for the resource that you want.
3. In a text editor, paste the template into a new file.

4. In the template, specify the parameters that you want. At a minimum, replace the values for the following fields:

   - `TeamId` with your Slack workspace ID
   - `ChannelId` with the Slack channel ID
   - `ChannelName` with a name to identify the Slack channel configuration

   > **Tip**
   >
   > To find the workspace and channel IDs, open your Slack channel in a browser. In the URL, your workspace ID is the first identifier and the channel ID is the second. For example, in https://app.slack.com/client/T012ABCDEFG/C01234A5BCD, T012ABCDEFG is the workspace ID and C01234A5BCD is the channel ID.

5. Save the file as either a JSON or YAML file.

Create a stack for the management account

Next, you must create a stack for the management account in the organization. This step calls the RegisterSlackWorkspaceForOrganization API operation for you and authorizes the workspace with Slack.

> **Note**
>
> We recommend that you upload the Slack workspace configuration template that you updated in the previous procedure for the management account. You don't need to upload the Slack channel configuration template unless you're also configuring the management account to use the AWS Support App.

To create a stack for the management account

1. Sign in to the AWS Management Console as the management account for your organization.
2. Open the AWS CloudFormation console at https://console.aws.amazon.com/cloudformation.
3. If you haven't already, in the **Region selector**, choose one of the following AWS Regions:

   - Europe (Frankfurt)

- Europe (Ireland)
- Europe (London)
- US East (N. Virginia)
- US East (Ohio)
- US West (Oregon)
- Asia Pacific (Singapore)
- Asia Pacific (Tokyo)
- Canada (Central)

4. Follow the procedure to create a stack. For more information, see Creating a stack on the AWS CloudFormation console.

   After CloudFormation successfully creates the stack, you can use the same template to create a stack set for your organization.

Create a stack set for your organization

Next, use the same template for the Slack workspace configuration to create a stack set with `service-managed` permissions. You can use stack sets to create the stack for your entire organization or specify the OUs that you want. For more information, see Create a stack set.

This procedure also calls the RegisterSlackWorkspaceForOrganization API operation for you. This API operation authorizes the workspace with Slack for the member accounts.

To create a stack set for your organization

1. Sign in to the AWS Management Console as the management account for your organization.
2. Open the AWS CloudFormation console at https://console.aws.amazon.com/cloudformation.
3. If you haven't already, in the **Region selector**, choose the same AWS Region that you used in the previous procedure.
4. In the navigation pane, choose **StackSets**.
5. Choose **Create StackSet**.
6. On the **Choose a template** page, keep the default options for the following options:

   - For **Permissions**, keep **Service-managed permissions**.
   - For **Prerequisite - Prepare template**, keep **Template is ready**.

7. Under **Specify template**, choose **Upload a template file**, and then choose **Choose file**.
8. Choose the file and then choose **Next**.
9. On the **Specify StackSet details** page, enter a stack name such as **`support-app-slack-workspace`**, enter a description, and then choose **Next**.
10. On the **Configure StackSet options** page, keep the default options and then choose **Next**.
11. On the **Set deployment options** page, for **Add stacks to stack set**, keep the default **Deploy new stacks** option.
12. For **Deployment targets**, choose if you want to create the stack for the entire organization or specific OUs. If you choose an OU, enter the OU ID.
13. For **Specify regions**, enter only *one* of the following AWS Regions:

    - Europe (Frankfurt)
    - Europe (Ireland)
    - Europe (London)
    - US East (N. Virginia)
    - US East (Ohio)
    - US West (Oregon)
    - Asia Pacific (Singapore)
    - Asia Pacific (Tokyo)
    - Canada (Central)

    Notes:

    - To streamline your workflow, we recommend that you use the same AWS Region that you chose in step 3.
    - Choosing more than one AWS Region can cause conflicts with creating your stack.

14. For **Deployment options**, for **Failure tolerance - optional**, enter the number of accounts where the stacks can fail before CloudFormation stops the operation. We recommend that you enter the number of accounts that you want to add, minus one. For example, if your specified OU has 10 member accounts, enter 9. This means that even if CloudFormation fails the operation 9 times, at least one account will succeed.
15. Choose **Next**.

16. On the **Review** page, review your options, and then choose **Submit**. You can check the status of your stack on the **Stack instances** tab.
17. (Optional) Repeat this procedure to upload a template for a Slack channel configuration. The example template also creates the IAM role and attaches an AWS managed policy. This role has the required permissions to access other services for you. For more information, see Managing access to the AWS Support App.

    If you don't create a stack set to create the Slack channel configuration, your member accounts can manually configure the Slack channel. For more information, see Configuring a Slack channel.

After CloudFormation creates the stacks, each member account can sign in to the Support Center Console and find their configured Slack workspaces and channels. They can then use the AWS Support App for their AWS account. See Creating support cases in a Slack channel.

> **Tip**
>
> If you need to upload a new template, we recommend that you use the same AWS Region that you specified before.

Learn more about CloudFormation

To learn more about CloudFormation, see the following resources:

- AWS CloudFormation
- AWS CloudFormation User Guide
- AWS CloudFormation API Reference
- AWS CloudFormation Command Line Interface User Guide

Create AWS Support App resources by using Terraform

You can also use Terraform to create the AWS Support App resources for your AWS account. Terraform is an infrastructure-as-code tool that you can use for your cloud applications. You can use Terraform to create AWS Support App resources instead of deploying a CloudFormation stack to an account.

After you install Terraform, you can specify the AWS Support App resources that you want. Terraform calls the RegisterSlackWorkspaceForOrganization API operation to register a Slack workspace for you and creates your resources. You can then sign in the Support Center Console and find your configured Slack workspaces and channels.

Notes

- If you're the management account for an organization, you must manually authorize a Slack workspace for your account before your member accounts can use Terraform to create the resources. If you haven't already done so, see Authorize a Slack workspace.
- Unlike CloudFormation stack sets, you can't use Terraform to create the AWS Support App resources for an OU in your organization.
- You can also find the event history for these updates from Terraform in AWS CloudTrail. The `eventSource` for these events will be `cloudcontrolapi.amazonaws.com` and `supportapp.amazonaws.com`. For more information, see Logging AWS Support App in Slack API calls using AWS CloudTrail.

Learn more

To learn more about Terraform, see the following topics:

- Terraform installation
- Terraform tutorial: Build infrastructure for AWS
- `awscc_support_app_account_alias`
- `awscc_supportapp_slack_workspace_configuration`
- `awscc_supportapp_slack_channel_configuration`

Security in AWS Support

Cloud security at AWS is the highest priority. As an AWS customer, you benefit from a data center and network architecture that is built to meet the requirements of the most security-sensitive organizations.

Security is a shared responsibility between AWS and you. The shared responsibility model describes this as security *of* the cloud and security *in* the cloud:

- **Security of the cloud** – AWS is responsible for protecting the infrastructure that runs AWS services in the AWS Cloud. AWS also provides you with services that you can use securely. Third-party auditors regularly test and verify the effectiveness of our security as part of the AWS compliance programs. To learn about the compliance programs that apply to AWS Support, see AWS services in scope by compliance program.
- **Security in the cloud** – Your responsibility is determined by the AWS service that you use. You are also responsible for other factors including the sensitivity of your data, your company's requirements, and applicable laws and regulations.

This documentation helps you understand how to apply the shared responsibility model when using AWS Support. The following topics show you how to configure AWS Support to meet your security and compliance objectives. You also learn how to use other Amazon Web Services that help you to monitor and secure your AWS Support resources.

Topics

Data protection in AWS Support

The AWS shared responsibility model applies to data protection in AWS Support. As described in this model, AWS is responsible for protecting the global infrastructure that runs all of the AWS Cloud. You are responsible for maintaining control over your content that is hosted on this infrastructure. You are also responsible for the security configuration and management tasks for the AWS services that you use. For more information about data privacy, see the Data Privacy FAQ. For information about data protection in Europe, see the AWS Shared Responsibility Model and GDPR blog post on the *AWS Security Blog*.

For data protection purposes, we recommend that you protect AWS account credentials and set up individual users with AWS IAM Identity Center or AWS Identity and Access Management (IAM). That way, each user is given only the permissions necessary to fulfill their job duties. We also recommend that you secure your data in the following ways:

- Use multi-factor authentication (MFA) with each account.
- Use SSL/TLS to communicate with AWS resources. We require TLS 1.2 and recommend TLS 1.3.
- Set up API and user activity logging with AWS CloudTrail. For information about using CloudTrail trails to capture AWS activities, see Working with CloudTrail trails in the *AWS CloudTrail User Guide*.
- Use AWS encryption solutions, along with all default security controls within AWS services.
- Use advanced managed security services such as Amazon Macie, which assists in discovering and securing sensitive data that is stored in Amazon S3.
- If you require FIPS 140-3 validated cryptographic modules when accessing AWS through a command line interface or an API, use a FIPS endpoint. For more information about the available FIPS endpoints, see Federal Information Processing Standard (FIPS) 140-3.

We strongly recommend that you never put confidential or sensitive information, such as your customers' email addresses, into tags or free-form text fields such as a **Name** field. This includes when you work with AWS Support or other AWS services using the console, API, AWS CLI, or AWS SDKs. Any data that you enter into tags or free-form text fields used for names may be used for billing or diagnostic logs. If you provide a URL to an external server, we strongly recommend that you do not include credentials information in the URL to validate your request to that server.

Security for your AWS Support cases

When you create a support case, you own the information that you include in your support case. AWS doesn't access your AWS account data without your permission. AWS doesn't share your information with third parties.

When you create a support case, note the following:

- AWS Support uses the permissions defined in the `AWSServiceRoleForSupport` service-linked role to call other AWS services that troubleshoot customer issues for you. For more information, see Using service-linked roles for AWS Support and AWS managed policy: AWSSupportServiceRolePolicy.
- You can view API calls to AWS Support that occurred in your AWS account. For example, you can view log information when someone in your account creates or resolves a support case. For more information, see Logging AWS Support API calls with AWS CloudTrail.
- You can use the AWS Support API to call the `DescribeCases` API. This API returns support case information, such as the case ID, the create and resolve date, and correspondences with the support agent. You can view case details for up to 12 months after the case was created. For more information, see DescribeCases in the *AWS Support API Reference*.
- Your support cases follow Compliance validation for AWS Support.
- When you create a support case, AWS doesn't gain access your account. If necessary, support agents use a screen-sharing tool to view your screen remotely and identify and troubleshoot problems. This tool is view-only. AWS Support can't act for you during the screen-share session. You must give consent to share a screen with a support agent. For more information, see the AWS Support FAQs.
- You can change your AWS Support plan to get the help that you need for your account. For more information, see Compare AWS Support Plans and Changing your AWS Support plan.

Identity and access management for AWS Support

AWS Identity and Access Management (IAM) is an AWS service that helps an administrator securely control access to AWS resources. IAM administrators control who can be *authenticated* (signed in) and *authorized* (have permissions) to use AWS Support resources. IAM is an AWS service that you can use with no additional charge.

Topics

Audience

How you use AWS Identity and Access Management (IAM) differs, depending on the work that you do in AWS Support.

Service user – If you use the AWS Support service to do your job, then your administrator provides you with the credentials and permissions that you need. As you use more AWS Support features to do your work, you might need additional permissions. Understanding how access is managed can help you request the right permissions from your administrator. If you cannot access a feature in AWS Support, see Troubleshooting AWS Support identity and access.

Service administrator – If you're in charge of AWS Support resources at your company, you probably have full access to AWS Support. It's your job to determine which AWS Support features and resources your service users should access. You must then submit requests to your IAM administrator to change the permissions of your service users. Review the information on this page to understand the basic concepts of IAM. To learn more about how your company can use IAM with AWS Support, see How AWS Support works with IAM.

IAM administrator – If you're an IAM administrator, you might want to learn details about how you can write policies to manage access to AWS Support. To view example AWS Support identity-based policies that you can use in IAM, see AWS Support identity-based policy examples.

Authenticating with identities

Authentication is how you sign in to AWS using your identity credentials. You must be *authenticated* (signed in to AWS) as the AWS account root user, as an IAM user, or by assuming an IAM role.

You can sign in to AWS as a federated identity by using credentials provided through an identity source. AWS IAM Identity Center (IAM Identity Center) users, your company's single sign-on authentication, and your Google or Facebook credentials are examples of federated identities. When you sign in as a federated identity, your administrator previously set up identity federation using IAM roles. When you access AWS by using federation, you are indirectly assuming a role.

Depending on the type of user you are, you can sign in to the AWS Management Console or the AWS access portal. For more information about signing in to AWS, see How to sign in to your AWS account in the *AWS Sign-In User Guide*.

If you access AWS programmatically, AWS provides a software development kit (SDK) and a command line interface (CLI) to cryptographically sign your requests by using your credentials. If you don't use AWS tools, you must sign requests yourself. For more information about using the recommended method to sign requests yourself, see Signing AWS API requests in the *IAM User Guide*.

Regardless of the authentication method that you use, you might be required to provide additional security information. For example, AWS recommends that you use multi-factor authentication (MFA) to increase the security of your account. To learn more, see Multi-factor authentication in the *AWS IAM Identity Center User Guide* and Using multi-factor authentication (MFA) in AWS in the *IAM User Guide*.

AWS account root user

When you create an AWS account, you begin with one sign-in identity that has complete access to all AWS services and resources in the account. This identity is called the AWS account *root user* and is accessed by signing in with the email address and password that you used to create the account. We strongly recommend that you don't use the root user for your everyday tasks. Safeguard your root user credentials and use them to perform the tasks that only the root user can perform. For the complete list of tasks that require you to sign in as the root user, see Tasks that require root user credentials in the *IAM User Guide*.

IAM users and groups

An *IAM user* is an identity within your AWS account that has specific permissions for a single person or application. Where possible, we recommend relying on temporary credentials instead of creating IAM users who have long-term credentials such as passwords and access keys. However, if you have specific use cases that require long-term credentials with IAM users, we recommend that you rotate access keys. For more information, see Rotate access keys regularly for use cases that require long-term credentials in the *IAM User Guide*.

An *IAM group* is an identity that specifies a collection of IAM users. You can't sign in as a group. You can use groups to specify permissions for multiple users at a time. Groups make permissions easier to manage for large sets of users. For example, you could have a group named *IAMAdmins* and give that group permissions to administer IAM resources.

Users are different from roles. A user is uniquely associated with one person or application, but a role is intended to be assumable by anyone who needs it. Users have permanent long-term credentials, but roles provide temporary credentials. To learn more, see When to create an IAM user (instead of a role) in the *IAM User Guide*.

IAM roles

An *IAM role* is an identity within your AWS account that has specific permissions. It is similar to an IAM user, but is not associated with a specific person. You can temporarily assume an IAM role in the AWS Management Console by switching roles. You can assume a role by calling an AWS CLI or AWS API operation or by using a custom URL. For more information about methods for using roles, see Using IAM roles in the *IAM User Guide*.

IAM roles with temporary credentials are useful in the following situations:

- **Federated user access** – To assign permissions to a federated identity, you create a role and define permissions for the role. When a federated identity authenticates, the identity is associated with the role and is granted the permissions that are defined by the role. For information about roles for federation, see Creating a role for a third-party Identity Provider in the *IAM User Guide*. If you use IAM Identity Center, you configure a permission set. To control what your identities can access after they authenticate, IAM Identity Center correlates the permission set to a role in IAM. For information about permissions sets, see Permission sets in the *AWS IAM Identity Center User Guide*.
- **Temporary IAM user permissions** – An IAM user or role can assume an IAM role to temporarily take on different permissions for a specific task.

- **Cross-account access** – You can use an IAM role to allow someone (a trusted principal) in a different account to access resources in your account. Roles are the primary way to grant cross-account access. However, with some AWS services, you can attach a policy directly to a resource (instead of using a role as a proxy). To learn the difference between roles and resource-based policies for cross-account access, see Cross account resource access in IAM in the *IAM User Guide*.
- **Cross-service access** – Some AWS services use features in other AWS services. For example, when you make a call in a service, it's common for that service to run applications in Amazon EC2 or store objects in Amazon S3. A service might do this using the calling principal's permissions, using a service role, or using a service-linked role.
  - **Forward access sessions (FAS)** – When you use an IAM user or role to perform actions in AWS, you are considered a principal. When you use some services, you might perform an action that then initiates another action in a different service. FAS uses the permissions of the principal calling an AWS service, combined with the requesting AWS service to make requests to downstream services. FAS requests are only made when a service receives a request that requires interactions with other AWS services or resources to complete. In this case, you must have permissions to perform both actions. For policy details when making FAS requests, see Forward access sessions.
  - **Service role** – A service role is an IAM role that a service assumes to perform actions on your behalf. An IAM administrator can create, modify, and delete a service role from within IAM. For more information, see Creating a role to delegate permissions to an AWS service in the *IAM User Guide*.
  - **Service-linked role** – A service-linked role is a type of service role that is linked to an AWS service. The service can assume the role to perform an action on your behalf. Service-linked roles appear in your AWS account and are owned by the service. An IAM administrator can view, but not edit the permissions for service-linked roles.
- **Applications running on Amazon EC2** – You can use an IAM role to manage temporary credentials for applications that are running on an EC2 instance and making AWS CLI or AWS API requests. This is preferable to storing access keys within the EC2 instance. To assign an AWS role to an EC2 instance and make it available to all of its applications, you create an instance profile that is attached to the instance. An instance profile contains the role and enables programs that are running on the EC2 instance to get temporary credentials. For more information, see Using an IAM role to grant permissions to applications running on Amazon EC2 instances in the *IAM User Guide*.

To learn whether to use IAM roles or IAM users, see When to create an IAM role (instead of a user) in the *IAM User Guide*.

Managing access using policies

You control access in AWS by creating policies and attaching them to AWS identities or resources. A policy is an object in AWS that, when associated with an identity or resource, defines their permissions. AWS evaluates these policies when a principal (user, root user, or role session) makes a request. Permissions in the policies determine whether the request is allowed or denied. Most policies are stored in AWS as JSON documents. For more information about the structure and contents of JSON policy documents, see Overview of JSON policies in the *IAM User Guide*.

Administrators can use AWS JSON policies to specify who has access to what. That is, which **principal** can perform **actions** on what **resources**, and under what **conditions**.

By default, users and roles have no permissions. To grant users permission to perform actions on the resources that they need, an IAM administrator can create IAM policies. The administrator can then add the IAM policies to roles, and users can assume the roles.

IAM policies define permissions for an action regardless of the method that you use to perform the operation. For example, suppose that you have a policy that allows the `iam:GetRole` action. A user with that policy can get role information from the AWS Management Console, the AWS CLI, or the AWS API.

Identity-based policies

Identity-based policies are JSON permissions policy documents that you can attach to an identity, such as an IAM user, group of users, or role. These policies control what actions users and roles can perform, on which resources, and under what conditions. To learn how to create an identity-based policy, see Creating IAM policies in the *IAM User Guide*.

Identity-based policies can be further categorized as *inline policies* or *managed policies*. Inline policies are embedded directly into a single user, group, or role. Managed policies are standalone policies that you can attach to multiple users, groups, and roles in your AWS account. Managed policies include AWS managed policies and customer managed policies. To learn how to choose between a managed policy or an inline policy, see Choosing between managed policies and inline policies in the *IAM User Guide*.

Other policy types

AWS supports additional, less-common policy types. These policy types can set the maximum permissions granted to you by the more common policy types.

- **Permissions boundaries** – A permissions boundary is an advanced feature in which you set the maximum permissions that an identity-based policy can grant to an IAM entity (IAM user or role). You can set a permissions boundary for an entity. The resulting permissions are the intersection of an entity's identity-based policies and its permissions boundaries. Resource-based policies that specify the user or role in the `Principal` field are not limited by the permissions boundary. An explicit deny in any of these policies overrides the allow. For more information about permissions boundaries, see Permissions boundaries for IAM entities in the *IAM User Guide*.
- **Service control policies (SCPs)** – SCPs are JSON policies that specify the maximum permissions for an organization or organizational unit (OU) in AWS Organizations. AWS Organizations is a service for grouping and centrally managing multiple AWS accounts that your business owns. If you enable all features in an organization, then you can apply service control policies (SCPs) to any or all of your accounts. The SCP limits permissions for entities in member accounts, including each AWS account root user. For more information about Organizations and SCPs, see Service control policies in the *AWS Organizations User Guide*.
- **Session policies** – Session policies are advanced policies that you pass as a parameter when you programmatically create a temporary session for a role or federated user. The resulting session's permissions are the intersection of the user or role's identity-based policies and the session policies. Permissions can also come from a resource-based policy. An explicit deny in any of these policies overrides the allow. For more information, see Session policies in the *IAM User Guide*.

Multiple policy types

When multiple types of policies apply to a request, the resulting permissions are more complicated to understand. To learn how AWS determines whether to allow a request when multiple policy types are involved, see Policy evaluation logic in the *IAM User Guide*.

How AWS Support works with IAM

Before you use IAM to manage access to AWS Support, you should understand what IAM features are available to use with AWS Support. To get a high-level view of how AWS Support and other AWS services work with IAM, see AWS services that work with IAM in the *IAM User Guide*.

For information about how to manage access for AWS Support using IAM, see Manage access for AWS Support.

Topics

- AWS Support identity-based policies
- AWS Support IAM roles

AWS Support identity-based policies

With IAM identity-based policies, you can specify allowed or denied actions and resources as well as the conditions under which actions are allowed or denied. AWS Support supports specific actions. To learn about the elements that you use in a JSON policy, see IAM JSON policy elements reference in the *IAM User Guide*.

Actions

Administrators can use AWS JSON policies to specify who has access to what. That is, which **principal** can perform **actions** on what **resources**, and under what **conditions**.

The `Action` element of a JSON policy describes the actions that you can use to allow or deny access in a policy. Policy actions usually have the same name as the associated AWS API operation. There are some exceptions, such as *permission-only actions* that don't have a matching API operation. There are also some operations that require multiple actions in a policy. These additional actions are called *dependent actions*.

Include actions in a policy to grant permissions to perform the associated operation.

Policy actions in AWS Support use the following prefix before the action: `support:`. For example, to grant someone permission to run an Amazon EC2 instance with the Amazon EC2 `RunInstances` API operation, you include the `ec2:RunInstances` action in their policy. Policy statements must include either an `Action` or `NotAction` element. AWS Support defines its own set of actions that describe tasks that you can perform with this service.

To specify multiple actions in a single statement, separate them with commas as follows:

```
"Action": [
      "ec2:action1",
      "ec2:action2"
```

You can specify multiple actions using wildcards (*). For example, to specify all actions that begin with the word `Describe`, include the following action:

```
"Action": "ec2:Describe*"
```

To see a list of AWS Support actions, see Actions Defined by AWS Support in the *IAM User Guide*.

Examples

To view examples of AWS Support identity-based policies, see AWS Support identity-based policy examples.

AWS Support IAM roles

An IAM role is an entity within your AWS account that has specific permissions.

Using temporary credentials with AWS Support

You can use temporary credentials to sign in with federation, assume an IAM role, or to assume a cross-account role. You obtain temporary security credentials by calling AWS STS API operations such as AssumeRole or GetFederationToken.

AWS Support supports using temporary credentials.

Service-linked roles

Service-linked roles allow AWS services to access resources in other services to complete an action on your behalf. Service-linked roles appear in your IAM account and are owned by the service. An IAM administrator can view but not edit the permissions for service-linked roles.

AWS Support supports service-linked roles. For details about creating or managing AWS Support service-linked roles, see Using service-linked roles for AWS Support.

Service roles

This feature allows a service to assume a service role on your behalf. This role allows the service to access resources in other services to complete an action on your behalf. Service roles appear in your IAM account and are owned by the account. This means that an IAM administrator can change the permissions for this role. However, doing so might break the functionality of the service.

AWS Support supports service roles.

AWS Support identity-based policy examples

By default, IAM users and roles don't have permission to create or modify AWS Support resources. They also can't perform tasks using the AWS Management Console, AWS CLI, or AWS API. An IAM administrator must create IAM policies that grant users and roles permission to perform specific API operations on the specified resources they need. The administrator must then attach those policies to the IAM users or groups that require those permissions.

To learn how to create an IAM identity-based policy using these example JSON policy documents, see Creating policies on the JSON tab in the *IAM User Guide*.

Topics

Policy best practices

Identity-based policies are very powerful. They determine whether someone can create, access, or delete AWS Support resources in your account. When you create or edit identity-based policies, follow these guidelines and recommendations:

- **Get Started Using AWS Managed Policies** – To start using AWS Support quickly, use AWS managed policies to give your employees the permissions they need. These policies are already available in your account and are maintained and updated by AWS. For more information, see Get started using permissions with AWS managed policies in the *IAM User Guide*.
- **Grant Least Privilege** – When you create custom policies, grant only the permissions required to perform a task. Start with a minimum set of permissions and grant additional permissions as necessary. Doing so is more secure than starting with permissions that are too lenient and then trying to tighten them later. For more information, see Grant least privilege in the *IAM User Guide*.
- **Enable MFA for Sensitive Operations** – For extra security, require IAM users to use multi-factor authentication (MFA) to access sensitive resources or API operations. For more information, see Using multi-factor authentication (MFA) in AWS in the *IAM User Guide*.
- **Use Policy Conditions for Extra Security** – To the extent that it's practical, define the conditions under which your identity-based policies allow access to a resource. For example, you can write conditions to specify a range of allowable IP addresses that a request must come from. You can

also write conditions to allow requests only within a specified date or time range, or to require the use of SSL or MFA. For more information, see IAM JSON policy elements: Condition in the *IAM User Guide*.

Using the AWS Support console

To access the AWS Support console, you must have a minimum set of permissions. These permissions must allow you to list and view details about the AWS Support resources in your AWS account. If you create an identity-based policy that is more restrictive than the minimum required permissions, the console won't function as intended for entities (IAM users or roles) with that policy.

To be sure that those entities can still use the AWS Support console, also attach the following AWS managed policy to the entities. For more information, see Adding permissions to a user in the *IAM User Guide*:

You don't need to allow minimum console permissions for users that are making calls only to the AWS CLI or the AWS API. Instead, allow access to only the actions that match the API operation that you're trying to perform.

Allow users to view their own permissions

This example shows how you might create a policy that allows IAM users to view the inline and managed policies that are attached to their user identity. This policy includes permissions to complete this action on the console or programmatically using the AWS CLI or AWS API.

```
{
    "Version": "2012-10-17",
    "Statement": [
        {
            "Sid": "ViewOwnUserInfo",
            "Effect": "Allow",
            "Action": [
                "iam:GetUserPolicy",
                "iam:ListGroupsForUser",
                "iam:ListAttachedUserPolicies",
                "iam:ListUserPolicies",
                "iam:GetUser"
            ],
            "Resource": ["arn:aws:iam::*:user/${aws:username}"]
        },
```

```
        {
            "Sid": "NavigateInConsole",
            "Effect": "Allow",
            "Action": [
                "iam:GetGroupPolicy",
                "iam:GetPolicyVersion",
                "iam:GetPolicy",
                "iam:ListAttachedGroupPolicies",
                "iam:ListGroupPolicies",
                "iam:ListPolicyVersions",
                "iam:ListPolicies",
                "iam:ListUsers"
            ],
            "Resource": "*"
        }
    ]
}
```

Using service-linked roles

AWS Support and AWS Trusted Advisor use AWS Identity and Access Management (IAM) service-linked roles. A service-linked role is a unique IAM role that is linked directly to AWS Support and Trusted Advisor. In each case, the service-linked role is a predefined role. This role includes all the permissions that AWS Support or Trusted Advisor require to call other AWS services on your behalf. The following topics explain what service-linked roles do and how to work with them in AWS Support and Trusted Advisor.

Topics

- Using service-linked roles for AWS Support
- Using service-linked roles for Trusted Advisor

Using service-linked roles for AWS Support

AWS Support tools gather information about your AWS resources through API calls to provide customer service and technical support. To increase the transparency and auditability of support activities, AWS Support uses an AWS Identity and Access Management (IAM) service-linked role.

The `AWSServiceRoleForSupport` service-linked role is a unique IAM role that is linked directly to AWS Support. This service-linked role is predefined, and it includes the permissions that AWS Support requires to call other AWS services on your behalf.

The `AWSServiceRoleForSupport` service-linked role trusts the `support.amazonaws.com` service to assume the role.

To provide these services, the role's predefined permissions give AWS Support access to resource metadata, not customer data. Only AWS Support tools can assume this role, which exists within your AWS account.

We redact fields that could contain customer data. For example, the `Input` and `Output` fields of the GetExecutionHistory for the AWS Step Functions API call aren't visible to AWS Support. We use AWS KMS keys to encrypt sensitive fields. These fields are redacted in the API response and aren't visible to AWS Support agents.

> **Note**
>
> AWS Trusted Advisor uses a separate IAM service-linked role to access AWS resources for your account to provide best practice recommendations and checks. For more information, see Using service-linked roles for Trusted Advisor.

The `AWSServiceRoleForSupport` service-linked role enables all AWS Support API calls to be visible to customers through AWS CloudTrail. This helps with monitoring and auditing requirements, because it provides a transparent way to understand the actions that AWS Support performs on your behalf. For information about CloudTrail, see the AWS CloudTrail User Guide.

Service-linked role permissions for AWS Support

This role uses the `AWSSupportServiceRolePolicy` AWS managed policy. This managed policy is attached to the role and allows the role permission to complete actions on your behalf.

These actions might include the following:

- **Billing, administrative, support, and other customer services** – AWS customer service uses the permissions granted by the managed policy to perform a number of services as part of your support plan. These include investigating and answering account and billing questions, providing administrative support for your account, increasing service quotas, and offering additional customer support.
- **Processing of service attributes and usage data for your AWS account** – AWS Support might use the permissions granted by the managed policy to access service attributes and usage data for your AWS account. This policy allows AWS Support to provide billing, administrative, and

technical support for your account. Service attributes include your account's resource identifiers, metadata tags, roles, and permissions. Usage data includes usage policies, usage statistics, and analytics.

- **Maintaining the operational health of your account and its resources** – AWS Support uses automated tools to perform actions related to operational and technical support.

For more information about the allowed services and actions, see the AWSSupportServiceRolePolicy policy in the IAM console.

> **Note**
>
> AWS Support automatically updates the `AWSSupportServiceRolePolicy` policy once per month to add permissions for new AWS services and actions.

For more information, see AWS managed policies for AWS Support.

Creating a service-linked role for AWS Support

You don't need to manually create the `AWSServiceRoleForSupport` role. When you create an AWS account, this role is automatically created and configured for you.

> **Important**
>
> If you used AWS Support before it began supporting service-linked roles, then AWS created the `AWSServiceRoleForSupport` role in your account. For more information, see A new role appeared in my IAM account.

Editing and deleting a service-linked role for AWS Support

You can use IAM to edit the description for the `AWSServiceRoleForSupport` service-linked role. For more information, see Editing a service-linked role in the *IAM User Guide*.

The `AWSServiceRoleForSupport` role is necessary for AWS Support to provide administrative, operational, and technical support for your account. As a result, this role can't be deleted through the IAM console, API, or AWS Command Line Interface (AWS CLI). This protects your AWS account, because you can't inadvertently remove necessary permissions for administering support services.

For more information about the `AWSServiceRoleForSupport` role or its uses, contact AWS Support.

Using service-linked roles for Trusted Advisor

AWS Trusted Advisor uses the AWS Identity and Access Management (IAM) service-linked role. A service-linked role is a unique IAM role that is linked directly to AWS Trusted Advisor. Service-linked roles are predefined by Trusted Advisor, and they include all the permissions that the service requires to call other AWS services on your behalf. Trusted Advisor uses this role to check your usage across AWS and to provide recommendations to improve your AWS environment. For example, Trusted Advisor analyzes your Amazon Elastic Compute Cloud (Amazon EC2) instance use to help you reduce costs, increase performance, tolerate failures, and improve security.

> **Note**
>
> AWS Support uses a separate IAM service-linked role for accessing your account's resources to provide billing, administrative, and support services. For more information, see Using service-linked roles for AWS Support.

For information about other services that support service-linked roles, see AWS services that work with IAM. Look for the services that have **Yes** in the **Service-linked role** column. Choose a **Yes** with a link to view the service-linked role documentation for that service.

Topics

- Service-linked role permissions for Trusted Advisor
- Manage permissions for service-linked roles
- Creating a service-linked role for Trusted Advisor
- Editing a service-linked role for Trusted Advisor
- Deleting a service-linked role for Trusted Advisor

Service-linked role permissions for Trusted Advisor

Trusted Advisor uses two service-linked roles:

- AWSServiceRoleForTrustedAdvisor – This role trusts the Trusted Advisor service to assume the role to access AWS services on your behalf. The role permissions policy allows Trusted Advisor

read-only access for all AWS resources. This role simplifies getting started with your AWS account, because you don't have to add the necessary permissions for Trusted Advisor. When you open an AWS account, Trusted Advisor creates this role for you. The defined permissions include the trust policy and the permissions policy. You can't attach the permissions policy to any other IAM entity.

For more information about the attached policy, see AWSTrustedAdvisorServiceRolePolicy.

- AWSServiceRoleForTrustedAdvisorReporting – This role trusts the Trusted Advisor service to assume the role for the organizational view feature. This role enables Trusted Advisor as a trusted service in your AWS Organizations organization. Trusted Advisor creates this role for you when you enable organizational view.

  For more information about the attached policy, see AWSTrustedAdvisorReportingServiceRolePolicy.

  You can use the organizational view to create reports for Trusted Advisor check results for all accounts in your organization. For more information about this feature, see Organizational view for AWS Trusted Advisor.

Manage permissions for service-linked roles

You must configure permissions to allow an IAM entity (such as a user, group, or role) to create, edit, or delete a service-linked role. The following examples use the `AWSServiceRoleForTrustedAdvisor` service-linked role.

Example : Allow an IAM entity to create the `AWSServiceRoleForTrustedAdvisor` service-linked role

This step is necessary only if the Trusted Advisor account is disabled, the service-linked role is deleted, and the user must recreate the role to reenable Trusted Advisor.

You can add the following statement to the permissions policy for the IAM entity to create the service-linked role.

```
{
    "Effect": "Allow",
    "Action": [
        "iam:CreateServiceLinkedRole",
        "iam:PutRolePolicy"
    ],
```

```
    "Resource": "arn:aws:iam::*:role/aws-service-role/trustedadvisor.amazonaws.com/
AWSServiceRoleForTrustedAdvisor*",
    "Condition": {"StringLike": {"iam:AWSServiceName": "trustedadvisor.amazonaws.com"}}
}
```

Example : Allow an IAM entity to edit the description of the `AWSServiceRoleForTrustedAdvisor` service-linked role

You can only edit the description for the `AWSServiceRoleForTrustedAdvisor` role. You can add the following statement to the permissions policy for the IAM entity to edit the description of a service-linked role.

```
{
    "Effect": "Allow",
    "Action": [
        "iam:UpdateRoleDescription"
    ],
    "Resource": "arn:aws:iam::*:role/aws-service-role/trustedadvisor.amazonaws.com/
AWSServiceRoleForTrustedAdvisor*",
    "Condition": {"StringLike": {"iam:AWSServiceName": "trustedadvisor.amazonaws.com"}}
}
```

Example : Allow an IAM entity to delete the `AWSServiceRoleForTrustedAdvisor` service-linked role

You can add the following statement to the permissions policy for the IAM entity to delete a service-linked role.

```
{
    "Effect": "Allow",
    "Action": [
        "iam:DeleteServiceLinkedRole",
        "iam:GetServiceLinkedRoleDeletionStatus"
    ],
    "Resource": "arn:aws:iam::*:role/aws-service-role/trustedadvisor.amazonaws.com/
AWSServiceRoleForTrustedAdvisor*",
    "Condition": {"StringLike": {"iam:AWSServiceName": "trustedadvisor.amazonaws.com"}}
}
```

You can also use an AWS managed policy, such as AdministratorAccess, to provide full access to Trusted Advisor.

Creating a service-linked role for Trusted Advisor

You don't need to manually create the `AWSServiceRoleForTrustedAdvisor` service-linked role. When you open an AWS account, Trusted Advisor creates the service-linked role for you.

> **Important**
>
> If you were using the Trusted Advisor service before it began supporting service-linked roles, then Trusted Advisor already created the `AWSServiceRoleForTrustedAdvisor` role in your account. To learn more, see A new role appeared in my IAM account in the *IAM User Guide*.

If your account doesn't have the `AWSServiceRoleForTrustedAdvisor` service-linked role, then Trusted Advisor won't work as expected. This can happen if someone in your account disabled Trusted Advisor and then deleted the service-linked role. In this case, you can use IAM to create the `AWSServiceRoleForTrustedAdvisor` service-linked role, and then reenable Trusted Advisor.

To enable Trusted Advisor (console)

1. Use the IAM console, AWS CLI, or the IAM API to create a service-linked role for Trusted Advisor. For more information, see Creating a service-linked role.
2. Sign in to the AWS Management Console, and then navigate to the Trusted Advisor console at https://console.aws.amazon.com/trustedadvisor.

   The **Disabled Trusted Advisor** status banner appears in the console.
3. Choose **Enable Trusted Advisor Role** from the status banner. If the required `AWSServiceRoleForTrustedAdvisor` isn't detected, the disabled status banner remains.

Editing a service-linked role for Trusted Advisor

You can't change the name of a service-linked role because various entities might reference the role. However, you can use the IAM console, AWS CLI, or the IAM API to edit the description of the role. For more information, see Editing a service-linked role in the *IAM User Guide*.

Deleting a service-linked role for Trusted Advisor

If you don't need to use the features or services of Trusted Advisor, you can delete the `AWSServiceRoleForTrustedAdvisor` role. You must disable Trusted Advisor before you can

delete this service-linked role. This prevents you from removing permissions required by Trusted Advisor operations. When you disable Trusted Advisor, you disable all service features, including offline processing and notifications. Also, if you disable Trusted Advisor for a member account, then the separate payer account is also affected, which means you won't receive Trusted Advisor checks that identify ways to save costs. You can't access the Trusted Advisor console. API calls to Trusted Advisor return an access denied error.

You must recreate the `AWSServiceRoleForTrustedAdvisor` service-linked role in the account before you can reenable Trusted Advisor.

You must first disable Trusted Advisor in the console before you can delete the `AWSServiceRoleForTrustedAdvisor` service-linked role.

To disable Trusted Advisor

1. Sign in to the AWS Management Console and navigate to the Trusted Advisor console at https://console.aws.amazon.com/trustedadvisor.
2. In the navigation pane, choose **Preferences**.
3. In the **Service Linked Role Permissions** section, choose **Disable Trusted Advisor**.
4. In the confirmation dialog box, choose **OK** to confirm that you want to disable Trusted Advisor.

After you disable Trusted Advisor, all Trusted Advisor functionality is disabled, and the Trusted Advisor console displays only the disabled status banner.

You can then use the IAM console, the AWS CLI, or the IAM API to delete the Trusted Advisor service-linked role named `AWSServiceRoleForTrustedAdvisor`. For more information, see Deleting a service-linked role in the *IAM User Guide*.

AWS managed policies for AWS Support

An AWS managed policy is a standalone policy that is created and administered by AWS. AWS managed policies are designed to provide permissions for many common use cases so that you can start assigning permissions to users, groups, and roles.

Keep in mind that AWS managed policies might not grant least-privilege permissions for your specific use cases because they're available for all AWS customers to use. We recommend that you

reduce permissions further by defining customer managed policies that are specific to your use cases.

You cannot change the permissions defined in AWS managed policies. If AWS updates the permissions defined in an AWS managed policy, the update affects all principal identities (users, groups, and roles) that the policy is attached to. AWS is most likely to update an AWS managed policy when a new AWS service is launched or new API operations become available for existing services.

For more information, see AWS managed policies in the *IAM User Guide*.

Topics

AWS managed policies for AWS Support

AWS Support has the following managed policies.

Contents

AWS managed policy: AWSSupportServiceRolePolicy

AWS Support uses the AWSSupportServiceRolePolicy AWS managed policy. This managed policy is attached to the `AWSServiceRoleForSupport` service-linked role. The policy allows the service-linked role to complete actions on your behalf. You can't attach this policy to your IAM entities. For more information, see Service-linked role permissions for AWS Support.

For a list of changes to the policy, see AWS Support updates to AWS managed policies and Permission changes for AWSSupportServiceRolePolicy.

AWS Support updates to AWS managed policies

View details about updates to AWS managed policies for AWS Support since these services began tracking these changes. For automatic alerts about changes to this page, subscribe to the RSS feed on the Document history page.

The following table describes important updates to the AWS Support managed policies since February 17, 2022.

AWS Support

Change	Description	Date
AWSSupportServiceRolePolicy – Update to an existing policy	Added 79 new permissions to the following services to perform actions that help troubleshoot customer issues related to billing, administrative, and technical support: • AWS account – To troubleshoot issues related to the AWS account. • AWS Auto Scaling – To debug issues related to AWS Auto Scaling. • Amazon Bedrock – To debug issues related to Amazon Bedrock. • AWS CodeConnections – To troubleshoot issues related to the AWS CodeConnections. • AWS Deadline Cloud – To debug issues related to the AWS Deadline Cloud.	Aug 5, 2024

Change	Description	Date
	• Amazon Elastic Kubernetes Service – To troubleshoot issues related to Amazon Elastic Kubernetes Service. • Elastic Load Balancing – To troubleshoot issues related to the Elastic Load Balancing. • AWS Free Tier – To debug issues related to the AWS Free Tier. • Amazon Inspector – To troubleshoot issues related to the Amazon Inspector. • Amazon OpenSearch Ingestion – To troubleshoot issues related to the Amazon OpenSearch Ingestion. • Amazon WorkSpaces – To debug issues related to Amazon WorkSpaces. • AWS X-Ray – To debug issues related to the AWS X-Ray.	

Change	Description	Date
AWSSupportServiceRolePolicy – Update to an existing policy	Added 17 new permissions to the following services to perform actions that help troubleshoot customer issues related to billing, administr ative, and technical support: • Amazon CloudWatch Network Monitor – To troubleshoot issues related to the Network Monitor service. • Amazon CloudWatch Logs – To debug issues related to Amazon CloudWatch Logs. • Amazon Managed Streaming for Apache Kafka – To debug issues related to Amazon Managed Streaming for Apache Kafka. • Amazon Managed Service for Prometheus – To troubleshoot issues related to the Amazon Managed Service for Prometheus.	Mar 22, 2024

Change	Description	Date
AWSSupportServiceRolePolicy – Update to an existing policy	Added 63 new permissions to the following services to perform actions that help troubleshoot customer issues related to billing, administr ative, and technical support: • AWS Clean Rooms – To troubleshoot issues related to the AWS Clean Rooms. • CodeConnections – To troubleshoot issues related to CodeConnections. • Amazon EKS – To debug issues related to Amazon EKS. • Image Builder – To debug issues related to the Image Builder. • Amazon Inspector2 – To troubleshoot issues related to Amazon Inspector2. • Amazon Inspector Scan – To debug issues related to the Amazon Inspector Scan. • Amazon CloudWatch Logs – To troubleshoot issues related to Amazon CloudWatch Logs. • AWS Outposts – To troubleshoot issues related to the AWS Outposts.	Jan 17, 2024

Change	Description	Date
	• Amazon RDS – To debug issues related to Amazon RDS. • AWS IAM Identity Center – To troubleshoot issues related to AWS IAM Identity Center. • Amazon S3 Express – To debug issues related to Amazon S3 Express. • AWS Trusted Advisor – To troubleshoot issues related to AWS Trusted Advisor.	

Change	Description	Date
AWSSupportServiceRolePolicy – Update to an existing policy	Added 126 new permissions to the following services to perform actions that help troubleshoot customer issues related to billing, administrative, and technical support: • AWS Direct Connect – To troubleshoot issues related to the AWS Direct Connect service. • Amazon SageMaker – To troubleshoot issues related to Amazon SageMaker service. • Amazon AppStream – To debug issues related to Amazon AppStream. • AWS Resource Explorer – To debug issues related to the AWS Resource Explorer. • Amazon Redshift serverless – To troubleshoot issues related to Amazon Redshift serverless. • Amazon ElastiCache – To debug issues related to the Amazon ElastiCache. • Amazon Comprehend – To troubleshoot issues related to Amazon Comprehend.	Dec 6, 2023

Change	Description	Date
	• Amazon EC2 – To troubleshoot issues related to the Amazon EC2. • Amazon Elastic Kubernetes Service – To debug issues related to Amazon Elastic Kubernetes Service. • AWS Elastic Disaster Recovery – To troubleshoot issues related to AWS Elastic Disaster Recovery. • AWS AppSync – To debug issues related to AWS AppSync. • Amazon CloudWatch Logs – To troubleshoot issues related to Amazon CloudWatch Logs. • AWS Health – To debug issues related to the AWS Health Service. • Amazon Connect – To debug issues related to the Amazon Connect. • AWS Snowball – To troubleshoot issues related to AWS Snowball. • AWS HealthImaging – To troubleshoot issues related to AWS HealthImaging.	

Change	Description	Date
AWSSupportServiceRolePolicy – Update to an existing policy	Added 163 new permissio ns to the following services to perform actions that help troubleshoot customer issues related to billing, administr ative, and technical support: • Amazon CloudFront – To troubleshoot issues related to the CloudFront service. • Amazon EC2 – To troublesh oot issues related to Amazon EC2 service. • Amazon AppStream – To debug issues related to Amazon AppStream. • AWS WAF – To debug issues related to the AWS Web Application Firewall. • Amazon Connect – To troubleshoot issues related to Amazon Connect. • AWS IoT – To debug issues related to the AWS IoT. • Amazon Route 53 – To troubleshoot issues related to Amazon Route 53. • AWS Verified Access – To troubleshoot issues related to the AWS Verified Access service. • Amazon Simple Email Service – To debug issues	Oct 27, 2023

Change	Description	Date
	related to Amazon Simple Email Service. • AWS Elastic Beanstalk – To troubleshoot issues related to AWS Elastic Beanstalk. • Amazon DynamoDB – To debug issues related to Amazon DynamoDB. • AWS EC2 Image Builder – To troubleshoot issues related to AWS EC2 Image Builder. • AWS Outposts – To debug issues related to the AWS Outposts Service. • AWS Glue – To debug issues related to the AWS Glue. • AWS Directory Service – To troubleshoot issues related to AWS Directory Service. • AWS Elastic Disaster Recovery – To troublesh oot issues related to AWS Elastic Disaster Recovery. • AWS Step Functions – To debug issues related to AWS Step Functions. • Amazon EMR – To troublesh oot issues related to Amazon EMR. • Amazon Relational Database Service – To troubleshoot issues related	

Change	Description	Date
	to Amazon Relational Database Service. • Amazon EC2 Systems Manager – To debug issues related to Amazon EC2 Systems Manager.	

Change	Description	Date
AWSSupportServiceRolePolicy – Update to an existing policy	Added 176 new permissions to the following services to perform actions that help troubleshoot customer issues related to billing, administrative, and technical support: • AWS Glue – To troubleshoot issues related to the AWS Glue service • Amazon EMR – To troubleshoot issues related to Amazon EMR service. • Amazon Security Lake – To debug issues related to Amazon Security Lake. • AWS Systems Manager – To debug issues related to the Systems Manager service. • Amazon Verified Permissions – To troubleshoot issues related to Amazon Verified Permissions. • AWS IAM Access Analyzer – To debug issues related to the IAM Access Analyzer service. • AWS Backup – To troubleshoot issues related to AWS Backup. • AWS Database Migration Service – To troubleshoot	Aug 28, 2023

Change	Description	Date
	issues related to the DMS service. • Amazon DynamoDB – To debug issues related to Dynamo DB. • Amazon Elastic Container Registry (Amazon ECR) – To troubleshoot issues related to Amazon Elastic Container Registry (Amazon ECR). • Amazon Elastic Container Service – To debug issues related to Amazon Elastic Container Service. • Amazon Elastic Kubernetes Service – To troubleshoot issues related to Amazon Elastic Kubernetes Service. • Amazon EMR Serverless – To debug issues related to the Amazon EMR Serverless Service. • AWS Identity and Access Management – To troubleshoot issues related to AWS Identity and Access Management. • AWS Network Firewall – To troubleshoot issues related to AWS Network Firewall.	

Change	Description	Date
	• AWS HealthOmics – To debug issues related to AWS HealthOmics. • Amazon QuickSight – To debug issues related to Amazon QuickSight. • Amazon Relational Database Service – To troubleshoot issues related to Amazon Relational Database Service. • Amazon Redshift – To troubleshoot issues related to Amazon Redshift. • Amazon Redshift Serverless – To debug issues related to Amazon Redshift Serverless. • Amazon SageMaker – To debug issues related to Amazon SageMaker.	

