



API Reference

# AWS Billing and Cost Management



# AWS Billing and Cost Management: API Reference

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# Welcome

## AWS Cost Explorer

You can use the Cost Explorer API to programmatically query your cost and usage data. You can query for aggregated data such as total monthly costs or total daily usage. You can also query for granular data. This might include the number of daily write operations for Amazon DynamoDB database tables in your production environment.

### Service Endpoint

The Cost Explorer API provides the following endpoint:

- <https://ce.us-east-1.amazonaws.com>

For information about the costs that are associated with the Cost Explorer API, see [AWS Cost Management Pricing](#).

## AWS Data Exports

You can use the Data Exports API to create customized exports from multiple AWS cost management and billing datasets, such as cost and usage data and cost optimization recommendations.

The Data Exports API provides the following endpoint:

- <https://bcm-data-exports.us-east-1.api.aws>

## AWS Budgets

Use the AWS Budgets API to plan your service usage, service costs, and instance reservations. This API reference provides descriptions, syntax, and usage examples for each of the actions and data types for the AWS Budgets feature.

Budgets provide you with a way to see the following information:

- How close your plan is to your budgeted amount or to the free tier limits

- Your usage-to-date, including how much you've used of your Reserved Instances (RIs)
- Your current estimated charges from AWS, and how much your predicted usage will accrue in charges by the end of the month
- How much of your budget has been used

AWS updates your budget status several times a day. Budgets track your unblended costs, subscriptions, refunds, and RIs. You can create the following types of budgets:

- **Cost budgets** - Plan how much you want to spend on a service.
- **Usage budgets** - Plan how much you want to use one or more services.
- **RI utilization budgets** - Define a utilization threshold, and receive alerts when your RI usage falls below that threshold. This lets you see if your RIs are unused or under-utilized.
- **RI coverage budgets** - Define a coverage threshold, and receive alerts when the number of your instance hours that are covered by RIs fall below that threshold. This lets you see how much of your instance usage is covered by a reservation.

## Service Endpoint

The AWS Budgets API provides the following endpoint:

- <https://budgets.amazonaws.com>

For information about costs that are associated with the AWS Budgets API, see [AWS Cost Management Pricing](#).

## AWS Cost Optimization Hub

You can use the Cost Optimization Hub API to programmatically identify, filter, aggregate, and quantify savings for your cost optimization recommendations across multiple AWS Regions and AWS accounts in your organization.

The Cost Optimization Hub API provides the following endpoint:

- <https://cost-optimization-hub.us-east-1.amazonaws.com>

# AWS Cost and Usage Report

You can use the AWS Cost and Usage Report API to programmatically create, query, and delete AWS Cost and Usage Report definitions.

AWS Cost and Usage Report track the monthly AWS costs and usage associated with your AWS account. The report contains line items for each unique combination of AWS product, usage type, and operation that your AWS account uses. You can configure the AWS Cost and Usage Report to show only the data that you want, using the AWS Cost and Usage Report API.

## Service Endpoint

The AWS Cost and Usage Report API provides the following endpoint:

- `cur.us-east-1.amazonaws.com`

# AWS Free Tier

You can use the AWS Free Tier API to query programmatically your Free Tier usage data.

Free Tier tracks your monthly usage data for all free tier offers that are associated with your AWS account. You can use the Free Tier API to filter and show only the data that you want.

## Service endpoint

The Free Tier API provides the following endpoint:

- `https://freetier.us-east-1.api.aws`

For more information, see [Using the AWS Free Tier](#) in the *AWS Billing User Guide*.

# AWS Price List

The AWS Price List API is a centralized and convenient way to programmatically query AWS for services, products, and pricing information. The AWS Price List uses standardized product attributes such as Location, Storage Class, and Operating System, and provides prices at the SKU level. You can use the AWS Price List to do the following:

- Build cost control and scenario planning tools

- Reconcile billing data
- Forecast future spend for budgeting purposes
- Provide cost benefit analysis that compare your internal workloads with AWS

Use `GetServices` without a service code to retrieve the service codes for all AWS services, then `GetServices` with a service code to retrieve the attribute names for that service. After you have the service code and attribute names, you can use `GetAttributeValues` to see what values are available for an attribute. With the service code and an attribute name and value, you can use `GetProducts` to find specific products that you're interested in, such as an AmazonEC2 instance, with a `Provisioned IOPS` `volumeType`.

You can use the following endpoints for the AWS Price List API:

- <https://api.pricing.us-east-1.amazonaws.com>
- <https://api.pricing.ap-south-1.amazonaws.com>
- <https://api.pricing.eu-central-1.amazonaws.com>

For more information, see [Using the AWS Price List API](#) in the *AWS Billing User Guide*.

For more information about AWS Billing and Cost Management endpoints, see [AWS Billing and Cost Management endpoints](#) in the *Amazon Web Services General Reference*.

For more information about AWS Billing and Cost Management quotas, see [Quotas and restrictions](#) in the *AWS Billing User Guide* and [Quotas and restrictions](#) in the *AWS Cost Management User Guide*.

## Tax Settings

You can use the tax setting API to programmatically set, modify, and delete the tax registration number (TRN), associated business legal name, and address (Collectively referred to as "TRN information"). You can also programmatically view TRN information and tax addresses ("Tax profiles").

You can use this API to automate your TRN information settings instead of manually using the console.

### Service Endpoint

- <https://tax.us-east-1.amazonaws.com>

# Actions

The following actions are supported by AWS Cost Explorer:

- [CreateAnomalyMonitor](#)
- [CreateAnomalySubscription](#)
- [CreateCostCategoryDefinition](#)
- [DeleteAnomalyMonitor](#)
- [DeleteAnomalySubscription](#)
- [DeleteCostCategoryDefinition](#)
- [DescribeCostCategoryDefinition](#)
- [GetAnomalies](#)
- [GetAnomalyMonitors](#)
- [GetAnomalySubscriptions](#)
- [GetApproximateUsageRecords](#)
- [GetCostAndUsage](#)
- [GetCostAndUsageWithResources](#)
- [GetCostCategories](#)
- [GetCostForecast](#)
- [GetDimensionValues](#)
- [GetReservationCoverage](#)
- [GetReservationPurchaseRecommendation](#)
- [GetReservationUtilization](#)
- [GetRightsizingRecommendation](#)
- [GetSavingsPlanPurchaseRecommendationDetails](#)
- [GetSavingsPlansCoverage](#)
- [GetSavingsPlansPurchaseRecommendation](#)
- [GetSavingsPlansUtilization](#)
- [GetSavingsPlansUtilizationDetails](#)
- [GetTags](#)
- [GetUsageForecast](#)

- [ListCostAllocationTagBackfillHistory](#)
- [ListCostAllocationTags](#)
- [ListCostCategoryDefinitions](#)
- [ListSavingsPlansPurchaseRecommendationGeneration](#)
- [ListTagsForResource](#)
- [ProvideAnomalyFeedback](#)
- [StartCostAllocationTagBackfill](#)
- [StartSavingsPlansPurchaseRecommendationGeneration](#)
- [TagResource](#)
- [UntagResource](#)
- [UpdateAnomalyMonitor](#)
- [UpdateAnomalySubscription](#)
- [UpdateCostAllocationTagsStatus](#)
- [UpdateCostCategoryDefinition](#)

The following actions are supported by AWS Data Exports:

- [CreateExport](#)
- [DeleteExport](#)
- [GetExecution](#)
- [GetExport](#)
- [GetTable](#)
- [ListExecutions](#)
- [ListExports](#)
- [ListTables](#)
- [ListTagsForResource](#)
- [TagResource](#)
- [UntagResource](#)
- [UpdateExport](#)

The following actions are supported by AWS Budgets:

- [CreateBudget](#)
- [CreateBudgetAction](#)
- [CreateNotification](#)
- [CreateSubscriber](#)
- [DeleteBudget](#)
- [DeleteBudgetAction](#)
- [DeleteNotification](#)
- [DeleteSubscriber](#)
- [DescribeBudget](#)
- [DescribeBudgetAction](#)
- [DescribeBudgetActionHistories](#)
- [DescribeBudgetActionsForAccount](#)
- [DescribeBudgetActionsForBudget](#)
- [DescribeBudgetNotificationsForAccount](#)
- [DescribeBudgetPerformanceHistory](#)
- [DescribeBudgets](#)
- [DescribeNotificationsForBudget](#)
- [DescribeSubscribersForNotification](#)
- [ExecuteBudgetAction](#)
- [ListTagsForResource](#)
- [TagResource](#)
- [UntagResource](#)
- [UpdateBudget](#)
- [UpdateBudgetAction](#)
- [UpdateNotification](#)
- [UpdateSubscriber](#)

The following actions are supported by AWS Cost Optimization Hub:

- [GetPreferences](#)
- [GetRecommendation](#)



- [ListEnrollmentStatuses](#)
- [ListRecommendations](#)
- [ListRecommendationSummaries](#)
- [UpdateEnrollmentStatus](#)
- [UpdatePreferences](#)

The following actions are supported by AWS Cost and Usage Report:

- [DeleteReportDefinition](#)
- [DescribeReportDefinitions](#)
- [ListTagsForResource](#)
- [ModifyReportDefinition](#)
- [PutReportDefinition](#)
- [TagResource](#)
- [UntagResource](#)

The following actions are supported by AWS Free Tier:

- [GetFreeTierUsage](#)

The following actions are supported by AWS Price List:

- [DescribeServices](#)
- [GetAttributeValues](#)
- [GetPriceListFileUrl](#)
- [GetProducts](#)
- [ListPriceLists](#)

The following actions are supported by Tax Settings:

- [BatchDeleteTaxRegistration](#)
- [BatchPutTaxRegistration](#)
- [DeleteTaxRegistration](#)

- [GetTaxRegistration](#)
- [GetTaxRegistrationDocument](#)
- [ListTaxRegistrations](#)
- [PutTaxRegistration](#)

## AWS Cost Explorer

The following actions are supported by AWS Cost Explorer:

- [CreateAnomalyMonitor](#)
- [CreateAnomalySubscription](#)
- [CreateCostCategoryDefinition](#)
- [DeleteAnomalyMonitor](#)
- [DeleteAnomalySubscription](#)
- [DeleteCostCategoryDefinition](#)
- [DescribeCostCategoryDefinition](#)
- [GetAnomalies](#)
- [GetAnomalyMonitors](#)
- [GetAnomalySubscriptions](#)
- [GetApproximateUsageRecords](#)
- [GetCostAndUsage](#)
- [GetCostAndUsageWithResources](#)
- [GetCostCategories](#)
- [GetCostForecast](#)
- [GetDimensionValues](#)
- [GetReservationCoverage](#)
- [GetReservationPurchaseRecommendation](#)
- [GetReservationUtilization](#)
- [GetRightsizingRecommendation](#)
- [GetSavingsPlanPurchaseRecommendationDetails](#)
- [GetSavingsPlansCoverage](#)

- [GetSavingsPlansPurchaseRecommendation](#)
- [GetSavingsPlansUtilization](#)
- [GetSavingsPlansUtilizationDetails](#)
- [GetTags](#)
- [GetUsageForecast](#)
- [ListCostAllocationTagBackfillHistory](#)
- [ListCostAllocationTags](#)
- [ListCostCategoryDefinitions](#)
- [ListSavingsPlansPurchaseRecommendationGeneration](#)
- [ListTagsForResource](#)
- [ProvideAnomalyFeedback](#)
- [StartCostAllocationTagBackfill](#)
- [StartSavingsPlansPurchaseRecommendationGeneration](#)
- [TagResource](#)
- [UntagResource](#)
- [UpdateAnomalyMonitor](#)
- [UpdateAnomalySubscription](#)
- [UpdateCostAllocationTagsStatus](#)
- [UpdateCostCategoryDefinition](#)

# CreateAnomalyMonitor

Service: AWS Cost Explorer

Creates a new cost anomaly detection monitor with the requested type and monitor specification.

## Request Syntax

```
{
  "AnomalyMonitor": {
    "CreationDate": "string",
    "DimensionalValueCount": number,
    "LastEvaluatedDate": "string",
    "LastUpdatedDate": "string",
    "MonitorArn": "string",
    "MonitorDimension": "string",
    "MonitorName": "string",
    "MonitorSpecification": {
      "And": [
        "Expression"
      ],
      "CostCategories": {
        "Key": "string",
        "MatchOptions": [ "string" ],
        "Values": [ "string" ]
      },
      "Dimensions": {
        "Key": "string",
        "MatchOptions": [ "string" ],
        "Values": [ "string" ]
      },
      "Not": "Expression",
      "Or": [
        "Expression"
      ],
      "Tags": {
        "Key": "string",
        "MatchOptions": [ "string" ],
        "Values": [ "string" ]
      }
    },
    "MonitorType": "string"
  },
  "ResourceTags": [
```

```
{
  "Key": "string",
  "Value": "string"
}
```

## Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#).

The request accepts the following data in JSON format.

### [AnomalyMonitor](#)

The cost anomaly detection monitor object that you want to create.

Type: [AnomalyMonitor](#) object

Required: Yes

### [ResourceTags](#)

An optional list of tags to associate with the specified [AnomalyMonitor](#). You can use resource tags to control access to your monitor using IAM policies.

Each tag consists of a key and a value, and each key must be unique for the resource. The following restrictions apply to resource tags:

- Although the maximum number of array members is 200, you can assign a maximum of 50 user-tags to one resource. The remaining are reserved for AWS use
- The maximum length of a key is 128 characters
- The maximum length of a value is 256 characters
- Keys and values can only contain alphanumeric characters, spaces, and any of the following: `_ . : / = + @ -`
- Keys and values are case sensitive
- Keys and values are trimmed for any leading or trailing whitespaces
- Don't use `aws :` as a prefix for your keys. This prefix is reserved for AWS use

Type: Array of [ResourceTag](#) objects

Array Members: Minimum number of 0 items. Maximum number of 200 items.

Required: No

## Response Syntax

```
{  
  "MonitorArn": "string"  
}
```

## Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

### MonitorArn

The unique identifier of your newly created cost anomaly detection monitor.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 1024.

Pattern: `[\S\s]*`

## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

### **LimitExceededException**

You made too many calls in a short period of time. Try again later.

HTTP Status Code: 400

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go v2](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)

# CreateAnomalySubscription

Service: AWS Cost Explorer

Adds an alert subscription to a cost anomaly detection monitor. You can use each subscription to define subscribers with email or SNS notifications. Email subscribers can set an absolute or percentage threshold and a time frequency for receiving notifications.

## Request Syntax

```
{
  "AnomalySubscription": {
    "AccountId": "string",
    "Frequency": "string",
    "MonitorArnList": [ "string" ],
    "Subscribers": [
      {
        "Address": "string",
        "Status": "string",
        "Type": "string"
      }
    ],
    "SubscriptionArn": "string",
    "SubscriptionName": "string",
    "Threshold": number,
    "ThresholdExpression": {
      "And": [
        "Expression"
      ],
      "CostCategories": {
        "Key": "string",
        "MatchOptions": [ "string" ],
        "Values": [ "string" ]
      },
      "Dimensions": {
        "Key": "string",
        "MatchOptions": [ "string" ],
        "Values": [ "string" ]
      },
      "Not": "Expression",
      "Or": [
        "Expression"
      ],
      "Tags": {
```



```
        "Key": "string",
        "MatchOptions": [ "string" ],
        "Values": [ "string" ]
    }
},
"ResourceTags": [
    {
        "Key": "string",
        "Value": "string"
    }
]
```

## Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#).

The request accepts the following data in JSON format.

### [AnomalySubscription](#)

The cost anomaly subscription object that you want to create.

Type: [AnomalySubscription](#) object

Required: Yes

### [ResourceTags](#)

An optional list of tags to associate with the specified [AnomalySubscription](#). You can use resource tags to control access to your subscription using IAM policies.

Each tag consists of a key and a value, and each key must be unique for the resource. The following restrictions apply to resource tags:

- Although the maximum number of array members is 200, you can assign a maximum of 50 user-tags to one resource. The remaining are reserved for AWS use
- The maximum length of a key is 128 characters
- The maximum length of a value is 256 characters
- Keys and values can only contain alphanumeric characters, spaces, and any of the following:  
\_ . : / = + @ -

- Keys and values are case sensitive
- Keys and values are trimmed for any leading or trailing whitespaces
- Don't use `aws:` as a prefix for your keys. This prefix is reserved for AWS use

Type: Array of [ResourceTag](#) objects

Array Members: Minimum number of 0 items. Maximum number of 200 items.

Required: No

## Response Syntax

```
{
  "SubscriptionArn": "string"
}
```

## Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

### [SubscriptionArn](#)

The unique identifier of your newly created cost anomaly subscription.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 1024.

Pattern: `[\S\s]*`

## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

### **LimitExceededException**

You made too many calls in a short period of time. Try again later.

HTTP Status Code: 400

## UnknownMonitorException

The cost anomaly monitor does not exist for the account.

HTTP Status Code: 400

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go v2](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)

# CreateCostCategoryDefinition

Service: AWS Cost Explorer

Creates a new Cost Category with the requested name and rules.

## Request Syntax

```
{
  "DefaultValue": "string",
  "EffectiveStart": "string",
  "Name": "string",
  "ResourceTags": [
    {
      "Key": "string",
      "Value": "string"
    }
  ],
  "Rules": [
    {
      "InheritedValue": {
        "DimensionKey": "string",
        "DimensionName": "string"
      },
      "Rule": {
        "And": [
          "Expression"
        ],
        "CostCategories": {
          "Key": "string",
          "MatchOptions": [ "string" ],
          "Values": [ "string" ]
        },
        "Dimensions": {
          "Key": "string",
          "MatchOptions": [ "string" ],
          "Values": [ "string" ]
        },
        "Not": "Expression",
        "Or": [
          "Expression"
        ],
        "Tags": {
          "Key": "string",
```

```

        "MatchOptions": [ "string" ],
        "Values": [ "string" ]
      }
    },
    "Type": "string",
    "Value": "string"
  }
],
"RuleVersion": "string",
"SplitChargeRules": [
  {
    "Method": "string",
    "Parameters": [
      {
        "Type": "string",
        "Values": [ "string" ]
      }
    ],
    "Source": "string",
    "Targets": [ "string" ]
  }
]
}

```

## Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#).

The request accepts the following data in JSON format.

### DefaultValue

The default value for the cost category.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 50.

Pattern:  $^(?! )[\p{L}\p{N}\p{Z}-_]*(?<! )$$

Required: No

## EffectiveStart

The Cost Category's effective start date. It can only be a billing start date (first day of the month). If the date isn't provided, it's the first day of the current month. Dates can't be before the previous twelve months, or in the future.

Type: String

Length Constraints: Minimum length of 20. Maximum length of 25.

Pattern: `^\d{4}-\d\d-\d\dT\d\d:\d\d:\d\d(( [+ - ]\d\d:\d\d)|Z)$`

Required: No

## Name

The unique name of the Cost Category.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 50.

Pattern: `^(?! )[\p{L}\p{N}\p{Z}-_]*(?<! )$`

Required: Yes

## ResourceTags

An optional list of tags to associate with the specified [CostCategory](#). You can use resource tags to control access to your cost category using IAM policies.

Each tag consists of a key and a value, and each key must be unique for the resource. The following restrictions apply to resource tags:

- Although the maximum number of array members is 200, you can assign a maximum of 50 user-tags to one resource. The remaining are reserved for AWS use
- The maximum length of a key is 128 characters
- The maximum length of a value is 256 characters
- Keys and values can only contain alphanumeric characters, spaces, and any of the following:  
\_ . : / = + @ -
- Keys and values are case sensitive
- Keys and values are trimmed for any leading or trailing whitespaces

- Don't use `aws:` as a prefix for your keys. This prefix is reserved for AWS use

Type: Array of [ResourceTag](#) objects

Array Members: Minimum number of 0 items. Maximum number of 200 items.

Required: No

## [Rules](#)

The Cost Category rules used to categorize costs. For more information, see [CostCategoryRule](#).

Type: Array of [CostCategoryRule](#) objects

Array Members: Minimum number of 1 item. Maximum number of 500 items.

Required: Yes

## [RuleVersion](#)

The rule schema version in this particular Cost Category.

Type: String

Valid Values: `CostCategoryExpression.v1`

Required: Yes

## [SplitChargeRules](#)

The split charge rules used to allocate your charges between your Cost Category values.

Type: Array of [CostCategorySplitChargeRule](#) objects

Array Members: Minimum number of 1 item. Maximum number of 10 items.

Required: No

## Response Syntax

```
{
  "CostCategoryArn": "string",
  "EffectiveStart": "string"
}
```

## Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

### CostCategoryArn

The unique identifier for your newly created Cost Category.

Type: String

Length Constraints: Minimum length of 20. Maximum length of 2048.

Pattern: `arn:aws[-a-z0-9]*:[a-z0-9]+:[-a-z0-9]*:[0-9]{12}:[-a-zA-Z0-9/:_]+`

### EffectiveStart

The Cost Category's effective start date. It can only be a billing start date (first day of the month).

Type: String

Length Constraints: Minimum length of 20. Maximum length of 25.

Pattern: `^\d{4}-\d\d-\d\dT\d\d:\d\d:\d\d(( [+ - ]\d\d:\d\d)|Z)$`

## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

### **LimitExceededException**

You made too many calls in a short period of time. Try again later.

HTTP Status Code: 400

### **ServiceQuotaExceededException**

You've reached the limit on the number of resources you can create, or exceeded the size of an individual resource.

HTTP Status Code: 400



## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go v2](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)

# DeleteAnomalyMonitor

Service: AWS Cost Explorer

Deletes a cost anomaly monitor.

## Request Syntax

```
{  
  "MonitorArn": "string"  
}
```

## Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#).

The request accepts the following data in JSON format.

### MonitorArn

The unique identifier of the cost anomaly monitor that you want to delete.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 1024.

Pattern: `[\S\s]*`

Required: Yes

## Response Elements

If the action is successful, the service sends back an HTTP 200 response with an empty HTTP body.

## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

### **LimitExceededException**

You made too many calls in a short period of time. Try again later.

HTTP Status Code: 400

## UnknownMonitorException

The cost anomaly monitor does not exist for the account.

HTTP Status Code: 400

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go v2](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)

# DeleteAnomalySubscription

Service: AWS Cost Explorer

Deletes a cost anomaly subscription.

## Request Syntax

```
{
  "SubscriptionArn": "string"
}
```

## Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#).

The request accepts the following data in JSON format.

### SubscriptionArn

The unique identifier of the cost anomaly subscription that you want to delete.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 1024.

Pattern: `[\S\s]*`

Required: Yes

## Response Elements

If the action is successful, the service sends back an HTTP 200 response with an empty HTTP body.

## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

### **LimitExceededException**

You made too many calls in a short period of time. Try again later.

HTTP Status Code: 400

## UnknownSubscriptionException

The cost anomaly subscription does not exist for the account.

HTTP Status Code: 400

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go v2](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)

# DeleteCostCategoryDefinition

Service: AWS Cost Explorer

Deletes a Cost Category. Expenses from this month going forward will no longer be categorized with this Cost Category.

## Request Syntax

```
{  
  "CostCategoryArn": "string"  
}
```

## Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#).

The request accepts the following data in JSON format.

### CostCategoryArn

The unique identifier for your Cost Category.

Type: String

Length Constraints: Minimum length of 20. Maximum length of 2048.

Pattern: `arn:aws[-a-z0-9]*:[a-z0-9]+:[-a-z0-9]*:[0-9]{12}:[-a-zA-Z0-9/:_]+`

Required: Yes

## Response Syntax

```
{  
  "CostCategoryArn": "string",  
  "EffectiveEnd": "string"  
}
```

## Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

### CostCategoryArn

The unique identifier for your Cost Category.

Type: String

Length Constraints: Minimum length of 20. Maximum length of 2048.

Pattern: `arn:aws[-a-z0-9]*:[a-z0-9]+:[-a-z0-9]*:[0-9]{12}:[-a-zA-Z0-9/:_]+`

### EffectiveEnd

The effective end date of the Cost Category as a result of deleting it. No costs after this date is categorized by the deleted Cost Category.

Type: String

Length Constraints: Minimum length of 20. Maximum length of 25.

Pattern: `^\d{4}-\d\d-\d\dT\d\d:\d\d:\d\d(([\+-]\d\d:\d\d)|Z)$`

## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

### **LimitExceededException**

You made too many calls in a short period of time. Try again later.

HTTP Status Code: 400

### **ResourceNotFoundException**

The specified ARN in the request doesn't exist.

HTTP Status Code: 400

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go v2](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)



## DescribeCostCategoryDefinition

Service: AWS Cost Explorer

Returns the name, Amazon Resource Name (ARN), rules, definition, and effective dates of a Cost Category that's defined in the account.

You have the option to use `EffectiveOn` to return a Cost Category that's active on a specific date. If there's no `EffectiveOn` specified, you see a Cost Category that's effective on the current date. If Cost Category is still effective, `EffectiveEnd` is omitted in the response.

### Request Syntax

```
{  
  "CostCategoryArn": "string",  
  "EffectiveOn": "string"  
}
```

### Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#).

The request accepts the following data in JSON format.

#### CostCategoryArn

The unique identifier for your Cost Category.

Type: String

Length Constraints: Minimum length of 20. Maximum length of 2048.

Pattern: `arn:aws[-a-z0-9]*:[a-z0-9]+:[-a-z0-9]*:[0-9]{12}:[-a-zA-Z0-9/:_]+`

Required: Yes

#### EffectiveOn

The date when the Cost Category was effective.

Type: String

Length Constraints: Minimum length of 20. Maximum length of 25.

Pattern: `^\d{4}-\d\d-\d\dT\d\d:\d\d:\d\d(([\+-]\d\d:\d\d)|Z)$`

Required: No

## Response Syntax

```
{
  "CostCategory": {
    "CostCategoryArn": "string",
    "DefaultValue": "string",
    "EffectiveEnd": "string",
    "EffectiveStart": "string",
    "Name": "string",
    "ProcessingStatus": [
      {
        "Component": "string",
        "Status": "string"
      }
    ],
    "Rules": [
      {
        "InheritedValue": {
          "DimensionKey": "string",
          "DimensionName": "string"
        },
        "Rule": {
          "And": [
            "Expression"
          ],
          "CostCategories": {
            "Key": "string",
            "MatchOptions": [ "string" ],
            "Values": [ "string" ]
          },
          "Dimensions": {
            "Key": "string",
            "MatchOptions": [ "string" ],
            "Values": [ "string" ]
          },
          "Not": "Expression",
          "Or": [
            "Expression"
          ],
        }
      }
    ]
  }
}
```

```

    "Tags": {
      "Key": "string",
      "MatchOptions": [ "string" ],
      "Values": [ "string" ]
    }
  },
  "Type": "string",
  "Value": "string"
}
],
"RuleVersion": "string",
"SplitChargeRules": [
  {
    "Method": "string",
    "Parameters": [
      {
        "Type": "string",
        "Values": [ "string" ]
      }
    ],
    "Source": "string",
    "Targets": [ "string" ]
  }
]
}
}
}

```

## Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

### CostCategory

The structure of Cost Categories. This includes detailed metadata and the set of rules for the CostCategory object.

Type: [CostCategory](#) object

## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

## LimitExceededException

You made too many calls in a short period of time. Try again later.

HTTP Status Code: 400

## ResourceNotFoundException

The specified ARN in the request doesn't exist.

HTTP Status Code: 400

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go v2](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)

# GetAnomalies

Service: AWS Cost Explorer

Retrieves all of the cost anomalies detected on your account during the time period that's specified by the `DateInterval` object. Anomalies are available for up to 90 days.

## Request Syntax

```
{
  "DateInterval": {
    "EndDate": "string",
    "StartDate": "string"
  },
  "Feedback": "string",
  "MaxResults": number,
  "MonitorArn": "string",
  "NextPageToken": "string",
  "TotalImpact": {
    "EndValue": number,
    "NumericOperator": "string",
    "StartValue": number
  }
}
```

## Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#).

The request accepts the following data in JSON format.

### DateInterval

Assigns the start and end dates for retrieving cost anomalies. The returned anomaly object will have an `AnomalyEndDate` in the specified time range.

Type: [AnomalyDateInterval](#) object

Required: Yes

### Feedback

Filters anomaly results by the feedback field on the anomaly object.

Type: String

Valid Values: YES | NO | PLANNED\_ACTIVITY

Required: No

### MaxResults

The number of entries a paginated response contains.

Type: Integer

Required: No

### MonitorArn

Retrieves all of the cost anomalies detected for a specific cost anomaly monitor Amazon Resource Name (ARN).

Type: String

Length Constraints: Minimum length of 0. Maximum length of 1024.

Pattern: `[\S\s]*`

Required: No

### NextPageToken

The token to retrieve the next set of results. AWS provides the token when the response from a previous call has more results than the maximum page size.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 8192.

Pattern: `[\S\s]*`

Required: No

### TotalImpact

Filters anomaly results by the total impact field on the anomaly object. For example, you can filter anomalies `GREATER_THAN 200.00` to retrieve anomalies, with an estimated dollar impact greater than 200.

Type: [TotalImpactFilter](#) object

Required: No

## Response Syntax

```
{
  "Anomalies": [
    {
      "AnomalyEndDate": "string",
      "AnomalyId": "string",
      "AnomalyScore": {
        "CurrentScore": number,
        "MaxScore": number
      },
      "AnomalyStartDate": "string",
      "DimensionValue": "string",
      "Feedback": "string",
      "Impact": {
        "MaxImpact": number,
        "TotalActualSpend": number,
        "TotalExpectedSpend": number,
        "TotalImpact": number,
        "TotalImpactPercentage": number
      },
      "MonitorArn": "string",
      "RootCauses": [
        {
          "LinkedAccount": "string",
          "LinkedAccountName": "string",
          "Region": "string",
          "Service": "string",
          "UsageType": "string"
        }
      ]
    }
  ],
  "NextPageToken": "string"
}
```

## Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

## Anomalies

A list of cost anomalies.

Type: Array of [Anomaly](#) objects

## NextPageToken

The token to retrieve the next set of results. AWS provides the token when the response from a previous call has more results than the maximum page size.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 8192.

Pattern: `[\S\s]*`

## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

### **InvalidNextTokenException**

The pagination token is invalid. Try again without a pagination token.

HTTP Status Code: 400

### **LimitExceededException**

You made too many calls in a short period of time. Try again later.

HTTP Status Code: 400

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface](#)
- [AWS SDK for .NET](#)



- [AWS SDK for C++](#)
- [AWS SDK for Go v2](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)

# GetAnomalyMonitors

Service: AWS Cost Explorer

Retrieves the cost anomaly monitor definitions for your account. You can filter using a list of cost anomaly monitor Amazon Resource Names (ARNs).

## Request Syntax

```
{
  "MaxResults": number,
  "MonitorArnList": [ "string" ],
  "NextPageToken": "string"
}
```

## Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#).

The request accepts the following data in JSON format.

### MaxResults

The number of entries that a paginated response contains.

Type: Integer

Required: No

### MonitorArnList

A list of cost anomaly monitor ARNs.

Type: Array of strings

Length Constraints: Minimum length of 0. Maximum length of 1024.

Pattern: `[\S\s]*`

Required: No

### NextPageToken

The token to retrieve the next set of results. AWS provides the token when the response from a previous call has more results than the maximum page size.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 8192.

Pattern: `[\S\s]*`

Required: No

## Response Syntax

```
{
  "AnomalyMonitors": [
    {
      "CreationDate": "string",
      "DimensionalValueCount": number,
      "LastEvaluatedDate": "string",
      "LastUpdatedDate": "string",
      "MonitorArn": "string",
      "MonitorDimension": "string",
      "MonitorName": "string",
      "MonitorSpecification": {
        "And": [
          "Expression"
        ],
        "CostCategories": {
          "Key": "string",
          "MatchOptions": [ "string" ],
          "Values": [ "string" ]
        },
        "Dimensions": {
          "Key": "string",
          "MatchOptions": [ "string" ],
          "Values": [ "string" ]
        },
        "Not": "Expression",
        "Or": [
          "Expression"
        ],
        "Tags": {
          "Key": "string",
          "MatchOptions": [ "string" ],
          "Values": [ "string" ]
        }
      }
    }
  ]
}
```

```
    },  
    "MonitorType": "string"  
  }  
],  
"NextPageToken": "string"  
}
```

## Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

### AnomalyMonitors

A list of cost anomaly monitors that includes the detailed metadata for each monitor.

Type: Array of [AnomalyMonitor](#) objects

### NextPageToken

The token to retrieve the next set of results. AWS provides the token when the response from a previous call has more results than the maximum page size.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 8192.

Pattern: `[\S\s]*`

## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

### **InvalidNextTokenException**

The pagination token is invalid. Try again without a pagination token.

HTTP Status Code: 400

### **LimitExceededException**

You made too many calls in a short period of time. Try again later.

HTTP Status Code: 400

### **UnknownMonitorException**

The cost anomaly monitor does not exist for the account.

HTTP Status Code: 400

### **See Also**

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go v2](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)

# GetAnomalySubscriptions

Service: AWS Cost Explorer

Retrieves the cost anomaly subscription objects for your account. You can filter using a list of cost anomaly monitor Amazon Resource Names (ARNs).

## Request Syntax

```
{
  "MaxResults": number,
  "MonitorArn": "string",
  "NextPageToken": "string",
  "SubscriptionArnList": [ "string" ]
}
```

## Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#).

The request accepts the following data in JSON format.

### MaxResults

The number of entries a paginated response contains.

Type: Integer

Required: No

### MonitorArn

Cost anomaly monitor ARNs.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 1024.

Pattern: `[\S\s]*`

Required: No

### NextPageToken

The token to retrieve the next set of results. AWS provides the token when the response from a previous call has more results than the maximum page size.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 8192.

Pattern: `[\S\s]*`

Required: No

### SubscriptionArnList

A list of cost anomaly subscription ARNs.

Type: Array of strings

Length Constraints: Minimum length of 0. Maximum length of 1024.

Pattern: `[\S\s]*`

Required: No

## Response Syntax

```
{
  "AnomalySubscriptions": [
    {
      "AccountId": "string",
      "Frequency": "string",
      "MonitorArnList": [ "string" ],
      "Subscribers": [
        {
          "Address": "string",
          "Status": "string",
          "Type": "string"
        }
      ],
      "SubscriptionArn": "string",
      "SubscriptionName": "string",
      "Threshold": number,
      "ThresholdExpression": {
        "And": [
          "Expression"
        ],
        "CostCategories": {
```

```

        "Key": "string",
        "MatchOptions": [ "string" ],
        "Values": [ "string" ]
    },
    "Dimensions": {
        "Key": "string",
        "MatchOptions": [ "string" ],
        "Values": [ "string" ]
    },
    "Not": "Expression",
    "Or": [
        "Expression"
    ],
    "Tags": {
        "Key": "string",
        "MatchOptions": [ "string" ],
        "Values": [ "string" ]
    }
}
},
"NextPageToken": "string"
}

```

## Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

### AnomalySubscriptions

A list of cost anomaly subscriptions that includes the detailed metadata for each one.

Type: Array of [AnomalySubscription](#) objects

### NextPageToken

The token to retrieve the next set of results. AWS provides the token when the response from a previous call has more results than the maximum page size.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 8192.



Pattern: `[\S\s]*`

## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

### InvalidNextTokenException

The pagination token is invalid. Try again without a pagination token.

HTTP Status Code: 400

### LimitExceededException

You made too many calls in a short period of time. Try again later.

HTTP Status Code: 400

### UnknownSubscriptionException

The cost anomaly subscription does not exist for the account.

HTTP Status Code: 400

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go v2](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)

# GetApproximateUsageRecords

Service: AWS Cost Explorer

Retrieves estimated usage records for hourly granularity or resource-level data at daily granularity.

## Request Syntax

```
{
  "ApproximationDimension": "string",
  "Granularity": "string",
  "Services": [ "string" ]
}
```

## Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#).

The request accepts the following data in JSON format.

### ApproximationDimension

The service to evaluate for the usage records. You can choose resource-level data at daily granularity, or hourly granularity with or without resource-level data.

Type: String

Valid Values: SERVICE | RESOURCE

Required: Yes

### Granularity

How granular you want the data to be. You can enable data at hourly or daily granularity.

Type: String

Valid Values: DAILY | MONTHLY | HOURLY

Required: Yes

### Services

The service metadata for the service or services you want to query. If not specified, all elements are returned.

Type: Array of strings

Length Constraints: Minimum length of 0. Maximum length of 1024.

Pattern: `[\S\s]*`

Required: No

## Response Syntax

```
{
  "LookbackPeriod": {
    "End": "string",
    "Start": "string"
  },
  "Services": {
    "string" : number
  },
  "TotalRecords": number
}
```

## Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

### LookbackPeriod

The lookback period that's used for the estimation.

Type: [DateInterval](#) object

### Services

The service metadata for the service or services in the response.

Type: String to long map

Key Length Constraints: Minimum length of 0. Maximum length of 1024.

Key Pattern: `[\S\s]*`

Valid Range: Minimum value of 0.

### **TotalRecords**

The total number of usage records for all services in the services list.

Type: Long

Valid Range: Minimum value of 0.

## **Errors**

For information about the errors that are common to all actions, see [Common Errors](#).

### **DataUnavailableException**

The requested data is unavailable.

HTTP Status Code: 400

### **LimitExceededException**

You made too many calls in a short period of time. Try again later.

HTTP Status Code: 400

## **Examples**

**The following is a sample request of the `GetApproximateUsageRecords` operation.**

This example illustrates one usage of `GetApproximateUsageRecords`.

### **Sample Request**

```
{
  "ApproximationDimension": "SERVICE",
  "Granularity": "HOURLY"
}
```

**The following is a sample response of the `GetApproximateUsageRecords` operation.**

This example illustrates one usage of `GetApproximateUsageRecords`.

## Sample Response

```
{
  "LookbackPeriod": {
    "End": "2023-12-31",
    "Start": "2023-12-01"
  },
  "Services": {
    "Amazon Virtual Private Cloud": 336,
    "Amazon Relational Database Service": 1344,
    "AmazonCloudWatch": 350,
    "Tax": 0,
    "Amazon DynamoDB": 672
  },
  "TotalRecords": 2702
}
```

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go v2](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)

# GetCostAndUsage

Service: AWS Cost Explorer

Retrieves cost and usage metrics for your account. You can specify which cost and usage-related metric that you want the request to return. For example, you can specify `BlendedCosts` or `UsageQuantity`. You can also filter and group your data by various dimensions, such as `SERVICE` or `AZ`, in a specific time range. For a complete list of valid dimensions, see the [GetDimensionValues](#) operation. Management account in an organization in AWS Organizations have access to all member accounts.

For information about filter limitations, see [Quotas and restrictions](#) in the *Billing and Cost Management User Guide*.