Change	Description	Date
AWSSupportServiceRolePolicy – Update to an existing policy	Added 141 new permissions to the following services to perform actions that help troubleshoot customer issues related to billing, administrative, and technical support: • Lambda – To troubleshoot issues related to Lambda service. • Amazon Lex – To troubleshoot issues related to Amazon Lex service. • AWS Transfer – To debug issues related to Transfer service. • AWS Amplify – To debug issues related to Amplify service. • Amazon EventBridge Pipes – To troubleshoot permissions and billing issues related to Pipes. • Amazon EventBridge – To debug issues related to Amazon EventBridge • Amazon CloudWatch Logs – To troubleshoot issues related to Amazon CloudWatch Logs. • AWS Systems Manager – To troubleshoot issues related to Systems Manager.	June 26, 2023

Change	Description	Date
	• Amazon CloudWatch – To debug issues related to CloudWatch. • Amazon ElastiCache – To troubleshoot issues related to Amazon ElastiCache. • Amazon Athena – To debug issues related to Athena. • AWS Elastic Disaster Recovery – To troublesh oot issues related to Elastic Disaster Recovery. • Amazon CloudWatch – To troubleshoot configurations of Amazon CloudWatch. • Amazon EC2 – To debug issues related to the EC2 service. • AWS Certificate Manager – To troubleshoot issues related to Certificate Manager. • Amazon EventBridge Scheduler – To troublesh oot issues related to EventBridge Scheduler. • Amazon OpenSearch Service – To troubleshoot issues related to OpenSearc h. • Amazon EventBridge Schemas – To debug issues	

Change	Description	Date
	related to EventBridge Schemas. • AWS User Notifications – To troubleshoot issues related to User Notifications. • Amazon CloudWatch Application Insights – To troubleshoot issues related to CloudWatch Application Insights. • Amazon DynamoDB – To troubleshoot issues related to DynamoDB. • Amazon DocumentD B Elastic Clusters – To troubleshoot issues related to DocumentDB Elastic Clusters.	

Change	Description	Date
AWSSupportServiceRolePolicy – Update to an existing policy	Added 53 new permissions to the following services to perform actions that help troubleshoot customer issues related to billing, administr ative, and technical support: • Auto Scaling – To troublesh oot issues related to Auto Scaling service. • Amazon CloudWatch – To troubleshoot issues related to Amazon CloudWatch. • AWS Compute Optimizer – To troubleshoot issues related to Compute Optimizer. • Amazon CloudWatch Evidently – To troubleshoot issues related to Evidently. • EC2 Image Builder – To troubleshoot issues related to Image Builder service. • AWS IoT TwinMaker – To troubleshoot issues related to AWS IoT TwinMaker. • Amazon CloudWatch Logs – To troubleshoot issues related to Amazon CloudWatch Logs. • Amazon Pinpoint – To troubleshoot issues related to Amazon Pinpoint.	May 02, 2023

Change	Description	Date
	• AWS OAM Link – To debug issues related to OAM resources. • AWS Outposts – To troubleshoot issues related to AWS Outposts. • Amazon RDS – To debug issues related to Amazon RDS. • AWS Resource Explorer – To troubleshoot issues related to Resource Explorer. • Amazon CloudWatch RUM – To troubleshoot configurations of RUM service resources. • Amazon SNS – To troublesh oot issues related to Amazon SNS. • Amazon CloudWatch Synthetics – To troublesh oot issues related to CloudWatch Synthetics.	

Change	Description	Date
AWSSupportServiceRolePolicy – Update to an existing policy	Added 52 new permissions to the following services to perform actions that help troubleshoot customer issues related to billing, administr ative, and technical support: • AWS Backup gateway – To troubleshoot issues related to Backup gateway. • Amazon S3 – To debug issues related to Amazon S3. • AWS Application Migration Service – To troubleshoot issues related to Applicati on Migration Service. • AWS Clean Rooms – To debug issues related to AWS Clean Rooms; • AWS Systems Manager for SAP – To troublesh oot issues related to AWS Systems Manager for SAP. • Amazon VPC Lattice – To debug issues related to Amazon VPC Lattice.	March 16, 2023

Change	Description	Date
AWSSupportServiceRolePolicy – Update to an existing policy	Added 220 new permissions to the following services to perform actions that help troubleshoot customer issues related to billing, administrative, and technical support: • Amazon Athena – To enable AWS Support to develop tools that can be used to help customers with their queries related to Athena. • Amazon Chime – To troubleshoot issues related to Amazon Chime. • Amazon CloudWatch Internet Monitor – To debug issues related to Internet Monitor. • Amazon Comprehend – To troubleshoot issues related to Amazon Comprehend. • Amazon Elastic Compute Cloud – To debug issues related to Transit Gateway Connect and multicast features. • Amazon EventBridge Pipes – To troubleshoot issues related to EventBridge Pipes. • Amazon Interactive Video Service – To enable AWS Support to query Amazon	January 10, 2023

Change	Description	Date
	IVS resources to troublesh oot customer issues. • Amazon FSx – To enable AWS Support to develop tools to support importing and exporting for an Amazon FSx data repositor y. • Amazon GameLift – To troubleshoot issues related to Amazon GameLift. • AWS Glue– To troubleshoot issues related to AWS Glue Data Quality. • Amazon Kinesis Video Streams– To troubleshoot issues related to Kinesis Video Streams. • Amazon Managed Service for Prometheus – To troubleshoot issues related to Amazon Managed Service for Prometheus. • Amazon Managed Streaming for Apache Kafka – To troubleshoot issues related to Amazon MSK Connect. • AWS Network Manager – To troubleshoot issues related to Network Manager.	

Change	Description	Date
	• Amazon Nimble Studio – To debug issues related to Nimble Studio. • Amazon Personalize – To debug issues related to Amazon Personalize. • Amazon Pinpoint – To troubleshoot issues related to Amazon Pinpoint. • AWS HealthOmics – To troubleshoot issues related to HealthOmics. • Amazon Transcribe – To debug issues related to Amazon Transcribe.	

Change	Description	Date
AWSSupportServiceRolePolicy – Update to an existing policy	Added 47 new permissions to the following services to perform actions that help troubleshoot customer issues related to billing, administr ative, and technical support: • AWS Application Migration Service – To troubleshoot replication and launch issues. • AWS CloudFormation hooks – To enable AWS Support to develop automation tools that can help resolve issues. • Amazon Elastic Kubernete s Service – To troubleshoot issues related to Amazon EKS. • AWS IoT FleetWise – To troubleshoot issues related to AWS IoT FleetWise. • AWS Mainframe Moderniza tion – To debug issues related to AWS Mainframe Modernization. • AWS Outposts – To help AWS Support get a list of dedicated hosts and assets. • AWS Private 5G – To troubleshoot issues related to Private 5G.	October 4, 2022

Change	Description	Date
	• AWS Tiros – To debug issues related to Tiros.	

Change	Description	Date
AWSSupportServiceRolePolicy – Update to an existing policy	Added 46 new permissions to the following services to perform actions that help troubleshoot customer issues related to billing, administr ative, and technical support: • Amazon Managed Streaming for Apache Kafka – To troubleshoot issues related to Amazon MSK. • AWS DataSync – To troubleshoot issues related to DataSync. • AWS Elastic Disaster Recovery – To troublesh oot replication and launch issues. • Amazon GameSparks – To troubleshoot issues related to GameSparks. • AWS IoT TwinMaker – To debug issues related to AWS IoT TwinMaker. • AWS Lambda – To view the configuration of a function URL to troubleshooting issues. • Amazon Lookout for Equipment – To troublesh oot issues related to Lookout for Equipment.	August 17, 2022

Change	Description	Date
	• Amazon Route 53 and Amazon Route 53 Resolver – To get resolver configurations so that AWS Support can check the DNS resolution behavior of a VPC.	
AWSSupportServiceRolePolicy – Update to an existing policy	Added new permissions to the following services to perform actions that help troubleshoot customer issues related to billing, administrative, and technical support: • Amazon CloudWatch Logs – To help troubleshoot CloudWatch Logs related issues. • Amazon Interactive Video Service – To help AWS Support check existing Amazon IVS resources for support cases regarding fraud or compromised accounts. • Amazon Inspector – To troubleshoot Amazon Inspector related issues. Removed permissions for services, such as Amazon WorkLink. Amazon WorkLink was deprecated on April 19, 2022.	June 23, 2022

Change	Description	Date
AWSSupportServiceRolePolicy – Update to an existing policy	Added 25 new permissions to the following services to perform actions that help troubleshoot customer issues related to billing, administr ative, and technical support: • AWS Amplify UI Builder – To troubleshoot issues related to component and theme generation. • Amazon AppStream – To troubleshoot issues by retrieving resources for features that launched recently. • AWS Backup – To troublesh oot issues related to backup jobs. • AWS CloudFormation – To perform diagnostics on issues related to IAM, extension, and versioning. • Amazon Kinesis – To troubleshoot issues related to Kinesis. • AWS Transfer Family – To troubleshoot issues related to Transfer Family.	April 27, 2022

Change	Description	Date

AWSSupportServiceRolePolicy – Update to an existing policy	Added 54 new permissions to the following services to perform actions that help troubleshoot customer issues related to billing, administrative, and technical support:
	• Amazon Elastic Compute Cloud
	  • To troubleshoot issues related to customer and AWS-managed prefixed lists.
	  • To troubleshoot issues related to Amazon VPC IP Address Manager (IPAM).
	• AWS Network Manager – To troubleshoot issues related to Network Manager.
	• Savings Plans – To get metadata about outstanding Savings Plan commitments.
	• AWS Serverless Application Repository – To improve and support response actions as part of researching and resolving support cases.
	• Amazon WorkSpaces Web – To debug and troubleshoot issues with WorkSpaces Web services.
		March 14, 2022

Change	Description	Date
AWSSupportServiceRolePolicy – Update to an existing policy	Added 74 new permissions to the following services to perform actions that help troubleshoot customer issues related to billing, administr ative, and technical support: • AWS Application Migration Service – To support agentless replication in the Application Migration Service. • AWS CloudFormation – To perform diagnostics on IAM, extension, and versioning related issues. • Amazon CloudWatch Logs – To validate resource policies. • Amazon EC2 Recycle Bin – To get metadata about Recycle Bin retention rules. • AWS Elastic Disaster Recovery – To troublesh oot replication and launch problems in customer accounts. • Amazon FSx – To view the description of Amazon FSx snapshots. • Amazon Lightsail – To view metadata and configura tions details for Lightsail buckets.	February 17, 2022

Change	Description	Date
	• Amazon Macie – To view Macie configurations, such as classification jobs, custom data identifiers, regular expressions and findings. • Amazon S3 – To gather metadata and configura tions for Amazon S3 buckets. • AWS Storage Gateway – To view metadata about customers' automatic tape creation policies. • Elastic Load Balancing – To view the description of resource limits when using the Service Quotas console. For more information, see Permission changes for AWSSupportServiceRolePolicy .	
Change log published	Change log for the AWS Support managed policies.	February 17, 2022

Permission changes for AWSSupportServiceRolePolicy

Most permissions added to `AWSSupportServiceRolePolicy` allow AWS Support to call an API operation with the same name. However, some API operations require permissions that have a different name.

The following table only lists the API operations that require permissions with a different name. This table describes these differences beginning on February 17, 2022.

Date	API operation name	Required policy permission
Added permissions on February 17, 2022	s3.GetBucketAnalyticsConfiguration s3.ListBucketAnalyticsConfiguration	s3:GetAnalyticsConfiguration
	s3.GetBucketNotificationConfiguration	s3:GetBucketNotification
	s3.GetBucketEncryption	s3:GetEncryptionConfiguration
	s3.GetBucketIntelligentTieringConfiguration s3.ListBucketIntelligentTieringConfiguration	s3:GetIntelligentTieringConfiguration
	s3.GetBucketInventoryConfiguration s3.ListBucketInventoryConfiguration	s3:GetInventoryConfiguration
	s3.GetBucketLifecycleConfiguration	s3:GetLifecycleConfiguration
	s3.GetBucketMetricsConfiguration s3.ListBucketMetricsConfiguration	s3:GetMetricsConfiguration

Date	API operation name	Required policy permission
	s3.GetBucketReplication	s3:GetReplicationConfiguration
	s3.HeadBucket s3.ListObjects	s3:ListBucket
	s3.ListBuckets	s3:ListAllMyBuckets
	s3.ListMultipartUploads	s3:ListBucketMultipartUploads
	s3.ListObjectVersions	s3:ListBucketVersions
	s3.ListParts	s3:ListMultipartUploadParts

AWS managed policies for AWS Support App in Slack

> **Note**
>
> To access and view support cases in the AWS Support Center Console, see Manage access to AWS Support Center.

AWS Support App has the following managed policies.

Contents

AWS managed policy: AWSSupportAppFullAccess

You can use the AWSSupportAppFullAccess managed policy to grant the IAM role the permissions to your Slack channel configurations. You can also attach the AWSSupportAppFullAccess policy to your IAM entities.

For more information, see AWS Support App in Slack.

This policy grants permissions that allow the entity to perform AWS Support, Service Quotas, and IAM actions for the AWS Support App.

Permissions details

This policy includes the following permissions:

- `servicequotas` – Describes your existing service quotas and requests, and creates service quota increases for your account.
- `support` – Creates, updates, and resolves your support cases. Updates and describes information about your cases, such as file attachments, correspondences, and severity levels. Initiates live chat sessions with a support agent.
- `iam` – Creates a service-linked role for Service Quotas.

```
{
    "Version": "2012-10-17",
    "Statement": [
        {
            "Effect": "Allow",
            "Action": [
                "servicequotas:GetRequestedServiceQuotaChange",
                "servicequotas:GetServiceQuota",
                "servicequotas:RequestServiceQuotaIncrease",
                "support:AddAttachmentsToSet",
                "support:AddCommunicationToCase",
                "support:CreateCase",
                "support:DescribeCases",
                "support:DescribeCommunications",
                "support:DescribeSeverityLevels",
                "support:InitiateChatForCase",
                "support:ResolveCase"
            ],
```

```
            "Resource": "*"
        },
        {
            "Effect": "Allow",
            "Action": "iam:CreateServiceLinkedRole",
            "Resource": "*",
            "Condition": {
                "StringEquals": {"iam:AWSServiceName": "servicequotas.amazonaws.com"}
            }
        }
    ]
}
```

For more information, see Managing access to the AWS Support App.

AWS managed policy: AWSSupportAppReadOnlyAccess

The AWSSupportAppReadOnlyAccess policy grants permissions that allow the entity to perform read-only AWS Support App actions. For more information, see AWS Support App in Slack.

Permissions details

This policy includes the following permissions:

- `support` – Describes support case details and communications added to the support cases.

```
{
    "Version": "2012-10-17",
    "Statement": [
        {
            "Effect": "Allow",
            "Action": [
                "support:DescribeCases",
                "support:DescribeCommunications"
            ],
            "Resource": "*"
        }
    ]
}
```

AWS Support App updates to AWS managed policies

View details about updates to AWS managed policies for AWS Support App since this service began tracking these changes. For automatic alerts about changes to this page, subscribe to the RSS feed on the Document history page.

The following table describes important updates to the AWS Support App managed policies since August 17, 2022.

AWS Support App

Change	Description	Date
AWSSupportAppFullAccess and AWSSupportAppReadOnlyAccess New AWS managed policies for the AWS Support App	You can use these policies for the IAM role that you configure for your Slack channel configuration. For more information, see Managing access to the AWS Support App.	August 19, 2022
Change log published	Change log for the AWS Support App managed policies.	August 19, 2022

AWS managed policies for AWS Trusted Advisor

Trusted Advisor has the following AWS managed policies.

Contents

AWS managed policy: AWSTrustedAdvisorPriorityFullAccess

The AWSTrustedAdvisorPriorityFullAccess policy grants full access to Trusted Advisor Priority. This policy also allows the user to add Trusted Advisor as a trusted service with AWS Organizations and to specify the delegated administrator accounts for Trusted Advisor Priority.

Permissions details

In the first statement, the policy includes the following permissions for `trustedadvisor`:

- Describes your account and organization.
- Describes identified risks from Trusted Advisor Priority. The permissions allow you to download and update the risk status.
- Describes your configurations for Trusted Advisor Priority email notifications. The permissions allow you to configure the email notifications and disable them for your delegated administrators.
- Sets up Trusted Advisor so that your account can enable AWS Organizations.

In the second statement, the policy includes the following permissions for `organizations`:

- Describes your Trusted Advisor account and organization.
- Lists the AWS services that you enabled to use Organizations.

In the third statement, the policy includes the following permissions for `organizations`:

- Lists the delegated administrators for Trusted Advisor Priority.
- Enables and disables trusted access with Organizations.

In the fourth statement, the policy includes the following permissions for `iam`:

- Creates the `AWSServiceRoleForTrustedAdvisorReporting` service-linked role.

In the fifth statement, the policy includes the following permissions for `organizations`:

- Allows you to register and deregister delegated administrators for Trusted Advisor Priority.

```
{
```

```
"Version": "2012-10-17",
"Statement": [
 {
  "Sid": "AWSTrustedAdvisorPriorityFullAccess",
  "Effect": "Allow",
  "Action": [
   "trustedadvisor:DescribeAccount*",
   "trustedadvisor:DescribeOrganization",
   "trustedadvisor:DescribeRisk*",
   "trustedadvisor:DownloadRisk",
   "trustedadvisor:UpdateRiskStatus",
   "trustedadvisor:DescribeNotificationConfigurations",
   "trustedadvisor:UpdateNotificationConfigurations",
   "trustedadvisor:DeleteNotificationConfigurationForDelegatedAdmin",
   "trustedadvisor:SetOrganizationAccess"
  ],
  "Resource": "*"
 },
 {
  "Sid": "AllowAccessForOrganization",
  "Effect": "Allow",
  "Action": [
   "organizations:DescribeAccount",
   "organizations:DescribeOrganization",
   "organizations:ListAWSServiceAccessForOrganization"
  ],
  "Resource": "*"
 },
 {
  "Sid": "AllowListDelegatedAdministrators",
  "Effect": "Allow",
  "Action": [
   "organizations:ListDelegatedAdministrators",
   "organizations:EnableAWSServiceAccess",
   "organizations:DisableAWSServiceAccess"
  ],
  "Resource": "*",
  "Condition": {
   "StringEquals": {
    "organizations:ServicePrincipal": [
     "reporting.trustedadvisor.amazonaws.com"
    ]
   }
  }
```

```
  },
  {
   "Sid": "AllowCreateServiceLinkedRole",
   "Effect": "Allow",
   "Action": "iam:CreateServiceLinkedRole",
   "Resource": "arn:aws:iam::*:role/aws-service-role/
reporting.trustedadvisor.amazonaws.com/AWSServiceRoleForTrustedAdvisorReporting",
   "Condition": {
    "StringLike": {
     "iam:AWSServiceName": "reporting.trustedadvisor.amazonaws.com"
    }
   }
  },
  {
   "Sid": "AllowRegisterDelegatedAdministrators",
   "Effect": "Allow",
   "Action": [
    "organizations:RegisterDelegatedAdministrator",
    "organizations:DeregisterDelegatedAdministrator"
   ],
   "Resource": "arn:aws:organizations::*:*",
   "Condition": {
    "StringEquals": {
     "organizations:ServicePrincipal": [
      "reporting.trustedadvisor.amazonaws.com"
     ]
    }
   }
  }
 ]
}
```

AWS managed policy: AWSTrustedAdvisorPriorityReadOnlyAccess

The AWSTrustedAdvisorPriorityReadOnlyAccess policy grants read-only permissions to Trusted Advisor Priority, including permission to view the delegated administrator accounts.

Permissions details

In the first statement, the policy includes the following permissions for `trustedadvisor`:

- Describes your Trusted Advisor account and organization.
- Describes the identified risks from Trusted Advisor Priority and allows you to download them.

- Describes the configurations for Trusted Advisor Priority email notifications.

In the second and third statement, the policy includes the following permissions for `organizations`:

- Describes your organization with Organizations.
- Lists the AWS services that you enabled to use Organizations.
- Lists the delegated administrators for Trusted Advisor Priority

```
{
 "Version": "2012-10-17",
 "Statement": [
  {
   "Sid": "AWSTrustedAdvisorPriorityReadOnlyAccess",
   "Effect": "Allow",
   "Action": [
    "trustedadvisor:DescribeAccount*",
    "trustedadvisor:DescribeOrganization",
    "trustedadvisor:DescribeRisk*",
    "trustedadvisor:DownloadRisk",
    "trustedadvisor:DescribeNotificationConfigurations"
   ],
   "Resource": "*"
  },
  {
   "Sid": "AllowAccessForOrganization",
   "Effect": "Allow",
   "Action": [
    "organizations:DescribeOrganization",
    "organizations:ListAWSServiceAccessForOrganization"
   ],
   "Resource": "*"
  },
  {
   "Sid": "AllowListDelegatedAdministrators",
   "Effect": "Allow",
   "Action": [
    "organizations:ListDelegatedAdministrators"
   ],
   "Resource": "*",
   "Condition": {
```

```
    "StringEquals": {
     "organizations:ServicePrincipal": [
      "reporting.trustedadvisor.amazonaws.com"
     ]
    }
   }
  }
 ]
}
```

AWS managed policy: AWSTrustedAdvisorServiceRolePolicy

This policy is attached to the `AWSServiceRoleForTrustedAdvisor` service-linked role. It allows the service-linked role to perform actions for you. You can't attach the AWSTrustedAdvisorServiceRolePolicy to your AWS Identity and Access Management (IAM) entities. For more information, see Using service-linked roles for Trusted Advisor.

This policy grants administrative permissions that allow the service-linked role to access AWS services. These permissions allow the checks for Trusted Advisor to evaluate your account.

Permissions details

This policy includes the following permissions.

- `accessanalyzer` – Describes AWS Identity and Access Management Access Analyzer resources
- `Auto Scaling` – Describes Amazon EC2 Auto Scaling account quotas and resources
- `cloudformation` – Describes AWS CloudFormation (CloudFormation) account quotas and stacks
- `cloudfront` – Describes Amazon CloudFront distributions
- `cloudtrail` – Describes AWS CloudTrail (CloudTrail) trails
- dynamodb – Describes Amazon DynamoDB account quotas and resources
- `dynamodbaccelerator` – Describes DynamoDB Accelerator resources
- `ec2` – Describes Amazon Elastic Compute Cloud (Amazon EC2) account quotas and resources
- `elasticloadbalancing` – Describes Elastic Load Balancing (ELB) account quotas and resources
- `iam` – Gets IAM resources, such as credentials, password policy, and certificates

- `networkfirewall` – Describes AWS Network Firewall resources
- `kinesis` – Describes Amazon Kinesis (Kinesis) account quotas
- `rds` – Describes Amazon Relational Database Service (Amazon RDS) resources
- `redshift` – Describes Amazon Redshift resources
- `route53` – Describes Amazon Route 53 account quotas and resources
- `s3` – Describes Amazon Simple Storage Service (Amazon S3) resources
- `ses` – Gets Amazon Simple Email Service (Amazon SES) send quotas
- `sqs` – Lists Amazon Simple Queue Service (Amazon SQS) queues
- `cloudwatch` – Gets Amazon CloudWatch Events (CloudWatch Events) metric statistics
- `ce` – Gets Cost Explorer Service (Cost Explorer) recommendations
- `route53resolver` – Gets Amazon Route 53 Resolver Resolver Endpoints and resources
- `kafka` – Gets Amazon Managed Streaming for Apache Kafka resources
- `ecs` – Gets Amazon ECS resources
- `outposts` – Gets AWS Outposts resources

```
{
    "Version": "2012-10-17",
    "Statement": [
        {
            "Effect": "Allow",
            "Action": [
                "access-analyzer:ListAnalyzers"
                "autoscaling:DescribeAccountLimits",
                "autoscaling:DescribeAutoScalingGroups",
                "autoscaling:DescribeLaunchConfigurations",
                "ce:GetReservationPurchaseRecommendation",
                "ce:GetSavingsPlansPurchaseRecommendation",
                "cloudformation:DescribeAccountLimits",
                "cloudformation:DescribeStacks",
                "cloudformation:ListStacks",
                "cloudfront:ListDistributions",
                "cloudtrail:DescribeTrails",
                "cloudtrail:GetTrailStatus",
                "cloudtrail:GetTrail",
                "cloudtrail:ListTrails",
                "cloudtrail:GetEventSelectors",
```

```
                "cloudwatch:GetMetricStatistics",
                "cloudwatch:ListMetrics",
                "dax:DescribeClusters",
                "dynamodb:DescribeLimits",
                "dynamodb:DescribeTable",
                "dynamodb:ListTables",
                "ec2:DescribeAddresses",
                "ec2:DescribeReservedInstances",
                "ec2:DescribeInstances",
                "ec2:DescribeVpcs",
                "ec2:DescribeInternetGateways",
                "ec2:DescribeImages",
                "ec2:DescribeNatGateways",
                "ec2:DescribeVolumes",
                "ec2:DescribeSecurityGroups",
                "ec2:DescribeSubnets",
                "ec2:DescribeRegions",
                "ec2:DescribeReservedInstancesOfferings",
                "ec2:DescribeRouteTables",
                "ec2:DescribeSnapshots",
                "ec2:DescribeVpcEndpoints",
                "ec2:DescribeVpnConnections",
                "ec2:DescribeVpnGateways",
                "ec2:DescribeLaunchTemplateVersions",
                "ec2:GetManagedPrefixListEntries",
                "ecs:DescribeTaskDefinition",
                "ecs:ListTaskDefinitions"
                "elasticloadbalancing:DescribeAccountLimits",
                "elasticloadbalancing:DescribeInstanceHealth",
                "elasticloadbalancing:DescribeLoadBalancerAttributes",
                "elasticloadbalancing:DescribeLoadBalancerPolicies",
                "elasticloadbalancing:DescribeLoadBalancerPolicyTypes",
                "elasticloadbalancing:DescribeLoadBalancers",
                "elasticloadbalancing:DescribeTargetGroups",
                "elasticloadbalancing:DescribeTargetHealth",
                "iam:GenerateCredentialReport",
                "iam:GetAccountPasswordPolicy",
                "iam:GetAccountSummary",
                "iam:GetCredentialReport",
                "iam:GetServerCertificate",
                "iam:ListServerCertificates",
                "iam:ListSAMLProviders",
                "kinesis:DescribeLimits",
                "kafka:DescribeClusterV2",
```

```
                "kafka:ListClustersV2",
                "kafka:ListNodes",
                "network-firewall:ListFirewalls",
                "network-firewall:DescribeFirewall",
                "outposts:GetOutpost",
                "outposts:ListAssets",
                "outposts:ListOutposts",
                "rds:DescribeAccountAttributes",
                "rds:DescribeDBClusters",
                "rds:DescribeDBEngineVersions",
                "rds:DescribeDBInstances",
                "rds:DescribeDBParameterGroups",
                "rds:DescribeDBParameters",
                "rds:DescribeDBSecurityGroups",
                "rds:DescribeDBSnapshots",
                "rds:DescribeDBSubnetGroups",
                "rds:DescribeEngineDefaultParameters",
                "rds:DescribeEvents",
                "rds:DescribeOptionGroupOptions",
                "rds:DescribeOptionGroups",
                "rds:DescribeOrderableDBInstanceOptions",
                "rds:DescribeReservedDBInstances",
                "rds:DescribeReservedDBInstancesOfferings",
                "rds:ListTagsForResource",
                "redshift:DescribeClusters",
                "redshift:DescribeReservedNodeOfferings",
                "redshift:DescribeReservedNodes",
                "route53:GetAccountLimit",
                "route53:GetHealthCheck",
                "route53:GetHostedZone",
                "route53:ListHealthChecks",
                "route53:ListHostedZones",
                "route53:ListHostedZonesByName",
                "route53:ListResourceRecordSets",
                "route53resolver:ListResolverEndpoints",
                "route53resolver:ListResolverEndpointIpAddresses",
                "s3:GetAccountPublicAccessBlock",
                "s3:GetBucketAcl",
                "s3:GetBucketPolicy",
                "s3:GetBucketPolicyStatus",
                "s3:GetBucketLocation",
                "s3:GetBucketLogging",
                "s3:GetBucketVersioning",
                "s3:GetBucketPublicAccessBlock",
```

```
                "s3:GetLifecycleConfiguration",
                "s3:ListBucket",
                "s3:ListAllMyBuckets",
                "ses:GetSendQuota",
                "sqs:GetQueueAttributes",
                "sqs:ListQueues"
            ],
            "Resource": "*"
        }
    ]
}
```

AWS managed policy: AWSTrustedAdvisorReportingServiceRolePolicy

This policy is attached to the `AWSServiceRoleForTrustedAdvisorReporting` service-linked role that allows Trusted Advisor to perform actions for the organizational view feature. You can't attach the AWSTrustedAdvisorReportingServiceRolePolicy to your IAM entities. For more information, see Using service-linked roles for Trusted Advisor.

This policy grants administrative permissions that allow the service-linked role to perform AWS Organizations actions.

Permissions details

This policy includes the following permissions.

- `organizations` – Describes your organization and lists the service access, accounts, parents, children, and organizational units

```
{
    "Version": "2012-10-17",
    "Statement": [
        {
            "Action": [
                "organizations:DescribeOrganization",
                "organizations:ListAWSServiceAccessForOrganization",
                "organizations:ListAccounts",
                "organizations:ListAccountsForParent",
```

```
                "organizations:ListDelegatedAdministrators",
                "organizations:ListOrganizationalUnitsForParent",
                "organizations:ListChildren",
                "organizations:ListParents",
                "organizations:DescribeOrganizationalUnit",
                "organizations:DescribeAccount"
            ],
            "Effect": "Allow",
            "Resource": "*"
        }
    ]
}
```

Trusted Advisor updates to AWS managed policies

View details about updates to AWS managed policies for AWS Support and Trusted Advisor since these services began tracking these changes. For automatic alerts about changes to this page, subscribe to the RSS feed on the Document history page.

The following table describes important updates to the Trusted Advisor managed policies since August 10, 2021.

Trusted Advisor

Change	Description	Date
AWSTrustedAdvisorServiceRolePolicy Update to an existing policy.	Trusted Advisor added new actions to grant the `access-analyzer:ListAnalyzers` , `cloudwatch:ListMetrics` , `dax:DescribeClusters` , `ec2:DescribeNatGateways` , `ec2:DescribeRouteTables` , `ec2:DescribeVpcEndpoints` , `ec2:GetManagedPrefixListEnt`	June 11, 2024

Change	Description	Date
	ries ,elasticloadbalancing:DescribeTargetHealth , iam:ListSAMLProviders ,kafka:DescribeClusterV2 network-firewall:ListFirewalls network-firewall:DescribeFirewall and sqs:GetQueueAttributes permissions.	
AWSTrustedAdvisorServiceRolePolicy Update to an existing policy.	Trusted Advisor added new actions to grant the cloudtrail:GetTrail cloudtrail:ListTrails cloudtrail:GetEventSelectors outposts:GetOutpost , outposts:ListAssets and outposts:ListOutposts permissions.	January 18, 2024
AWSTrustedAdvisorPriorityFullAccess Update to an existing policy.	Trusted Advisor updated the AWSTrustedAdvisorPriorityFullAccess AWS managed policy to include statement IDs.	December 6, 2023
AWSTrustedAdvisorPriorityReadOnlyAccess Update to an existing policy.	Trusted Advisor updated the AWSTrustedAdvisorPriorityReadOnlyAccess AWS managed policy to include statement IDs.	December 6, 2023

Change	Description	Date
AWSTrustedAdvisorServiceRolePolicy – Update to an existing policy	Trusted Advisor added new actions to grant the `ec2:DescribeRegions` `s3:GetLifecycleConfiguration` `ecs:DescribeTaskDefinition` and `ecs:ListTaskDefinitions` permissions.	November 9, 2023
AWSTrustedAdvisorServiceRolePolicy – Update to an existing policy	Trusted Advisor added new IAM actions `route53resolver:ListResolverEndpoints` , `route53resolver:ListResolverEndpointIpAddresses` , `ec2:DescribeSubnets` , `kafka:ListClustersV2` and `kafka:ListNodes` to onboard new resilience checks.	September 14, 2023
AWSTrustedAdvisorReportingServiceRolePolicy V2 of managed policy attached on Trusted Advisor `AWSServiceRoleForTrustedAdvisorReporting` service-linked role	Upgrade AWS managed policy to V2 for the Trusted Advisor `AWSServiceRoleForTrustedAdvisorReporting` service-linked role. The V2 will add one more IAM action `organizations:ListDelegatedAdministrators`	Feb 28, 2023

Change	Description	Date
AWSTrustedAdvisorPriorityFullAccess and AWSTrustedAdvisorPriorityReadOnlyAccess New AWS managed policies for the Trusted Advisor	Trusted Advisor added two new managed policies that you can use to control access to Trusted Advisor Priority.	August 17, 2022
AWSTrustedAdvisorServiceRolePolicy – Update to an existing policy	Trusted Advisor added new actions to grant the `DescribeTargetGroups` and `GetAccountPublicAccessBlock` permissions. The `DescribeTargetGroup` permission is required for the **Auto Scaling Group Health Check** to retrieve non-Classic Load Balancers that are attached to an Auto Scaling group. The `GetAccountPublicAccessBlock` permission is required for the **Amazon S3 Bucket Permissions** check to retrieve the block public access settings for an AWS account.	August 10, 2021
Change log published	Trusted Advisor started tracking changes for its AWS managed policies.	August 10, 2021

AWS managed policies for AWS Support Plans

AWS Support Plans has the following managed policies.

Contents

AWS managed policy: AWSSupportPlansFullAccess

AWS Support Plans uses the AWSSupportPlansFullAccess AWS managed policy. The IAM entity uses this policy to complete the following Support Plans actions for you:

- View your support plan for your AWS account
- View details about the status for a request to change your support plan
- Change the support plan for your AWS account
- Create support plan schedules for your AWS account
- View a list of all support plan modifiers for your AWS account

```
{
    "Version": "2012-10-17",
    "Statement": [
        {
            "Effect": "Allow",
            "Action": [
                "supportplans:GetSupportPlan",
                "supportplans:GetSupportPlanUpdateStatus",
                "supportplans:StartSupportPlanUpdate",
                "supportplans:CreateSupportPlanSchedule"
                "supportplans:ListSupportPlanModifiers"
            ],
            "Resource": "*"
        }
    ]
}
```

For a list of changes to the policies, see AWS Support Plans updates to AWS managed policies.

AWS managed policy: AWSSupportPlansReadOnlyAccess

AWS Support Plans uses the AWSSupportPlansReadOnlyAccess AWS managed policy. The IAM entity uses this policy to complete the following read-only Support Plans actions for you:

- View your support plan for your AWS account
- View details about the status for a request to change your support plan
- View a list of all support plan modifiers for your AWS account

```
{
    "Version": "2012-10-17",
    "Statement": [
        {
            "Effect": "Allow",
            "Action": [
                "supportplans:GetSupportPlan",
                "supportplans:GetSupportPlanUpdateStatus"
                "supportplans:ListSupportPlanModifiers"
            ],
            "Resource": "*"
        }
    ]
}
```

For a list of changes to the policies, see AWS Support Plans updates to AWS managed policies.

AWS Support Plans updates to AWS managed policies

View details about updates to AWS managed policies for Support Plans since these services began tracking these changes. For automatic alerts about changes to this page, subscribe to the RSS feed on the Document history page.

The following table describes important updates to the Support Plans managed policies since September 29, 2022.

AWS Support

Change	Description	Date
AWSSupportPlansReadOnlyAccess - Update to an existing policy AWSSupportPlansFullAccess - Update to an existing policy	Add `ListSupportPlanModifiers` action to `AWSSupportPlansFullAccess` and `AWSSupportPlansReadOnlyAccess` managed policies.	August 21, 2024
AWSSupportPlansFullAccess - Update to an existing policy	Add `CreateSupportPlanSchedule` action to `AWSSupportPlansFullAccess` managed policy.	May 8, 2023
Change log published	Change log for the Support Plans managed policies.	September 29, 2022

Manage access to AWS Support Center

You must have permissions to access Support Center and to create a support case.

You can use one of the following options to access Support Center:

- Use the email address and password associated with your AWS account. This identity is called the AWS account *root user*.
- Use AWS Identity and Access Management (IAM).

If you have a Business, Enterprise On-Ramp, or Enterprise Support plan, you can also use the AWS Support API to access AWS Support and Trusted Advisor operations programmatically. For more information, see the AWS Support API Reference.

> **Note**
>
> If you can't sign in to Support Center, you can use the Contact Us page instead. You can use this page to get help with billing and account issues.

AWS account

You can sign in to the AWS Management Console and access the Support Center by using your AWS account email address and password. This identity is called the AWS account *root user*. However, we strongly recommend that you don't use the root user for your everyday tasks, even the administrative ones. Instead, we recommend that you use IAM, which lets you control who can perform certain tasks in your account.

AWS support actions

You can perform the following AWS Support actions in the console. You can also specify these AWS Support actions in an IAM policy to allow or deny specific actions.

> **Note**
>
> If you deny any of the below actions in your IAM policies, it could result in unintended behaviour in Support Center when creating or interacting with a support case.

Action	Description
`DescribeSupportLevel`	Grants permission to return the support level for an AWS account identifier. This is used internally by AWS Support Center to identify your support level.
`InitiateCallForCase`	Grants permission to initiate a call on AWS Support Center. This is used internally by AWS Support Center to start a call on your behalf.
`InitiateChatForCase`	Grants permission to initiate a chat on AWS Support Center. This is used internally by AWS Support Center to start a chat on your behalf.
`RateCaseCommunication`	Grants permission to rate a AWS Support case communication.
`DescribeCaseAttributes`	Grants permission to allow secondary services to read AWS Support case attributes. This is

Action	Description
	used internally by AWS Support Center to get attributes tagged on your case.
`DescribeIssueTypes`	Grants permission to return issue types for AWS Support cases. This is used internally by AWS Support Center to get available issue types for your account.
`SearchForCases`	Grants permission to return a list of AWS Support cases that matches the given inputs. This is used internally by AWS Support Center to find searched cases.
`PutCaseAttributes`	Grants permission to allow secondary services to attach attributes to AWS Support cases. This is used internally by AWS Support Center to add operational tags to your AWS Support cases.

IAM

By default, IAM users can't access the Support Center. You can use IAM to create individual users or groups. Then, you attach IAM policies to these entities, so that they have permission to perform actions and access resources, such as to open Support Center cases and use the AWS Support API.

After you create IAM users, you can give those users individual passwords and an account-specific sign-in page. They can then sign in to your AWS account and work in the Support Center. IAM users who have AWS Support access can see all cases that are created for the account.

For more information, see Sign in to the AWS Management Console as an IAM user in the *IAM User Guide*.

The easiest way to grant permissions is to attach the AWS managed policy AWSSupportAccess to the user, group, or role. AWS Support allows action-level permissions to control access to specific AWS Support operations. AWS Support doesn't provide resource-level access, so the `Resource` element is always set to `*`. You can't allow or deny access to specific support cases.

Example : Allow access to all AWS Support actions

The AWS managed policy AWSSupportAccess grants an IAM user access to AWS Support. An IAM user with this policy can access all AWS Support operations and resources.

```
{
    "Version": "2012-10-17",
    "Statement": [
        {
            "Effect": "Allow",
            "Action": ["support:*"],
            "Resource": "*"
        }
    ]
}
```

For more information about how to attach the `AWSSupportAccess` policy to your entities, see Adding IAM identity permissions (console) in the *IAM User Guide*.

Example : Allow access to all actions except the ResolveCase action

You can also create *customer managed policies* in IAM to specify what actions to allow or deny. The following policy statement allows an IAM user to perform all actions in AWS Support except resolve a case.

```
{
   "Version": "2012-10-17",
   "Statement": [
   {
      "Effect": "Allow",
      "Action": "support:*",
      "Resource": "*"
   },
   {
       "Effect": "Deny",
       "Action": "support:ResolveCase",
       "Resource": "*"
    }]
}
```

For more information about how to create a customer managed IAM policy, see Creating IAM policies (console) in the *IAM User Guide*.

If the user or group already has a policy, you can add the AWS Support-specific policy statement to that policy.

> **Important**
>
> - If you can't view cases in the Support Center, make sure that you have the required permissions. You might need to contact your IAM administrator. For more information, see Identity and access management for AWS Support.

Access to AWS Trusted Advisor

In the AWS Management Console, a separate `trustedadvisor` IAM namespace controls access to Trusted Advisor. In the AWS Support API, the `support` IAM namespace controls access to Trusted Advisor. For more information, see Manage access to AWS Trusted Advisor.

Manage access to AWS Support Plans

Topics

- Permissions for the Support Plans console
- Support Plans actions
- Example IAM policies for Support Plans
- Troubleshooting

Permissions for the Support Plans console

To access the Support Plans console, a user must have a minimum set of permissions. These permissions must allow the user to list and view details about the Support Plans resources in your AWS account.

You can create an AWS Identity and Access Management (IAM) policy with the `supportplans` namespace. You can use this policy to specify permissions for actions and resources.

When you create a policy, you can specify the namespace of the service to allow or deny an action. The namespace for Support Plans is `supportplans`.

You can use AWS managed policies and attach them to your IAM entities. For more information, see AWS managed policies for AWS Support Plans.

Support Plans actions

You can perform the following Support Plans actions in the console. You can also specify these Support Plans actions in an IAM policy to allow or deny specific actions.

Action	Description
`GetSupportPlan`	Grants permission to view details about the current support plan for this AWS account.
`GetSupportPlanUpdateStatus`	Grants permission to view details about the status for a request to update a support plan.
`StartSupportPlanUpdate`	Grants permission to start the request to update the support plan for this AWS account.
`CreateSupportPlanSchedule`	Grants permission to create support plan schedules for this AWS account.
`ListSupportPlanModifiers`	Grants permission to view a list of all support plan modifiers for this AWS account.

Example IAM policies for Support Plans

You can use the following example policies to manage access to Support Plans.

Full access to Support Plans

The following policy allows users full access to Support Plans.

```
{
    "Version": "2012-10-17",
    "Statement": [
        {
            "Effect": "Allow",
            "Action": "supportplans:*",
            "Resource": "*"
        }
    ]
}
```

Read-only access to Support Plans

The following policy allows read-only access to Support Plans.

```
{
    "Version": "2012-10-17",
    "Statement": [
        {
            "Effect": "Allow",
            "Action": "supportplans:Get*",
            "Resource": "*"
        },
        {
            "Effect": "Allow",
            "Action": "supportplans:List*",
            "Resource": "*"
        },
    ]
}
```

Deny access to Support Plans

The following policy doesn't allow users access to Support Plans.

```
{
    "Version": "2012-10-17",
    "Statement": [
        {
            "Effect": "Deny",
            "Action": "supportplans:*",
            "Resource": "*"
        }
    ]
}
```

Troubleshooting

See the following topics to manage access to Support Plans.

When I try to view or change my support plan, the Support Plans console says that I'm missing the `GetSupportPlan` permission

IAM users must have the required permissions to access the Support Plans console. You can update your IAM policy to include the missing permission or use an AWS managed policy, such as AWSSupportPlansFullAccess or AWSSupportPlansReadOnlyAccess. For more information, see AWS managed policies for AWS Support Plans.

If you don't have access to update your IAM policies, contact your AWS account administrator.

Related information

For more information, see the following topics in the *IAM User Guide*:

- Testing IAM policies with the IAM policy simulator
- Troubleshooting access denied error messages

I have the correct Support Plans permissions, but I still get the same error

If your AWS account is a member account that's part of AWS Organizations, the service control policy (SCP) might need to be updated. SCPs are a type of policy that manages permissions in an organization.

Because Support Plans is a *global* service, policies that restrict AWS Regions might prevent member accounts from viewing or changing their support plan. To allow global services for your organization, such as IAM and Support Plans, you must add the service to the exclusion list in any applicable SCP. This means that accounts in the organization can access these services, even if the SCP denies a specified AWS Region.

To add Support Plans as an exception, enter `"supportplans:*"` to the `"NotAction"` list in the SCP.

```
"supportplans:*",
```

Your SCP might appear as the following policy snippet.

Example : SCP that allows Support Plans access in an organization

```
{ "Version":  "2012-10-17",
   "Statement": [
```

```
{ "Sid":  "GRREGIONDENY",
  "Effect":  "Deny",
  "NotAction": [
    "aws-portal:*",
    "budgets:*",
    "chime:*"
    "iam:*",
    "supportplans:*",
    ....
```

If you have a member account and can't update the SCP, contact your AWS account administrator. The management account might need to update the SCP so that all member accounts can access Support Plans.

Notes for AWS Control Tower

- If your organization uses an SCP with AWS Control Tower, you can update the **Deny access to AWS based on the requested AWS Region** control (commonly referred to as the Region deny control).
- If you update the SCP for AWS Control Tower to allow `supportplans`, repairing the drift will remove your update to the SCP. For more information, see Detect and resolve drift in AWS Control Tower.

Related information

For more information, see the following topics:

- Service control policies (SCPs) in the *AWS Organizations User Guide.*
- Configure the Region deny control in the *AWS Control Tower User Guide*
- Deny access to AWS based on the requested AWS Region in the *AWS Control Tower User Guide*

Manage access to AWS Trusted Advisor

You can access AWS Trusted Advisor from the AWS Management Console. All AWS accounts have access to a select core Trusted Advisor checks. If you have a Business, Enterprise On-Ramp, or Enterprise Support plan, you can access all checks. for more information, see AWS Trusted Advisor check reference.

You can use AWS Identity and Access Management (IAM) to control access to Trusted Advisor.

Topics

Permissions for the Trusted Advisor console

To access the Trusted Advisor console, a user must have a minimum set of permissions. These permissions must allow the user to list and view details about the Trusted Advisor resources in your AWS account.

You can use the following options to control access to Trusted Advisor:

- Use the tag filter feature of the Trusted Advisor console. The user or role must have permissions associated with the tags.

  You can use AWS managed policies or custom policies to assign permissions by tags. For more information, see Controlling access to and for IAM users and roles using tags.
- Create an IAM policy with the `trustedadvisor` namespace. You can use this policy to specify permissions for actions and resources.

When you create a policy, you can specify the namespace of the service to allow or deny an action. The namespace for Trusted Advisor is `trustedadvisor`. However, you can't use the `trustedadvisor` namespace to allow or deny Trusted Advisor API operations in the AWS Support API. You must use the `support` namespace for AWS Support instead.

> **Note**
>
> If you have permissions to the AWS Support API, the Trusted Advisor widget in the AWS Management Console shows a summary view of your Trusted Advisor results. To view your results in the Trusted Advisor console, you must have permission to the `trustedadvisor` namespace.

Trusted Advisor actions

You can perform the following Trusted Advisor actions in the console. You can also specify these Trusted Advisor actions in an IAM policy to allow or deny specific actions.

Action	Description
`DescribeAccount`	Grants permission to view the AWS Support plan and various Trusted Advisor preferences.
`DescribeAccountAccess`	Grants permission to view if the AWS account has enabled or disabled Trusted Advisor.
`DescribeCheckItems`	Grants permission to view details for the check items.
`DescribeCheckRefreshStatuses`	Grants permission to view the refresh statuses for Trusted Advisor checks.
`DescribeCheckSummaries`	Grants permission to view Trusted Advisor check summaries.
`DescribeChecks`	Grants permission to view details for Trusted Advisor checks.
`DescribeNotificationPreferences`	Grants permission to view the notification preferences for the AWS account.
`ExcludeCheckItems`	Grants permission to exclude recommend ations for Trusted Advisor checks.
`IncludeCheckItems`	Grants permission to include recommend ations for Trusted Advisor checks.
`RefreshCheck`	Grants permission to refresh a Trusted Advisor check.
`SetAccountAccess`	Grants permission to enable or disable Trusted Advisor for the account.

Action	Description
UpdateNotificationPreferences	Grants permission to update notification preferences for Trusted Advisor.
DescribeCheckStatusHistoryChanges	Grants permission to view the results and changed statuses for checks in the last 30 days.

Trusted Advisor actions for organizational view

The following Trusted Advisor actions are for the organizational view feature. For more information, see Organizational view for AWS Trusted Advisor.