## Request Syntax

```
{
  "Filter": {
    "And": [
      "Expression"
    ],
    "CostCategories": {
      "Key": "string",
      "MatchOptions": [ "string" ],
      "Values": [ "string" ]
    },
    "Dimensions": {
      "Key": "string",
      "MatchOptions": [ "string" ],
      "Values": [ "string" ]
    },
    "Not": "Expression",
    "Or": [
      "Expression"
    ],
    "Tags": {
      "Key": "string",
      "MatchOptions": [ "string" ],
      "Values": [ "string" ]
    }
  },
  "Granularity": "string",
  "GroupBy": [
```

```
{
  "Key": "string",
  "Type": "string"
},
"Metrics": [ "string" ],
"NextPageToken": "string",
"TimePeriod": {
  "End": "string",
  "Start": "string"
}
}
```

## Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#).

The request accepts the following data in JSON format.

### Filter

Filters AWS costs by different dimensions. For example, you can specify SERVICE and LINKED\_ACCOUNT and get the costs that are associated with that account's usage of that service. You can nest Expression objects to define any combination of dimension filters. For more information, see [Expression](#).

Valid values for MatchOptions for Dimensions are EQUALS and CASE\_SENSITIVE.

Valid values for MatchOptions for CostCategories and Tags are EQUALS, ABSENT, and CASE\_SENSITIVE. Default values are EQUALS and CASE\_SENSITIVE.

Type: [Expression](#) object

Required: No

### Granularity

Sets the AWS cost granularity to MONTHLY or DAILY, or HOURLY. If Granularity isn't set, the response object doesn't include the Granularity, either MONTHLY or DAILY, or HOURLY.

Type: String

Valid Values: DAILY | MONTHLY | HOURLY

Required: Yes

## GroupBy

You can group AWS costs using up to two different groups, either dimensions, tag keys, cost categories, or any two group by types.

Valid values for the DIMENSION type are AZ, INSTANCE\_TYPE, LEGAL\_ENTITY\_NAME, INVOICING\_ENTITY, LINKED\_ACCOUNT, OPERATION, PLATFORM, PURCHASE\_TYPE, SERVICE, TENANCY, RECORD\_TYPE, and USAGE\_TYPE.

When you group by the TAG type and include a valid tag key, you get all tag values, including empty strings.

Type: Array of [GroupDefinition](#) objects

Required: No

## Metrics

Which metrics are returned in the query. For more information about blended and unblended rates, see [Why does the "blended" annotation appear on some line items in my bill?](#)

Valid values are AmortizedCost, BlendedCost, NetAmortizedCost, NetUnblendedCost, NormalizedUsageAmount, UnblendedCost, and UsageQuantity.

### Note

If you return the UsageQuantity metric, the service aggregates all usage numbers without taking into account the units. For example, if you aggregate usageQuantity across all of Amazon EC2, the results aren't meaningful because Amazon EC2 compute hours and data transfer are measured in different units (for example, hours and GB). To get more meaningful UsageQuantity metrics, filter by UsageType or UsageTypeGroups.

Metrics is required for GetCostAndUsage requests.

Type: Array of strings

Length Constraints: Minimum length of 0. Maximum length of 1024.



Pattern: `[\S\s]*`

Required: Yes

### NextPageToken

The token to retrieve the next set of results. AWS provides the token when the response from a previous call has more results than the maximum page size.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 8192.

Pattern: `[\S\s]*`

Required: No

### TimePeriod

Sets the start date and end date for retrieving AWS costs. The start date is inclusive, but the end date is exclusive. For example, if `start` is `2017-01-01` and `end` is `2017-05-01`, then the cost and usage data is retrieved from `2017-01-01` up to and including `2017-04-30` but not including `2017-05-01`.

Type: [DateInterval](#) object

Required: Yes

## Response Syntax

```
{
  "DimensionValueAttributes": [
    {
      "Attributes": {
        "string" : "string"
      },
      "Value": "string"
    }
  ],
  "GroupDefinitions": [
    {
      "Key": "string",
      "Type": "string"
    }
  ]
}
```

```

    }
  ],
  "NextPageToken": "string",
  "ResultsByTime": [
    {
      "Estimated": boolean,
      "Groups": [
        {
          "Keys": [ "string" ],
          "Metrics": {
            "string": {
              "Amount": "string",
              "Unit": "string"
            }
          }
        }
      ]
    },
    {
      "TimePeriod": {
        "End": "string",
        "Start": "string"
      }
    },
    {
      "Total": {
        "string": {
          "Amount": "string",
          "Unit": "string"
        }
      }
    }
  ]
}

```

## Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

### DimensionValueAttributes

The attributes that apply to a specific dimension value. For example, if the value is a linked account, the attribute is that account name.

Type: Array of [DimensionValuesWithAttributes](#) objects

## GroupDefinitions

The groups that are specified by the `Filter` or `GroupBy` parameters in the request.

Type: Array of [GroupDefinition](#) objects

## NextPageToken

The token for the next set of retrievable results. AWS provides the token when the response from a previous call has more results than the maximum page size.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 8192.

Pattern: `[\S\s]*`

## ResultsByTime

The time period that's covered by the results in the response.

Type: Array of [ResultByTime](#) objects

## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

### **BillExpirationException**

The requested report expired. Update the date interval and try again.

HTTP Status Code: 400

### **DataUnavailableException**

The requested data is unavailable.

HTTP Status Code: 400

### **InvalidNextTokenException**

The pagination token is invalid. Try again without a pagination token.

HTTP Status Code: 400

## LimitExceededException

You made too many calls in a short period of time. Try again later.

HTTP Status Code: 400

## RequestChangedException

Your request parameters changed between pages. Try again with the old parameters or without a pagination token.

HTTP Status Code: 400

## Examples

### Example

The following is a sample request and response of the `GetCostAndUsage` operation that you can use to retrieve your Amazon S3 costs. For more complex examples, such as multi-level groupings, see [Expression](#).

### Sample Request

```
POST / HTTP/1.1
Host: ce.us-east-1.amazonaws.com
x-amz-Date: <Date>
Authorization: AWS4-HMAC-SHA256 Credential=<Credential>,
  SignedHeaders=contenttype;date;host;user-agent;x-amz-date;x-amz-target;x-amzn-
requestid,Signature=<Signature>
User-Agent: <UserAgentString>
Content-Type: application/x-amz-json-1.1
Content-Length: <PayloadSizeBytes>
Connection: Keep-Alive
X-Amz-Target: AWSInsightsIndexService.GetCostAndUsage
{
  "TimePeriod": {
    "Start": "2017-09-01",
    "End": "2017-10-01"
  },
  "Granularity": "MONTHLY",
  "Filter": {
    "Dimensions": {
      "Key": "SERVICE",
```

```
    "Values": [
      "Amazon Simple Storage Service"
    ]
  },
  "GroupBy": [
    {
      "Type": "DIMENSION",
      "Key": "SERVICE"
    },
    {
      "Type": "TAG",
      "Key": "Environment"
    }
  ],
  "Metrics": ["BlendedCost", "UnblendedCost", "UsageQuantity"]
}
```

## Sample Response

```
HTTP/1.1 200 OK
x-amzn-RequestId: <RequestId>
Content-Type: application/x-amz-json-1.1
Content-Length: <PayloadSizeBytes>
Date: <Date>
{
  "GroupDefinitions": [
    {
      "Key": "SERVICE",
      "Type": "DIMENSION"
    },
    {
      "Key": "Environment",
      "Type": "TAG"
    }
  ],
  "ResultsByTime": [
    {
      "Estimated": false,
      "Groups": [
        {
          "Keys": [
            "Amazon Simple Storage Service",
```

```
    "Environment$Prod"
  ],
  "Metrics": {
    "BlendedCost": {
      "Amount": "39.1603300457",
      "Unit": "USD"
    },
    "UnblendedCost": {
      "Amount": "39.1603300457",
      "Unit": "USD"
    },
    "UsageQuantity": {
      "Amount": "173842.5440074444",
      "Unit": "N/A"
    }
  }
},
{
  "Keys": [
    "Amazon Simple Storage Service",
    "Environment$Test"
  ],
  "Metrics": {
    "BlendedCost": {
      "Amount": "0.1337464807",
      "Unit": "USD"
    },
    "UnblendedCost": {
      "Amount": "0.1337464807",
      "Unit": "USD"
    },
    "UsageQuantity": {
      "Amount": "15992.0786663399",
      "Unit": "N/A"
    }
  }
},
  ],
  "TimePeriod": {
    "End": "2017-10-01",
    "Start": "2017-09-01"
  },
  "Total": {}
}
```

```
]
}
```

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go v2](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)

# GetCostAndUsageWithResources

Service: AWS Cost Explorer

Retrieves cost and usage metrics with resources for your account. You can specify which cost and usage-related metric, such as `BlendedCosts` or `UsageQuantity`, that you want the request to return. You can also filter and group your data by various dimensions, such as `SERVICE` or `AZ`, in a specific time range. For a complete list of valid dimensions, see the [GetDimensionValues](#) operation. Management account in an organization in AWS Organizations have access to all member accounts.

Hourly granularity is only available for EC2-Instances (Elastic Compute Cloud) resource-level data. All other resource-level data is available at daily granularity.

## Note

This is an opt-in only feature. You can enable this feature from the Cost Explorer Settings page. For information about how to access the Settings page, see [Controlling Access for Cost Explorer](#) in the *AWS Billing and Cost Management User Guide*.

## Request Syntax

```
{
  "Filter": {
    "And": [
      "Expression"
    ],
    "CostCategories": {
      "Key": "string",
      "MatchOptions": [ "string" ],
      "Values": [ "string" ]
    },
    "Dimensions": {
      "Key": "string",
      "MatchOptions": [ "string" ],
      "Values": [ "string" ]
    },
    "Not": "Expression",
    "Or": [
      "Expression"
    ],
    "Tags": {
```



```

    "Key": "string",
    "MatchOptions": [ "string" ],
    "Values": [ "string" ]
  }
},
"Granularity": "string",
"GroupBy": [
  {
    "Key": "string",
    "Type": "string"
  }
],
"Metrics": [ "string" ],
"NextPageToken": "string",
"TimePeriod": {
  "End": "string",
  "Start": "string"
}
}

```

## Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#).

The request accepts the following data in JSON format.

### Filter

Filters Amazon Web Services costs by different dimensions. For example, you can specify SERVICE and LINKED\_ACCOUNT and get the costs that are associated with that account's usage of that service. You can nest Expression objects to define any combination of dimension filters. For more information, see [Expression](#).

The GetCostAndUsageWithResources operation requires that you either group by or filter by a ResourceId. It requires the [Expression](#) "SERVICE = Amazon Elastic Compute Cloud - Compute" in the filter.

Valid values for MatchOptions for Dimensions are EQUALS and CASE\_SENSITIVE.

Valid values for MatchOptions for CostCategories and Tags are EQUALS, ABSENT, and CASE\_SENSITIVE. Default values are EQUALS and CASE\_SENSITIVE.

Type: [Expression](#) object

Required: Yes

### Granularity

Sets the AWS cost granularity to MONTHLY, DAILY, or HOURLY. If Granularity isn't set, the response object doesn't include the Granularity, MONTHLY, DAILY, or HOURLY.

Type: String

Valid Values: DAILY | MONTHLY | HOURLY

Required: Yes

### GroupBy

You can group Amazon Web Services costs using up to two different groups: DIMENSION, TAG, COST\_CATEGORY.

Type: Array of [GroupDefinition](#) objects

Required: No

### Metrics

Which metrics are returned in the query. For more information about blended and unblended rates, see [Why does the "blended" annotation appear on some line items in my bill?](#)

Valid values are AmortizedCost, BlendedCost, NetAmortizedCost, NetUnblendedCost, NormalizedUsageAmount, UnblendedCost, and UsageQuantity.

#### Note

If you return the UsageQuantity metric, the service aggregates all usage numbers without taking the units into account. For example, if you aggregate usageQuantity across all of Amazon EC2, the results aren't meaningful because Amazon EC2 compute hours and data transfer are measured in different units (for example, hour or GB). To get more meaningful UsageQuantity metrics, filter by UsageType or UsageTypeGroups.

Metrics is required for GetCostAndUsageWithResources requests.

Type: Array of strings

Length Constraints: Minimum length of 0. Maximum length of 1024.

Pattern: `[\S\s]*`

Required: No

### NextPageToken

The token to retrieve the next set of results. AWS provides the token when the response from a previous call has more results than the maximum page size.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 8192.

Pattern: `[\S\s]*`

Required: No

### TimePeriod

Sets the start and end dates for retrieving Amazon Web Services costs. The range must be within the last 14 days (the start date cannot be earlier than 14 days ago). The start date is inclusive, but the end date is exclusive. For example, if `start` is `2017-01-01` and `end` is `2017-05-01`, then the cost and usage data is retrieved from `2017-01-01` up to and including `2017-04-30` but not including `2017-05-01`.

Type: [DateInterval](#) object

Required: Yes

## Response Syntax

```
{
  "DimensionValueAttributes": [
    {
      "Attributes": {
        "string" : "string"
      },
      "Value": "string"
    }
  ],
  "GroupDefinitions": [
    {
```

```

    "Key": "string",
    "Type": "string"
  }
],
"NextPageToken": "string",
"ResultsByTime": [
  {
    "Estimated": boolean,
    "Groups": [
      {
        "Keys": [ "string" ],
        "Metrics": {
          "string" : {
            "Amount": "string",
            "Unit": "string"
          }
        }
      }
    ],
    "TimePeriod": {
      "End": "string",
      "Start": "string"
    },
    "Total": {
      "string" : {
        "Amount": "string",
        "Unit": "string"
      }
    }
  }
]
}

```

## Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

### DimensionValueAttributes

The attributes that apply to a specific dimension value. For example, if the value is a linked account, the attribute is that account name.

Type: Array of [DimensionValuesWithAttributes](#) objects

### **GroupDefinitions**

The groups that are specified by the `Filter` or `GroupBy` parameters in the request.

Type: Array of [GroupDefinition](#) objects

### **NextPageToken**

The token for the next set of retrievable results. AWS provides the token when the response from a previous call has more results than the maximum page size.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 8192.

Pattern: `[\S\s]*`

### **ResultsByTime**

The time period that's covered by the results in the response.

Type: Array of [ResultByTime](#) objects

## **Errors**

For information about the errors that are common to all actions, see [Common Errors](#).

### **BillExpirationException**

The requested report expired. Update the date interval and try again.

HTTP Status Code: 400

### **DataUnavailableException**

The requested data is unavailable.

HTTP Status Code: 400

### **InvalidNextTokenException**

The pagination token is invalid. Try again without a pagination token.

HTTP Status Code: 400

## LimitExceededException

You made too many calls in a short period of time. Try again later.

HTTP Status Code: 400

## RequestChangedException

Your request parameters changed between pages. Try again with the old parameters or without a pagination token.

HTTP Status Code: 400

## Examples

### Example

The following is a sample request and response of the `GetCostAndUsageWithResources` operation that enables you to retrieve your Amazon EC2 costs. For more complex examples, such as multi-level groupings, see [Expression](#).

### Sample Request

```
POST / HTTP/1.1
Host: ce.us-east-1.amazonaws.com
x-amz-Date: <Date>
Authorization: AWS4-HMAC-SHA256 Credential=<Credential>,
  SignedHeaders=contenttype;date;host;user-agent;x-amz-date;x-amz-target;x-amzn-
requestid,Signature=<Signature>
User-Agent: <UserAgentString>
Content-Type: application/x-amz-json-1.1
Content-Length: <PayloadSizeBytes>
Connection: Keep-Alive
X-Amz-Target: AWSInsightsIndexService.GetCostAndUsageWithResources
{
  "TimePeriod": {
    "Start": "2018-11-19",
    "End": "2018-11-20"
  },
  "Granularity": "DAILY",
  "Filter": {
    "Dimensions": {
      "Key": "SERVICE",
```

```
    "Values": [
      "Amazon Elastic Compute Cloud - Compute"
    ]
  },
  "GroupBy": [
    {
      "Type": "DIMENSION",
      "Key": "RESOURCE_ID"
    }
  ],
  "Metrics": ["BlendedCost", "UnblendedCost", "UsageQuantity"]
}
```

## Sample Response

```
HTTP/1.1 200 OK
x-amzn-RequestId: <RequestId>
Content-Type: application/x-amz-json-1.1
Content-Length: <PayloadSizeBytes>
Date: <Date>
{
  "GroupDefinitions": [
    {
      "Key": "RESOURCE_ID",
      "Type": "DIMENSION"
    }
  ],
  "ResultsByTime": [
    {
      "Estimated": true,
      "Groups": [
        {
          "Keys": [
            "i-00cb32c5f3163"
          ],
          "Metrics": {
            "BlendedCost": {
              "Amount": "0.0927335232",
              "Unit": "USD"
            },
            "UnblendedCost": {
              "Amount": "0.1276",

```

```
        "Unit": "USD"
      },
      "UsageQuantity": {
        "Amount": "24.0010557602",
        "Unit": "N/A"
      }
    }
  },
  {
    "Keys": [
      "i-04a0089019f41"
    ],
    "Metrics": {
      "BlendedCost": {
        "Amount": "0.1656",
        "Unit": "USD"
      },
      "UnblendedCost": {
        "Amount": "0.1656",
        "Unit": "USD"
      },
      "UsageQuantity": {
        "Amount": "24.0018044403",
        "Unit": "N/A"
      }
    }
  },
  {
    "Keys": [
      "i-03b49bda9fdef"
    ],
    "Metrics": {
      "BlendedCost": {
        "Amount": "0.0927335232",
        "Unit": "USD"
      },
      "UnblendedCost": {
        "Amount": "0.0116",
        "Unit": "USD"
      },
      "UsageQuantity": {
        "Amount": "24.0009345564",
        "Unit": "N/A"
      }
    }
  }
}
```



```
    }
  },
  {
    "Keys": [
      "i-0e56e09d11711"
    ],
    "Metrics": {
      "BlendedCost": {
        "Amount": "0.0927335232",
        "Unit": "USD"
      },
      "UnblendedCost": {
        "Amount": "0.1392",
        "Unit": "USD"
      },
      "UsageQuantity": {
        "Amount": "24.0011066563",
        "Unit": "N/A"
      }
    }
  }
],
"TimePeriod": {
  "End": "2018-11-20T00:00:00Z",
  "Start": "2018-11-19T00:00:00Z"
},
"Total": {}
}
]
```

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go v2](#)
- [AWS SDK for Java V2](#)

- [AWS SDK for JavaScript V3](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)

# GetCostCategories

Service: AWS Cost Explorer

Retrieves an array of Cost Category names and values incurred cost.

## Note

If some Cost Category names and values are not associated with any cost, they will not be returned by this API.

## Request Syntax

```
{
  "CostCategoryName": "string",
  "Filter": {
    "And": [
      "Expression"
    ],
    "CostCategories": {
      "Key": "string",
      "MatchOptions": [ "string" ],
      "Values": [ "string" ]
    },
    "Dimensions": {
      "Key": "string",
      "MatchOptions": [ "string" ],
      "Values": [ "string" ]
    },
    "Not": "Expression",
    "Or": [
      "Expression"
    ],
    "Tags": {
      "Key": "string",
      "MatchOptions": [ "string" ],
      "Values": [ "string" ]
    }
  },
  "MaxResults": number,
  "NextPageToken": "string",
  "SearchString": "string",
}
```

```
"SortBy": [  
  {  
    "Key": "string",  
    "SortOrder": "string"  
  }  
],  
"TimePeriod": {  
  "End": "string",  
  "Start": "string"  
}
```

## Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#).

The request accepts the following data in JSON format.

### CostCategoryName

The unique name of the Cost Category.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 50.

Pattern:  $^(?! )[\p{L}\p{N}\p{Z}-_]*(?<! )$$

Required: No

### Filter

Use Expression to filter in various Cost Explorer APIs.

Not all Expression types are supported in each API. Refer to the documentation for each specific API to see what is supported.

There are two patterns:

- Simple dimension values.
  - There are three types of simple dimension values: CostCategories, Tags, and Dimensions.
  - Specify the CostCategories field to define a filter that acts on Cost Categories.

- Specify the Tags field to define a filter that acts on Cost Allocation Tags.
- Specify the Dimensions field to define a filter that acts on the [DimensionValues](#).
- For each filter type, you can set the dimension name and values for the filters that you plan to use.
  - For example, you can filter for REGION==us-east-1 OR REGION==us-west-1. For GetRightsizingRecommendation, the Region is a full name (for example, REGION==US East (N. Virginia)).
  - The corresponding Expression for this example is as follows: { "Dimensions": { "Key": "REGION", "Values": [ "us-east-1", "us-west-1" ] } }
  - As shown in the previous example, lists of dimension values are combined with OR when applying the filter.
- You can also set different match options to further control how the filter behaves. Not all APIs support match options. Refer to the documentation for each specific API to see what is supported.
  - For example, you can filter for linked account names that start with "a".
  - The corresponding Expression for this example is as follows: { "Dimensions": { "Key": "LINKED\_ACCOUNT\_NAME", "MatchOptions": [ "STARTS\_WITH" ], "Values": [ "a" ] } }
- Compound Expression types with logical operations.
  - You can use multiple Expression types and the logical operators AND/OR/NOT to create a list of one or more Expression objects. By doing this, you can filter by more advanced options.
  - For example, you can filter by ((REGION == us-east-1 OR REGION == us-west-1) OR (TAG.Type == Type1)) AND (USAGE\_TYPE != DataTransfer).
  - The corresponding Expression for this example is as follows: { "And": [ {"Or": [ {"Dimensions": { "Key": "REGION", "Values": [ "us-east-1", "us-west-1" ] } }, {"Tags": { "Key": "TagName", "Values": ["Value1"] } } ] }, {"Not": {"Dimensions": { "Key": "USAGE\_TYPE", "Values": ["DataTransfer"] } } } ] }

 **Note**

Because each Expression can have only one operator, the service returns an error if more than one is specified. The following example shows an Expression

```
object that creates an error: { "And": [ ... ], "Dimensions": { "Key":  
"USAGE_TYPE", "Values": [ "DataTransfer" ] } }
```

The following is an example of the corresponding error message: "Expression has more than one roots. Only one root operator is allowed for each expression: And, Or, Not, Dimensions, Tags, CostCategories"

### Note

For the `GetRightsizingRecommendation` action, a combination of OR and NOT isn't supported. OR isn't supported between different dimensions, or dimensions and tags. NOT operators aren't supported. Dimensions are also limited to `LINKED_ACCOUNT`, `REGION`, or `RIGHTSIZING_TYPE`.

For the `GetReservationPurchaseRecommendation` action, only NOT is supported. AND and OR aren't supported. Dimensions are limited to `LINKED_ACCOUNT`.

Type: [Expression](#) object

Required: No

### MaxResults

This field is only used when the `SortBy` value is provided in the request.

The maximum number of objects that are returned for this request. If `MaxResults` isn't specified with the `SortBy` value, the request returns 1000 results as the default value for this parameter.

For `GetCostCategories`, `MaxResults` has an upper quota of 1000.

Type: Integer

Valid Range: Minimum value of 1.

Required: No

### NextPageToken

If the number of objects that are still available for retrieval exceeds the quota, AWS returns a `NextPageToken` value in the response. To retrieve the next batch of objects, provide the `NextPageToken` from the previous call in your next request.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 8192.

Pattern: `[\S\s]*`

Required: No

### SearchString

The value that you want to search the filter values for.

If you don't specify a `CostCategoryName`, `SearchString` is used to filter Cost Category names that match the `SearchString` pattern. If you specify a `CostCategoryName`, `SearchString` is used to filter Cost Category values that match the `SearchString` pattern.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 1024.

Pattern: `[\S\s]*`

Required: No

### SortBy

The value that you sort the data by.

The key represents the cost and usage metrics. The following values are supported:

- `BlendedCost`
- `UnblendedCost`
- `AmortizedCost`
- `NetAmortizedCost`
- `NetUnblendedCost`
- `UsageQuantity`
- `NormalizedUsageAmount`

The supported key values for the `SortOrder` value are `ASCENDING` and `DESCENDING`.

When you use the `SortBy` value, the `NextPageToken` and `SearchString` key values aren't supported.

Type: Array of [SortDefinition](#) objects

Required: No

### [TimePeriod](#)

The time period of the request.

Type: [DateInterval](#) object

Required: Yes

## Response Syntax

```
{
  "CostCategoryNames": [ "string" ],
  "CostCategoryValues": [ "string" ],
  "NextPageToken": "string",
  "ReturnSize": number,
  "TotalSize": number
}
```

## Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

### [CostCategoryNames](#)

The names of the Cost Categories.

Type: Array of strings

Length Constraints: Minimum length of 1. Maximum length of 50.

Pattern: `^(?! )[\p{L}\p{N}\p{Z}-_]*(?<! )$`

### [CostCategoryValues](#)

The Cost Category values.

If the `CostCategoryName` key isn't specified in the request, the `CostCategoryValues` fields aren't returned.



Type: Array of strings

Length Constraints: Minimum length of 1. Maximum length of 50.

Pattern: `^(?! )[\p{L}\p{N}\p{Z}-_]*(?<! )$`

### NextPageToken

If the number of objects that are still available for retrieval exceeds the quota, AWS returns a `NextPageToken` value in the response. To retrieve the next batch of objects, provide the marker from the prior call in your next request.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 8192.

Pattern: `[\S\s]*`

### ReturnSize

The number of objects that are returned.

Type: Integer

### TotalSize

The total number of objects.

Type: Integer

## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

### **BillExpirationException**

The requested report expired. Update the date interval and try again.

HTTP Status Code: 400

### **DataUnavailableException**

The requested data is unavailable.

HTTP Status Code: 400

## InvalidNextTokenException

The pagination token is invalid. Try again without a pagination token.

HTTP Status Code: 400

## LimitExceededException

You made too many calls in a short period of time. Try again later.

HTTP Status Code: 400

## RequestChangedException

Your request parameters changed between pages. Try again with the old parameters or without a pagination token.

HTTP Status Code: 400

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go v2](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)

# GetCostForecast

Service: AWS Cost Explorer

Retrieves a forecast for how much Amazon Web Services predicts that you will spend over the forecast time period that you select, based on your past costs.

## Request Syntax

```
{
  "Filter": {
    "And": [
      "Expression"
    ],
    "CostCategories": {
      "Key": "string",
      "MatchOptions": [ "string" ],
      "Values": [ "string" ]
    },
    "Dimensions": {
      "Key": "string",
      "MatchOptions": [ "string" ],
      "Values": [ "string" ]
    },
    "Not": "Expression",
    "Or": [
      "Expression"
    ],
    "Tags": {
      "Key": "string",
      "MatchOptions": [ "string" ],
      "Values": [ "string" ]
    }
  },
  "Granularity": "string",
  "Metric": "string",
  "PredictionIntervalLevel": number,
  "TimePeriod": {
    "End": "string",
    "Start": "string"
  }
}
```

## Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#).

The request accepts the following data in JSON format.

### Filter

The filters that you want to use to filter your forecast. The GetCostForecast API supports filtering by the following dimensions:

- AZ
- INSTANCE\_TYPE
- LINKED\_ACCOUNT
- LINKED\_ACCOUNT\_NAME
- OPERATION
- PURCHASE\_TYPE
- REGION
- SERVICE
- USAGE\_TYPE
- USAGE\_TYPE\_GROUP
- RECORD\_TYPE
- OPERATING\_SYSTEM
- TENANCY
- SCOPE
- PLATFORM
- SUBSCRIPTION\_ID
- LEGAL\_ENTITY\_NAME
- DEPLOYMENT\_OPTION
- DATABASE\_ENGINE
- INSTANCE\_TYPE\_FAMILY
- BILLING\_ENTITY
- RESERVATION\_ID
- SAVINGS\_PLAN\_ARN

Type: [Expression](#) object

Required: No

### [Granularity](#)

How granular you want the forecast to be. You can get 3 months of DAILY forecasts or 12 months of MONTHLY forecasts.

The GetCostForecast operation supports only DAILY and MONTHLY granularities.

Type: String

Valid Values: DAILY | MONTHLY | HOURLY

Required: Yes

### [Metric](#)

Which metric Cost Explorer uses to create your forecast. For more information about blended and unblended rates, see [Why does the "blended" annotation appear on some line items in my bill?](#)

Valid values for a GetCostForecast call are the following:

- AMORTIZED\_COST
- BLENDED\_COST
- NET\_AMORTIZED\_COST
- NET\_UNBLENDED\_COST
- UNBLENDED\_COST

Type: String

Valid Values: BLENDED\_COST | UNBLENDED\_COST | AMORTIZED\_COST | NET\_UNBLENDED\_COST | NET\_AMORTIZED\_COST | USAGE\_QUANTITY | NORMALIZED\_USAGE\_AMOUNT

Required: Yes

### [PredictionIntervalLevel](#)

Cost Explorer always returns the mean forecast as a single point. You can request a prediction interval around the mean by specifying a confidence level. The higher the confidence level, the

more confident Cost Explorer is about the actual value falling in the prediction interval. Higher confidence levels result in wider prediction intervals.

Type: Integer

Valid Range: Minimum value of 51. Maximum value of 99.

Required: No

### TimePeriod

The period of time that you want the forecast to cover. The start date must be equal to or no later than the current date to avoid a validation error.

Type: [DateInterval](#) object

Required: Yes

## Response Syntax

```
{
  "ForecastResultsByTime": [
    {
      "MeanValue": "string",
      "PredictionIntervalLowerBound": "string",
      "PredictionIntervalUpperBound": "string",
      "TimePeriod": {
        "End": "string",
        "Start": "string"
      }
    }
  ],
  "Total": {
    "Amount": "string",
    "Unit": "string"
  }
}
```

## Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

## ForecastResultsByTime

The forecasts for your query, in order. For DAILY forecasts, this is a list of days. For MONTHLY forecasts, this is a list of months.

Type: Array of [ForecastResult](#) objects

## Total

How much you are forecasted to spend over the forecast period, in USD.

Type: [MetricValue](#) object

## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

### DataUnavailableException

The requested data is unavailable.

HTTP Status Code: 400

### LimitExceededException

You made too many calls in a short period of time. Try again later.

HTTP Status Code: 400

## Examples

### Example

The following example shows how to retrieve a forecast using the `GetCostForecast` operation.

### Sample Request

```
POST / HTTP/1.1
Host: ce.us-east-1.amazonaws.com
x-amz-Date: <Date>
Authorization: AWS4-HMAC-SHA256 Credential=<Credential>,
  SignedHeaders=contenttype;date;host;user-agent;x-amz-date;x-amz-target;x-amzn-
  requestid,Signature=<Signature>
```

```
User-Agent: <UserAgentString>
Content-Type: application/x-amz-json-1.1
Content-Length: <PayloadSizeBytes>
Connection: Keep-Alive
X-Amz-Target: AWSInsightsIndexService.GetCostForecast
{
  "TimePeriod": {
    "Start": "2017-10-25",
    "End": "2017-10-27"
  },
  "Granularity": "DAILY",
  "Filter": {
    "Dimensions": {
      "Key": "SERVICE",
      "Values": [
        "Amazon Simple Storage Service"
      ]
    }
  },
  "Metric": "BLENDED_COST",
  "PredictionIntervalLevel": 85
}
```

## Sample Response

```
HTTP/1.1 200 OK
x-amzn-RequestId: <RequestId>
Content-Type: application/x-amz-json-1.1
Content-Length: <PayloadSizeBytes>
Date: <Date>
{
  "ForecastResultsByTime": [
    {
      "MeanValue": "37.0786663399",
      "PredictionIntervalLowerBound": "34.9970026341",
      "PredictionIntervalUpperBound": "39.1603300457",
      "TimePeriod": {
        "End": "2018-10-26",
        "Start": "2018-10-25"
      }
    },
    {
      "MeanValue": "37.0786663399",
```



```
    "PredictionIntervalLowerBound": "34.9970026341",
    "PredictionIntervalUpperBound": "39.1603300457",
    "TimePeriod": {
      "End": "2018-10-27",
      "Start": "2018-10-26"
    }
  ],
  "Total": {
    "Amount": "74.1573326798",
    "Unit": "USD"
  }
}
```

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go v2](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)

# GetDimensionValues

Service: AWS Cost Explorer

Retrieves all available filter values for a specified filter over a period of time. You can search the dimension values for an arbitrary string.

## Request Syntax

```
{
  "Context": "string",
  "Dimension": "string",
  "Filter": {
    "And": [
      "Expression"
    ],
    "CostCategories": {
      "Key": "string",
      "MatchOptions": [ "string" ],
      "Values": [ "string" ]
    },
    "Dimensions": {
      "Key": "string",
      "MatchOptions": [ "string" ],
      "Values": [ "string" ]
    },
    "Not": "Expression",
    "Or": [
      "Expression"
    ],
    "Tags": {
      "Key": "string",
      "MatchOptions": [ "string" ],
      "Values": [ "string" ]
    }
  },
  "MaxResults": number,
  "NextPageToken": "string",
  "SearchString": "string",
  "SortBy": [
    {
      "Key": "string",
      "SortOrder": "string"
    }
  ]
}
```

```
],
  "TimePeriod": {
    "End": "string",
    "Start": "string"
  }
}
```

## Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#).

The request accepts the following data in JSON format.

### Context

The context for the call to `GetDimensionValues`. This can be `RESERVATIONS` or `COST_AND_USAGE`. The default value is `COST_AND_USAGE`. If the context is set to `RESERVATIONS`, the resulting dimension values can be used in the `GetReservationUtilization` operation. If the context is set to `COST_AND_USAGE`, the resulting dimension values can be used in the `GetCostAndUsage` operation.

If you set the context to `COST_AND_USAGE`, you can use the following dimensions for searching:

- `AZ` - The Availability Zone. An example is `us-east-1a`.
- `BILLING_ENTITY` - The AWS seller that your account is with. Possible values are the following:
  - `AWS`(Amazon Web Services): The entity that sells AWS services.
  - `AISPL` (Amazon Internet Services Pvt. Ltd.): The local Indian entity that's an acting reseller for AWS services in India.
  - `AWS Marketplace`: The entity that supports the sale of solutions that are built on AWS by third-party software providers.
- `CACHE_ENGINE` - The Amazon ElastiCache operating system. Examples are `Windows` or `Linux`.
- `DEPLOYMENT_OPTION` - The scope of Amazon Relational Database Service deployments. Valid values are `SingleAZ` and `MultiAZ`.
- `DATABASE_ENGINE` - The Amazon Relational Database Service database. Examples are `Aurora` or `MySQL`.
- `INSTANCE_TYPE` - The type of Amazon EC2 instance. An example is `m4.xlarge`.

- **INSTANCE\_TYPE\_FAMILY** - A family of instance types optimized to fit different use cases. Examples are Compute Optimized (for example, C4, C5, C6g, and C7g), Memory Optimization (for example, R4, R5n, R5b, and R6g).
- **INVOICING\_ENTITY** - The name of the entity that issues the AWS invoice.
- **LEGAL\_ENTITY\_NAME** - The name of the organization that sells you AWS services, such as Amazon Web Services.
- **LINKED\_ACCOUNT** - The description in the attribute map that includes the full name of the member account. The value field contains the AWS ID of the member account.
- **OPERATING\_SYSTEM** - The operating system. Examples are Windows or Linux.
- **OPERATION** - The action performed. Examples include RunInstance and CreateBucket.
- **PLATFORM** - The Amazon EC2 operating system. Examples are Windows or Linux.
- **PURCHASE\_TYPE** - The reservation type of the purchase that this usage is related to. Examples include On-Demand Instances and Standard Reserved Instances.
- **RESERVATION\_ID** - The unique identifier for an AWS Reservation Instance.
- **SAVINGS\_PLAN\_ARN** - The unique identifier for your Savings Plans.
- **SAVINGS\_PLANS\_TYPE** - Type of Savings Plans (EC2 Instance or Compute).
- **SERVICE** - The AWS service such as Amazon DynamoDB.
- **TENANCY** - The tenancy of a resource. Examples are shared or dedicated.
- **USAGE\_TYPE** - The type of usage. An example is DataTransfer-In-Bytes. The response for the GetDimensionValues operation includes a unit attribute. Examples include GB and Hrs.
- **USAGE\_TYPE\_GROUP** - The grouping of common usage types. An example is Amazon EC2: CloudWatch – Alarms. The response for this operation includes a unit attribute.
- **REGION** - The AWS Region.
- **RECORD\_TYPE** - The different types of charges such as Reserved Instance (RI) fees, usage costs, tax refunds, and credits.
- **RESOURCE\_ID** - The unique identifier of the resource. ResourceId is an opt-in feature only available for last 14 days for EC2-Compute Service.

If you set the context to RESERVATIONS, you can use the following dimensions for searching:

- **AZ** - The Availability Zone. An example is us-east-1a.
- **CACHE\_ENGINE** - The Amazon ElastiCache operating system. Examples are Windows or Linux.
- **DEPLOYMENT\_OPTION** - The scope of Amazon Relational Database Service deployments. Valid values are SingleAZ and MultiAZ.

- **INSTANCE\_TYPE** - The type of Amazon EC2 instance. An example is `m4.xlarge`.
- **LINKED\_ACCOUNT** - The description in the attribute map that includes the full name of the member account. The value field contains the AWS ID of the member account.
- **PLATFORM** - The Amazon EC2 operating system. Examples are Windows or Linux.
- **REGION** - The AWS Region.
- **SCOPE (Utilization only)** - The scope of a Reserved Instance (RI). Values are regional or a single Availability Zone.
- **TAG (Coverage only)** - The tags that are associated with a Reserved Instance (RI).
- **TENANCY** - The tenancy of a resource. Examples are shared or dedicated.

If you set the context to **SAVINGS\_PLANS**, you can use the following dimensions for searching:

- **SAVINGS\_PLANS\_TYPE** - Type of Savings Plans (EC2 Instance or Compute)
- **PAYMENT\_OPTION** - The payment option for the given Savings Plans (for example, All Upfront)
- **REGION** - The AWS Region.
- **INSTANCE\_TYPE\_FAMILY** - The family of instances (For example, m5)
- **LINKED\_ACCOUNT** - The description in the attribute map that includes the full name of the member account. The value field contains the AWS ID of the member account.
- **SAVINGS\_PLAN\_ARN** - The unique identifier for your Savings Plans.

Type: String

Valid Values: `COST_AND_USAGE` | `RESERVATIONS` | `SAVINGS_PLANS`

Required: No

## **Dimension**

The name of the dimension. Each Dimension is available for a different Context. For more information, see Context. `LINK_ACCOUNT_NAME` and `SERVICE_CODE` can only be used in [CostCategoryRule](#).

Type: String

Valid Values: `AZ` | `INSTANCE_TYPE` | `LINKED_ACCOUNT` | `LINKED_ACCOUNT_NAME` | `OPERATION` | `PURCHASE_TYPE` | `REGION` | `SERVICE` | `SERVICE_CODE` | `USAGE_TYPE` | `USAGE_TYPE_GROUP` | `RECORD_TYPE` | `OPERATING_SYSTEM` | `TENANCY` | `SCOPE` | `PLATFORM` | `SUBSCRIPTION_ID` | `LEGAL_ENTITY_NAME` | `DEPLOYMENT_OPTION` |

DATABASE\_ENGINE | CACHE\_ENGINE | INSTANCE\_TYPE\_FAMILY | BILLING\_ENTITY  
| RESERVATION\_ID | RESOURCE\_ID | RIGHTSIZING\_TYPE | SAVINGS\_PLANS\_TYPE  
| SAVINGS\_PLAN\_ARN | PAYMENT\_OPTION | AGREEMENT\_END\_DATE\_TIME\_AFTER  
| AGREEMENT\_END\_DATE\_TIME\_BEFORE | INVOICING\_ENTITY |  
ANOMALY\_TOTAL\_IMPACT\_ABSOLUTE | ANOMALY\_TOTAL\_IMPACT\_PERCENTAGE

Required: Yes

## Filter

Use Expression to filter in various Cost Explorer APIs.

Not all Expression types are supported in each API. Refer to the documentation for each specific API to see what is supported.

There are two patterns:

- Simple dimension values.
  - There are three types of simple dimension values: `CostCategories`, `Tags`, and `Dimensions`.
    - Specify the `CostCategories` field to define a filter that acts on Cost Categories.
    - Specify the `Tags` field to define a filter that acts on Cost Allocation Tags.
    - Specify the `Dimensions` field to define a filter that acts on the [DimensionValues](#).
  - For each filter type, you can set the dimension name and values for the filters that you plan to use.
    - For example, you can filter for `REGION==us-east-1 OR REGION==us-west-1`. For `GetRightsizingRecommendation`, the Region is a full name (for example, `REGION==US East (N. Virginia)`).
    - The corresponding Expression for this example is as follows: 

```
{ "Dimensions": { "Key": "REGION", "Values": [ "us-east-1", "us-west-1" ] } }
```
    - As shown in the previous example, lists of dimension values are combined with OR when applying the filter.
  - You can also set different match options to further control how the filter behaves. Not all APIs support match options. Refer to the documentation for each specific API to see what is supported.
    - For example, you can filter for linked account names that start with "a".

- The corresponding Expression for this example is as follows: `{ "Dimensions": { "Key": "LINKED_ACCOUNT_NAME", "MatchOptions": [ "STARTS_WITH" ], "Values": [ "a" ] } }`
- Compound Expression types with logical operations.
  - You can use multiple Expression types and the logical operators AND/OR/NOT to create a list of one or more Expression objects. By doing this, you can filter by more advanced options.
  - For example, you can filter by `((REGION == us-east-1 OR REGION == us-west-1) OR (TAG.Type == Type1)) AND (USAGE_TYPE != DataTransfer)`.
  - The corresponding Expression for this example is as follows: `{ "And": [ { "Or": [ { "Dimensions": { "Key": "REGION", "Values": [ "us-east-1", "us-west-1" ] } }, { "Tags": { "Key": "TagName", "Values": [ "Value1" ] } } ] }, { "Not": { "Dimensions": { "Key": "USAGE_TYPE", "Values": [ "DataTransfer" ] } } } ] }`

#### Note

Because each Expression can have only one operator, the service returns an error if more than one is specified. The following example shows an Expression object that creates an error: `{ "And": [ ... ], "Dimensions": { "Key": "USAGE_TYPE", "Values": [ "DataTransfer" ] } }`

The following is an example of the corresponding error message: "Expression has more than one roots. Only one root operator is allowed for each expression: And, Or, Not, Dimensions, Tags, CostCategories"

#### Note

For the `GetRightsizingRecommendation` action, a combination of OR and NOT isn't supported. OR isn't supported between different dimensions, or dimensions and tags. NOT operators aren't supported. Dimensions are also limited to LINKED\_ACCOUNT, REGION, or RIGHTSIZING\_TYPE.

For the `GetReservationPurchaseRecommendation` action, only NOT is supported. AND and OR aren't supported. Dimensions are limited to LINKED\_ACCOUNT.

Type: [Expression](#) object

Required: No

### [MaxResults](#)

This field is only used when `SortBy` is provided in the request. The maximum number of objects that are returned for this request. If `MaxResults` isn't specified with `SortBy`, the request returns 1000 results as the default value for this parameter.

For `GetDimensionValues`, `MaxResults` has an upper limit of 1000.

Type: Integer

Valid Range: Minimum value of 1.

Required: No

### [NextPageToken](#)

The token to retrieve the next set of results. AWS provides the token when the response from a previous call has more results than the maximum page size.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 8192.

Pattern: `[\S\s]*`

Required: No

### [SearchString](#)

The value that you want to search the filter values for.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 1024.

Pattern: `[\S\s]*`

Required: No

### [SortBy](#)

The value that you want to sort the data by.



The key represents cost and usage metrics. The following values are supported:

- BlendedCost
- UnblendedCost
- AmortizedCost
- NetAmortizedCost
- NetUnblendedCost
- UsageQuantity
- NormalizedUsageAmount

The supported values for the `SortOrder` key are `ASCENDING` or `DESCENDING`.

When you specify a `SortBy` parameter, the context must be `COST_AND_USAGE`. Further, when using `SortBy`, `NextPageToken` and `SearchString` aren't supported.

Type: Array of [SortDefinition](#) objects

Required: No

## TimePeriod

The start date and end date for retrieving the dimension values. The start date is inclusive, but the end date is exclusive. For example, if `start` is `2017-01-01` and `end` is `2017-05-01`, then the cost and usage data is retrieved from `2017-01-01` up to and including `2017-04-30` but not including `2017-05-01`.

Type: [DateInterval](#) object

Required: Yes

## Response Syntax

```
{
  "DimensionValues": [
    {
      "Attributes": {
        "string" : "string"
      },
      "Value": "string"
    }
  ]
}
```

```
],  
  "NextPageToken": "string",  
  "ReturnSize": number,  
  "TotalSize": number  
}
```

## Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

### DimensionValues

The filters that you used to filter your request. Some dimensions are available only for a specific context.

If you set the context to `COST_AND_USAGE`, you can use the following dimensions for searching:

- `AZ` - The Availability Zone. An example is `us-east-1a`.
- `DATABASE_ENGINE` - The Amazon Relational Database Service database. Examples are Aurora or MySQL.
- `INSTANCE_TYPE` - The type of Amazon EC2 instance. An example is `m4.xlarge`.
- `LEGAL_ENTITY_NAME` - The name of the organization that sells you AWS services, such as Amazon Web Services.
- `LINKED_ACCOUNT` - The description in the attribute map that includes the full name of the member account. The value field contains the AWS ID of the member account.
- `OPERATING_SYSTEM` - The operating system. Examples are Windows or Linux.
- `OPERATION` - The action performed. Examples include `RunInstance` and `CreateBucket`.
- `PLATFORM` - The Amazon EC2 operating system. Examples are Windows or Linux.
- `PURCHASE_TYPE` - The reservation type of the purchase to which this usage is related. Examples include On-Demand Instances and Standard Reserved Instances.
- `SERVICE` - The AWS service such as Amazon DynamoDB.
- `USAGE_TYPE` - The type of usage. An example is `DataTransfer-In-Bytes`. The response for the `GetDimensionValues` operation includes a unit attribute. Examples include `GB` and `Hrs`.
- `USAGE_TYPE_GROUP` - The grouping of common usage types. An example is Amazon EC2: CloudWatch – Alarms. The response for this operation includes a unit attribute.

- **RECORD\_TYPE** - The different types of charges such as RI fees, usage costs, tax refunds, and credits.
- **RESOURCE\_ID** - The unique identifier of the resource. ResourceId is an opt-in feature only available for last 14 days for EC2-Compute Service. You can opt-in by enabling Hourly and Resource Level Data in AWS Cost Management Console preferences.

If you set the context to RESERVATIONS, you can use the following dimensions for searching:

- **AZ** - The Availability Zone. An example is us-east-1a.
- **CACHE\_ENGINE** - The Amazon ElastiCache operating system. Examples are Windows or Linux.
- **DEPLOYMENT\_OPTION** - The scope of Amazon Relational Database Service deployments. Valid values are SingleAZ and MultiAZ.
- **INSTANCE\_TYPE** - The type of Amazon EC2 instance. An example is m4.xlarge.
- **LINKED\_ACCOUNT** - The description in the attribute map that includes the full name of the member account. The value field contains the AWS ID of the member account.
- **PLATFORM** - The Amazon EC2 operating system. Examples are Windows or Linux.
- **REGION** - The AWS Region.
- **SCOPE (Utilization only)** - The scope of a Reserved Instance (RI). Values are regional or a single Availability Zone.
- **TAG (Coverage only)** - The tags that are associated with a Reserved Instance (RI).
- **TENANCY** - The tenancy of a resource. Examples are shared or dedicated.

If you set the context to SAVINGS\_PLANS, you can use the following dimensions for searching:

- **SAVINGS\_PLANS\_TYPE** - Type of Savings Plans (EC2 Instance or Compute)
- **PAYMENT\_OPTION** - Payment option for the given Savings Plans (for example, All Upfront)
- **REGION** - The AWS Region.
- **INSTANCE\_TYPE\_FAMILY** - The family of instances (For example, m5)
- **LINKED\_ACCOUNT** - The description in the attribute map that includes the full name of the member account. The value field contains the AWS ID of the member account.
- **SAVINGS\_PLAN\_ARN** - The unique identifier for your Savings Plan

Type: Array of [DimensionValuesWithAttributes](#) objects

### [NextPageToken](#)

The token for the next set of retrievable results. AWS provides the token when the response from a previous call has more results than the maximum page size.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 8192.

Pattern: `[\S\s]*`

### **ReturnSize**

The number of results that AWS returned at one time.

Type: Integer

### **TotalSize**

The total number of search results.

Type: Integer

## **Errors**

For information about the errors that are common to all actions, see [Common Errors](#).

### **BillExpirationException**

The requested report expired. Update the date interval and try again.

HTTP Status Code: 400

### **DataUnavailableException**

The requested data is unavailable.

HTTP Status Code: 400

### **InvalidNextTokenException**

The pagination token is invalid. Try again without a pagination token.

HTTP Status Code: 400

### **LimitExceededException**

You made too many calls in a short period of time. Try again later.

HTTP Status Code: 400

## RequestChangedException

Your request parameters changed between pages. Try again with the old parameters or without a pagination token.

HTTP Status Code: 400

## Examples

### Example

The following is a sample request and response of the `GetDimensionValues` operation that enables you to search for all the member accounts in an organization in AWS Organizations that have "Elastic" in their name.

### Sample Request

```
POST / HTTP/1.1
Host: ce.us-east-1.amazonaws.com
x-amz-Date: <Date>
Authorization: AWS4-HMAC-SHA256 Credential=<Credential>,
  SignedHeaders=contenttype;date;host;user-agent;x-amz-date;x-amz-target;x-amzn-
requestid,Signature=<Signature>
User-Agent: <UserAgentString>
Content-Type: application/x-amz-json-1.1
Content-Length: <PayloadSizeBytes>
Connection: Keep-Alive
X-Amz-Target: AWSInsightsIndexService.GetDimensionValues
{
  "TimePeriod": {
    "Start": "2017-01-01",
    "End": "2017-05-18"
  },
  "SearchString": "Elastic",
  "Dimension": "Service"
}
```

### Sample Response

```
HTTP/1.1 200 OK
x-amzn-RequestId: <RequestId>
Content-Type: application/x-amz-json-1.1
```

```
Content-Length: <PayloadSizeBytes>
Date: <Date>
//Attributes are optional metadata that are returned depending on the dimension that
you select.
{
  "DimensionValues": [
    {
      "Attributes": {},
      "Value": "Amazon ElastiCache"
    },
    {
      "Attributes": {},
      "Value": "EC2 - Other"
    },
    {
      "Attributes": {},
      "Value": "Amazon Elastic Compute Cloud - Compute"
    },
    {
      "Attributes": {},
      "Value": "Amazon Elasticsearch Service"
    }
  ],
  "ReturnSize": 4,
  "TotalSize": 4
}
```

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go v2](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)

- [AWS SDK for Ruby V3](#)

# GetReservationCoverage

Service: AWS Cost Explorer

Retrieves the reservation coverage for your account, which you can use to see how much of your Amazon Elastic Compute Cloud, Amazon ElastiCache, Amazon Relational Database Service, or Amazon Redshift usage is covered by a reservation. An organization's management account can see the coverage of the associated member accounts. This supports dimensions, Cost Categories, and nested expressions. For any time period, you can filter data about reservation usage by the following dimensions:

- AZ
- CACHE\_ENGINE
- DATABASE\_ENGINE
- DEPLOYMENT\_OPTION
- INSTANCE\_TYPE
- LINKED\_ACCOUNT
- OPERATING\_SYSTEM
- PLATFORM
- REGION
- SERVICE
- TAG
- TENANCY

To determine valid values for a dimension, use the `GetDimensionValues` operation.

## Request Syntax

```
{
  "Filter": {
    "And": [
      "Expression"
    ],
    "CostCategories": {
      "Key": "string",
      "MatchOptions": [ "string" ],
      "Values": [ "string" ]
    }
  }
}
```



```
    },
    "Dimensions": {
      "Key": "string",
      "MatchOptions": [ "string" ],
      "Values": [ "string" ]
    },
    "Not": "Expression",
    "Or": [
      "Expression"
    ],
    "Tags": {
      "Key": "string",
      "MatchOptions": [ "string" ],
      "Values": [ "string" ]
    }
  },
  "Granularity": "string",
  "GroupBy": [
    {
      "Key": "string",
      "Type": "string"
    }
  ],
  "MaxResults": number,
  "Metrics": [ "string" ],
  "NextPageToken": "string",
  "SortBy": {
    "Key": "string",
    "SortOrder": "string"
  },
  "TimePeriod": {
    "End": "string",
    "Start": "string"
  }
}
```

## Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#).

The request accepts the following data in JSON format.

## Filter

Filters utilization data by dimensions. You can filter by the following dimensions:

- AZ
- CACHE\_ENGINE
- DATABASE\_ENGINE
- DEPLOYMENT\_OPTION
- INSTANCE\_TYPE
- LINKED\_ACCOUNT
- OPERATING\_SYSTEM
- PLATFORM
- REGION
- SERVICE
- TAG
- TENANCY

GetReservationCoverage uses the same [Expression](#) object as the other operations, but only AND is supported among each dimension. You can nest only one level deep. If there are multiple values for a dimension, they are OR'd together.

If you don't provide a SERVICE filter, Cost Explorer defaults to EC2.

Cost category is also supported.

Type: [Expression](#) object

Required: No

## Granularity

The granularity of the AWS cost data for the reservation. Valid values are MONTHLY and DAILY.

If GroupBy is set, Granularity can't be set. If Granularity isn't set, the response object doesn't include Granularity, either MONTHLY or DAILY.

The GetReservationCoverage operation supports only DAILY and MONTHLY granularities.

Type: String

Valid Values: DAILY | MONTHLY | HOURLY

Required: No

### GroupBy

You can group the data by the following attributes:

- AZ
- CACHE\_ENGINE
- DATABASE\_ENGINE
- DEPLOYMENT\_OPTION
- INSTANCE\_TYPE
- INVOICING\_ENTITY
- LINKED\_ACCOUNT
- OPERATING\_SYSTEM
- PLATFORM
- REGION
- TENANCY

Type: Array of [GroupDefinition](#) objects

Required: No

### MaxResults

The maximum number of objects that you returned for this request. If more objects are available, in the response, AWS provides a `NextPageToken` value that you can use in a subsequent call to get the next batch of objects.

Type: Integer

Valid Range: Minimum value of 1.

Required: No

### Metrics

The measurement that you want your reservation coverage reported in.

Valid values are `Hour`, `Unit`, and `Cost`. You can use multiple values in a request.

Type: Array of strings

Length Constraints: Minimum length of 0. Maximum length of 1024.

Pattern: `[\S\s]*`

Required: No

### NextPageToken

The token to retrieve the next set of results. AWS provides the token when the response from a previous call has more results than the maximum page size.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 8192.

Pattern: `[\S\s]*`

Required: No

### SortBy

The value by which you want to sort the data.

The following values are supported for Key:

- OnDemandCost
- CoverageHoursPercentage
- OnDemandHours
- ReservedHours
- TotalRunningHours
- CoverageNormalizedUnitsPercentage
- OnDemandNormalizedUnits
- ReservedNormalizedUnits
- TotalRunningNormalizedUnits
- Time

Supported values for SortOrder are ASCENDING or DESCENDING.

Type: [SortDefinition](#) object

Required: No

## TimePeriod

The start and end dates of the period that you want to retrieve data about reservation coverage for. You can retrieve data for a maximum of 13 months: the last 12 months and the current month. The start date is inclusive, but the end date is exclusive. For example, if start is 2017-01-01 and end is 2017-05-01, then the cost and usage data is retrieved from 2017-01-01 up to and including 2017-04-30 but not including 2017-05-01.

Type: [DateInterval](#) object

Required: Yes

## Response Syntax

```
{
  "CoveragesByTime": [
    {
      "Groups": [
        {
          "Attributes": {
            "string" : "string"
          },
          "Coverage": {
            "CoverageCost": {
              "OnDemandCost": "string"
            },
            "CoverageHours": {
              "CoverageHoursPercentage": "string",
              "OnDemandHours": "string",
              "ReservedHours": "string",
              "TotalRunningHours": "string"
            },
            "CoverageNormalizedUnits": {
              "CoverageNormalizedUnitsPercentage": "string",
              "OnDemandNormalizedUnits": "string",
              "ReservedNormalizedUnits": "string",
              "TotalRunningNormalizedUnits": "string"
            }
          }
        }
      ]
    },
    "TimePeriod": {
```

```
    "End": "string",
    "Start": "string"
  },
  "Total": {
    "CoverageCost": {
      "OnDemandCost": "string"
    },
    "CoverageHours": {
      "CoverageHoursPercentage": "string",
      "OnDemandHours": "string",
      "ReservedHours": "string",
      "TotalRunningHours": "string"
    },
    "CoverageNormalizedUnits": {
      "CoverageNormalizedUnitsPercentage": "string",
      "OnDemandNormalizedUnits": "string",
      "ReservedNormalizedUnits": "string",
      "TotalRunningNormalizedUnits": "string"
    }
  }
},
"NextPageToken": "string",
"Total": {
  "CoverageCost": {
    "OnDemandCost": "string"
  },
  "CoverageHours": {
    "CoverageHoursPercentage": "string",
    "OnDemandHours": "string",
    "ReservedHours": "string",
    "TotalRunningHours": "string"
  },
  "CoverageNormalizedUnits": {
    "CoverageNormalizedUnitsPercentage": "string",
    "OnDemandNormalizedUnits": "string",
    "ReservedNormalizedUnits": "string",
    "TotalRunningNormalizedUnits": "string"
  }
}
```

## Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

### CoveragesByTime

The amount of time that your reservations covered.

Type: Array of [CoverageByTime](#) objects

### NextPageToken

The token for the next set of retrievable results. AWS provides the token when the response from a previous call has more results than the maximum page size.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 8192.

Pattern: `[\S\s]*`

### Total

The total amount of instance usage that a reservation covered.

Type: [Coverage](#) object

## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

### **DataUnavailableException**

The requested data is unavailable.

HTTP Status Code: 400

### **InvalidNextTokenException**

The pagination token is invalid. Try again without a pagination token.

HTTP Status Code: 400

## LimitExceededException

You made too many calls in a short period of time. Try again later.

HTTP Status Code: 400

## Examples

### Example

The following example request for the `GetReservationCoverage` operation retrieves reservation coverage for all `t2.nano` instance types from 2017-07-01 to 2017-10-01.

### Sample Request

```
POST / HTTP/1.1
Host: ce.us-east-1.amazonaws.com
x-amz-Date: <Date>
Authorization: AWS4-HMAC-SHA256 Credential=<Credential>,
  SignedHeaders=contenttype;date;host;user-agent;x-amz-date;x-amz-target;x-amzn-
requestid,Signature=<Signature>
User-Agent: <UserAgentString>
Content-Type: application/x-amz-json-1.1
Content-Length: <PayloadSizeBytes>
Connection: Keep-Alive
X-Amz-Target: AWSInsightsIndexService.GetReservationCoverage
{
  "TimePeriod": {
    "Start": "2017-07-01",
    "End": "2017-10-01"
  },
  "Filter": {
    "And": [
      {"Dimensions": {
        "Key": "INSTANCE_TYPE",
        "Values": [
          "t2.nano"
        ]
      }},
      {"Dimensions": {
        "Key": "REGION",
        "Values": [
          "us-east-1"
        ]
      }}
    ]
  }
}
```



```
    ]
  }}
]
},
"GroupBy": [
  {
    "Type": "Dimension",
    "Key": "REGION"
  }
]
}
```

## Sample Response

```
HTTP/1.1 200 OK
x-amzn-RequestId: <RequestId>
Content-Type: application/x-amz-json-1.1
Content-Length: <PayloadSizeBytes>
Date: <Date>
{
  "CoveragesByTime": [ {
    "Groups": [ {
      "Attributes": {
        "region": "us-east-1"
      },
      "Coverage": {
        "CoverageHours": {
          "CoverageHoursPercentage": "40%",
          "OnDemandHours": "40",
          "ReservedHours": "40",
          "TotalRunningHours": "80"
        }
        "CoverageNormalizedUnits": {
          "CoverageNormalizedUnitsPercentage": "10",
          "OnDemandNormalizedUnits": "10",
          "ReservedNormalizedUnits": "10",
          "TotalRunningNormalizedUnits": "20"
        }
      }
    }
  ]
},
  "TimePeriod": {
    "End": "2017-07-01",
    "Start": "2017-10-01"
  }
}
```

```
    },
    "Total": {
      "CoverageHours": {
        "CoverageHoursPercentage": "40%",
        "OnDemandHours": "40",
        "ReservedHours": "40",
        "TotalRunningHours": "80"
      }
      "CoverageNormalizedUnits": {
        "CoverageNormalizedUnitsPercentage": "10",
        "OnDemandNormalizedUnits": "10",
        "ReservedNormalizedUnits": "10",
        "TotalRunningNormalizedUnits": "20"
      }
    }
  }],
  "Total": {
    "CoverageHours": {
      "CoverageHoursPercentage": "40%",
      "OnDemandHours": "40",
      "ReservedHours": "40",
      "TotalRunningHours": "80"
    }
  }
}
```

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go v2](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)

- [AWS SDK for Ruby V3](#)

# GetReservationPurchaseRecommendation

Service: AWS Cost Explorer

Gets recommendations for reservation purchases. These recommendations might help you to reduce your costs. Reservations provide a discounted hourly rate (up to 75%) compared to On-Demand pricing.

AWS generates your recommendations by identifying your On-Demand usage during a specific time period and collecting your usage into categories that are eligible for a reservation. After AWS has these categories, it simulates every combination of reservations in each category of usage to identify the best number of each type of Reserved Instance (RI) to purchase to maximize your estimated savings.

For example, AWS automatically aggregates your Amazon EC2 Linux, shared tenancy, and c4 family usage in the US West (Oregon) Region and recommends that you buy size-flexible regional reservations to apply to the c4 family usage. AWS recommends the smallest size instance in an instance family. This makes it easier to purchase a size-flexible Reserved Instance (RI). AWS also shows the equal number of normalized units. This way, you can purchase any instance size that you want. For this example, your RI recommendation is for c4.large because that is the smallest size instance in the c4 instance family.

## Request Syntax

```
{
  "AccountId": "string",
  "AccountScope": "string",
  "Filter": {
    "And": [
      "Expression"
    ],
    "CostCategories": {
      "Key": "string",
      "MatchOptions": [ "string" ],
      "Values": [ "string" ]
    },
    "Dimensions": {
      "Key": "string",
      "MatchOptions": [ "string" ],
      "Values": [ "string" ]
    },
    "Not": "Expression",
```

```
    "Or": [
      "Expression"
    ],
    "Tags": {
      "Key": "string",
      "MatchOptions": [ "string" ],
      "Values": [ "string" ]
    }
  },
  "LookbackPeriodInDays": "string",
  "NextPageToken": "string",
  "PageSize": number,
  "PaymentOption": "string",
  "Service": "string",
  "ServiceSpecification": {
    "EC2Specification": {
      "OfferingClass": "string"
    }
  },
  "TermInYears": "string"
}
```

## Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#).

The request accepts the following data in JSON format.

### AccountId

The account ID that's associated with the recommendation.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 1024.

Pattern: `[\S\s]*`

Required: No

### AccountScope

The account scope that you want your recommendations for. Amazon Web Services calculates recommendations including the management account and member accounts if the value is

set to PAYER. If the value is LINKED, recommendations are calculated for individual member accounts only.

Type: String

Valid Values: PAYER | LINKED

Required: No

## Filter

Use Expression to filter in various Cost Explorer APIs.

Not all Expression types are supported in each API. Refer to the documentation for each specific API to see what is supported.

There are two patterns:

- Simple dimension values.
  - There are three types of simple dimension values: CostCategories, Tags, and Dimensions.
    - Specify the CostCategories field to define a filter that acts on Cost Categories.
    - Specify the Tags field to define a filter that acts on Cost Allocation Tags.
    - Specify the Dimensions field to define a filter that acts on the [DimensionValues](#).
  - For each filter type, you can set the dimension name and values for the filters that you plan to use.
    - For example, you can filter for REGION==us-east-1 OR REGION==us-west-1. For GetRightsizingRecommendation, the Region is a full name (for example, REGION==US East (N. Virginia)).
    - The corresponding Expression for this example is as follows: { "Dimensions": { "Key": "REGION", "Values": [ "us-east-1", "us-west-1" ] } }
    - As shown in the previous example, lists of dimension values are combined with OR when applying the filter.
  - You can also set different match options to further control how the filter behaves. Not all APIs support match options. Refer to the documentation for each specific API to see what is supported.
    - For example, you can filter for linked account names that start with "a".

- The corresponding Expression for this example is as follows: `{ "Dimensions": { "Key": "LINKED_ACCOUNT_NAME", "MatchOptions": [ "STARTS_WITH" ], "Values": [ "a" ] } }`
- Compound Expression types with logical operations.
  - You can use multiple Expression types and the logical operators AND/OR/NOT to create a list of one or more Expression objects. By doing this, you can filter by more advanced options.
  - For example, you can filter by `((REGION == us-east-1 OR REGION == us-west-1) OR (TAG.Type == Type1)) AND (USAGE_TYPE != DataTransfer)`.
  - The corresponding Expression for this example is as follows: `{ "And": [ { "Or": [ { "Dimensions": { "Key": "REGION", "Values": [ "us-east-1", "us-west-1" ] } }, { "Tags": { "Key": "TagName", "Values": [ "Value1" ] } } ] }, { "Not": { "Dimensions": { "Key": "USAGE_TYPE", "Values": [ "DataTransfer" ] } } } ] }`

#### Note

Because each Expression can have only one operator, the service returns an error if more than one is specified. The following example shows an Expression object that creates an error: `{ "And": [ ... ], "Dimensions": { "Key": "USAGE_TYPE", "Values": [ "DataTransfer" ] } }`

The following is an example of the corresponding error message: "Expression has more than one roots. Only one root operator is allowed for each expression: And, Or, Not, Dimensions, Tags, CostCategories"

#### Note

For the `GetRightsizingRecommendation` action, a combination of OR and NOT isn't supported. OR isn't supported between different dimensions, or dimensions and tags. NOT operators aren't supported. Dimensions are also limited to LINKED\_ACCOUNT, REGION, or RIGHTSIZING\_TYPE.

For the `GetReservationPurchaseRecommendation` action, only NOT is supported. AND and OR aren't supported. Dimensions are limited to LINKED\_ACCOUNT.

Type: [Expression](#) object

Required: No

### [LookbackPeriodInDays](#)

The number of previous days that you want AWS to consider when it calculates your recommendations.

Type: String

Valid Values: SEVEN\_DAYS | THIRTY\_DAYS | SIXTY\_DAYS

Required: No

### [NextPageToken](#)

The pagination token that indicates the next set of results that you want to retrieve.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 8192.

Pattern: `[\S\s]*`

Required: No

### [PageSize](#)

The number of recommendations that you want returned in a single response object.

Type: Integer

Valid Range: Minimum value of 0.

Required: No

### [PaymentOption](#)

The reservation purchase option that you want recommendations for.

Type: String

Valid Values: NO\_UPFRONT | PARTIAL\_UPFRONT | ALL\_UPFRONT | LIGHT\_UTILIZATION  
| MEDIUM\_UTILIZATION | HEAVY\_UTILIZATION

Required: No



## Service

The specific service that you want recommendations for.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 1024.

Pattern: `[\S\s]*`

Required: Yes

## ServiceSpecification

The hardware specifications for the service instances that you want recommendations for, such as standard or convertible Amazon EC2 instances.

Type: [ServiceSpecification](#) object

Required: No

## TermInYears

The reservation term that you want recommendations for.

Type: String

Valid Values: ONE\_YEAR | THREE\_YEARS

Required: No

## Response Syntax

```
{
  "Metadata": {
    "AdditionalMetadata": "string",
    "GenerationTimestamp": "string",
    "RecommendationId": "string"
  },
  "NextPageToken": "string",
  "Recommendations": [
    {
      "AccountScope": "string",
      "LookbackPeriodInDays": "string",
      "PaymentOption": "string",
```

```
"RecommendationDetails": [  
  {  
    "AccountId": "string",  
    "AverageNormalizedUnitsUsedPerHour": "string",  
    "AverageNumberOfInstancesUsedPerHour": "string",  
    "AverageUtilization": "string",  
    "CurrencyCode": "string",  
    "EstimatedBreakEvenInMonths": "string",  
    "EstimatedMonthlyOnDemandCost": "string",  
    "EstimatedMonthlySavingsAmount": "string",  
    "EstimatedMonthlySavingsPercentage": "string",  
    "EstimatedReservationCostForLookbackPeriod": "string",  
    "InstanceDetails": {  
      "EC2InstanceDetails": {  
        "AvailabilityZone": "string",  
        "CurrentGeneration": boolean,  
        "Family": "string",  
        "InstanceType": "string",  
        "Platform": "string",  
        "Region": "string",  
        "SizeFlexEligible": boolean,  
        "Tenancy": "string"  
      },  
      "ElastiCacheInstanceDetails": {  
        "CurrentGeneration": boolean,  
        "Family": "string",  
        "NodeType": "string",  
        "ProductDescription": "string",  
        "Region": "string",  
        "SizeFlexEligible": boolean  
      },  
      "ESInstanceDetails": {  
        "CurrentGeneration": boolean,  
        "InstanceClass": "string",  
        "InstanceSize": "string",  
        "Region": "string",  
        "SizeFlexEligible": boolean  
      },  
      "MemoryDBInstanceDetails": {  
        "CurrentGeneration": boolean,  
        "Family": "string",  
        "NodeType": "string",  
        "Region": "string",  
        "SizeFlexEligible": boolean  
      }  
    }  
  }  
]
```

```

    },
    "RDSInstanceDetails": {
      "CurrentGeneration": boolean,
      "DatabaseEdition": "string",
      "DatabaseEngine": "string",
      "DeploymentOption": "string",
      "Family": "string",
      "InstanceType": "string",
      "LicenseModel": "string",
      "Region": "string",
      "SizeFlexEligible": boolean
    },
    "RedshiftInstanceDetails": {
      "CurrentGeneration": boolean,
      "Family": "string",
      "NodeType": "string",
      "Region": "string",
      "SizeFlexEligible": boolean
    }
  },
  "MaximumNormalizedUnitsUsedPerHour": "string",
  "MaximumNumberOfInstancesUsedPerHour": "string",
  "MinimumNormalizedUnitsUsedPerHour": "string",
  "MinimumNumberOfInstancesUsedPerHour": "string",
  "RecommendedNormalizedUnitsToPurchase": "string",
  "RecommendedNumberOfInstancesToPurchase": "string",
  "RecurringStandardMonthlyCost": "string",
  "UpfrontCost": "string"
}
],
"RecommendationSummary": {
  "CurrencyCode": "string",
  "TotalEstimatedMonthlySavingsAmount": "string",
  "TotalEstimatedMonthlySavingsPercentage": "string"
},
"ServiceSpecification": {
  "EC2Specification": {
    "OfferingClass": "string"
  }
},
"TermInYears": "string"
}
]

```

```
}
```

## Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

### Metadata

Information about this specific recommendation call, such as the time stamp for when Cost Explorer generated this recommendation.

Type: [ReservationPurchaseRecommendationMetadata](#) object

### NextPageToken

The pagination token for the next set of retrievable results.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 8192.

Pattern: `[\S\s]*`

### Recommendations

Recommendations for reservations to purchase.

Type: Array of [ReservationPurchaseRecommendation](#) objects

## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

### **DataUnavailableException**

The requested data is unavailable.

HTTP Status Code: 400

### **InvalidNextTokenException**

The pagination token is invalid. Try again without a pagination token.

HTTP Status Code: 400

### **LimitExceededException**

You made too many calls in a short period of time. Try again later.

HTTP Status Code: 400

### **See Also**

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go v2](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)

# GetReservationUtilization

Service: AWS Cost Explorer

Retrieves the reservation utilization for your account. Management account in an organization have access to member accounts. You can filter data by dimensions in a time period. You can use `GetDimensionValues` to determine the possible dimension values. Currently, you can group only by `SUBSCRIPTION_ID`.

## Request Syntax

```
{
  "Filter": {
    "And": [
      "Expression"
    ],
    "CostCategories": {
      "Key": "string",
      "MatchOptions": [ "string" ],
      "Values": [ "string" ]
    },
    "Dimensions": {
      "Key": "string",
      "MatchOptions": [ "string" ],
      "Values": [ "string" ]
    },
    "Not": "Expression",
    "Or": [
      "Expression"
    ],
    "Tags": {
      "Key": "string",
      "MatchOptions": [ "string" ],
      "Values": [ "string" ]
    }
  },
  "Granularity": "string",
  "GroupBy": [
    {
      "Key": "string",
      "Type": "string"
    }
  ],
}
```

```
"MaxResults": number,
"NextPageToken": "string",
"SortBy": {
  "Key": "string",
  "SortOrder": "string"
},
"TimePeriod": {
  "End": "string",
  "Start": "string"
}
}
```

## Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#).

The request accepts the following data in JSON format.

### Filter

Filters utilization data by dimensions. You can filter by the following dimensions:

- AZ
- CACHE\_ENGINE
- DEPLOYMENT\_OPTION
- INSTANCE\_TYPE
- LINKED\_ACCOUNT
- OPERATING\_SYSTEM
- PLATFORM
- REGION
- SERVICE
- SCOPE
- TENANCY

`GetReservationUtilization` uses the same [Expression](#) object as the other operations, but only AND is supported among each dimension, and nesting is supported up to only one level deep. If there are multiple values for a dimension, they are OR'd together.

Type: [Expression](#) object

Required: No

### Granularity

If GroupBy is set, Granularity can't be set. If Granularity isn't set, the response object doesn't include Granularity, either MONTHLY or DAILY. If both GroupBy and Granularity aren't set, GetReservationUtilization defaults to DAILY.

The GetReservationUtilization operation supports only DAILY and MONTHLY granularities.

Type: String

Valid Values: DAILY | MONTHLY | HOURLY

Required: No

### GroupBy

Groups only by SUBSCRIPTION\_ID. Metadata is included.

Type: Array of [GroupDefinition](#) objects

Required: No

### MaxResults

The maximum number of objects that you returned for this request. If more objects are available, in the response, AWS provides a NextPageToken value that you can use in a subsequent call to get the next batch of objects.

Type: Integer

Valid Range: Minimum value of 1.

Required: No

### NextPageToken

The token to retrieve the next set of results. AWS provides the token when the response from a previous call has more results than the maximum page size.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 8192.

Pattern: `[\S\s]*`



Required: No

### SortBy

The value that you want to sort the data by.

The following values are supported for Key:

- UtilizationPercentage
- UtilizationPercentageInUnits
- PurchasedHours
- PurchasedUnits
- TotalActualHours
- TotalActualUnits
- UnusedHours
- UnusedUnits
- OnDemandCostOfRIHoursUsed
- NetRISavings
- TotalPotentialRISavings
- AmortizedUpfrontFee
- AmortizedRecurringFee
- TotalAmortizedFee
- RICostForUnusedHours
- RealizedSavings
- UnrealizedSavings

The supported values for SortOrder are ASCENDING and DESCENDING.

Type: [SortDefinition](#) object

Required: No

### TimePeriod

Sets the start and end dates for retrieving Reserved Instance (RI) utilization. The start date is inclusive, but the end date is exclusive. For example, if start is 2017-01-01 and end is 2017-05-01, then the cost and usage data is retrieved from 2017-01-01 up to and including 2017-04-30 but not including 2017-05-01.

Type: [DateInterval](#) object

Required: Yes

## Response Syntax

```
{
  "NextPageToken": "string",
  "Total": {
    "AmortizedRecurringFee": "string",
    "AmortizedUpfrontFee": "string",
    "NetRISavings": "string",
    "OnDemandCostOfRIHoursUsed": "string",
    "PurchasedHours": "string",
    "PurchasedUnits": "string",
    "RealizedSavings": "string",
    "RIBCostForUnusedHours": "string",
    "TotalActualHours": "string",
    "TotalActualUnits": "string",
    "TotalAmortizedFee": "string",
    "TotalPotentialRISavings": "string",
    "UnrealizedSavings": "string",
    "UnusedHours": "string",
    "UnusedUnits": "string",
    "UtilizationPercentage": "string",
    "UtilizationPercentageInUnits": "string"
  },
  "UtilizationsByTime": [
    {
      "Groups": [
        {
          "Attributes": {
            "string": "string"
          },
          "Key": "string",
          "Utilization": {
            "AmortizedRecurringFee": "string",
            "AmortizedUpfrontFee": "string",
            "NetRISavings": "string",
            "OnDemandCostOfRIHoursUsed": "string",
            "PurchasedHours": "string",
            "PurchasedUnits": "string",
            "RealizedSavings": "string",
```

```

        "RIBCostForUnusedHours": "string",
        "TotalActualHours": "string",
        "TotalActualUnits": "string",
        "TotalAmortizedFee": "string",
        "TotalPotentialRISavings": "string",
        "UnrealizedSavings": "string",
        "UnusedHours": "string",
        "UnusedUnits": "string",
        "UtilizationPercentage": "string",
        "UtilizationPercentageInUnits": "string"
    },
    "Value": "string"
}
],
"TimePeriod": {
    "End": "string",
    "Start": "string"
},
"Total": {
    "AmortizedRecurringFee": "string",
    "AmortizedUpfrontFee": "string",
    "NetRISavings": "string",
    "OnDemandCostOfRIHoursUsed": "string",
    "PurchasedHours": "string",
    "PurchasedUnits": "string",
    "RealizedSavings": "string",
    "RIBCostForUnusedHours": "string",
    "TotalActualHours": "string",
    "TotalActualUnits": "string",
    "TotalAmortizedFee": "string",
    "TotalPotentialRISavings": "string",
    "UnrealizedSavings": "string",
    "UnusedHours": "string",
    "UnusedUnits": "string",
    "UtilizationPercentage": "string",
    "UtilizationPercentageInUnits": "string"
}
}
]
}

```

## Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

### NextPageToken

The token for the next set of retrievable results. AWS provides the token when the response from a previous call has more results than the maximum page size.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 8192.