Action	Description
DescribeOrganization	Grants permission to view if the AWS account meets the requirements to enable the organizational view feature.
DescribeOrganizationAccounts	Grants permission to view the linked AWS accounts that are in the organization.
DescribeReports	Grants permission to view details for organizational view reports, such as the report name, runtime, date created, status, and format.
DescribeServiceMetadata	Grants permission to view information about organizational view reports, such as the AWS Regions, check categories, check names, and resource statuses.
GenerateReport	Grants permission to create a report for Trusted Advisor checks in your organization.
ListAccountsForParent	Grants permission to view, in the Trusted Advisor console, all of the accounts in an AWS

Action	Description
	organization that are contained by a root or organizational unit (OU).
`ListOrganizationalUnitsForParent`	Grants permission to view, in the Trusted Advisor console, all of the organizational units (OUs) in a parent organizational unit or root.
`ListRoots`	Grants permission to view, in the Trusted Advisor console, all of the roots that are defined in an AWS organization.
`SetOrganizationAccess`	Grants permission to enable the organizat ional view feature for Trusted Advisor.

Trusted Advisor Priority actions

If you have Trusted Advisor Priority enabled for your account, you can perform the following Trusted Advisor actions in the console. You can also add these Trusted Advisor actions in an IAM policy to allow or deny specific actions. For more information, see Example IAM policies for Trusted Advisor Priority.

> **Note**
>
> The risks that appear in Trusted Advisor Priority are recommendations that your technical account manager (TAM) has identified for your account. Recommendations from a service, such as a Trusted Advisor check, are created for you automatically. Recommendations from your TAM are created for you manually. Next, your TAM sends these recommendations so that they appear in Trusted Advisor Priority for your account.

For more information, see Get started with AWS Trusted Advisor Priority.

Action	Description
`DescribeRisks`	Grants permission to view risks in Trusted Advisor Priority.

Action	Description
DescribeRisk	Grants permission to view risk details in Trusted Advisor Priority.
DescribeRiskResources	Grants permission to view affected resources for a risk in Trusted Advisor Priority.
DownloadRisk	Grants permission to download a file that contains details about the risk in Trusted Advisor Priority.
UpdateRiskStatus	Grants permission to update the risk status in Trusted Advisor Priority.
DescribeNotificationConfigurations	Grants permission to get your email notification preferences for Trusted Advisor Priority.
UpdateNotificationConfigurations	Grants permission to create or update your email notification preferences for Trusted Advisor Priority.
DeleteNotificationConfigurationForDelegatedAdmin	Grants permission to the organization management account to delete email notification preferences from a delegated administrator account for Trusted Advisor Priority.

Trusted Advisor Engage actions

If you have Trusted Advisor Engage enabled for your account, you can perform the following Trusted Advisor actions in the console. You can also add these Trusted Advisor actions in an IAM policy to allow or deny specific actions. For more information, see Example IAM policies for Trusted Advisor Engage .

For more information, see Get started with AWS Trusted Advisor Engage (Preview).

Action	Description
`CreateEngagement`	Grants permission to create an engagement in Trusted Advisor Engage.
`CreateEngagementAttachment`	Grants permission to create an engagement attachment in Trusted Advisor Engage.
`CreateEngagementCommunication`	Grants permission to create an engagement communication in Trusted Advisor Engage.
`GetEngagement`	Grants permission to view an engagment in Trusted Advisor Engage.
`GetEngagementAttachment`	Grants permission to view an engagment attachment in Trusted Advisor Engage.
`GetEngagementType`	Grants permission to view a specific engagement type in Trusted Advisor Engage.
`ListEngagementCommunications`	Grants permission to view all communications for an engagement in Trusted Advisor Engage.
`ListEngagements`	Grants permission to view all engagements in Trusted Advisor Engage.
`ListEngagementTypes`	Grants permission to view all engagement types in Trusted Advisor Engage.
`UpdateEngagement`	Grants permission to update the details of an engagement in Trusted Advisor Engage.
`UpdateEngagementStatus`	Grants permission to update the status of an engagement in Trusted Advisor Engage.

IAM policy examples

The following policies show you how to allow and deny access to Trusted Advisor. You can use one of the following policies to create a *customer managed policy* in the IAM console. For example, you

can copy an example policy, and then paste it into the JSON tab of the IAM console. Then, you attach the policy to your IAM user, group, or role.

For more information about how to create an IAM policy, see Creating IAM policies (console) in the *IAM User Guide*.

Examples

- Full access to Trusted Advisor
- Read-only access to Trusted Advisor
- Deny access to Trusted Advisor
- Allow and deny specific actions
- Control access to the AWS Support API operations for Trusted Advisor
- Example IAM policies for Trusted Advisor Priority
- Example IAM policies for Trusted Advisor Engage

Full access to Trusted Advisor

The following policy allows users to view and take all actions on all Trusted Advisor checks in the Trusted Advisor console.

```
{
    "Version": "2012-10-17",
    "Statement": [
        {
            "Effect": "Allow",
            "Action": "trustedadvisor:*",
            "Resource": "*"
        }
    ]
}
```

Read-only access to Trusted Advisor

The following policy allows users read-only access to the Trusted Advisor console. Users can't make changes, such as refresh checks or change notification preferences.

```
{
    "Version": "2012-10-17",
```

```
    "Statement": [
        {
            "Effect": "Allow",
            "Action": [
                "trustedadvisor:Describe*",
                "trustedadvisor:Get*",
                "trustedadvisor:List*"
            ],
            "Resource": "*"
        }
    ]
}
```

Deny access to Trusted Advisor

The following policy doesn't allow users to view or take actions for Trusted Advisor checks in the Trusted Advisor console.

```
{
    "Version": "2012-10-17",
    "Statement": [
        {
            "Effect": "Deny",
            "Action": "trustedadvisor:*",
            "Resource": "*"
        }
    ]
}
```

Allow and deny specific actions

The following policy allows users to view all Trusted Advisor checks in the Trusted Advisor console, but doesn't allow them to refresh any checks.

```
{
    "Version": "2012-10-17",
    "Statement": [
        {
            "Effect": "Allow",
            "Action": "trustedadvisor:*",
            "Resource": "*"
        },
```

```
        {
            "Effect": "Deny",
            "Action": "trustedadvisor:RefreshCheck",
            "Resource": "*"
        }
    ]
}
```

Control access to the AWS Support API operations for Trusted Advisor

In the AWS Management Console, a separate `trustedadvisor` IAM namespace controls access to Trusted Advisor. You can't use the `trustedadvisor` namespace to allow or deny Trusted Advisor API operations in the AWS Support API. Instead, you use the `support` namespace. You must have permissions to the AWS Support API to call Trusted Advisor programmatically.

For example, if you want to call the RefreshTrustedAdvisorCheck operation, you must have permissions to this action in the policy.

Example : Allow Trusted Advisor API operations only

The following policy allows users access to the AWS Support API operations for Trusted Advisor, but not the rest of the AWS Support API operations. For example, users can use the API to view and refresh checks. They can't create, view, update, or resolve AWS Support cases.

You can use this policy to call the Trusted Advisor API operations programmatically, but you can't use this policy to view or refresh checks in the Trusted Advisor console.

```
{
    "Version": "2012-10-17",
    "Statement": [
        {
            "Effect": "Allow",
            "Action": [
                "support:DescribeTrustedAdvisorCheckRefreshStatuses",
                "support:DescribeTrustedAdvisorCheckResult",
                "support:DescribeTrustedAdvisorChecks",
                "support:DescribeTrustedAdvisorCheckSummaries",
                "support:RefreshTrustedAdvisorCheck",
                "trustedadvisor:Describe*"
            ],
            "Resource": "*"
        },
```

```
        {
            "Effect": "Deny",
            "Action": [
                "support:AddAttachmentsToSet",
                "support:AddCommunicationToCase",
                "support:CreateCase",
                "support:DescribeAttachment",
                "support:DescribeCases",
                "support:DescribeCommunications",
                "support:DescribeServices",
                "support:DescribeSeverityLevels",
                "support:ResolveCase"
            ],
            "Resource": "*"
        }
    ]
}
```

For more information about how IAM works with AWS Support and Trusted Advisor, see Actions.

Example IAM policies for Trusted Advisor Priority

You can use the following AWS managed policies to control access to Trusted Advisor Priority. For more information, see AWS managed policies for AWS Trusted Advisor and Get started with AWS Trusted Advisor Priority.

Example IAM policies for Trusted Advisor Engage

> **Note**
>
> Trusted Advisor Engage is in preview release and does not currently have any AWS managed policies. You can use one of the following policies to create a *customer managed policy* in the IAM console.

An example policy that grants read and write access in Trusted Advisor Engage:

```
{
    "Version": "2012-10-17",
    "Statement": [
        {
```

```
            "Effect": "Allow",
            "Action": [
                "trustedadvisor:CreateEngagement*",
                "trustedadvisor:DescribeAccount*",
                "trustedadvisor:GetEngagement*",
                "trustedadvisor:ListEngagement*",
                "trustedadvisor:UpdateEngagement*"
            ],
            "Resource": "*"
        }
    ]
}
```

An example policy that grants read-only access in Trusted Advisor Engage:

```
{
    "Version": "2012-10-17",
    "Statement": [
        {
            "Effect": "Allow",
            "Action": [
                "trustedadvisor:DescribeAccount*",
                "trustedadvisor:GetEngagement*",
                "trustedadvisor:ListEngagement*"
            ],
            "Resource": "*"
        }
    ]
}
```

An example policy that grants read and write access in Trusted Advisor Engage and the ability to enable trusted access to Trusted Advisor:

```
{
    "Version": "2012-10-17",
    "Statement": [
        {
            "Effect": "Allow",
            "Action": [
                "organizations:DescribeOrganization",
                "organizations:ListAWSServiceAccessForOrganization",
                "trustedadvisor:CreateEngagement*",
                "trustedadvisor:DescribeAccount*",
```

```
                "trustedadvisor:DescribeOrganization",
                "trustedadvisor:GetEngagement*",
                "trustedadvisor:ListEngagement*",
                "trustedadvisor:SetOrganizationAccess",
                "trustedadvisor:UpdateEngagement*"
            ],
            "Resource": "*"
        },
        {
            "Effect": "Allow",
            "Action": [
                "organizations:EnableAWSServiceAccess",
                "organizations:DisableAWSServiceAccess"
            ],
            "Resource": "*",
            "Condition": {
                "StringEquals": {
                    "organizations:ServicePrincipal": [
                        "reporting.trustedadvisor.amazonaws.com"
                    ]
                }
            }
        },
        {
            "Effect": "Allow",
            "Action": "iam:CreateServiceLinkedRole",
            "Resource": "arn:aws:iam::*:role/aws-service-role/
reporting.trustedadvisor.amazonaws.com/AWSServiceRoleForTrustedAdvisorReporting",
            "Condition": {
                "StringLike": {
                    "iam:AWSServiceName": "reporting.trustedadvisor.amazonaws.com"
                }
            }
        }
    ]
}
```

See also

For more information about Trusted Advisor permissions, see the following resources:

- Actions defined by AWS Trusted Advisor in the *IAM User Guide*.
- Controlling Access to the Trusted Advisor Console

Example Service Control Policies for AWS Trusted Advisor

AWS Trusted Advisor supports service control policies (SCPs). SCPs are policies that you attach to elements in an organization to manage permissions within that organization. An SCP applies to all AWS accounts under the element to which you attach the SCP. SCPs offer central control over the maximum available permissions for all accounts in your organization. They can help you to ensure your AWS accounts stay within your organization's access control guidelines. For more information, see Service control policies in the *AWS Organizations User Guide*.

Topics

Prerequisites

To use SCPs, you must first do the following:

- Enable all features in your organization. For more information, see Enabling all features in your organization in the *AWS Organizations User Guide*.
- Enable SCPs for use within your organization. For more information, see Enabling and disabling policy types in the *AWS Organizations User Guide*.
- Create the SCPs that you need. For more information about creating SCPs, see Creating, updating, and deleting service control policies in the *AWS Organizations User Guide*.

Example Service Control Policies

The following examples show how you can control various aspects of resource sharing in an organization.

Example : Prevent users from creating or editing engagements in Trusted Advisor Engage

The following SCP prevents users from creating new engagements or editing existing engagements.

```
{
  "Version": "2012-10-17",
  "Statement": [
    {
```

```
      "Effect": "Deny",
      "Action": [
        "trustedadvisor:CreateEngagement",
        "trustedadvisor:UpdateEngagement*"
      ],
      "Resource": [
        "*"
      ]
    }
  ]
}
```

Example : Deny Trusted Advisor Engage and Trusted Advisor Priority Access

The following SCP prevents users from accessing or performing any actions within Trusted Advisor Engage and Trusted Advisor Priority.

```
{
  "Version": "2012-10-17",
  "Statement": [
    {
      "Effect": "Deny",
      "Action": [
        "trustedadvisor:ListEngagement*",
        "trustedadvisor:GetEngagement*",
        "trustedadvisor:CreateEngagement*",
        "trustedadvisor:UpdateEngagement*",
        "trustedadvisor:DescribeRisk*",
        "trustedadvisor:UpdateRisk*",
        "trustedadvisor:DownloadRisk"
      ],
      "Resource": [
        "*"
      ]
    }
  ]
}
```

Troubleshooting AWS Support identity and access

Use the following information to help you diagnose and fix common issues that you might encounter when working with AWS Support and IAM.

Topics

I'm not authorized to perform iam:PassRole

If you receive an error that you're not authorized to perform the `iam:PassRole` action, your policies must be updated to allow you to pass a role to AWS Support.

Some AWS services allow you to pass an existing role to that service instead of creating a new service role or service-linked role. To do this, you must have permissions to pass the role to the service.

The following example error occurs when an IAM user named `marymajor` tries to use the console to perform an action in AWS Support. However, the action requires the service to have permissions that are granted by a service role. Mary does not have permissions to pass the role to the service.

```
User: arn:aws:iam::123456789012:user/marymajor is not authorized to perform:
 iam:PassRole
```

In this case, Mary's policies must be updated to allow her to perform the `iam:PassRole` action.

If you need help, contact your AWS administrator. Your administrator is the person who provided you with your sign-in credentials.

I want to view my access keys

After you create your IAM user access keys, you can view your access key ID at any time. However, you can't view your secret access key again. If you lose your secret key, you must create a new access key pair.

Access keys consist of two parts: an access key ID (for example, `AKIAIOSFODNN7EXAMPLE`) and a secret access key (for example, `wJalrXUtnFEMI/K7MDENG/bPxRfiCYEXAMPLEKEY`). Like a user name and password, you must use both the access key ID and secret access key together to authenticate your requests. Manage your access keys as securely as you do your user name and password.

> **Important**
>
> Do not provide your access keys to a third party, even to help find your canonical user ID. By doing this, you might give someone permanent access to your AWS account.

When you create an access key pair, you are prompted to save the access key ID and secret access key in a secure location. The secret access key is available only at the time you create it. If you lose your secret access key, you must add new access keys to your IAM user. You can have a maximum of two access keys. If you already have two, you must delete one key pair before creating a new one. To view instructions, see Managing access keys in the *IAM User Guide*.

I'm an administrator and want to allow others to access AWS Support

To allow others to access AWS Support, you must grant permission to the people or applications that need access. If you are using AWS IAM Identity Center to manage people and applications, you assign permission sets to users or groups to define their level of access. Permission sets automatically create and assign IAM policies to IAM roles that are associated with the person or application. For more information, see Permission sets in the *AWS IAM Identity Center User Guide*.

If you are not using IAM Identity Center, you must create IAM entities (users or roles) for the people or applications that need access. You must then attach a policy to the entity that grants them the correct permissions in AWS Support. After the permissions are granted, provide the credentials to the user or application developer. They will use those credentials to access AWS. To learn more about creating IAM users, groups, policies, and permissions, see IAM Identities and Policies and permissions in IAM in the *IAM User Guide*.

I want to allow people outside of my AWS account to access my AWS Support resources

You can create a role that users in other accounts or people outside of your organization can use to access your resources. You can specify who is trusted to assume the role. For services that support resource-based policies or access control lists (ACLs), you can use those policies to grant people access to your resources.

To learn more, consult the following:

- To learn whether AWS Support supports these features, see How AWS Support works with IAM.

- To learn how to provide access to your resources across AWS accounts that you own, see Providing access to an IAM user in another AWS account that you own in the *IAM User Guide*.
- To learn how to provide access to your resources to third-party AWS accounts, see Providing access to AWS accounts owned by third parties in the *IAM User Guide*.
- To learn how to provide access through identity federation, see Providing access to externally authenticated users (identity federation) in the *IAM User Guide*.
- To learn the difference between using roles and resource-based policies for cross-account access, see Cross account resource access in IAM in the *IAM User Guide*.

Incident response

Incident response for AWS Support is an AWS responsibility. AWS has a formal, documented policy and program that governs incident response. For more information, see the Introducing the AWS Security Incident Response Whitepaper.

Use the following options to inform yourself about operational issues:

- View AWS operational issues with broad impact on the AWS Service Health Dashboard. For example, events that affect a service or Region that isn't specific to your account.
- View operational issues for individual accounts in the AWS Health Dashboard. For example, events that affect services or resources in your account. For more information, see Getting started with the AWS Health Dashboard in the *AWS Health User Guide*.

Logging and monitoring in AWS Support and AWS Trusted Advisor

Monitoring is an important part of maintaining the reliability, availability, and performance of AWS Support and AWS Trusted Advisor and your other AWS solutions. AWS provides the following monitoring tools to watch AWS Support and AWS Trusted Advisor, report when something is wrong, and take actions when appropriate:

- *Amazon CloudWatch* monitors your AWS resources and the applications that you run on AWS in real time. You can collect and track metrics, create customized dashboards, and set alarms that notify you or take actions when a specified metric reaches a threshold that you specify. For example, you can have CloudWatch track CPU usage or other metrics of your Amazon Elastic

Compute Cloud (Amazon EC2) instances and automatically launch new instances when needed. For more information, see the Amazon CloudWatch User Guide.

- *Amazon EventBridge* delivers a near real-time stream of system events that describe changes in AWS resources. EventBridge enables automated event-driven computing, as you can write rules that watch for certain events and trigger automated actions in other AWS services when these events happen. For more information, see the Amazon EventBridge User Guide.
- *AWS CloudTrail* captures API calls and related events made by or on behalf of your AWS account and delivers the log files to an Amazon Simple Storage Service (Amazon S3) bucket that you specify. You can identify which users and accounts called AWS, the source IP address from which the calls were made, and when the calls occurred. For more information, see the AWS CloudTrail User Guide.

For more information, see Monitoring and logging for AWS Support and Monitoring and logging for AWS Trusted Advisor.

Compliance validation for AWS Support

To learn whether an AWS service is within the scope of specific compliance programs, see AWS services in Scope by Compliance Program and choose the compliance program that you are interested in. For general information, see AWS Compliance Programs.

You can download third-party audit reports using AWS Artifact. For more information, see Downloading Reports in AWS Artifact.

Your compliance responsibility when using AWS services is determined by the sensitivity of your data, your company's compliance objectives, and applicable laws and regulations. AWS provides the following resources to help with compliance:

- Security and Compliance Quick Start Guides – These deployment guides discuss architectural considerations and provide steps for deploying baseline environments on AWS that are security and compliance focused.
- Architecting for HIPAA Security and Compliance on Amazon Web Services – This whitepaper describes how companies can use AWS to create HIPAA-eligible applications.

> **Note**
>
> Not all AWS services are HIPAA eligible. For more information, see the HIPAA Eligible Services Reference.

- AWS Compliance Resources – This collection of workbooks and guides might apply to your industry and location.
- AWS Customer Compliance Guides – Understand the shared responsibility model through the lens of compliance. The guides summarize the best practices for securing AWS services and map the guidance to security controls across multiple frameworks (including National Institute of Standards and Technology (NIST), Payment Card Industry Security Standards Council (PCI), and International Organization for Standardization (ISO)).
- Evaluating Resources with Rules in the *AWS Config Developer Guide* – The AWS Config service assesses how well your resource configurations comply with internal practices, industry guidelines, and regulations.
- AWS Security Hub – This AWS service provides a comprehensive view of your security state within AWS. Security Hub uses security controls to evaluate your AWS resources and to check your compliance against security industry standards and best practices. For a list of supported services and controls, see Security Hub controls reference.
- Amazon GuardDuty – This AWS service detects potential threats to your AWS accounts, workloads, containers, and data by monitoring your environment for suspicious and malicious activities. GuardDuty can help you address various compliance requirements, like PCI DSS, by meeting intrusion detection requirements mandated by certain compliance frameworks.
- AWS Audit Manager – This AWS service helps you continuously audit your AWS usage to simplify how you manage risk and compliance with regulations and industry standards.

Resilience in AWS Support

The AWS global infrastructure is built around AWS Regions and Availability Zones. AWS Regions provide multiple physically separated and isolated Availability Zones, which are connected with low-latency, high-throughput, and highly redundant networking. With Availability Zones, you can design and operate applications and databases that automatically fail over between zones without interruption. Availability Zones are more highly available, fault tolerant, and scalable than traditional single or multiple data center infrastructures.

For more information about AWS Regions and Availability Zones, see AWS global infrastructure.

Infrastructure security in AWS Support

As a managed service, AWS Support is protected by the AWS global network security procedures that are described in the Amazon Web Services: Overview of security processes whitepaper.

You use AWS published API calls to access AWS Support through the network. Clients must support Transport Layer Security (TLS) 1.0 or later. We recommend TLS 1.2 or later. Clients must also support cipher suites with perfect forward secrecy (PFS) such as Ephemeral Diffie-Hellman (DHE) or Elliptic Curve Ephemeral Diffie-Hellman (ECDHE). Most modern systems such as Java 7 and later support these modes.

Additionally, requests must be signed by using an access key ID and a secret access key that is associated with an IAM principal. Or you can use the AWS Security Token Service (AWS STS) to generate temporary security credentials to sign requests.

Configuration and vulnerability analysis in AWS Support

For AWS Trusted Advisor, AWS handles basic security tasks such as guest operating system (OS) and database patching, firewall configuration, and disaster recovery.

Configuration and IT controls are a shared responsibility between AWS and you, our customer. For more information, see the AWS shared responsibility model.

Code examples for AWS Support using AWS SDKs

The following code examples show how to use AWS Support with an AWS software development kit (SDK).

Basics are code examples that show you how to perform the essential operations within a service.

Actions are code excerpts from larger programs and must be run in context. While actions show you how to call individual service functions, you can see actions in context in their related scenarios.

For a complete list of AWS SDK developer guides and code examples, see Using AWS Support with an AWS SDK. This topic also includes information about getting started and details about previous SDK versions.

Get started

Hello AWS Support

The following code examples show how to get started using AWS Support.

.NET

AWS SDK for .NET

> **Note**
>
> There's more on GitHub. Find the complete example and learn how to set up and run in the AWS Code Examples Repository.

```
using Amazon.AWSSupport;
using Microsoft.Extensions.DependencyInjection;
using Microsoft.Extensions.Hosting;

public static class HelloSupport
{
    static async Task Main(string[] args)
    {
        // Use the AWS .NET Core Setup package to set up dependency injection for
 the AWS Support service.
```

```
        // Use your AWS profile name, or leave it blank to use the default
 profile.
        // You must have one of the following AWS Support plans: Business,
 Enterprise On-Ramp, or Enterprise. Otherwise, an exception will be thrown.
        using var host = Host.CreateDefaultBuilder(args)
            .ConfigureServices((_, services) =>
                services.AddAWSService<IAmazonAWSSupport>()
            ).Build();

        // Now the client is available for injection.
        var supportClient =
 host.Services.GetRequiredService<IAmazonAWSSupport>();

        // You can use await and any of the async methods to get a response.
        var response = await supportClient.DescribeServicesAsync();
        Console.WriteLine($"\tHello AWS Support! There are
 {response.Services.Count} services available.");
    }
}
```

- For API details, see DescribeServices in *AWS SDK for .NET API Reference*.

Java

SDK for Java 2.x

> **Note**
>
> There's more on GitHub. Find the complete example and learn how to set up and run in the AWS Code Examples Repository.

```
import software.amazon.awssdk.regions.Region;
import software.amazon.awssdk.services.support.SupportClient;
import software.amazon.awssdk.services.support.model.Category;
import software.amazon.awssdk.services.support.model.DescribeServicesRequest;
import software.amazon.awssdk.services.support.model.DescribeServicesResponse;
import software.amazon.awssdk.services.support.model.Service;
import software.amazon.awssdk.services.support.model.SupportException;
import java.util.ArrayList;
import java.util.List;
```

```
/**
 * Before running this Java (v2) code example, set up your development
 * environment, including your credentials.
 *
 * For more information, see the following documentation topic:
 *
 * https://docs.aws.amazon.com/sdk-for-java/latest/developer-guide/get-
started.html
 *
 * In addition, you must have the AWS Business Support Plan to use the AWS
 * Support Java API. For more information, see:
 *
 * https://aws.amazon.com/premiumsupport/plans/
 *
 * This Java example performs the following task:
 *
 * 1. Gets and displays available services.
 *
 *
 * NOTE: To see multiple operations, see SupportScenario.
 */

public class HelloSupport {
    public static void main(String[] args) {
        Region region = Region.US_WEST_2;
        SupportClient supportClient = SupportClient.builder()
                .region(region)
                .build();

        System.out.println("***** Step 1. Get and display available services.");
        displayServices(supportClient);
    }

    // Return a List that contains a Service name and Category name.
    public static void displayServices(SupportClient supportClient) {
        try {
            DescribeServicesRequest servicesRequest =
 DescribeServicesRequest.builder()
                    .language("en")
                    .build();

            DescribeServicesResponse response =
 supportClient.describeServices(servicesRequest);
```

```
            List<Service> services = response.services();

            System.out.println("Get the first 10 services");
            int index = 1;
            for (Service service : services) {
                if (index == 11)
                    break;

                System.out.println("The Service name is: " + service.name());

                // Display the Categories for this service.
                List<Category> categories = service.categories();
                for (Category cat : categories) {
                    System.out.println("The category name is: " + cat.name());
                }
                index++;
            }

        } catch (SupportException e) {
            System.out.println(e.getLocalizedMessage());
            System.exit(1);
        }
    }
}
```

- For API details, see DescribeServices in *AWS SDK for Java 2.x API Reference*.

JavaScript

SDK for JavaScript (v3)

> **Note**
>
> There's more on GitHub. Find the complete example and learn how to set up and run in the AWS Code Examples Repository.

Invoke `main()` to run the example.

```
import {
  DescribeServicesCommand,
```

```
  SupportClient,
} from "@aws-sdk/client-support";

// Change the value of 'region' to your preferred AWS Region.
const client = new SupportClient({ region: "us-east-1" });

const getServiceCount = async () => {
  try {
    const { services } = await client.send(new DescribeServicesCommand({}));
    return services.length;
  } catch (err) {
    if (err.name === "SubscriptionRequiredException") {
      throw new Error(
        "You must be subscribed to the AWS Support plan to use this feature.",
      );
    } else {
      throw err;
    }
  }
};

export const main = async () => {
  try {
    const count = await getServiceCount();
    console.log(`Hello, AWS Support! There are ${count} services available.`);
  } catch (err) {
    console.error("Failed to get service count: ", err.message);
  }
};
```

- For API details, see DescribeServices in *AWS SDK for JavaScript API Reference*.

Kotlin

SDK for Kotlin

> **Note**
>
> There's more on GitHub. Find the complete example and learn how to set up and run in the AWS Code Examples Repository.

```
/**
Before running this Kotlin code example, set up your development environment,
including your credentials.

For more information, see the following documentation topic:
https://docs.aws.amazon.com/sdk-for-kotlin/latest/developer-guide/setup.html

In addition, you must have the AWS Business Support Plan to use the AWS Support
 Java API. For more information, see:

https://aws.amazon.com/premiumsupport/plans/

This Kotlin example performs the following task:

1. Gets and displays available services.
 */

suspend fun main() {
    displaySomeServices()
}

// Return a List that contains a Service name and Category name.
suspend fun displaySomeServices() {
    val servicesRequest =
        DescribeServicesRequest {
            language = "en"
        }

    SupportClient { region = "us-west-2" }.use { supportClient ->
        val response = supportClient.describeServices(servicesRequest)
        println("Get the first 10 services")
        var index = 1

        response.services?.forEach { service ->
            if (index == 11) {
                return@forEach
            }

            println("The Service name is: " + service.name)

            // Get the categories for this service.
            service.categories?.forEach { cat ->
```

```
                println("The category name is ${cat.name}")
                index++
            }
        }
    }
}
```

- For API details, see DescribeServices in *AWS SDK for Kotlin API reference*.

Python

SDK for Python (Boto3)

> **Note**
>
> There's more on GitHub. Find the complete example and learn how to set up and run in the AWS Code Examples Repository.

```
import logging
import boto3
from botocore.exceptions import ClientError

logger = logging.getLogger(__name__)


def hello_support(support_client):
    """
    Use the AWS SDK for Python (Boto3) to create an AWS Support client and count
    the available services in your account.
    This example uses the default settings specified in your shared credentials
    and config files.

    :param support_client: A Boto3 Support Client object.
    """
    try:
        print("Hello, AWS Support! Let's count the available Support services:")
        response = support_client.describe_services()
        print(f"There are {len(response['services'])} services available.")
    except ClientError as err:
```

```
        if err.response["Error"]["Code"] == "SubscriptionRequiredException":
            logger.info(
                "You must have a Business, Enterprise On-Ramp, or Enterprise
 Support "
                "plan to use the AWS Support API. \n\tPlease upgrade your
 subscription to run these "
                "examples."
            )
        else:
            logger.error(
                "Couldn't count services. Here's why: %s: %s",
                err.response["Error"]["Code"],
                err.response["Error"]["Message"],
            )
            raise


if __name__ == "__main__":
    hello_support(boto3.client("support"))
```

- For API details, see DescribeServices in *AWS SDK for Python (Boto3) API Reference*.

Code examples

- Basic examples for AWS Support using AWS SDKs
  - Hello AWS Support
  - Learn the basics of AWS Support with an AWS SDK
  - Actions for AWS Support using AWS SDKs
    - Use AddAttachmentsToSet with an AWS SDK or CLI
    - Use AddCommunicationToCase with an AWS SDK or CLI
    - Use CreateCase with an AWS SDK or CLI
    - Use DescribeAttachment with an AWS SDK or CLI
    - Use DescribeCases with an AWS SDK or CLI
    - Use DescribeCommunications with an AWS SDK or CLI
    - Use DescribeServices with an AWS SDK or CLI
    - Use DescribeSeverityLevels with an AWS SDK or CLI
    - Use DescribeTrustedAdvisorCheckRefreshStatuses with an AWS SDK or CLI

- Use DescribeTrustedAdvisorCheckResult with an AWS SDK or CLI
- Use DescribeTrustedAdvisorCheckSummaries with an AWS SDK or CLI
- Use DescribeTrustedAdvisorChecks with an AWS SDK or CLI
- Use RefreshTrustedAdvisorCheck with an AWS SDK or CLI
- Use ResolveCase with an AWS SDK or CLI

Basic examples for AWS Support using AWS SDKs

The following code examples show how to use the basics of AWS Support with AWS SDKs.

Examples

- Hello AWS Support
- Learn the basics of AWS Support with an AWS SDK
- Actions for AWS Support using AWS SDKs
  - Use AddAttachmentsToSet with an AWS SDK or CLI
  - Use AddCommunicationToCase with an AWS SDK or CLI
  - Use CreateCase with an AWS SDK or CLI
  - Use DescribeAttachment with an AWS SDK or CLI
  - Use DescribeCases with an AWS SDK or CLI
  - Use DescribeCommunications with an AWS SDK or CLI
  - Use DescribeServices with an AWS SDK or CLI
  - Use DescribeSeverityLevels with an AWS SDK or CLI
  - Use DescribeTrustedAdvisorCheckRefreshStatuses with an AWS SDK or CLI
  - Use DescribeTrustedAdvisorCheckResult with an AWS SDK or CLI
  - Use DescribeTrustedAdvisorCheckSummaries with an AWS SDK or CLI
  - Use DescribeTrustedAdvisorChecks with an AWS SDK or CLI
  - Use RefreshTrustedAdvisorCheck with an AWS SDK or CLI
  - Use ResolveCase with an AWS SDK or CLI

Hello AWS Support

The following code examples show how to get started using AWS Support.

.NET

AWS SDK for .NET

> **Note**
>
> There's more on GitHub. Find the complete example and learn how to set up and run in the AWS Code Examples Repository.

```
using Amazon.AWSSupport;
using Microsoft.Extensions.DependencyInjection;
using Microsoft.Extensions.Hosting;

public static class HelloSupport
{
    static async Task Main(string[] args)
    {
        // Use the AWS .NET Core Setup package to set up dependency injection for
 the AWS Support service.
        // Use your AWS profile name, or leave it blank to use the default
 profile.
        // You must have one of the following AWS Support plans: Business,
 Enterprise On-Ramp, or Enterprise. Otherwise, an exception will be thrown.
        using var host = Host.CreateDefaultBuilder(args)
            .ConfigureServices((_, services) =>
                services.AddAWSService<IAmazonAWSSupport>()
            ).Build();

        // Now the client is available for injection.
        var supportClient =
 host.Services.GetRequiredService<IAmazonAWSSupport>();

        // You can use await and any of the async methods to get a response.
        var response = await supportClient.DescribeServicesAsync();
        Console.WriteLine($"\tHello AWS Support! There are
 {response.Services.Count} services available.");
    }
}
```

- For API details, see DescribeServices in *AWS SDK for .NET API Reference*.

Java

SDK for Java 2.x

> **Note**
>
> There's more on GitHub. Find the complete example and learn how to set up and run in the AWS Code Examples Repository.

```
import software.amazon.awssdk.regions.Region;
import software.amazon.awssdk.services.support.SupportClient;
import software.amazon.awssdk.services.support.model.Category;
import software.amazon.awssdk.services.support.model.DescribeServicesRequest;
import software.amazon.awssdk.services.support.model.DescribeServicesResponse;
import software.amazon.awssdk.services.support.model.Service;
import software.amazon.awssdk.services.support.model.SupportException;
import java.util.ArrayList;
import java.util.List;

/**
 * Before running this Java (v2) code example, set up your development
 * environment, including your credentials.
 *
 * For more information, see the following documentation topic:
 *
 * https://docs.aws.amazon.com/sdk-for-java/latest/developer-guide/get-
started.html
 *
 * In addition, you must have the AWS Business Support Plan to use the AWS
 * Support Java API. For more information, see:
 *
 * https://aws.amazon.com/premiumsupport/plans/
 *
 * This Java example performs the following task:
 *
 * 1. Gets and displays available services.
 *
 *
 * NOTE: To see multiple operations, see SupportScenario.
```

```
 */

public class HelloSupport {
    public static void main(String[] args) {
        Region region = Region.US_WEST_2;
        SupportClient supportClient = SupportClient.builder()
                .region(region)
                .build();

        System.out.println("***** Step 1. Get and display available services.");
        displayServices(supportClient);
    }

    // Return a List that contains a Service name and Category name.
    public static void displayServices(SupportClient supportClient) {
        try {
            DescribeServicesRequest servicesRequest =
 DescribeServicesRequest.builder()
                    .language("en")
                    .build();

            DescribeServicesResponse response =
 supportClient.describeServices(servicesRequest);
            List<Service> services = response.services();

            System.out.println("Get the first 10 services");
            int index = 1;
            for (Service service : services) {
                if (index == 11)
                    break;

                System.out.println("The Service name is: " + service.name());

                // Display the Categories for this service.
                List<Category> categories = service.categories();
                for (Category cat : categories) {
                    System.out.println("The category name is: " + cat.name());
                }
                index++;
            }

        } catch (SupportException e) {
            System.out.println(e.getLocalizedMessage());
            System.exit(1);
```

```
        }
    }
}
```

- For API details, see DescribeServices in *AWS SDK for Java 2.x API Reference*.

JavaScript

SDK for JavaScript (v3)

> **Note**
>
> There's more on GitHub. Find the complete example and learn how to set up and run in the AWS Code Examples Repository.

Invoke `main()` to run the example.

```
import {
  DescribeServicesCommand,
  SupportClient,
} from "@aws-sdk/client-support";

// Change the value of 'region' to your preferred AWS Region.
const client = new SupportClient({ region: "us-east-1" });

const getServiceCount = async () => {
  try {
    const { services } = await client.send(new DescribeServicesCommand({}));
    return services.length;
  } catch (err) {
    if (err.name === "SubscriptionRequiredException") {
      throw new Error(
        "You must be subscribed to the AWS Support plan to use this feature.",
      );
    } else {
      throw err;
    }
  }
};
```

```
export const main = async () => {
  try {
    const count = await getServiceCount();
    console.log(`Hello, AWS Support! There are ${count} services available.`);
  } catch (err) {
    console.error("Failed to get service count: ", err.message);
  }
};
```

- For API details, see DescribeServices in *AWS SDK for JavaScript API Reference*.

Kotlin

SDK for Kotlin

> **Note**
>
> There's more on GitHub. Find the complete example and learn how to set up and run in the AWS Code Examples Repository.

```
/**
Before running this Kotlin code example, set up your development environment,
including your credentials.

For more information, see the following documentation topic:
https://docs.aws.amazon.com/sdk-for-kotlin/latest/developer-guide/setup.html

In addition, you must have the AWS Business Support Plan to use the AWS Support
 Java API. For more information, see:

https://aws.amazon.com/premiumsupport/plans/

This Kotlin example performs the following task:

1. Gets and displays available services.
 */

suspend fun main() {
    displaySomeServices()
```

```
}

// Return a List that contains a Service name and Category name.
suspend fun displaySomeServices() {
    val servicesRequest =
        DescribeServicesRequest {
            language = "en"
        }

    SupportClient { region = "us-west-2" }.use { supportClient ->
        val response = supportClient.describeServices(servicesRequest)
        println("Get the first 10 services")
        var index = 1

        response.services?.forEach { service ->
            if (index == 11) {
                return@forEach
            }

            println("The Service name is: " + service.name)

            // Get the categories for this service.
            service.categories?.forEach { cat ->
                println("The category name is ${cat.name}")
                index++
            }
        }
    }
}
```

- For API details, see DescribeServices in *AWS SDK for Kotlin API reference*.

Python

SDK for Python (Boto3)

> **Note**
>
> There's more on GitHub. Find the complete example and learn how to set up and run in the AWS Code Examples Repository.

```
import logging
import boto3
from botocore.exceptions import ClientError

logger = logging.getLogger(__name__)


def hello_support(support_client):
    """
    Use the AWS SDK for Python (Boto3) to create an AWS Support client and count
    the available services in your account.
    This example uses the default settings specified in your shared credentials
    and config files.

    :param support_client: A Boto3 Support Client object.
    """
    try:
        print("Hello, AWS Support! Let's count the available Support services:")
        response = support_client.describe_services()
        print(f"There are {len(response['services'])} services available.")
    except ClientError as err:
        if err.response["Error"]["Code"] == "SubscriptionRequiredException":
            logger.info(
                "You must have a Business, Enterprise On-Ramp, or Enterprise
 Support "
                "plan to use the AWS Support API. \n\tPlease upgrade your
 subscription to run these "
                "examples."
            )
        else:
            logger.error(
                "Couldn't count services. Here's why: %s: %s",
                err.response["Error"]["Code"],
                err.response["Error"]["Message"],
            )
            raise


if __name__ == "__main__":
    hello_support(boto3.client("support"))
```

- For API details, see DescribeServices in *AWS SDK for Python (Boto3) API Reference*.

For a complete list of AWS SDK developer guides and code examples, see Using AWS Support with an AWS SDK. This topic also includes information about getting started and details about previous SDK versions.

Learn the basics of AWS Support with an AWS SDK

The following code examples show how to:

- Get and display available services and severity levels for cases.
- Create a support case using a selected service, category, and severity level.
- Get and display a list of open cases for the current day.
- Add an attachment set and a communication to the new case.
- Describe the new attachment and communication for the case.
- Resolve the case.
- Get and display a list of resolved cases for the current day.

.NET

AWS SDK for .NET

> **Note**
>
> There's more on GitHub. Find the complete example and learn how to set up and run in the AWS Code Examples Repository.

Run an interactive scenario at a command prompt.

```
/// <summary>
/// Hello AWS Support example.
/// </summary>
public static class SupportCaseScenario
{
    /*
    Before running this .NET code example, set up your development environment,
 including your credentials.
    To use the AWS Support API, you must have one of the following AWS Support
 plans: Business, Enterprise On-Ramp, or Enterprise.
```

```
   This .NET example performs the following tasks:
   1.  Get and display services. Select a service from the list.
   2.  Select a category from the selected service.
   3.  Get and display severity levels and select a severity level from the
list.
   4.  Create a support case using the selected service, category, and severity
level.
   5.  Get and display a list of open support cases for the current day.
   6.  Create an attachment set with a sample text file to add to the case.
   7.  Add a communication with the attachment to the support case.
   8.  List the communications of the support case.
   9.  Describe the attachment set.
   10. Resolve the support case.
   11. Get a list of resolved cases for the current day.
  */

   private static SupportWrapper _supportWrapper = null!;

   static async Task Main(string[] args)
   {
       // Set up dependency injection for the AWS Support service.
       // Use your AWS profile name, or leave it blank to use the default
profile.
       using var host = Host.CreateDefaultBuilder(args)
           .ConfigureLogging(logging =>
               logging.AddFilter("System", LogLevel.Debug)
                   .AddFilter<DebugLoggerProvider>("Microsoft",
LogLevel.Information)
                   .AddFilter<ConsoleLoggerProvider>("Microsoft",
LogLevel.Trace))
           .ConfigureServices((_, services) =>
               services.AddAWSService<IAmazonAWSSupport>(new AWSOptions()
{ Profile = "default" })
                   .AddTransient<SupportWrapper>()
           )
           .Build();

       var logger = LoggerFactory.Create(builder =>
       {
           builder.AddConsole();
       }).CreateLogger(typeof(SupportCaseScenario));

       _supportWrapper = host.Services.GetRequiredService<SupportWrapper>();
```

```
        Console.WriteLine(new string('-', 80));
        Console.WriteLine("Welcome to the AWS Support case example scenario.");
        Console.WriteLine(new string('-', 80));

        try
        {
            var apiSupported = await _supportWrapper.VerifySubscription();
            if (!apiSupported)
            {
                logger.LogError("You must have a Business, Enterprise On-Ramp, or
Enterprise Support " +
                                "plan to use the AWS Support API. \n\tPlease
upgrade your subscription to run these examples.");
                return;
            }

            var service = await DisplayAndSelectServices();

            var category = DisplayAndSelectCategories(service);

            var severityLevel = await DisplayAndSelectSeverity();

            var caseId = await CreateSupportCase(service, category,
severityLevel);

            await DescribeTodayOpenCases();

            var attachmentSetId = await CreateAttachmentSet();

            await AddCommunicationToCase(attachmentSetId, caseId);

            var attachmentId = await ListCommunicationsForCase(caseId);

            await DescribeCaseAttachment(attachmentId);

            await ResolveCase(caseId);

            await DescribeTodayResolvedCases();

            Console.WriteLine(new string('-', 80));
            Console.WriteLine("AWS Support case example scenario complete.");
            Console.WriteLine(new string('-', 80));
        }
```

```
        catch (Exception ex)
        {
            logger.LogError(ex, "There was a problem executing the scenario.");
        }
    }

    /// <summary>
    /// List some available services from AWS Support, and select a service for
the example.
    /// </summary>
    /// <returns>The selected service.</returns>
    private static async Task<Service> DisplayAndSelectServices()
    {
        Console.WriteLine(new string('-', 80));
        var services = await _supportWrapper.DescribeServices();
        Console.WriteLine($"AWS Support client returned {services.Count}
services.");

        Console.WriteLine($"1. Displaying first 10 services:");
        for (int i = 0; i < 10 && i < services.Count; i++)
        {
            Console.WriteLine($"\t{i + 1}. {services[i].Name}");
        }

        var choiceNumber = 0;
        while (choiceNumber < 1 || choiceNumber > services.Count)
        {
            Console.WriteLine(
                "Select an example support service by entering a number from the
preceding list:");
            var choice = Console.ReadLine();
            Int32.TryParse(choice, out choiceNumber);
        }
        Console.WriteLine(new string('-', 80));

        return services[choiceNumber - 1];
    }

    /// <summary>
    /// List the available categories for a service and select a category for the
example.
    /// </summary>
    /// <param name="service">Service to use for displaying categories.</param>
    /// <returns>The selected category.</returns>
```

```
    private static Category DisplayAndSelectCategories(Service service)
    {
        Console.WriteLine(new string('-', 80));

        Console.WriteLine($"2. Available support categories for Service
\"{service.Name}\":");
        for (int i = 0; i < service.Categories.Count; i++)
        {
            Console.WriteLine($"\t{i + 1}. {service.Categories[i].Name}");
        }

        var choiceNumber = 0;
        while (choiceNumber < 1 || choiceNumber > service.Categories.Count)
        {
            Console.WriteLine(
                "Select an example support category by entering a number from the
preceding list:");
            var choice = Console.ReadLine();
            Int32.TryParse(choice, out choiceNumber);
        }

        Console.WriteLine(new string('-', 80));

        return service.Categories[choiceNumber - 1];
    }

    /// <summary>
    /// List available severity levels from AWS Support, and select a level for
the example.
    /// </summary>
    /// <returns>The selected severity level.</returns>
    private static async Task<SeverityLevel> DisplayAndSelectSeverity()
    {
        Console.WriteLine(new string('-', 80));
        var severityLevels = await _supportWrapper.DescribeSeverityLevels();

        Console.WriteLine($"3. Get and display available severity levels:");
        for (int i = 0; i < 10 && i < severityLevels.Count; i++)
        {
            Console.WriteLine($"\t{i + 1}. {severityLevels[i].Name}");
        }

        var choiceNumber = 0;
        while (choiceNumber < 1 || choiceNumber > severityLevels.Count)
```

```
        {
            Console.WriteLine(
                "Select an example severity level by entering a number from the
preceding list:");
            var choice = Console.ReadLine();
            Int32.TryParse(choice, out choiceNumber);
        }
        Console.WriteLine(new string('-', 80));

        return severityLevels[choiceNumber - 1];
    }

    /// <summary>
    /// Create an example support case.
    /// </summary>
    /// <param name="service">Service to use for the new case.</param>
    /// <param name="category">Category to use for the new case.</param>
    /// <param name="severity">Severity to use for the new case.</param>
    /// <returns>The caseId of the new support case.</returns>
    private static async Task<string> CreateSupportCase(Service service,
        Category category, SeverityLevel severity)
    {
        Console.WriteLine(new string('-', 80));
        Console.WriteLine($"4. Create an example support case" +
                          $" with the following settings:" +
                          $" \n\tService: {service.Name}, Category:
{category.Name} " +
                          $"and Severity Level: {severity.Name}.");
        var caseId = await _supportWrapper.CreateCase(service.Code,
category.Code, severity.Code,
            "Example case for testing, ignore.", "This is my example support
case.");

        Console.WriteLine($"\tNew case created with ID {caseId}");

        Console.WriteLine(new string('-', 80));

        return caseId;
    }

    /// <summary>
    /// List open cases for the current day.
    /// </summary>
    /// <returns>Async task.</returns>
```

```
    private static async Task DescribeTodayOpenCases()
    {
        Console.WriteLine($"5. List the open support cases for the current
day.");
        // Describe the cases. If it is empty, try again and allow time for the
new case to appear.
        List<CaseDetails> currentOpenCases = null!;
        while (currentOpenCases == null || currentOpenCases.Count == 0)
        {
            Thread.Sleep(1000);
            currentOpenCases = await _supportWrapper.DescribeCases(
                new List<string>(),
                null,
                false,
                false,
                DateTime.UtcNow.Date,
                DateTime.UtcNow);
        }

        foreach (var openCase in currentOpenCases)
        {
            Console.WriteLine($"\tCase: {openCase.CaseId} created
{openCase.TimeCreated}");
        }

        Console.WriteLine(new string('-', 80));
    }

    /// <summary>
    /// Create an attachment set for a support case.
    /// </summary>
    /// <returns>The attachment set id.</returns>
    private static async Task<string> CreateAttachmentSet()
    {
        Console.WriteLine(new string('-', 80));
        Console.WriteLine($"6. Create an attachment set for a support case.");
        var fileName = "example_attachment.txt";

        // Create the file if it does not already exist.
        if (!File.Exists(fileName))
        {
            await using StreamWriter sw = File.CreateText(fileName);
            await sw.WriteLineAsync(
                "This is a sample file for attachment to a support case.");
```

```
        }

        await using var ms = new MemoryStream(await
 File.ReadAllBytesAsync(fileName));

        var attachmentSetId = await _supportWrapper.AddAttachmentToSet(
            ms,
            fileName);

        Console.WriteLine($"\tNew attachment set created with id: \n
\t{attachmentSetId.Substring(0, 65)}...");

        Console.WriteLine(new string('-', 80));

        return attachmentSetId;
    }

    /// <summary>
    /// Add an attachment set and communication to a case.
    /// </summary>
    /// <param name="attachmentSetId">Id of the attachment set.</param>
    /// <param name="caseId">Id of the case to receive the attachment set.</
param>
    /// <returns>Async task.</returns>
    private static async Task AddCommunicationToCase(string attachmentSetId,
 string caseId)
    {
        Console.WriteLine(new string('-', 80));
        Console.WriteLine($"7. Add attachment set and communication to
 {caseId}.");

        await _supportWrapper.AddCommunicationToCase(
            caseId,
            "This is an example communication added to a support case.",
            attachmentSetId);

        Console.WriteLine($"\tNew attachment set and communication added to
 {caseId}");

        Console.WriteLine(new string('-', 80));
    }

    /// <summary>
    /// List the communications for a case.
```

```
    /// </summary>
    /// <param name="caseId">Id of the case to describe.</param>
    /// <returns>An attachment id.</returns>
    private static async Task<string> ListCommunicationsForCase(string caseId)
    {
        Console.WriteLine(new string('-', 80));
        Console.WriteLine($"8. List communications for case {caseId}.");

        var communications = await
_supportWrapper.DescribeCommunications(caseId);
        var attachmentId = "";
        foreach (var communication in communications)
        {
            Console.WriteLine(
                $"\tCommunication created on: {communication.TimeCreated} has
{communication.AttachmentSet.Count} attachments.");
            if (communication.AttachmentSet.Any())
            {
                attachmentId = communication.AttachmentSet.First().AttachmentId;
            }
        }

        Console.WriteLine(new string('-', 80));
        return attachmentId;
    }

    /// <summary>
    /// Describe an attachment by id.
    /// </summary>
    /// <param name="attachmentId">Id of the attachment to describe.</param>
    /// <returns>Async task.</returns>
    private static async Task DescribeCaseAttachment(string attachmentId)
    {
        Console.WriteLine(new string('-', 80));
        Console.WriteLine($"9. Describe the attachment set.");

        var attachment = await _supportWrapper.DescribeAttachment(attachmentId);
        var data = Encoding.ASCII.GetString(attachment.Data.ToArray());
        Console.WriteLine($"\tAttachment includes {attachment.FileName} with
data: \n\t{data}");

        Console.WriteLine(new string('-', 80));
    }
```

```
    /// <summary>
    /// Resolve the support case.
    /// </summary>
    /// <param name="caseId">Id of the case to resolve.</param>
    /// <returns>Async task.</returns>
    private static async Task ResolveCase(string caseId)
    {
        Console.WriteLine(new string('-', 80));
        Console.WriteLine($"10. Resolve case {caseId}.");

        var status = await _supportWrapper.ResolveCase(caseId);
        Console.WriteLine($"\tCase {caseId} has final status {status}");

        Console.WriteLine(new string('-', 80));
    }

    /// <summary>
    /// List resolved cases for the current day.
    /// </summary>
    /// <returns>Async Task.</returns>
    private static async Task DescribeTodayResolvedCases()
    {
        Console.WriteLine(new string('-', 80));
        Console.WriteLine($"11. List the resolved support cases for the current
day.");
        var currentCases = await _supportWrapper.DescribeCases(
            new List<string>(),
            null,
            false,
            true,
            DateTime.UtcNow.Date,
            DateTime.UtcNow);

        foreach (var currentCase in currentCases)
        {
            if (currentCase.Status == "resolved")
            {
                Console.WriteLine(
                    $"\tCase: {currentCase.CaseId}: status
{currentCase.Status}");
            }
        }

        Console.WriteLine(new string('-', 80));
```

```
    }
}
```

Wrapper methods used by the scenario for AWS Support actions.

```
/// <summary>
/// Wrapper methods to use AWS Support for working with support cases.
/// </summary>
public class SupportWrapper
{
    private readonly IAmazonAWSSupport _amazonSupport;
    public SupportWrapper(IAmazonAWSSupport amazonSupport)
    {
        _amazonSupport = amazonSupport;
    }


    /// <summary>
    /// Get the descriptions of AWS services.
    /// </summary>
    /// <param name="name">Optional language for services.
    /// Currently Chinese (“zh”), English ("en"), Japanese ("ja") and Korean
 (“ko”) are supported.</param>
    /// <returns>The list of AWS service descriptions.</returns>
    public async Task<List<Service>> DescribeServices(string language = "en")
    {
        var response = await _amazonSupport.DescribeServicesAsync(
            new DescribeServicesRequest()
            {
                Language = language
            });
        return response.Services;
    }



    /// <summary>
    /// Get the descriptions of support severity levels.
    /// </summary>
    /// <param name="name">Optional language for severity levels.
```

```
   /// Currently Chinese (“zh”), English ("en"), Japanese ("ja") and Korean
(“ko”) are supported.</param>
   /// <returns>The list of support severity levels.</returns>
   public async Task<List<SeverityLevel>> DescribeSeverityLevels(string language
= "en")
   {
       var response = await _amazonSupport.DescribeSeverityLevelsAsync(
           new DescribeSeverityLevelsRequest()
           {
               Language = language
           });
       return response.SeverityLevels;
   }



   /// <summary>
   /// Create a new support case.
   /// </summary>
   /// <param name="serviceCode">Service code for the new case.</param>
   /// <param name="categoryCode">Category for the new case.</param>
   /// <param name="severityCode">Severity code for the new case.</param>
   /// <param name="subject">Subject of the new case.</param>
   /// <param name="body">Body text of the new case.</param>
   /// <param name="language">Optional language support for your case.
   /// Currently Chinese (“zh”), English ("en"), Japanese ("ja") and Korean
(“ko”) are supported.</param>
   /// <param name="attachmentSetId">Optional Id for an attachment set for the
new case.</param>
   /// <param name="issueType">Optional issue type for the new case. Options are
"customer-service" or "technical".</param>
   /// <returns>The caseId of the new support case.</returns>
   public async Task<string> CreateCase(string serviceCode, string categoryCode,
string severityCode, string subject,
       string body, string language = "en", string? attachmentSetId = null,
string issueType = "customer-service")
   {
       var response = await _amazonSupport.CreateCaseAsync(
           new CreateCaseRequest()
           {
               ServiceCode = serviceCode,
               CategoryCode = categoryCode,
               SeverityCode = severityCode,
               Subject = subject,
```

```
                Language = language,
                AttachmentSetId = attachmentSetId,
                IssueType = issueType,
                CommunicationBody = body
            });
        return response.CaseId;
    }



    /// <summary>
    /// Add an attachment to a set, or create a new attachment set if one does
not exist.
    /// </summary>
    /// <param name="data">The data for the attachment.</param>
    /// <param name="fileName">The file name for the attachment.</param>
    /// <param name="attachmentSetId">Optional setId for the attachment. Creates
a new attachment set if empty.</param>
    /// <returns>The setId of the attachment.</returns>
    public async Task<string> AddAttachmentToSet(MemoryStream data, string
fileName, string? attachmentSetId = null)
    {
        var response = await _amazonSupport.AddAttachmentsToSetAsync(
            new AddAttachmentsToSetRequest
            {
                AttachmentSetId = attachmentSetId,
                Attachments = new List<Attachment>
                {
                    new Attachment
                    {
                        Data = data,
                        FileName = fileName
                    }
                }
            });
        return response.AttachmentSetId;
    }



    /// <summary>
    /// Get description of a specific attachment.
    /// </summary>
```

```
    /// <param name="attachmentId">Id of the attachment, usually fetched by
 describing the communications of a case.</param>
    /// <returns>The attachment object.</returns>
    public async Task<Attachment> DescribeAttachment(string attachmentId)
    {
        var response = await _amazonSupport.DescribeAttachmentAsync(
            new DescribeAttachmentRequest()
            {
                AttachmentId = attachmentId
            });
        return response.Attachment;
    }



    /// <summary>
    /// Add communication to a case, including optional attachment set ID and CC
 email addresses.
    /// </summary>
    /// <param name="caseId">Id for the support case.</param>
    /// <param name="body">Body text of the communication.</param>
    /// <param name="attachmentSetId">Optional Id for an attachment set.</param>
    /// <param name="ccEmailAddresses">Optional list of CC email addresses.</
param>
    /// <returns>True if successful.</returns>
    public async Task<bool> AddCommunicationToCase(string caseId, string body,
        string? attachmentSetId = null, List<string>? ccEmailAddresses = null)
    {
        var response = await _amazonSupport.AddCommunicationToCaseAsync(
            new AddCommunicationToCaseRequest()
            {
                CaseId = caseId,
                CommunicationBody = body,
                AttachmentSetId = attachmentSetId,
                CcEmailAddresses = ccEmailAddresses
            });
        return response.Result;
    }



    /// <summary>
    /// Describe the communications for a case, optionally with a date filter.
    /// </summary>
```

```
    /// <param name="caseId">The ID of the support case.</param>
    /// <param name="afterTime">The optional start date for a filtered search.</
param>
    /// <param name="beforeTime">The optional end date for a filtered search.</
param>
    /// <returns>The list of communications for the case.</returns>
    public async Task<List<Communication>> DescribeCommunications(string caseId,
 DateTime? afterTime = null, DateTime? beforeTime = null)
    {
        var results = new List<Communication>();
        var paginateCommunications =
 _amazonSupport.Paginators.DescribeCommunications(
            new DescribeCommunicationsRequest()
            {
                CaseId = caseId,
                AfterTime = afterTime?.ToString("s"),
                BeforeTime = beforeTime?.ToString("s")
            });
        // Get the entire list using the paginator.
        await foreach (var communications in
 paginateCommunications.Communications)
        {
            results.Add(communications);
        }
        return results;
    }



    /// <summary>
    /// Get case details for a list of case ids, optionally with date filters.
    /// </summary>
    /// <param name="caseIds">The list of case IDs.</param>
    /// <param name="displayId">Optional display ID.</param>
    /// <param name="includeCommunication">True to include communication.
 Defaults to true.</param>
    /// <param name="includeResolvedCases">True to include resolved cases.
 Defaults to false.</param>
    /// <param name="afterTime">The optional start date for a filtered search.</
param>
    /// <param name="beforeTime">The optional end date for a filtered search.</
param>
    /// <param name="language">Optional language support for your case.
```

```
    /// Currently Chinese (“zh”), English ("en"), Japanese ("ja") and Korean
(“ko”) are supported.</param>
    /// <returns>A list of CaseDetails.</returns>
    public async Task<List<CaseDetails>> DescribeCases(List<string> caseIds,
string? displayId = null, bool includeCommunication = true,
        bool includeResolvedCases = false, DateTime? afterTime = null, DateTime?
beforeTime = null,
        string language = "en")
    {
        var results = new List<CaseDetails>();
        var paginateCases = _amazonSupport.Paginators.DescribeCases(
            new DescribeCasesRequest()
            {
                CaseIdList = caseIds,
                DisplayId = displayId,
                IncludeCommunications = includeCommunication,
                IncludeResolvedCases = includeResolvedCases,
                AfterTime = afterTime?.ToString("s"),
                BeforeTime = beforeTime?.ToString("s"),
                Language = language
            });
        // Get the entire list using the paginator.
        await foreach (var cases in paginateCases.Cases)
        {
            results.Add(cases);
        }
        return results;
    }



    /// <summary>
    /// Resolve a support case by caseId.
    /// </summary>
    /// <param name="caseId">Id for the support case.</param>
    /// <returns>The final status of the case after resolving.</returns>
    public async Task<string> ResolveCase(string caseId)
    {
        var response = await _amazonSupport.ResolveCaseAsync(
            new ResolveCaseRequest()
            {
                CaseId = caseId
            });
        return response.FinalCaseStatus;
```

```
    }


    /// <summary>
    /// Verify the support level for AWS Support API access.
    /// </summary>
    /// <returns>True if the subscription level supports API access.</returns>
    public async Task<bool> VerifySubscription()
    {
        try
        {
            var response = await _amazonSupport.DescribeServicesAsync(
                new DescribeServicesRequest()
                {
                    Language = "en"
                });
            return response.HttpStatusCode == HttpStatusCode.OK;
        }
        catch (Amazon.AWSSupport.AmazonAWSSupportException ex)
        {
            if (ex.ErrorCode == "SubscriptionRequiredException")
            {
                return false;
            }
            else throw;
        }
    }
}
```

- For API details, see the following topics in *AWS SDK for .NET API Reference*.
  - AddAttachmentsToSet
  - AddCommunicationToCase
  - CreateCase
  - DescribeAttachment
  - DescribeCases
  - DescribeCommunications
  - DescribeServices
  - DescribeSeverityLevels
  - ResolveCase

Java

SDK for Java 2.x

> **Note**
>
> There's more on GitHub. Find the complete example and learn how to set up and run in the AWS Code Examples Repository.

Run various AWS Support operations.

```
import software.amazon.awssdk.core.SdkBytes;
import software.amazon.awssdk.regions.Region;
import software.amazon.awssdk.services.support.SupportClient;
import software.amazon.awssdk.services.support.model.AddAttachmentsToSetResponse;
import
 software.amazon.awssdk.services.support.model.AddCommunicationToCaseRequest;
import
 software.amazon.awssdk.services.support.model.AddCommunicationToCaseResponse;
import software.amazon.awssdk.services.support.model.Attachment;
import software.amazon.awssdk.services.support.model.AttachmentDetails;
import software.amazon.awssdk.services.support.model.CaseDetails;
import software.amazon.awssdk.services.support.model.Category;
import software.amazon.awssdk.services.support.model.Communication;
import software.amazon.awssdk.services.support.model.CreateCaseRequest;
import software.amazon.awssdk.services.support.model.CreateCaseResponse;
import software.amazon.awssdk.services.support.model.DescribeAttachmentRequest;
import software.amazon.awssdk.services.support.model.DescribeAttachmentResponse;
import software.amazon.awssdk.services.support.model.DescribeCasesRequest;
import software.amazon.awssdk.services.support.model.DescribeCasesResponse;
import
 software.amazon.awssdk.services.support.model.DescribeCommunicationsRequest;
import
 software.amazon.awssdk.services.support.model.DescribeCommunicationsResponse;
import software.amazon.awssdk.services.support.model.DescribeServicesRequest;
import software.amazon.awssdk.services.support.model.DescribeServicesResponse;
import
 software.amazon.awssdk.services.support.model.DescribeSeverityLevelsRequest;
import
 software.amazon.awssdk.services.support.model.DescribeSeverityLevelsResponse;
import software.amazon.awssdk.services.support.model.ResolveCaseRequest;
import software.amazon.awssdk.services.support.model.ResolveCaseResponse;
```

```
import software.amazon.awssdk.services.support.model.Service;
import software.amazon.awssdk.services.support.model.SeverityLevel;
import software.amazon.awssdk.services.support.model.SupportException;
import software.amazon.awssdk.services.support.model.AddAttachmentsToSetRequest;
import java.io.File;
import java.io.FileInputStream;
import java.io.FileNotFoundException;
import java.io.InputStream;
import java.time.Instant;
import java.time.temporal.ChronoUnit;
import java.util.ArrayList;
import java.util.List;

/**
 * Before running this Java (v2) code example, set up your development
 * environment, including your credentials.
 *
 * For more information, see the following documentation topic:
 *
 * https://docs.aws.amazon.com/sdk-for-java/latest/developer-guide/get-
started.html
 *
 * In addition, you must have the AWS Business Support Plan to use the AWS
 * Support Java API. For more information, see:
 *
 * https://aws.amazon.com/premiumsupport/plans/
 *
 * This Java example performs the following tasks:
 *
 * 1. Gets and displays available services.
 * 2. Gets and displays severity levels.
 * 3. Creates a support case by using the selected service, category, and
 * severity level.
 * 4. Gets a list of open cases for the current day.
 * 5. Creates an attachment set with a generated file.
 * 6. Adds a communication with the attachment to the support case.
 * 7. Lists the communications of the support case.
 * 8. Describes the attachment set included with the communication.
 * 9. Resolves the support case.
 * 10. Gets a list of resolved cases for the current day.
 */
public class SupportScenario {
```

```
   public static final String DASHES = new String(new char[80]).replace("\0",
"-");

   public static void main(String[] args) {
       final String usage = """

               Usage:
                   <fileAttachment>Where:
                   fileAttachment - The file can be a simple saved .txt file to
use as an email attachment.\s
               """;

       if (args.length != 1) {
           System.out.println(usage);
           System.exit(1);
       }

       String fileAttachment = args[0];
       Region region = Region.US_WEST_2;
       SupportClient supportClient = SupportClient.builder()
               .region(region)
               .build();

       System.out.println(DASHES);
       System.out.println("***** Welcome to the AWS Support case example
scenario.");
       System.out.println(DASHES);

       System.out.println(DASHES);
       System.out.println("1. Get and display available services.");
       List<String> sevCatList = displayServices(supportClient);
       System.out.println(DASHES);

       System.out.println(DASHES);
       System.out.println("2. Get and display Support severity levels.");
       String sevLevel = displaySevLevels(supportClient);
       System.out.println(DASHES);

       System.out.println(DASHES);
       System.out.println("3. Create a support case using the selected service,
category, and severity level.");
       String caseId = createSupportCase(supportClient, sevCatList, sevLevel);
       if (caseId.compareTo("") == 0) {
           System.out.println("A support case was not successfully created!");
```

```
            System.exit(1);
        } else
            System.out.println("Support case " + caseId + " was successfully
created!");
        System.out.println(DASHES);

        System.out.println(DASHES);
        System.out.println("4. Get open support cases.");
        getOpenCase(supportClient);
        System.out.println(DASHES);

        System.out.println(DASHES);
        System.out.println("5. Create an attachment set with a generated file to
add to the case.");
        String attachmentSetId = addAttachment(supportClient, fileAttachment);
        System.out.println("The Attachment Set id value is" + attachmentSetId);
        System.out.println(DASHES);

        System.out.println(DASHES);
        System.out.println("6. Add communication with the attachment to the
support case.");
        addAttachSupportCase(supportClient, caseId, attachmentSetId);
        System.out.println(DASHES);

        System.out.println(DASHES);
        System.out.println("7. List the communications of the support case.");
        String attachId = listCommunications(supportClient, caseId);
        System.out.println("The Attachment id value is" + attachId);
        System.out.println(DASHES);

        System.out.println(DASHES);
        System.out.println("8. Describe the attachment set included with the
communication.");
        describeAttachment(supportClient, attachId);
        System.out.println(DASHES);

        System.out.println(DASHES);
        System.out.println("9. Resolve the support case.");
        resolveSupportCase(supportClient, caseId);
        System.out.println(DASHES);

        System.out.println(DASHES);
        System.out.println("10. Get a list of resolved cases for the current
day.");
```

```
        getResolvedCase(supportClient);
        System.out.println(DASHES);

        System.out.println(DASHES);
        System.out.println("***** This Scenario has successfully completed");
        System.out.println(DASHES);
    }

    public static void getResolvedCase(SupportClient supportClient) {
        try {
            // Specify the start and end time.
            Instant now = Instant.now();
            java.time.LocalDate.now();
            Instant yesterday = now.minus(1, ChronoUnit.DAYS);

            DescribeCasesRequest describeCasesRequest =
DescribeCasesRequest.builder()
                    .maxResults(30)
                    .afterTime(yesterday.toString())
                    .beforeTime(now.toString())
                    .includeResolvedCases(true)
                    .build();

            DescribeCasesResponse response =
supportClient.describeCases(describeCasesRequest);
            List<CaseDetails> cases = response.cases();
            for (CaseDetails sinCase : cases) {
                if (sinCase.status().compareTo("resolved") == 0)
                    System.out.println("The case status is " + sinCase.status());
            }

        } catch (SupportException e) {
            System.out.println(e.getLocalizedMessage());
            System.exit(1);
        }
    }

    public static void resolveSupportCase(SupportClient supportClient, String
caseId) {
        try {
            ResolveCaseRequest caseRequest = ResolveCaseRequest.builder()
                    .caseId(caseId)
                    .build();
```

```
            ResolveCaseResponse response =
supportClient.resolveCase(caseRequest);
            System.out.println("The status of case " + caseId + " is " +
response.finalCaseStatus());

        } catch (SupportException e) {
            System.out.println(e.getLocalizedMessage());
            System.exit(1);
        }
    }

    public static void describeAttachment(SupportClient supportClient, String
attachId) {
        try {
            DescribeAttachmentRequest attachmentRequest =
DescribeAttachmentRequest.builder()
                    .attachmentId(attachId)
                    .build();

            DescribeAttachmentResponse response =
supportClient.describeAttachment(attachmentRequest);
            System.out.println("The name of the file is " +
response.attachment().fileName());

        } catch (SupportException e) {
            System.out.println(e.getLocalizedMessage());
            System.exit(1);
        }
    }

    public static String listCommunications(SupportClient supportClient, String
caseId) {
        try {
            String attachId = null;
            DescribeCommunicationsRequest communicationsRequest =
DescribeCommunicationsRequest.builder()
                    .caseId(caseId)
                    .maxResults(10)
                    .build();

            DescribeCommunicationsResponse response =
supportClient.describeCommunications(communicationsRequest);
            List<Communication> communications = response.communications();
            for (Communication comm : communications) {
```

```
                System.out.println("the body is: " + comm.body());

                // Get the attachment id value.
                List<AttachmentDetails> attachments = comm.attachmentSet();
                for (AttachmentDetails detail : attachments) {
                    attachId = detail.attachmentId();
                }
            }
            return attachId;

        } catch (SupportException e) {
            System.out.println(e.getLocalizedMessage());
            System.exit(1);
        }
        return "";
    }

    public static void addAttachSupportCase(SupportClient supportClient, String
caseId, String attachmentSetId) {
        try {
            AddCommunicationToCaseRequest caseRequest =
AddCommunicationToCaseRequest.builder()
                    .caseId(caseId)
                    .attachmentSetId(attachmentSetId)
                    .communicationBody("Please refer to attachment for details.")
                    .build();

            AddCommunicationToCaseResponse response =
supportClient.addCommunicationToCase(caseRequest);
            if (response.result())
                System.out.println("You have successfully added a communication
to an AWS Support case");
            else
                System.out.println("There was an error adding the communication
to an AWS Support case");

        } catch (SupportException e) {
            System.out.println(e.getLocalizedMessage());
            System.exit(1);
        }
    }

    public static String addAttachment(SupportClient supportClient, String
fileAttachment) {
```

```
        try {
            File myFile = new File(fileAttachment);
            InputStream sourceStream = new FileInputStream(myFile);
            SdkBytes sourceBytes = SdkBytes.fromInputStream(sourceStream);

            Attachment attachment = Attachment.builder()
                    .fileName(myFile.getName())
                    .data(sourceBytes)
                    .build();

            AddAttachmentsToSetRequest setRequest =
AddAttachmentsToSetRequest.builder()
                    .attachments(attachment)
                    .build();

            AddAttachmentsToSetResponse response =
supportClient.addAttachmentsToSet(setRequest);
            return response.attachmentSetId();

        } catch (SupportException | FileNotFoundException e) {
            System.out.println(e.getLocalizedMessage());
            System.exit(1);
        }
        return "";
    }

    public static void getOpenCase(SupportClient supportClient) {
        try {
            // Specify the start and end time.
            Instant now = Instant.now();
            java.time.LocalDate.now();
            Instant yesterday = now.minus(1, ChronoUnit.DAYS);

            DescribeCasesRequest describeCasesRequest =
DescribeCasesRequest.builder()
                    .maxResults(20)
                    .afterTime(yesterday.toString())
                    .beforeTime(now.toString())
                    .build();

            DescribeCasesResponse response =
supportClient.describeCases(describeCasesRequest);
            List<CaseDetails> cases = response.cases();
            for (CaseDetails sinCase : cases) {
```

```
                System.out.println("The case status is " + sinCase.status());
                System.out.println("The case Id is " + sinCase.caseId());
                System.out.println("The case subject is " + sinCase.subject());
            }

        } catch (SupportException e) {
            System.out.println(e.getLocalizedMessage());
            System.exit(1);
        }
    }

    public static String createSupportCase(SupportClient supportClient,
List<String> sevCatList, String sevLevel) {
        try {
            String serviceCode = sevCatList.get(0);
            String caseCat = sevCatList.get(1);
            CreateCaseRequest caseRequest = CreateCaseRequest.builder()
                    .categoryCode(caseCat.toLowerCase())
                    .serviceCode(serviceCode.toLowerCase())
                    .severityCode(sevLevel.toLowerCase())
                    .communicationBody("Test issue with " +
serviceCode.toLowerCase())
                    .subject("Test case, please ignore")
                    .language("en")
                    .issueType("technical")
                    .build();

            CreateCaseResponse response = supportClient.createCase(caseRequest);
            return response.caseId();

        } catch (SupportException e) {
            System.out.println(e.getLocalizedMessage());
            System.exit(1);
        }
        return "";
    }

    public static String displaySevLevels(SupportClient supportClient) {
        try {
            DescribeSeverityLevelsRequest severityLevelsRequest =
DescribeSeverityLevelsRequest.builder()
                    .language("en")
                    .build();
```

```
            DescribeSeverityLevelsResponse response =
supportClient.describeSeverityLevels(severityLevelsRequest);
            List<SeverityLevel> severityLevels = response.severityLevels();
            String levelName = null;
            for (SeverityLevel sevLevel : severityLevels) {
                System.out.println("The severity level name is: " +
sevLevel.name());
                if (sevLevel.name().compareTo("High") == 0)
                    levelName = sevLevel.name();
            }
            return levelName;

        } catch (SupportException e) {
            System.out.println(e.getLocalizedMessage());
            System.exit(1);
        }
        return "";
    }

    // Return a List that contains a Service name and Category name.
    public static List<String> displayServices(SupportClient supportClient) {
        try {
            DescribeServicesRequest servicesRequest =
DescribeServicesRequest.builder()
                    .language("en")
                    .build();

            DescribeServicesResponse response =
supportClient.describeServices(servicesRequest);
            String serviceCode = null;
            String catName = null;
            List<String> sevCatList = new ArrayList<>();
            List<Service> services = response.services();

            System.out.println("Get the first 10 services");
            int index = 1;
            for (Service service : services) {
                if (index == 11)
                    break;

                System.out.println("The Service name is: " + service.name());
                if (service.name().compareTo("Account") == 0)
                    serviceCode = service.code();
```

```
                // Get the Categories for this service.
                List<Category> categories = service.categories();
                for (Category cat : categories) {
                    System.out.println("The category name is: " + cat.name());
                    if (cat.name().compareTo("Security") == 0)
                        catName = cat.name();
                }
                index++;
            }

            // Push the two values to the list.
            sevCatList.add(serviceCode);
            sevCatList.add(catName);
            return sevCatList;

        } catch (SupportException e) {
            System.out.println(e.getLocalizedMessage());
            System.exit(1);
        }
        return null;
    }
}
```

- For API details, see the following topics in *AWS SDK for Java 2.x API Reference*.
  - AddAttachmentsToSet
  - AddCommunicationToCase
  - CreateCase
  - DescribeAttachment
  - DescribeCases
  - DescribeCommunications
  - DescribeServices
  - DescribeSeverityLevels
  - ResolveCase

JavaScript

SDK for JavaScript (v3)

> **Note**
>
> There's more on GitHub. Find the complete example and learn how to set up and run in the AWS Code Examples Repository.

Run an interactive scenario in the terminal.

```
import {
  AddAttachmentsToSetCommand,
  AddCommunicationToCaseCommand,
  CreateCaseCommand,
  DescribeAttachmentCommand,
  DescribeCasesCommand,
  DescribeCommunicationsCommand,
  DescribeServicesCommand,
  DescribeSeverityLevelsCommand,
  ResolveCaseCommand,
  SupportClient,
} from "@aws-sdk/client-support";
import * as inquirer from "@inquirer/prompts";
import { retry } from "@aws-doc-sdk-examples/lib/utils/util-timers.js";

const wrapText = (text, char = "=") => {
  const rule = char.repeat(80);
  return `${rule}\n    ${text}\n${rule}\n`;
};

const client = new SupportClient({ region: "us-east-1" });

// Verify that the account has a Support plan.
export const verifyAccount = async () => {
  const command = new DescribeServicesCommand({});

  try {
    await client.send(command);
  } catch (err) {
    if (err.name === "SubscriptionRequiredException") {
      throw new Error(
```

```
        "You must be subscribed to the AWS Support plan to use this feature.",
      );
    } else {
      throw err;
    }
  }
};

/**
 * Select a service from the list returned from DescribeServices.
 */
export const getService = async () => {
  const { services } = await client.send(new DescribeServicesCommand({}));
  const selectedService = await inquirer.select({
    message:
      "Select a service. Your support case will be created for this service. The
 list of services is truncated for readability.",
    choices: services.slice(0, 10).map((s) => ({ name: s.name, value: s })),
  });
  return selectedService;
};

/**
 * @param {{ categories: import('@aws-sdk/client-support').Category[]}} service
 */
export const getCategory = async (service) => {
  const selectedCategory = await inquirer.select({
    message: "Select a category.",
    choices: service.categories.map((c) => ({ name: c.name, value: c })),
  });
  return selectedCategory;
};

// Get the available severity levels for the account.
export const getSeverityLevel = async () => {
  const command = new DescribeSeverityLevelsCommand({});
  const { severityLevels } = await client.send(command);
  const selectedSeverityLevel = await inquirer.select({
    message: "Select a severity level.",
    choices: severityLevels.map((s) => ({ name: s.name, value: s })),
  });
  return selectedSeverityLevel;
};
```

```
/**
 * Create a new support case
 * @param {{
 *  selectedService: import('@aws-sdk/client-support').Service
 *  selectedCategory: import('@aws-sdk/client-support').Category
 *  selectedSeverityLevel: import('@aws-sdk/client-support').SeverityLevel
 * }} selections
 * @returns
 */
export const createCase = async ({
  selectedService,
  selectedCategory,
  selectedSeverityLevel,
}) => {
  const command = new CreateCaseCommand({
    subject: "IGNORE: Test case",
    communicationBody: "This is a test. Please ignore.",
    serviceCode: selectedService.code,
    categoryCode: selectedCategory.code,
    severityCode: selectedSeverityLevel.code,
  });
  const { caseId } = await client.send(command);
  return caseId;
};

// Get a list of open support cases created today.
export const getTodaysOpenCases = async () => {
  const d = new Date();
  const startOfToday = new Date(d.getFullYear(), d.getMonth(), d.getDate());
  const command = new DescribeCasesCommand({
    includeCommunications: false,
    afterTime: startOfToday.toISOString(),
  });

  const { cases } = await client.send(command);

  if (cases.length === 0) {
    throw new Error(
      "Unexpected number of cases. Expected more than 0 open cases.",
    );
  }
  return cases;
};
```

```
// Create an attachment set.
export const createAttachmentSet = async () => {
  const command = new AddAttachmentsToSetCommand({
    attachments: [
      {
        fileName: "example.txt",
        data: new TextEncoder().encode("some example text"),
      },
    ],
  });
  const { attachmentSetId } = await client.send(command);
  return attachmentSetId;
};

export const linkAttachmentSetToCase = async (attachmentSetId, caseId) => {
  const command = new AddCommunicationToCaseCommand({
    attachmentSetId,
    caseId,
    communicationBody: "Adding attachment set to case.",
  });
  await client.send(command);
};

// Get all communications for a support case.
export const getCommunications = async (caseId) => {
  const command = new DescribeCommunicationsCommand({
    caseId,
  });
  const { communications } = await client.send(command);
  return communications;
};

/**
 * @param {import('@aws-sdk/client-support').Communication[]} communications
 */
export const getFirstAttachment = (communications) => {
  const firstCommWithAttachment = communications.find(
    (c) => c.attachmentSet.length > 0,
  );
  return firstCommWithAttachment?.attachmentSet[0].attachmentId;
};

// Get an attachment.
export const getAttachment = async (attachmentId) => {
```

```
  const command = new DescribeAttachmentCommand({
    attachmentId,
  });
  const { attachment } = await client.send(command);
  return attachment;
};

// Resolve the case matching the given case ID.
export const resolveCase = async (caseId) => {
  const shouldResolve = await inquirer.confirm({
    message: `Do you want to resolve ${caseId}?`,
  });

  if (shouldResolve) {
    const command = new ResolveCaseCommand({
      caseId: caseId,
    });

    await client.send(command);
    return true;
  }
  return false;
};

/**
 * Find a specific case in the list of provided cases by case ID.
 * If the case is not found, and the results are paginated, continue
 * paging through the results.
 * @param {{
 *   caseId: string,
 *   cases: import('@aws-sdk/client-support').CaseDetails[]
 *   nextToken: string
 * }} options
 * @returns
 */
export const findCase = async ({ caseId, cases, nextToken }) => {
  const foundCase = cases.find((c) => c.caseId === caseId);

  if (foundCase) {
    return foundCase;
  }

  if (nextToken) {
    const response = await client.send(
```

```
      new DescribeCasesCommand({
        nextToken,
        includeResolvedCases: true,
      }),
    );
    return findCase({
      caseId,
      cases: response.cases,
      nextToken: response.nextToken,
    });
  }

  throw new Error(`${caseId} not found.`);
};

// Get all cases created today.
export const getTodaysResolvedCases = async (caseIdToWaitFor) => {
  const d = new Date("2023-01-18");
  const startOfToday = new Date(d.getFullYear(), d.getMonth(), d.getDate());
  const command = new DescribeCasesCommand({
    includeCommunications: false,
    afterTime: startOfToday.toISOString(),
    includeResolvedCases: true,
  });
  const { cases, nextToken } = await client.send(command);
  await findCase({ cases, caseId: caseIdToWaitFor, nextToken });
  return cases.filter((c) => c.status === "resolved");
};

const main = async () => {
  let caseId;
  try {
    console.log(wrapText("Welcome to the AWS Support basic usage scenario."));

    // Verify that the account is subscribed to support.
    await verifyAccount();

    // Provided a truncated list of services and prompt the user to select one.
    const selectedService = await getService();

    // Provided the categories for the selected service and prompt the user to
 select one.
    const selectedCategory = await getCategory(selectedService);
```

```
   // Provide the severity available severity levels for the account and prompt
the user to select one.
   const selectedSeverityLevel = await getSeverityLevel();

   // Create a support case.
   console.log("\nCreating a support case.");
   caseId = await createCase({
     selectedService,
     selectedCategory,
     selectedSeverityLevel,
   });
   console.log(`Support case created: ${caseId}`);

   // Display a list of open support cases created today.
   const todaysOpenCases = await retry(
     { intervalInMs: 1000, maxRetries: 15 },
     getTodaysOpenCases,
   );
   console.log(
     `\nOpen support cases created today: ${todaysOpenCases.length}`,
   );
   console.log(todaysOpenCases.map((c) => `${c.caseId}`).join("\n"));

   // Create an attachment set.
   console.log("\nCreating an attachment set.");
   const attachmentSetId = await createAttachmentSet();
   console.log(`Attachment set created: ${attachmentSetId}`);

   // Add the attachment set to the support case.
   console.log(`\nAdding attachment set to ${caseId}`);
   await linkAttachmentSetToCase(attachmentSetId, caseId);
   console.log(`Attachment set added to ${caseId}`);

   // List the communications for a support case.
   console.log(`\nListing communications for ${caseId}`);
   const communications = await getCommunications(caseId);
   console.log(
     communications
       .map(
         (c) =>
           `Communication created on ${c.timeCreated}. Has
${c.attachmentSet.length} attachments.`,
       )
       .join("\n"),
```

```
    );

    // Describe the first attachment.
    console.log(`\nDescribing attachment ${attachmentSetId}`);
    const attachmentId = getFirstAttachment(communications);
    const attachment = await getAttachment(attachmentId);
    console.log(
      `Attachment is the file '${
        attachment.fileName
      }' with data: \n${new TextDecoder().decode(attachment.data)}`,
    );

    // Confirm that the support case should be resolved.
    const isResolved = await resolveCase(caseId);
    if (isResolved) {
      // List the resolved cases and include the one previously created.
      // Resolved cases can take a while to appear.
      console.log(
        "\nWaiting for case status to be marked as resolved. This can take some
 time.",
      );
      const resolvedCases = await retry(
        { intervalInMs: 20000, maxRetries: 15 },
        () => getTodaysResolvedCases(caseId),
      );
      console.log("Resolved cases:");
      console.log(resolvedCases.map((c) => c.caseId).join("\n"));
    }
  } catch (err) {
    console.error(err);
  }
};
```

- For API details, see the following topics in *AWS SDK for JavaScript API Reference*.
  - AddAttachmentsToSet
  - AddCommunicationToCase
  - CreateCase
  - DescribeAttachment
  - DescribeCases
  - DescribeCommunications

- DescribeServices
- DescribeSeverityLevels
- ResolveCase

Kotlin

SDK for Kotlin

> **Note**
>
> There's more on GitHub. Find the complete example and learn how to set up and run in the AWS Code Examples Repository.

```
/**
Before running this Kotlin code example, set up your development environment,
including your credentials.

For more information, see the following documentation topic:

https://docs.aws.amazon.com/sdk-for-kotlin/latest/developer-guide/setup.html
In addition, you must have the AWS Business Support Plan to use the AWS Support
 Java API. For more information, see:

https://aws.amazon.com/premiumsupport/plans/

This Kotlin example performs the following tasks:
1. Gets and displays available services.
2. Gets and displays severity levels.
3. Creates a support case by using the selected service, category, and severity
 level.
4. Gets a list of open cases for the current day.
5. Creates an attachment set with a generated file.
6. Adds a communication with the attachment to the support case.
7. Lists the communications of the support case.
8. Describes the attachment set included with the communication.
9. Resolves the support case.
10. Gets a list of resolved cases for the current day.
*/
```

```
suspend fun main(args: Array<String>) {
    val usage = """
    Usage:
        <fileAttachment>
    Where:
         fileAttachment - The file can be a simple saved .txt file to use as an
 email attachment.
    """

    if (args.size != 1) {
        println(usage)
        exitProcess(0)
    }

    val fileAttachment = args[0]
    println("***** Welcome to the AWS Support case example scenario.")
    println("***** Step 1. Get and display available services.")
    val sevCatList = displayServices()

    println("***** Step 2. Get and display Support severity levels.")
    val sevLevel = displaySevLevels()

    println("***** Step 3. Create a support case using the selected service,
 category, and severity level.")
    val caseIdVal = createSupportCase(sevCatList, sevLevel)
    if (caseIdVal != null) {
        println("Support case $caseIdVal was successfully created!")
    } else {
        println("A support case was not successfully created!")
        exitProcess(1)
    }

    println("***** Step 4. Get open support cases.")
    getOpenCase()

    println("***** Step 5. Create an attachment set with a generated file to add
 to the case.")
    val attachmentSetId = addAttachment(fileAttachment)
    println("The Attachment Set id value is $attachmentSetId")

    println("***** Step 6. Add communication with the attachment to the support
 case.")
    addAttachSupportCase(caseIdVal, attachmentSetId)
```

```
    println("***** Step 7. List the communications of the support case.")
    val attachId = listCommunications(caseIdVal)
    println("The Attachment id value is $attachId")

    println("***** Step 8. Describe the attachment set included with the
 communication.")
    describeAttachment(attachId)

    println("***** Step 9. Resolve the support case.")
    resolveSupportCase(caseIdVal)

    println("***** Step 10. Get a list of resolved cases for the current day.")
    getResolvedCase()
    println("***** This Scenario has successfully completed")
}

suspend fun getResolvedCase() {
    // Specify the start and end time.
    val now = Instant.now()
    LocalDate.now()
    val yesterday = now.minus(1, ChronoUnit.DAYS)
    val describeCasesRequest =
        DescribeCasesRequest {
            maxResults = 30
            afterTime = yesterday.toString()
            beforeTime = now.toString()
            includeResolvedCases = true
        }

    SupportClient { region = "us-west-2" }.use { supportClient ->
        val response = supportClient.describeCases(describeCasesRequest)
        response.cases?.forEach { sinCase ->
            println("The case status is ${sinCase.status}")
            println("The case Id is ${sinCase.caseId}")
            println("The case subject is ${sinCase.subject}")
        }
    }
}

suspend fun resolveSupportCase(caseIdVal: String) {
    val caseRequest =
        ResolveCaseRequest {
            caseId = caseIdVal
        }
```

```
    SupportClient { region = "us-west-2" }.use { supportClient ->
        val response = supportClient.resolveCase(caseRequest)
        println("The status of case $caseIdVal is ${response.finalCaseStatus}")
    }
}

suspend fun describeAttachment(attachId: String?) {
    val attachmentRequest =
        DescribeAttachmentRequest {
            attachmentId = attachId
        }

    SupportClient { region = "us-west-2" }.use { supportClient ->
        val response = supportClient.describeAttachment(attachmentRequest)
        println("The name of the file is ${response.attachment?.fileName}")
    }
}

suspend fun listCommunications(caseIdVal: String?): String? {
    val communicationsRequest =
        DescribeCommunicationsRequest {
            caseId = caseIdVal
            maxResults = 10
        }

    SupportClient { region = "us-west-2" }.use { supportClient ->
        val response =
 supportClient.describeCommunications(communicationsRequest)
        response.communications?.forEach { comm ->
            println("the body is: " + comm.body)
            comm.attachmentSet?.forEach { detail ->
                return detail.attachmentId
            }
        }
    }
    return ""
}

suspend fun addAttachSupportCase(
    caseIdVal: String?,
    attachmentSetIdVal: String?,
) {
    val caseRequest =
        AddCommunicationToCaseRequest {
```

```
            caseId = caseIdVal
            attachmentSetId = attachmentSetIdVal
            communicationBody = "Please refer to attachment for details."
        }

    SupportClient { region = "us-west-2" }.use { supportClient ->
        val response = supportClient.addCommunicationToCase(caseRequest)
        if (response.result) {
            println("You have successfully added a communication to an AWS
 Support case")
        } else {
            println("There was an error adding the communication to an AWS
 Support case")
        }
    }
}

suspend fun addAttachment(fileAttachment: String): String? {
    val myFile = File(fileAttachment)
    val sourceBytes = (File(fileAttachment).readBytes())
    val attachmentVal =
        Attachment {
            fileName = myFile.name
            data = sourceBytes
        }

    val setRequest =
        AddAttachmentsToSetRequest {
            attachments = listOf(attachmentVal)
        }

    SupportClient { region = "us-west-2" }.use { supportClient ->
        val response = supportClient.addAttachmentsToSet(setRequest)
        return response.attachmentSetId
    }
}

suspend fun getOpenCase() {
    // Specify the start and end time.
    val now = Instant.now()
    LocalDate.now()
    val yesterday = now.minus(1, ChronoUnit.DAYS)
    val describeCasesRequest =
        DescribeCasesRequest {
```

```
            maxResults = 20
            afterTime = yesterday.toString()
            beforeTime = now.toString()
        }

    SupportClient { region = "us-west-2" }.use { supportClient ->
        val response = supportClient.describeCases(describeCasesRequest)
        response.cases?.forEach { sinCase ->
            println("The case status is ${sinCase.status}")
            println("The case Id is ${sinCase.caseId}")
            println("The case subject is ${sinCase.subject}")
        }
    }
}

suspend fun createSupportCase(
    sevCatListVal: List<String>,
    sevLevelVal: String,
): String? {
    val serCode = sevCatListVal[0]
    val caseCategory = sevCatListVal[1]
    val caseRequest =
        CreateCaseRequest {
            categoryCode = caseCategory.lowercase(Locale.getDefault())
            serviceCode = serCode.lowercase(Locale.getDefault())
            severityCode = sevLevelVal.lowercase(Locale.getDefault())
            communicationBody = "Test issue with
 ${serCode.lowercase(Locale.getDefault())}"
            subject = "Test case, please ignore"
            language = "en"
            issueType = "technical"
        }

    SupportClient { region = "us-west-2" }.use { supportClient ->
        val response = supportClient.createCase(caseRequest)
        return response.caseId
    }
}

suspend fun displaySevLevels(): String {
    var levelName = ""
    val severityLevelsRequest =
        DescribeSeverityLevelsRequest {
            language = "en"
```

```
        }

    SupportClient { region = "us-west-2" }.use { supportClient ->
        val response =
 supportClient.describeSeverityLevels(severityLevelsRequest)
        response.severityLevels?.forEach { sevLevel ->
            println("The severity level name is: ${sevLevel.name}")
            if (sevLevel.name == "High") {
                levelName = sevLevel.name!!
            }
        }
        return levelName
    }
}

// Return a List that contains a Service name and Category name.
suspend fun displayServices(): List<String> {
    var serviceCode = ""
    var catName = ""
    val sevCatList = mutableListOf<String>()
    val servicesRequest =
        DescribeServicesRequest {
            language = "en"
        }

    SupportClient { region = "us-west-2" }.use { supportClient ->
        val response = supportClient.describeServices(servicesRequest)
        println("Get the first 10 services")
        var index = 1

        response.services?.forEach { service ->
            if (index == 11) {
                return@forEach
            }

            println("The Service name is ${service.name}")
            if (service.name == "Account") {
                serviceCode = service.code.toString()
            }

            // Get the categories for this service.
            service.categories?.forEach { cat ->
                println("The category name is ${cat.name}")
                if (cat.name == "Security") {
```

```
                    catName = cat.name!!
                }
            }
            index++
        }
    }

    // Push the two values to the list.
    serviceCode.let { sevCatList.add(it) }
    catName.let { sevCatList.add(it) }
    return sevCatList
}
```

- For API details, see the following topics in *AWS SDK for Kotlin API reference*.
  - AddAttachmentsToSet
  - AddCommunicationToCase
  - CreateCase
  - DescribeAttachment
  - DescribeCases
  - DescribeCommunications
  - DescribeServices
  - DescribeSeverityLevels
  - ResolveCase

Python

SDK for Python (Boto3)

> **Note**
>
> There's more on GitHub. Find the complete example and learn how to set up and run in the AWS Code Examples Repository.