Pattern: `[\S\s]*`

### Total

The total amount of time that you used your Reserved Instances (RIs).

Type: [ReservationAggregates](#) object

### UtilizationsByTime

The amount of time that you used your Reserved Instances (RIs).

Type: Array of [UtilizationByTime](#) objects

## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

### **DataUnavailableException**

The requested data is unavailable.

HTTP Status Code: 400

### **InvalidNextTokenException**

The pagination token is invalid. Try again without a pagination token.

HTTP Status Code: 400

## LimitExceededException

You made too many calls in a short period of time. Try again later.

HTTP Status Code: 400

## Examples

### Example

The following is a sample request and response of the `GetReservationUtilization` operation that enables you to retrieve your RI utilization for all `t2.nano` instance types from 2017-01-01 to 2017-05-01.

### Sample Request

```
POST / HTTP/1.1
Host: ce.us-east-1.amazonaws.com
x-amz-Date: <Date>
Authorization: AWS4-HMAC-SHA256 Credential=<Credential>,
  SignedHeaders=contenttype;date;host;user-agent;x-amz-date;x-amz-target;x-amzn-
requestid,Signature=<Signature>
User-Agent: <UserAgentString>
Content-Type: application/x-amz-json-1.1
Content-Length: <PayloadSizeBytes>
Connection: Keep-Alive
X-Amz-Target: AWSInsightsIndexService.GetReservationUtilization
{
  "TimePeriod": {
    "Start": "2017-07-01",
    "End": "2017-10-01"
  },
  "Filter": {
    "Dimensions": {
      "Key": "INSTANCE_TYPE",
      "Values": [
        "t2.nano"
      ]
    }
  },
  "GroupBy": [
    {
      "Type": "Dimension",
```

```
    "Key": "SUBSCRIPTION_ID"
  }
]
}
```

## Sample Response

```
HTTP/1.1 200 OK
x-amzn-RequestId: <RequestId>
Content-Type: application/x-amz-json-1.1
Content-Length: <PayloadSizeBytes>
Date: <Date>
{
  "UtilizationsByTime": [{
    "Groups": [{
      "Attributes": {
        "AccountId": "0123456789",
        "AccountName": null,
        "AvailabilityZone": "",
        "CancellationDateTime": "2019-09-28T15:22:31.000Z",
        "EndDateTime": "2019-09-28T15:22:31.000Z",
        "InstanceType": "t2.nano",
        "LeaseId": null,
        "NumberOfInstances": "1",
        "OfferingType": "convertible",
        "Platform": "Linux/UNIX",
        "Region": "us-east-1",
        "Scope": "Region",
        "StartDateTime": "2016-09-28T15:22:32.000Z",
        "SubscriptionId": "359809062",
        "SubscriptionStatus": "Active",
        "SubscriptionType": "All Upfront",
        "Tenancy": "Shared"
      },
      "Key": "SUBSCRIPTION_ID",
      "Utilization": {
        "PurchasedHours": 2208,
        "TotalActualHours": 2208,
        "UnusedHours": 0,
        "UtilizationPercentage": 100
      },
      "Value": "359809062"
    },
  ],
}
```

```
{
  "Attributes": {
    "": "0123456789",
    "AccountName": null,
    "AvailabilityZone": "us-east-1d",
    "CancellationDateTime": "2017-09-28T15:22:31.000Z",
    "EndDateTime": "2017-09-28T15:22:31.000Z",
    "InstanceType": "t2.nano",
    "LeaseId": null,
    "NumberOfInstances": "1",
    "OfferingType": "Standard",
    "Platform": "Linux/UNIX",
    "Region": "us-east-1",
    "Scope": "Availability Zone",
    "StartDateTime": "2016-09-28T15:22:32.000Z",
    "SubscriptionId": "359809070",
    "SubscriptionStatus": "Active",
    "SubscriptionType": "All Upfront",
    "Tenancy": "Shared"
  },
  "Key": "SUBSCRIPTION_ID",
  "Utilization": {
    "PurchasedHours": 2151,
    "TotalActualHours": 2151,
    "UnusedHours": 0,
    "UtilizationPercentage": 100
  },
  "Value": "359809070"
},
{
  "Attributes": {
    "AccountId": "0123456789",
    "AccountName": null,
    "AvailabilityZone": "us-west-2a",
    "CancellationDateTime": "2017-09-20T04:06:02.000Z",
    "EndDateTime": "2017-09-20T04:06:02.000Z",
    "InstanceType": "t2.nano",
    "LeaseId": null,
    "NumberOfInstances": "1",
    "OfferingType": "Standard",
    "Platform": "Linux/UNIX",
    "Region": "us-west-2",
    "Scope": "Availability Zone",
    "StartDateTime": "2016-09-20T04:06:03.000Z",
```

```
    "SubscriptionId": "353571154",
    "SubscriptionStatus": "Active",
    "SubscriptionType": "Partial Upfront",
    "Tenancy": "Shared"
  },
  "Key": "SUBSCRIPTION_ID",
  "Utilization": {
    "PurchasedHours": 1948,
    "TotalActualHours": 0,
    "UnusedHours": 1948,
    "UtilizationPercentage": 0
  },
  "Value": "353571154"
}
],
"TimePeriod": {
  "End": "2017-10-01",
  "Start": "2017-07-01"
},
"Total": {
  "PurchasedHours": 6307,
  "TotalActualHours": 4359,
  "UnusedHours": 1948,
  "UtilizationPercentage": 69.11368320913270968764864436340574
}
}]
}
```

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go v2](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for PHP V3](#)



- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)

# GetRightsizingRecommendation

Service: AWS Cost Explorer

Creates recommendations that help you save cost by identifying idle and underutilized Amazon EC2 instances.

Recommendations are generated to either downsize or terminate instances, along with providing savings detail and metrics. For more information about calculation and function, see [Optimizing Your Cost with Rightsizing Recommendations](#) in the *AWS Billing and Cost Management User Guide*.

## Request Syntax

```
{
  "Configuration": {
    "BenefitsConsidered": boolean,
    "RecommendationTarget": "string"
  },
  "Filter": {
    "And": [
      "Expression"
    ],
    "CostCategories": {
      "Key": "string",
      "MatchOptions": [ "string" ],
      "Values": [ "string" ]
    },
    "Dimensions": {
      "Key": "string",
      "MatchOptions": [ "string" ],
      "Values": [ "string" ]
    },
    "Not": "Expression",
    "Or": [
      "Expression"
    ],
    "Tags": {
      "Key": "string",
      "MatchOptions": [ "string" ],
      "Values": [ "string" ]
    }
  },
  "NextPageToken": "string",
  "PageSize": number,
}
```

```
"Service": "string"  
}
```

## Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#).

The request accepts the following data in JSON format.

### Configuration

You can use Configuration to customize recommendations across two attributes. You can choose to view recommendations for instances within the same instance families or across different instance families. You can also choose to view your estimated savings that are associated with recommendations with consideration of existing Savings Plans or RI benefits, or neither.

Type: [RightsizingRecommendationConfiguration](#) object

Required: No

### Filter

Use Expression to filter in various Cost Explorer APIs.

Not all Expression types are supported in each API. Refer to the documentation for each specific API to see what is supported.

There are two patterns:

- Simple dimension values.
  - There are three types of simple dimension values: `CostCategories`, `Tags`, and `Dimensions`.
    - Specify the `CostCategories` field to define a filter that acts on Cost Categories.
    - Specify the `Tags` field to define a filter that acts on Cost Allocation Tags.
    - Specify the `Dimensions` field to define a filter that acts on the [DimensionValues](#).
  - For each filter type, you can set the dimension name and values for the filters that you plan to use.
    - For example, you can filter for `REGION==us-east-1 OR REGION==us-west-1`. For `GetRightsizingRecommendation`, the Region is a full name (for example, `REGION==US East (N. Virginia)`).

- The corresponding Expression for this example is as follows: `{ "Dimensions": { "Key": "REGION", "Values": [ "us-east-1", "us-west-1" ] } }`
- As shown in the previous example, lists of dimension values are combined with OR when applying the filter.
- You can also set different match options to further control how the filter behaves. Not all APIs support match options. Refer to the documentation for each specific API to see what is supported.
  - For example, you can filter for linked account names that start with "a".
  - The corresponding Expression for this example is as follows: `{ "Dimensions": { "Key": "LINKED_ACCOUNT_NAME", "MatchOptions": [ "STARTS_WITH" ], "Values": [ "a" ] } }`
- Compound Expression types with logical operations.
  - You can use multiple Expression types and the logical operators AND/OR/NOT to create a list of one or more Expression objects. By doing this, you can filter by more advanced options.
  - For example, you can filter by `((REGION == us-east-1 OR REGION == us-west-1) OR (TAG.Type == Type1)) AND (USAGE_TYPE != DataTransfer)`.
  - The corresponding Expression for this example is as follows: `{ "And": [ {"Or": [ {"Dimensions": { "Key": "REGION", "Values": [ "us-east-1", "us-west-1" ] }}, {"Tags": { "Key": "TagName", "Values": ["Value1"] } } ]}, {"Not": {"Dimensions": { "Key": "USAGE_TYPE", "Values": ["DataTransfer"] } } } ] }`

### Note

Because each Expression can have only one operator, the service returns an error if more than one is specified. The following example shows an Expression object that creates an error: `{ "And": [ ... ], "Dimensions": { "Key": "USAGE_TYPE", "Values": [ "DataTransfer" ] } }`

The following is an example of the corresponding error message: "Expression has more than one roots. Only one root operator is allowed for each expression: And, Or, Not, Dimensions, Tags, CostCategories"

**Note**

For the `GetRightsizingRecommendation` action, a combination of OR and NOT isn't supported. OR isn't supported between different dimensions, or dimensions and tags. NOT operators aren't supported. Dimensions are also limited to LINKED\_ACCOUNT, REGION, or RIGHTSIZING\_TYPE.

For the `GetReservationPurchaseRecommendation` action, only NOT is supported. AND and OR aren't supported. Dimensions are limited to LINKED\_ACCOUNT.

Type: [Expression](#) object

Required: No

**[NextPageToken](#)**

The pagination token that indicates the next set of results that you want to retrieve.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 8192.

Pattern: `[\S\s]*`

Required: No

**[PageSize](#)**

The number of recommendations that you want returned in a single response object.

Type: Integer

Valid Range: Minimum value of 0.

Required: No

**[Service](#)**

The specific service that you want recommendations for. The only valid value for `GetRightsizingRecommendation` is "AmazonEC2".

Type: String

Length Constraints: Minimum length of 0. Maximum length of 1024.

Pattern: `[\S\s]*`

Required: Yes

## Response Syntax

```
{
  "Configuration": {
    "BenefitsConsidered": boolean,
    "RecommendationTarget": "string"
  },
  "Metadata": {
    "AdditionalMetadata": "string",
    "GenerationTimestamp": "string",
    "LookbackPeriodInDays": "string",
    "RecommendationId": "string"
  },
  "NextPageToken": "string",
  "RightsizingRecommendations": [
    {
      "AccountId": "string",
      "CurrentInstance": {
        "CurrencyCode": "string",
        "InstanceName": "string",
        "MonthlyCost": "string",
        "OnDemandHoursInLookbackPeriod": "string",
        "ReservationCoveredHoursInLookbackPeriod": "string",
        "ResourceDetails": {
          "EC2ResourceDetails": {
            "HourlyOnDemandRate": "string",
            "InstanceType": "string",
            "Memory": "string",
            "NetworkPerformance": "string",
            "Platform": "string",
            "Region": "string",
            "Sku": "string",
            "Storage": "string",
            "Vcpu": "string"
          }
        }
      },
      "ResourceId": "string",
      "ResourceUtilization": {
        "EC2ResourceUtilization": {
```

```

    "DiskResourceUtilization": {
      "DiskReadBytesPerSecond": "string",
      "DiskReadOpsPerSecond": "string",
      "DiskWriteBytesPerSecond": "string",
      "DiskWriteOpsPerSecond": "string"
    },
    "EBSResourceUtilization": {
      "EbsReadBytesPerSecond": "string",
      "EbsReadOpsPerSecond": "string",
      "EbsWriteBytesPerSecond": "string",
      "EbsWriteOpsPerSecond": "string"
    },
    "MaxCpuUtilizationPercentage": "string",
    "MaxMemoryUtilizationPercentage": "string",
    "MaxStorageUtilizationPercentage": "string",
    "NetworkResourceUtilization": {
      "NetworkInBytesPerSecond": "string",
      "NetworkOutBytesPerSecond": "string",
      "NetworkPacketsInPerSecond": "string",
      "NetworkPacketsOutPerSecond": "string"
    }
  }
},
"Tags": [
  {
    "Key": "string",
    "MatchOptions": [ "string" ],
    "Values": [ "string" ]
  }
],
"TotalRunningHoursInLookbackPeriod": "string"
},
"FindingReasonCodes": [ "string" ],
"ModifyRecommendationDetail": {
  "TargetInstances": [
    {
      "CurrencyCode": "string",
      "DefaultTargetInstance": boolean,
      "EstimatedMonthlyCost": "string",
      "EstimatedMonthlySavings": "string",
      "ExpectedResourceUtilization": {
        "EC2ResourceUtilization": {
          "DiskResourceUtilization": {

```

```

        "DiskReadBytesPerSecond": "string",
        "DiskReadOpsPerSecond": "string",
        "DiskWriteBytesPerSecond": "string",
        "DiskWriteOpsPerSecond": "string"
    },
    "EBSResourceUtilization": {
        "EbsReadBytesPerSecond": "string",
        "EbsReadOpsPerSecond": "string",
        "EbsWriteBytesPerSecond": "string",
        "EbsWriteOpsPerSecond": "string"
    },
    "MaxCpuUtilizationPercentage": "string",
    "MaxMemoryUtilizationPercentage": "string",
    "MaxStorageUtilizationPercentage": "string",
    "NetworkResourceUtilization": {
        "NetworkInBytesPerSecond": "string",
        "NetworkOutBytesPerSecond": "string",
        "NetworkPacketsInPerSecond": "string",
        "NetworkPacketsOutPerSecond": "string"
    }
}
},
"PlatformDifferences": [ "string" ],
"ResourceDetails": {
    "EC2ResourceDetails": {
        "HourlyOnDemandRate": "string",
        "InstanceType": "string",
        "Memory": "string",
        "NetworkPerformance": "string",
        "Platform": "string",
        "Region": "string",
        "Sku": "string",
        "Storage": "string",
        "Vcpu": "string"
    }
}
]
},
"RightsizingType": "string",
"TerminateRecommendationDetail": {
    "CurrencyCode": "string",
    "EstimatedMonthlySavings": "string"
}
}

```



```
    }
  ],
  "Summary": {
    "EstimatedTotalMonthlySavingsAmount": "string",
    "SavingsCurrencyCode": "string",
    "SavingsPercentage": "string",
    "TotalRecommendationCount": "string"
  }
}
```

## Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

### Configuration

You can use Configuration to customize recommendations across two attributes. You can choose to view recommendations for instances within the same instance families or across different instance families. You can also choose to view your estimated savings that are associated with recommendations with consideration of existing Savings Plans or RI benefits, or neither.

Type: [RightsizingRecommendationConfiguration](#) object

### Metadata

Information regarding this specific recommendation set.

Type: [RightsizingRecommendationMetadata](#) object

### NextPageToken

The token to retrieve the next set of results.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 8192.

Pattern: `[\S\s]*`

### RightsizingRecommendations

Recommendations to rightsize resources.

Type: Array of [RightsizingRecommendation](#) objects

## Summary

Summary of this recommendation set.

Type: [RightsizingRecommendationSummary](#) object

## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

### **InvalidNextTokenException**

The pagination token is invalid. Try again without a pagination token.

HTTP Status Code: 400

### **LimitExceededException**

You made too many calls in a short period of time. Try again later.

HTTP Status Code: 400

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go v2](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)

# GetSavingsPlanPurchaseRecommendationDetails

Service: AWS Cost Explorer

Retrieves the details for a Savings Plan recommendation. These details include the hourly data-points that construct the cost, coverage, and utilization charts.

## Request Syntax

```
{  
  "RecommendationDetailId": "string"  
}
```

## Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#).

The request accepts the following data in JSON format.

### RecommendationDetailId

The ID that is associated with the Savings Plan recommendation.

Type: String

Length Constraints: Fixed length of 36.

Pattern: `^\S\s]{8}-[\S\s]{4}-[\S\s]{4}-[\S\s]{4}-[\S\s]{12}$`

Required: Yes

## Response Syntax

```
{  
  "RecommendationDetailData": {  
    "AccountId": "string",  
    "AccountScope": "string",  
    "CurrencyCode": "string",  
    "CurrentAverageCoverage": "string",  
    "CurrentAverageHourlyOnDemandSpend": "string",  
    "CurrentMaximumHourlyOnDemandSpend": "string",  
    "CurrentMinimumHourlyOnDemandSpend": "string",  
    "EstimatedAverageCoverage": "string",
```

```

    "EstimatedAverageUtilization": "string",
    "EstimatedMonthlySavingsAmount": "string",
    "EstimatedOnDemandCost": "string",
    "EstimatedOnDemandCostWithCurrentCommitment": "string",
    "EstimatedROI": "string",
    "EstimatedSavingsAmount": "string",
    "EstimatedSavingsPercentage": "string",
    "EstimatedSPCost": "string",
    "ExistingHourlyCommitment": "string",
    "GenerationTimestamp": "string",
    "HourlyCommitmentToPurchase": "string",
    "InstanceFamily": "string",
    "LatestUsageTimestamp": "string",
    "LookbackPeriodInDays": "string",
    "MetricsOverLookbackPeriod": [
      {
        "CurrentCoverage": "string",
        "EstimatedCoverage": "string",
        "EstimatedNewCommitmentUtilization": "string",
        "EstimatedOnDemandCost": "string",
        "StartTime": "string"
      }
    ],
    "OfferingId": "string",
    "PaymentOption": "string",
    "Region": "string",
    "SavingsPlansType": "string",
    "TermInYears": "string",
    "UpfrontCost": "string"
  },
  "RecommendationDetailId": "string"
}

```

## Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

### RecommendationDetailData

Contains detailed information about a specific Savings Plan recommendation.

Type: RecommendationDetailData object

## RecommendationDetailId

The ID that is associated with the Savings Plan recommendation.

Type: String

Length Constraints: Fixed length of 36.

Pattern: `^\S\s]{8}-[\S\s]{4}-[\S\s]{4}-[\S\s]{4}-[\S\s]{12}$`

## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

### DataUnavailableException

The requested data is unavailable.

HTTP Status Code: 400

### LimitExceededException

You made too many calls in a short period of time. Try again later.

HTTP Status Code: 400

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go v2](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)

- [AWS SDK for Ruby V3](#)

# GetSavingsPlansCoverage

Service: AWS Cost Explorer

Retrieves the Savings Plans covered for your account. This enables you to see how much of your cost is covered by a Savings Plan. An organization's management account can see the coverage of the associated member accounts. This supports dimensions, Cost Categories, and nested expressions. For any time period, you can filter data for Savings Plans usage with the following dimensions:

- LINKED\_ACCOUNT
- REGION
- SERVICE
- INSTANCE\_FAMILY

To determine valid values for a dimension, use the `GetDimensionValues` operation.

## Request Syntax

```
{
  "Filter": {
    "And": [
      "Expression"
    ],
    "CostCategories": {
      "Key": "string",
      "MatchOptions": [ "string" ],
      "Values": [ "string" ]
    },
    "Dimensions": {
      "Key": "string",
      "MatchOptions": [ "string" ],
      "Values": [ "string" ]
    },
    "Not": "Expression",
    "Or": [
      "Expression"
    ],
    "Tags": {
      "Key": "string",
      "MatchOptions": [ "string" ],
```

```
    "Values": [ "string" ]
  }
},
"Granularity": "string",
"GroupBy": [
  {
    "Key": "string",
    "Type": "string"
  }
],
"MaxResults": number,
"Metrics": [ "string" ],
"NextToken": "string",
"SortBy": {
  "Key": "string",
  "SortOrder": "string"
},
"TimePeriod": {
  "End": "string",
  "Start": "string"
}
}
```

## Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#).

The request accepts the following data in JSON format.

### Filter

Filters Savings Plans coverage data by dimensions. You can filter data for Savings Plans usage with the following dimensions:

- LINKED\_ACCOUNT
- REGION
- SERVICE
- INSTANCE\_FAMILY

GetSavingsPlansCoverage uses the same [Expression](#) object as the other operations, but only AND is supported among each dimension. If there are multiple values for a dimension, they are OR'd together.



Cost category is also supported.

Type: [Expression](#) object

Required: No

### [Granularity](#)

The granularity of the Amazon Web Services cost data for your Savings Plans. Granularity can't be set if GroupBy is set.

The GetSavingsPlansCoverage operation supports only DAILY and MONTHLY granularities.

Type: String

Valid Values: DAILY | MONTHLY | HOURLY

Required: No

### [GroupBy](#)

You can group the data using the attributes INSTANCE\_FAMILY, REGION, or SERVICE.

Type: Array of [GroupDefinition](#) objects

Required: No

### [MaxResults](#)

The number of items to be returned in a response. The default is 20, with a minimum value of 1.

Type: Integer

Valid Range: Minimum value of 1.

Required: No

### [Metrics](#)

The measurement that you want your Savings Plans coverage reported in. The only valid value is SpendCoveredBySavingsPlans.

Type: Array of strings

Length Constraints: Minimum length of 0. Maximum length of 1024.

Pattern: `[\S\s]*`

Required: No

### NextToken

The token to retrieve the next set of results. Amazon Web Services provides the token when the response from a previous call has more results than the maximum page size.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 8192.

Pattern: `[\S\s]*`

Required: No

### SortBy

The value that you want to sort the data by.

The following values are supported for Key:

- `SpendCoveredBySavingsPlan`
- `OnDemandCost`
- `CoveragePercentage`
- `TotalCost`
- `InstanceFamily`
- `Region`
- `Service`

The supported values for `SortOrder` are `ASCENDING` and `DESCENDING`.

Type: [SortDefinition](#) object

Required: No

### TimePeriod

The time period that you want the usage and costs for. The `Start` date must be within 13 months. The `End` date must be after the `Start` date, and before the current date. Future dates can't be used as an `End` date.

Type: [DateInterval](#) object

Required: Yes

## Response Syntax

```
{
  "NextToken": "string",
  "SavingsPlansCoverages": [
    {
      "Attributes": {
        "string": "string"
      },
      "Coverage": {
        "CoveragePercentage": "string",
        "OnDemandCost": "string",
        "SpendCoveredBySavingsPlans": "string",
        "TotalCost": "string"
      },
      "TimePeriod": {
        "End": "string",
        "Start": "string"
      }
    }
  ]
}
```

## Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

### [NextToken](#)

The token to retrieve the next set of results. Amazon Web Services provides the token when the response from a previous call has more results than the maximum page size.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 8192.

Pattern: `[\S\s]*`

## SavingsPlansCoverages

The amount of spend that your Savings Plans covered.

Type: Array of [SavingsPlansCoverage](#) objects

## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

### DataUnavailableException

The requested data is unavailable.

HTTP Status Code: 400

### InvalidNextTokenException

The pagination token is invalid. Try again without a pagination token.

HTTP Status Code: 400

### LimitExceededException

You made too many calls in a short period of time. Try again later.

HTTP Status Code: 400

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go v2](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for PHP V3](#)

- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)

# GetSavingsPlansPurchaseRecommendation

Service: AWS Cost Explorer

Retrieves the Savings Plans recommendations for your account. First use `StartSavingsPlansPurchaseRecommendationGeneration` to generate a new set of recommendations, and then use `GetSavingsPlansPurchaseRecommendation` to retrieve them.

## Request Syntax

```
{
  "AccountScope": "string",
  "Filter": {
    "And": [
      "Expression"
    ],
    "CostCategories": {
      "Key": "string",
      "MatchOptions": [ "string" ],
      "Values": [ "string" ]
    },
    "Dimensions": {
      "Key": "string",
      "MatchOptions": [ "string" ],
      "Values": [ "string" ]
    },
    "Not": "Expression",
    "Or": [
      "Expression"
    ],
    "Tags": {
      "Key": "string",
      "MatchOptions": [ "string" ],
      "Values": [ "string" ]
    }
  },
  "LookbackPeriodInDays": "string",
  "NextPageToken": "string",
  "PageSize": number,
  "PaymentOption": "string",
  "SavingsPlansType": "string",
  "TermInYears": "string"
}
```

## Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#).

The request accepts the following data in JSON format.

### AccountScope

The account scope that you want your recommendations for. Amazon Web Services calculates recommendations including the management account and member accounts if the value is set to PAYER. If the value is LINKED, recommendations are calculated for individual member accounts only.

Type: String

Valid Values: PAYER | LINKED

Required: No

### Filter

You can filter your recommendations by Account ID with the LINKED\_ACCOUNT dimension. To filter your recommendations by Account ID, specify Key as LINKED\_ACCOUNT and Value as the comma-separated Account ID(s) that you want to see Savings Plans purchase recommendations for.

For GetSavingsPlansPurchaseRecommendation, the Filter doesn't include CostCategories or Tags. It only includes Dimensions. With Dimensions, Key must be LINKED\_ACCOUNT and Value can be a single Account ID or multiple comma-separated Account IDs that you want to see Savings Plans Purchase Recommendations for. AND and OR operators are not supported.

Type: [Expression](#) object

Required: No

### LookbackPeriodInDays

The lookback period that's used to generate the recommendation.

Type: String

Valid Values: SEVEN\_DAYS | THIRTY\_DAYS | SIXTY\_DAYS

Required: Yes

## NextPageToken

The token to retrieve the next set of results. Amazon Web Services provides the token when the response from a previous call has more results than the maximum page size.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 8192.

Pattern: `[\S\s]*`

Required: No

## PageSize

The number of recommendations that you want returned in a single response object.

Type: Integer

Valid Range: Minimum value of 0.

Required: No

## PaymentOption

The payment option that's used to generate these recommendations.

Type: String

Valid Values: `NO_UPFRONT` | `PARTIAL_UPFRONT` | `ALL_UPFRONT` | `LIGHT_UTILIZATION` | `MEDIUM_UTILIZATION` | `HEAVY_UTILIZATION`

Required: Yes

## SavingsPlansType

The Savings Plans recommendation type that's requested.

Type: String

Valid Values: `COMPUTE_SP` | `EC2_INSTANCE_SP` | `SAGEMAKER_SP`

Required: Yes

## TermInYears

The savings plan recommendation term that's used to generate these recommendations.



Type: String

Valid Values: ONE\_YEAR | THREE\_YEARS

Required: Yes

## Response Syntax

```
{
  "Metadata": {
    "AdditionalMetadata": "string",
    "GenerationTimestamp": "string",
    "RecommendationId": "string"
  },
  "NextPageToken": "string",
  "SavingsPlansPurchaseRecommendation": {
    "AccountScope": "string",
    "LookbackPeriodInDays": "string",
    "PaymentOption": "string",
    "SavingsPlansPurchaseRecommendationDetails": [
      {
        "AccountId": "string",
        "CurrencyCode": "string",
        "CurrentAverageHourlyOnDemandSpend": "string",
        "CurrentMaximumHourlyOnDemandSpend": "string",
        "CurrentMinimumHourlyOnDemandSpend": "string",
        "EstimatedAverageUtilization": "string",
        "EstimatedMonthlySavingsAmount": "string",
        "EstimatedOnDemandCost": "string",
        "EstimatedOnDemandCostWithCurrentCommitment": "string",
        "EstimatedROI": "string",
        "EstimatedSavingsAmount": "string",
        "EstimatedSavingsPercentage": "string",
        "EstimatedSPCost": "string",
        "HourlyCommitmentToPurchase": "string",
        "RecommendationDetailId": "string",
        "SavingsPlansDetails": {
          "InstanceFamily": "string",
          "OfferingId": "string",
          "Region": "string"
        },
        "UpfrontCost": "string"
      }
    ]
  }
}
```

```

    ],
    "SavingsPlansPurchaseRecommendationSummary": {
      "CurrencyCode": "string",
      "CurrentOnDemandSpend": "string",
      "DailyCommitmentToPurchase": "string",
      "EstimatedMonthlySavingsAmount": "string",
      "EstimatedOnDemandCostWithCurrentCommitment": "string",
      "EstimatedROI": "string",
      "EstimatedSavingsAmount": "string",
      "EstimatedSavingsPercentage": "string",
      "EstimatedTotalCost": "string",
      "HourlyCommitmentToPurchase": "string",
      "TotalRecommendationCount": "string"
    },
    "SavingsPlansType": "string",
    "TermInYears": "string"
  }
}

```

## Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

### Metadata

Information that regards this specific recommendation set.

Type: [SavingsPlansPurchaseRecommendationMetadata](#) object

### NextPageToken

The token for the next set of retrievable results. AWS provides the token when the response from a previous call has more results than the maximum page size.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 8192.

Pattern: `[\S\s]*`

### SavingsPlansPurchaseRecommendation

Contains your request parameters, Savings Plan Recommendations Summary, and Details.

Type: [SavingsPlansPurchaseRecommendation](#) object

## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

### InvalidNextTokenException

The pagination token is invalid. Try again without a pagination token.

HTTP Status Code: 400

### LimitExceededException

You made too many calls in a short period of time. Try again later.

HTTP Status Code: 400

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go v2](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)

# GetSavingsPlansUtilization

Service: AWS Cost Explorer

Retrieves the Savings Plans utilization for your account across date ranges with daily or monthly granularity. Management account in an organization have access to member accounts. You can use `GetDimensionValues` in `SAVINGS_PLANS` to determine the possible dimension values.

## Note

You can't group by any dimension values for `GetSavingsPlansUtilization`.

## Request Syntax

```
{
  "Filter": {
    "And": [
      "Expression"
    ],
    "CostCategories": {
      "Key": "string",
      "MatchOptions": [ "string" ],
      "Values": [ "string" ]
    },
    "Dimensions": {
      "Key": "string",
      "MatchOptions": [ "string" ],
      "Values": [ "string" ]
    },
    "Not": "Expression",
    "Or": [
      "Expression"
    ],
    "Tags": {
      "Key": "string",
      "MatchOptions": [ "string" ],
      "Values": [ "string" ]
    }
  },
  "Granularity": "string",
  "SortBy": {
    "Key": "string",
```

```
    "SortOrder": "string"
  },
  "TimePeriod": {
    "End": "string",
    "Start": "string"
  }
}
```

## Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#).

The request accepts the following data in JSON format.

### Filter

Filters Savings Plans utilization coverage data for active Savings Plans dimensions. You can filter data with the following dimensions:

- LINKED\_ACCOUNT
- SAVINGS\_PLAN\_ARN
- SAVINGS\_PLANS\_TYPE
- REGION
- PAYMENT\_OPTION
- INSTANCE\_TYPE\_FAMILY

GetSavingsPlansUtilization uses the same [Expression](#) object as the other operations, but only AND is supported among each dimension.

Type: [Expression](#) object

Required: No

### Granularity

The granularity of the Amazon Web Services utilization data for your Savings Plans.

The GetSavingsPlansUtilization operation supports only DAILY and MONTHLY granularities.

Type: String

Valid Values: DAILY | MONTHLY | HOURLY

Required: No

### SortBy

The value that you want to sort the data by.

The following values are supported for Key:

- UtilizationPercentage
- TotalCommitment
- UsedCommitment
- UnusedCommitment
- NetSavings

The supported values for SortOrder are ASCENDING and DESCENDING.

Type: [SortDefinition](#) object

Required: No

### TimePeriod

The time period that you want the usage and costs for. The Start date must be within 13 months. The End date must be after the Start date, and before the current date. Future dates can't be used as an End date.

Type: [DateInterval](#) object

Required: Yes

## Response Syntax

```
{
  "SavingsPlansUtilizationsByTime": [
    {
      "AmortizedCommitment": {
        "AmortizedRecurringCommitment": "string",
        "AmortizedUpfrontCommitment": "string",
        "TotalAmortizedCommitment": "string"
      },
      "Savings": {
        "NetSavings": "string",
```

```

        "OnDemandCostEquivalent": "string"
    },
    "TimePeriod": {
        "End": "string",
        "Start": "string"
    },
    "Utilization": {
        "TotalCommitment": "string",
        "UnusedCommitment": "string",
        "UsedCommitment": "string",
        "UtilizationPercentage": "string"
    }
}
],
"Total": {
    "AmortizedCommitment": {
        "AmortizedRecurringCommitment": "string",
        "AmortizedUpfrontCommitment": "string",
        "TotalAmortizedCommitment": "string"
    },
    "Savings": {
        "NetSavings": "string",
        "OnDemandCostEquivalent": "string"
    },
    "Utilization": {
        "TotalCommitment": "string",
        "UnusedCommitment": "string",
        "UsedCommitment": "string",
        "UtilizationPercentage": "string"
    }
}
}
}

```

## Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

### SavingsPlansUtilizationsByTime

The amount of cost/commitment that you used your Savings Plans. You can use it to specify date ranges.

Type: Array of [SavingsPlansUtilizationByTime](#) objects

## **Total**

The total amount of cost/commitment that you used your Savings Plans, regardless of date ranges.

Type: [SavingsPlansUtilizationAggregates](#) object

## **Errors**

For information about the errors that are common to all actions, see [Common Errors](#).

### **DataUnavailableException**

The requested data is unavailable.

HTTP Status Code: 400

### **LimitExceededException**

You made too many calls in a short period of time. Try again later.

HTTP Status Code: 400

## **See Also**

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go v2](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)





# GetSavingsPlansUtilizationDetails

Service: AWS Cost Explorer

Retrieves attribute data along with aggregate utilization and savings data for a given time period. This doesn't support granular or grouped data (daily/monthly) in response. You can't retrieve data by dates in a single response similar to `GetSavingsPlanUtilization`, but you have the option to make multiple calls to `GetSavingsPlanUtilizationDetails` by providing individual dates. You can use `GetDimensionValues` in `SAVINGS_PLANS` to determine the possible dimension values.

## Note

`GetSavingsPlanUtilizationDetails` internally groups data by `SavingsPlansArn`.

## Request Syntax

```
{
  "DataType": [ "string" ],
  "Filter": {
    "And": [
      "Expression"
    ],
    "CostCategories": {
      "Key": "string",
      "MatchOptions": [ "string" ],
      "Values": [ "string" ]
    },
    "Dimensions": {
      "Key": "string",
      "MatchOptions": [ "string" ],
      "Values": [ "string" ]
    },
    "Not": "Expression",
    "Or": [
      "Expression"
    ],
    "Tags": {
      "Key": "string",
      "MatchOptions": [ "string" ],
      "Values": [ "string" ]
    }
  }
}
```

```
    }  
  },  
  "MaxResults": number,  
  "NextToken": "string",  
  "SortBy": {  
    "Key": "string",  
    "SortOrder": "string"  
  },  
  "TimePeriod": {  
    "End": "string",  
    "Start": "string"  
  }  
}
```

## Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#).

The request accepts the following data in JSON format.

### Data Type

The data type.

Type: Array of strings

Valid Values: ATTRIBUTES | UTILIZATION | AMORTIZED\_COMMITMENT | SAVINGS

Required: No

### Filter

Filters Savings Plans utilization coverage data for active Savings Plans dimensions. You can filter data with the following dimensions:

- LINKED\_ACCOUNT
- SAVINGS\_PLAN\_ARN
- REGION
- PAYMENT\_OPTION
- INSTANCE\_TYPE\_FAMILY

GetSavingsPlansUtilizationDetails uses the same [Expression](#) object as the other operations, but only AND is supported among each dimension.

Type: [Expression](#) object

Required: No

### [MaxResults](#)

The number of items to be returned in a response. The default is 20, with a minimum value of 1.

Type: Integer

Valid Range: Minimum value of 1.

Required: No

### [NextToken](#)

The token to retrieve the next set of results. Amazon Web Services provides the token when the response from a previous call has more results than the maximum page size.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 8192.

Pattern: `[\S\s]*`

Required: No

### [SortBy](#)

The value that you want to sort the data by.

The following values are supported for Key:

- UtilizationPercentage
- TotalCommitment
- UsedCommitment
- UnusedCommitment
- NetSavings
- AmortizedRecurringCommitment
- AmortizedUpfrontCommitment

The supported values for SortOrder are ASCENDING and DESCENDING.

Type: [SortDefinition](#) object

Required: No

## [TimePeriod](#)

The time period that you want the usage and costs for. The `Start` date must be within 13 months. The `End` date must be after the `Start` date, and before the current date. Future dates can't be used as an `End` date.

Type: [DateInterval](#) object

Required: Yes

## Response Syntax

```
{
  "NextToken": "string",
  "SavingsPlansUtilizationDetails": [
    {
      "AmortizedCommitment": {
        "AmortizedRecurringCommitment": "string",
        "AmortizedUpfrontCommitment": "string",
        "TotalAmortizedCommitment": "string"
      },
      "Attributes": {
        "string" : "string"
      },
      "Savings": {
        "NetSavings": "string",
        "OnDemandCostEquivalent": "string"
      },
      "SavingsPlanArn": "string",
      "Utilization": {
        "TotalCommitment": "string",
        "UnusedCommitment": "string",
        "UsedCommitment": "string",
        "UtilizationPercentage": "string"
      }
    }
  ],
  "TimePeriod": {
    "End": "string",
```

```

    "Start": "string"
  },
  "Total": {
    "AmortizedCommitment": {
      "AmortizedRecurringCommitment": "string",
      "AmortizedUpfrontCommitment": "string",
      "TotalAmortizedCommitment": "string"
    },
    "Savings": {
      "NetSavings": "string",
      "OnDemandCostEquivalent": "string"
    },
    "Utilization": {
      "TotalCommitment": "string",
      "UnusedCommitment": "string",
      "UsedCommitment": "string",
      "UtilizationPercentage": "string"
    }
  }
}

```

## Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

### NextToken

The token to retrieve the next set of results. Amazon Web Services provides the token when the response from a previous call has more results than the maximum page size.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 8192.