Run an interactive scenario at a command prompt.

```
class SupportCasesScenario:
```

```
    """Runs an interactive scenario that shows how to get started using AWS
Support."""

    def __init__(self, support_wrapper):
        """
        :param support_wrapper: An object that wraps AWS Support actions.
        """
        self.support_wrapper = support_wrapper

    def display_and_select_service(self):
        """
        Lists support services and prompts the user to select one.

        :return: The support service selected by the user.
        """
        print("-" * 88)
        services_list = self.support_wrapper.describe_services("en")
        print(f"AWS Support client returned {len(services_list)} services.")
        print("Displaying first 10 services:")

        service_choices = [svc["name"] for svc in services_list[:10]]
        selected_index = q.choose(
            "Select an example support service by entering a number from the
preceding list:",
            service_choices,
        )
        selected_service = services_list[selected_index]
        print("-" * 88)
        return selected_service

    def display_and_select_category(self, service):
        """
        Lists categories for a support service and prompts the user to select
one.

        :param service: The service of the categories.
        :return: The selected category.
        """
        print("-" * 88)
        print(
            f"Available support categories for Service {service['name']}
{len(service['categories'])}:"
        )
```

```
        categories_choices = [category["name"] for category in
service["categories"]]
        selected_index = q.choose(
            "Select an example support category by entering a number from the
preceding list:",
            categories_choices,
        )
        selected_category = service["categories"][selected_index]
        print("-" * 88)
        return selected_category

    def display_and_select_severity(self):
        """
        Lists available severity levels and prompts the user to select one.

        :return: The selected severity level.
        """
        print("-" * 88)
        severity_levels_list =
self.support_wrapper.describe_severity_levels("en")
        print(f"Available severity levels:")
        severity_choices = [level["name"] for level in severity_levels_list]
        selected_index = q.choose(
            "Select an example severity level by entering a number from the
preceding list:",
            severity_choices,
        )
        selected_severity = severity_levels_list[selected_index]
        print("-" * 88)
        return selected_severity

    def create_example_case(self, service, category, severity_level):
        """
        Creates an example support case with the user's selections.

        :param service: The service for the new case.
        :param category: The category for the new case.
        :param severity_level: The severity level for the new case.
        :return: The caseId of the new support case.
        """
        print("-" * 88)
        print(f"Creating new case for service {service['name']}.")
        case_id = self.support_wrapper.create_case(service, category,
severity_level)
```

```
        print(f"\tNew case created with ID {case_id}.")
        print("-" * 88)
        return case_id

    def list_open_cases(self):
        """
        List the open cases for the current day.
        """
        print("-" * 88)
        print("Let's list the open cases for the current day.")
        start_time = str(datetime.utcnow().date())
        end_time = str(datetime.utcnow().date() + timedelta(days=1))
        open_cases = self.support_wrapper.describe_cases(start_time, end_time,
False)
        for case in open_cases:
            print(f"\tCase: {case['caseId']}: status {case['status']}.")
        print("-" * 88)

    def create_attachment_set(self):
        """
        Create an attachment set with a sample file.

        :return: The attachment set ID of the new attachment set.
        """
        print("-" * 88)
        print("Creating attachment set with a sample file.")
        attachment_set_id = self.support_wrapper.add_attachment_to_set()
        print(f"\tNew attachment set created with ID {attachment_set_id}.")
        print("-" * 88)
        return attachment_set_id

    def add_communication(self, case_id, attachment_set_id):
        """
        Add a communication with an attachment set to the case.

        :param case_id: The ID of the case for the communication.
        :param attachment_set_id: The ID of the attachment set to
        add to the communication.
        """
        print("-" * 88)
        print(f"Adding a communication and attachment set to the case.")
        self.support_wrapper.add_communication_to_case(attachment_set_id,
case_id)
        print(
```

```
            f"Added a communication and attachment set {attachment_set_id} to the
case {case_id}."
        )
        print("-" * 88)

    def list_communications(self, case_id):
        """
        List the communications associated with a case.

        :param case_id: The ID of the case.
        :return: The attachment ID of an attachment.
        """
        print("-" * 88)
        print("Let's list the communications for our case.")
        attachment_id = ""
        communications =
self.support_wrapper.describe_all_case_communications(case_id)
        for communication in communications:
            print(
                f"\tCommunication created on {communication['timeCreated']} "
                f"has {len(communication['attachmentSet'])} attachments."
            )
            if len(communication["attachmentSet"]) > 0:
                attachment_id = communication["attachmentSet"][0]["attachmentId"]
        print("-" * 88)
        return attachment_id

    def describe_case_attachment(self, attachment_id):
        """
        Describe an attachment associated with a case.

        :param attachment_id: The ID of the attachment.
        """
        print("-" * 88)
        print("Let's list the communications for our case.")
        attached_file = self.support_wrapper.describe_attachment(attachment_id)
        print(f"\tAttachment includes file {attached_file}.")
        print("-" * 88)

    def resolve_case(self, case_id):
        """
        Shows how to resolve an AWS Support case by its ID.

        :param case_id: The ID of the case to resolve.
```

```
        """
        print("-" * 88)
        print(f"Resolving case with ID {case_id}.")
        case_status = self.support_wrapper.resolve_case(case_id)
        print(f"\tFinal case status is {case_status}.")
        print("-" * 88)

    def list_resolved_cases(self):
        """
        List the resolved cases for the current day.
        """
        print("-" * 88)
        print("Let's list the resolved cases for the current day.")
        start_time = str(datetime.utcnow().date())
        end_time = str(datetime.utcnow().date() + timedelta(days=1))
        resolved_cases = self.support_wrapper.describe_cases(start_time,
end_time, True)
        for case in resolved_cases:
            print(f"\tCase: {case['caseId']}: status {case['status']}.")
        print("-" * 88)

    def run_scenario(self):
        logging.basicConfig(level=logging.INFO, format="%(levelname)s:
%(message)s")

        print("-" * 88)
        print("Welcome to the AWS Support get started with support cases demo.")
        print("-" * 88)

        selected_service = self.display_and_select_service()
        selected_category = self.display_and_select_category(selected_service)
        selected_severity = self.display_and_select_severity()
        new_case_id = self.create_example_case(
            selected_service, selected_category, selected_severity
        )
        wait(10)
        self.list_open_cases()
        new_attachment_set_id = self.create_attachment_set()
        self.add_communication(new_case_id, new_attachment_set_id)
        new_attachment_id = self.list_communications(new_case_id)
        self.describe_case_attachment(new_attachment_id)
        self.resolve_case(new_case_id)
        wait(10)
        self.list_resolved_cases()
```

```
        print("\nThanks for watching!")
        print("-" * 88)


if __name__ == "__main__":
    try:
        scenario = SupportCasesScenario(SupportWrapper.from_client())
        scenario.run_scenario()
    except Exception:
        logging.exception("Something went wrong with the demo.")
```

Define a class that wraps support client actions.

```
class SupportWrapper:
    """Encapsulates Support actions."""

    def __init__(self, support_client):
        """
        :param support_client: A Boto3 Support client.
        """
        self.support_client = support_client

    @classmethod
    def from_client(cls):
        """
        Instantiates this class from a Boto3 client.
        """
        support_client = boto3.client("support")
        return cls(support_client)


    def describe_services(self, language):
        """
        Get the descriptions of AWS services available for support for a
 language.

        :param language: The language for support services.
        Currently, only "en" (English) and "ja" (Japanese) are supported.
        :return: The list of AWS service descriptions.
        """
        try:
```

```
            response = self.support_client.describe_services(language=language)
            services = response["services"]
        except ClientError as err:
            if err.response["Error"]["Code"] == "SubscriptionRequiredException":
                logger.info(
                    "You must have a Business, Enterprise On-Ramp, or Enterprise
Support "
                    "plan to use the AWS Support API. \n\tPlease upgrade your
subscription to run these "
                    "examples."
                )
            else:
                logger.error(
                    "Couldn't get Support services for language %s. Here's why:
%s: %s",
                    language,
                    err.response["Error"]["Code"],
                    err.response["Error"]["Message"],
                )
                raise
        else:
            return services


    def describe_severity_levels(self, language):
        """
        Get the descriptions of available severity levels for support cases for a
language.

        :param language: The language for support severity levels.
        Currently, only "en" (English) and "ja" (Japanese) are supported.
        :return: The list of severity levels.
        """
        try:
            response =
self.support_client.describe_severity_levels(language=language)
            severity_levels = response["severityLevels"]
        except ClientError as err:
            if err.response["Error"]["Code"] == "SubscriptionRequiredException":
                logger.info(
                    "You must have a Business, Enterprise On-Ramp, or Enterprise
Support "
                    "plan to use the AWS Support API. \n\tPlease upgrade your
subscription to run these "
```

```
                    "examples."
                )
            else:
                logger.error(
                    "Couldn't get severity levels for language %s. Here's why:
%s: %s",
                    language,
                    err.response["Error"]["Code"],
                    err.response["Error"]["Message"],
                )
                raise
        else:
            return severity_levels


    def create_case(self, service, category, severity):
        """
        Create a new support case.

        :param service: The service to use for the new case.
        :param category: The category to use for the new case.
        :param severity: The severity to use for the new case.
        :return: The caseId of the new case.
        """
        try:
            response = self.support_client.create_case(
                subject="Example case for testing, ignore.",
                serviceCode=service["code"],
                severityCode=severity["code"],
                categoryCode=category["code"],
                communicationBody="Example support case body.",
                language="en",
                issueType="customer-service",
            )
            case_id = response["caseId"]
        except ClientError as err:
            if err.response["Error"]["Code"] == "SubscriptionRequiredException":
                logger.info(
                    "You must have a Business, Enterprise On-Ramp, or Enterprise
Support "
                    "plan to use the AWS Support API. \n\tPlease upgrade your
subscription to run these "
                    "examples."
                )
```

```
            else:
                logger.error(
                    "Couldn't create case. Here's why: %s: %s",
                    err.response["Error"]["Code"],
                    err.response["Error"]["Message"],
                )
                raise
        else:
            return case_id


    def add_attachment_to_set(self):
        """
        Add an attachment to a set, or create a new attachment set if one does
not exist.

        :return: The attachment set ID.
        """
        try:
            response = self.support_client.add_attachments_to_set(
                attachments=[
                    {
                        "fileName": "attachment_file.txt",
                        "data": b"This is a sample file for attachment to a
support case.",
                    }
                ]
            )
            new_set_id = response["attachmentSetId"]
        except ClientError as err:
            if err.response["Error"]["Code"] == "SubscriptionRequiredException":
                logger.info(
                    "You must have a Business, Enterprise On-Ramp, or Enterprise
Support "
                    "plan to use the AWS Support API. \n\tPlease upgrade your
subscription to run these "
                    "examples."
                )
            else:
                logger.error(
                    "Couldn't add attachment. Here's why: %s: %s",
                    err.response["Error"]["Code"],
                    err.response["Error"]["Message"],
                )
```

```
                raise
        else:
            return new_set_id


    def add_communication_to_case(self, attachment_set_id, case_id):
        """
        Add a communication and an attachment set to a case.

        :param attachment_set_id: The ID of an existing attachment set.
        :param case_id: The ID of the case.
        """
        try:
            self.support_client.add_communication_to_case(
                caseId=case_id,
                communicationBody="This is an example communication added to a
support case.",
                attachmentSetId=attachment_set_id,
            )
        except ClientError as err:
            if err.response["Error"]["Code"] == "SubscriptionRequiredException":
                logger.info(
                    "You must have a Business, Enterprise On-Ramp, or Enterprise
Support "
                    "plan to use the AWS Support API. \n\tPlease upgrade your
subscription to run these "
                    "examples."
                )
            else:
                logger.error(
                    "Couldn't add communication. Here's why: %s: %s",
                    err.response["Error"]["Code"],
                    err.response["Error"]["Message"],
                )
                raise


    def describe_all_case_communications(self, case_id):
        """
        Describe all the communications for a case using a paginator.

        :param case_id: The ID of the case.
        :return: The communications for the case.
        """
```

```
        try:
            communications = []
            paginator =
self.support_client.get_paginator("describe_communications")
            for page in paginator.paginate(caseId=case_id):
                communications += page["communications"]
        except ClientError as err:
            if err.response["Error"]["Code"] == "SubscriptionRequiredException":
                logger.info(
                    "You must have a Business, Enterprise On-Ramp, or Enterprise
Support "
                    "plan to use the AWS Support API. \n\tPlease upgrade your
subscription to run these "
                    "examples."
                )
            else:
                logger.error(
                    "Couldn't describe communications. Here's why: %s: %s",
                    err.response["Error"]["Code"],
                    err.response["Error"]["Message"],
                )
                raise
        else:
            return communications


    def describe_attachment(self, attachment_id):
        """
        Get information about an attachment by its attachmentID.

        :param attachment_id: The ID of the attachment.
        :return: The name of the attached file.
        """
        try:
            response = self.support_client.describe_attachment(
                attachmentId=attachment_id
            )
            attached_file = response["attachment"]["fileName"]
        except ClientError as err:
            if err.response["Error"]["Code"] == "SubscriptionRequiredException":
                logger.info(
                    "You must have a Business, Enterprise On-Ramp, or Enterprise
Support "
```

```
                    "plan to use the AWS Support API. \n\tPlease upgrade your
subscription to run these "
                    "examples."
                )
            else:
                logger.error(
                    "Couldn't get attachment description. Here's why: %s: %s",
                    err.response["Error"]["Code"],
                    err.response["Error"]["Message"],
                )
                raise
        else:
            return attached_file


    def resolve_case(self, case_id):
        """
        Resolve a support case by its caseId.

        :param case_id: The ID of the case to resolve.
        :return: The final status of the case.
        """
        try:
            response = self.support_client.resolve_case(caseId=case_id)
            final_status = response["finalCaseStatus"]
        except ClientError as err:
            if err.response["Error"]["Code"] == "SubscriptionRequiredException":
                logger.info(
                    "You must have a Business, Enterprise On-Ramp, or Enterprise
Support "
                    "plan to use the AWS Support API. \n\tPlease upgrade your
subscription to run these "
                    "examples."
                )
            else:
                logger.error(
                    "Couldn't resolve case. Here's why: %s: %s",
                    err.response["Error"]["Code"],
                    err.response["Error"]["Message"],
                )
                raise
        else:
            return final_status
```

```
    def describe_cases(self, after_time, before_time, resolved):
        """
        Describe support cases over a period of time, optionally filtering
        by status.

        :param after_time: The start time to include for cases.
        :param before_time: The end time to include for cases.
        :param resolved: True to include resolved cases in the results,
            otherwise results are open cases.
        :return: The final status of the case.
        """
        try:
            cases = []
            paginator = self.support_client.get_paginator("describe_cases")
            for page in paginator.paginate(
                afterTime=after_time,
                beforeTime=before_time,
                includeResolvedCases=resolved,
                language="en",
            ):
                cases += page["cases"]
        except ClientError as err:
            if err.response["Error"]["Code"] == "SubscriptionRequiredException":
                logger.info(
                    "You must have a Business, Enterprise On-Ramp, or Enterprise
Support "
                    "plan to use the AWS Support API. \n\tPlease upgrade your
subscription to run these "
                    "examples."
                )
            else:
                logger.error(
                    "Couldn't describe cases. Here's why: %s: %s",
                    err.response["Error"]["Code"],
                    err.response["Error"]["Message"],
                )
                raise
        else:
            if resolved:
                cases = filter(lambda case: case["status"] == "resolved", cases)
            return cases
```

- For API details, see the following topics in *AWS SDK for Python (Boto3) API Reference*.
  - AddAttachmentsToSet
  - AddCommunicationToCase
  - CreateCase
  - DescribeAttachment
  - DescribeCases
  - DescribeCommunications
  - DescribeServices
  - DescribeSeverityLevels
  - ResolveCase

For a complete list of AWS SDK developer guides and code examples, see Using AWS Support with an AWS SDK. This topic also includes information about getting started and details about previous SDK versions.

Actions for AWS Support using AWS SDKs

The following code examples demonstrate how to perform individual AWS Support actions with AWS SDKs. Each example includes a link to GitHub, where you can find instructions for setting up and running the code.

The following examples include only the most commonly used actions. For a complete list, see the AWS Support API Reference.

Examples

- Use AddAttachmentsToSet with an AWS SDK or CLI
- Use AddCommunicationToCase with an AWS SDK or CLI
- Use CreateCase with an AWS SDK or CLI
- Use DescribeAttachment with an AWS SDK or CLI
- Use DescribeCases with an AWS SDK or CLI
- Use DescribeCommunications with an AWS SDK or CLI
- Use DescribeServices with an AWS SDK or CLI

- Use DescribeSeverityLevels with an AWS SDK or CLI
- Use DescribeTrustedAdvisorCheckRefreshStatuses with an AWS SDK or CLI
- Use DescribeTrustedAdvisorCheckResult with an AWS SDK or CLI
- Use DescribeTrustedAdvisorCheckSummaries with an AWS SDK or CLI
- Use DescribeTrustedAdvisorChecks with an AWS SDK or CLI
- Use RefreshTrustedAdvisorCheck with an AWS SDK or CLI
- Use ResolveCase with an AWS SDK or CLI

Use `AddAttachmentsToSet` with an AWS SDK or CLI

The following code examples show how to use `AddAttachmentsToSet`.

Action examples are code excerpts from larger programs and must be run in context. You can see this action in context in the following code example:

- Learn the basics

.NET

AWS SDK for .NET

> **Note**
>
> There's more on GitHub. Find the complete example and learn how to set up and run in the AWS Code Examples Repository.

```
    /// <summary>
    /// Add an attachment to a set, or create a new attachment set if one does
not exist.
    /// </summary>
    /// <param name="data">The data for the attachment.</param>
    /// <param name="fileName">The file name for the attachment.</param>
    /// <param name="attachmentSetId">Optional setId for the attachment. Creates
a new attachment set if empty.</param>
    /// <returns>The setId of the attachment.</returns>
```

```
    public async Task<string> AddAttachmentToSet(MemoryStream data, string
 fileName, string? attachmentSetId = null)
    {
        var response = await _amazonSupport.AddAttachmentsToSetAsync(
            new AddAttachmentsToSetRequest
            {
                AttachmentSetId = attachmentSetId,
                Attachments = new List<Attachment>
                {
                    new Attachment
                    {
                        Data = data,
                        FileName = fileName
                    }
                }
            });
        return response.AttachmentSetId;
    }
```

- For API details, see AddAttachmentsToSet in *AWS SDK for .NET API Reference*.

CLI

AWS CLI

To add an attachment to a set

The following `add-attachments-to-set` example adds an image to a set that you can then specify for a support case in your AWS account.

```
aws support add-attachments-to-set \
    --attachment-set-id "as-2f5a6faa2a4a1e600-mu-nk5xQlBr70-
G1cUos5LZkd38KOAHZa9BMDVzNEXAMPLE" \
    --attachments fileName=troubleshoot-screenshot.png,data=base64-encoded-string
```

Output:

```
{
    "attachmentSetId": "as-2f5a6faa2a4a1e600-mu-nk5xQlBr70-
G1cUos5LZkd38KOAHZa9BMDVzNEXAMPLE",
```

```
    "expiryTime": "2020-05-14T17:04:40.790+0000"
}
```

For more information, see Case management in the *AWS Support User Guide*.

- For API details, see AddAttachmentsToSet in *AWS CLI Command Reference*.

Java

SDK for Java 2.x

> **Note**
>
> There's more on GitHub. Find the complete example and learn how to set up and run in the AWS Code Examples Repository.

```
   public static String addAttachment(SupportClient supportClient, String
fileAttachment) {
       try {
           File myFile = new File(fileAttachment);
           InputStream sourceStream = new FileInputStream(myFile);
           SdkBytes sourceBytes = SdkBytes.fromInputStream(sourceStream);

           Attachment attachment = Attachment.builder()
                   .fileName(myFile.getName())
                   .data(sourceBytes)
                   .build();

           AddAttachmentsToSetRequest setRequest =
AddAttachmentsToSetRequest.builder()
                   .attachments(attachment)
                   .build();

           AddAttachmentsToSetResponse response =
supportClient.addAttachmentsToSet(setRequest);
           return response.attachmentSetId();

       } catch (SupportException | FileNotFoundException e) {
           System.out.println(e.getLocalizedMessage());
           System.exit(1);
       }
```

```
        return "";
    }
```

- For API details, see AddAttachmentsToSet in *AWS SDK for Java 2.x API Reference*.

JavaScript

SDK for JavaScript (v3)

> **Note**
>
> There's more on GitHub. Find the complete example and learn how to set up and run in the AWS Code Examples Repository.

```
import { AddAttachmentsToSetCommand } from "@aws-sdk/client-support";

import { client } from "../libs/client.js";

export const main = async () => {
  try {
    // Create a new attachment set or add attachments to an existing set.
    // Provide an 'attachmentSetId' value to add attachments to an existing set.
    // Use AddCommunicationToCase or CreateCase to associate an attachment set
 with a support case.
    const response = await client.send(
      new AddAttachmentsToSetCommand({
        // You can add up to three attachments per set. The size limit is 5 MB
 per attachment.
        attachments: [
          {
            fileName: "example.txt",
            data: new TextEncoder().encode("some example text"),
          },
        ],
      }),
    );
    // Use this ID in AddCommunicationToCase or CreateCase.
    console.log(response.attachmentSetId);
    return response;
  } catch (err) {
```

```
    console.error(err);
  }
};
```

- For API details, see AddAttachmentsToSet in *AWS SDK for JavaScript API Reference*.

Kotlin

SDK for Kotlin

> **Note**
>
> There's more on GitHub. Find the complete example and learn how to set up and run in the AWS Code Examples Repository.

```
suspend fun addAttachment(fileAttachment: String): String? {
    val myFile = File(fileAttachment)
    val sourceBytes = (File(fileAttachment).readBytes())
    val attachmentVal =
        Attachment {
            fileName = myFile.name
            data = sourceBytes
        }

    val setRequest =
        AddAttachmentsToSetRequest {
            attachments = listOf(attachmentVal)
        }

    SupportClient { region = "us-west-2" }.use { supportClient ->
        val response = supportClient.addAttachmentsToSet(setRequest)
        return response.attachmentSetId
    }
}
```

- For API details, see AddAttachmentsToSet in *AWS SDK for Kotlin API reference*.

Python

SDK for Python (Boto3)

> **Note**
>
> There's more on GitHub. Find the complete example and learn how to set up and run in the AWS Code Examples Repository.

```
class SupportWrapper:
    """Encapsulates Support actions."""

    def __init__(self, support_client):
        """
        :param support_client: A Boto3 Support client.
        """
        self.support_client = support_client

    @classmethod
    def from_client(cls):
        """
        Instantiates this class from a Boto3 client.
        """
        support_client = boto3.client("support")
        return cls(support_client)


    def add_attachment_to_set(self):
        """
        Add an attachment to a set, or create a new attachment set if one does
 not exist.

        :return: The attachment set ID.
        """
        try:
            response = self.support_client.add_attachments_to_set(
                attachments=[
                    {
                        "fileName": "attachment_file.txt",
                        "data": b"This is a sample file for attachment to a
 support case.",
```

```
                    }
                ]
            )
            new_set_id = response["attachmentSetId"]
        except ClientError as err:
            if err.response["Error"]["Code"] == "SubscriptionRequiredException":
                logger.info(
                    "You must have a Business, Enterprise On-Ramp, or Enterprise
Support "
                    "plan to use the AWS Support API. \n\tPlease upgrade your
subscription to run these "
                    "examples."
                )
            else:
                logger.error(
                    "Couldn't add attachment. Here's why: %s: %s",
                    err.response["Error"]["Code"],
                    err.response["Error"]["Message"],
                )
                raise
        else:
            return new_set_id
```

- For API details, see AddAttachmentsToSet in *AWS SDK for Python (Boto3) API Reference*.

For a complete list of AWS SDK developer guides and code examples, see Using AWS Support with an AWS SDK. This topic also includes information about getting started and details about previous SDK versions.

Use `AddCommunicationToCase` with an AWS SDK or CLI

The following code examples show how to use `AddCommunicationToCase`.

Action examples are code excerpts from larger programs and must be run in context. You can see this action in context in the following code example:

- Learn the basics

.NET

AWS SDK for .NET

> **Note**
>
> There's more on GitHub. Find the complete example and learn how to set up and run in the AWS Code Examples Repository.

```
    /// <summary>
    /// Add communication to a case, including optional attachment set ID and CC
 email addresses.
    /// </summary>
    /// <param name="caseId">Id for the support case.</param>
    /// <param name="body">Body text of the communication.</param>
    /// <param name="attachmentSetId">Optional Id for an attachment set.</param>
    /// <param name="ccEmailAddresses">Optional list of CC email addresses.</
param>
    /// <returns>True if successful.</returns>
    public async Task<bool> AddCommunicationToCase(string caseId, string body,
        string? attachmentSetId = null, List<string>? ccEmailAddresses = null)
    {
        var response = await _amazonSupport.AddCommunicationToCaseAsync(
            new AddCommunicationToCaseRequest()
            {
                CaseId = caseId,
                CommunicationBody = body,
                AttachmentSetId = attachmentSetId,
                CcEmailAddresses = ccEmailAddresses
            });
        return response.Result;
    }
```

- For API details, see AddCommunicationToCase in *AWS SDK for .NET API Reference*.

CLI

AWS CLI

To add communication to a case

The following `add-communication-to-case` example adds communications to a support case in your AWS account.

```
aws support add-communication-to-case \
    --case-id "case-12345678910-2013-c4c1d2bf33c5cf47" \
    --communication-body "I'm attaching a set of images to this case." \
    --cc-email-addresses "myemail@example.com" \
    --attachment-set-id "as-2f5a6faa2a4a1e600-mu-nk5xQlBr70-
G1cUos5LZkd38KOAHZa9BMDVzNEXAMPLE"
```

Output:

```
{
    "result": true
}
```

For more information, see Case management in the *AWS Support User Guide*.

- For API details, see AddCommunicationToCase in *AWS CLI Command Reference*.

Java

SDK for Java 2.x

> **Note**
>
> There's more on GitHub. Find the complete example and learn how to set up and run in the AWS Code Examples Repository.

```
   public static void addAttachSupportCase(SupportClient supportClient, String
caseId, String attachmentSetId) {
       try {
           AddCommunicationToCaseRequest caseRequest =
AddCommunicationToCaseRequest.builder()
```

```
                    .caseId(caseId)
                    .attachmentSetId(attachmentSetId)
                    .communicationBody("Please refer to attachment for details.")
                    .build();

            AddCommunicationToCaseResponse response =
 supportClient.addCommunicationToCase(caseRequest);
            if (response.result())
                System.out.println("You have successfully added a communication
 to an AWS Support case");
            else
                System.out.println("There was an error adding the communication
 to an AWS Support case");

        } catch (SupportException e) {
            System.out.println(e.getLocalizedMessage());
            System.exit(1);
        }
    }
```

- For API details, see AddCommunicationToCase in *AWS SDK for Java 2.x API Reference*.

JavaScript

SDK for JavaScript (v3)

> **Note**
>
> There's more on GitHub. Find the complete example and learn how to set up and run in the AWS Code Examples Repository.

```
import { AddCommunicationToCaseCommand } from "@aws-sdk/client-support";

import { client } from "../libs/client.js";

export const main = async () => {
  let attachmentSetId;

  try {
    // Add a communication to a case.
```

```
    const response = await client.send(
      new AddCommunicationToCaseCommand({
        communicationBody: "Adding an attachment.",
        // Set value to an existing support case id.
        caseId: "CASE_ID",
        // Optional. Set value to an existing attachment set id to add
 attachments to the case.
        attachmentSetId,
      }),
    );
    console.log(response);
    return response;
  } catch (err) {
    console.error(err);
  }
};
```

- For API details, see AddCommunicationToCase in *AWS SDK for JavaScript API Reference*.

Kotlin

SDK for Kotlin

> **Note**
>
> There's more on GitHub. Find the complete example and learn how to set up and run in the AWS Code Examples Repository.

```
suspend fun addAttachSupportCase(
    caseIdVal: String?,
    attachmentSetIdVal: String?,
) {
    val caseRequest =
        AddCommunicationToCaseRequest {
            caseId = caseIdVal
            attachmentSetId = attachmentSetIdVal
            communicationBody = "Please refer to attachment for details."
        }

    SupportClient { region = "us-west-2" }.use { supportClient ->
```

```
        val response = supportClient.addCommunicationToCase(caseRequest)
        if (response.result) {
            println("You have successfully added a communication to an AWS
 Support case")
        } else {
            println("There was an error adding the communication to an AWS
 Support case")
        }
    }
}
```

- For API details, see AddCommunicationToCase in *AWS SDK for Kotlin API reference*.

PowerShell

Tools for PowerShell

Example 1: Adds the body of an email communication to the specified case.

```
Add-ASACommunicationToCase -CaseId "case-12345678910-2013-c4c1d2bf33c5cf47" -
CommunicationBody "Some text about the case"
```

Example 2: Adds the body of an email communication to the specified case plus one or more email addresses contained in the CC line of the email.

```
Add-ASACommunicationToCase -CaseId "case-12345678910-2013-c4c1d2bf33c5cf47" -
CcEmailAddress @("email1@address.com", "email2@address.com") -CommunicationBody
 "Some text about the case"
```

- For API details, see AddCommunicationToCase in *AWS Tools for PowerShell Cmdlet Reference*.

Python

SDK for Python (Boto3)

> **Note**
>
> There's more on GitHub. Find the complete example and learn how to set up and run in the AWS Code Examples Repository.

```
class SupportWrapper:
    """Encapsulates Support actions."""

    def __init__(self, support_client):
        """
        :param support_client: A Boto3 Support client.
        """
        self.support_client = support_client

    @classmethod
    def from_client(cls):
        """
        Instantiates this class from a Boto3 client.
        """
        support_client = boto3.client("support")
        return cls(support_client)


    def add_communication_to_case(self, attachment_set_id, case_id):
        """
        Add a communication and an attachment set to a case.

        :param attachment_set_id: The ID of an existing attachment set.
        :param case_id: The ID of the case.
        """
        try:
            self.support_client.add_communication_to_case(
                caseId=case_id,
                communicationBody="This is an example communication added to a
 support case.",
                attachmentSetId=attachment_set_id,
            )
```

```
        except ClientError as err:
            if err.response["Error"]["Code"] == "SubscriptionRequiredException":
                logger.info(
                    "You must have a Business, Enterprise On-Ramp, or Enterprise
Support "
                    "plan to use the AWS Support API. \n\tPlease upgrade your
subscription to run these "
                    "examples."
                )
            else:
                logger.error(
                    "Couldn't add communication. Here's why: %s: %s",
                    err.response["Error"]["Code"],
                    err.response["Error"]["Message"],
                )
                raise
```

- For API details, see AddCommunicationToCase in *AWS SDK for Python (Boto3) API Reference*.

For a complete list of AWS SDK developer guides and code examples, see Using AWS Support with an AWS SDK. This topic also includes information about getting started and details about previous SDK versions.

Use `CreateCase` with an AWS SDK or CLI

The following code examples show how to use `CreateCase`.

Action examples are code excerpts from larger programs and must be run in context. You can see this action in context in the following code example:

- Learn the basics

.NET

AWS SDK for .NET

> **Note**
>
> There's more on GitHub. Find the complete example and learn how to set up and run in the AWS Code Examples Repository.

```
   /// <summary>
   /// Create a new support case.
   /// </summary>
   /// <param name="serviceCode">Service code for the new case.</param>
   /// <param name="categoryCode">Category for the new case.</param>
   /// <param name="severityCode">Severity code for the new case.</param>
   /// <param name="subject">Subject of the new case.</param>
   /// <param name="body">Body text of the new case.</param>
   /// <param name="language">Optional language support for your case.
   /// Currently Chinese (“zh”), English ("en"), Japanese ("ja") and Korean
(“ko”) are supported.</param>
   /// <param name="attachmentSetId">Optional Id for an attachment set for the
new case.</param>
   /// <param name="issueType">Optional issue type for the new case. Options are
"customer-service" or "technical".</param>
   /// <returns>The caseId of the new support case.</returns>
   public async Task<string> CreateCase(string serviceCode, string categoryCode,
string severityCode, string subject,
       string body, string language = "en", string? attachmentSetId = null,
string issueType = "customer-service")
   {
       var response = await _amazonSupport.CreateCaseAsync(
           new CreateCaseRequest()
           {
               ServiceCode = serviceCode,
               CategoryCode = categoryCode,
               SeverityCode = severityCode,
               Subject = subject,
               Language = language,
               AttachmentSetId = attachmentSetId,
               IssueType = issueType,
```

```
                CommunicationBody = body
            });
        return response.CaseId;
    }
```

- For API details, see CreateCase in *AWS SDK for .NET API Reference*.

CLI

AWS CLI

To create a case

The following `create-case` example creates a support case for your AWS account.

```
aws support create-case \
    --category-code "using-aws" \
    --cc-email-addresses "myemail@example.com" \
    --communication-body "I want to learn more about an AWS service." \
    --issue-type "technical" \
    --language "en" \
    --service-code "general-info" \
    --severity-code "low" \
    --subject "Question about my account"
```

Output:

```
{
    "caseId": "case-12345678910-2013-c4c1d2bf33c5cf47"
}
```

For more information, see Case management in the *AWS Support User Guide*.

- For API details, see CreateCase in *AWS CLI Command Reference*.

Java

SDK for Java 2.x

> **Note**
>
> There's more on GitHub. Find the complete example and learn how to set up and run in the AWS Code Examples Repository.

```
   public static String createSupportCase(SupportClient supportClient,
List<String> sevCatList, String sevLevel) {
       try {
           String serviceCode = sevCatList.get(0);
           String caseCat = sevCatList.get(1);
           CreateCaseRequest caseRequest = CreateCaseRequest.builder()
                   .categoryCode(caseCat.toLowerCase())
                   .serviceCode(serviceCode.toLowerCase())
                   .severityCode(sevLevel.toLowerCase())
                   .communicationBody("Test issue with " +
serviceCode.toLowerCase())
                   .subject("Test case, please ignore")
                   .language("en")
                   .issueType("technical")
                   .build();

           CreateCaseResponse response = supportClient.createCase(caseRequest);
           return response.caseId();

       } catch (SupportException e) {
           System.out.println(e.getLocalizedMessage());
           System.exit(1);
       }
       return "";
   }
```

- For API details, see CreateCase in *AWS SDK for Java 2.x API Reference*.

JavaScript

SDK for JavaScript (v3)

> **Note**
>
> There's more on GitHub. Find the complete example and learn how to set up and run in the AWS Code Examples Repository.

```
import { CreateCaseCommand } from "@aws-sdk/client-support";

import { client } from "../libs/client.js";

export const main = async () => {
  try {
    // Create a new case and log the case id.
    // Important: This creates a real support case in your account.
    const response = await client.send(
      new CreateCaseCommand({
        // The subject line of the case.
        subject: "IGNORE: Test case",
        // Use DescribeServices to find available service codes for each service.
        serviceCode: "service-quicksight-end-user",
        // Use DescribeSecurityLevels to find available severity codes for your
 support plan.
        severityCode: "low",
        // Use DescribeServices to find available category codes for each
 service.
        categoryCode: "end-user-support",
        // The main description of the support case.
        communicationBody: "This is a test. Please ignore.",
      }),
    );
    console.log(response.caseId);
    return response;
  } catch (err) {
    console.error(err);
  }
};
```

- For API details, see CreateCase in *AWS SDK for JavaScript API Reference*.

Kotlin

SDK for Kotlin

> **Note**
>
> There's more on GitHub. Find the complete example and learn how to set up and run in the AWS Code Examples Repository.

```
suspend fun createSupportCase(
    sevCatListVal: List<String>,
    sevLevelVal: String,
): String? {
    val serCode = sevCatListVal[0]
    val caseCategory = sevCatListVal[1]
    val caseRequest =
        CreateCaseRequest {
            categoryCode = caseCategory.lowercase(Locale.getDefault())
            serviceCode = serCode.lowercase(Locale.getDefault())
            severityCode = sevLevelVal.lowercase(Locale.getDefault())
            communicationBody = "Test issue with
 ${serCode.lowercase(Locale.getDefault())}"
            subject = "Test case, please ignore"
            language = "en"
            issueType = "technical"
        }

    SupportClient { region = "us-west-2" }.use { supportClient ->
        val response = supportClient.createCase(caseRequest)
        return response.caseId
    }
}
```

- For API details, see CreateCase in *AWS SDK for Kotlin API reference*.

PowerShell

Tools for PowerShell

Example 1: Creates a new case in the AWS Support Center. Values for the -ServiceCode and -CategoryCode parameters can be obtained using the Get-ASAService cmdlet. The value for the -SeverityCode parameter can be obtained using the Get-ASASeverityLevel cmdlet. The -IssueType parameter value can be either "customer-service" or "technical". If successful the AWS Support case number is output. By default the case will be handled in English, to use Japanese add the -Language "ja" parameter. The -ServiceCode, -CategoryCode, -Subject and -CommunicationBody parameters are mandatory.

```
New-ASACase -ServiceCode "amazon-cloudfront" -CategoryCode "APIs" -SeverityCode
 "low" -Subject "subject text" -CommunicationBody "description of the case" -
CcEmailAddress @("email1@domain.com", "email2@domain.com") -IssueType "technical"
```

- For API details, see CreateCase in *AWS Tools for PowerShell Cmdlet Reference*.

Python

SDK for Python (Boto3)

> **Note**
>
> There's more on GitHub. Find the complete example and learn how to set up and run in the AWS Code Examples Repository.

```
class SupportWrapper:
    """Encapsulates Support actions."""

    def __init__(self, support_client):
        """
        :param support_client: A Boto3 Support client.
        """
        self.support_client = support_client

    @classmethod
    def from_client(cls):
        """
```

```
        Instantiates this class from a Boto3 client.
        """
        support_client = boto3.client("support")
        return cls(support_client)


    def create_case(self, service, category, severity):
        """
        Create a new support case.

        :param service: The service to use for the new case.
        :param category: The category to use for the new case.
        :param severity: The severity to use for the new case.
        :return: The caseId of the new case.
        """
        try:
            response = self.support_client.create_case(
                subject="Example case for testing, ignore.",
                serviceCode=service["code"],
                severityCode=severity["code"],
                categoryCode=category["code"],
                communicationBody="Example support case body.",
                language="en",
                issueType="customer-service",
            )
            case_id = response["caseId"]
        except ClientError as err:
            if err.response["Error"]["Code"] == "SubscriptionRequiredException":
                logger.info(
                    "You must have a Business, Enterprise On-Ramp, or Enterprise
Support "
                    "plan to use the AWS Support API. \n\tPlease upgrade your
subscription to run these "
                    "examples."
                )
            else:
                logger.error(
                    "Couldn't create case. Here's why: %s: %s",
                    err.response["Error"]["Code"],
                    err.response["Error"]["Message"],
                )
                raise
        else:
            return case_id
```

- For API details, see CreateCase in *AWS SDK for Python (Boto3) API Reference*.

For a complete list of AWS SDK developer guides and code examples, see Using AWS Support with an AWS SDK. This topic also includes information about getting started and details about previous SDK versions.

Use `DescribeAttachment` with an AWS SDK or CLI

The following code examples show how to use `DescribeAttachment`.

Action examples are code excerpts from larger programs and must be run in context. You can see this action in context in the following code example:

- Learn the basics

.NET

AWS SDK for .NET

> **Note**
>
> There's more on GitHub. Find the complete example and learn how to set up and run in the AWS Code Examples Repository.

```
    /// <summary>
    /// Get description of a specific attachment.
    /// </summary>
    /// <param name="attachmentId">Id of the attachment, usually fetched by
describing the communications of a case.</param>
    /// <returns>The attachment object.</returns>
    public async Task<Attachment> DescribeAttachment(string attachmentId)
    {
        var response = await _amazonSupport.DescribeAttachmentAsync(
            new DescribeAttachmentRequest()
            {
```

```
                AttachmentId = attachmentId
            });
        return response.Attachment;
    }
```

- For API details, see DescribeAttachment in *AWS SDK for .NET API Reference*.

CLI

AWS CLI

To describe an attachment

The following `describe-attachment` example returns information about the attachment with the specified ID.

```
aws support describe-attachment \
    --attachment-id "attachment-KBnjRNrePd9D6Jx0-Mm00xZuDEaL2JAj_0-gJv9qqDooTipsz3V1Nb19rCfkZneeQeDPgp8X1iVJyHH7UuhZDdNeqGoduZsPrAhyMakqlc60-iJjL5HqyYGiT1FG8EXAMPLE"
```

Output:

```
{
    "attachment": {
        "fileName": "troubleshoot-screenshot.png",
        "data": "base64-blob"
    }
}
```

For more information, see Case management in the *AWS Support User Guide*.

- For API details, see DescribeAttachment in *AWS CLI Command Reference*.

Java

SDK for Java 2.x

> **Note**
>
> There's more on GitHub. Find the complete example and learn how to set up and run in the AWS Code Examples Repository.

```
   public static void describeAttachment(SupportClient supportClient, String
attachId) {
       try {
           DescribeAttachmentRequest attachmentRequest =
DescribeAttachmentRequest.builder()
                   .attachmentId(attachId)
                   .build();

           DescribeAttachmentResponse response =
supportClient.describeAttachment(attachmentRequest);
           System.out.println("The name of the file is " +
response.attachment().fileName());

       } catch (SupportException e) {
           System.out.println(e.getLocalizedMessage());
           System.exit(1);
       }
   }
```

- For API details, see DescribeAttachment in *AWS SDK for Java 2.x API Reference*.

JavaScript

SDK for JavaScript (v3)

> **Note**
>
> There's more on GitHub. Find the complete example and learn how to set up and run in the AWS Code Examples Repository.

```
import { DescribeAttachmentCommand } from "@aws-sdk/client-support";

import { client } from "../libs/client.js";

export const main = async () => {
  try {
    // Get the metadata and content of an attachment.
    const response = await client.send(
      new DescribeAttachmentCommand({
        // Set value to an existing attachment id.
        // Use DescribeCommunications or DescribeCases to find an attachment id.
        attachmentId: "ATTACHMENT_ID",
      }),
    );
    console.log(response.attachment?.fileName);
    return response;
  } catch (err) {
    console.error(err);
  }
};
```

- For API details, see DescribeAttachment in *AWS SDK for JavaScript API Reference*.

Kotlin

SDK for Kotlin

> **Note**
>
> There's more on GitHub. Find the complete example and learn how to set up and run in the AWS Code Examples Repository.

```
suspend fun describeAttachment(attachId: String?) {
    val attachmentRequest =
        DescribeAttachmentRequest {
            attachmentId = attachId
        }

    SupportClient { region = "us-west-2" }.use { supportClient ->
```

```
        val response = supportClient.describeAttachment(attachmentRequest)
        println("The name of the file is ${response.attachment?.fileName}")
    }
}
```

- For API details, see DescribeAttachment in *AWS SDK for Kotlin API reference*.

Python

SDK for Python (Boto3)

> **Note**
>
> There's more on GitHub. Find the complete example and learn how to set up and run in the AWS Code Examples Repository.

```
class SupportWrapper:
    """Encapsulates Support actions."""

    def __init__(self, support_client):
        """
        :param support_client: A Boto3 Support client.
        """
        self.support_client = support_client

    @classmethod
    def from_client(cls):
        """
        Instantiates this class from a Boto3 client.
        """
        support_client = boto3.client("support")
        return cls(support_client)


    def describe_attachment(self, attachment_id):
        """
        Get information about an attachment by its attachmentID.

        :param attachment_id: The ID of the attachment.
        :return: The name of the attached file.
```

```
        """
        try:
            response = self.support_client.describe_attachment(
                attachmentId=attachment_id
            )
            attached_file = response["attachment"]["fileName"]
        except ClientError as err:
            if err.response["Error"]["Code"] == "SubscriptionRequiredException":
                logger.info(
                    "You must have a Business, Enterprise On-Ramp, or Enterprise
Support "
                    "plan to use the AWS Support API. \n\tPlease upgrade your
subscription to run these "
                    "examples."
                )
            else:
                logger.error(
                    "Couldn't get attachment description. Here's why: %s: %s",
                    err.response["Error"]["Code"],
                    err.response["Error"]["Message"],
                )
                raise
        else:
            return attached_file
```

- For API details, see DescribeAttachment in *AWS SDK for Python (Boto3) API Reference*.

For a complete list of AWS SDK developer guides and code examples, see Using AWS Support with an AWS SDK. This topic also includes information about getting started and details about previous SDK versions.

Use `DescribeCases` with an AWS SDK or CLI

The following code examples show how to use `DescribeCases`.

Action examples are code excerpts from larger programs and must be run in context. You can see this action in context in the following code example:

- Learn the basics

.NET

AWS SDK for .NET

> **Note**
>
> There's more on GitHub. Find the complete example and learn how to set up and run in the AWS Code Examples Repository.

```
    /// <summary>
    /// Get case details for a list of case ids, optionally with date filters.
    /// </summary>
    /// <param name="caseIds">The list of case IDs.</param>
    /// <param name="displayId">Optional display ID.</param>
    /// <param name="includeCommunication">True to include communication.
 Defaults to true.</param>
    /// <param name="includeResolvedCases">True to include resolved cases.
 Defaults to false.</param>
    /// <param name="afterTime">The optional start date for a filtered search.</
param>
    /// <param name="beforeTime">The optional end date for a filtered search.</
param>
    /// <param name="language">Optional language support for your case.
    /// Currently Chinese (“zh”), English ("en"), Japanese ("ja") and Korean
 (“ko”) are supported.</param>
    /// <returns>A list of CaseDetails.</returns>
    public async Task<List<CaseDetails>> DescribeCases(List<string> caseIds,
 string? displayId = null, bool includeCommunication = true,
        bool includeResolvedCases = false, DateTime? afterTime = null, DateTime?
 beforeTime = null,
        string language = "en")
    {
        var results = new List<CaseDetails>();
        var paginateCases = _amazonSupport.Paginators.DescribeCases(
            new DescribeCasesRequest()
            {
                CaseIdList = caseIds,
                DisplayId = displayId,
                IncludeCommunications = includeCommunication,
                IncludeResolvedCases = includeResolvedCases,
```

```
                AfterTime = afterTime?.ToString("s"),
                BeforeTime = beforeTime?.ToString("s"),
                Language = language
            });
        // Get the entire list using the paginator.
        await foreach (var cases in paginateCases.Cases)
        {
            results.Add(cases);
        }
        return results;
    }
```

- For API details, see DescribeCases in *AWS SDK for .NET API Reference*.

CLI

AWS CLI

To describe a case

The following `describe-cases` example returns information about the specified support case in your AWS account.

```
aws support describe-cases \
    --display-id "1234567890" \
    --after-time "2020-03-23T21:31:47.774Z" \
    --include-resolved-cases \
    --language "en" \
    --no-include-communications \
    --max-item 1
```

Output:

```
{
    "cases": [
        {
            "status": "resolved",
            "ccEmailAddresses": [],
            "timeCreated": "2020-03-23T21:31:47.774Z",
            "caseId": "case-12345678910-2013-c4c1d2bf33c5cf47",
```

```
            "severityCode": "low",
            "language": "en",
            "categoryCode": "using-aws",
            "serviceCode": "general-info",
            "submittedBy": "myemail@example.com",
            "displayId": "1234567890",
            "subject": "Question about my account"
        }
    ]
}
```

For more information, see Case management in the *AWS Support User Guide*.

- For API details, see DescribeCases in *AWS CLI Command Reference*.

Java

SDK for Java 2.x

> **Note**
>
> There's more on GitHub. Find the complete example and learn how to set up and run in the AWS Code Examples Repository.

```
    public static void getOpenCase(SupportClient supportClient) {
        try {
            // Specify the start and end time.
            Instant now = Instant.now();
            java.time.LocalDate.now();
            Instant yesterday = now.minus(1, ChronoUnit.DAYS);

            DescribeCasesRequest describeCasesRequest =
DescribeCasesRequest.builder()
                    .maxResults(20)
                    .afterTime(yesterday.toString())
                    .beforeTime(now.toString())
                    .build();

            DescribeCasesResponse response =
supportClient.describeCases(describeCasesRequest);
            List<CaseDetails> cases = response.cases();
```

```
            for (CaseDetails sinCase : cases) {
                System.out.println("The case status is " + sinCase.status());
                System.out.println("The case Id is " + sinCase.caseId());
                System.out.println("The case subject is " + sinCase.subject());
            }

        } catch (SupportException e) {
            System.out.println(e.getLocalizedMessage());
            System.exit(1);
        }
    }
```

- For API details, see DescribeCases in *AWS SDK for Java 2.x API Reference*.

JavaScript

SDK for JavaScript (v3)

> **Note**
>
> There's more on GitHub. Find the complete example and learn how to set up and run in the AWS Code Examples Repository.

```
import { DescribeCasesCommand } from "@aws-sdk/client-support";

import { client } from "../libs/client.js";

export const main = async () => {
  try {
    // Get all of the unresolved cases in your account.
    // Filter or expand results by providing parameters to the
 DescribeCasesCommand. Refer
    // to the TypeScript definition and the API doc for more information on
 possible parameters.
    // https://docs.aws.amazon.com/AWSJavaScriptSDK/v3/latest/clients/client-
support/interfaces/describecasescommandinput.html
    const response = await client.send(new DescribeCasesCommand({}));
    const caseIds = response.cases.map((supportCase) => supportCase.caseId);
    console.log(caseIds);
    return response;
```

```
  } catch (err) {
    console.error(err);
  }
};
```

- For API details, see DescribeCases in *AWS SDK for JavaScript API Reference*.

Kotlin

SDK for Kotlin

> **Note**
>
> There's more on GitHub. Find the complete example and learn how to set up and run in the AWS Code Examples Repository.

```
suspend fun getOpenCase() {
    // Specify the start and end time.
    val now = Instant.now()
    LocalDate.now()
    val yesterday = now.minus(1, ChronoUnit.DAYS)
    val describeCasesRequest =
        DescribeCasesRequest {
            maxResults = 20
            afterTime = yesterday.toString()
            beforeTime = now.toString()
        }

    SupportClient { region = "us-west-2" }.use { supportClient ->
        val response = supportClient.describeCases(describeCasesRequest)
        response.cases?.forEach { sinCase ->
            println("The case status is ${sinCase.status}")
            println("The case Id is ${sinCase.caseId}")
            println("The case subject is ${sinCase.subject}")
        }
    }
}
```

- For API details, see DescribeCases in *AWS SDK for Kotlin API reference*.