Pattern: `[\S\s]*`

### SavingsPlansUtilizationDetails

Retrieves a single daily or monthly Savings Plans utilization rate and details for your account.

Type: Array of [SavingsPlansUtilizationDetail](#) objects

## TimePeriod

The time period of the request.

Type: [DateInterval](#) object

## Total

The total Savings Plans utilization, regardless of time period.

Type: [SavingsPlansUtilizationAggregates](#) object

## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

### **DataUnavailableException**

The requested data is unavailable.

HTTP Status Code: 400

### **InvalidNextTokenException**

The pagination token is invalid. Try again without a pagination token.

HTTP Status Code: 400

### **LimitExceededException**

You made too many calls in a short period of time. Try again later.

HTTP Status Code: 400

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)

- [AWS SDK for Go v2](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)



# GetTags

Service: AWS Cost Explorer

Queries for available tag keys and tag values for a specified period. You can search the tag values for an arbitrary string.

## Request Syntax

```
{
  "Filter": {
    "And": [
      "Expression"
    ],
    "CostCategories": {
      "Key": "string",
      "MatchOptions": [ "string" ],
      "Values": [ "string" ]
    },
    "Dimensions": {
      "Key": "string",
      "MatchOptions": [ "string" ],
      "Values": [ "string" ]
    },
    "Not": "Expression",
    "Or": [
      "Expression"
    ],
    "Tags": {
      "Key": "string",
      "MatchOptions": [ "string" ],
      "Values": [ "string" ]
    }
  },
  "MaxResults": number,
  "NextPageToken": "string",
  "SearchString": "string",
  "SortBy": [
    {
      "Key": "string",
      "SortOrder": "string"
    }
  ],
  "TagKey": "string",
```

```
"TimePeriod": {  
  "End": "string",  
  "Start": "string"  
}
```

## Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#).

The request accepts the following data in JSON format.

### Filter

Use Expression to filter in various Cost Explorer APIs.

Not all Expression types are supported in each API. Refer to the documentation for each specific API to see what is supported.

There are two patterns:

- Simple dimension values.
  - There are three types of simple dimension values: CostCategories, Tags, and Dimensions.
    - Specify the CostCategories field to define a filter that acts on Cost Categories.
    - Specify the Tags field to define a filter that acts on Cost Allocation Tags.
    - Specify the Dimensions field to define a filter that acts on the [DimensionValues](#).
  - For each filter type, you can set the dimension name and values for the filters that you plan to use.
    - For example, you can filter for REGION==us-east-1 OR REGION==us-west-1. For GetRightsizingRecommendation, the Region is a full name (for example, REGION==US East (N. Virginia)).
    - The corresponding Expression for this example is as follows: { "Dimensions": { "Key": "REGION", "Values": [ "us-east-1", "us-west-1" ] } }
    - As shown in the previous example, lists of dimension values are combined with OR when applying the filter.
  - You can also set different match options to further control how the filter behaves. Not all APIs support match options. Refer to the documentation for each specific API to see what is supported.

- For example, you can filter for linked account names that start with "a".
- The corresponding Expression for this example is as follows: `{ "Dimensions": { "Key": "LINKED_ACCOUNT_NAME", "MatchOptions": [ "STARTS_WITH" ], "Values": [ "a" ] } }`
- Compound Expression types with logical operations.
  - You can use multiple Expression types and the logical operators AND/OR/NOT to create a list of one or more Expression objects. By doing this, you can filter by more advanced options.
  - For example, you can filter by `((REGION == us-east-1 OR REGION == us-west-1) OR (TAG.Type == Type1)) AND (USAGE_TYPE != DataTransfer)`.
  - The corresponding Expression for this example is as follows: `{ "And": [ {"Or": [ {"Dimensions": { "Key": "REGION", "Values": [ "us-east-1", "us-west-1" ] }}, {"Tags": { "Key": "TagName", "Values": ["Value1"] } } ] }, {"Not": {"Dimensions": { "Key": "USAGE_TYPE", "Values": ["DataTransfer"] } } } ] }`

#### Note

Because each Expression can have only one operator, the service returns an error if more than one is specified. The following example shows an Expression object that creates an error: `{ "And": [ ... ], "Dimensions": { "Key": "USAGE_TYPE", "Values": [ "DataTransfer" ] } }`

The following is an example of the corresponding error message: "Expression has more than one roots. Only one root operator is allowed for each expression: And, Or, Not, Dimensions, Tags, CostCategories"

#### Note

For the `GetRightsizingRecommendation` action, a combination of OR and NOT isn't supported. OR isn't supported between different dimensions, or dimensions and tags. NOT operators aren't supported. Dimensions are also limited to `LINKED_ACCOUNT`, `REGION`, or `RIGHTSIZING_TYPE`.

For the `GetReservationPurchaseRecommendation` action, only NOT is supported. AND and OR aren't supported. Dimensions are limited to `LINKED_ACCOUNT`.

Type: [Expression](#) object

Required: No

### [MaxResults](#)

This field is only used when `SortBy` is provided in the request. The maximum number of objects that are returned for this request. If `MaxResults` isn't specified with `SortBy`, the request returns 1000 results as the default value for this parameter.

For `GetTags`, `MaxResults` has an upper quota of 1000.

Type: Integer

Valid Range: Minimum value of 1.

Required: No

### [NextPageToken](#)

The token to retrieve the next set of results. AWS provides the token when the response from a previous call has more results than the maximum page size.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 8192.

Pattern: `[\S\s]*`

Required: No

### [SearchString](#)

The value that you want to search for.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 1024.

Pattern: `[\S\s]*`

Required: No

### [SortBy](#)

The value that you want to sort the data by.

The key represents cost and usage metrics. The following values are supported:

- BlendedCost
- UnblendedCost
- AmortizedCost
- NetAmortizedCost
- NetUnblendedCost
- UsageQuantity
- NormalizedUsageAmount

The supported values for `SortOrder` are `ASCENDING` and `DESCENDING`.

When you use `SortBy`, `NextPageToken` and `SearchString` aren't supported.

Type: Array of [SortDefinition](#) objects

Required: No

### [TagKey](#)

The key of the tag that you want to return values for.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 1024.

Pattern: `[\S\s]*`

Required: No

### [TimePeriod](#)

The start and end dates for retrieving the dimension values. The start date is inclusive, but the end date is exclusive. For example, if `start` is `2017-01-01` and `end` is `2017-05-01`, then the cost and usage data is retrieved from `2017-01-01` up to and including `2017-04-30` but not including `2017-05-01`.

Type: [DateInterval](#) object

Required: Yes

## Response Syntax

```
{
  "NextPageToken": "string",
  "ReturnSize": number,
  "Tags": [ "string" ],
  "TotalSize": number
}
```

## Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

### NextPageToken

The token for the next set of retrievable results. AWS provides the token when the response from a previous call has more results than the maximum page size.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 8192.

Pattern: `[\S\s]*`

### ReturnSize

The number of query results that AWS returns at a time.

Type: Integer

### Tags

The tags that match your request.

Type: Array of strings

### TotalSize

The total number of query results.

Type: Integer

## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

### BillExpirationException

The requested report expired. Update the date interval and try again.

HTTP Status Code: 400

### DataUnavailableException

The requested data is unavailable.

HTTP Status Code: 400

### InvalidNextTokenException

The pagination token is invalid. Try again without a pagination token.

HTTP Status Code: 400

### LimitExceededException

You made too many calls in a short period of time. Try again later.

HTTP Status Code: 400

### RequestChangedException

Your request parameters changed between pages. Try again with the old parameters or without a pagination token.

HTTP Status Code: 400

## Examples

### Example

The following example shows how to retrieve the list of tag keys using the GetTags operation.

### Sample Request

```
POST / HTTP/1.1
```

```
Host: ce.us-east-1.amazonaws.com
x-amz-Date: <Date>
Authorization: AWS4-HMAC-SHA256 Credential=<Credential>,
  SignedHeaders=contenttype;date;host;user-agent;x-amz-date;x-amz-target;x-amzn-
  requestid,Signature=<Signature>
User-Agent: <UserAgentString>
Content-Type: application/x-amz-json-1.1
Content-Length: <PayloadSizeBytes>
Connection: Keep-Alive
X-Amz-Target: AWSInsightsIndexService.GetTags
{
  "TimePeriod": {
    "Start": "2017-01-01",
    "End": "2017-05-18"
  },
  "TagKey": "Project",
  "SearchString": "secretProject"
}
```

## Sample Response

```
HTTP/1.1 200 OK
x-amzn-RequestId: <RequestId>
Content-Type: application/x-amz-json-1.1
Content-Length: <PayloadSizeBytes>
Date: <Date>
{
  "ReturnSize": 2,
  "Tags": [
    "secretProject1",
    "secretProject2"
  ],
  "TotalSize": 2
}
```

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface](#)
- [AWS SDK for .NET](#)



- [AWS SDK for C++](#)
- [AWS SDK for Go v2](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)

# GetUsageForecast

Service: AWS Cost Explorer

Retrieves a forecast for how much Amazon Web Services predicts that you will use over the forecast time period that you select, based on your past usage.

## Request Syntax

```
{
  "Filter": {
    "And": [
      "Expression"
    ],
    "CostCategories": {
      "Key": "string",
      "MatchOptions": [ "string" ],
      "Values": [ "string" ]
    },
    "Dimensions": {
      "Key": "string",
      "MatchOptions": [ "string" ],
      "Values": [ "string" ]
    },
    "Not": "Expression",
    "Or": [
      "Expression"
    ],
    "Tags": {
      "Key": "string",
      "MatchOptions": [ "string" ],
      "Values": [ "string" ]
    }
  },
  "Granularity": "string",
  "Metric": "string",
  "PredictionIntervalLevel": number,
  "TimePeriod": {
    "End": "string",
    "Start": "string"
  }
}
```

## Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#).

The request accepts the following data in JSON format.

### Filter

The filters that you want to use to filter your forecast. The `GetUsageForecast` API supports filtering by the following dimensions:

- AZ
- INSTANCE\_TYPE
- LINKED\_ACCOUNT
- LINKED\_ACCOUNT\_NAME
- OPERATION
- PURCHASE\_TYPE
- REGION
- SERVICE
- USAGE\_TYPE
- USAGE\_TYPE\_GROUP
- RECORD\_TYPE
- OPERATING\_SYSTEM
- TENANCY
- SCOPE
- PLATFORM
- SUBSCRIPTION\_ID
- LEGAL\_ENTITY\_NAME
- DEPLOYMENT\_OPTION
- DATABASE\_ENGINE
- INSTANCE\_TYPE\_FAMILY
- BILLING\_ENTITY

- RESERVATION\_ID
- SAVINGS\_PLAN\_ARN

Type: [Expression](#) object

Required: No

### [Granularity](#)

How granular you want the forecast to be. You can get 3 months of DAILY forecasts or 12 months of MONTHLY forecasts.

The `GetUsageForecast` operation supports only DAILY and MONTHLY granularities.

Type: String

Valid Values: DAILY | MONTHLY | HOURLY

Required: Yes

### [Metric](#)

Which metric Cost Explorer uses to create your forecast.

Valid values for a `GetUsageForecast` call are the following:

- USAGE\_QUANTITY
- NORMALIZED\_USAGE\_AMOUNT

Type: String

Valid Values: BLENDED\_COST | UNBLENDED\_COST | AMORTIZED\_COST | NET\_UNBLENDED\_COST | NET\_AMORTIZED\_COST | USAGE\_QUANTITY | NORMALIZED\_USAGE\_AMOUNT

Required: Yes

### [PredictionIntervalLevel](#)

AWS Cost Explorer always returns the mean forecast as a single point. You can request a prediction interval around the mean by specifying a confidence level. The higher the confidence level, the more confident Cost Explorer is about the actual value falling in the prediction interval. Higher confidence levels result in wider prediction intervals.

Type: Integer

Valid Range: Minimum value of 51. Maximum value of 99.

Required: No

### TimePeriod

The start and end dates of the period that you want to retrieve usage forecast for. The start date is included in the period, but the end date isn't included in the period. For example, if start is 2017-01-01 and end is 2017-05-01, then the cost and usage data is retrieved from 2017-01-01 up to and including 2017-04-30 but not including 2017-05-01. The start date must be equal to or later than the current date to avoid a validation error.

Type: [DateInterval](#) object

Required: Yes

## Response Syntax

```
{
  "ForecastResultsByTime": [
    {
      "MeanValue": "string",
      "PredictionIntervalLowerBound": "string",
      "PredictionIntervalUpperBound": "string",
      "TimePeriod": {
        "End": "string",
        "Start": "string"
      }
    }
  ],
  "Total": {
    "Amount": "string",
    "Unit": "string"
  }
}
```

## Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

### ForecastResultsByTime

The forecasts for your query, in order. For DAILY forecasts, this is a list of days. For MONTHLY forecasts, this is a list of months.

Type: Array of [ForecastResult](#) objects

### Total

How much you're forecasted to use over the forecast period.

Type: [MetricValue](#) object

## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

### **DataUnavailableException**

The requested data is unavailable.

HTTP Status Code: 400

### **LimitExceededException**

You made too many calls in a short period of time. Try again later.

HTTP Status Code: 400

### **UnresolvableUsageUnitException**

Cost Explorer was unable to identify the usage unit. Provide UsageType/UsageTypeGroup filter selections that contain matching units, for example: hours.

HTTP Status Code: 400

## Examples

### **Example**

The following example shows how to retrieve a forecast using the `GetUsageForecast` operation.

## Sample Request

```
POST / HTTP/1.1
Host: ce.us-east-1.amazonaws.com
x-amz-Date: <Date>
Authorization: AWS4-HMAC-SHA256 Credential=<Credential>,
  SignedHeaders=contenttype;date;host;user-agent;x-amz-date;x-amz-target;x-amzn-
requestid,Signature=<Signature>
User-Agent: <UserAgentString>
Content-Type: application/x-amz-json-1.1
Content-Length: <PayloadSizeBytes>
Connection: Keep-Alive
X-Amz-Target: AWSInsightsIndexService.GetUsageForecast
{
  "TimePeriod": {
    "Start": "2018-10-25",
    "End": "2018-10-27"
  },
  "Granularity": "DAILY",
  "Filter": {
    "Dimensions": {
      "Key": "SERVICE",
      "Values": [
        "Amazon Simple Storage Service"
      ]
    }
  },
  "Metric": "USAGE_QUANTITY",
  "PredictionIntervalLevel": 85
}
```

## Sample Response

```
HTTP/1.1 200 OK
x-amzn-RequestId: <RequestId>
Content-Type: application/x-amz-json-1.1
Content-Length: <PayloadSizeBytes>
Date: <Date>
{
  "ForecastResultsByTime": [
    {
      "MeanValue": "37.0786663399",
      "PredictionIntervalLowerBound": "34.9970026341",
```

```
    "PredictionIntervalUpperBound": "39.1603300457",
    "TimePeriod": {
      "End": "2019-10-26",
      "Start": "2019-10-25"
    }
  },
  {
    "MeanValue": "37.0786663399",
    "PredictionIntervalLowerBound": "34.9970026341",
    "PredictionIntervalUpperBound": "39.1603300457",
    "TimePeriod": {
      "End": "2019-10-27",
      "Start": "2019-10-26"
    }
  }
],
"Total": {
  "Amount": "74.1573326798",
  "Unit": "Hrs"
}
}
```

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go v2](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)



# ListCostAllocationTagBackfillHistory

Service: AWS Cost Explorer

Retrieves a list of your historical cost allocation tag backfill requests.

## Request Syntax

```
{
  "MaxResults": number,
  "NextToken": "string"
}
```

## Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#).

The request accepts the following data in JSON format.

### MaxResults

The maximum number of objects that are returned for this request.

Type: Integer

Valid Range: Minimum value of 1. Maximum value of 1000.

Required: No

### NextToken

The token to retrieve the next set of results. AWS provides the token when the response from a previous call has more results than the maximum page size.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 8192.

Pattern: `[\S\s]*`

Required: No

## Response Syntax

```
{
```

```
"BackfillRequests": [  
  {  
    "BackfillFrom": "string",  
    "BackfillStatus": "string",  
    "CompletedAt": "string",  
    "LastUpdatedAt": "string",  
    "RequestedAt": "string"  
  }  
],  
"NextToken": "string"  
}
```

## Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

### BackfillRequests

The list of historical cost allocation tag backfill requests.

Type: Array of [CostAllocationTagBackfillRequest](#) objects

Array Members: Minimum number of 0 items. Maximum number of 1000 items.

### NextToken

The token to retrieve the next set of results. AWS provides the token when the response from a previous call has more results than the maximum page size.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 8192.

Pattern: `[\S\s]*`

## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

### **InvalidNextTokenException**

The pagination token is invalid. Try again without a pagination token.

HTTP Status Code: 400

### LimitExceededException

You made too many calls in a short period of time. Try again later.

HTTP Status Code: 400

## Examples

The following are sample requests and responses of the `ListCostAllocationTagBackfillHistory` operations.

### Example 1: List the latest cost allocation tag backfill request

This example illustrates one usage of `ListCostAllocationTagBackfillHistory`.

#### Sample Request

```
{
  "MaxResults": 1
}
```

#### Sample Response

```
{
  "BackfillRequests": [
    {
      "BackfillFrom": "2024-02-01T00:00:00Z",
      "BackfillStatus": "PROCESSING",
      "RequestedAt": "2024-03-01T09:16:23Z",
      "LastUpdatedAt": "2024-03-01T09:16:23Z"
    }
  ],
  "NextToken": null
}
```

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go v2](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)

# ListCostAllocationTags

Service: AWS Cost Explorer

Get a list of cost allocation tags. All inputs in the API are optional and serve as filters. By default, all cost allocation tags are returned.

## Request Syntax

```
{
  "MaxResults": number,
  "NextToken": "string",
  "Status": "string",
  "TagKeys": [ "string" ],
  "Type": "string"
}
```

## Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#).

The request accepts the following data in JSON format.

### MaxResults

The maximum number of objects that are returned for this request. By default, the request returns 100 results.

Type: Integer

Valid Range: Minimum value of 1. Maximum value of 1000.

Required: No

### NextToken

The token to retrieve the next set of results. AWS provides the token when the response from a previous call has more results than the maximum page size.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 8192.

Pattern: `[\S\s]*`

Required: No

### Status

The status of cost allocation tag keys that are returned for this request.

Type: String

Valid Values: Active | Inactive

Required: No

### TagKeys

The list of cost allocation tag keys that are returned for this request.

Type: Array of strings

Array Members: Minimum number of 1 item. Maximum number of 100 items.

Length Constraints: Minimum length of 0. Maximum length of 1024.

Pattern: [\\S\\s]\*

Required: No

### Type

The type of `CostAllocationTag` object that are returned for this request. The `AWSGenerated` type tags are tags that AWS defines and applies to support AWS resources for cost allocation purposes. The `UserDefined` type tags are tags that you define, create, and apply to resources.

Type: String

Valid Values: AWSGenerated | UserDefined

Required: No

## Response Syntax

```
{
  "CostAllocationTags": [
    {
      "LastUpdatedDate": "string",
```

```
    "LastUsedDate": "string",
    "Status": "string",
    "TagKey": "string",
    "Type": "string"
  }
],
"NextToken": "string"
}
```

## Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

### CostAllocationTags

A list of cost allocation tags that includes the detailed metadata for each one.

Type: Array of [CostAllocationTag](#) objects

Array Members: Minimum number of 0 items. Maximum number of 100 items.

### NextToken

The token to retrieve the next set of results. AWS provides the token when the response from a previous call has more results than the maximum page size.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 8192.

Pattern: `[\S\s]*`

## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

### **InvalidNextTokenException**

The pagination token is invalid. Try again without a pagination token.

HTTP Status Code: 400

## LimitExceededException

You made too many calls in a short period of time. Try again later.

HTTP Status Code: 400

## Examples

The following are sample requests and responses of the `ListCostAllocationTags` operations.

### Example 1: List all user defined active tags

This example illustrates one usage of `ListCostAllocationTags`.

#### Sample Request

```
{
  "Type": "UserDefined",
  "Status": "Active"
}
```

#### Sample Response

```
{
  "CostAllocationTags": [
    {
      "TagKey": "tagA",
      "Type": "UserDefined",
      "Status": "Active"
    }
  ],
  "NextToken": null
}
```

### Example 2: List all tags by tag keys

This example illustrates one usage of `ListCostAllocationTags`.

#### Sample Request

```
{
```



```
"TagKeys": ["tagA", "tagB"]
}
```

## Sample Response

```
{
  "CostAllocationTags": [
    {
      "TagKey": "tagA",
      "Type": "UserDefined",
      "Status": "Active"
    },
    {
      "TagKey": "tagB",
      "Type": "UserDefined",
      "Status": "Inactive"
    }
  ],
  "NextToken": null
}
```

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go v2](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)

# ListCostCategoryDefinitions

Service: AWS Cost Explorer

Returns the name, Amazon Resource Name (ARN), NumberOfRules and effective dates of all Cost Categories defined in the account. You have the option to use EffectiveOn to return a list of Cost Categories that were active on a specific date. If there is no EffectiveOn specified, you'll see Cost Categories that are effective on the current date. If Cost Category is still effective, EffectiveEnd is omitted in the response. ListCostCategoryDefinitions supports pagination. The request can have a MaxResults range up to 100.

## Request Syntax

```
{  
  "EffectiveOn": "string",  
  "MaxResults": number,  
  "NextToken": "string"  
}
```

## Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#).

The request accepts the following data in JSON format.

### EffectiveOn

The date when the Cost Category was effective.

Type: String

Length Constraints: Minimum length of 20. Maximum length of 25.

Pattern: `^\d{4}-\d\d-\d\dT\d\d:\d\d:\d\d([+-]\d\d:\d\d)|Z)$`

Required: No

### MaxResults

The number of entries a paginated response contains.

Type: Integer

Valid Range: Minimum value of 1. Maximum value of 100.

Required: No

### NextToken

The token to retrieve the next set of results. Amazon Web Services provides the token when the response from a previous call has more results than the maximum page size.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 8192.

Pattern: `[\S\s]*`

Required: No

## Response Syntax

```
{
  "CostCategoryReferences": [
    {
      "CostCategoryArn": "string",
      "DefaultValue": "string",
      "EffectiveEnd": "string",
      "EffectiveStart": "string",
      "Name": "string",
      "NumberOfRules": number,
      "ProcessingStatus": [
        {
          "Component": "string",
          "Status": "string"
        }
      ],
      "Values": [ "string" ]
    }
  ],
  "NextToken": "string"
}
```

## Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

### CostCategoryReferences

A reference to a Cost Category that contains enough information to identify the Cost Category.

Type: Array of [CostCategoryReference](#) objects

### NextToken

The token to retrieve the next set of results. AWS provides the token when the response from a previous call has more results than the maximum page size.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 8192.

Pattern: `[\S\s]*`

## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

### **LimitExceededException**

You made too many calls in a short period of time. Try again later.

HTTP Status Code: 400

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go v2](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)

- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)

# ListSavingsPlansPurchaseRecommendationGeneration

Service: AWS Cost Explorer

Retrieves a list of your historical recommendation generations within the past 30 days.

## Request Syntax

```
{
  "GenerationStatus": "string",
  "NextPageToken": "string",
  "PageSize": number,
  "RecommendationIds": [ "string" ]
}
```

## Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#).

The request accepts the following data in JSON format.

### [GenerationStatus](#)

The status of the recommendation generation.

Type: String

Valid Values: SUCCEEDED | PROCESSING | FAILED

Required: No

### [NextPageToken](#)

The token to retrieve the next set of results.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 8192.

Pattern: `[\S\s]*`

Required: No

### [PageSize](#)

The number of recommendations that you want returned in a single response object.

Type: Integer

Valid Range: Minimum value of 0.

Required: No

### RecommendationIds

The IDs for each specific recommendation.

Type: Array of strings

Length Constraints: Fixed length of 36.

Pattern: `^\S\s]{8}-[\S\s]{4}-[\S\s]{4}-[\S\s]{4}-[\S\s]{12}$`

Required: No

## Response Syntax

```
{
  "GenerationSummaryList": [
    {
      "EstimatedCompletionTime": "string",
      "GenerationCompletionTime": "string",
      "GenerationStartedTime": "string",
      "GenerationStatus": "string",
      "RecommendationId": "string"
    }
  ],
  "NextPageToken": "string"
}
```

## Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

### GenerationSummaryList

The list of historical recommendation generations.

Type: Array of [GenerationSummary](#) objects

### [NextPageToken](#)

The token to retrieve the next set of results.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 8192.

Pattern: `[\S\s]*`

## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

### **DataUnavailableException**

The requested data is unavailable.

HTTP Status Code: 400

### **InvalidNextTokenException**

The pagination token is invalid. Try again without a pagination token.

HTTP Status Code: 400

### **LimitExceededException**

You made too many calls in a short period of time. Try again later.

HTTP Status Code: 400

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)



- [AWS SDK for Go v2](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)

# ListTagsForResource

Service: AWS Cost Explorer

Returns a list of resource tags associated with the resource specified by the Amazon Resource Name (ARN).

## Request Syntax

```
{
  "ResourceArn": "string"
}
```

## Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#).

The request accepts the following data in JSON format.

### ResourceArn

The Amazon Resource Name (ARN) of the resource. For a list of supported resources, see [ResourceTag](#).

Type: String

Length Constraints: Minimum length of 20. Maximum length of 2048.

Pattern: `arn:aws[-a-z0-9]*:[a-z0-9]+:[-a-z0-9]*:[0-9]{12}:[-a-zA-Z0-9/:_]+`

Required: Yes

## Response Syntax

```
{
  "ResourceTags": [
    {
      "Key": "string",
      "Value": "string"
    }
  ]
}
```

```
}
```

## Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

### ResourceTags

A list of tag key value pairs that are associated with the resource.

Type: Array of [ResourceTag](#) objects

Array Members: Minimum number of 0 items. Maximum number of 200 items.

## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

### **LimitExceededException**

You made too many calls in a short period of time. Try again later.

HTTP Status Code: 400

### **ResourceNotFoundException**

The specified ARN in the request doesn't exist.

HTTP Status Code: 400

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go v2](#)

- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)

# ProvideAnomalyFeedback

Service: AWS Cost Explorer

Modifies the feedback property of a given cost anomaly.

## Request Syntax

```
{  
  "AnomalyId": "string",  
  "Feedback": "string"  
}
```

## Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#).

The request accepts the following data in JSON format.

### AnomalyId

A cost anomaly ID.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 1024.

Pattern: `[\S\s]*`

Required: Yes

### Feedback

Describes whether the cost anomaly was a planned activity or you considered it an anomaly.

Type: String

Valid Values: YES | NO | PLANNED\_ACTIVITY

Required: Yes

## Response Syntax

```
{
```

```
"AnomalyId": "string"  
}
```

## Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

### AnomalyId

The ID of the modified cost anomaly.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 1024.

Pattern: [S\s]\*

## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

### **LimitExceededException**

You made too many calls in a short period of time. Try again later.

HTTP Status Code: 400

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go v2](#)
- [AWS SDK for Java V2](#)

- [AWS SDK for JavaScript V3](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)

# StartCostAllocationTagBackfill

Service: AWS Cost Explorer

Request a cost allocation tag backfill. This will backfill the activation status (either active or inactive) for all tag keys from `para:BackfillFrom` up to the when this request is made.

You can request a backfill once every 24 hours.

## Request Syntax

```
{  
  "BackfillFrom": "string"  
}
```

## Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#).

The request accepts the following data in JSON format.

### BackfillFrom

The date you want the backfill to start from. The date can only be a first day of the month (a billing start date). Dates can't precede the previous twelve months, or in the future.

Type: String

Length Constraints: Minimum length of 20. Maximum length of 25.

Pattern: `^\d{4}-\d\d-\d\dT\d\d:\d\d:\d\d(( [+ - ]\d\d:\d\d)|Z)$`

Required: Yes

## Response Syntax

```
{  
  "BackfillRequest": {  
    "BackfillFrom": "string",  
    "BackfillStatus": "string",  
    "CompletedAt": "string",  
    "LastUpdatedAt": "string",  
  }  
}
```



```
    "RequestedAt": "string"  
  }  
}
```

## Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

### BackfillRequest

An object containing detailed metadata of your new backfill request.

Type: [CostAllocationTagBackfillRequest](#) object

## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

### **BackfillLimitExceededException**

A request to backfill is already in progress. Once the previous request is complete, you can create another request.

HTTP Status Code: 400

### **LimitExceededException**

You made too many calls in a short period of time. Try again later.

HTTP Status Code: 400

## Examples

The following are sample requests and responses of the `StartCostAllocationTagBackfill` operations.

### **Example 1: Successfully request a cost allocation tag backfill**

This example illustrates one usage of `StartCostAllocationTagBackfill`.

## Sample Request

```
{
  "BackfillFrom": "2024-02-01T00:00:00Z"
}
```

## Sample Response

```
{
  "BackfillRequest": {
    "BackfillFrom": "2024-02-01T00:00:00Z",
    "BackfillStatus": "PROCESSING",
    "RequestedAt": "2024-03-01T09:16:23Z",
    "LastUpdatedAt": "2024-03-01T09:16:23Z"
  }
}
```

### Example 2: The backfill is skipped because there is no tag status change since the last backfill

The latest successful backfill request is returned instead.

## Sample Request

```
{
  "BackfillFrom": "2024-02-01T00:00:00Z"
}
```

## Sample Response

```
{
  "BackfillRequest": {
    "BackfillFrom": "2024-02-01T00:00:00Z",
    "BackfillStatus": "SUCCEEDED",
    "RequestedAt": "2024-03-01T09:16:23Z",
    "LastUpdatedAt": "2024-03-02T06:45:00Z",
    "CompletedAt": "2024-03-02T06:45:00Z"
  }
}
```

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go v2](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)

# StartSavingsPlansPurchaseRecommendationGeneration

Service: AWS Cost Explorer

Requests a Savings Plans recommendation generation. This enables you to calculate a fresh set of Savings Plans recommendations that takes your latest usage data and current Savings Plans inventory into account. You can refresh Savings Plans recommendations up to three times daily for a consolidated billing family.

## Note

StartSavingsPlansPurchaseRecommendationGeneration has no request syntax because no input parameters are needed to support this operation.

## Response Syntax

```
{
  "EstimatedCompletionTime": "string",
  "GenerationStartedTime": "string",
  "RecommendationId": "string"
}
```

## Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

### EstimatedCompletionTime

The estimated time for when the recommendation generation will complete.

Type: String

Length Constraints: Minimum length of 20. Maximum length of 25.

Pattern: `^\d{4}-\d\d-\d\dT\d\d:\d\d:\d\d(\d{1,2}([+-]\d\d:\d\d)|Z)$`

### GenerationStartedTime

The start time of the recommendation generation.

Type: String

Length Constraints: Minimum length of 20. Maximum length of 25.

Pattern: `^\d{4}-\d\d-\d\dT\d\d:\d\d:\d\d(\[+-]\d\d:\d\d)|Z)$`

### RecommendationId

The ID for this specific recommendation.

Type: String

Length Constraints: Fixed length of 36.

Pattern: `^[\\S\\s]{8}-[\\S\\s]{4}-[\\S\\s]{4}-[\\S\\s]{4}-[\\S\\s]{12}$`

## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

### **DataUnavailableException**

The requested data is unavailable.

HTTP Status Code: 400

### **GenerationExistsException**

A request to generate a recommendation is already in progress.

HTTP Status Code: 400

### **LimitExceededException**

You made too many calls in a short period of time. Try again later.

HTTP Status Code: 400

### **ServiceQuotaExceededException**

You've reached the limit on the number of resources you can create, or exceeded the size of an individual resource.

HTTP Status Code: 400

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go v2](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)

# TagResource

Service: AWS Cost Explorer

An API operation for adding one or more tags (key-value pairs) to a resource.

You can use the `TagResource` operation with a resource that already has tags. If you specify a new tag key for the resource, this tag is appended to the list of tags associated with the resource. If you specify a tag key that is already associated with the resource, the new tag value you specify replaces the previous value for that tag.

Although the maximum number of array members is 200, user-tag maximum is 50. The remaining are reserved for AWS use.

## Request Syntax

```
{
  "ResourceArn": "string",
  "ResourceTags": [
    {
      "Key": "string",
      "Value": "string"
    }
  ]
}
```

## Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#).

The request accepts the following data in JSON format.

### ResourceArn

The Amazon Resource Name (ARN) of the resource. For a list of supported resources, see [ResourceTag](#).

Type: String

Length Constraints: Minimum length of 20. Maximum length of 2048.

Pattern: `arn:aws[-a-z0-9]*:[a-z0-9]+:[-a-z0-9]*:[0-9]{12}:[-a-zA-Z0-9/:_]+`

Required: Yes

## ResourceTags

A list of tag key-value pairs to be added to the resource.

Each tag consists of a key and a value, and each key must be unique for the resource. The following restrictions apply to resource tags:

- Although the maximum number of array members is 200, you can assign a maximum of 50 user-tags to one resource. The remaining are reserved for AWS use
- The maximum length of a key is 128 characters
- The maximum length of a value is 256 characters
- Keys and values can only contain alphanumeric characters, spaces, and any of the following:  
\_ . : / = + @ -
- Keys and values are case sensitive
- Keys and values are trimmed for any leading or trailing whitespaces
- Don't use `aws :` as a prefix for your keys. This prefix is reserved for AWS use

Type: Array of [ResourceTag](#) objects

Array Members: Minimum number of 0 items. Maximum number of 200 items.

Required: Yes

## Response Elements

If the action is successful, the service sends back an HTTP 200 response with an empty HTTP body.

## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

### LimitExceededException

You made too many calls in a short period of time. Try again later.

HTTP Status Code: 400

### ResourceNotFoundException

The specified ARN in the request doesn't exist.



HTTP Status Code: 400

### **TooManyTagsException**

Can occur if you specify a number of tags for a resource greater than the maximum 50 user tags per resource.

HTTP Status Code: 400

### **See Also**

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go v2](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)

# UntagResource

Service: AWS Cost Explorer

Removes one or more tags from a resource. Specify only tag keys in your request. Don't specify the value.

## Request Syntax

```
{
  "ResourceArn": "string",
  "ResourceTagKeys": [ "string" ]
}
```

## Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#).

The request accepts the following data in JSON format.

### [ResourceArn](#)

The Amazon Resource Name (ARN) of the resource. For a list of supported resources, see [ResourceTag](#).

Type: String

Length Constraints: Minimum length of 20. Maximum length of 2048.

Pattern: `arn:aws[-a-z0-9]*:[a-z0-9]+:[-a-z0-9]*:[0-9]{12}:[-a-zA-Z0-9/:_]+`

Required: Yes

### [ResourceTagKeys](#)

A list of tag keys associated with tags that need to be removed from the resource. If you specify a tag key that doesn't exist, it's ignored. Although the maximum number of array members is 200, user-tag maximum is 50. The remaining are reserved for AWS use.

Type: Array of strings

Array Members: Minimum number of 0 items. Maximum number of 200 items.

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `^([\p{L}\p{Z}\p{N}_ . : / = + \ - @] * )$`

Required: Yes

## Response Elements

If the action is successful, the service sends back an HTTP 200 response with an empty HTTP body.

## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

### LimitExceededException

You made too many calls in a short period of time. Try again later.

HTTP Status Code: 400

### ResourceNotFoundException

The specified ARN in the request doesn't exist.

HTTP Status Code: 400

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go v2](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)



# UpdateAnomalyMonitor

Service: AWS Cost Explorer

Updates an existing cost anomaly monitor. The changes made are applied going forward, and doesn't change anomalies detected in the past.

## Request Syntax

```
{
  "MonitorArn": "string",
  "MonitorName": "string"
}
```

## Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#).

The request accepts the following data in JSON format.

### MonitorArn

Cost anomaly monitor Amazon Resource Names (ARNs).

Type: String

Length Constraints: Minimum length of 0. Maximum length of 1024.

Pattern: `[\S\s]*`

Required: Yes

### MonitorName

The new name for the cost anomaly monitor.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 1024.

Pattern: `[\S\s]*`

Required: No

## Response Syntax

```
{  
  "MonitorArn": "string"  
}
```

## Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

### [MonitorArn](#)

A cost anomaly monitor ARN.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 1024.

Pattern: `[\S\s]*`

## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

### **LimitExceededException**

You made too many calls in a short period of time. Try again later.

HTTP Status Code: 400

### **UnknownMonitorException**

The cost anomaly monitor does not exist for the account.

HTTP Status Code: 400

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go v2](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)

# UpdateAnomalySubscription

Service: AWS Cost Explorer

Updates an existing cost anomaly subscription. Specify the fields that you want to update. Omitted fields are unchanged.

## Note

The JSON below describes the generic construct for each type. See [Request Parameters](#) for possible values as they apply to AnomalySubscription.

## Request Syntax

```
{
  "Frequency": "string",
  "MonitorArnList": [ "string" ],
  "Subscribers": [
    {
      "Address": "string",
      "Status": "string",
      "Type": "string"
    }
  ],
  "SubscriptionArn": "string",
  "SubscriptionName": "string",
  "Threshold": number,
  "ThresholdExpression": {
    "And": [
      "Expression"
    ],
    "CostCategories": {
      "Key": "string",
      "MatchOptions": [ "string" ],
      "Values": [ "string" ]
    },
    "Dimensions": {
      "Key": "string",
      "MatchOptions": [ "string" ],
      "Values": [ "string" ]
    },
    "Not": "Expression",
```



```
    "Or": [
      "Expression"
    ],
    "Tags": {
      "Key": "string",
      "MatchOptions": [ "string" ],
      "Values": [ "string" ]
    }
  }
}
```

## Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#).

The request accepts the following data in JSON format.

### [Frequency](#)

The update to the frequency value that subscribers receive notifications.

Type: String

Valid Values: DAILY | IMMEDIATE | WEEKLY

Required: No

### [MonitorArnList](#)

A list of cost anomaly monitor ARNs.

Type: Array of strings

Length Constraints: Minimum length of 20. Maximum length of 2048.

Pattern: `arn:aws[-a-z0-9]*:[a-z0-9]+:[-a-z0-9]*:[0-9]{12}:[-a-zA-Z0-9/:_]+`

Required: No

### [Subscribers](#)

The update to the subscriber list.

Type: Array of [Subscriber](#) objects

Required: No

## SubscriptionArn

A cost anomaly subscription Amazon Resource Name (ARN).

Type: String

Length Constraints: Minimum length of 0. Maximum length of 1024.