PowerShell

Tools for PowerShell

Example 1: Returns the details of all support cases.

```
Get-ASACase
```

Example 2: Returns the details of all support cases since the specified date and time.

```
Get-ASACase -AfterTime "2013-09-10T03:06Z"
```

Example 3: Returns the details of the first 10 support cases, including those that have been resolved.

```
Get-ASACase -MaxResult 10 -IncludeResolvedCases $true
```

Example 4: Returns the details of the single specified support case.

```
Get-ASACase -CaseIdList "case-12345678910-2013-c4c1d2bf33c5cf47"
```

Example 5: Returns the details of specified support cases.

```
Get-ASACase -CaseIdList @("case-12345678910-2013-c4c1d2bf33c5cf47",
 "case-18929034710-2011-c4fdeabf33c5cf47")
```

Example 6: Returns all support cases using manual paging. The cases are retrieved in batches of 20.

```
$nextToken = $null
do {
  Get-ASACase -NextToken $nextToken -MaxResult 20
  $nextToken = $AWSHistory.LastServiceResponse.NextToken
} while ($nextToken -ne $null)
```

- For API details, see DescribeCases in *AWS Tools for PowerShell Cmdlet Reference*.

Python

SDK for Python (Boto3)

> **Note**
>
> There's more on GitHub. Find the complete example and learn how to set up and run in the AWS Code Examples Repository.

```
class SupportWrapper:
    """Encapsulates Support actions."""

    def __init__(self, support_client):
        """
        :param support_client: A Boto3 Support client.
        """
        self.support_client = support_client

    @classmethod
    def from_client(cls):
        """
        Instantiates this class from a Boto3 client.
        """
        support_client = boto3.client("support")
        return cls(support_client)


    def describe_cases(self, after_time, before_time, resolved):
        """
        Describe support cases over a period of time, optionally filtering
        by status.

        :param after_time: The start time to include for cases.
        :param before_time: The end time to include for cases.
        :param resolved: True to include resolved cases in the results,
            otherwise results are open cases.
        :return: The final status of the case.
        """
        try:
            cases = []
            paginator = self.support_client.get_paginator("describe_cases")
```

```
            for page in paginator.paginate(
                afterTime=after_time,
                beforeTime=before_time,
                includeResolvedCases=resolved,
                language="en",
            ):
                cases += page["cases"]
        except ClientError as err:
            if err.response["Error"]["Code"] == "SubscriptionRequiredException":
                logger.info(
                    "You must have a Business, Enterprise On-Ramp, or Enterprise
Support "
                    "plan to use the AWS Support API. \n\tPlease upgrade your
subscription to run these "
                    "examples."
                )
            else:
                logger.error(
                    "Couldn't describe cases. Here's why: %s: %s",
                    err.response["Error"]["Code"],
                    err.response["Error"]["Message"],
                )
                raise
        else:
            if resolved:
                cases = filter(lambda case: case["status"] == "resolved", cases)
            return cases
```

- For API details, see DescribeCases in *AWS SDK for Python (Boto3) API Reference*.

For a complete list of AWS SDK developer guides and code examples, see Using AWS Support with an AWS SDK. This topic also includes information about getting started and details about previous SDK versions.

Use `DescribeCommunications` with an AWS SDK or CLI

The following code examples show how to use `DescribeCommunications`.

Action examples are code excerpts from larger programs and must be run in context. You can see this action in context in the following code example:

- Learn the basics

.NET

AWS SDK for .NET

> **Note**
>
> There's more on GitHub. Find the complete example and learn how to set up and run in the AWS Code Examples Repository.

```
    /// <summary>
    /// Describe the communications for a case, optionally with a date filter.
    /// </summary>
    /// <param name="caseId">The ID of the support case.</param>
    /// <param name="afterTime">The optional start date for a filtered search.</
param>
    /// <param name="beforeTime">The optional end date for a filtered search.</
param>
    /// <returns>The list of communications for the case.</returns>
    public async Task<List<Communication>> DescribeCommunications(string caseId,
 DateTime? afterTime = null, DateTime? beforeTime = null)
    {
        var results = new List<Communication>();
        var paginateCommunications =
 _amazonSupport.Paginators.DescribeCommunications(
            new DescribeCommunicationsRequest()
            {
                CaseId = caseId,
                AfterTime = afterTime?.ToString("s"),
                BeforeTime = beforeTime?.ToString("s")
            });
        // Get the entire list using the paginator.
        await foreach (var communications in
 paginateCommunications.Communications)
        {
            results.Add(communications);
        }
        return results;
    }
```

- For API details, see DescribeCommunications in *AWS SDK for .NET API Reference*.

CLI

AWS CLI

To describe the latest communication for a case

The following `describe-communications` example returns the latest communication for the specified support case in your AWS account.

```
aws support describe-communications \
    --case-id "case-12345678910-2013-c4c1d2bf33c5cf47" \
    --after-time "2020-03-23T21:31:47.774Z" \
    --max-item 1
```

Output:

```
{
    "communications": [
        {
            "body": "I want to learn more about an AWS service.",
            "attachmentSet": [],
            "caseId": "case-12345678910-2013-c4c1d2bf33c5cf47",
            "timeCreated": "2020-05-12T23:12:35.000Z",
            "submittedBy": "Amazon Web Services"
        }
    ],
    "NextToken":
 "eyJuZXh0VG9rZW4iOiBudWxsLCAiYm90b190cnVuY2F0ZV9hbW91bnQEXAMPLE=="
}
```

For more information, see Case management in the *AWS Support User Guide*.

- For API details, see DescribeCommunications in *AWS CLI Command Reference*.

Java

SDK for Java 2.x

> **Note**
>
> There's more on GitHub. Find the complete example and learn how to set up and run in the AWS Code Examples Repository.

```
   public static String listCommunications(SupportClient supportClient, String
caseId) {
       try {
           String attachId = null;
           DescribeCommunicationsRequest communicationsRequest =
DescribeCommunicationsRequest.builder()
                   .caseId(caseId)
                   .maxResults(10)
                   .build();

           DescribeCommunicationsResponse response =
supportClient.describeCommunications(communicationsRequest);
           List<Communication> communications = response.communications();
           for (Communication comm : communications) {
               System.out.println("the body is: " + comm.body());

               // Get the attachment id value.
               List<AttachmentDetails> attachments = comm.attachmentSet();
               for (AttachmentDetails detail : attachments) {
                   attachId = detail.attachmentId();
               }
           }
           return attachId;

       } catch (SupportException e) {
           System.out.println(e.getLocalizedMessage());
           System.exit(1);
       }
       return "";
   }
```

- For API details, see DescribeCommunications in *AWS SDK for Java 2.x API Reference*.

JavaScript

SDK for JavaScript (v3)

> **Note**
>
> There's more on GitHub. Find the complete example and learn how to set up and run in the AWS Code Examples Repository.

```
import { DescribeCommunicationsCommand } from "@aws-sdk/client-support";

import { client } from "../libs/client.js";

export const main = async () => {
  try {
    // Get all communications for the support case.
    // Filter results by providing parameters to the
 DescribeCommunicationsCommand. Refer
    // to the TypeScript definition and the API doc for more information on
 possible parameters.
    // https://docs.aws.amazon.com/AWSJavaScriptSDK/v3/latest/clients/client-
support/interfaces/describecommunicationscommandinput.html
    const response = await client.send(
      new DescribeCommunicationsCommand({
        // Set value to an existing case id.
        caseId: "CASE_ID",
      }),
    );
    const text = response.communications.map((item) => item.body).join("\n");
    console.log(text);
    return response;
  } catch (err) {
    console.error(err);
  }
};
```

- For API details, see DescribeCommunications in *AWS SDK for JavaScript API Reference*.

Kotlin

SDK for Kotlin

> **Note**
>
> There's more on GitHub. Find the complete example and learn how to set up and run in the AWS Code Examples Repository.

```
suspend fun listCommunications(caseIdVal: String?): String? {
    val communicationsRequest =
        DescribeCommunicationsRequest {
            caseId = caseIdVal
            maxResults = 10
        }

    SupportClient { region = "us-west-2" }.use { supportClient ->
        val response =
 supportClient.describeCommunications(communicationsRequest)
        response.communications?.forEach { comm ->
            println("the body is: " + comm.body)
            comm.attachmentSet?.forEach { detail ->
                return detail.attachmentId
            }
        }
    }
    return ""
}
```

- For API details, see DescribeCommunications in *AWS SDK for Kotlin API reference*.

PowerShell

Tools for PowerShell

Example 1: Returns all communications for the specified case.

```
Get-ASACommunication -CaseId "case-12345678910-2013-c4c1d2bf33c5cf47"
```

Example 2: Returns all communications since midnight UTC on January 1st 2012 for the specified case.

```
Get-ASACommunication -CaseId "case-12345678910-2013-c4c1d2bf33c5cf47" -AfterTime
 "2012-01-10T00:00Z"
```

Example 3: Returns all communications since midnight UTC on January 1st 2012 for the specified case, using manual paging. The communications are retrieved in batches of 20.

```
$nextToken = $null
do {
  Get-ASACommunication -CaseId "case-12345678910-2013-c4c1d2bf33c5cf47" -
NextToken $nextToken -MaxResult 20
  $nextToken = $AWSHistory.LastServiceResponse.NextToken
} while ($nextToken -ne $null)
```

- For API details, see DescribeCommunications in *AWS Tools for PowerShell Cmdlet Reference*.

Python

SDK for Python (Boto3)

> **Note**
>
> There's more on GitHub. Find the complete example and learn how to set up and run in the AWS Code Examples Repository.

```
class SupportWrapper:
    """Encapsulates Support actions."""

    def __init__(self, support_client):
        """
        :param support_client: A Boto3 Support client.
        """
        self.support_client = support_client

    @classmethod
```

```
    def from_client(cls):
        """
        Instantiates this class from a Boto3 client.
        """
        support_client = boto3.client("support")
        return cls(support_client)


    def describe_all_case_communications(self, case_id):
        """
        Describe all the communications for a case using a paginator.

        :param case_id: The ID of the case.
        :return: The communications for the case.
        """
        try:
            communications = []
            paginator =
self.support_client.get_paginator("describe_communications")
            for page in paginator.paginate(caseId=case_id):
                communications += page["communications"]
        except ClientError as err:
            if err.response["Error"]["Code"] == "SubscriptionRequiredException":
                logger.info(
                    "You must have a Business, Enterprise On-Ramp, or Enterprise
Support "
                    "plan to use the AWS Support API. \n\tPlease upgrade your
subscription to run these "
                    "examples."
                )
            else:
                logger.error(
                    "Couldn't describe communications. Here's why: %s: %s",
                    err.response["Error"]["Code"],
                    err.response["Error"]["Message"],
                )
                raise
        else:
            return communications
```

- For API details, see DescribeCommunications in *AWS SDK for Python (Boto3) API Reference*.

For a complete list of AWS SDK developer guides and code examples, see Using AWS Support with an AWS SDK. This topic also includes information about getting started and details about previous SDK versions.

Use `DescribeServices` with an AWS SDK or CLI

The following code examples show how to use `DescribeServices`.

Action examples are code excerpts from larger programs and must be run in context. You can see this action in context in the following code example:

- Learn the basics

.NET

AWS SDK for .NET

> **Note**
>
> There's more on GitHub. Find the complete example and learn how to set up and run in the AWS Code Examples Repository.

```
    /// <summary>
    /// Get the descriptions of AWS services.
    /// </summary>
    /// <param name="name">Optional language for services.
    /// Currently Chinese (“zh”), English ("en"), Japanese ("ja") and Korean
(“ko”) are supported.</param>
    /// <returns>The list of AWS service descriptions.</returns>
    public async Task<List<Service>> DescribeServices(string language = "en")
    {
        var response = await _amazonSupport.DescribeServicesAsync(
            new DescribeServicesRequest()
            {
                Language = language
            });
        return response.Services;
    }
```

- For API details, see DescribeServices in *AWS SDK for .NET API Reference*.

CLI

AWS CLI

To list AWS services and service categories

The following `describe-services` example lists the available service categories for requesting general information.

```
aws support describe-services \
    --service-code-list "general-info"
```

Output:

```
{
    "services": [
        {
            "code": "general-info",
            "name": "General Info and Getting Started",
            "categories": [
                {
                    "code": "charges",
                    "name": "How Will I Be Charged?"
                },
                {
                    "code": "gdpr-queries",
                    "name": "Data Privacy Query"
                },
                {
                    "code": "reserved-instances",
                    "name": "Reserved Instances"
                },
                {
                    "code": "resource",
                    "name": "Where is my Resource?"
                },
                {
                    "code": "using-aws",
```

```
                    "name": "Using AWS & Services"
                },
                {
                    "code": "free-tier",
                    "name": "Free Tier"
                },
                {
                    "code": "security-and-compliance",
                    "name": "Security & Compliance"
                },
                {
                    "code": "account-structure",
                    "name": "Account Structure"
                }
            ]
        }
    ]
}
```

For more information, see Case management in the *AWS Support User Guide*.

- For API details, see DescribeServices in *AWS CLI Command Reference*.

Java

SDK for Java 2.x

> **Note**
>
> There's more on GitHub. Find the complete example and learn how to set up and run in the AWS Code Examples Repository.

```
    // Return a List that contains a Service name and Category name.
    public static List<String> displayServices(SupportClient supportClient) {
        try {
            DescribeServicesRequest servicesRequest =
DescribeServicesRequest.builder()
                    .language("en")
                    .build();
```

```
            DescribeServicesResponse response =
supportClient.describeServices(servicesRequest);
            String serviceCode = null;
            String catName = null;
            List<String> sevCatList = new ArrayList<>();
            List<Service> services = response.services();

            System.out.println("Get the first 10 services");
            int index = 1;
            for (Service service : services) {
                if (index == 11)
                    break;

                System.out.println("The Service name is: " + service.name());
                if (service.name().compareTo("Account") == 0)
                    serviceCode = service.code();

                // Get the Categories for this service.
                List<Category> categories = service.categories();
                for (Category cat : categories) {
                    System.out.println("The category name is: " + cat.name());
                    if (cat.name().compareTo("Security") == 0)
                        catName = cat.name();
                }
                index++;
            }

            // Push the two values to the list.
            sevCatList.add(serviceCode);
            sevCatList.add(catName);
            return sevCatList;

        } catch (SupportException e) {
            System.out.println(e.getLocalizedMessage());
            System.exit(1);
        }
        return null;
    }
```

- For API details, see DescribeServices in *AWS SDK for Java 2.x API Reference*.

Kotlin

SDK for Kotlin

> **Note**
>
> There's more on GitHub. Find the complete example and learn how to set up and run in the AWS Code Examples Repository.

```
// Return a List that contains a Service name and Category name.
suspend fun displayServices(): List<String> {
    var serviceCode = ""
    var catName = ""
    val sevCatList = mutableListOf<String>()
    val servicesRequest =
        DescribeServicesRequest {
            language = "en"
        }

    SupportClient { region = "us-west-2" }.use { supportClient ->
        val response = supportClient.describeServices(servicesRequest)
        println("Get the first 10 services")
        var index = 1

        response.services?.forEach { service ->
            if (index == 11) {
                return@forEach
            }

            println("The Service name is ${service.name}")
            if (service.name == "Account") {
                serviceCode = service.code.toString()
            }

            // Get the categories for this service.
            service.categories?.forEach { cat ->
                println("The category name is ${cat.name}")
                if (cat.name == "Security") {
                    catName = cat.name!!
                }
            }
```

```
            index++
        }
    }

    // Push the two values to the list.
    serviceCode.let { sevCatList.add(it) }
    catName.let { sevCatList.add(it) }
    return sevCatList
}
```

- For API details, see DescribeServices in *AWS SDK for Kotlin API reference*.

PowerShell

Tools for PowerShell

Example 1: Returns all available service codes, names and categories.

```
Get-ASAService
```

Example 2: Returns the name and categories for the service with the specified code.

```
Get-ASAService -ServiceCodeList "amazon-cloudfront"
```

Example 3: Returns the name and categories for the specified service codes.

```
Get-ASAService -ServiceCodeList @("amazon-cloudfront", "amazon-cloudwatch")
```

Example 4: Returns the name and categories (in Japanese) for the specified service codes. Currently English ("en") and Japanese ("ja") language codes are supported.

```
Get-ASAService -ServiceCodeList @("amazon-cloudfront", "amazon-cloudwatch") -
Language "ja"
```

- For API details, see DescribeServices in *AWS Tools for PowerShell Cmdlet Reference*.

Python

SDK for Python (Boto3)

> **Note**
>
> There's more on GitHub. Find the complete example and learn how to set up and run in the AWS Code Examples Repository.

```
class SupportWrapper:
    """Encapsulates Support actions."""

    def __init__(self, support_client):
        """
        :param support_client: A Boto3 Support client.
        """
        self.support_client = support_client

    @classmethod
    def from_client(cls):
        """
        Instantiates this class from a Boto3 client.
        """
        support_client = boto3.client("support")
        return cls(support_client)


    def describe_services(self, language):
        """
        Get the descriptions of AWS services available for support for a
 language.

        :param language: The language for support services.
        Currently, only "en" (English) and "ja" (Japanese) are supported.
        :return: The list of AWS service descriptions.
        """
        try:
            response = self.support_client.describe_services(language=language)
            services = response["services"]
        except ClientError as err:
            if err.response["Error"]["Code"] == "SubscriptionRequiredException":
```

```
                logger.info(
                    "You must have a Business, Enterprise On-Ramp, or Enterprise
Support "
                    "plan to use the AWS Support API. \n\tPlease upgrade your
subscription to run these "
                    "examples."
                )
            else:
                logger.error(
                    "Couldn't get Support services for language %s. Here's why:
%s: %s",
                    language,
                    err.response["Error"]["Code"],
                    err.response["Error"]["Message"],
                )
                raise
        else:
            return services
```

- For API details, see DescribeServices in *AWS SDK for Python (Boto3) API Reference*.

For a complete list of AWS SDK developer guides and code examples, see Using AWS Support with an AWS SDK. This topic also includes information about getting started and details about previous SDK versions.

Use `DescribeSeverityLevels` with an AWS SDK or CLI

The following code examples show how to use `DescribeSeverityLevels`.

Action examples are code excerpts from larger programs and must be run in context. You can see this action in context in the following code example:

- Learn the basics

.NET

AWS SDK for .NET

> **Note**
>
> There's more on GitHub. Find the complete example and learn how to set up and run in the AWS Code Examples Repository.

```
    /// <summary>
    /// Get the descriptions of support severity levels.
    /// </summary>
    /// <param name="name">Optional language for severity levels.
    /// Currently Chinese (“zh”), English ("en"), Japanese ("ja") and Korean
(“ko”) are supported.</param>
    /// <returns>The list of support severity levels.</returns>
    public async Task<List<SeverityLevel>> DescribeSeverityLevels(string language
= "en")
    {
        var response = await _amazonSupport.DescribeSeverityLevelsAsync(
            new DescribeSeverityLevelsRequest()
            {
                Language = language
            });
        return response.SeverityLevels;
    }
```

- For API details, see DescribeSeverityLevels in *AWS SDK for .NET API Reference*.

CLI

AWS CLI

To list the available severity levels

The following `describe-severity-levels` example lists the available severity levels for a support case.

```
aws support describe-severity-levels
```

Output:

```
{
    "severityLevels": [
        {
            "code": "low",
            "name": "Low"
        },
        {
            "code": "normal",
            "name": "Normal"
        },
        {
            "code": "high",
            "name": "High"
        },
        {
            "code": "urgent",
            "name": "Urgent"
        },
        {
            "code": "critical",
            "name": "Critical"
        }
    ]
}
```

For more information, see Choosing a severity in the *AWS Support User Guide*.

- For API details, see DescribeSeverityLevels in *AWS CLI Command Reference*.

Java

SDK for Java 2.x

> **Note**
>
> There's more on GitHub. Find the complete example and learn how to set up and run in the AWS Code Examples Repository.

```
    public static String displaySevLevels(SupportClient supportClient) {
        try {
            DescribeSeverityLevelsRequest severityLevelsRequest =
DescribeSeverityLevelsRequest.builder()
                    .language("en")
                    .build();

            DescribeSeverityLevelsResponse response =
supportClient.describeSeverityLevels(severityLevelsRequest);
            List<SeverityLevel> severityLevels = response.severityLevels();
            String levelName = null;
            for (SeverityLevel sevLevel : severityLevels) {
                System.out.println("The severity level name is: " +
sevLevel.name());
                if (sevLevel.name().compareTo("High") == 0)
                    levelName = sevLevel.name();
            }
            return levelName;

        } catch (SupportException e) {
            System.out.println(e.getLocalizedMessage());
            System.exit(1);
        }
        return "";
    }
```

- For API details, see DescribeSeverityLevels in *AWS SDK for Java 2.x API Reference*.

JavaScript

SDK for JavaScript (v3)

> **Note**
>
> There's more on GitHub. Find the complete example and learn how to set up and run in the AWS Code Examples Repository.

```
import { DescribeSeverityLevelsCommand } from "@aws-sdk/client-support";
```

```
import { client } from "../libs/client.js";

export const main = async () => {
  try {
    // Get the list of severity levels.
    // The available values depend on the support plan for the account.
    const response = await client.send(new DescribeSeverityLevelsCommand({}));
    console.log(response.severityLevels);
    return response;
  } catch (err) {
    console.error(err);
  }
};
```

- For API details, see DescribeSeverityLevels in *AWS SDK for JavaScript API Reference*.

Kotlin

SDK for Kotlin

> **Note**
>
> There's more on GitHub. Find the complete example and learn how to set up and run in the AWS Code Examples Repository.

```
suspend fun displaySevLevels(): String {
    var levelName = ""
    val severityLevelsRequest =
        DescribeSeverityLevelsRequest {
            language = "en"
        }

    SupportClient { region = "us-west-2" }.use { supportClient ->
        val response =
 supportClient.describeSeverityLevels(severityLevelsRequest)
        response.severityLevels?.forEach { sevLevel ->
            println("The severity level name is: ${sevLevel.name}")
            if (sevLevel.name == "High") {
                levelName = sevLevel.name!!
            }
```

```
        }
        return levelName
    }
}
```

- For API details, see DescribeSeverityLevels in *AWS SDK for Kotlin API reference*.

PowerShell

Tools for PowerShell

Example 1: Returns the list of severity levels that can be assigned to an AWS Support case.

```
Get-ASASeverityLevel
```

Example 2: Returns the list of severity levels that can be assigned to an AWS Support case. The names of the levels are returned in Japanese.

```
Get-ASASeverityLevel -Language "ja"
```

- For API details, see DescribeSeverityLevels in *AWS Tools for PowerShell Cmdlet Reference*.

Python

SDK for Python (Boto3)

> **Note**
>
> There's more on GitHub. Find the complete example and learn how to set up and run in the AWS Code Examples Repository.

```
class SupportWrapper:
    """Encapsulates Support actions."""

    def __init__(self, support_client):
        """
        :param support_client: A Boto3 Support client.
```

```
        """
        self.support_client = support_client

    @classmethod
    def from_client(cls):
        """
        Instantiates this class from a Boto3 client.
        """
        support_client = boto3.client("support")
        return cls(support_client)


    def describe_severity_levels(self, language):
        """
        Get the descriptions of available severity levels for support cases for a
language.

        :param language: The language for support severity levels.
        Currently, only "en" (English) and "ja" (Japanese) are supported.
        :return: The list of severity levels.
        """
        try:
            response =
self.support_client.describe_severity_levels(language=language)
            severity_levels = response["severityLevels"]
        except ClientError as err:
            if err.response["Error"]["Code"] == "SubscriptionRequiredException":
                logger.info(
                    "You must have a Business, Enterprise On-Ramp, or Enterprise
Support "
                    "plan to use the AWS Support API. \n\tPlease upgrade your
subscription to run these "
                    "examples."
                )
            else:
                logger.error(
                    "Couldn't get severity levels for language %s. Here's why:
%s: %s",
                    language,
                    err.response["Error"]["Code"],
                    err.response["Error"]["Message"],
                )
                raise
        else:
```

```
            return severity_levels


```

- For API details, see DescribeSeverityLevels in *AWS SDK for Python (Boto3) API Reference*.

For a complete list of AWS SDK developer guides and code examples, see Using AWS Support with an AWS SDK. This topic also includes information about getting started and details about previous SDK versions.

Use `DescribeTrustedAdvisorCheckRefreshStatuses` with an AWS SDK or CLI

The following code examples show how to use `DescribeTrustedAdvisorCheckRefreshStatuses`.

CLI

AWS CLI

To list the refresh statuses of AWS Trusted Advisor checks

The following `describe-trusted-advisor-check-refresh-statuses` example lists the refresh statuses for two Trusted Advisor checks: Amazon S3 Bucket Permissions and IAM Use.

```
aws support describe-trusted-advisor-check-refresh-statuses \
    --check-id "Pfx0RwqBli" "zXCkfM1nI3"
```

Output:

```
{
    "statuses": [
        {
            "checkId": "Pfx0RwqBli",
            "status": "none",
            "millisUntilNextRefreshable": 0
        },
        {
            "checkId": "zXCkfM1nI3",
```

```
            "status": "none",
            "millisUntilNextRefreshable": 0
        }
    ]
}
```

For more information, see AWS Trusted Advisor in the *AWS Support User Guide*.

- For API details, see DescribeTrustedAdvisorCheckRefreshStatuses in *AWS CLI Command Reference*.

PowerShell

Tools for PowerShell

Example 1: Returns the current status of refresh requests for the specified checks. Request-ASATrustedAdvisorCheckRefresh can be used to request that the status information of the checks be refreshed.

```
Get-ASATrustedAdvisorCheckRefreshStatus -CheckId @("checkid1", "checkid2")
```

- For API details, see DescribeTrustedAdvisorCheckRefreshStatuses in *AWS Tools for PowerShell Cmdlet Reference*.

For a complete list of AWS SDK developer guides and code examples, see Using AWS Support with an AWS SDK. This topic also includes information about getting started and details about previous SDK versions.

Use `DescribeTrustedAdvisorCheckResult` with an AWS SDK or CLI

The following code examples show how to use `DescribeTrustedAdvisorCheckResult`.

CLI

AWS CLI

To list the results of an AWS Trusted Advisor check

The following `describe-trusted-advisor-check-result` example lists the results of the IAM Use check.

```
aws support describe-trusted-advisor-check-result \
    --check-id "zXCkfM1nI3"
```

Output:

```
{
    "result": {
        "checkId": "zXCkfM1nI3",
        "timestamp": "2020-05-13T21:38:05Z",
        "status": "ok",
        "resourcesSummary": {
            "resourcesProcessed": 1,
            "resourcesFlagged": 0,
            "resourcesIgnored": 0,
            "resourcesSuppressed": 0
        },
        "categorySpecificSummary": {
            "costOptimizing": {
                "estimatedMonthlySavings": 0.0,
                "estimatedPercentMonthlySavings": 0.0
            }
        },
        "flaggedResources": [
            {
                "status": "ok",
                "resourceId": "47DEQpj8HBSa-_TImW-5JCeuQeRkm5NMpJWZEXAMPLE",
                "isSuppressed": false
            }
        ]
    }
}
```

For more information, see AWS Trusted Advisor in the *AWS Support User Guide*.

- For API details, see DescribeTrustedAdvisorCheckResult in *AWS CLI Command Reference*.

PowerShell

Tools for PowerShell

Example 1: Returns the results of a Trusted Advisor check. The list of available Trusted Advisor checks can be obtained using Get-ASATrustedAdvisorChecks. The output is

the overall status of the check, the timestamp at which the check was last run and the unique checkid for the specific check. To have the results output in Japanese, add the -Language "ja" parameter.

```
Get-ASATrustedAdvisorCheckResult -CheckId "checkid1"
```

- For API details, see DescribeTrustedAdvisorCheckResult in *AWS Tools for PowerShell Cmdlet Reference*.

For a complete list of AWS SDK developer guides and code examples, see Using AWS Support with an AWS SDK. This topic also includes information about getting started and details about previous SDK versions.

Use `DescribeTrustedAdvisorCheckSummaries` with an AWS SDK or CLI

The following code examples show how to use `DescribeTrustedAdvisorCheckSummaries`.

CLI

AWS CLI

To list the summaries of AWS Trusted Advisor checks

The following `describe-trusted-advisor-check-summaries` example lists the results for two Trusted Advisor checks: Amazon S3 Bucket Permissions and IAM Use.

```
aws support describe-trusted-advisor-check-summaries \
    --check-ids "Pfx0RwqBli" "zXCkfM1nI3"
```

Output:

```
{
    "summaries": [
        {
            "checkId": "Pfx0RwqBli",
            "timestamp": "2020-05-13T21:38:12Z",
            "status": "ok",
            "hasFlaggedResources": true,
            "resourcesSummary": {
```

```
                "resourcesProcessed": 44,
                "resourcesFlagged": 0,
                "resourcesIgnored": 0,
                "resourcesSuppressed": 0
            },
            "categorySpecificSummary": {
                "costOptimizing": {
                    "estimatedMonthlySavings": 0.0,
                    "estimatedPercentMonthlySavings": 0.0
                }
            }
        },
        {
            "checkId": "zXCkfM1nI3",
            "timestamp": "2020-05-13T21:38:05Z",
            "status": "ok",
            "hasFlaggedResources": true,
            "resourcesSummary": {
                "resourcesProcessed": 1,
                "resourcesFlagged": 0,
                "resourcesIgnored": 0,
                "resourcesSuppressed": 0
            },
            "categorySpecificSummary": {
                "costOptimizing": {
                    "estimatedMonthlySavings": 0.0,
                    "estimatedPercentMonthlySavings": 0.0
                }
            }
        }
    ]
}
```


For more information, see AWS Trusted Advisor in the *AWS Support User Guide*.

- For API details, see DescribeTrustedAdvisorCheckSummaries in *AWS CLI Command Reference*.

PowerShell

Tools for PowerShell

Example 1: Returns the latest summary for the specified Trusted Advisor check.

```
Get-ASATrustedAdvisorCheckSummary -CheckId "checkid1"
```

Example 2: Returns the latest summaries for the specified Trusted Advisor checks.

```
Get-ASATrustedAdvisorCheckSummary -CheckId @("checkid1", "checkid2")
```

- For API details, see DescribeTrustedAdvisorCheckSummaries in *AWS Tools for PowerShell Cmdlet Reference*.

For a complete list of AWS SDK developer guides and code examples, see Using AWS Support with an AWS SDK. This topic also includes information about getting started and details about previous SDK versions.

Use `DescribeTrustedAdvisorChecks` with an AWS SDK or CLI

The following code examples show how to use `DescribeTrustedAdvisorChecks`.

CLI

AWS CLI

To list the available AWS Trusted Advisor checks

The following `describe-trusted-advisor-checks` example lists the available Trusted Advisor checks in your AWS account. This information includes the check name, ID, description, category, and metadata. Note that the output is shortened for readability.

```
aws support describe-trusted-advisor-checks \
    --language "en"
```

Output:

```
{
    "checks": [
        {
            "id": "zXCkfM1nI3",
            "name": "IAM Use",
            "description": "Checks for your use of AWS Identity and Access
 Management (IAM). You can use IAM to create users, groups, and roles in
```

```
 AWS, and you can use permissions to control access to AWS resources. \n<br>
\n<br>\n<b>Alert Criteria</b><br>\nYellow: No IAM users have been created
 for this account.\n<br>\n<br>\n<b>Recommended Action</b><br>\nCreate one or
 more IAM users and groups in your account. You can then create additional
 users whose permissions are limited to perform specific tasks in your AWS
 environment. For more information, see <a href=\"https://docs.aws.amazon.com/
IAM/latest/UserGuide/IAMGettingStarted.html\" target=\"_blank\">Getting
 Started</a>. \n<br><br>\n<b>Additional Resources</b><br>\n<a href=\"https://
docs.aws.amazon.com/IAM/latest/UserGuide/IAM_Introduction.html\" target=\"_blank
\">What Is IAM?</a>",
            "category": "security",
            "metadata": []
        }
    ]
}
```

For more information, see AWS Trusted Advisor in the *AWS Support User Guide*.

- For API details, see DescribeTrustedAdvisorChecks in *AWS CLI Command Reference*.

PowerShell

Tools for PowerShell

Example 1: Returns the collection of Trusted Advisor checks. You must specify the Language parameter which can accept either "en" for English output or "ja" for Japanese output.

```
Get-ASATrustedAdvisorCheck -Language "en"
```

- For API details, see DescribeTrustedAdvisorChecks in *AWS Tools for PowerShell Cmdlet Reference*.

For a complete list of AWS SDK developer guides and code examples, see Using AWS Support with an AWS SDK. This topic also includes information about getting started and details about previous SDK versions.

Use `RefreshTrustedAdvisorCheck` with an AWS SDK or CLI

The following code examples show how to use `RefreshTrustedAdvisorCheck`.

CLI

AWS CLI

To refresh an AWS Trusted Advisor check

The following `refresh-trusted-advisor-check` example refreshes the Amazon S3 Bucket Permissions Trusted Advisor check in your AWS account.

```
aws support refresh-trusted-advisor-check \
    --check-id "Pfx0RwqBli"
```

Output:

```
{
    "status": {
        "checkId": "Pfx0RwqBli",
        "status": "enqueued",
        "millisUntilNextRefreshable": 3599992
    }
}
```

For more information, see AWS Trusted Advisor in the *AWS Support User Guide*.

- For API details, see RefreshTrustedAdvisorCheck in *AWS CLI Command Reference*.

PowerShell

Tools for PowerShell

Example 1: Requests a refresh for the specified Trusted Advisor check.

```
Request-ASATrustedAdvisorCheckRefresh -CheckId "checkid1"
```

- For API details, see RefreshTrustedAdvisorCheck in *AWS Tools for PowerShell Cmdlet Reference*.

For a complete list of AWS SDK developer guides and code examples, see Using AWS Support with an AWS SDK. This topic also includes information about getting started and details about previous SDK versions.

Use `ResolveCase` with an AWS SDK or CLI

The following code examples show how to use `ResolveCase`.

Action examples are code excerpts from larger programs and must be run in context. You can see this action in context in the following code example:

- Learn the basics

.NET

AWS SDK for .NET

> **Note**
>
> There's more on GitHub. Find the complete example and learn how to set up and run in the AWS Code Examples Repository.

```
/// <summary>
/// Resolve a support case by caseId.
/// </summary>
/// <param name="caseId">Id for the support case.</param>
/// <returns>The final status of the case after resolving.</returns>
public async Task<string> ResolveCase(string caseId)
{
    var response = await _amazonSupport.ResolveCaseAsync(
        new ResolveCaseRequest()
        {
            CaseId = caseId
        });
    return response.FinalCaseStatus;
}
```

- For API details, see ResolveCase in *AWS SDK for .NET API Reference*.

CLI

AWS CLI

To resolve a support case

The following `resolve-case` example resolves a support case in your AWS account.

```
aws support resolve-case \
    --case-id "case-12345678910-2013-c4c1d2bf33c5cf47"
```

Output:

```
{
    "finalCaseStatus": "resolved",
    "initialCaseStatus": "work-in-progress"
}
```

For more information, see Case management in the *AWS Support User Guide*.

- For API details, see ResolveCase in *AWS CLI Command Reference*.

Java

SDK for Java 2.x

> **Note**
>
> There's more on GitHub. Find the complete example and learn how to set up and run in the AWS Code Examples Repository.

```
   public static void resolveSupportCase(SupportClient supportClient, String
caseId) {
       try {
           ResolveCaseRequest caseRequest = ResolveCaseRequest.builder()
                   .caseId(caseId)
                   .build();

           ResolveCaseResponse response =
supportClient.resolveCase(caseRequest);
```

```
            System.out.println("The status of case " + caseId + " is " +
 response.finalCaseStatus());

        } catch (SupportException e) {
            System.out.println(e.getLocalizedMessage());
            System.exit(1);
        }
    }
```

- For API details, see ResolveCase in *AWS SDK for Java 2.x API Reference*.

JavaScript

SDK for JavaScript (v3)

> **Note**
>
> There's more on GitHub. Find the complete example and learn how to set up and run in the AWS Code Examples Repository.

```
import { ResolveCaseCommand } from "@aws-sdk/client-support";

import { client } from "../libs/client.js";

const main = async () => {
  try {
    const response = await client.send(
      new ResolveCaseCommand({
        caseId: "CASE_ID",
      }),
    );

    console.log(response.finalCaseStatus);
    return response;
  } catch (err) {
    console.error(err);
  }
};
```

- For API details, see ResolveCase in *AWS SDK for JavaScript API Reference*.

Kotlin

SDK for Kotlin

> **Note**
>
> There's more on GitHub. Find the complete example and learn how to set up and run in the AWS Code Examples Repository.

```
suspend fun resolveSupportCase(caseIdVal: String) {
    val caseRequest =
        ResolveCaseRequest {
            caseId = caseIdVal
        }
    SupportClient { region = "us-west-2" }.use { supportClient ->
        val response = supportClient.resolveCase(caseRequest)
        println("The status of case $caseIdVal is ${response.finalCaseStatus}")
    }
}
```

- For API details, see ResolveCase in *AWS SDK for Kotlin API reference*.

PowerShell

Tools for PowerShell

Example 1: Returns the initial state of the specified case and the current state after the call to resolve it is completed.

```
Resolve-ASACase -CaseId "case-12345678910-2013-c4c1d2bf33c5cf47"
```

- For API details, see ResolveCase in *AWS Tools for PowerShell Cmdlet Reference*.

Python

SDK for Python (Boto3)

> **Note**
>
> There's more on GitHub. Find the complete example and learn how to set up and run in the AWS Code Examples Repository.

```
class SupportWrapper:
    """Encapsulates Support actions."""

    def __init__(self, support_client):
        """
        :param support_client: A Boto3 Support client.
        """
        self.support_client = support_client

    @classmethod
    def from_client(cls):
        """
        Instantiates this class from a Boto3 client.
        """
        support_client = boto3.client("support")
        return cls(support_client)


    def resolve_case(self, case_id):
        """
        Resolve a support case by its caseId.

        :param case_id: The ID of the case to resolve.
        :return: The final status of the case.
        """
        try:
            response = self.support_client.resolve_case(caseId=case_id)
            final_status = response["finalCaseStatus"]
        except ClientError as err:
            if err.response["Error"]["Code"] == "SubscriptionRequiredException":
                logger.info(
```

```
                    "You must have a Business, Enterprise On-Ramp, or Enterprise
Support "
                    "plan to use the AWS Support API. \n\tPlease upgrade your
subscription to run these "
                    "examples."
                )
            else:
                logger.error(
                    "Couldn't resolve case. Here's why: %s: %s",
                    err.response["Error"]["Code"],
                    err.response["Error"]["Message"],
                )
                raise
        else:
            return final_status
```

- For API details, see ResolveCase in *AWS SDK for Python (Boto3) API Reference*.

For a complete list of AWS SDK developer guides and code examples, see Using AWS Support with an AWS SDK. This topic also includes information about getting started and details about previous SDK versions.

Monitoring and logging for AWS Support

Monitoring is an important part of maintaining the reliability, availability, and performance of AWS Support and your other AWS solutions. AWS provides the following monitoring tools to watch AWS Support, report when something is wrong, and take automatic actions when appropriate:

- *Amazon EventBridge* delivers a near real-time stream of system events that describe changes in AWS resources. EventBridge enables automated event-driven computing, as you can write rules that watch for certain events and trigger automated actions in other AWS services when these events happen. For more information, see the Amazon EventBridge User Guide.
- *AWS CloudTrail* captures API calls and related events made by or on behalf of your AWS account and delivers the log files to an Amazon S3 bucket that you specify. You can identify which users and accounts called AWS, the source IP address from which the calls were made, and when the calls occurred. For more information, see the AWS CloudTrail User Guide.

Topics

Monitoring AWS Support cases with Amazon EventBridge

You can use Amazon EventBridge to detect and react to changes for your AWS Support cases. Then, based on the rules that you create, EventBridge invokes one or more target actions when an event matches the values that you specify in a rule.

Depending on the event, you can send notifications, capture event information, take corrective action, initiate events, or take other actions. For example, you can get notified whenever the following actions occur in your account:

- Create a support case
- Add a case correspondence to an existing support case
- Resolve a support case
- Reopen a support case

> **Note**
>
> AWS Support delivers events on a best effort basis. Events are not always guaranteed to be delivered to EventBridge.

Creating an EventBridge rule for AWS Support cases

You can create an EventBridge rule to get notified for AWS Support case events. The rule will monitor updates for support cases in your account, including actions that you, your IAM users, or support agents perform. Before you create a rule for AWS Support case events, do the following:

- Familiarize yourself with events, rules, and targets in EventBridge. For more information, see What is Amazon EventBridge? in the *Amazon EventBridge User Guide*.
- Create the target to use in your event rule. For example, you can create an Amazon Simple Notification Service (Amazon SNS) topic so that whenever a support case is updated, you will receive a text message or email. For more information, see EventBridge targets.

> **Note**
>
> AWS Support is a global service. To receive updates for your support cases, you can use one of the following regions: US East (N. Virginia) Region, US West (Oregon) Region or Europe (Ireland) Region.

To create an EventBridge rule for AWS Support case events

1. Open the Amazon EventBridge console at https://console.aws.amazon.com/events/.
2. If you haven't already, use the **Region selector** in the upper-right corner of the page and choose **US East (N. Virginia)**.
3. In the navigation pane, choose **Rules**.
4. Choose **Create rule**.
5. On the **Define rule detail** page, enter a name and description for your rule.
6. Keep the default values for **Event bus** and **Rule type**, and then choose **Next**.
7. On the **Build event pattern** page, for **Event source**, choose **AWS events or EventBridge partner events**.

8. Under **Event pattern**, keep the default value for **AWS services**.
9. For **AWS service**, choose **Support**.
10. For **Event type**, choose **Support Case Update**.
11. Choose **Next**.
12. In the **Select target(s)** section, choose the target that you created for this rule, and then configure any additional options that are required for that type. For example, if you choose Amazon SNS, make sure that your SNS topic is configured correctly so that you will be notified by email or SMS.
13. Choose **Next**.
14. (Optional) On the **Configure tags** page, add any tags and then choose **Next**.
15. On the **Review and create** page, review your rule setup and ensure that it meets your event monitoring requirements.
16. Choose **Create rule**. Your rule will now monitor for AWS Support case events and then send them to the target that you specified.

Notes

- When you receive an event, you can use the `origin` parameter to determine whether you or an AWS Support agent added a case correspondence to a support case. The value for `origin` can be either `CUSTOMER` or `AWS`.

  Currently, only events for the `AddCommunicationToCase` action will have this value.
- For more information about creating event patterns, see Event patterns in the *Amazon EventBridge User Guide*.
- You can also create another rule for the **AWS API Call via CloudTrail** event type. This rule will monitor AWS CloudTrail logs for AWS Support API calls in your account.

Example AWS Support events

The following events are created when support actions occur in your account.

Example : Create support case

The following event is created when a support case is created.

```
{
    "version": "0",
    "id": "3433df007-9285-55a3-f6d1-536944be45d7",
    "detail-type": "Support Case Update",
    "source": "aws.support",
    "account": "111122223333",
    "time": "2022-02-21T15:51:19Z",
    "region": "us-east-1",
    "resources": [],
    "detail": {
        "case-id": "case-111122223333-muen-2022-7118885805350839",
        "display-id": "1234563851",
        "communication-id": "",
        "event-name": "CreateCase",
        "origin": ""
    }
}
```

Example : Update support case

The following event is created when AWS Support replies to a support case.

```
{
    "version": "0",
    "id": "f90cb8cb-32be-1c91-c0ba-d50b4ca5e51b",
    "detail-type": "Support Case Update",
    "source": "aws.support",
    "account": "111122223333",
    "time": "2022-02-21T15:51:31Z",
    "region": "us-east-1",
    "resources": [],
    "detail": {
        "case-id": "case-111122223333-muen-2022-7118885805350839",
        "display-id": "1234563851",
        "communication-id": "ekko:us-east-1:12345678-268a-424b-be08-54613cab84d2",
        "event-name": "AddCommunicationToCase",
        "origin": "AWS"
    }
}
```

Example : Resolve support case

The following event is created when a support case is resolved.

```
{
    "version": "0",
    "id": "1aa4458d-556f-732e-ddc1-4a5b2fbd14a5",
    "detail-type": "Support Case Update",
    "source": "aws.support",
    "account": "111122223333",
    "time": "2022-02-21T15:51:31Z",
    "region": "us-east-1",
    "resources": [],
    "detail": {
        "case-id": "case-111122223333-muen-2022-7118885805350839",
        "display-id": "1234563851",
        "communication-id": "",
        "event-name": "ResolveCase",
        "origin": ""
    }
}
```


Example : Reopen support case

The following event is created when a support case is reopened.


```
{
    "version": "0",
    "id": "3bb9d8fe-6089-ad27-9508-804209b233ad",
    "detail-type": "Support Case Update",
    "source": "aws.support",
    "account": "111122223333",
    "time": "2022-02-21T15:47:19Z",
    "region": "us-east-1",
    "resources": [],
    "detail": {
        "case-id": "case-111122223333-muen-2021-27f40618fe0303ea",
        "display-id": "1234563851",
        "communication-id": "",
        "event-name": "ReopenCase",
        "origin": ""
    }
}
```

See also

For more information about how to use EventBridge with AWS Support, see the following resources:

- How to automate AWS Support API with Amazon EventBridge
- AWS Support case activity notifier on GitHub

Logging AWS Support API calls with AWS CloudTrail

AWS Support is integrated with AWS CloudTrail, a service that provides a record of actions taken by a user, role, or an AWS service in AWS Support. CloudTrail captures API calls for AWS Support as events. The calls captured include calls from the AWS Support console and code calls to the AWS Support API operations.

If you create a trail, you can enable continuous delivery of CloudTrail events to an Amazon Simple Storage Service (Amazon S3) bucket, including events for AWS Support. If you don't configure a trail, you can still view the most recent events in the CloudTrail console in **Event history**.

Using the information collected by CloudTrail, you can determine the request that was made to AWS Support, the IP address from which the request was made, who made the request, when it was made, and additional details.

To learn more about CloudTrail, including how to configure and enable it, see the AWS CloudTrail User Guide.

AWS Support information in CloudTrail

CloudTrail is enabled on your AWS account when you create the account. When supported event activity occurs in AWS Support, that activity is recorded in a CloudTrail event along with other AWS service events in **Event history**. You can view, search, and download recent events in your AWS account. For more information, see Viewing events with CloudTrail event history.

For an ongoing record of events in your AWS account, including events for AWS Support, create a *trail*. A trail enables CloudTrail to deliver log files to an Amazon S3 bucket. By default, when you create a trail in the console, the trail applies to all AWS Regions. The trail logs events from all Regions in the AWS partition and delivers the log files to the Amazon S3 bucket that you specify. Additionally, you can configure other AWS services to further analyze and act upon the event data collected in CloudTrail logs. For more information, see the following:

- Overview for creating a trail
- CloudTrail supported services and integrations
- Configuring Amazon SNS notifications for CloudTrail
- Receiving CloudTrail log files from multiple Regions and Receiving CloudTrail log files from multiple accounts

All AWS Support API operations are logged by CloudTrail and are documented in the AWS Support API Reference.

For example, calls to the `CreateCase`, `DescribeCases` and `ResolveCase` operations generate entries in the CloudTrail log files.

Every event or log entry contains information about who generated the request. The identity information helps you determine the following:

- Whether the request was made with root or AWS Identity and Access Management (IAM) user credentials.
- Whether the request was made with temporary security credentials for a role or federated user.
- Whether the request was made by another AWS service.

For more information, see the CloudTrail userIdentity element.

You can also aggregate AWS Support log files from multiple AWS Regions and multiple AWS accounts into a single Amazon S3 bucket.

AWS Trusted Advisor information in CloudTrail logging

Trusted Advisor is an AWS Support service that you can use to check your AWS account for ways to save costs, improve security, and optimize your account.

All Trusted Advisor API operations are logged by CloudTrail and are documented in the AWS Support API Reference.

For example, calls to the `DescribeTrustedAdvisorCheckRefreshStatuses`, `DescribeTrustedAdvisorCheckResult` and `RefreshTrustedAdvisorCheck` operations generate entries in the CloudTrail log files.

> **Note**
>
> CloudTrail also logs Trusted Advisor console actions. See Logging AWS Trusted Advisor console actions with AWS CloudTrail.

Understanding AWS Support log file entries

A trail is a configuration that enables delivery of events as log files to an Amazon S3 bucket that you specify. CloudTrail log files contain one or more log entries. An event represents a single request from any source. It includes information about the requested operation, the date and time of the operation, request parameters, and so on. CloudTrail log files aren't an ordered stack trace of the public API calls, so they don't appear in any specific order.

Example : Log entry for CreateCase

The following example shows a CloudTrail log entry for the CreateCase operation.


```
{
   "Records": [
      {
         "eventVersion": "1.04",
         "userIdentity": {
            "type": "IAMUser",
            "principalId": "AIDACKCEVSQ6C2EXAMPLE",
            "arn": "arn:aws:iam::111122223333:user/janedoe",
            "accountId": "111122223333",
            "accessKeyId": "AKIAIOSFODNN7EXAMPLE",
            "userName": "janedoe",
            "sessionContext": {
               "attributes": {
                  "mfaAuthenticated": "false",
                  "creationDate": "2016-04-13T17:51:37Z"
               }
            },
            "invokedBy": "signin.amazonaws.com"
         },
         "eventTime": "2016-04-13T18:05:53Z",
         "eventSource": "support.amazonaws.com",
         "eventName": "CreateCase",
         "awsRegion": "us-east-1",
         "sourceIPAddress": "198.51.100.15",
```

```
         "userAgent": "signin.amazonaws.com",
         "requestParameters": {
            "severityCode": "low",
            "categoryCode": "other",
            "language": "en",
            "serviceCode": "support-api",
            "issueType": "technical"
         },
         "responseElements": {
            "caseId": "case-111122223333-muen-2016-c3f2077e504940f2"
         },
         "requestID": "58c257ef-01a2-11e6-be2a-01c031063738",
         "eventID": "5aa34bfc-ad5b-4fb1-8a55-2277c86e746a",
         "eventType": "AwsApiCall",
         "recipientAccountId": "111122223333"
      }
   ],
   ...
}
```

Example : Log entry for RefreshTrustedAdvisorCheck

The following example shows a CloudTrail log entry for the RefreshTrustedAdvisorCheck operation.

```
{
    "eventVersion": "1.05",
    "userIdentity": {
        "type": "IAMUser",
        "principalId": "AIDACKCEVSQ6C2EXAMPLE",
        "arn": "arn:aws:iam::111122223333:user/Admin",
        "accountId": "111122223333",
        "accessKeyId": "AKIAIOSFODNN7EXAMPLE",
        "userName": "Admin"
    },
    "eventTime": "2020-10-21T16:34:13Z",
    "eventSource": "support.amazonaws.com",
    "eventName": "RefreshTrustedAdvisorCheck",
    "awsRegion": "us-east-1",
    "sourceIPAddress": "72.21.198.67",
    "userAgent": "signin.amazonaws.com",
    "requestParameters": {
        "checkId": "Pfx0RwqBli"
    },
    "responseElements": null,
```

```
    "requestID": "4c4d5fc8-c403-4f82-9544-41f820e0fa01",
    "eventID": "2f4630ac-5c27-4f0d-b93f-63742d6fc85e",
    "eventType": "AwsApiCall",
    "recipientAccountId": "111122223333"
}
```

Logging AWS Support App in Slack API calls using AWS CloudTrail

The AWS Support App in Slack is integrated with AWS CloudTrail. CloudTrail provides a record of actions taken by a user, role, or an AWS service in the AWS Support App. To create this record, CloudTrail captures all public API calls for AWS Support App as events. These captured calls include calls from the AWS Support App console, and code calls to the AWS Support App public API operations. If you create a trail, you can enable continuous delivery of CloudTrail events to an Amazon S3 bucket. These include events for AWS Support App. If you don't configure a trail, you can still view the most recent events in the CloudTrail console in **Event history**. You can use the information that CloudTrail collects to determine that the request that was made to AWS Support App. You can also learn the IP address where the call originated, who made the request, when it was made, and additional details.

To learn more about CloudTrail, see the AWS CloudTrail User Guide.

AWS Support App information in CloudTrail

When you create your AWS account, this activates CloudTrail on the account. When public API activity occurs in the AWS Support App, that activity is recorded in a CloudTrail event, along with other AWS service events in **Event history**. You can view, search, and download recent events in your AWS account. For more information, see Viewing events with CloudTrail Event history.

For an ongoing record of events in your AWS account, including events for AWS Support App, create a *trail*. By default, when you create a trail in the console, the trail applies to all AWS Regions. The trail logs events from all Regions in the AWS partition and delivers the log files to the Amazon S3 bucket that you specify. Additionally, you can configure other AWS services to analyze further the event data collected in CloudTrail logs and act upon the data. For more information, see the following:

- Overview for creating a trail
- CloudTrail supported services and integrations

- Configuring Amazon SNS notifications for CloudTrail
- Receiving CloudTrail log files from multiple regions and Receiving CloudTrail log files from multiple accounts

CloudTrail logs all public AWS Support App actions. These actions are also documented in the AWS Support App in Slack API Reference. For example, calls to the `CreateSlackChannelConfiguration`, `GetAccountAlias` and `UpdateSlackChannelConfiguration` actions generate entries in the CloudTrail log files.

Every event or log entry contains information about who generated the request. The identity information helps you determine the following:

- Whether the request was made with root or AWS Identity and Access Management (IAM) user credentials.
- Whether the request was made with temporary security credentials for a role or federated user.
- Whether the request was made by another AWS service.

For more information, see the CloudTrail userIdentity element.

Understanding AWS Support App log file entries

A trail is a configuration that enables delivery of events as log files to an Amazon S3 bucket that you specify. CloudTrail log files contain one or more log entries. An event represents a single request from any source and includes information about the requested action, the date and time of the action, request parameters, and so on. CloudTrail log files aren't an ordered stack trace of the public API calls. This means that the logs don't appear in any specific order.

Example : Log example for `CreateSlackChannelConfiguration`

The following example shows a CloudTrail log entry for the CreateSlackChannelConfiguration operation.

```
{
    "eventVersion": "1.08",
    "userIdentity": {
        "type": "AssumedRole",
        "principalId": "AIDACKCEVSQ6C2EXAMPLE:JaneDoe",
        "arn": "arn:aws:sts::111122223333:assumed-role/Administrator/JaneDoe",
        "accountId": "111122223333",
```

```
        "accessKeyId": "AKIAI44QH8DHBEXAMPLE",
        "sessionContext": {
            "sessionIssuer": {
                "type": "Role",
                "principalId": "AIDACKCEVSQ6C2EXAMPLE",
                "arn": "arn:aws:iam::111122223333:role/Administrator",
                "accountId": "111122223333",
                "userName": "Administrator"
            },
            "webIdFederationData": {},
            "attributes": {
                "creationDate": "2022-02-26T01:37:57Z",
                "mfaAuthenticated": "false"
            }
        }
    },
    "eventTime": "2022-02-26T01:48:20Z",
    "eventSource": "supportapp.amazonaws.com",
    "eventName": "CreateSlackChannelConfiguration",
    "awsRegion": "us-east-1",
    "sourceIPAddress": "205.251.233.183",
    "userAgent": "aws-cli/1.3.23 Python/2.7.6 Linux/2.6.18-164.el5",
    "requestParameters": {
        "notifyOnCreateOrReopenCase": true,
        "teamId": "T012ABCDEFG",
        "notifyOnAddCorrespondenceToCase": true,
        "notifyOnCaseSeverity": "all",
        "channelName": "troubleshooting-channel",
        "notifyOnResolveCase": true,
        "channelId": "C01234A5BCD",
        "channelRoleArn": "arn:aws:iam::111122223333:role/AWSSupportAppRole"
    },
    "responseElements": null,
    "requestID": "d06df6ca-c233-4ffb-bbff-63470c5dc255",
    "eventID": "0898ce29-a396-444a-899d-b068f390c361",
    "readOnly": false,
    "eventType": "AwsApiCall",
    "managementEvent": true,
    "recipientAccountId": "111122223333",
    "eventCategory": "Management"
}
```

Example : Log example for `ListSlackChannelConfigurations`

The following example shows a CloudTrail log entry for the ListSlackChannelConfigurations operation.


```
{
    "eventVersion": "1.08",
    "userIdentity": {
        "type": "AssumedRole",
        "principalId": "AIDACKCEVSQ6C2EXAMPLE:AWSSupportAppRole",
        "arn": "arn:aws:sts::111122223333:assumed-role/AWSSupportAppRole",
        "accountId": "111122223333",
        "accessKeyId": "AKIAI44QH8DHBEXAMPLE",
        "sessionContext": {
            "sessionIssuer": {
                "type": "Role",
                "principalId": "AIDACKCEVSQ6C2EXAMPLE",
                "arn": "arn:aws:iam::111122223333:role/AWSSupportAppRole",
                "accountId": "111122223333",
                "userName": "AWSSupportAppRole"
            },
            "webIdFederationData": {},
            "attributes": {
                "creationDate": "2022-03-01T20:06:32Z",
                "mfaAuthenticated": "false"
            }
        }
    },
    "eventTime": "2022-03-01T20:06:46Z",
    "eventSource": "supportapp.amazonaws.com",
    "eventName": "ListSlackChannelConfigurations",
    "awsRegion": "us-east-1",
    "sourceIPAddress": "72.21.217.131",
    "userAgent": "aws-cli/1.3.23 Python/2.7.6 Linux/2.6.18-164.el5",
    "requestParameters": null,
    "responseElements": null,
    "requestID": "20f81d63-31c5-4351-bd02-9eda7f76e7b8",
    "eventID": "70acb7fe-3f84-47cd-8c28-cc148ad06d21",
    "readOnly": true,
    "eventType": "AwsApiCall",
    "managementEvent": true,
    "recipientAccountId": "111122223333",
    "eventCategory": "Management"
```

```
}
```

Example : Log example for `GetAccountAlias`

The following example shows a CloudTrail log entry for the GetAccountAlias operation.

```
{
    "eventVersion": "1.08",
    "userIdentity": {
        "type": "AssumedRole",
        "principalId": "AIDACKCEVSQ6C2EXAMPLE:devdsk",
        "arn": "arn:aws:sts::111122223333:assumed-role/AWSSupportAppRole/devdsk",
        "accountId": "111122223333",
        "accessKeyId": "AKIAI44QH8DHBEXAMPLE",
        "sessionContext": {
            "sessionIssuer": {
                "type": "Role",
                "principalId": "AIDACKCEVSQ6C2EXAMPLE",
                "arn": "arn:aws:iam::111122223333:role/AWSSupportAppRole",
                "accountId": "111122223333",
                "userName": "AWSSupportAppRole"
            },
            "webIdFederationData": {},
            "attributes": {
                "creationDate": "2022-03-01T20:31:27Z",
                "mfaAuthenticated": "false"
            }
        }
    },
    "eventTime": "2022-03-01T20:31:47Z",
    "eventSource": "supportapp.amazonaws.com",
    "eventName": "GetAccountAlias",
    "awsRegion": "us-east-1",
    "sourceIPAddress": "72.21.217.142",
    "userAgent": "aws-cli/1.3.23 Python/2.7.6 Linux/2.6.18-164.el5",
    "requestParameters": null,
    "responseElements": null,
    "requestID": "a225966c-0906-408b-b8dd-f246665e6758",
    "eventID": "79ebba8d-3285-4023-831a-64af7de8d4ad",
    "readOnly": true,
    "eventType": "AwsApiCall",
    "managementEvent": true,
    "recipientAccountId": "111122223333",
    "eventCategory": "Management"
```

```
}
```

Monitoring and logging for AWS Support Plans

Monitoring is an important part of maintaining the reliability, availability, and performance of Support Plans and your other AWS solutions. AWS provides the following monitoring tools to watch Support Plans, report when something is wrong, and take automatic actions when appropriate:

- *AWS CloudTrail* captures API calls and related events made by or on behalf of your AWS account and delivers the log files to an Amazon S3 bucket that you specify. You can identify which users and accounts called AWS, the source IP address from which the calls were made, and when the calls occurred. For more information, see the AWS CloudTrail User Guide.

Topics

Logging AWS Support Plans API calls with AWS CloudTrail

AWS Support Plans is integrated with AWS CloudTrail, a service that provides a record of actions taken by a user, role, or an AWS service. CloudTrail captures API calls for AWS Support Plans as events. The calls captured include calls from the AWS Support Plans console and code calls to the AWS Support Plans API operations.

If you create a trail, you can enable continuous delivery of CloudTrail events to an Amazon Simple Storage Service (Amazon S3) bucket, including events for AWS Support Plans. If you don't configure a trail, you can still view the most recent events in the CloudTrail console in **Event history**.

Using the information collected by CloudTrail, you can determine the request that was made to AWS Support Plans, the IP address from which the request was made, who made the request, when it was made, and additional details.

To learn more about CloudTrail, including how to configure and enable it, see the AWS CloudTrail User Guide.

AWS Support Plans information in CloudTrail

CloudTrail is enabled on your AWS account when you create the account. When supported event activity occurs in AWS Support Plans, that activity is recorded in a CloudTrail event along with other AWS service events in **Event history**. You can view, search, and download recent events in your account. For more information, see Viewing events with CloudTrail event history.

For an ongoing record of events in your account, including events for AWS Support Plans, create a *trail*. A trail enables CloudTrail to deliver log files to an Amazon S3 bucket. By default, when you create a trail in the console, the trail applies to all AWS Regions. The trail logs events from all Regions in the AWS partition and delivers the log files to the Amazon S3 bucket that you specify. Additionally, you can configure other AWS services to further analyze and act upon the event data collected in CloudTrail logs. For more information, see the following:

- Overview for creating a trail
- CloudTrail supported services and integrations
- Configuring Amazon SNS notifications for CloudTrail
- Receiving CloudTrail log files from multiple Regions and Receiving CloudTrail log files from multiple accounts

All AWS Support Plans API operations are logged by CloudTrail. Every event or log entry contains information about who generated the request. The identity information helps you determine the following:

- Whether the request was made with root or AWS Identity and Access Management (IAM) user credentials.
- Whether the request was made with temporary security credentials for a role or federated user.
- Whether the request was made by another AWS service.

For more information, see the CloudTrail userIdentity element.

You can also aggregate AWS Support Plans log files from multiple AWS Regions and multiple accounts into a single Amazon S3 bucket.

Understanding AWS Support Plans log file entries

A trail is a configuration that enables delivery of events as log files to an Amazon S3 bucket that you specify. CloudTrail log files contain one or more log entries. An event represents a single request from any source. It includes information about the requested operation, the date and time of the operation, request parameters, and so on. CloudTrail log files aren't an ordered stack trace of the public API calls, so they don't appear in any specific order.

Example : Log entry for `GetSupportPlan`

The following example shows a CloudTrail log entry for the `GetSupportPlan` operation.


```
{
    "eventVersion": "1.08",
    "userIdentity": {
        "type": "AssumedRole",
        "principalId": "AIDACKCEVSQ6C2EXAMPLE",
        "arn": "arn:aws:sts::111122223333:user/janedoe",
        "accountId": "111122223333",
        "accessKeyId": "AKIAIOSFODNN7EXAMPLE",
        "sessionContext": {
            "sessionIssuer": {
                "type": "Role",
                "principalId": "AIDACKCEVSQ6C2EXAMPLE",
                "arn": "arn:aws:iam::111122223333:role/Admin",
                "accountId": "111122223333",
                "userName": "Admin"
            },
            "webIdFederationData": {},
            "attributes": {
                "creationDate": "2022-06-29T16:30:04Z",
                "mfaAuthenticated": "false"
            }
        }
    },
    "eventTime": "2022-06-29T16:39:11Z",
    "eventSource": "supportplans.amazonaws.com",
    "eventName": "GetSupportPlan",
    "awsRegion": "us-west-2",
    "sourceIPAddress": "205.251.233.183",
    "userAgent": "Mozilla/5.0 (Windows NT 10.0; Win64; x64; rv:91.0) Gecko/20100101
 Firefox/91.0",
    "requestParameters": null,
```

```
    "responseElements": null,
    "requestID": "7665c39a-d6bf-4d0d-8010-2f59740b8ecb",
    "eventID": "b711bc30-16a5-4579-8f0d-9ada8fe6d1ce",
    "readOnly": true,
    "eventType": "AwsApiCall",
    "managementEvent": true,
    "recipientAccountId": "111122223333",
    "eventCategory": "Management"
}
```

Example : Log entry for `GetSupportPlanUpdateStatus`

The following example shows a CloudTrail log entry for the `GetSupportPlanUpdateStatus` operation.

```
{
    "eventVersion": "1.08",
    "userIdentity": {
        "type": "AssumedRole",
        "principalId": "AIDACKCEVSQ6C2EXAMPLE",
        "arn": "arn:aws:sts::111122223333:user/janedoe",
        "accountId": "111122223333",
        "accessKeyId": "AKIAIOSFODNN7EXAMPLE",
        "sessionContext": {
            "sessionIssuer": {
                "type": "Role",
                "principalId": "AIDACKCEVSQ6C2EXAMPLE",
                "arn": "arn:aws:iam::111122223333:role/Admin",
                "accountId": "111122223333",
                "userName": "Admin"
            },
            "webIdFederationData": {},
            "attributes": {
                "creationDate": "2022-06-29T16:30:04Z",
                "mfaAuthenticated": "false"
            }
        }
    },
    "eventTime": "2022-06-29T16:39:02Z",
    "eventSource": "supportplans.amazonaws.com",
    "eventName": "GetSupportPlanUpdateStatus",
    "awsRegion": "us-west-2",
    "sourceIPAddress": "205.251.233.183",
```

```
    "userAgent": "Mozilla/5.0 (Windows NT 10.0; Win64; x64; rv:91.0) Gecko/20100101
 Firefox/91.0",
    "requestParameters": {
        "supportPlanUpdateArn":
 "arn:aws:supportplans::111122223333:supportplanupdate/7f03b7a233a0e87ebc79e56d4d2bcaf19e976c37
    },
    "responseElements": null,
    "requestID": "75e5c767-8703-4ed3-b01e-4dda28020322",
    "eventID": "28d1c0e3-ccb6-4fd1-8793-65be010114cc",
    "readOnly": true,
    "eventType": "AwsApiCall",
    "managementEvent": true,
    "recipientAccountId": "111122223333",
    "eventCategory": "Management"
}
```

Example : Log entry for `StartSupportPlanUpdate`

The following example shows a CloudTrail log entry for the `StartSupportPlanUpdate` operation.

```
{
    "eventVersion": "1.08",
    "userIdentity": {
        "type": "AssumedRole",
        "principalId": "AIDACKCEVSQ6C2EXAMPLE",
        "arn": "arn:aws:sts::111122223333:user/janedoe",
        "accountId": "111122223333",
        "accessKeyId": "AKIAIOSFODNN7EXAMPLE",
        "sessionContext": {
            "sessionIssuer": {
                "type": "Role",
                "principalId": "AIDACKCEVSQ6C2EXAMPLE",
                "arn": "arn:aws:iam::111122223333:role/Admin",
                "accountId": "111122223333",
                "userName": "Admin"
            },
            "webIdFederationData": {},
            "attributes": {
                "creationDate": "2022-06-29T16:30:04Z",
                "mfaAuthenticated": "false"
            }
        }
```

```
    },
    "eventTime": "2022-06-29T16:38:55Z",
    "eventSource": "supportplans.amazonaws.com",
    "eventName": "StartSupportPlanUpdate",
    "awsRegion": "us-west-2",
    "sourceIPAddress": "205.251.233.183",
    "userAgent": "Mozilla/5.0 (Windows NT 10.0; Win64; x64; rv:91.0) Gecko/20100101
 Firefox/91.0",
    "requestParameters": {
        "clientToken": "98add111-dcc9-464d-8722-438d697fe242",
        "update": {
            "supportLevel": "BASIC"
        }
    },
    "responseElements": {
        "Access-Control-Expose-Headers": "x-amzn-RequestId,x-amzn-ErrorType,x-amzn-
ErrorMessage,Date",
        "supportPlanUpdateArn":
 "arn:aws:supportplans::111122223333:supportplanupdate/7f03b7a233a0e87ebc79e56d4d2bcaf19e976c37
    },
    "requestID": "e5ff9382-5fb8-4764-9993-0f33fb0b1e17",
    "eventID": "5dba89f8-2e5b-42b9-9b8f-395580c52962",
    "readOnly": false,
    "eventType": "AwsApiCall",
    "managementEvent": true,
    "recipientAccountId": "111122223333",
    "eventCategory": "Management"
}
```

Example : Log entry for `CreateSupportPlanSchedule`

The following example shows a CloudTrail log entry for the `CreateSupportPlanSchedule` operation.

```
{
    "eventVersion": "1.08",
    "userIdentity": {
        "type": "AssumedRole",
        "principalId": "AIDACKCEVSQ6C2EXAMPLE",
        "arn": "arn:aws:sts::111122223333:user/janedoe",
        "accountId": "111122223333",
        "accessKeyId": "AKIAIOSFODNN7EXAMPLE",
        "sessionContext": {
```

```
            "sessionIssuer": {
                "type": "Role",
                "principalId": "AIDACKCEVSQ6C2EXAMPLE",
                "arn": "arn:aws:iam::111122223333:role/Admin",
                "accountId": "111122223333",
                "userName": "Admin"
            },
            "webIdFederationData": {},
            "attributes": {
                "creationDate": "2023-05-09T16:30:04Z",
                "mfaAuthenticated": "false"
            }
        }
    },
    "eventTime": "2023-05-09T16:30:04Z",
    "eventSource": "supportplans.amazonaws.com",
    "eventName": "CreateSupportPlanSchedule",
    "awsRegion": "us-west-2",
    "sourceIPAddress": "205.251.233.183",
    "userAgent": "Mozilla/5.0 (Windows NT 10.0; Win64; x64; rv:91.0) Gecko/20100101
 Firefox/91.0",
    "requestParameters": {
        "clientToken": "b998de5e-ad1c-4448-90db-2bf86d6d9e9a",
        "scheduleCreationDetails": {
            "startLevel": "BUSINESS",
            "startOffer": "TrialPlan7FB93B",
            "startTimestamp": "2023-06-03T17:23:56.109Z",
            "endLevel": "BUSINESS",
            "endOffer": "StandardPlan2074BB",
            "endTimestamp": "2023-09-03T17:23:55.109Z"
        }
    },
    "responseElements": {
        "Access-Control-Expose-Headers": "x-amzn-RequestId,x-amzn-ErrorType,x-amzn-
ErrorMessage,Date",
        "supportPlanUpdateArn":
 "arn:aws:supportplans::111122223333:supportplanschedule/
b9a9a4336a3974950a6e670f7dab79b77a4b104db548a0d57050ce4544721d4b"
    },
    "requestID": "150450b8-e61a-4b15-93a8-c3b557a1ca48",
    "eventID": "a2a1ba44-610d-4dc8-bf16-29f1635b57a9",
    "readOnly": false,
    "eventType": "AwsApiCall",
    "managementEvent": true,
```

```
    "recipientAccountId": "111122223333",
    "eventCategory": "Management"
}
```

Logging changes to your AWS Support plan

Important

As of August 3, 2022, the following operations are deprecated and won't appear in your new CloudTrail logs. For a list of supported operations, see Understanding AWS Support Plans log file entries.

- `DescribeSupportLevelSummary` – This action appears in your log when you open the Support plans page.
- `UpdateProbationAutoCancellation` – After you sign up for Developer Support or Business Support and then try to cancel within 30 days, your plan will be automatically canceled at the end of that period. This action appears in your log when you choose **Opt-out of automatic cancellation** in the banner that appears on the Support plans page. You will resume your plan for Developer Support or Business Support.
- `UpdateSupportLevel` – This action appears in your log when you change your support plan.

Note

The `eventSource` field has the `support-subscription.amazonaws.com` namespace for these actions.

Example : Log entry for DescribeSupportLevelSummary

The following example shows a CloudTrail log entry for the `DescribeSupportLevelSummary` action.

```
{
  "eventVersion": "1.08",
  "userIdentity": {
    "type": "Root",
    "principalId": "111122223333",
```

```
    "arn": "arn:aws:iam::111122223333:root",
    "accountId": "111122223333",
    "accessKeyId": "AKIAIOSFODNN7EXAMPLE",
    "sessionContext": {
      "sessionIssuer": {},
      "webIdFederationData": {},
      "attributes": {
        "mfaAuthenticated": "false",
        "creationDate": "2021-01-07T22:08:05Z"
      }
    }
  },
  "eventTime": "2021-01-07T22:08:07Z",
  "eventSource": "support-subscription.amazonaws.com",
  "eventName": "DescribeSupportLevelSummary",
  "awsRegion": "us-east-1",
  "sourceIPAddress": "100.127.8.67",
  "userAgent": "AWS-SupportPlansConsole, aws-internal/3",
  "requestParameters": {
    "lang": "en"
  },
  "responseElements": null,
  "requestID": "b423b84d-829b-4090-a239-2b639b123abc",
  "eventID": "e1eeda0e-d77c-487b-a7e5-4014f7123abc",
  "readOnly": true,
  "eventType": "AwsApiCall",
  "managementEvent": true,
  "eventCategory": "Management",
  "recipientAccountId": "111122223333"
}
```

Example : Log entry for UpdateProbationAutoCancellation

The following example shows a CloudTrail log entry for the `UpdateProbationAutoCancellation` action.

```
{
  "eventVersion": "1.08",
  "userIdentity": {
    "type": "Root",
    "principalId": "111122223333",
    "arn": "arn:aws:iam::111122223333:root",
    "accountId": "111122223333",
```

```
    "accessKeyId": "AKIAIOSFODNN7EXAMPLE"
  },
  "eventTime": "2021-01-07T23:28:43Z",
  "eventSource": "support-subscription.amazonaws.com",
  "eventName": "UpdateProbationAutoCancellation",
  "awsRegion": "us-east-1", "sourceIPAddress": "100.127.8.67",
  "userAgent": "AWS-SupportPlansConsole, aws-internal/3",
  "requestParameters": {
    "lang": "en"
  },
  "responseElements": null,
  "requestID": "5492206a-e200-4c33-9fcf-4162d4123abc",
  "eventID": "f4a58c09-0bb0-4ba2-a8d3-df6909123abc",
  "readOnly": false,
  "eventType": "AwsApiCall",
  "managementEvent": true,
  "eventCategory": "Management",
  "recipientAccountId": "111122223333"
}
```

Example : Log entry for UpdateSupportLevel

The following example shows a CloudTrail log entry for the `UpdateSupportLevel` action to change to Developer Support.

```
{
  "eventVersion": "1.08",
  "userIdentity": {
    "type": "Root",
    "principalId": "111122223333",
    "arn": "arn:aws:iam::111122223333:root",
    "accountId": "111122223333",
    "accessKeyId": "AKIAIOSFODNN7EXAMPLE",
    "sessionContext": {
      "sessionIssuer": {},
      "webIdFederationData": {},
      "attributes": {
        "mfaAuthenticated": "false",
        "creationDate": "2021-01-07T22:08:05Z"
      }
    }
  },
  "eventTime": "2021-01-07T22:08:43Z",
```

```
  "eventSource": "support-subscription.amazonaws.com",
  "eventName": "UpdateSupportLevel",
  "awsRegion": "us-east-1",
  "sourceIPAddress": "100.127.8.247",
  "userAgent": "AWS-SupportPlansConsole, aws-internal/3",
  "requestParameters": {
    "supportLevel": "new_developer"
  },
  "responseElements": {
    "aispl": false,
    "supportLevel": "new_developer"
  },
  "requestID": "5df3da3a-61cd-4a3c-8f41-e5276b123abc",
  "eventID": "c69fb149-c206-47ce-8766-8df6ec123abc",
  "readOnly": false,
  "eventType": "AwsApiCall",
  "managementEvent": true,
  "eventCategory": "Management",
  "recipientAccountId": "111122223333"
}
```

Monitoring and logging for AWS Trusted Advisor

Monitoring is an important part of maintaining the reliability, availability, and performance of Trusted Advisor and your other AWS solutions. AWS provides the following monitoring tools to watch Trusted Advisor, report when something is wrong, and take automatic actions when appropriate:

- *Amazon EventBridge* delivers a near real-time stream of system events that describe changes in AWS resources. EventBridge enables automated event-driven computing, as you can write rules that watch for certain events and trigger automated actions in other AWS services when these events happen.

  For example, Trusted Advisor provides the **Amazon S3 Bucket Permissions** check. This check identifies if you have buckets that have open access permissions or allow access to any authenticated AWS user. If a bucket permission changes, the status changes for the Trusted Advisor check. EventBridge detects this event and then sends you a notification so that you can take action. For more information, see the Amazon EventBridge User Guide.
- AWS Trusted Advisor checks identify ways for you to reduce cost, increase performance, and improve security for your AWS account. You can use EventBridge to monitor the status of Trusted Advisor checks. You can then use Amazon CloudWatch to create alarms on Trusted Advisor metrics. These alarms notify you when the status changes for a Trusted Advisor check, such as an updated resource or a service quota that is reached.
- *AWS CloudTrail* captures API calls and related events made by or on behalf of your AWS account and delivers the log files to an Amazon S3 bucket that you specify. You can identify which users and accounts called AWS, the source IP address from which the calls were made, and when the calls occurred. For more information, see the AWS CloudTrail User Guide.

Topics

Monitoring AWS Trusted Advisor check results with Amazon EventBridge

You can use EventBridge to detect when your checks for Trusted Advisor change status. Then, based on the rules that you create, EventBridge invokes one or more target actions when the status changes to a value that you specify in a rule.

Depending on the status change, you can send notifications, capture status information, take corrective action, initiate events, or take other actions. For example, you can specify the following target types if a check changes status from no problems detected (green) to recommended action (red).

- Use an AWS Lambda function to pass a notification to a Slack channel.
- Push data about the check to an Amazon Kinesis stream to support comprehensive and real-time status monitoring.
- Send an Amazon Simple Notification Service topic to your email.
- Get notified with an Amazon CloudWatch alarm action.

For more information about on how to use EventBridge and Lambda functions to automate responses for Trusted Advisor, see Trusted Advisor tools in GitHub.

Notes

- Trusted Advisor delivers events on a best effort basis. Events are not always guaranteed to be delivered to EventBridge.
- You must have a Business, Enterprise On-Ramp, or Enterprise AWS Support plan to create a rule for Trusted Advisor checks. For more information, see Changing AWS Support Plans.
- As Trusted Advisor is a Global service, all Events are emitted to EventBridge in the US East (N. Virginia) Region.

Follow this procedure to create an EventBridge rule for Trusted Advisor. Before you create event rules, do the following:

- Familiarize yourself with events, rules, and targets in EventBridge. For more information, see What is Amazon EventBridge? in the *Amazon EventBridge User Guide*.
- Create the target that you will use in your event rule.

To create an EventBridge rule for Trusted Advisor

1. Open the Amazon EventBridge console at https://console.aws.amazon.com/events/.
2. To change the Region, use the **Region selector** in the upper-right corner of the page and choose **US East (N. Virginia)**.
3. In the navigation pane, choose **Rules**.
4. Choose **Create rule**.
5. On the **Define rule detail** page, enter a name and description for your rule.
6. Keep the default values for **Event bus** and **Rule type**, and then choose **Next**.
7. On the **Build event pattern** page, for **Event source**, choose **AWS events or EventBridge partner events**.
8. Under **Event pattern**, keep the default value for **AWS services**.
9. For **AWS service**, choose **Trusted Advisor**.
10. For **Event type**, choose **Check Item Refresh Status**.
11. Choose one of the following options for check statuses:
    - Choose **Any status** to create a rule that monitors for any status change.
    - Choose **Specific status(es)**, and then choose the values that you want your rule to monitor.
        - **ERROR** – Trusted Advisor recommends an action for the check.
        - **INFO** – Trusted Advisor can't determine the status of the check.
        - **OK** – Trusted Advisor doesn't detect an issue for the check.
        - **WARN** – Trusted Advisor detects a possible issue for the check and recommends investigation.
12. Choose one of the following options for your checks:
    - Choose **Any check**.
    - Choose **Specific check(s)**, and then choose one or more check names from the list.
13. Choose one of the following options for AWS resources:

- Choose **Any resource ID** to create a rule that monitors all resources.
- Choose **Specific resource ID(s) by ARN**, and then enter the Amazon Resource Names (ARNs) that you want.

14. Choose **Next**.
15. In the **Select target(s)** page, choose the target type that you created for this rule, and then configure any additional options that are required for that type. For example, you might send the event to an Amazon SQS queue or an Amazon SNS topic.
16. Choose **Next**.
17. (Optional) On the **Configure tags** page, add any tags and then choose **Next**.
18. On the **Review and create** page, review your rule setup and ensure that it meets your event monitoring requirements.
19. Choose **Create rule**. Your rule will now monitor for Trusted Advisor checks and then send the event to the target that you specified.

Creating Amazon CloudWatch alarms to monitor AWS Trusted Advisor metrics

When AWS Trusted Advisor refreshes your checks, Trusted Advisor publishes metrics about your check results to CloudWatch. You can view the metrics in CloudWatch. You can also create alarms to detect status changes to Trusted Advisor checks and status changes for resources, and service quota usage (formerly referred to as limits). For example, you might create an alarm to track status changes for checks in the **Service Limits** category. The alarm will then notify you when you reach or exceed a service quota for your AWS account.

Follow this procedure to create a CloudWatch alarm for a specific Trusted Advisor metric.

Topics

Prerequisites

Before you create CloudWatch alarms for Trusted Advisor metrics, review the following information:

- Understand how CloudWatch uses metrics and alarms. For more information, see How CloudWatch works in the *Amazon CloudWatch User Guide*.
- Use the Trusted Advisor console or the AWS Support API to refresh your checks and get the latest check results. For more information, see Refresh check results.

To create a CloudWatch alarm for Trusted Advisor metrics

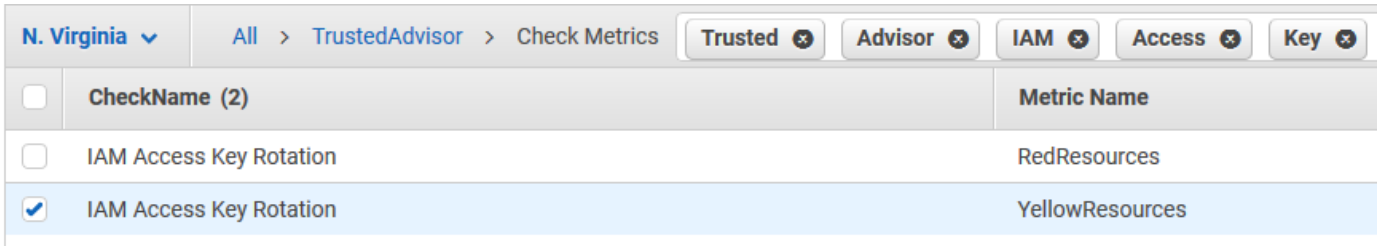
1. Open the CloudWatch console at https://console.aws.amazon.com/cloudwatch/.
2. Use the **Region selector** and choose the **US East (N. Virginia)** AWS Region.
3. In the navigation pane, choose **Alarms**.
4. Choose **Create alarm**.
5. Choose **Select metric**.
6. For **Metrics**, enter one or more dimension values to filter the metric list. For example, you can enter the metric name **ServiceLimitUsage** or the dimension, such as the Trusted Advisor check name.

   Tip

   - You can search for **`Trusted Advisor`** to list all metrics for the service.
   - For a list of metric and dimension names, see Trusted Advisor metrics and dimensions.

7. In the results table, select the check box for the metric.

   In the following example, the check name is **IAM Access Key Rotation** and the metric name is **YellowResources**.

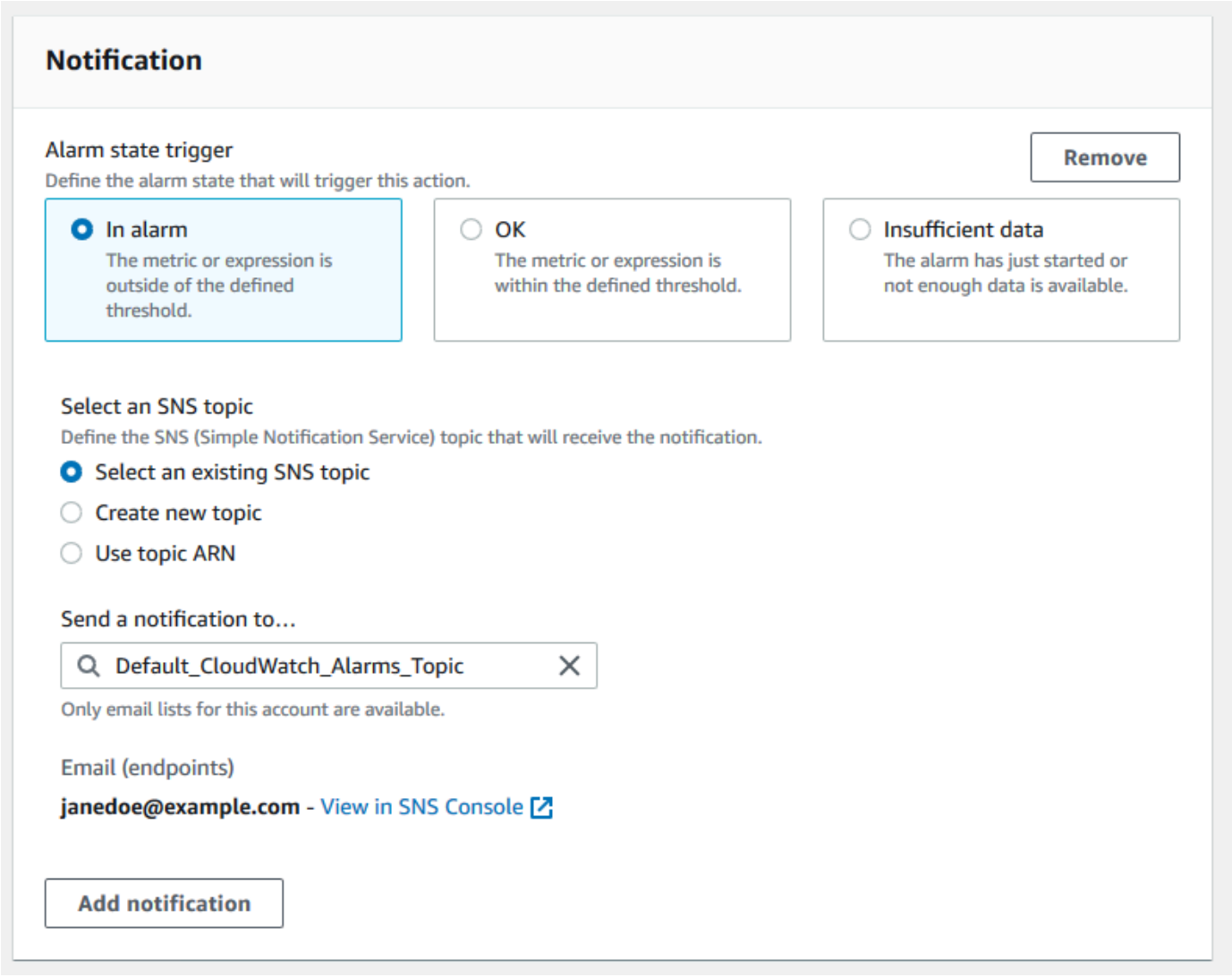


8. Choose **Select metric**.
9. On the **Specify metric and conditions** page, verify that the **Metric name** and **CheckName** that you chose appear on the page.
10. For **Period**, you can specify the time period that you want the alarm to start when the check status changes, such as 5 minutes.
11. Under **Conditions**, choose **Static**, and then specify the alarm condition for when the alarm should start.

    For example, if you choose **Greater/Equal >=threshold** and enter **1** for the threshold value, this means that the alarm starts when Trusted Advisor detects at least one IAM access key that hasn't been rotated in the last 90 days.

    Notes

    - For the **GreenChecks**, **RedChecks**, **YellowChecks**, **RedResources**, and **YellowResources** metrics, you can specify a threshold that is any whole number greater than or equal to zero.
    - Trusted Advisor doesn’t send metrics for **GreenResources**, which are resources for which Trusted Advisor hasn’t detected any issues.
12. Choose **Next**.
13. On the **Configure actions** page, for **Alarm state trigger**, choose **In alarm**.
14. For **Select an SNS topic**, choose an existing Amazon Simple Notification Service (Amazon SNS) topic or create one.



15. Choose **Next**.
16. For **Name and description**, enter a name and description for your alarm.
17. Choose **Next**.
18. On the **Preview and create** page, review your alarm details, and then choose **Create alarm**.

    When the status for the **IAM Access Key Rotation** check changes to red for 5 minutes, your alarm will send a notification to your SNS topic.

Example : Email notification for a CloudWatch alarm

The following email message shows that an alarm detected a change for the **IAM Access Key Rotation** check.

```
You are receiving this email because your Amazon CloudWatch Alarm
 "IAMAcessKeyRotationCheckAlarm" in the US East (N. Virginia) region has entered the
 ALARM state,
because "Threshold Crossed: 1 out of the last 1 datapoints [9.0 (26/03/21 22:44:00)]
 was greater than or equal to the threshold (1.0) (minimum 1 datapoint for OK -> ALARM
 transition)." at "Friday 26 March, 2021 22:49:42 UTC".

View this alarm in the AWS Management Console:
https://us-east-1.console.aws.amazon.com/cloudwatch/home?region=us-
east-1#s=Alarms&alarm=IAMAcessKeyRotationCheckAlarm

Alarm Details:
- Name:                       IAMAcessKeyRotationCheckAlarm
- Description:                This alarm starts when one or more AWS access keys in my
 AWS account have not been rotated in the last 90 days.
- State Change:               INSUFFICIENT_DATA -> ALARM
- Reason for State Change:    Threshold Crossed: 1 out of the last 1 datapoints [9.0
 (26/03/21 22:44:00)] was greater than or equal to the threshold (1.0) (minimum 1
 datapoint for OK -> ALARM transition).
- Timestamp:                  Friday 26 March, 2021 22:49:42 UTC
- AWS Account:                123456789012
- Alarm Arn:                  arn:aws:cloudwatch:us-
east-1:123456789012:alarm:IAMAcessKeyRotationCheckAlarm

Threshold:
- The alarm is in the ALARM state when the metric is GreaterThanOrEqualToThreshold 1.0
 for 300 seconds.

Monitored Metric:
- MetricNamespace:                    AWS/TrustedAdvisor
- MetricName:                         RedResources
- Dimensions:                         [CheckName = IAM Access Key Rotation]
- Period:                             300 seconds
- Statistic:                          Average
- Unit:                               not specified
- TreatMissingData:                   missing


State Change Actions:
- OK:
- ALARM: [arn:aws:sns:us-east-1:123456789012:Default_CloudWatch_Alarms_Topic]
- INSUFFICIENT_DATA:
```

CloudWatch metrics for Trusted Advisor

You can use the CloudWatch console or the AWS Command Line Interface (AWS CLI) to find the metrics available for Trusted Advisor.

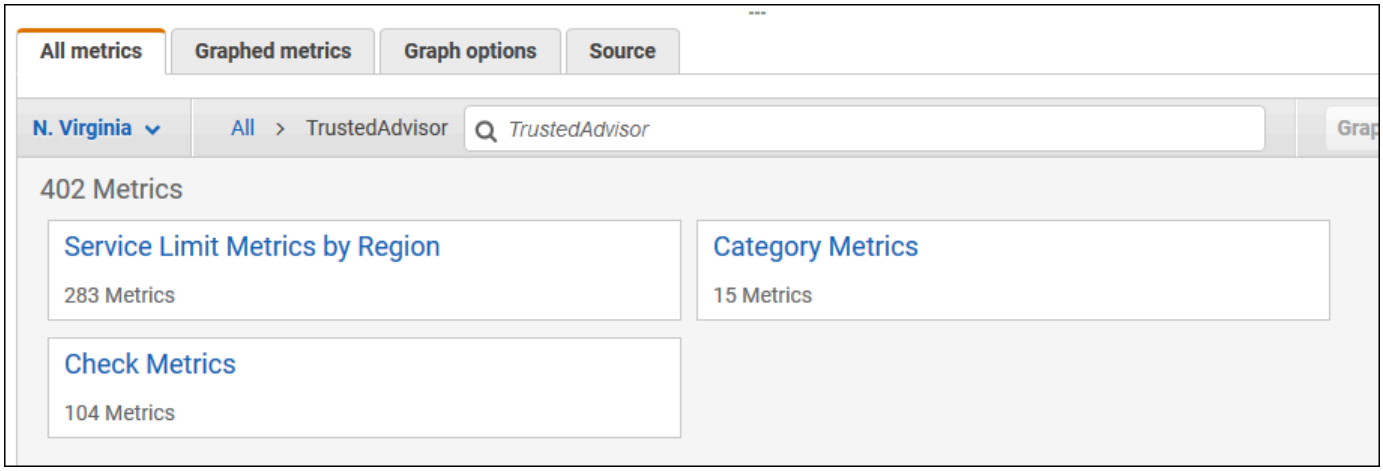
For a list of the namespaces, metrics, and dimensions for all services that publish metrics, see AWS services that publish CloudWatch metrics in the *Amazon CloudWatch User Guide*.

View Trusted Advisor metrics (console)

You can sign in to the CloudWatch console and view the available metrics for Trusted Advisor.

To view available Trusted Advisor metrics (console)

1. Open the CloudWatch console at https://console.aws.amazon.com/cloudwatch/.
2. Use the **Region selector** and choose the **US East (N. Virginia)** AWS Region.
3. In the navigation pane, choose **Metrics**.
4. Enter a metric namespace, such as **`TrustedAdvisor`**.
5. Choose a metric dimension, such as **Check Metrics**.



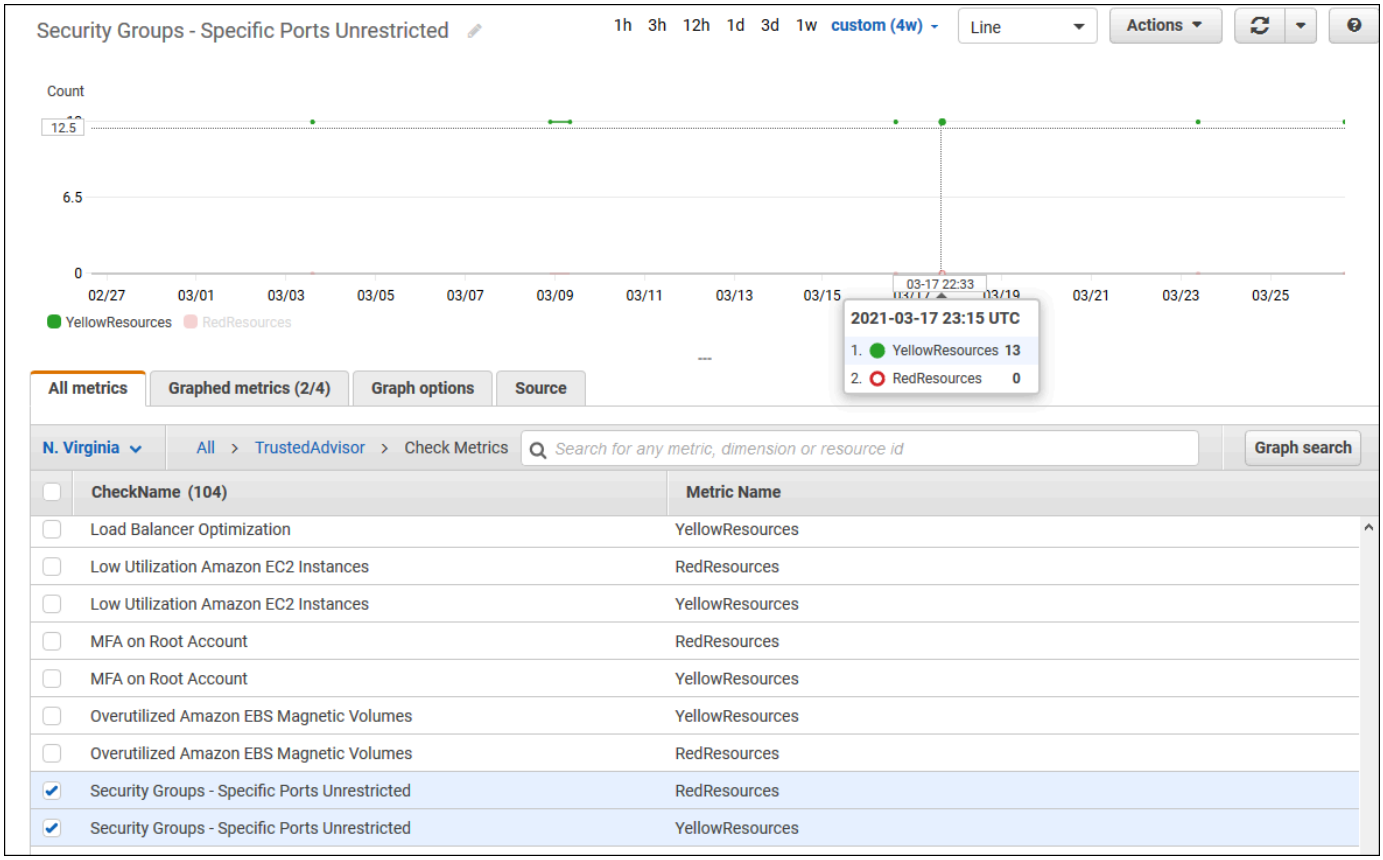
6. The **All metrics** tab shows metrics for that dimension in the namespace. You can do the following:

   a. To sort the table, choose the column heading.

   b. To graph a metric, select the check box next to the metric. To select all metrics, select the check box in the heading row of the table.

   c. To filter by metric, choose the metric name, and then choose **Add to search**.