Pattern: `[\S\s]*`

Required: Yes

## SubscriptionName

The new name of the subscription.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 1024.

Pattern: `[\S\s]*`

Required: No

## Threshold

(deprecated)

The update to the threshold value for receiving notifications.

This field has been deprecated. To update a threshold, use `ThresholdExpression`. Continued use of `Threshold` will be treated as shorthand syntax for a `ThresholdExpression`.

You can specify either `Threshold` or `ThresholdExpression`, but not both.

Type: Double

Valid Range: Minimum value of 0.0.

Required: No

## ThresholdExpression

The update to the [Expression](#) object used to specify the anomalies that you want to generate alerts for. This supports dimensions and nested expressions. The supported dimensions are `ANOMALY_TOTAL_IMPACT_ABSOLUTE` and `ANOMALY_TOTAL_IMPACT_PERCENTAGE`, corresponding to an anomaly's `TotalImpact` and `TotalImpactPercentage`, respectively (see

[Impact](#) for more details). The supported nested expression types are AND and OR. The match option `GREATER_THAN_OR_EQUAL` is required. Values must be numbers between 0 and 10,000,000,000 in string format.

You can specify either `Threshold` or `ThresholdExpression`, but not both.

The following are examples of valid `ThresholdExpressions`:

- Absolute threshold: 

```
{ "Dimensions": { "Key": "ANOMALY_TOTAL_IMPACT_ABSOLUTE", "MatchOptions": [ "GREATER_THAN_OR_EQUAL" ], "Values": [ "100" ] } }
```
- Percentage threshold: 

```
{ "Dimensions": { "Key": "ANOMALY_TOTAL_IMPACT_PERCENTAGE", "MatchOptions": [ "GREATER_THAN_OR_EQUAL" ], "Values": [ "100" ] } }
```
- AND two thresholds together: 

```
{ "And": [ { "Dimensions": { "Key": "ANOMALY_TOTAL_IMPACT_ABSOLUTE", "MatchOptions": [ "GREATER_THAN_OR_EQUAL" ], "Values": [ "100" ] } }, { "Dimensions": { "Key": "ANOMALY_TOTAL_IMPACT_PERCENTAGE", "MatchOptions": [ "GREATER_THAN_OR_EQUAL" ], "Values": [ "100" ] } } ] }
```
- OR two thresholds together: 

```
{ "Or": [ { "Dimensions": { "Key": "ANOMALY_TOTAL_IMPACT_ABSOLUTE", "MatchOptions": [ "GREATER_THAN_OR_EQUAL" ], "Values": [ "100" ] } }, { "Dimensions": { "Key": "ANOMALY_TOTAL_IMPACT_PERCENTAGE", "MatchOptions": [ "GREATER_THAN_OR_EQUAL" ], "Values": [ "100" ] } } ] }
```

Type: [Expression](#) object

Required: No

## Response Syntax

```
{  
  "SubscriptionArn": "string"  
}
```

## Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

### **SubscriptionArn**

A cost anomaly subscription ARN.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 1024.

Pattern: `[\S\s]*`

## **Errors**

For information about the errors that are common to all actions, see [Common Errors](#).

### **LimitExceededException**

You made too many calls in a short period of time. Try again later.

HTTP Status Code: 400

### **UnknownMonitorException**

The cost anomaly monitor does not exist for the account.

HTTP Status Code: 400

### **UnknownSubscriptionException**

The cost anomaly subscription does not exist for the account.

HTTP Status Code: 400

## **See Also**

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)

- [AWS SDK for Go v2](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)

# UpdateCostAllocationTagsStatus

Service: AWS Cost Explorer

Updates status for cost allocation tags in bulk, with maximum batch size of 20. If the tag status that's updated is the same as the existing tag status, the request doesn't fail. Instead, it doesn't have any effect on the tag status (for example, activating the active tag).

## Request Syntax

```
{
  "CostAllocationTagsStatus": [
    {
      "Status": "string",
      "TagKey": "string"
    }
  ]
}
```

## Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#).

The request accepts the following data in JSON format.

### [CostAllocationTagsStatus](#)

The list of `CostAllocationTagStatusEntry` objects that are used to update cost allocation tags status for this request.

Type: Array of [CostAllocationTagStatusEntry](#) objects

Array Members: Minimum number of 1 item. Maximum number of 20 items.

Required: Yes

## Response Syntax

```
{
  "Errors": [
    {
      "Code": "string",
      "Message": "string",
    }
  ]
}
```

```
    "TagKey": "string"  
  }  
]  
}
```

## Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

### Errors

A list of `UpdateCostAllocationTagsStatusError` objects with error details about each cost allocation tag that can't be updated. If there's no failure, an empty array returns.

Type: Array of [UpdateCostAllocationTagsStatusError](#) objects

Array Members: Minimum number of 0 items. Maximum number of 20 items.

## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

### LimitExceededException

You made too many calls in a short period of time. Try again later.

HTTP Status Code: 400

## Examples

The following are sample requests and responses of the `UpdateCostAllocationTagsStatus` operations.

### Example 1: Successfully updated all tag status

This example illustrates one usage of `UpdateCostAllocationTagsStatus`.

### Sample Request

```
{
```

```
    "CostAllocationTagsStatus": [  
      {  
        "TagKey": "tagA",  
        "Status": "Active"  
      },  
      {  
        "TagKey": "tagB",  
        "Status": "Inactive"  
      }  
    ]  
  }  
}
```

### Sample Response

```
{  
  "Errors": []  
}
```

### Example 2: Failed to update one of the tag statuses

This example illustrates one usage of UpdateCostAllocationTagsStatus.

### Sample Request

```
{  
  "CostAllocationTagsStatus": [  
    {  
      "TagKey": "tagC",  
      "Status": "Active"  
    },  
    {  
      "TagKey": "tagD",  
      "Status": "Inactive"  
    }  
  ]  
}
```

### Sample Response

```
{  
  "Errors": [  
    {
```



```
        "TagKey": "tagC",
        "Code": "TagKeysNotFoundException",
        "Message": "Failed to update Cost Allocation Tag: tagC"
    }
]
}
```

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go v2](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)

# UpdateCostCategoryDefinition

Service: AWS Cost Explorer

Updates an existing Cost Category. Changes made to the Cost Category rules will be used to categorize the current month's expenses and future expenses. This won't change categorization for the previous months.

## Request Syntax

```
{
  "CostCategoryArn": "string",
  "DefaultValue": "string",
  "EffectiveStart": "string",
  "Rules": [
    {
      "InheritedValue": {
        "DimensionKey": "string",
        "DimensionName": "string"
      },
      "Rule": {
        "And": [
          "Expression"
        ],
        "CostCategories": {
          "Key": "string",
          "MatchOptions": [ "string" ],
          "Values": [ "string" ]
        },
        "Dimensions": {
          "Key": "string",
          "MatchOptions": [ "string" ],
          "Values": [ "string" ]
        },
        "Not": "Expression",
        "Or": [
          "Expression"
        ],
        "Tags": {
          "Key": "string",
          "MatchOptions": [ "string" ],
          "Values": [ "string" ]
        }
      }
    }
  ],
}
```

```
    "Type": "string",
    "Value": "string"
  }
],
"RuleVersion": "string",
"SplitChargeRules": [
  {
    "Method": "string",
    "Parameters": [
      {
        "Type": "string",
        "Values": [ "string" ]
      }
    ],
    "Source": "string",
    "Targets": [ "string" ]
  }
]
}
```

## Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#).

The request accepts the following data in JSON format.

### CostCategoryArn

The unique identifier for your Cost Category.

Type: String

Length Constraints: Minimum length of 20. Maximum length of 2048.

Pattern: `arn:aws[-a-z0-9]*:[a-z0-9]+:[-a-z0-9]*:[0-9]{12}:[-a-zA-Z0-9/:_]+`

Required: Yes

### DefaultValue

The default value for the cost category.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 50.

Pattern: `^(?! )[\p{L}\p{N}\p{Z}-_]*(?! )$`

Required: No

### **EffectiveStart**

The Cost Category's effective start date. It can only be a billing start date (first day of the month). If the date isn't provided, it's the first day of the current month. Dates can't be before the previous twelve months, or in the future.

Type: String

Length Constraints: Minimum length of 20. Maximum length of 25.

Pattern: `^\d{4}-\d\d-\d\dT\d\d:\d\d:( [+ - ]\d\d:\d\d)|Z$`

Required: No

### **Rules**

The Expression object used to categorize costs. For more information, see [CostCategoryRule](#).

Type: Array of [CostCategoryRule](#) objects

Array Members: Minimum number of 1 item. Maximum number of 500 items.

Required: Yes

### **RuleVersion**

The rule schema version in this particular Cost Category.

Type: String

Valid Values: `CostCategoryExpression.v1`

Required: Yes

### **SplitChargeRules**

The split charge rules used to allocate your charges between your Cost Category values.

Type: Array of [CostCategorySplitChargeRule](#) objects

Array Members: Minimum number of 1 item. Maximum number of 10 items.

Required: No

## Response Syntax

```
{
  "CostCategoryArn": "string",
  "EffectiveStart": "string"
}
```

## Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

### CostCategoryArn

The unique identifier for your Cost Category.

Type: String

Length Constraints: Minimum length of 20. Maximum length of 2048.

Pattern: `arn:aws[-a-z0-9]*:[a-z0-9]+:[-a-z0-9]*:[0-9]{12}:[-a-zA-Z0-9/:_]+`

### EffectiveStart

The Cost Category's effective start date. It can only be a billing start date (first day of the month).

Type: String

Length Constraints: Minimum length of 20. Maximum length of 25.

Pattern: `^\d{4}-\d\d-\d\dT\d\d:\d\d:\d\d(( [+ - ]\d\d:\d\d) | Z)$`

## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

### **LimitExceededException**

You made too many calls in a short period of time. Try again later.

HTTP Status Code: 400

## ResourceNotFoundException

The specified ARN in the request doesn't exist.

HTTP Status Code: 400

## ServiceQuotaExceededException

You've reached the limit on the number of resources you can create, or exceeded the size of an individual resource.

HTTP Status Code: 400

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go v2](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)

## AWS Data Exports

The following actions are supported by AWS Data Exports:

- [CreateExport](#)
- [DeleteExport](#)
- [GetExecution](#)
- [GetExport](#)

- [GetTable](#)
- [ListExecutions](#)
- [ListExports](#)
- [ListTables](#)
- [ListTagsForResource](#)
- [TagResource](#)
- [UntagResource](#)
- [UpdateExport](#)

# CreateExport

Service: AWS Data Exports

Creates a data export and specifies the data query, the delivery preference, and any optional resource tags.

A DataQuery consists of both a QueryStatement and TableConfigurations.

The QueryStatement is an SQL statement. Data Exports only supports a limited subset of the SQL syntax. For more information on the SQL syntax that is supported, see [Data query](#). To view the available tables and columns, see the [Data Exports table dictionary](#).

The TableConfigurations is a collection of specified TableProperties for the table being queried in the QueryStatement. TableProperties are additional configurations you can provide to change the data and schema of a table. Each table can have different TableProperties. However, tables are not required to have any TableProperties. Each table property has a default value that it assumes if not specified. For more information on table configurations, see [Data query](#). To view the table properties available for each table, see the [Data Exports table dictionary](#) or use the ListTables API to get a response of all tables and their available properties.

## Request Syntax

```
{
  "Export": {
    "DataQuery": {
      "QueryStatement": "string",
      "TableConfigurations": {
        "string" : {
          "string" : "string"
        }
      }
    },
    "Description": "string",
    "DestinationConfigurations": {
      "S3Destination": {
        "S3Bucket": "string",
        "S3OutputConfigurations": {
          "Compression": "string",
          "Format": "string",
          "OutputType": "string",
          "Overwrite": "string"
        }
      }
    }
  }
}
```



```
    },
    "S3Prefix": "string",
    "S3Region": "string"
  }
},
"ExportArn": "string",
"Name": "string",
"RefreshCadence": {
  "Frequency": "string"
}
},
"ResourceTags": [
  {
    "Key": "string",
    "Value": "string"
  }
]
}
```

## Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#).

The request accepts the following data in JSON format.

### [Export](#)

The details of the export, including data query, name, description, and destination configuration.

Type: [Export](#) object

Required: Yes

### [ResourceTags](#)

An optional list of tags to associate with the specified export. Each tag consists of a key and a value, and each key must be unique for the resource.

Type: Array of [ResourceTag](#) objects

Array Members: Minimum number of 0 items. Maximum number of 200 items.

Required: No

## Response Syntax

```
{  
  "ExportArn": "string"  
}
```

## Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

### [ExportArn](#)

The Amazon Resource Name (ARN) for this export.

Type: String

Length Constraints: Minimum length of 20. Maximum length of 2048.

Pattern: `^arn:aws[-a-z0-9]*:[-a-z0-9]+:[-a-z0-9]*:[0-9]{12}:[-a-zA-Z0-9/:_]+$`

## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

### **InternalServerErrorException**

An error on the server occurred during the processing of your request. Try again later.

HTTP Status Code: 500

### **ServiceQuotaExceededException**

You've reached the limit on the number of resources you can create, or exceeded the size of an individual resource.

HTTP Status Code: 400

### **ThrottlingException**

The request was denied due to request throttling.

HTTP Status Code: 400

## ValidationException

The input fails to satisfy the constraints specified by an AWS service.

HTTP Status Code: 400

## Examples

The following is a sample request of the `CreateExport` operation.

This example illustrates one usage of `CreateExport`.

### Sample Request

```
{
  "Export": {
    "Name": "ExampleExportName",
    "Description": "Example Description",
    "DataQuery": {
      "QueryStatement": "SELECT identity_line_item_id, identity_time_interval,
line_item_product_code,line_item_unblended_cost FROM COST_AND_USAGE_REPORT",
      "TableConfigurations": {
        "COST_AND_USAGE_REPORT": {
          "TIME_GRANULARITY": "DAILY",
          "INCLUDE_RESOURCES": "FALSE",
          "INCLUDE_MANUAL_DISCOUNT_COMPATIBILITY": "FALSE",
          "INCLUDE_SPLIT_COST_ALLOCATION_DATA": "FALSE"
        }
      }
    },
    "DestinationConfigurations": {
      "S3Destination": {
        "S3Bucket": "ExampleS3Bucket",
        "S3Prefix": "ExampleS3Prefix",
        "S3Region": "us-east-1",
        "S3OutputConfigurations": {
          "Overwrite": "OVERWRITE_REPORT",
          "Format": "TEXT_OR_CSV",
          "Compression": "GZIP",
          "OutputType": "CUSTOM"
        }
      }
    }
  }
}
```

```
    }
  },
  "RefreshCadence": {
    "Frequency": "SYNCHRONOUS"
  }
},
"ResourceTags": [
  {
    "Key": "YourTagKey",
    "Value": "YourTagValue"
  }
]
}
```

The following is a sample response of the `CreateExport` operation.

This example illustrates one usage of `CreateExport`.

### Sample Response

```
{
  "ExportArn": "arn:aws:bcm-data-exports::export/Example-b9ac8e7c-6a49-468f-
a43e-9ce6b5b051d1"
}
```

### See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go v2](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)



## DeleteExport

Service: AWS Data Exports

Deletes an existing data export.

### Request Syntax

```
{
  "ExportArn": "string"
}
```

### Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#).

The request accepts the following data in JSON format.

#### ExportArn

The Amazon Resource Name (ARN) for this export.

Type: String

Length Constraints: Minimum length of 20. Maximum length of 2048.

Pattern: `^arn:aws[-a-z0-9]*:[-a-z0-9]+:[-a-z0-9]*:[0-9]{12}:[-a-zA-Z0-9/:_]+$`

Required: Yes

### Response Syntax

```
{
  "ExportArn": "string"
}
```

### Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

## ExportArn

The Amazon Resource Name (ARN) for this export.

Type: String

Length Constraints: Minimum length of 20. Maximum length of 2048.

Pattern: `^arn:aws[-a-z0-9]*:[-a-z0-9]+:[-a-z0-9]*:[0-9]{12}:[-a-zA-Z0-9/:_]+$`

## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

### **InternalServerErrorException**

An error on the server occurred during the processing of your request. Try again later.

HTTP Status Code: 500

### **ResourceNotFoundException**

The specified Amazon Resource Name (ARN) in the request doesn't exist.

HTTP Status Code: 400

### **ThrottlingException**

The request was denied due to request throttling.

HTTP Status Code: 400

### **ValidationException**

The input fails to satisfy the constraints specified by an AWS service.

HTTP Status Code: 400

## Examples

**The following is a sample request of the DeleteExport operation.**

This example illustrates one usage of DeleteExport.

## Sample Request

```
{
  "ExportArn": "arn:aws:bcm-data-exports:::export:Example/837fcfce-f85b-4600-b333-
b38a12c3a927"
}
```

The following is a sample response of the `DeleteExport` operation.

This example illustrates one usage of `DeleteExport`.

## Sample Response

```
{
  "ExportArn": "arn:aws:bcm-data-exports:::export:Example/837fcfce-f85b-4600-b333-
b38a12c3a927"
}
```

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go v2](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)



# GetExecution

Service: AWS Data Exports

Exports data based on the source data update.

## Request Syntax

```
{
  "ExecutionId": "string",
  "ExportArn": "string"
}
```

## Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#).

The request accepts the following data in JSON format.

### ExecutionId

The ID for this specific execution.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 1024.

Pattern: `^[\S\s]*$`

Required: Yes

### ExportArn

The Amazon Resource Name (ARN) of the Export object that generated this specific execution.

Type: String

Length Constraints: Minimum length of 20. Maximum length of 2048.

Pattern: `^arn:aws[-a-z0-9]*:[-a-z0-9]+:[-a-z0-9]*:[0-9]{12}:[-a-zA-Z0-9/:_]+$`

Required: Yes

## Response Syntax

```
{
  "ExecutionId": "string",
  "ExecutionStatus": {
    "CompletedAt": "string",
    "CreatedAt": "string",
    "LastUpdatedAt": "string",
    "StatusCode": "string",
    "StatusReason": "string"
  },
  "Export": {
    "DataQuery": {
      "QueryStatement": "string",
      "TableConfigurations": {
        "string" : {
          "string" : "string"
        }
      }
    },
    "Description": "string",
    "DestinationConfigurations": {
      "S3Destination": {
        "S3Bucket": "string",
        "S3OutputConfigurations": {
          "Compression": "string",
          "Format": "string",
          "OutputType": "string",
          "Overwrite": "string"
        },
        "S3Prefix": "string",
        "S3Region": "string"
      }
    },
    "ExportArn": "string",
    "Name": "string",
    "RefreshCadence": {
      "Frequency": "string"
    }
  }
}
```

## Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

### ExecutionId

The ID for this specific execution.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 1024.

Pattern: `^[\\S\\s]*$`

### ExecutionStatus

The status of this specific execution.

Type: [ExecutionStatus](#) object

### Export

The export data for this specific execution. This export data is a snapshot from when the execution was generated. The data could be different from the current export data if the export was updated since the execution was generated.

Type: [Export](#) object

## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

### **InternalServerErrorException**

An error on the server occurred during the processing of your request. Try again later.

HTTP Status Code: 500

### **ResourceNotFoundException**

The specified Amazon Resource Name (ARN) in the request doesn't exist.

HTTP Status Code: 400

## ThrottlingException

The request was denied due to request throttling.

HTTP Status Code: 400

## ValidationException

The input fails to satisfy the constraints specified by an AWS service.

HTTP Status Code: 400

## Examples

The following is a sample request of the `GetExecution` operation.

This example illustrates one usage of `GetExecution`.

### Sample Request

```
{
  "ExportArn": "arn:aws:bcm-data-exports:::export:Example/837fcfce-f85b-4600-b333-
b38a12c3a927",
  "ExecutionId": "8ae3fbeb-fbeb-4048-bb39-f7c6c7e80c21"
}
```

The following is a sample response of the `GetExecution` operation.

This example illustrates one usage of `GetExecution`.

### Sample Response

```
{
  "ExecutionId": "f0cfeaf0-c552-47e7-82bc-0107fbfc7a8b",
  "ExecutionStatus": {
    "CreatedAt": "2023-11-14T18:14:12.813Z",
    "LastUpdatedAt": "2023-11-14T18:18:14.252556820Z",
    "StatusCode": "DELIVERY_SUCCESS"
  },
  "Export": {
    "Name": "ExampleExportName",
    "Description": "Example Description",
    "DataQuery": {
```

```
    "QueryStatement": "SELECT identity_line_item_id, identity_time_interval,
line_item_product_code,line_item_unblended_cost FROM COST_AND_USAGE_REPORT",
    "TableConfigurations": {
        "COST_AND_USAGE_REPORT": {
            "TIME_GRANULARITY": "DAILY",
            "INCLUDE_RESOURCES": "FALSE",
            "INCLUDE_MANUAL_DISCOUNT_COMPATIBILITY": "FALSE",
            "INCLUDE_SPLIT_COST_ALLOCATION_DATA": "FALSE"
        }
    }
},
"DestinationConfigurations": {
    "S3Destination": {
        "S3Bucket": "ExampleS3Bucket",
        "S3Prefix": "ExampleS3Prefix",
        "S3Region": "us-east-1",
        "S3OutputConfigurations": {
            "Overwrite": "OVERWRITE_REPORT",
            "Format": "TEXT_OR_CSV",
            "Compression": "GZIP",
            "OutputType": "CUSTOM"
        }
    }
},
"RefreshCadence": {
    "Frequency": "SYNCHRONOUS"
}
}
```

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go v2](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)

- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)

# GetExport

Service: AWS Data Exports

Views the definition of an existing data export.

## Request Syntax

```
{
  "ExportArn": "string"
}
```

## Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#).

The request accepts the following data in JSON format.

### ExportArn

The Amazon Resource Name (ARN) for this export.

Type: String

Length Constraints: Minimum length of 20. Maximum length of 2048.

Pattern: `^arn:aws[-a-z0-9]*:[-a-z0-9]+:[-a-z0-9]*:[0-9]{12}:[-a-zA-Z0-9/:_]+$`

Required: Yes

## Response Syntax

```
{
  "Export": {
    "DataQuery": {
      "QueryStatement": "string",
      "TableConfigurations": {
        "string" : {
          "string" : "string"
        }
      }
    }
  },
}
```

```
"Description": "string",
"DestinationConfigurations": {
  "S3Destination": {
    "S3Bucket": "string",
    "S3OutputConfigurations": {
      "Compression": "string",
      "Format": "string",
      "OutputType": "string",
      "Overwrite": "string"
    },
    "S3Prefix": "string",
    "S3Region": "string"
  }
},
"ExportArn": "string",
"Name": "string",
"RefreshCadence": {
  "Frequency": "string"
}
},
"ExportStatus": {
  "CreatedAt": "string",
  "LastRefreshedAt": "string",
  "LastUpdatedAt": "string",
  "StatusCode": "string",
  "StatusReason": "string"
}
}
```

## Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

### [Export](#)

The data for this specific export.

Type: [Export](#) object

### [ExportStatus](#)

The status of this specific export.



Type: [ExportStatus](#) object

## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

### InternalServerError

An error on the server occurred during the processing of your request. Try again later.

HTTP Status Code: 500

### ResourceNotFoundException

The specified Amazon Resource Name (ARN) in the request doesn't exist.

HTTP Status Code: 400

### ThrottlingException

The request was denied due to request throttling.

HTTP Status Code: 400

### ValidationException

The input fails to satisfy the constraints specified by an AWS service.

HTTP Status Code: 400

## Examples

The following is a sample request of the `GetExport` operation.

This example illustrates one usage of `GetExport`.

### Sample Request

```
{
  "ExportArn": "arn:aws:bcm-data-exports:::export:Example/837fcfce-f85b-4600-b333-
b38a12c3a927"
}
```

## The following is a sample response of the GetExport operation.

This example illustrates one usage of GetExport.

### Sample Response

```
{
  "Export": {
    "Name": "ExampleExportName",
    "Description": "Example Description",
    "DataQuery": {
      "QueryStatement": "SELECT identity_line_item_id, identity_time_interval,
line_item_product_code,line_item_unblended_cost FROM COST_AND_USAGE_REPORT",
      "TableConfigurations": {
        "COST_AND_USAGE_REPORT": {
          "TIME_GRANULARITY": "DAILY",
          "INCLUDE_RESOURCES": "FALSE",
          "INCLUDE_MANUAL_DISCOUNT_COMPATIBILITY": "FALSE",
          "INCLUDE_SPLIT_COST_ALLOCATION_DATA": "FALSE"
        }
      }
    },
    "DestinationConfigurations": {
      "S3Destination": {
        "S3Bucket": "ExampleS3Bucket",
        "S3Prefix": "ExampleS3Prefix",
        "S3Region": "us-east-1",
        "S3OutputConfigurations": {
          "Overwrite": "OVERWRITE_REPORT",
          "Format": "TEXT_OR_CSV",
          "Compression": "GZIP",
          "OutputType": "CUSTOM"
        }
      }
    },
    "RefreshCadence": {
      "Frequency": "SYNCHRONOUS"
    }
  },
  "ExportStatus": {
    "CreatedAt": "2023-11-14T18:02:02.371Z",
    "LastRefreshedAt": "2023-11-14T18:18:12.592Z",
    "LastUpdatedAt": "2023-11-14T18:02:02.371Z",
    "StatusCode": "HEALTHY"
  }
}
```

```
}  
}
```

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go v2](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)

# GetTable

Service: AWS Data Exports

Returns the metadata for the specified table and table properties. This includes the list of columns in the table schema, their data types, and column descriptions.

## Request Syntax

```
{
  "TableName": "string",
  "TableProperties": {
    "string" : "string"
  }
}
```

## Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#).

The request accepts the following data in JSON format.

### TableName

The name of the table.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 1024.

Pattern: `^[\\S\\s]*$`

Required: Yes

### TableProperties

TableProperties are additional configurations you can provide to change the data and schema of a table. Each table can have different TableProperties. Tables are not required to have any TableProperties. Each table property has a default value that it assumes if not specified.

Type: String to string map

Key Length Constraints: Minimum length of 0. Maximum length of 1024.

Key Pattern: `^\S\s]*$`

Value Length Constraints: Minimum length of 0. Maximum length of 1024.

Value Pattern: `^\S\s]*$`

Required: No

## Response Syntax

```
{
  "Description": "string",
  "Schema": [
    {
      "Description": "string",
      "Name": "string",
      "Type": "string"
    }
  ],
  "TableName": "string",
  "TableProperties": {
    "string": "string"
  }
}
```

## Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

### Description

The table description.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 1024.

Pattern: `^\S\s]*$`

### Schema

The schema of the table.

Type: Array of [Column](#) objects

### TableName

The name of the table.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 1024.

Pattern: `^[\\S\\s]*$`

### TableProperties

TableProperties are additional configurations you can provide to change the data and schema of a table. Each table can have different TableProperties. Tables are not required to have any TableProperties. Each table property has a default value that it assumes if not specified.

Type: String to string map

Key Length Constraints: Minimum length of 0. Maximum length of 1024.

Key Pattern: `^[\\S\\s]*$`

Value Length Constraints: Minimum length of 0. Maximum length of 1024.

Value Pattern: `^[\\S\\s]*$`

## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

### **InternalServerError**

An error on the server occurred during the processing of your request. Try again later.

HTTP Status Code: 500

### **ThrottlingException**

The request was denied due to request throttling.

HTTP Status Code: 400

## ValidationException

The input fails to satisfy the constraints specified by an AWS service.

HTTP Status Code: 400

## Examples

The following is a sample request of the `GetTable` operation.

This example illustrates one usage of `GetTable`.

### Sample Request

```
{
  "TableName": "COST_AND_USAGE_REPORT",
  "TableProperties": {
  }
}
```

The following is a sample response of the `GetTable` operation.

This example illustrates one usage of `GetTable`.

### Sample Response

```
{
  "Description": "Cost and Usage Report",
  "Schema": [
    {
      "Description": "This field is generated for each line item and is unique in a given partition. This does not guarantee that the field will be unique across an entire delivery (that is, all partitions in an update) of the AWS CUR. The line item ID isn't consistent between different Cost and Usage Reports and can't be used to identify the same line item across different reports.",
      "Name": "identity_line_item_id",
      "Type": "String"
    },
    {
      "Description": "The time interval that this line item applies to, in the following format: YYYY-MM-DDTHH:mm:ssZ/YYYY-MM-DDTHH:mm:ssZ. The time interval is in UTC and can be either daily or hourly, depending on the granularity of the report.",

```

```
        "Name": "identity_time_interval",
        "Type": "String"
    },
    {
        "Description": "The ID associated with a specific line item. Until the
report is final, the InvoiceId is blank.",
        "Name": "bill_invoice_id",
        "Type": "String"
    }
],
"TableName": "COST_AND_USAGE_REPORT",
"TableProperties": {
    "INCLUDE_MANUAL_DISCOUNT_COMPATIBILITY": "FALSE",
    "INCLUDE_RESOURCES": "FALSE",
    "INCLUDE_SPLIT_COST_ALLOCATION_DATA": "FALSE",
    "TIME_GRANULARITY": "HOURLY"
}
}
```

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go v2](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)



# ListExecutions

Service: AWS Data Exports

Lists the historical executions for the export.

## Request Syntax

```
{
  "ExportArn": "string",
  "MaxResults": number,
  "NextToken": "string"
}
```

## Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#).

The request accepts the following data in JSON format.

### ExportArn

The Amazon Resource Name (ARN) for this export.

Type: String

Length Constraints: Minimum length of 20. Maximum length of 2048.

Pattern: `^arn:aws[-a-z0-9]*:[-a-z0-9]+:[-a-z0-9]*:[0-9]{12}:[-a-zA-Z0-9/:_]+`

Required: Yes

### MaxResults

The maximum number of objects that are returned for the request.

Type: Integer

Valid Range: Minimum value of 1.

Required: No

### NextToken

The token to retrieve the next set of results.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 8192.

Pattern: `^[\\S\\s]*$`

Required: No

## Response Syntax

```
{
  "Executions": [
    {
      "ExecutionId": "string",
      "ExecutionStatus": {
        "CompletedAt": "string",
        "CreatedAt": "string",
        "LastUpdatedAt": "string",
        "StatusCode": "string",
        "StatusReason": "string"
      }
    }
  ],
  "NextToken": "string"
}
```

## Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

### Executions

The list of executions.

Type: Array of [ExecutionReference](#) objects

### NextToken

The token to retrieve the next set of results.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 8192.

Pattern: `^[\\S\\s]*$`

## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

### InternalServerErrorException

An error on the server occurred during the processing of your request. Try again later.

HTTP Status Code: 500

### ResourceNotFoundException

The specified Amazon Resource Name (ARN) in the request doesn't exist.

HTTP Status Code: 400

### ThrottlingException

The request was denied due to request throttling.

HTTP Status Code: 400

### ValidationException

The input fails to satisfy the constraints specified by an AWS service.

HTTP Status Code: 400

## Examples

The following is a sample request of the `ListExecutions` operation.

This example illustrates one usage of `ListExecutions`.

### Sample Request

```
{
  "ExportArn": "arn:aws:bcm-data-exports:::export:Example/837fcfce-f85b-4600-b333-
b38a12c3a927",
```

```
"MaxResults": 100,  
"NextToken": ""  
}
```

The following is a sample response of the `ListExecutions` operation.

This example illustrates one usage of `ListExecutions`.

### Sample Response

```
{  
  "Executions": [  
    {  
      "ExecutionId": "f0cfeaf0-c552-47e7-82bc-0107fbfc7a8b",  
      "ExecutionStatus": {  
        "CreatedAt": "2023-11-14T18:14:12.813Z",  
        "LastUpdatedAt": "2023-11-14T18:18:14.252556820Z",  
        "StatusCode": "DELIVERY_SUCCESS"  
      }  
    },  
    {  
      "ExecutionId": "2c173333-4b14-4740-98a1-d52304eced2d",  
      "ExecutionStatus": {  
        "CreatedAt": "2023-11-14T09:20:47.137Z",  
        "LastUpdatedAt": "2023-11-14T09:53:48.285265457Z",  
        "StatusCode": "DELIVERY_SUCCESS"  
      }  
    }  
  ]  
}
```

### See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go v2](#)
- [AWS SDK for Java V2](#)

- [AWS SDK for JavaScript V3](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)

# ListExports

Service: AWS Data Exports

Lists all data export definitions.

## Request Syntax

```
{
  "MaxResults": number,
  "NextToken": "string"
}
```

## Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#).

The request accepts the following data in JSON format.

### MaxResults

The maximum number of objects that are returned for the request.

Type: Integer

Valid Range: Minimum value of 1.

Required: No

### NextToken

The token to retrieve the next set of results.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 8192.

Pattern: `^[\\S\\s]*$`

Required: No

## Response Syntax

```
{
  "Exports": [
```

```
{
  "ExportArn": "string",
  "ExportName": "string",
  "ExportStatus": {
    "CreatedAt": "string",
    "LastRefreshedAt": "string",
    "LastUpdatedAt": "string",
    "StatusCode": "string",
    "StatusReason": "string"
  }
},
"NextToken": "string"
}
```

## Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

### Exports

The details of the exports, including name and export status.

Type: Array of [ExportReference](#) objects

### NextToken

The token to retrieve the next set of results.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 8192.

Pattern: `^[\\S\\s]*$`

## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

### **InternalServerErrorException**

An error on the server occurred during the processing of your request. Try again later.

HTTP Status Code: 500

### ThrottlingException

The request was denied due to request throttling.

HTTP Status Code: 400

### ValidationException

The input fails to satisfy the constraints specified by an AWS service.

HTTP Status Code: 400

## Examples

The following is a sample request of the `ListExports` operation.

This example illustrates one usage of `ListExports`.

### Sample Request

```
{
  "MaxResults": 100,
  "NextToken": ""
}
```

The following is a sample response of the `ListExports` operation.

This example illustrates one usage of `ListExports`.

### Sample Response

```
{
  "Exports": [
    {
      "ExportArn": "arn:aws:bcm-data-exports:::export:Example/837fcfce-f85b-4600-
b333-b38a12c3a927",
      "ExportName": "ExampleExportName1",
      "ExportStatus": {
        "CreatedAt": "2023-11-14T18:02:02.371Z",
        "LastRefreshedAt": "2023-11-14T18:18:12.592Z",
        "LastUpdatedAt": "2023-11-14T18:02:02.371Z",

```



```
        "StatusCode": "HEALTHY"
      }
    },
    {
      "ExportArn": "arn:aws:bcm-data-exports:::export:Example/837fcfce-f85b-4600-
b333-b38a12c3a927",
      "ExportName": "ExampleExportName2",
      "ExportStatus": {
        "CreatedAt": "2023-11-14T18:03:02.038Z",
        "LastRefreshedAt": "2023-11-14T18:18:12.629Z",
        "LastUpdatedAt": "2023-11-14T18:03:02.038Z",
        "StatusCode": "UNHEALTHY"
      }
    }
  ]
}
```

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go v2](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)

# ListTables

Service: AWS Data Exports

Lists all available tables in data exports.

## Request Syntax

```
{  
  "MaxResults": number,  
  "NextToken": "string"  
}
```

## Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#).

The request accepts the following data in JSON format.

### MaxResults

The maximum number of objects that are returned for the request.

Type: Integer

Valid Range: Minimum value of 1.

Required: No

### NextToken

The token to retrieve the next set of results.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 8192.

Pattern: `^[\\S\\s]*$`

Required: No

## Response Syntax

```
{
```

```
"NextToken": "string",
"Tables": [
  {
    "Description": "string",
    "TableName": "string",
    "TableProperties": [
      {
        "DefaultValue": "string",
        "Description": "string",
        "Name": "string",
        "ValidValues": [ "string" ]
      }
    ]
  }
]
```

## Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

### NextToken

The token to retrieve the next set of results.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 8192.

Pattern: `^[\\S\\s]*$`

### Tables

The list of tables.

Type: Array of [Table](#) objects

## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

## InternalServerErrorException

An error on the server occurred during the processing of your request. Try again later.

HTTP Status Code: 500

## ThrottlingException

The request was denied due to request throttling.

HTTP Status Code: 400

## ValidationException

The input fails to satisfy the constraints specified by an AWS service.

HTTP Status Code: 400

## Examples

The following is a sample request of the `ListTables` operation.

This example illustrates one usage of `ListTables`.

### Sample Request

```
{
  "MaxResults": 100,
  "NextToken": ""
}
```

The following is a sample response of the `ListTables` operation.

This example illustrates one usage of `ListTables`.

### Sample Response

```
{
  "Tables": [
    {
      "Description": "A view over CUR for CostAndUsageDashboard",
      "TableName": "COST_AND_USAGE_DASHBOARD",
      "TableProperties": [
        {}
      ]
    }
  ]
}
```

```
    },
    {
      "Description": "Cost and Usage Report",
      "TableName": "COST_AND_USAGE_REPORT",
      "TableProperties": [
        {
          "DefaultValue": "HOURLY",
          "Description": "The granularity of the line-items in the table.",
          "Name": "TIME_GRANULARITY",
          "ValidValues": [
            "DAILY",
            "MONTHLY",
            "HOURLY"
          ]
        },
        {
          "DefaultValue": "FALSE",
          "Description": "Whether to simulate manual discounts for automated
discount data.",
          "Name": "INCLUDE_MANUAL_DISCOUNT_COMPATIBILITY",
          "ValidValues": [
            "TRUE",
            "FALSE"
          ]
        },
        {
          "DefaultValue": "FALSE",
          "Description": "Whether to include fission columns.",
          "Name": "INCLUDE_SPLIT_COST_ALLOCATION_DATA",
          "ValidValues": [
            "TRUE",
            "FALSE"
          ]
        },
        {
          "DefaultValue": "FALSE",
          "Description": "Whether to include resource IDs on line items.",
          "Name": "INCLUDE_RESOURCES",
          "ValidValues": [
            "TRUE",
            "FALSE"
          ]
        }
      ]
    }
  ]
}
```

```
    }  
  ]  
}
```

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go v2](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)

# ListTagsForResource

Service: AWS Data Exports

List tags associated with an existing data export.

## Request Syntax

```
{  
  "MaxResults": number,  
  "NextToken": "string",  
  "ResourceArn": "string"  
}
```

## Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#).

The request accepts the following data in JSON format.

### MaxResults

The maximum number of objects that are returned for the request.

Type: Integer

Valid Range: Minimum value of 1.

Required: No

### NextToken

The token to retrieve the next set of results.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 8192.

Pattern: `^[\\S\\s]*$`

Required: No

### ResourceArn

The unique identifier for the resource.

Type: String

Length Constraints: Minimum length of 20. Maximum length of 2048.

Pattern: `^arn:aws[-a-z0-9]*:[-a-z0-9]+:[-a-z0-9]*:[0-9]{12}:[-a-zA-Z0-9/:_]+$`

Required: Yes

## Response Syntax

```
{
  "NextToken": "string",
  "ResourceTags": [
    {
      "Key": "string",
      "Value": "string"
    }
  ]
}
```

## Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

### NextToken

The token to retrieve the next set of results.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 8192.

Pattern: `^[\\S\\s]*$`

### ResourceTags

An optional list of tags to associate with the specified export. Each tag consists of a key and a value, and each key must be unique for the resource.

Type: Array of [ResourceTag](#) objects



Array Members: Minimum number of 0 items. Maximum number of 200 items.

## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

### InternalServerErrorException

An error on the server occurred during the processing of your request. Try again later.

HTTP Status Code: 500

### ResourceNotFoundException

The specified Amazon Resource Name (ARN) in the request doesn't exist.

HTTP Status Code: 400

### ThrottlingException

The request was denied due to request throttling.

HTTP Status Code: 400

### ValidationException

The input fails to satisfy the constraints specified by an AWS service.

HTTP Status Code: 400

## Examples

The following is a sample request of the `ListTagsForResource` operation.

This example illustrates one usage of `ListTagsForResource`.

### Sample Request

```
{
  "ResourceArn": "arn:aws:bcm-data-exports:::export:Example/837fcfce-f85b-4600-b333-
b38a12c3a927"
}
```

**The following is a sample response of the ListTagsForResource operation.**

This example illustrates one usage of ListTagsForResource.

### Sample Response

```
{
  "ResourceTags": [
    {
      "Key": "YourTagKey",
      "Value": "YourTagValue"
    }
  ]
}
```

### See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go v2](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)

# TagResource

Service: AWS Data Exports

Adds tags for an existing data export definition.

## Request Syntax

```
{
  "ResourceArn": "string",
  "ResourceTags": [
    {
      "Key": "string",
      "Value": "string"
    }
  ]
}
```

## Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#).

The request accepts the following data in JSON format.

### ResourceArn

The unique identifier for the resource.

Type: String

Length Constraints: Minimum length of 20. Maximum length of 2048.

Pattern: `^arn:aws[-a-z0-9]*:[-a-z0-9]+:[-a-z0-9]*:[0-9]{12}:[-a-zA-Z0-9/:_]+`

Required: Yes

### ResourceTags

The tags to associate with the resource. Each tag consists of a key and a value, and each key must be unique for the resource.

Type: Array of [ResourceTag](#) objects

Array Members: Minimum number of 0 items. Maximum number of 200 items.

Required: Yes

## Response Elements

If the action is successful, the service sends back an HTTP 200 response with an empty HTTP body.

## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

### InternalServerErrorException

An error on the server occurred during the processing of your request. Try again later.

HTTP Status Code: 500

### ResourceNotFoundException

The specified Amazon Resource Name (ARN) in the request doesn't exist.

HTTP Status Code: 400

### ThrottlingException

The request was denied due to request throttling.

HTTP Status Code: 400

### ValidationException

The input fails to satisfy the constraints specified by an AWS service.

HTTP Status Code: 400

## Examples

The following is a sample request of the `TagResource` operation.

This example illustrates one usage of `TagResource`.

### Sample Request

```
{
```

```
"ResourceArn": "arn:aws:bcm-data-exports:::export:Example/837fcfce-f85b-4600-b333-  
b38a12c3a927",  
"ResourceTags": [  
  {  
    "Key": "YourTagKey",  
    "Value": "YourTagValue"  
  }  
]
```

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go v2](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)

# UntagResource

Service: AWS Data Exports

Deletes tags associated with an existing data export definition.

## Request Syntax

```
{  
  "ResourceArn": "string",  
  "ResourceTagKeys": [ "string" ]  
}
```

## Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#).

The request accepts the following data in JSON format.

### [ResourceArn](#)

The unique identifier for the resource.

Type: String

Length Constraints: Minimum length of 20. Maximum length of 2048.

Pattern: `^arn:aws[-a-z0-9]*:[-a-z0-9]+:[-a-z0-9]*:[0-9]{12}:[-a-zA-Z0-9/:_]+$`

Required: Yes

### [ResourceTagKeys](#)

The tag keys that are associated with the resource ARN.

Type: Array of strings

Array Members: Minimum number of 0 items. Maximum number of 200 items.

Length Constraints: Minimum length of 1. Maximum length of 128.

Required: Yes

## Response Elements

If the action is successful, the service sends back an HTTP 200 response with an empty HTTP body.

## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

### InternalServerErrorException

An error on the server occurred during the processing of your request. Try again later.

HTTP Status Code: 500

### ResourceNotFoundException

The specified Amazon Resource Name (ARN) in the request doesn't exist.

HTTP Status Code: 400

### ThrottlingException

The request was denied due to request throttling.

HTTP Status Code: 400

### ValidationException

The input fails to satisfy the constraints specified by an AWS service.

HTTP Status Code: 400

## Examples

**The following is a sample request of the UntagResource operation.**

This example illustrates one usage of UntagResource.

### Sample Request

```
{
  "ResourceArn": "arn:aws:bcm-data-exports:::export:Example/837fcfce-f85b-4600-b333-
b38a12c3a927",
  "ResourceTagKeys": [
```

```
    "YourTagKey"  
  ]  
}
```

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go v2](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)



# UpdateExport

Service: AWS Data Exports

Updates an existing data export by overwriting all export parameters. All export parameters must be provided in the UpdateExport request.

## Request Syntax

```
{
  "Export": {
    "DataQuery": {
      "QueryStatement": "string",
      "TableConfigurations": {
        "string": {
          "string": "string"
        }
      }
    },
    "Description": "string",
    "DestinationConfigurations": {
      "S3Destination": {
        "S3Bucket": "string",
        "S3OutputConfigurations": {
          "Compression": "string",
          "Format": "string",
          "OutputType": "string",
          "Overwrite": "string"
        },
        "S3Prefix": "string",
        "S3Region": "string"
      },
      "ExportArn": "string",
      "Name": "string",
      "RefreshCadence": {
        "Frequency": "string"
      }
    },
    "ExportArn": "string"
  }
}
```

## Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#).

The request accepts the following data in JSON format.

### [Export](#)

The name and query details for the export.

Type: [Export](#) object

Required: Yes

### [ExportArn](#)

The Amazon Resource Name (ARN) for this export.

Type: String

Length Constraints: Minimum length of 20. Maximum length of 2048.

Pattern: `^arn:aws[-a-z0-9]*:[-a-z0-9]+:[-a-z0-9]*:[0-9]{12}:[-a-zA-Z0-9/:_]+$`

Required: Yes

## Response Syntax

```
{
  "ExportArn": "string"
}
```

## Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

### [ExportArn](#)

The Amazon Resource Name (ARN) for this export.

Type: String

Length Constraints: Minimum length of 20. Maximum length of 2048.

Pattern: `^arn:aws[-a-z0-9]*:[-a-z0-9]+:[-a-z0-9]*:[0-9]{12}:[-a-zA-Z0-9/:_]+$`

## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

### InternalServerErrorException

An error on the server occurred during the processing of your request. Try again later.

HTTP Status Code: 500

### ResourceNotFoundException

The specified Amazon Resource Name (ARN) in the request doesn't exist.

HTTP Status Code: 400

### ThrottlingException

The request was denied due to request throttling.

HTTP Status Code: 400

### ValidationException

The input fails to satisfy the constraints specified by an AWS service.

HTTP Status Code: 400

## Examples

The following is a sample request of the `UpdateExport` operation.

This example illustrates one usage of `UpdateExport`.

### Sample Request

```
{
  "ExportArn": "arn:aws:bcm-data-exports:::export:Example/837fcfce-f85b-4600-b333-
b38a12c3a927",
  "Export": {
```

```

    "Name": "ExampleExportName",
    "Description": "Example Description",
    "DataQuery": {
      "QueryStatement": "SELECT identity_line_item_id, identity_time_interval,
line_item_product_code,line_item_unblended_cost FROM COST_AND_USAGE_REPORT",
      "TableConfigurations": {
        "COST_AND_USAGE_REPORT": {
          "TIME_GRANULARITY": "DAILY",
          "INCLUDE_RESOURCES": "FALSE",
          "INCLUDE_MANUAL_DISCOUNT_COMPATIBILITY": "FALSE",
          "INCLUDE_SPLIT_COST_ALLOCATION_DATA": "FALSE"
        }
      }
    },
    "DestinationConfigurations": {
      "S3Destination": {
        "S3Bucket": "ExampleS3Bucket",
        "S3Prefix": "ExampleS3Prefix",
        "S3Region": "us-east-1",
        "S3OutputConfigurations": {
          "Overwrite": "OVERWRITE_REPORT",
          "Format": "TEXT_OR_CSV",
          "Compression": "GZIP",
          "OutputType": "CUSTOM"
        }
      }
    },
    "RefreshCadence": {
      "Frequency": "SYNCHRONOUS"
    }
  }
}

```

The following is a sample response of the UpdateExport operation.

This example illustrates one usage of UpdateExport.

### Sample Response

```

{
  "ExportArn": "arn:aws:bcm-data-exports:::export:Example/837fcfce-f85b-4600-b333-
b38a12c3a927"
}

```

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go v2](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)

## AWS Budgets

The following actions are supported by AWS Budgets:

- [CreateBudget](#)
- [CreateBudgetAction](#)
- [CreateNotification](#)
- [CreateSubscriber](#)
- [DeleteBudget](#)
- [DeleteBudgetAction](#)
- [DeleteNotification](#)
- [DeleteSubscriber](#)
- [DescribeBudget](#)
- [DescribeBudgetAction](#)
- [DescribeBudgetActionHistories](#)
- [DescribeBudgetActionsForAccount](#)
- [DescribeBudgetActionsForBudget](#)
- [DescribeBudgetNotificationsForAccount](#)

- [DescribeBudgetPerformanceHistory](#)
- [DescribeBudgets](#)
- [DescribeNotificationsForBudget](#)
- [DescribeSubscribersForNotification](#)
- [ExecuteBudgetAction](#)
- [ListTagsForResource](#)
- [TagResource](#)
- [UntagResource](#)
- [UpdateBudget](#)
- [UpdateBudgetAction](#)
- [UpdateNotification](#)
- [UpdateSubscriber](#)

# CreateBudget

Service: AWS Budgets

Creates a budget and, if included, notifications and subscribers.

## Important

Only one of `BudgetLimit` or `PlannedBudgetLimits` can be present in the syntax at one time. Use the syntax that matches your case. The Request Syntax section shows the `BudgetLimit` syntax. For `PlannedBudgetLimits`, see the [Examples](#) section.

## Request Syntax

```
{
  "AccountId": "string",
  "Budget": {
    "AutoAdjustData": {
      "AutoAdjustType": "string",
      "HistoricalOptions": {
        "BudgetAdjustmentPeriod": number,
        "LookBackAvailablePeriods": number
      },
      "LastAutoAdjustTime": number
    },
    "BudgetLimit": {
      "Amount": "string",
      "Unit": "string"
    },
    "BudgetName": "string",
    "BudgetType": "string",
    "CalculatedSpend": {
      "ActualSpend": {
        "Amount": "string",
        "Unit": "string"
      },
      "ForecastedSpend": {
        "Amount": "string",
        "Unit": "string"
      }
    }
  },
  "CostFilters": {
```

```

    "string" : [ "string" ]
  },
  "CostTypes": {
    "IncludeCredit": boolean,
    "IncludeDiscount": boolean,
    "IncludeOtherSubscription": boolean,
    "IncludeRecurring": boolean,
    "IncludeRefund": boolean,
    "IncludeSubscription": boolean,
    "IncludeSupport": boolean,
    "IncludeTax": boolean,
    "IncludeUpfront": boolean,
    "UseAmortized": boolean,
    "UseBlended": boolean
  },
  "LastUpdatedTime": number,
  "PlannedBudgetLimits": {
    "string" : {
      "Amount": "string",
      "Unit": "string"
    }
  },
  "TimePeriod": {
    "End": number,
    "Start": number
  },
  "TimeUnit": "string"
},
"NotificationsWithSubscribers": [
  {
    "Notification": {
      "ComparisonOperator": "string",
      "NotificationState": "string",
      "NotificationType": "string",
      "Threshold": number,
      "ThresholdType": "string"
    },
    "Subscribers": [
      {
        "Address": "string",
        "SubscriptionType": "string"
      }
    ]
  }
]
}

```



```
],
  "ResourceTags": [
    {
      "Key": "string",
      "Value": "string"
    }
  ]
}
```

## Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#).

The request accepts the following data in JSON format.

### AccountId

The accountId that is associated with the budget.

Type: String

Length Constraints: Fixed length of 12.

Pattern: `\d{12}`

Required: Yes

### Budget

The budget object that you want to create.

Type: [Budget](#) object

Required: Yes

### NotificationsWithSubscribers

A notification that you want to associate with a budget. A budget can have up to five notifications, and each notification can have one SNS subscriber and up to 10 email subscribers. If you include notifications and subscribers in your CreateBudget call, AWS creates the notifications and subscribers for you.

Type: Array of [NotificationWithSubscribers](#) objects

Array Members: Maximum number of 10 items.

Required: No

### **ResourceTags**

An optional list of tags to associate with the specified budget. Each tag consists of a key and a value, and each key must be unique for the resource.

Type: Array of [ResourceTag](#) objects

Array Members: Minimum number of 0 items. Maximum number of 200 items.

Required: No

## **Response Elements**

If the action is successful, the service sends back an HTTP 200 response with an empty HTTP body.

## **Errors**

For information about the errors that are common to all actions, see [Common Errors](#).

### **AccessDeniedException**

You are not authorized to use this operation with the given parameters.

HTTP Status Code: 400

### **CreationLimitExceededException**

You've exceeded the notification or subscriber limit.

HTTP Status Code: 400

### **DuplicateRecordException**

The budget name already exists. Budget names must be unique within an account.

HTTP Status Code: 400

### **InternalErrorException**

An error on the server occurred during the processing of your request. Try again later.

HTTP Status Code: 400

### **InvalidParameterException**

An error on the client occurred. Typically, the cause is an invalid input value.

HTTP Status Code: 400

### ServiceQuotaExceededException

You've reached the limit on the number of tags you can associate with a resource.

HTTP Status Code: 400

### ThrottlingException

The number of API requests has exceeded the maximum allowed API request throttling limit for the account.

HTTP Status Code: 400

## Examples

### Example

The following is the `PlannedBudgetLimits` syntax

```
{
  "AccountId": "string",
  "Budget": {
    "PlannedBudgetLimits": {
      "string": {
        "Amount": "string",
        "Unit": "string"
      },
    },
  },
  "BudgetName": "string",
  "BudgetType": "string",
  "CalculatedSpend": {
    "ActualSpend": {
      "Amount": "string",
      "Unit": "string"
    },
    "ForecastedSpend": {
      "Amount": "string",
      "Unit": "string"
    }
  },
  "CostFilters": {
```

```
    "string" : [ "string" ]
  },
  "CostTypes": {
    "IncludeCredit": boolean,
    "IncludeDiscount": boolean,
    "IncludeOtherSubscription": boolean,
    "IncludeRecurring": boolean,
    "IncludeRefund": boolean,
    "IncludeSubscription": boolean,
    "IncludeSupport": boolean,
    "IncludeTax": boolean,
    "IncludeUpfront": boolean,
    "UseAmortized": boolean,
    "UseBlended": boolean
  },
  "LastUpdatedTime": number,
  "TimePeriod": {
    "End": number,
    "Start": number
  },
  "TimeUnit": "string"
},
"NotificationsWithSubscribers": [
  {
    "Notification": {
      "ComparisonOperator": "string",
      "NotificationState": "string",
      "NotificationType": "string",
      "Threshold": number,
      "ThresholdType": "string"
    },
    "Subscribers": [
      {
        "Address": "string",
        "SubscriptionType": "string"
      }
    ]
  }
]
}
```

## Example

The following is a sample request of the `CreateBudget` operation using `BudgetLimit`

## Sample Request

```
POST / HTTP/1.1
Host: awsbudgets.<region>.<domain>
x-amz-Date: <Date>
Authorization: AWS4-HMAC-SHA256 Credential=<Credential>,
  SignedHeaders=contenttype;date;host;user-agent;x-amz-date;x-amz-target;x-amzn-
  requestid,Signature=<Signature>
User-Agent: <UserAgentString>
Content-Type: application/x-amz-json-1.1
Content-Length: <PayloadSizeBytes>
Connection: Keep-Alive
X-Amz-Target: AWSBudgetServiceGateway.CreateBudgets
{
  "AccountId": "111122223333",
  "Budget": {
    "BudgetLimit": {
      "Amount": "100",
      "Unit": "USD"
    },
    "BudgetName": "Example Budget",
    "BudgetType": "COST",
    "CostFilters": {
      "AZ" : [ "us-east-1" ]
    },
    "CostTypes": {
      "IncludeCredit": true,
      "IncludeDiscount": true,
      "IncludeOtherSubscription": true,
      "IncludeRecurring": true,
      "IncludeRefund": true,
      "IncludeSubscription": true,
      "IncludeSupport": true,
      "IncludeTax": true,
      "IncludeUpfront": true,
      "UseBlended": false
    },
    "TimePeriod": {
      "Start": 1477353600,
      "End": 1477958399
    },
    "TimeUnit": "MONTHLY"
  },
  "NotificationsWithSubscribers": [
```

```
{
  "Notification": {
    "ComparisonOperator": "GREATER_THAN",
    "NotificationType": "ACTUAL",
    "Threshold": 80,
    "ThresholdType": "PERCENTAGE"
  },
  "Subscribers": [
    {
      "Address": "example@example.com",
      "SubscriptionType": "EMAIL"
    }
  ]
}
```

## Example

The following is a sample request of the `CreateBudget` operation using `PlannedBudgetLimits`

## Sample Request

```
POST / HTTP/1.1
Host: awsbudgets.<region>.<domain>
x-amz-Date: <Date>
Authorization: AWS4-HMAC-SHA256 Credential=<Credential>,
  SignedHeaders=contenttype;date;host;user-agent;x-amz-date;x-amz-target;x-amzn-
requestid,Signature=<Signature>
User-Agent: <UserAgentString>
Content-Type: application/x-amz-json-1.1
Content-Length: <PayloadSizeBytes>
Connection: Keep-Alive
X-Amz-Target: AWSBudgetServiceGateway.CreateBudgets
{
  "AccountId": "111122223333",
  "Budget": {
    "PlannedBudgetLimits": {
      "1583020800": {
        "Amount": "100",
        "Unit": "USD"
      },
      "1564617600": {
        "Amount": "200",
```

```
    "Unit": "USD"
  },
  "1569888000": {
    "Amount": "300",
    "Unit": "USD"
  },
  "1556668800": {
    "Amount": "400",
    "Unit": "USD"
  },
  "1575158400": {
    "Amount": "500",
    "Unit": "USD"
  },
  "1580515200": {
    "Amount": "200",
    "Unit": "USD"
  },
  "1567296000": {
    "Amount": "300",
    "Unit": "USD"
  },
  "1554076800": {
    "Amount": "100",
    "Unit": "USD"
  },
  "1577836800": {
    "Amount": "200",
    "Unit": "USD"
  },
  "1561939200": {
    "Amount": "100",
    "Unit": "USD"
  },
  "1572566400": {
    "Amount": "110",
    "Unit": "USD"
  },
  "1559347200": {
    "Amount": "120",
    "Unit": "USD"
  }
},
"BudgetName": "Example Budget",
```

```
"BudgetType": "COST",
"CostFilters": {
  "AZ" : [ "us-east-1" ]
},
"CostTypes": {
  "IncludeCredit": true,
  "IncludeDiscount": true,
  "IncludeOtherSubscription": true,
  "IncludeRecurring": true,
  "IncludeRefund": true,
  "IncludeSubscription": true,
  "IncludeSupport": true,
  "IncludeTax": true,
  "IncludeUpfront": true,
  "UseBlended": false
},
"TimePeriod": {
  "Start": 1477353600,
  "End": 1477958399
},
"TimeUnit": "MONTHLY"
},
"NotificationsWithSubscribers": [
  {
    "Notification": {
      "ComparisonOperator": "GREATER_THAN",
      "NotificationType": "ACTUAL",
      "Threshold": 80,
      "ThresholdType": "PERCENTAGE"
    },
    "Subscribers": [
      {
        "Address": "example@example.com",
        "SubscriptionType": "EMAIL"
      }
    ]
  }
]
}
```



## Example

The following is a sample request of the `CreateBudget` operation using `BudgetLimit` and filtering for a specific tag.

### Sample Request

```
POST / HTTP/1.1
Host: awsbudgets.<region>.<domain>
x-amz-Date: <Date>
Authorization: AWS4-HMAC-SHA256 Credential=<Credential>,
  SignedHeaders=contenttype;date;host;user-agent;x-amz-date;x-amz-target;x-amzn-
requestid,Signature=<Signature>
User-Agent: <UserAgentString>
Content-Type: application/x-amz-json-1.1
Content-Length: <PayloadSizeBytes>
Connection: Keep-Alive
X-Amz-Target: AWSBudgetServiceGateway.CreateBudgets
{
  "AccountId": "111122223333",
  "Budget": {
    "BudgetLimit": {
      "Amount": "100",
      "Unit": "USD"},
    "BudgetName": "Example Tag Budget",
    "BudgetType": "COST",
    "CostFilters": {
      "TagKeyValue" : ["user:Key$value1","user:Key$value2"]
    },
    "CostTypes": {
      "IncludeCredit": true,
      "IncludeDiscount": true,
      "IncludeOtherSubscription": true,
      "IncludeRecurring": true,
      "IncludeRefund": true,
      "IncludeSubscription": true,
      "IncludeSupport": true,
      "IncludeTax": true,
      "IncludeUpfront": true,
      "UseBlended": false
    },
    "TimePeriod": {
      "Start": 1477958399,
      "End": 3706473600
    }
  }
}
```

```

    "TimeUnit": "MONTHLY"
  },
  "NotificationsWithSubscribers": [
    {
      "Notification": {
        "ComparisonOperator": "GREATER_THAN",
        "NotificationType": "ACTUAL",
        "Threshold": 80,
        "ThresholdType": "PERCENTAGE"
      },
      "Subscribers": [
        {
          "Address": "example@example.com",
          "SubscriptionType": "EMAIL"
        }
      ]
    }
  ]
}

```

## Example

The following is a sample request of the `CreateBudget` operation using `ResourceTags` and filtering for a specific tag.

## Sample Request

```

POST / HTTP/1.1
Host: awsbudgets.<region>.<domain>
x-amz-Date: <Date>
Authorization: AWS4-HMAC-SHA256 Credential=<Credential>,
  SignedHeaders=contenttype;date;host;user-agent;x-amz-date;x-amz-target;x-amzn-
  requestid,Signature=<Signature>
User-Agent: <UserAgentString>
Content-Type: application/x-amz-json-1.1
Content-Length: <PayloadSizeBytes>
Connection: Keep-Alive
X-Amz-Target: AWSBudgetServiceGateway.CreateBudgets
{
  "AccountId": "111122223333",
  "Budget": {
    "BudgetLimit": {

```

```
    "Amount": "100",
    "Unit": "USD"
  },
  "BudgetName": "Example Tag Budget",
  "BudgetType": "COST",
  "CostFilters": {
    "TagKeyValue": [
      "user:tagKey1$value1",
      "user:tagKey2$value2"
    ]
  },
  "CostTypes": {
    "IncludeCredit": true,
    "IncludeDiscount": true,
    "IncludeOtherSubscription": true,
    "IncludeRecurring": true,
    "IncludeRefund": true,
    "IncludeSubscription": true,
    "IncludeSupport": true,
    "IncludeTax": true,
    "IncludeUpfront": true,
    "UseBlended": false
  },
  "TimePeriod": {
    "Start": 1477958399,
    "End": 3706473600
  },
  "TimeUnit": "MONTHLY"
},
"NotificationsWithSubscribers": [
  {
    "Notification": {
      "ComparisonOperator": "GREATER_THAN",
      "NotificationType": "ACTUAL",
      "Threshold": 80,
      "ThresholdType": "PERCENTAGE"
    },
    "Subscribers": [
      {
        "Address": "example@example.com",
        "SubscriptionType": "EMAIL"
      }
    ]
  }
]
```

```
],
  "ResourceTags": [
    {
      "Key": "tagKey1",
      "Value": "value1"
    },
    {
      "Key": "tagKey2",
      "Value": "value1"
    }
  ]
}
```

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go v2](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)

# CreateBudgetAction

Service: AWS Budgets

Creates a budget action.

## Request Syntax

```
{
  "AccountId": "string",
  "ActionThreshold": {
    "ActionThresholdType": "string",
    "ActionThresholdValue": number
  },
  "ActionType": "string",
  "ApprovalModel": "string",
  "BudgetName": "string",
  "Definition": {
    "IamActionDefinition": {
      "Groups": [ "string" ],
      "PolicyArn": "string",
      "Roles": [ "string" ],
      "Users": [ "string" ]
    },
    "ScpActionDefinition": {
      "PolicyId": "string",
      "TargetIds": [ "string" ]
    },
    "SsmActionDefinition": {
      "ActionSubType": "string",
      "InstanceIds": [ "string" ],
      "Region": "string"
    }
  },
  "ExecutionRoleArn": "string",
  "NotificationType": "string",
  "ResourceTags": [
    {
      "Key": "string",
      "Value": "string"
    }
  ],
  "Subscribers": [
    {
```

```
    "Address": "string",  
    "SubscriptionType": "string"  
  }  
]  
}
```

## Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#).

The request accepts the following data in JSON format.

### AccountId

The account ID of the user. It's a 12-digit number.

Type: String

Length Constraints: Fixed length of 12.

Pattern: `\d{12}`

Required: Yes

### ActionThreshold

The trigger threshold of the action.

Type: [ActionThreshold](#) object

Required: Yes

### ActionType

The type of action. This defines the type of tasks that can be carried out by this action. This field also determines the format for definition.

Type: String

Valid Values: `APPLY_IAM_POLICY | APPLY_SCP_POLICY | RUN_SSM_DOCUMENTS`

Required: Yes

### ApprovalModel

This specifies if the action needs manual or automatic approval.

Type: String

Valid Values: AUTOMATIC | MANUAL

Required: Yes

### BudgetName

A string that represents the budget name. The ":" and "\" characters, and the "/action/" substring, aren't allowed.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 100.

Pattern: `^(?![^\:\\\\]*/action/|(?i).*<script>.*</script>.*)[^\:\\\\]+$`

Required: Yes

### Definition

Specifies all of the type-specific parameters.

Type: [Definition](#) object

Required: Yes

### ExecutionRoleArn

The role passed for action execution and reversion. Roles and actions must be in the same account.

Type: String

Length Constraints: Minimum length of 32. Maximum length of 618.

Pattern: `^arn:(aws|aws-cn|aws-us-gov|us-iso-east-1|us-isob-east-1):iam::\d{12}:role(\u002F[\u0021-\u007F]+\u002F|[\u002F])[\w+=,.\@-]+$`

Required: Yes

### NotificationType

The type of a notification. It must be ACTUAL or FORECASTED.

Type: String

Valid Values: ACTUAL | FORECASTED

Required: Yes

### ResourceTags

An optional list of tags to associate with the specified budget action. Each tag consists of a key and a value, and each key must be unique for the resource.

Type: Array of [ResourceTag](#) objects

Array Members: Minimum number of 0 items. Maximum number of 200 items.

Required: No

### Subscribers

A list of subscribers.

Type: Array of [Subscriber](#) objects

Array Members: Minimum number of 1 item. Maximum number of 11 items.

Required: Yes

## Response Syntax

```
{
  "AccountId": "string",
  "ActionId": "string",
  "BudgetName": "string"
}
```

## Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

### AccountId

The account ID of the user. It's a 12-digit number.

Type: String



Length Constraints: Fixed length of 12.

Pattern: `\d{12}`

### **ActionId**

A system-generated universally unique identifier (UUID) for the action.

Type: String

Length Constraints: Fixed length of 36.

Pattern: `^[a-fA-F0-9]{8}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{12}$`

### **BudgetName**

A string that represents the budget name. The ":" and "\" characters, and the "/action/" substring, aren't allowed.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 100.

Pattern: `^(?![^\:\\\]*\/action\/|(?i).*<script>.*</script>.*)[^\:\\\]+$`

## **Errors**

For information about the errors that are common to all actions, see [Common Errors](#).

### **AccessDeniedException**

You are not authorized to use this operation with the given parameters.

HTTP Status Code: 400

### **CreationLimitExceededException**

You've exceeded the notification or subscriber limit.

HTTP Status Code: 400

### **DuplicateRecordException**

The budget name already exists. Budget names must be unique within an account.

HTTP Status Code: 400

### **InternalErrorException**

An error on the server occurred during the processing of your request. Try again later.

HTTP Status Code: 400

### **InvalidParameterException**

An error on the client occurred. Typically, the cause is an invalid input value.

HTTP Status Code: 400

### **NotFoundException**

We can't locate the resource that you specified.

HTTP Status Code: 400

### **ServiceQuotaExceededException**

You've reached the limit on the number of tags you can associate with a resource.

HTTP Status Code: 400

### **ThrottlingException**

The number of API requests has exceeded the maximum allowed API request throttling limit for the account.

HTTP Status Code: 400

## **See Also**

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go v2](#)
- [AWS SDK for Java V2](#)

- [AWS SDK for JavaScript V3](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)

# CreateNotification

Service: AWS Budgets

Creates a notification. You must create the budget before you create the associated notification.

## Request Syntax

```
{
  "AccountId": "string",
  "BudgetName": "string",
  "Notification": {
    "ComparisonOperator": "string",
    "NotificationState": "string",
    "NotificationType": "string",
    "Threshold": number,
    "ThresholdType": "string"
  },
  "Subscribers": [
    {
      "Address": "string",
      "SubscriptionType": "string"
    }
  ]
}
```

## Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#).

The request accepts the following data in JSON format.

### AccountId

The accountId that is associated with the budget that you want to create a notification for.

Type: String

Length Constraints: Fixed length of 12.

Pattern: `\d{12}`

Required: Yes

## BudgetName

The name of the budget that you want AWS to notify you about. Budget names must be unique within an account.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 100.

Pattern: `^(?![^\:\/\|](?i).*<script>.*</script>.*)[^\:\/\|]+$`

Required: Yes

## Notification

The notification that you want to create.

Type: [Notification](#) object

Required: Yes

## Subscribers

A list of subscribers that you want to associate with the notification. Each notification can have one SNS subscriber and up to 10 email subscribers.

Type: Array of [Subscriber](#) objects

Array Members: Minimum number of 1 item. Maximum number of 11 items.

Required: Yes

## Response Elements

If the action is successful, the service sends back an HTTP 200 response with an empty HTTP body.

## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

## AccessDeniedException

You are not authorized to use this operation with the given parameters.

HTTP Status Code: 400

## CreationLimitExceededException

You've exceeded the notification or subscriber limit.

HTTP Status Code: 400

## DuplicateRecordException

The budget name already exists. Budget names must be unique within an account.

HTTP Status Code: 400

## InternalErrorException

An error on the server occurred during the processing of your request. Try again later.

HTTP Status Code: 400

## InvalidParameterException

An error on the client occurred. Typically, the cause is an invalid input value.

HTTP Status Code: 400

## NotFoundException

We can't locate the resource that you specified.

HTTP Status Code: 400

## ThrottlingException

The number of API requests has exceeded the maximum allowed API request throttling limit for the account.

HTTP Status Code: 400

## Examples

### Example

The following is a sample request of the CreateNotification operation.

### Sample Request

```
POST / HTTP/1.1
```

```
Host: awsbudgets.<region>.<domain>
x-amz-Date: <Date>
Authorization: AWS4-HMAC-SHA256 Credential=<Credential>,
  SignedHeaders=contenttype;date;host;user-agent;x-amz-date;x-amz-target;x-amzn-
  requestid,Signature=<Signature>
User-Agent: <UserAgentString>
Content-Type: application/x-amz-json-1.1
Content-Length: <PayloadSizeBytes>
Connection: Keep-Alive
X-Amz-Target: AWSBudgetServiceGateway.CreateNotification
{
  "AccountId": "111122223333",
  "BudgetName": "Example Budget",
  "Notification": {
    "ComparisonOperator": "GREATER_THAN",
    "NotificationType": "ACTUAL",
    "Threshold": 80,
    "ThresholdType": "PERCENTAGE"
  },
  "Subscribers": [
    {
      "Address": "example@example.com",
      "SubscriptionType": "EMAIL"
    }
  ]
}
```

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go v2](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)

- [AWS SDK for Ruby V3](#)



# CreateSubscriber

Service: AWS Budgets

Creates a subscriber. You must create the associated budget and notification before you create the subscriber.

## Request Syntax

```
{
  "AccountId": "string",
  "BudgetName": "string",
  "Notification": {
    "ComparisonOperator": "string",
    "NotificationState": "string",
    "NotificationType": "string",
    "Threshold": number,
    "ThresholdType": "string"
  },
  "Subscriber": {
    "Address": "string",
    "SubscriptionType": "string"
  }
}
```

## Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#).

The request accepts the following data in JSON format.

### AccountId

The accountId that is associated with the budget that you want to create a subscriber for.

Type: String

Length Constraints: Fixed length of 12.

Pattern: \d{12}

Required: Yes

## BudgetName

The name of the budget that you want to subscribe to. Budget names must be unique within an account.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 100.

Pattern: `^(?![^\w]*action/|(?i).*<script>.*</script>.*)[^\w]+$`

Required: Yes

## Notification

The notification that you want to create a subscriber for.

Type: [Notification](#) object

Required: Yes

## Subscriber

The subscriber that you want to associate with a budget notification.

Type: [Subscriber](#) object

Required: Yes

## Response Elements

If the action is successful, the service sends back an HTTP 200 response with an empty HTTP body.

## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

### **AccessDeniedException**

You are not authorized to use this operation with the given parameters.

HTTP Status Code: 400

## **CreationLimitExceededException**

You've exceeded the notification or subscriber limit.

HTTP Status Code: 400

## **DuplicateRecordException**

The budget name already exists. Budget names must be unique within an account.

HTTP Status Code: 400

## **InternalErrorException**

An error on the server occurred during the processing of your request. Try again later.

HTTP Status Code: 400

## **InvalidParameterException**

An error on the client occurred. Typically, the cause is an invalid input value.

HTTP Status Code: 400

## **NotFoundException**

We can't locate the resource that you specified.

HTTP Status Code: 400

## **ThrottlingException**

The number of API requests has exceeded the maximum allowed API request throttling limit for the account.

HTTP Status Code: 400

## **Examples**

### **Example**

The following is a sample request of the `CreateSubscriber` operation.

### **Sample Request**

```
POST / HTTP/1.1
```

```
Host: awsbudgets.<region>.<domain>
x-amz-Date: <Date>
Authorization: AWS4-HMAC-SHA256 Credential=<Credential>,
  SignedHeaders=contenttype;date;host;user-agent;x-amz-date;x-amz-target;x-amzn-
  requestid,Signature=<Signature>
User-Agent: <UserAgentString>
Content-Type: application/x-amz-json-1.1
Content-Length: <PayloadSizeBytes>
Connection: Keep-Alive
X-Amz-Target: AWSBudgetServiceGateway.CreateSubscriber
{
  "AccountId": "111122223333",
  "BudgetName": "Example Budget",
  "Notification": {
    "ComparisonOperator": "GREATER_THAN",
    "NotificationType": "ACTUAL",
    "Threshold": 80,
    "ThresholdType": "PERCENTAGE"
  },
  "Subscribers": [
    {
      "Address": "example@example.com",
      "SubscriptionType": "EMAIL"
    }
  ]
}
```

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go v2](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)

- [AWS SDK for Ruby V3](#)

# DeleteBudget

Service: AWS Budgets

Deletes a budget. You can delete your budget at any time.

## Important

Deleting a budget also deletes the notifications and subscribers that are associated with that budget.

## Request Syntax

```
{
  "AccountId": "string",
  "BudgetName": "string"
}
```

## Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#).

The request accepts the following data in JSON format.

### AccountId

The accountId that is associated with the budget that you want to delete.

Type: String

Length Constraints: Fixed length of 12.

Pattern: `\d{12}`

Required: Yes

### BudgetName

The name of the budget that you want to delete.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 100.

Pattern: `^(?![^\:\]\\]*\/action\/|(?i).*<script>.*</script>.*)[^\:\\\]+$`

Required: Yes

## Response Elements

If the action is successful, the service sends back an HTTP 200 response with an empty HTTP body.

## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

### AccessDeniedException

You are not authorized to use this operation with the given parameters.

HTTP Status Code: 400

### InternalErrorException

An error on the server occurred during the processing of your request. Try again later.

HTTP Status Code: 400

### InvalidParameterException

An error on the client occurred. Typically, the cause is an invalid input value.

HTTP Status Code: 400

### NotFoundException

We can't locate the resource that you specified.

HTTP Status Code: 400

### ThrottlingException

The number of API requests has exceeded the maximum allowed API request throttling limit for the account.

HTTP Status Code: 400

## Examples

### Example

The following is a sample request of the DeleteBudget operation.

### Sample Request

```
POST / HTTP/1.1
Host: awsbudgets.<region>.<domain>
x-amz-Date: <Date>
Authorization: AWS4-HMAC-SHA256 Credential=<Credential>,
  SignedHeaders=contenttype;date;host;user-agent;x-amz-date;x-amz-target;x-amzn-
requestid,Signature=<Signature>
User-Agent: <UserAgentString>
Content-Type: application/x-amz-json-1.1
Content-Length: <PayloadSizeBytes>
Connection: Keep-Alive
X-Amz-Target: AWSBudgetServiceGateway.DeleteBudget
{
  "AccountId": "111122223333",
  "BudgetName": "Example Budget"
}
```

### See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go v2](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)



# DeleteBudgetAction

Service: AWS Budgets

Deletes a budget action.

## Request Syntax

```
{
  "AccountId": "string",
  "ActionId": "string",
  "BudgetName": "string"
}
```

## Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#).

The request accepts the following data in JSON format.

### AccountId

The account ID of the user. It's a 12-digit number.

Type: String

Length Constraints: Fixed length of 12.

Pattern: `\d{12}`

Required: Yes

### ActionId

A system-generated universally unique identifier (UUID) for the action.

Type: String

Length Constraints: Fixed length of 36.

Pattern: `^[a-fA-F0-9]{8}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{12}$`

Required: Yes

## BudgetName

A string that represents the budget name. The ":" and "\" characters, and the "/action/" substring, aren't allowed.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 100.