The following example shows the results for the **Security Groups - Specific Ports Unrestricted** check. The check identifies 13 resources that are yellow. Trusted Advisor recommends that you investigate checks that are yellow.



7. (Optional) To add this graph to a CloudWatch dashboard, choose **Actions**, and then choose **Add to dashboard**.

   For more information about creating a graph to view your metrics, see Graphing a metric in the *Amazon CloudWatch User Guide*.

View Trusted Advisor metrics (CLI)

You can use the list-metrics AWS CLI command to view available metrics for Trusted Advisor.

Example : List all metrics for Trusted Advisor

The following example specifies the `AWS/TrustedAdvisor` namespace to view all metrics for Trusted Advisor.

```
aws cloudwatch list-metrics --namespace AWS/TrustedAdvisor
```

Your output might look like the following.


```
{
    "Metrics": [
        {
            "Namespace": "AWS/TrustedAdvisor",
            "Dimensions": [
                {
                    "Name": "ServiceName",
                    "Value": "EBS"
                },
                {
                    "Name": "ServiceLimit",
                    "Value": "Magnetic (standard) volume storage (TiB)"
                },
                {
                    "Name": "Region",
                    "Value": "ap-northeast-2"
                }
            ],
            "MetricName": "ServiceLimitUsage"
        },
        {
            "Namespace": "AWS/TrustedAdvisor",
            "Dimensions": [
                {
                    "Name": "CheckName",
                    "Value": "Overutilized Amazon EBS Magnetic Volumes"
                }
            ],
            "MetricName": "YellowResources"
        },
        {
            "Namespace": "AWS/TrustedAdvisor",
            "Dimensions": [
                {
                    "Name": "ServiceName",
                    "Value": "EBS"
                },
                {
                    "Name": "ServiceLimit",
```

```
                    "Value": "Provisioned IOPS"
                },
                {
                    "Name": "Region",
                    "Value": "eu-west-1"
                }
            ],
            "MetricName": "ServiceLimitUsage"
        },
        {
            "Namespace": "AWS/TrustedAdvisor",
            "Dimensions": [
                {
                    "Name": "ServiceName",
                    "Value": "EBS"
                },
                {
                    "Name": "ServiceLimit",
                    "Value": "Provisioned IOPS"
                },
                {
                    "Name": "Region",
                    "Value": "ap-south-1"
                }
            ],
            "MetricName": "ServiceLimitUsage"
        },
    ...
  ]
}
```

Example : List all metrics for a dimension

The following example specifies the `AWS/TrustedAdvisor` namespace and the `Region` dimension to view the metrics available for the specified AWS Region.

```
aws cloudwatch list-metrics --namespace AWS/TrustedAdvisor --dimensions
 Name=Region,Value=us-east-1
```

Your output might look like the following.

```
{
    "Metrics": [
```

```
        {
            "Namespace": "AWS/TrustedAdvisor",
            "Dimensions": [
                {
                    "Name": "ServiceName",
                    "Value": "SES"
                },
                {
                    "Name": "ServiceLimit",
                    "Value": "Daily sending quota"
                },
                {
                    "Name": "Region",
                    "Value": "us-east-1"
                }
            ],
            "MetricName": "ServiceLimitUsage"
        },
        {
            "Namespace": "AWS/TrustedAdvisor",
            "Dimensions": [
                {
                    "Name": "ServiceName",
                    "Value": "AutoScaling"
                },
                {
                    "Name": "ServiceLimit",
                    "Value": "Launch configurations"
                },
                {
                    "Name": "Region",
                    "Value": "us-east-1"
                }
            ],
            "MetricName": "ServiceLimitUsage"
        },
        {
            "Namespace": "AWS/TrustedAdvisor",
            "Dimensions": [
                {
                    "Name": "ServiceName",
                    "Value": "CloudFormation"
                },
                {
```

```
                    "Name": "ServiceLimit",
                    "Value": "Stacks"
                },
                {
                    "Name": "Region",
                    "Value": "us-east-1"
                }
            ],
            "MetricName": "ServiceLimitUsage"
        },
    ...
  ]
}
```

Example : List metrics for a specific metric name

The following example specifies the `AWS/TrustedAdvisor` namespace and the `RedResources` metric name to view the results for only this specific metric.

```
aws cloudwatch list-metrics --namespace AWS/TrustedAdvisor --metric-name RedResources
```

Your output might look like the following.

```
{
    "Metrics": [
        {
            "Namespace": "AWS/TrustedAdvisor",
            "Dimensions": [
                {
                    "Name": "CheckName",
                    "Value": "Amazon RDS Security Group Access Risk"
                }
            ],
            "MetricName": "RedResources"
        },
        {
            "Namespace": "AWS/TrustedAdvisor",
            "Dimensions": [
                {
                    "Name": "CheckName",
                    "Value": "Exposed Access Keys"
                }
            ],
```

```
            "MetricName": "RedResources"
        },
        {
            "Namespace": "AWS/TrustedAdvisor",
            "Dimensions": [
                {
                    "Name": "CheckName",
                    "Value": "Large Number of Rules in an EC2 Security Group"
                }
            ],
            "MetricName": "RedResources"
        },
        {
            "Namespace": "AWS/TrustedAdvisor",
            "Dimensions": [
                {
                    "Name": "CheckName",
                    "Value": "Auto Scaling Group Health Check"
                }
            ],
            "MetricName": "RedResources"
        },
    ...
  ]
}
```

Trusted Advisor metrics and dimensions

See the following tables for the Trusted Advisor metrics and dimensions that you can use for your CloudWatch alarms and graphs.

Trusted Advisor check-level metrics

You can use the following metrics for Trusted Advisor checks.

Metric	Description
`RedResources`	The number of resources that are in a red state (action recommended).
`YellowResources`	The number of resources that are in a yellow state (investigation recommended).

Trusted Advisor category-level metrics

You can use the following metrics for Trusted Advisor categories.

Metric	Description
`GreenChecks`	The number of Trusted Advisor checks that are in a green state (no issues detected).
`RedChecks`	The number of Trusted Advisor checks that are in a red state (action recommended).
`YellowChecks`	The number of Trusted Advisor checks that are in a yellow state (investigation recommended).

Trusted Advisor service quota-level metrics

You can use the following metrics for AWS service quotas.

Metric	Description
`ServiceLimitUsage`	The percentage of resource usage against a service quota (formerly referred to as limits).

Dimensions for check-level metrics

You can use the following dimension for Trusted Advisor checks.

Dimension	Description
`CheckName`	The name of the Trusted Advisor check. You can find all check names in the Trusted Advisor console or the AWS Trusted Advisor check reference.

Dimensions for category-level metrics

You can use the following dimension for Trusted Advisor check categories.

Dimension	Description
`Category`	The name of a Trusted Advisor check category. You can find all check categories in the Trusted Advisor console or the View check categories page.

Dimensions for service quota metrics

You can use the following dimensions for Trusted Advisor service quota metrics.

Dimension	Description
`Region`	The AWS Region for a service quota.
`ServiceName`	The name of the AWS service.
`ServiceLimit`	The name of the service quota. For more information about service quotas, see AWS service quotas in the *AWS General Reference*.

Logging AWS Trusted Advisor console actions with AWS CloudTrail

Trusted Advisor is integrated with AWS CloudTrail, a service that provides a record of actions taken by a user, role, or an AWS service in Trusted Advisor. CloudTrail captures actions for Trusted Advisor as events. The calls captured include calls from the Trusted Advisor console. If you create a trail, you can enable continuous delivery of CloudTrail events to an Amazon Simple Storage Service (Amazon S3) bucket, including events for Trusted Advisor. If you don't configure a trail, you can still view the most recent events in the CloudTrail console in **Event history**. Using the information collected by CloudTrail, you can determine the request that was made to Trusted Advisor, the

IP address from which the request was made, who made the request, when it was made, and additional details.

To learn more about CloudTrail, including how to configure and enable it, see theAWS CloudTrail User Guide.

Trusted Advisor information in CloudTrail

CloudTrail is enabled on your AWS account when you create the account. When supported event activity occurs in the Trusted Advisor console, that activity is recorded in a CloudTrail event along with other AWS service events in **Event history**. You can view, search, and download recent events in your AWS account. For more information, seeViewing Events with CloudTrail Event History.

For an ongoing record of events in your AWS account, including events for Trusted Advisor, create a trail. A *trail* enables CloudTrail to deliver log files to an Amazon S3 bucket. By default, when you create a trail in the console, the trail applies to all AWS Regions. The trail logs events from all Regions in the AWS partition and delivers the log files to the Amazon S3 bucket that you specify. Additionally, you can configure other AWS services to further analyze and act upon the event data collected in CloudTrail logs. For more information, see the following:

- Overview for Creating a Trail
- CloudTrail Supported Services and Integrations
- Configuring Amazon SNS Notifications for CloudTrail
- Receiving CloudTrail Log Files from Multiple Regions and Receiving CloudTrail Log Files from Multiple Accounts

Trusted Advisor supports logging a subset of the Trusted Advisor console actions as events in CloudTrail log files. CloudTrail logs the following actions:

- `BatchUpdateRecommendationResourceExclusion`
- `CreateEngagement`
- `CreateEngagementAttachment`
- `CreateEngagementCommunication`
- `CreateExcelReport`
- `DescribeAccount`
- `DescribeAccountAccess`

- DescribeCheckItems
- DescribeCheckRefreshStatuses
- DescribeCheckSummaries
- DescribeChecks
- DescribeNotificationPreferences
- DescribeOrganization
- DescribeOrganizationAccounts
- DescribeReports
- DescribeServiceMetadata
- ExcludeCheckItems
- GenerateReport
- GetEngagement
- GetEngagementAttachment
- GetEngagementType
- GetExcelReport
- GetOrganizationRecommendation
- GetRecommendation
- IncludeCheckItems
- ListAccountsForParent
- ListChecks
- ListEngagementCommunications
- ListEngagementTypes
- ListEngagements
- ListOrganizationRecommendationAccounts
- ListOrganizationRecommendationResources
- ListOrganizationRecommendations
- ListOrganizationalUnitsForParent
- ListRecommendationResources
- ListRecommendations

- `ListRoots`
- `RefreshCheck`
- `SetAccountAccess`
- `SetOrganizationAccess`
- `UpdateEngagement`
- `UpdateEngagementStatus`
- `UpdateNotificationPreferences`
- `UpdateOrganizationRecommendationLifecycle`
- `UpdateRecommendationLifecycle`

For a complete list of Trusted Advisor console actions, seeTrusted Advisor actions.

> **Note**
>
> CloudTrail also logs the Trusted Advisor API operations in the AWS Support API Reference. For more information, seeLogging AWS Support API calls with AWS CloudTrail.

Every event or log entry contains information about who generated the request. The identity information helps you determine the following:

- Whether the request was made with root or AWS Identity and Access Management (IAM) user credentials.
- Whether the request was made with temporary security credentials for a role or federated user.
- Whether the request was made by another AWS service.

For more information, see theCloudTrail userIdentity Element.

Example: Trusted Advisor Log File Entries

A trail is a configuration that enables delivery of events as log files to an Amazon S3 bucket that you specify. CloudTrail log files contain one or more log entries. An event represents a single request from any source and includes information about the requested action, the date and time of the action, request parameters, and so on. CloudTrail log files aren't an ordered stack trace of the public API calls, so they don't appear in any specific order.

Example : Log entry for RefreshCheck

The following example shows a CloudTrail log entry that demonstrates the `RefreshCheck` action for the Amazon S3 Bucket Versioning check (ID R365s2Qddf).


```
{
        "eventVersion":"1.04",
        "userIdentity":{
        "type":"IAMUser",
        "principalId":"AIDACKCEVSQ6C2EXAMPLE",
        "arn":"arn:aws:iam::123456789012:user/janedoe",
        "accountId":"123456789012",
        "accessKeyId":"AKIAIOSFODNN7EXAMPLE",
        "userName":"janedoe",
        "sessionContext":{
        "attributes":{
        "mfaAuthenticated":"false",
        "creationDate":"2020-10-21T22:06:18Z"
        }
        }
        },
        "eventTime":"2020-10-21T22:06:33Z",
        "eventSource":"trustedadvisor.amazonaws.com",
        "eventName":"RefreshCheck",
        "awsRegion":"us-east-1",
        "sourceIPAddress":"100.127.34.136",
        "userAgent":"signin.amazonaws.com",
        "requestParameters":{
        "checkId":"R365s2Qddf"
        },
        "responseElements":{
        "status":{
        "checkId":"R365s2Qddf",
        "status":"enqueued",
        "millisUntilNextRefreshable":3599993
        }
        },
        "requestID":"d23ec729-8995-494c-8054-dedeaEXAMPLE",
        "eventID":"a49d5202-560f-4a4e-b38a-02f1cEXAMPLE",
        "eventType":"AwsApiCall",
        "recipientAccountId":"123456789012"
        }
```

Example : Log entry for UpdateNotificationPreferences

The following example shows a CloudTrail log entry that demonstrates the `UpdateNotificationPreferences` action.


```
{
        "eventVersion":"1.04",
        "userIdentity":{
        "type":"IAMUser",
        "principalId":"AIDACKCEVSQ6C2EXAMPLE",
        "arn":"arn:aws:iam::123456789012:user/janedoe",
        "accountId":"123456789012",
        "accessKeyId":"AKIAIOSFODNN7EXAMPLE",
        "userName":"janedoe",
        "sessionContext":{
        "attributes":{
        "mfaAuthenticated":"false",
        "creationDate":"2020-10-21T22:06:18Z"
        }
        }
        },
        "eventTime":"2020-10-21T22:09:49Z",
        "eventSource":"trustedadvisor.amazonaws.com",
        "eventName":"UpdateNotificationPreferences",
        "awsRegion":"us-east-1",
        "sourceIPAddress":"100.127.34.167",
        "userAgent":"signin.amazonaws.com",
        "requestParameters":{
        "contacts":[
        {
        "id":"billing",
        "type":"email",
        "active":false
        },
        {
        "id":"operational",
        "type":"email",
        "active":false
        },
        {
        "id":"security",
        "type":"email",
        "active":false
        }
```

```
        ],
        "language":"en"
        },
        "responseElements":null,
        "requestID":"695295f3-c81c-486e-9404-fa148EXAMPLE",
        "eventID":"5f923d8c-d210-4037-bd32-997c6EXAMPLE",
        "eventType":"AwsApiCall",
        "recipientAccountId":"123456789012"
        }
```

Example : Log entry for GenerateReport

The following example shows a CloudTrail log entry that demonstrates the `GenerateReport` action. This action creates a report for your AWS organization.

```
{
        "eventVersion":"1.04",
        "userIdentity":{
        "type":"IAMUser",
        "principalId":"AIDACKCEVSQ6C2EXAMPLE",
        "arn":"arn:aws:iam::123456789012:user/janedoe",
        "accountId":"123456789012",
        "accessKeyId":"AKIAIOSFODNN7EXAMPLE",
        "userName":"janedoe",
        "sessionContext":{
        "attributes":{
        "mfaAuthenticated":"false",
        "creationDate":"2020-11-03T13:03:10Z"
        }
        }
        },
        "eventTime":"2020-11-03T13:04:29Z",
        "eventSource":"trustedadvisor.amazonaws.com",
        "eventName":"GenerateReport",
        "awsRegion":"us-east-1",
        "sourceIPAddress":"100.127.36.171",
        "userAgent":"signin.amazonaws.com",
        "requestParameters":{
        "refresh":false,
        "includeSuppressedResources":false,
        "language":"en",
        "format":"JSON",
```

```
        "name":"organizational-view-report",
        "preference":{
        "accounts":[

        ],
        "organizationalUnitIds":[
        "r-j134"
        ],
        "preferenceName":"organizational-view-report",
        "format":"json",
        "language":"en"
        }
        },
        "responseElements":{
        "status":"ENQUEUED"
        },
        "requestID":"bb866dc1-60af-47fd-a660-21498EXAMPLE",
        "eventID":"2606c89d-c107-47bd-a7c6-ec92fEXAMPLE",
        "eventType":"AwsApiCall",
        "recipientAccountId":"123456789012"
        }
```

Troubleshooting resources

For answers to common troubleshooting questions, see the AWS Support Knowledge Center.

For Windows, Amazon EC2 offers EC2Rescue, which customers can use to examine their Windows instances to help identify common problems, collect log files, and help AWS Support to troubleshoot your issues. You can also use EC2Rescue to analyze boot volumes from non-functional instances. For more information, see How can I use EC2Rescue to troubleshoot and fix common issues on my EC2 Windows instance?

Service-specific troubleshooting

Most AWS service documentation contains troubleshooting topics that can get you started before contacting AWS Support. The following table provides links to troubleshooting topics, arranged by service.

> **Note**
>
> The following table provides a list of the most common services. To search for other troubleshooting topics, use the search text box on the AWS Documentation landing page.

Service	Link
Amazon Web Services	Troubleshooting AWS Signature Version 4 errors
Amazon API Gateway	Troubleshooting issues with HTTP APIs
Amazon AppStream	Troubleshoot Amazon AppStream
Amazon Athena	Troubleshoot in Athena
Amazon Aurora MySQL	Troubleshoot for Amazon Aurora
Amazon Aurora PostgreSQL	Troubleshoot for Amazon Aurora
Amazon EC2 Auto Scaling	Troubleshooting Auto Scaling

Service	Link
AWS Certificate Manager (ACM)	Troubleshooting
AWS CloudFormation	Troubleshooting AWS CloudFormation
Amazon CloudFront	Troubleshooting | Troubleshooting RTMP distributions
AWS CloudHSM	Troubleshooting
Amazon CloudSearch	Troubleshooting Amazon CloudSearch
AWS CodeDeploy	Troubleshooting AWS CodeDeploy
Amazon CloudWatch	Troubleshooting
AWS Database Migration Service	Troubleshooting migration tasks in AWS Database Migration Service
AWS Data Pipeline	Troubleshooting
AWS Direct Connect	Troubleshooting AWS Direct Connect
AWS Directory Service	Troubleshooting AWS Directory Service administration issues
Amazon DynamoDB	Troubleshooting | Troubleshooting SSL/TLS connection establishment issues
AWS Elastic Beanstalk	Troubleshooting
Amazon Elastic Compute Cloud (Amazon EC2)	Troubleshooting instances | Troubleshooting Windows instances | Troubleshooting VM Import/Export | Troubleshooting API request errors
Amazon Elastic Container Service (Amazon ECS)	Amazon ECS troubleshooting
Amazon Elastic Kubernetes Service (Amazon EKS)	Amazon EKS troubleshooting

Service	Link
Elastic Load Balancing	Troubleshoot your application load balancers | Troubleshoot your Classic Load Balancer
Amazon ElastiCache (Memcached)	Troubleshooting applications
Amazon ElastiCache (Redis OSS)	Troubleshooting applications
Amazon EMR	Troubleshoot a cluster
AWS Flow Framework	Troubleshooting and debugging tips
AWS Glue	Troubleshooting AWS Glue
AWS Glue DataBrew	Troubleshooting identity and access in AWS Glue DataBrew
AWS GovCloud (US)	Troubleshooting
AWS Identity and Access Management (IAM)	Troubleshooting IAM
Amazon Keyspaces (for Apache Cassandra)	Troubleshooting Amazon Keyspaces (for Apache Cassandra)
Amazon Kinesis Data Streams	Troubleshooting Amazon Kinesis Data Streams producers | Troubleshooting Amazon Kinesis Data Streams consumers
Amazon Managed Service for Apache Flink	Troubleshooting Performance | Troubleshooting Amazon Managed Service for Apache Flink for SQL Applications
Amazon Data Firehose	Troubleshooting Amazon Data Firehose
AWS Lambda	Troubleshooting and monitoring AWS Lambda functions with CloudWatch
Amazon OpenSearch Service	Troubleshooting Amazon OpenSearch Service
AWS OpsWorks	Debugging and troubleshooting guide

Service	Link
Amazon Personalize	Troubleshooting
Amazon QLDB	Troubleshooting Amazon QLDB
Amazon QuickSight	Troubleshooting Amazon QuickSight | Troubleshooting skipped row errors
AWS Resource Access Manager (AWS RAM)	Troubleshooting issues with AWS RAM
Amazon Redshift	Troubleshooting queries | Troubleshooting data loads | Troubleshooting connection issues in Amazon Redshift | Troubleshooting Amazon Redshift audit logging | Troubleshooting queries in Amazon Redshift Spectrum
Amazon Relational Database Service (Amazon RDS)	Troubleshooting | Troubleshooting applications on Amazon RDS | Troubleshooting DB issues for Amazon RDS Custom
Amazon Route 53	Troubleshooting Amazon Route 53
Amazon SageMaker	Troubleshoot errors | Troubleshooting Amazon SageMaker Studio
Amazon Silk	Troubleshooting
Amazon Simple Email Service (Amazon SES)	Troubleshooting Amazon SES
Amazon Simple Storage Service (Amazon S3)	Troubleshooting
Amazon Simple Workflow Service (Amazon SWF)	AWS flow framework for Java: Troubleshooting and debugging tips | AWS flow framework for Ruby: Troubleshooting and debugging workflows
AWS Storage Gateway	Troubleshooting your gateway
AWS Systems Manager	Troubleshooting SSM Agent

Service	Link
Amazon Virtual Private Cloud (Amazon VPC)	Troubleshooting
AWS Virtual Private Network (AWS VPN)	Troubleshooting your customer gateway device
AWS WAF	Testing and tuning your AWS WAF protections
Amazon WorkMail	Troubleshooting the Amazon WorkMail web application
Amazon WorkSpaces	Troubleshooting Amazon WorkSpaces issues | Troubleshooting Amazon WorkSpaces client issues

Document history

The following table describes the important changes to the documentation since the last release of the AWS Support service.

- **AWS Support API version:** 2013-04-15
- **AWS Support App API version:** 2021-08-20

The following table describes important updates to the AWS Support and AWS Trusted Advisor documentation, beginning May 10, 2021. You can subscribe to the RSS feed to receive notifications about the updates.

Change	Description	Date
Updated AWS Trusted Advisor Engage section	Updated the AWS Trusted Advisor Engage section to reference AWS Countdown . For more information, see Get started with AWS Trusted Advisor Engage (Preview).	September 16, 2024
Updated documentation for AWS Support Plans	Added a new permission and CloudTrail documentation for viewing a list of support plan modifiers. For more informati on, see Manage access to AWS Support Plans, AWS managed policies for AWS Support Plans and Logging AWS Support Plans API calls with AWS CloudTrail.	September 9, 2024
Updated documentation for Trusted Advisor	Trusted Advisor added 9 new checks on Aug 23rd. For more information, see Change	August 23, 2024

	log for AWS Trusted Advisor checks.	
Updated documentation for Trusted Advisor	Updated 1 Trusted Advisor Operational Excellence check and added 1 new Trusted Advisor Security check. For more information, see Change log for AWS Trusted Advisor checks.	August 22, 2024
Updated documentation for Trusted Advisor	Updated 6 Trusted Advisor Security checks. For more information, see Change log for AWS Trusted Advisor checks.	August 20, 2024
Updated documentation for Trusted Advisor	Updated 2 Trusted Advisor checks. For more informati on, see Change log for AWS Trusted Advisor checks.	August 12, 2024
Updated documentation for `AWSSupportServiceR olePolicy`	Added new permissions to provide billing, administr ative, and support services for the service-linked role. For more information, see AWS managed policy: AWSSuppor tServiceRolePolicy.	August 5, 2024
Updated documentation for Trusted Advisor	Updated 9 Trusted Advisor Checks. For more informati on, see Change log for AWS Trusted Advisor checks.	July 21, 2024

Updated documentation for AWSTrustedAdvisorServiceRolePolicy	Added new IAM actions access-analyzer:ListAnalyzers ,cloudwatch:ListMetrics , dax:DescribeClusters ,ec2:DescribeNatGateways ,ec2:DescribeRouteTables , ec2:DescribeVpcEndpoints ,ec2:GetManagedPrefixListEntries ,elasticloadbalancing:DescribeTargetHealth , iam:ListSAMLProviders ,kafka:DescribeClusterV2 network-firewall:ListFirewalls network-firewall:DescribeFirewall and sqs:GetQueueAttributes to onboard new checks. For more information, see AWS managed policy: AWSTrustedAdvisorServiceRolePolicy.	June 11, 2024
Added documentation for AWS Support Recommendations	Added documentation for AWS Support Recommendations.	May 22, 2024
Added documentation for AWS Support Recommendations	Added documentation for AWS Support Recommendations.	May 20, 2024

Removed 5 AWS Trusted Advisor checks from documentation	Removed 5 AWS Trusted Advisor checks that are now deprecated. For more information, see Change log for AWS Trusted Advisor checks.	May 15, 2024
Added 1 new AWS Trusted Advisor Security check to documentation	Added 1 new AWS Trusted Advisor Security check to documentation. For more information, see Change log for AWS Trusted Advisor checks.	May 15, 2024
Removed 3 Fault Tolerance checks from documentation	Removed 3 Fault Tolerance checks that are now deprecated. For more information, see Change log for AWS Trusted Advisor checks.	April 25, 2024
Updated Fault Tolerance and Security check documentation	Added 1 new fault tolerance check. Updated 1 fault tolerance and 1 security check. For more informati on, see Change log for AWS Trusted Advisor checks.	March 29, 2024
Updated documentation for `AWSSupportServiceR olePolicy`	Added new permissions to provide billing, administr ative, and support services for the service-linked role. For more information, see AWS managed policy: AWSSuppor tServiceRolePolicy.	March 22, 2024

Updated documentation for AWS Support plan	Updates to the Features of AWS Support Plans. For more information, see AWS Support plans.	March 11, 2024
Updated documentation for Trusted Advisor	Added 1 fault tolerance check. For more informati on, see Change log for AWS Trusted Advisor checks.	February 29, 2024
Updated documentation for Trusted Advisor	Added 1 fault tolerance check. For more informati on, see Change log for AWS Trusted Advisor checks.	January 31, 2024
Updated documentation for AWSTrustedAdvisorS erviceRolePolicy	Added new IAM actions `cloudtrail:GetTrai l` , `cloudtrail:ListTra ils` , `cloudtrai l:GetEventSelectors` , `outposts:GetOutpost` , `outposts:ListAssets` and `outposts:ListOutpo sts` to onboard new checks. For more information, see AWS managed policy: AWSTrustedAdvisorServiceRol ePolicy.	January 18, 2024
Updated documentation for AWSSupportServiceR olePolicy	Added new permissions to provide billing, administr ative, and support services for the service-linked role. For more information, see AWS managed policy: AWSSuppor tServiceRolePolicy.	January 17, 2024

Updated documentation for Trusted Advisor	Updated 1 fault tolerance check to amend title and description. For more information, see Change log for AWS Trusted Advisor checks.	January 8, 2024
Updated documentation for Trusted Advisor	Updated 1 security check to reflect change in deprecati on period. For more informati on, see Change log for AWS Trusted Advisor checks.	December 21, 2023
Updated documentation for Trusted Advisor	Added 2 security checks and 2 performance checks. For more information, see Change log for AWS Trusted Advisor checks.	December 20, 2023
Updated documentation for Trusted Advisor	Added 1 security check. For more information, see Change log for AWS Trusted Advisor checks.	December 15, 2023
Updated documentation for Trusted Advisor Engage	Updated Trusted Advisor Engage documentation with changes for email notification option.	December 14, 2023
Updated documentation for Trusted Advisor Engage	Updated Trusted Advisor Engage documentation with changes for scheduled engagements.	December 11, 2023

Updated documentation for Trusted Advisor	Added 2 new fault tolerance checks and 1 cost optimization check. For more information, see Change log for AWS Trusted Advisor checks.	December 7, 2023
Updated documentation for `AWSSupportServiceRolePolicy`	Added new permissions to provide billing, administrative, and support services for the service-linked role. For more information, see AWS managed policy: AWSSupportServiceRolePolicy.	December 6, 2023
Updated AWS managed policies for Trusted Advisor	Updated the `AWSTrustedAdvisorPriorityFullAccess` and `AWSTrustedAdvisorPriorityReadOnlyAccess` AWS managed policies to include statement IDs. For more information, see AWS managed policies for AWS Trusted Advisor.	December 6, 2023
Updated documentation for Trusted Advisor	Added 3 new fault tolerance checks. For more information, see Change log for AWS Trusted Advisor checks.	November 17, 2023
Updated documentation for Trusted Advisor	Added 37 new checks for Amazon RDS. For more information, see Change log for AWS Trusted Advisor checks.	November 15, 2023

Updated documentation for AWSTrustedAdvisorServiceRolePolicy	Added new IAM actions `ec2:DescribeRegions` , `s3:GetLifecycleConfiguration` , `ecs:DescribeTaskDefinition` and `ecs:ListTaskDefinitions` to onboard new checks. For more information, see AWS managed policy: AWSTrustedAdvisorServiceRolePolicy.	November 9, 2023
Updated documentation for AWSSupportServiceRolePolicy	Added new permissions to provide billing, administrative, and support services for the service-linked role. For more information, see AWS managed policy: AWSSupportServiceRolePolicy.	October 27, 2023
Updated documentation for Trusted Advisor	Added 64 new checks integrated from AWS Config. For more information, see Change log for AWS Trusted Advisor checks.	October 26, 2023
Updated documentation for Trusted Advisor	Added six new fault tolerance checks in Trusted Advisor. For more information, see the Change log for AWS Trusted Advisor checks.	October 12, 2023

Updated documentation for AWSTrustedAdvisorServiceRolePolicy	Added new IAM actions `route53resolver:ListResolverEndpoints` , `route53resolver:ListResolverEndpointIpAddresses` , `ec2:DescribeSubnets` , `kafka:ListClustersV2` and `kafka:ListNodes` to onboard new resilience checks. For more information, see AWS managed policy: AWSTrustedAdvisorServiceRolePolicy.	September 14, 2023
Updated documentation for AWSSupportServiceRolePolicy	Added new permissions to provide billing, administrative, and support services for the service-linked role. For more information, see AWS managed policy: AWSSupportServiceRolePolicy.	August 28, 2023
Updated documentation for Trusted Advisor	Added 1 new service limits checks for AWS Lambda. For more information, see the Change log for AWS Trusted Advisor checks .	August 17, 2023
Updated documentation for Trusted Advisor	Added 1 new fault tolerance checks for Lambda. For more information, see the Change log for AWS Trusted Advisor checks.	August 3, 2023

Updated documentation for Trusted Advisor Engage	Updated Trusted Advisor Engage documentation with changes to forms for creating and editing engagements. Added page with Example Service Control Policies for AWS Trusted Advisor.	July 27, 2023
Updated documentation for `AWSSupportServiceRolePolicy`	Added new permissions to provide billing, administrative, and support services for the service-linked role. For more information, see AWS managed policy: AWSSupportServiceRolePolicy.	June 26, 2023
Updated documentation for Trusted Advisor	Added two new fault tolerance checks for Amazon MQ. Added one new fault tolerance check and one new performance check for Amazon Elastic File System. For more information, see the Change log for AWS Trusted Advisor checks.	June 1, 2023
Updated documentation for Trusted Advisor	Added two new fault tolerance checks for NAT Gateway. For more information, see the Change log for AWS Trusted Advisor checks.	May 16, 2023

Updated documentation for AWS Support Plans	Added a new permission and CloudTrail documentation for the creation of support plan schedules. For more informati on, see Manage access to AWS Support Plans, AWS managed policies for AWS Support Plans and Logging AWS Support Plans API calls with AWS CloudTrail.	May 8, 2023
Updated documentation for `AWSSupportServiceR olePolicy`	Added new permissions to provide billing, administr ative, and support services for the service-linked role. For more information, see AWS managed policy: AWSSuppor tServiceRolePolicy.	May 2, 2023
Updated documentation for Trusted Advisor Engage and Trusted Advisor Priority	Clarified prerequisites for Trusted Advisor Engage and Trusted Advisor Priority. Added example IAM policy with ability to use Trusted Advisor Engage and to enable trusted access to Trusted Advisor.	April 28, 2023
Updated documentation for Trusted Advisor	Added two new fault tolerance checks for AWS Resilience Hub and Incident Manager. For more informati on, see the Change log for AWS Trusted Advisor checks.	April 27, 2023

Added documentation for Trusted Advisor Engage	You can use AWS Trusted Advisor Engage to get the most out of your AWS Support Plans by making it easy for you to see, request and track all your proactive engagements, and communicate with your AWS account team about ongoing engagements. For more information, see Get started with AWS Trusted Advisor Engage.	April 6, 2023
Updated documentation for Trusted Advisor	Added two new fault tolerance checks for Amazon ECS. For more information, see the Change log for AWS Trusted Advisor checks.	March 30, 2023
Updated documentation for `AWSSupportServiceRolePolicy`	Added new permissions to provide billing, administrative, and support services for the service-linked role. For more information, see AWS managed policy: AWSSupportServiceRolePolicy.	March 16, 2023

Added documentation for Trusted Advisor Priority	Updated the Trusted Advisor Priority console: • The **Acknowledge** and **Dismiss** buttons have replaced the **Accept** and **Reject** buttons. • You don't need to enter your job title or name to acknowledge, resolve, dismiss, or reopen recommendations. For more information, see Getting started with Trusted Advisor Priority.	February 16, 2023
Updated code examples for AWS Support	Added .NET, Java, and Kotlin code examples that show how to use AWS Support with an AWS software development kit (SDK). For more informati on, see Code examples for AWS Support using AWS SDKs.	January 16, 2023
Updated documentation for `AWSSupportServiceR olePolicy`	Added new permissions to provide billing, administr ative, and support services for the service-linked role. For more information, see AWS managed policy: AWSSuppor tServiceRolePolicy.	January 10, 2023

Updated documentation for AWS Support App	You can search for support cases in Slack by using filter options or searching by case ID. For more information, see Searching for support cases in Slack.	December 29, 2022
Updated documentation for AWS Support App	You can also use Terraform to create your resources for the AWS Support App. For more information, see Create AWS Support App resources by using Terraform.	December 22, 2022
Updated documentation for Trusted Advisor	Added three new fault tolerance checks for Amazon MemoryDB, Amazon ElastiCache, and AWS CloudHSM. For more information, see the Change log for AWS Trusted Advisor checks.	December 15, 2022
Updated documentation for the AWS Support App in Slack	You can now request live chat support for the following options: • Account and billing support cases. • Japanese language support for technical support cases. • For more information, see Creating support cases in a Slack channel.	December 14, 2022

Updated documentation for AWS Support	Added documentation about new endpoints for the AWS Support API. For more information, see About the AWS Support API.	December 14, 2022
Added documentation for AWS CloudFormation templates to use for the AWS Support App in Slack	You can use CloudFormation templates to create Slack configuration workspaces and channels for AWS accounts in AWS Organizations. For more information, see Creating AWS Support App resources with AWS CloudFormation.	December 5, 2022
Updated documentation for Trusted Advisor	Added two new fault tolerance checks for AWS Resilience Hub. For more information, see the Change log for AWS Trusted Advisor checks.	November 17, 2022
Added documentation for your AWS Security Hub findings in Trusted Advisor	Your findings from Security Hub controls are removed from Trusted Advisor faster. For more information, see the Change log for AWS Trusted Advisor checks.	November 17, 2022
Updated documentation for AWS Trusted Advisor	Added documentation for Trusted Advisor Recommend ations. For more information, see the Change log for AWS Trusted Advisor checks.	November 16, 2022

Updated documentation for the AWS Support App in Slack	Added documentation for Japanese language support. For more information, see Creating support cases in a Slack channel.	November 11, 2022
Updated documentation for AWS Support Plans	Added troubleshooting information to allow Support Plans access in an organizat ion. For more information, see Troubleshooting.	November 9, 2022
Updated documentation for the AWS Support App in Slack	Added documentation for `supportapp` permissions. For more information, see Permissions required for the AWS Support App to connect to Slack.	November 1, 2022
Updated documentation for the AWS Support App in Slack	You can use the `RegisterSlackWorkspaceForOrganization` API operation to register a Slack workspace for your AWS account. To call this API, your account must be part of an organization in AWS Organizations. For more information, see the AWS Support App in Slack API Reference.	October 19, 2022

Updated documentation for `AWSSupportServiceRolePolicy`	Added new permissions to provide billing, administrative, and support services for the service-linked role. For more information, see AWS managed policy: AWSSupportServiceRolePolicy.	October 4, 2022
Updated documentation for Support Plans	You can now use AWS Identity and Access Management (IAM) to manage permissions to change the support plan for your AWS account. For more information, see the following topics: • Managing access for AWS Support Plans • AWS managed policies for AWS Support Plans • Changing AWS Support Plans • Logging AWS Support Plans API calls with AWS CloudTrail	September 29, 2022
Updated documentation for the AWS Support App in Slack	Added documentation on how to configure a public or private channel to use with the AWS Support App. For more information, see Configuring a Slack channel.	September 22, 2022

Updated documentation for AWS Support	Added a new section about security for your support cases. For more information, see Security for your AWS Support cases.	September 9, 2022
Updated documentation for Trusted Advisor	Added a new security check for Amazon EC2. For more information, see the Change log for AWS Trusted Advisor checks.	September 1, 2022
Updated documentation for the AWS Support App in Slack	See the following topics: You can use the AWS Support App to manage your support cases, request service quota increases, and chat with support agents directly in your Slack channels. For more information, see the AWS Support App in Slack documentation. You can attach AWS managed policies to your IAM roles to use the AWS Support App. For more information, see AWS managed policies for AWS Support App in Slack. New API reference for the AWS Support App. See the AWS Support App API Reference.	August 24, 2022

Updated documentation for `AWSSupportServiceRolePolicy`	Added new permissions to provide billing, administrative, and support services for the service-linked role. For more information, see AWS managed policy: AWSSupportServiceRolePolicy.	August 17, 2022
Added documentation for Trusted Advisor Priority	Trusted Advisor Priority adds support for the following features: • Delegated administrators • Daily and weekly email notifications for recommendation summaries • Reopen resolved or rejected recommendations • AWS managed policies For more information, see Getting started with Trusted Advisor Priority.	August 17, 2022
Updated documentation for Trusted Advisor	The **Preferences** page in the Trusted Advisor console has been updated. For more information, see Getting started with AWS Trusted Advisor.	July 15, 2022

Updated documentation for Trusted Advisor	Updated the checks to include the following information: • **Alert Criteria** • **Recommended Action** • **Additional Resources** • **Report columns** For more information, see the AWS Trusted Advisor check reference.	July 7, 2022
Updated documentation for AWS Support	Added documentation that explains how to manage your support cases. • Updating an existing support case • Troubleshooting	June 28, 2022
Updated documentation for `AWSSupportServiceRolePolicy`	Updated permissions to provide billing, administrative, and support services for the service-linked role. For more information, see AWS managed policy: AWSSupportServiceRolePolicy.	June 23, 2022

Updated documentation for Trusted Advisor	Trusted Advisor supports additional AWS Foundational Security Best Practices security standard controls that are sourced from AWS Security Hub. For more information, see the Change log for AWS Trusted Advisor checks.	June 23, 2022
Updated documentation for Trusted Advisor	Added information about how to request service quota increases. For more information, see Service limits.	June 21, 2022
Updated documentation for AWS Support	The create case experience has been updated in the Support Center Console. For more information, see Creating support cases and case management.	May 18, 2022
Updated documentation for Trusted Advisor	Added four checks for Amazon EBS and AWS Lambda. For more information, see Opt in AWS Compute Optimizer to add Trusted Advisor checks.	May 4, 2022
Updated documentation for `AWSSupportServiceRolePolicy`	Added new permissions to provide billing, administrative, and support services for the service-linked role. For more information, see AWS managed policy: AWSSupportServiceRolePolicy.	April 27, 2022

Updated documentation for the Exposed Access Keys check	This check is now automatically refreshed for you. For more information, see Change log for AWS Trusted Advisor checks.	April 25, 2022
Updated documentation for Trusted Advisor	The AWS Direct Connect checks in the fault tolerance category are updated. For more information, see Change log for AWS Trusted Advisor checks.	March 29, 2022
Updated documentation for `AWSSupportServiceRolePolicy`	Added new permissions to provide billing, administrative, and support services for the service-linked role. For more information, see AWS managed policy: AWSSupportServiceRolePolicy.	March 14, 2022
Added documentation for Trusted Advisor Priority	You can use Trusted Advisor Priority to view a list of prioritized recommendations from your technical account manager (TAM). For more information, see Getting started with Trusted Advisor Priority.	February 28, 2022
Updated documentation for using Amazon EventBridge for Trusted Advisor	You can create an EventBridge rule to monitor changes to your Trusted Advisor checks. For more information, see Monitoring AWS Trusted Advisor check results with EventBridge.	February 21, 2022

New documentation for using Amazon EventBridge to monitor AWS Support cases	You can create an EventBridge rule to monitor and receive notifications about your support cases. For more information, see Monitoring AWS Support cases with EventBridge.	February 21, 2022
Updated documentation for `AWSSupportServiceRolePolicy`	Added new permissions to provide billing, administrative, and support services for the service-linked role. For more information, see AWS managed policy: AWSSupportServiceRolePolicy.	February 17, 2022
Added documentation for integrating with AWS Security Hub	In the Trusted Advisor console, you can now view the findings for your Security Hub controls that are part of the AWS Foundational Security Best Practices security standard. For more information, see Viewing AWS Security Hub controls in the AWS Trusted Advisor console.	January 18, 2022

Updated documentation for Trusted Advisor	Added three new checks for Amazon EC2 instances that are running Microsoft SQL Server. • Amazon EC2 instances consolidation for Microsoft SQL Server • Amazon EC2 instances over-provisioned for Microsoft SQL Server • Amazon EC2 instances with Microsoft SQL Server end of support For more information, see the AWS Trusted Advisor check reference.	December 20, 2021

Updated documentation for Trusted Advisor	Trusted Advisor added four new checks for AWS Well-Architected • AWS Well-Architected high risk issues for cost optimization • AWS Well-Architected high risk issues for performance • AWS Well-Architected high risk issues for security • AWS Well-Architected high risk issues for reliability For more information, see the AWS Trusted Advisor check reference.	December 20, 2021
Updated documentation	If you have an Enterprise On-Ramp Support plan, you have access to all Trusted Advisor checks and the AWS Support API.	November 24, 2021
Updated documentation for Trusted Advisor	Trusted Advisor added two new checks for Amazon Comprehend. For more information, see the AWS Trusted Advisor check reference.	September 29, 2021

Updated documentation for Trusted Advisor	The check name for Amazon OpenSearch Service Reserved Instance Optimization was updated. For more informati on, see Change log for AWS Trusted Advisor checks.	September 8, 2021
Updated documentation for Trusted Advisor checks	Added a reference topic for all Trusted Advisor checks. For more information, see AWS Trusted Advisor check reference.	September 1, 2021
Updated documentation for Trusted Advisor managed policies	Updated documentation for the Trusted Advisor managed policies. For more informati on, see AWS managed policies for AWS Support and AWS Trusted Advisor.	August 10, 2021
Updated documentation for Trusted Advisor	Updated documentation for the Trusted Advisor console. For more information, see Get started with AWS Trusted Advisor.	July 16, 2021
Updated documentation for creating AWS Support cases	Added documentation about how to create a related support case for cases that are permanently closed. For more information, see Reopening a closed case and Creating a related case.	June 8, 2021

Updated documentation for Trusted Advisor	Trusted Advisor added two new checks for Amazon Elastic Block Store (Amazon EBS) volume storage. For more information, see Change log for AWS Trusted Advisor checks.	June 8, 2021
Updated documentation	The following topics are updated: • Updated procedures and added content to the Creating Amazon CloudWatch alarms to monitor AWS Trusted Advisor metrics topic • Added the Service quotas for the AWS Support API section	May 12, 2021

Earlier updates

Change	Description	Date
Updated documentation for Trusted Advisor	Added documentation to filter, refresh, and download check results. For more information, see the following sections: • Filter your checks • Refresh check results • Download check results	March 16, 2021
Updated documentation about AWS managed policies	Added information about the `AWSSupportServiceRolePolicy` AWS managed	March 16, 2021

Change	Description	Date
	policy. For more information, see Using service-linked roles for AWS Support.	
Added checks for AWS Lambda	Added four AWS Trusted Advisor checks for Lambda in the Change log for AWS Trusted Advisor.	March 8, 2021
Updated service limit checks for Amazon Elastic Block Store	Updated five AWS Trusted Advisor checks for Amazon EBS in the Change log for AWS Trusted Advisor.	March 5, 2021
Updated documentation for CloudTrail logging	CloudTrail supports logging for console actions when you change your AWS Support plan. For more information, see Logging changes to your AWS Support plan.	February 9, 2021
Updated documentation for Trusted Advisor	Updated the Get started with Trusted Advisor Recommendations topic.	January 29, 2021
Updated documentation for Trusted Advisor reports	Added a Troubleshooting section for using Trusted Advisor reports with other AWS services.	December 4, 2020
Added AWS Trusted Advisor support for AWS CloudTrail logging	CloudTrail supports logging for a subset of Trusted Advisor console actions. For more information, see Logging AWS Trusted Advisor console actions with AWS CloudTrail.	November 23, 2020
Added a change log topic	View changes to AWS Trusted Advisor checks and categories in the Change log for AWS Trusted Advisor.	November 18, 2020
Added support for organizational units	You can now create reports for Trusted Advisor checks for organizational units (OUs). For more information, see Create organizational view reports.	November 17, 2020

Change	Description	Date
Updated the logging with AWS CloudTrail topic	Added an example log entry for a Trusted Advisor API operation. See AWS Trusted Advisor information in CloudTrail logging.	October 22, 2020
Added AWS Support quotas	Added information about the current quotas and restrictions for AWS Support. See the AWS Support endpoints and quotas in the *AWS General Reference*.	August 4, 2020
Organizational view for AWS Trusted Advisor	You can now create reports for Trusted Advisor checks for accounts that are part of AWS Organizations. See Organizational view for AWS Trusted Advisor.	July 17, 2020
Security and AWS Support	Updated information about security considera tions when using AWS Support and Trusted Advisor. See Security in AWS Support	May 5, 2020
Security and AWS Support	Added information about security considera tions when using AWS Support.	January 10, 2020
Using Trusted Advisor as a web service	Added updated instructions to refresh Trusted Advisor data after getting list of Trusted Advisor checks.	November 1, 2018
Using Service-linked roles	Added new section.	July 11, 2018
Getting Started: Troubleshooting	Added troubleshooting links for Route 53 and AWS Certificate Manager.	September 1, 2017
Case Management Example: Creating a Case	Added a note about the **CC** box for users who have the Basic support plan.	August 1, 2017

Change	Description	Date
Monitoring Trusted Advisor Check Results with CloudWatch Events	Added new section.	November 18, 2016
Case Management	Updated the names of case severity levels.	October 27, 2016
Logging AWS Support Calls with AWS CloudTrail	Added new section.	April 21, 2016
Getting Started: Troubleshooting	Added more troubleshooting links.	May 19, 2015
Getting Started: Troubleshooting	Added more troubleshooting links.	November 18, 2014
Getting Started: Case Management	Updated to reflect Service Catalog in the AWS Management Console.	October 30, 2014
Programming the Life of an AWS Support Case	Added information about new API elements for adding attachments to cases and for omitting case communications when retrievin g case history.	July 16, 2014
Accessing AWS Support	Removed named support contacts as an access method.	May 28, 2014
Getting Started	Added the Getting Started section.	December 13, 2013
Initial publication	New AWS Support service released.	April 30, 2013

AWS Glossary

For the latest AWS terminology, see the AWS glossary in the *AWS Glossary Reference*.