Pattern: `^(?![^\:\\\\]*/action/|(?!i).*<script>.*</script>.*)[^\:\\\\]+$`

Required: Yes

## Response Syntax

```
{
  "AccountId": "string",
  "Action": {
    "ActionId": "string",
    "ActionThreshold": {
      "ActionThresholdType": "string",
      "ActionThresholdValue": number
    },
    "ActionType": "string",
    "ApprovalModel": "string",
    "BudgetName": "string",
    "Definition": {
      "IamActionDefinition": {
        "Groups": [ "string" ],
        "PolicyArn": "string",
        "Roles": [ "string" ],
        "Users": [ "string" ]
      },
      "ScpActionDefinition": {
        "PolicyId": "string",
        "TargetIds": [ "string" ]
      },
      "SsmActionDefinition": {
        "ActionSubType": "string",
        "InstanceIds": [ "string" ],
        "Region": "string"
      }
    }
  },
}
```

```

    "ExecutionRoleArn": "string",
    "NotificationType": "string",
    "Status": "string",
    "Subscribers": [
      {
        "Address": "string",
        "SubscriptionType": "string"
      }
    ],
    "BudgetName": "string"
  }

```

## Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

### AccountId

The account ID of the user. It's a 12-digit number.

Type: String

Length Constraints: Fixed length of 12.

Pattern: `\d{12}`

### Action

A budget action resource.

Type: [Action](#) object

### BudgetName

A string that represents the budget name. The ":" and "\" characters, and the "/action/" substring, aren't allowed.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 100.

Pattern: `^(?![^\:\\\\]*\/action\/|(?i).*<script>.*</script>.*)[^\:\\\\]+$`

## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

### **AccessDeniedException**

You are not authorized to use this operation with the given parameters.

HTTP Status Code: 400

### **InternalErrorException**

An error on the server occurred during the processing of your request. Try again later.

HTTP Status Code: 400

### **InvalidParameterException**

An error on the client occurred. Typically, the cause is an invalid input value.

HTTP Status Code: 400

### **NotFoundException**

We can't locate the resource that you specified.

HTTP Status Code: 400

### **ResourceLockedException**

The request was received and recognized by the server, but the server rejected that particular method for the requested resource.

HTTP Status Code: 400

### **ThrottlingException**

The number of API requests has exceeded the maximum allowed API request throttling limit for the account.

HTTP Status Code: 400

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go v2](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)

# DeleteNotification

Service: AWS Budgets

Deletes a notification.

## Important

Deleting a notification also deletes the subscribers that are associated with the notification.

## Request Syntax

```
{
  "AccountId": "string",
  "BudgetName": "string",
  "Notification": {
    "ComparisonOperator": "string",
    "NotificationState": "string",
    "NotificationType": "string",
    "Threshold": number,
    "ThresholdType": "string"
  }
}
```

## Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#).

The request accepts the following data in JSON format.

### AccountId

The accountId that is associated with the budget whose notification you want to delete.

Type: String

Length Constraints: Fixed length of 12.

Pattern: `\d{12}`

Required: Yes

## BudgetName

The name of the budget whose notification you want to delete.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 100.

Pattern: `^(?![^\:\]\\]*\/action\/|(?i).*<script>.*</script>.*)[^\:\\\]+$`

Required: Yes

## Notification

The notification that you want to delete.

Type: [Notification](#) object

Required: Yes

## Response Elements

If the action is successful, the service sends back an HTTP 200 response with an empty HTTP body.

## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

### **AccessDeniedException**

You are not authorized to use this operation with the given parameters.

HTTP Status Code: 400

### **InternalErrorException**

An error on the server occurred during the processing of your request. Try again later.

HTTP Status Code: 400

### **InvalidParameterException**

An error on the client occurred. Typically, the cause is an invalid input value.

HTTP Status Code: 400

## NotFoundException

We can't locate the resource that you specified.

HTTP Status Code: 400

## ThrottlingException

The number of API requests has exceeded the maximum allowed API request throttling limit for the account.

HTTP Status Code: 400

## Examples

### Example

The following is a sample request of the DeleteNotification operation.

### Sample Request

```
POST / HTTP/1.1
Host: awsbudgets.<region>.<domain>
x-amz-Date: <Date>
Authorization: AWS4-HMAC-SHA256 Credential=<Credential>,
  SignedHeaders=contenttype;date;host;user-agent;x-amz-date;x-amz-target;x-amzn-
requestid,Signature=<Signature>
User-Agent: <UserAgentString>
Content-Type: application/x-amz-json-1.1
Content-Length: <PayloadSizeBytes>
Connection: Keep-Alive
X-Amz-Target: AWSBudgetServiceGateway.DeleteNotification
{
  "AccountId": "111122223333",
  "BudgetName": "Example Budget",
  "Notification": {
    "ComparisonOperator": "GREATER_THAN",
    "NotificationType": "ACTUAL",
    "Threshold": 80,
    "ThresholdType": "PERCENTAGE"
  }
}
```



## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go v2](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)

# DeleteSubscriber

Service: AWS Budgets

Deletes a subscriber.

## Important

Deleting the last subscriber to a notification also deletes the notification.

## Request Syntax

```
{
  "AccountId": "string",
  "BudgetName": "string",
  "Notification": {
    "ComparisonOperator": "string",
    "NotificationState": "string",
    "NotificationType": "string",
    "Threshold": number,
    "ThresholdType": "string"
  },
  "Subscriber": {
    "Address": "string",
    "SubscriptionType": "string"
  }
}
```

## Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#).

The request accepts the following data in JSON format.

### AccountId

The accountId that is associated with the budget whose subscriber you want to delete.

Type: String

Length Constraints: Fixed length of 12.

Pattern: `\d{12}`

Required: Yes

### BudgetName

The name of the budget whose subscriber you want to delete.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 100.

Pattern: `^(?![^\:\]\\*/action/|(?!i).*<script>.*</script>.*)[^\:\\\]+$`

Required: Yes

### Notification

The notification whose subscriber you want to delete.

Type: [Notification](#) object

Required: Yes

### Subscriber

The subscriber that you want to delete.

Type: [Subscriber](#) object

Required: Yes

## Response Elements

If the action is successful, the service sends back an HTTP 200 response with an empty HTTP body.

## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

### **AccessDeniedException**

You are not authorized to use this operation with the given parameters.

HTTP Status Code: 400

## InternalErrorException

An error on the server occurred during the processing of your request. Try again later.

HTTP Status Code: 400

## InvalidParameterException

An error on the client occurred. Typically, the cause is an invalid input value.

HTTP Status Code: 400

## NotFoundException

We can't locate the resource that you specified.

HTTP Status Code: 400

## ThrottlingException

The number of API requests has exceeded the maximum allowed API request throttling limit for the account.

HTTP Status Code: 400

## Examples

### Example

The following is a sample request of the DeleteSubscriber operation.

### Sample Request

```
POST / HTTP/1.1
Host: awsbudgets.<region>.<domain>
x-amz-Date: <Date>
Authorization: AWS4-HMAC-SHA256 Credential=<Credential>,
  SignedHeaders=contenttype;date;host;user-agent;x-amz-date;x-amz-target;x-amzn-
  requestid,Signature=<Signature>
User-Agent: <UserAgentString>
Content-Type: application/x-amz-json-1.1
Content-Length: <PayloadSizeBytes>
Connection: Keep-Alive
X-Amz-Target: AWSBudgetServiceGateway.DeleteSubscriber
```

```
{
  "AccountId": "111122223333",
  "BudgetName": "Example Budget",
  "Notification": {
    "ComparisonOperator": "GREATER_THAN",
    "NotificationType": "ACTUAL",
    "Threshold": 80,
    "ThresholdType": "PERCENTAGE"
  },
  "Subscribers": [
    {
      "Address": "example@example.com",
      "SubscriptionType": "EMAIL"
    }
  ]
}
```

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go v2](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)

# DescribeBudget

Service: AWS Budgets

Describes a budget.

## Important

The Request Syntax section shows the BudgetLimit syntax. For PlannedBudgetLimits, see the [Examples](#) section.

## Request Syntax

```
{  
  "AccountId": "string",  
  "BudgetName": "string"  
}
```

## Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#).

The request accepts the following data in JSON format.

### [AccountId](#)

The accountId that is associated with the budget that you want a description of.

Type: String

Length Constraints: Fixed length of 12.

Pattern: `\d{12}`

Required: Yes

### [BudgetName](#)

The name of the budget that you want a description of.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 100.

Pattern: `^(?![^\:\]\\*/action/|(?!i).*<script>.*</script>.*)[^\:\\\]+$`

Required: Yes

## Response Syntax

```
{
  "Budget": {
    "AutoAdjustData": {
      "AutoAdjustType": "string",
      "HistoricalOptions": {
        "BudgetAdjustmentPeriod": number,
        "LookBackAvailablePeriods": number
      },
      "LastAutoAdjustTime": number
    },
    "BudgetLimit": {
      "Amount": "string",
      "Unit": "string"
    },
    "BudgetName": "string",
    "BudgetType": "string",
    "CalculatedSpend": {
      "ActualSpend": {
        "Amount": "string",
        "Unit": "string"
      },
      "ForecastedSpend": {
        "Amount": "string",
        "Unit": "string"
      }
    }
  },
  "CostFilters": {
    "string" : [ "string" ]
  },
  "CostTypes": {
    "IncludeCredit": boolean,
    "IncludeDiscount": boolean,
    "IncludeOtherSubscription": boolean,
    "IncludeRecurring": boolean,
    "IncludeRefund": boolean,
  }
}
```

```
    "IncludeSubscription": boolean,
    "IncludeSupport": boolean,
    "IncludeTax": boolean,
    "IncludeUpfront": boolean,
    "UseAmortized": boolean,
    "UseBlended": boolean
  },
  "LastUpdatedTime": number,
  "PlannedBudgetLimits": {
    "string" : {
      "Amount": "string",
      "Unit": "string"
    }
  },
  "TimePeriod": {
    "End": number,
    "Start": number
  },
  "TimeUnit": "string"
}
```

## Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

### Budget

The description of the budget.

Type: [Budget](#) object

## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

### AccessDeniedException

You are not authorized to use this operation with the given parameters.

HTTP Status Code: 400



## InternalErrorException

An error on the server occurred during the processing of your request. Try again later.

HTTP Status Code: 400

## InvalidParameterException

An error on the client occurred. Typically, the cause is an invalid input value.

HTTP Status Code: 400

## NotFoundException

We can't locate the resource that you specified.

HTTP Status Code: 400

## ThrottlingException

The number of API requests has exceeded the maximum allowed API request throttling limit for the account.

HTTP Status Code: 400

## Examples

### Example

The following is the `PlannedBudgetLimits` syntax.

```
{
  "Budget": {
    "BudgetLimit": {
      "Amount": "string",
      "Unit": "string"
    },
    "PlannedBudgetLimits": {
      "BudgetLimit": "string": {
        "Amount": "string",
        "Unit": "string"
      },
    },
    "BudgetName": "string",
    "BudgetType": "string",
    "CalculatedSpend": {
```

```
    "ActualSpend": {
      "Amount": "string",
      "Unit": "string"
    },
    "ForecastedSpend": {
      "Amount": "string",
      "Unit": "string"
    }
  },
  "CostFilters": {
    "string" : [ "string" ]
  },
  "CostTypes": {
    "IncludeCredit": boolean,
    "IncludeDiscount": boolean,
    "IncludeOtherSubscription": boolean,
    "IncludeRecurring": boolean,
    "IncludeRefund": boolean,
    "IncludeSubscription": boolean,
    "IncludeSupport": boolean,
    "IncludeTax": boolean,
    "IncludeUpfront": boolean,
    "UseAmortized": boolean,
    "UseBlended": boolean
  },
  "LastUpdatedTime": number,
  "TimePeriod": {
    "End": number,
    "Start": number
  },
  "TimeUnit": "string"
}
```

## Example

The following is a sample request and response of the DescribeBudget operation using BudgetLimit

## Sample Request

```
POST / HTTP/1.1
Host: awsbudgets.<region>.<domain>
```

```
x-amz-Date: <Date>
Authorization: AWS4-HMAC-SHA256 Credential=<Credential>,
  SignedHeaders=contenttype;date;host;user-agent;x-amz-date;x-amz-target;x-amzn-
requestid,Signature=<Signature>
User-Agent: <UserAgentString>
Content-Type: application/x-amz-json-1.1
Content-Length: <PayloadSizeBytes>
Connection: Keep-Alive
X-Amz-Target: AWSBudgetServiceGateway.DescribeBudget
{
  "AccountId": "111122223333",
  "BudgetName": "Example Budget"
}
```

## Sample Response

```
{
  "Budget": {
    "BudgetLimit": {
      "Amount": "100",
      "Unit": "USD"
    },
    "BudgetName": "Example Budget",
    "BudgetType": "COST",
    "CalculatedSpend": {
      "ActualSpend": {
        "Amount": "50",
        "Unit": "USD"
      },
      "ForecastedSpend": {
        "Amount": "100",
        "Unit": "USD"
      }
    },
    "CostFilters": {
      "AZ" : [ "us-east-1" ]
    },
    "CostTypes": {
      "IncludeCredit": true,
      "IncludeDiscount": true,
      "IncludeOtherSubscription": true,
      "IncludeRecurring": true,
      "IncludeRefund": true,
    }
  }
}
```

```
    "IncludeSubscription": true,
    "IncludeSupport": true,
    "IncludeTax": true,
    "IncludeUpfront": true,
    "UseBlended": false
  },
  "TimePeriod": {
    "Start": 1477353600,
    "End": 1477958399
  },
  "TimeUnit": "MONTHLY"
}
```

## Example

The following is a sample response of the DescribeBudget operation, using PlannedBudgetLimits.

## Sample Response

```
{
  "Budget": {
    "BudgetLimit": {
      "Amount": "100",
      "Unit": "USD"
    },
    "PlannedBudgetLimits": {
      "1583020800": {
        "Amount": "100",
        "Unit": "USD"
      },
      "1564617600": {
        "Amount": "200",
        "Unit": "USD"
      },
      "1569888000": {
        "Amount": "300",
        "Unit": "USD"
      },
      "1556668800": {
        "Amount": "400",
        "Unit": "USD"
      }
    }
  }
}
```

```
    },
    "1575158400": {
      "Amount": "500",
      "Unit": "USD"
    },
    },
    "1580515200": {
      "Amount": "200",
      "Unit": "USD"
    },
    },
    "1567296000": {
      "Amount": "300",
      "Unit": "USD"
    },
    },
    "1554076800": {
      "Amount": "100",
      "Unit": "USD"
    },
    },
    "1577836800": {
      "Amount": "200",
      "Unit": "USD"
    },
    },
    "1561939200": {
      "Amount": "100",
      "Unit": "USD"
    },
    },
    "1572566400": {
      "Amount": "110",
      "Unit": "USD"
    },
    },
    "1559347200": {
      "Amount": "120",
      "Unit": "USD"
    }
  }
},
"BudgetName": "Example Budget",
"BudgetType": "COST",
"CalculatedSpend": {
  "ActualSpend": {
    "Amount": "50",
    "Unit": "USD"
  },
},
"ForecastedSpend": {
  "Amount": "100",
  "Unit": "USD"
}
```

```
    }
  },
  "CostFilters": {
    "AZ" : [ "us-east-1" ]
  },
  "CostTypes": {
    "IncludeCredit": true,
    "IncludeDiscount": true,
    "IncludeOtherSubscription": true,
    "IncludeRecurring": true,
    "IncludeRefund": true,
    "IncludeSubscription": true,
    "IncludeSupport": true,
    "IncludeTax": true,
    "IncludeUpfront": true,
    "UseBlended": false
  },
  "TimePeriod": {
    "Start": 1477353600,
    "End": 1477958399
  },
  "TimeUnit": "MONTHLY"
}
}
```

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go v2](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)



# DescribeBudgetAction

Service: AWS Budgets

Describes a budget action detail.

## Request Syntax

```
{  
  "AccountId": "string",  
  "ActionId": "string",  
  "BudgetName": "string"  
}
```

## Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#).

The request accepts the following data in JSON format.

### AccountId

The account ID of the user. It's a 12-digit number.

Type: String

Length Constraints: Fixed length of 12.

Pattern: `\d{12}`

Required: Yes

### ActionId

A system-generated universally unique identifier (UUID) for the action.

Type: String

Length Constraints: Fixed length of 36.

Pattern: `^[a-fA-F0-9]{8}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{12}$`

Required: Yes



## BudgetName

A string that represents the budget name. The ":" and "\" characters, and the "/action/" substring, aren't allowed.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 100.

Pattern: `^(?![^\:\\\\]*/action/|(?i).*<script>.*</script>.*)[^\:\\\\]+$`

Required: Yes

## Response Syntax

```
{
  "AccountId": "string",
  "Action": {
    "ActionId": "string",
    "ActionThreshold": {
      "ActionThresholdType": "string",
      "ActionThresholdValue": number
    },
    "ActionType": "string",
    "ApprovalModel": "string",
    "BudgetName": "string",
    "Definition": {
      "IamActionDefinition": {
        "Groups": [ "string" ],
        "PolicyArn": "string",
        "Roles": [ "string" ],
        "Users": [ "string" ]
      },
      "ScpActionDefinition": {
        "PolicyId": "string",
        "TargetIds": [ "string" ]
      },
      "SsmActionDefinition": {
        "ActionSubType": "string",
        "InstanceIds": [ "string" ],
        "Region": "string"
      }
    }
  },
}
```

```
    "ExecutionRoleArn": "string",
    "NotificationType": "string",
    "Status": "string",
    "Subscribers": [
      {
        "Address": "string",
        "SubscriptionType": "string"
      }
    ],
    "BudgetName": "string"
  }
```

## Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

### AccountId

The account ID of the user. It's a 12-digit number.

Type: String

Length Constraints: Fixed length of 12.

Pattern: `\d{12}`

### Action

A budget action resource.

Type: [Action](#) object

### BudgetName

A string that represents the budget name. The ":" and "\" characters, and the "/action/" substring, aren't allowed.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 100.

Pattern: `^(?![^\:\\" ]*/action/|(?i).*<script>.*</script>.*)[^\:\\" ]+$`

## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

### **AccessDeniedException**

You are not authorized to use this operation with the given parameters.

HTTP Status Code: 400

### **InternalErrorException**

An error on the server occurred during the processing of your request. Try again later.

HTTP Status Code: 400

### **InvalidParameterException**

An error on the client occurred. Typically, the cause is an invalid input value.

HTTP Status Code: 400

### **NotFoundException**

We can't locate the resource that you specified.

HTTP Status Code: 400

### **ThrottlingException**

The number of API requests has exceeded the maximum allowed API request throttling limit for the account.

HTTP Status Code: 400

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go v2](#)

- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)

# DescribeBudgetActionHistories

Service: AWS Budgets

Describes a budget action history detail.

## Request Syntax

```
{
  "AccountId": "string",
  "ActionId": "string",
  "BudgetName": "string",
  "MaxResults": number,
  "NextToken": "string",
  "TimePeriod": {
    "End": number,
    "Start": number
  }
}
```

## Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#).

The request accepts the following data in JSON format.

### AccountId

The account ID of the user. It's a 12-digit number.

Type: String

Length Constraints: Fixed length of 12.

Pattern: `\d{12}`

Required: Yes

### ActionId

A system-generated universally unique identifier (UUID) for the action.

Type: String

Length Constraints: Fixed length of 36.

Pattern: `^[a-fA-F0-9]{8}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{12}$`

Required: Yes

### BudgetName

A string that represents the budget name. The ":" and "\" characters, and the "/action/" substring, aren't allowed.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 100.

Pattern: `^(?![^\:\]\\*/action/|(?i).*<script>.*</script>.*)[^\:\\\]+$`

Required: Yes

### MaxResults

An integer that represents how many entries a paginated response contains. The maximum is 100.

Type: Integer

Valid Range: Minimum value of 1. Maximum value of 100.

Required: No

### NextToken

A generic string.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 2147483647.

Pattern: `.*`

Required: No

### TimePeriod

The period of time that's covered by a budget. The period has a start date and an end date. The start date must come before the end date. There are no restrictions on the end date.

Type: [TimePeriod](#) object

Required: No

## Response Syntax

```
{
  "ActionHistories": [
    {
      "ActionHistoryDetails": {
        "Action": {
          "ActionId": "string",
          "ActionThreshold": {
            "ActionThresholdType": "string",
            "ActionThresholdValue": number
          },
          "ActionType": "string",
          "ApprovalModel": "string",
          "BudgetName": "string",
          "Definition": {
            "IamActionDefinition": {
              "Groups": [ "string" ],
              "PolicyArn": "string",
              "Roles": [ "string" ],
              "Users": [ "string" ]
            },
            "ScpActionDefinition": {
              "PolicyId": "string",
              "TargetIds": [ "string" ]
            },
            "SsmActionDefinition": {
              "ActionSubType": "string",
              "InstanceIds": [ "string" ],
              "Region": "string"
            }
          },
          "ExecutionRoleArn": "string",
          "NotificationType": "string",
          "Status": "string",
          "Subscribers": [
            {
              "Address": "string",
              "SubscriptionType": "string"
            }
          ]
        }
      }
    }
  ]
}
```

```
        }
      ],
    },
    "Message": "string"
  },
  "EventType": "string",
  "Status": "string",
  "Timestamp": number
}
],
"NextToken": "string"
}
```

## Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

### ActionHistories

The historical record of the budget action resource.

Type: Array of [ActionHistory](#) objects

Array Members: Minimum number of 0 items. Maximum number of 100 items.

### NextToken

A generic string.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 2147483647.

Pattern: .\*

## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

### **AccessDeniedException**

You are not authorized to use this operation with the given parameters.



HTTP Status Code: 400

### **InternalErrorException**

An error on the server occurred during the processing of your request. Try again later.

HTTP Status Code: 400

### **InvalidNextTokenException**

The pagination token is invalid.

HTTP Status Code: 400

### **InvalidParameterException**

An error on the client occurred. Typically, the cause is an invalid input value.

HTTP Status Code: 400

### **NotFoundException**

We can't locate the resource that you specified.

HTTP Status Code: 400

### **ThrottlingException**

The number of API requests has exceeded the maximum allowed API request throttling limit for the account.

HTTP Status Code: 400

## **See Also**

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go v2](#)
- [AWS SDK for Java V2](#)

- [AWS SDK for JavaScript V3](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)

# DescribeBudgetActionsForAccount

Service: AWS Budgets

Describes all of the budget actions for an account.

## Request Syntax

```
{
  "AccountId": "string",
  "MaxResults": number,
  "NextToken": "string"
}
```

## Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#).

The request accepts the following data in JSON format.

### AccountId

The account ID of the user. It's a 12-digit number.

Type: String

Length Constraints: Fixed length of 12.

Pattern: `\d{12}`

Required: Yes

### MaxResults

An integer that represents how many entries a paginated response contains. The maximum is 100.

Type: Integer

Valid Range: Minimum value of 1. Maximum value of 100.

Required: No

### NextToken

A generic string.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 2147483647.

Pattern: .\*

Required: No

## Response Syntax

```
{
  "Actions": [
    {
      "ActionId": "string",
      "ActionThreshold": {
        "ActionThresholdType": "string",
        "ActionThresholdValue": number
      },
      "ActionType": "string",
      "ApprovalModel": "string",
      "BudgetName": "string",
      "Definition": {
        "IamActionDefinition": {
          "Groups": [ "string" ],
          "PolicyArn": "string",
          "Roles": [ "string" ],
          "Users": [ "string" ]
        },
        "ScpActionDefinition": {
          "PolicyId": "string",
          "TargetIds": [ "string" ]
        },
        "SsmActionDefinition": {
          "ActionSubType": "string",
          "InstanceIds": [ "string" ],
          "Region": "string"
        }
      },
      "ExecutionRoleArn": "string",
      "NotificationType": "string",
      "Status": "string",
      "Subscribers": [
        {
```

```
        "Address": "string",
        "SubscriptionType": "string"
    }
]
},
"NextToken": "string"
}
```

## Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

### Actions

A list of the budget action resources information.

Type: Array of [Action](#) objects

Array Members: Minimum number of 0 items. Maximum number of 100 items.

### NextToken

A generic string.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 2147483647.

Pattern: .\*

## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

### **AccessDeniedException**

You are not authorized to use this operation with the given parameters.

HTTP Status Code: 400

## InternalErrorException

An error on the server occurred during the processing of your request. Try again later.

HTTP Status Code: 400

## InvalidNextTokenException

The pagination token is invalid.

HTTP Status Code: 400

## InvalidParameterException

An error on the client occurred. Typically, the cause is an invalid input value.

HTTP Status Code: 400

## ThrottlingException

The number of API requests has exceeded the maximum allowed API request throttling limit for the account.

HTTP Status Code: 400

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go v2](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)

# DescribeBudgetActionsForBudget

Service: AWS Budgets

Describes all of the budget actions for a budget.

## Request Syntax

```
{
  "AccountId": "string",
  "BudgetName": "string",
  "MaxResults": number,
  "NextToken": "string"
}
```

## Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#).

The request accepts the following data in JSON format.

### AccountId

The account ID of the user. It's a 12-digit number.

Type: String

Length Constraints: Fixed length of 12.

Pattern: `\d{12}`

Required: Yes

### BudgetName

A string that represents the budget name. The ":" and "\" characters, and the "/action/" substring, aren't allowed.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 100.

Pattern: `^(?![^\:\\"/*action/|(?i).*<script>.*</script>.*])[^\:\\"/*action/|(?i).*<script>.*</script>.*]+`

Required: Yes

### MaxResults

An integer that represents how many entries a paginated response contains. The maximum is 100.

Type: Integer

Valid Range: Minimum value of 1. Maximum value of 100.

Required: No

### NextToken

A generic string.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 2147483647.

Pattern: .\*

Required: No

## Response Syntax

```
{
  "Actions": [
    {
      "ActionId": "string",
      "ActionThreshold": {
        "ActionThresholdType": "string",
        "ActionThresholdValue": number
      },
      "ActionType": "string",
      "ApprovalModel": "string",
      "BudgetName": "string",
      "Definition": {
        "IamActionDefinition": {
          "Groups": [ "string" ],
          "PolicyArn": "string",
          "Roles": [ "string" ],
          "Users": [ "string" ]
        }
      }
    }
  ]
}
```



```

    },
    "ScpActionDefinition": {
      "PolicyId": "string",
      "TargetIds": [ "string" ]
    },
    "SsmActionDefinition": {
      "ActionSubType": "string",
      "InstanceIds": [ "string" ],
      "Region": "string"
    }
  },
  "ExecutionRoleArn": "string",
  "NotificationType": "string",
  "Status": "string",
  "Subscribers": [
    {
      "Address": "string",
      "SubscriptionType": "string"
    }
  ]
}
],
"NextToken": "string"
}

```

## Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

### Actions

A list of the budget action resources information.

Type: Array of [Action](#) objects

Array Members: Minimum number of 0 items. Maximum number of 100 items.

### NextToken

A generic string.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 2147483647.

Pattern: .\*

## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

### AccessDeniedException

You are not authorized to use this operation with the given parameters.

HTTP Status Code: 400

### InternalServerErrorException

An error on the server occurred during the processing of your request. Try again later.

HTTP Status Code: 400

### InvalidNextTokenException

The pagination token is invalid.

HTTP Status Code: 400

### InvalidParameterException

An error on the client occurred. Typically, the cause is an invalid input value.

HTTP Status Code: 400

### NotFoundException

We can't locate the resource that you specified.

HTTP Status Code: 400

### ThrottlingException

The number of API requests has exceeded the maximum allowed API request throttling limit for the account.

HTTP Status Code: 400

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go v2](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)

# DescribeBudgetNotificationsForAccount

Service: AWS Budgets

Lists the budget names and notifications that are associated with an account.

## Request Syntax

```
{  
  "AccountId": "string",  
  "MaxResults": number,  
  "NextToken": "string"  
}
```

## Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#).

The request accepts the following data in JSON format.

### AccountId

The account ID of the user. It's a 12-digit number.

Type: String

Length Constraints: Fixed length of 12.

Pattern: \d{12}

Required: Yes

### MaxResults

An integer that represents how many budgets a paginated response contains. The default is 50.

Type: Integer

Valid Range: Minimum value of 1. Maximum value of 1000.

Required: No

### NextToken

A generic string.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 2147483647.

Pattern: .\*

Required: No

## Response Syntax

```
{
  "BudgetNotificationsForAccount": [
    {
      "BudgetName": "string",
      "Notifications": [
        {
          "ComparisonOperator": "string",
          "NotificationState": "string",
          "NotificationType": "string",
          "Threshold": number,
          "ThresholdType": "string"
        }
      ]
    }
  ],
  "NextToken": "string"
}
```

## Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

### BudgetNotificationsForAccount

A list of budget names and associated notifications for an account.

Type: Array of [BudgetNotificationsForAccount](#) objects

Array Members: Maximum number of 1000 items.

## **NextToken**

A generic string.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 2147483647.

Pattern: .\*

## **Errors**

For information about the errors that are common to all actions, see [Common Errors](#).

### **AccessDeniedException**

You are not authorized to use this operation with the given parameters.

HTTP Status Code: 400

### **ExpiredNextTokenException**

The pagination token expired.

HTTP Status Code: 400

### **InternalErrorException**

An error on the server occurred during the processing of your request. Try again later.

HTTP Status Code: 400

### **InvalidNextTokenException**

The pagination token is invalid.

HTTP Status Code: 400

### **InvalidParameterException**

An error on the client occurred. Typically, the cause is an invalid input value.

HTTP Status Code: 400

### **NotFoundException**

We can't locate the resource that you specified.

HTTP Status Code: 400

### **ThrottlingException**

The number of API requests has exceeded the maximum allowed API request throttling limit for the account.

HTTP Status Code: 400

### **See Also**

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go v2](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)

# DescribeBudgetPerformanceHistory

Service: AWS Budgets

Describes the history for DAILY, MONTHLY, and QUARTERLY budgets. Budget history isn't available for ANNUAL budgets.

## Request Syntax

```
{
  "AccountId": "string",
  "BudgetName": "string",
  "MaxResults": number,
  "NextToken": "string",
  "TimePeriod": {
    "End": number,
    "Start": number
  }
}
```

## Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#).

The request accepts the following data in JSON format.

### AccountId

The account ID of the user. It's a 12-digit number.

Type: String

Length Constraints: Fixed length of 12.

Pattern: `\d{12}`

Required: Yes

### BudgetName

A string that represents the budget name. The ":" and "\" characters, and the "/action/" substring, aren't allowed.



Type: String

Length Constraints: Minimum length of 1. Maximum length of 100.

Pattern: `^(?![^\:\/\|](?i).*<script>.*</script>.*)[^\:\/\|]+$`

Required: Yes

### MaxResults

An integer that represents how many entries a paginated response contains. The maximum is 100.

Type: Integer

Valid Range: Minimum value of 1. Maximum value of 100.

Required: No

### NextToken

A generic string.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 2147483647.

Pattern: `.*`

Required: No

### TimePeriod

Retrieves how often the budget went into an ALARM state for the specified time period.

Type: [TimePeriod](#) object

Required: No

## Response Syntax

```
{
  "BudgetPerformanceHistory": {
```

```

    "BudgetedAndActualAmountsList": [
      {
        "ActualAmount": {
          "Amount": "string",
          "Unit": "string"
        },
        "BudgetedAmount": {
          "Amount": "string",
          "Unit": "string"
        },
        "TimePeriod": {
          "End": number,
          "Start": number
        }
      }
    ],
    "BudgetName": "string",
    "BudgetType": "string",
    "CostFilters": {
      "string" : [ "string" ]
    },
    "CostTypes": {
      "IncludeCredit": boolean,
      "IncludeDiscount": boolean,
      "IncludeOtherSubscription": boolean,
      "IncludeRecurring": boolean,
      "IncludeRefund": boolean,
      "IncludeSubscription": boolean,
      "IncludeSupport": boolean,
      "IncludeTax": boolean,
      "IncludeUpfront": boolean,
      "UseAmortized": boolean,
      "UseBlended": boolean
    },
    "TimeUnit": "string"
  },
  "NextToken": "string"
}

```

## Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

## BudgetPerformanceHistory

The history of how often the budget has gone into an ALARM state.

For DAILY budgets, the history saves the state of the budget for the last 60 days. For MONTHLY budgets, the history saves the state of the budget for the current month plus the last 12 months. For QUARTERLY budgets, the history saves the state of the budget for the last four quarters.

Type: [BudgetPerformanceHistory](#) object

## NextToken

A generic string.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 2147483647.

Pattern: .\*

## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

### **AccessDeniedException**

You are not authorized to use this operation with the given parameters.

HTTP Status Code: 400

### **ExpiredNextTokenException**

The pagination token expired.

HTTP Status Code: 400

### **InternalErrorException**

An error on the server occurred during the processing of your request. Try again later.

HTTP Status Code: 400

## InvalidNextTokenException

The pagination token is invalid.

HTTP Status Code: 400

## InvalidParameterException

An error on the client occurred. Typically, the cause is an invalid input value.

HTTP Status Code: 400

## NotFoundException

We can't locate the resource that you specified.

HTTP Status Code: 400

## ThrottlingException

The number of API requests has exceeded the maximum allowed API request throttling limit for the account.

HTTP Status Code: 400

## Examples

### Example

The following is a sample request of the `DescribeBudgetPerformanceHistory` operation.

### Sample Request

```
GET HTTP/1.1
Host: awsbudgets.<region>.<domain>
x-amz-Date: <Date>
Authorization: AWS4-HMAC-SHA256 Credential=<Credential>,
  SignedHeaders=contenttype;date;host;user-agent;x-amz-date;x-amz-target;x-amzn-
requestid,Signature=<Signature>
User-Agent: <UserAgentString>
Content-Type: application/x-amz-json-1.1
Content-Length: <PayloadSizeBytes>
Connection: Keep-Alive
X-Amz-Target: AWSBudgetServiceGateway.DescribeBudgetPerformanceHistory
{
  "AccountId": "111122223333",
```

```
"Budget": "ExampleBudget"
}
```

## Sample Response

```
{
  "BudgetPerformanceHistory": {
    "BudgetedAndActualAmountsList": [
      {
        "ActualAmount": {
          "Amount": "50",
          "Unit": "USD"
        },
        "BudgetedAmount": {
          "Amount": "100",
          "Unit": "USD"
        },
        "TimePeriod": {
          "End": 1477958399,
          "Start": 1477353600
        }
      }
    ],
    "BudgetName": "ExampleBudget",
    "BudgetType": "COST",
    "CostFilters": {
      "AZ" : [ "us-east-1" ]
    },
    "CostTypes": {
      "IncludeCredit": true,
      "IncludeDiscount": true,
      "IncludeOtherSubscription": true,
      "IncludeRecurring": true,
      "IncludeRefund": true,
      "IncludeSubscription": true,
      "IncludeSupport": true,
      "IncludeTax": true,
      "IncludeUpfront": true,
      "UseBlended": false
    },
    "TimeUnit": "MONTHLY"
  }
}
```

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go v2](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)

# DescribeBudgets

Service: AWS Budgets

Lists the budgets that are associated with an account.

## Important

The Request Syntax section shows the BudgetLimit syntax. For PlannedBudgetLimits, see the [Examples](#) section.

## Request Syntax

```
{  
  "AccountId": "string",  
  "MaxResults": number,  
  "NextToken": "string"  
}
```

## Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#).

The request accepts the following data in JSON format.

### [AccountId](#)

The accountId that is associated with the budgets that you want to describe.

Type: String

Length Constraints: Fixed length of 12.

Pattern: \d{12}

Required: Yes

### [MaxResults](#)

An integer that represents how many budgets a paginated response contains. The default is 100.

Type: Integer

Valid Range: Minimum value of 1. Maximum value of 1000.

Required: No

### NextToken

The pagination token that you include in your request to indicate the next set of results that you want to retrieve.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 2147483647.

Pattern: .\*

Required: No

## Response Syntax

```
{
  "Budgets": [
    {
      "AutoAdjustData": {
        "AutoAdjustType": "string",
        "HistoricalOptions": {
          "BudgetAdjustmentPeriod": number,
          "LookBackAvailablePeriods": number
        },
        "LastAutoAdjustTime": number
      },
      "BudgetLimit": {
        "Amount": "string",
        "Unit": "string"
      },
      "BudgetName": "string",
      "BudgetType": "string",
      "CalculatedSpend": {
        "ActualSpend": {
          "Amount": "string",
          "Unit": "string"
        },
        "ForecastedSpend": {
          "Amount": "string",
          "Unit": "string"
        }
      }
    }
  ]
}
```



```

    }
  },
  "CostFilters": {
    "string" : [ "string" ]
  },
  "CostTypes": {
    "IncludeCredit": boolean,
    "IncludeDiscount": boolean,
    "IncludeOtherSubscription": boolean,
    "IncludeRecurring": boolean,
    "IncludeRefund": boolean,
    "IncludeSubscription": boolean,
    "IncludeSupport": boolean,
    "IncludeTax": boolean,
    "IncludeUpfront": boolean,
    "UseAmortized": boolean,
    "UseBlended": boolean
  },
  "LastUpdatedTime": number,
  "PlannedBudgetLimits": {
    "string" : {
      "Amount": "string",
      "Unit": "string"
    }
  },
  "TimePeriod": {
    "End": number,
    "Start": number
  },
  "TimeUnit": "string"
}
],
"NextToken": "string"
}

```

## Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

### Budgets

A list of budgets.

Type: Array of [Budget](#) objects

### [NextToken](#)

The pagination token in the service response that indicates the next set of results that you can retrieve.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 2147483647.

Pattern: .\*

## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

### **AccessDeniedException**

You are not authorized to use this operation with the given parameters.

HTTP Status Code: 400

### **ExpiredNextTokenException**

The pagination token expired.

HTTP Status Code: 400

### **InternalErrorException**

An error on the server occurred during the processing of your request. Try again later.

HTTP Status Code: 400

### **InvalidNextTokenException**

The pagination token is invalid.

HTTP Status Code: 400

### **InvalidParameterException**

An error on the client occurred. Typically, the cause is an invalid input value.

HTTP Status Code: 400

## NotFoundException

We can't locate the resource that you specified.

HTTP Status Code: 400

## ThrottlingException

The number of API requests has exceeded the maximum allowed API request throttling limit for the account.

HTTP Status Code: 400

## Examples

### Example

The following is the `PlannedBudgetLimits` syntax.

```
{
  "Budgets": [
    {
      "BudgetLimit": {
        "Amount": "string",
        "Unit": "string"
      },
      "PlannedBudgetLimits": {
        "string": {
          "Amount": "string",
          "Unit": "string"
        },
      },
      "BudgetName": "string",
      "BudgetType": "string",
      "CalculatedSpend": {
        "ActualSpend": {
          "Amount": "string",
          "Unit": "string"
        },
        "ForecastedSpend": {
          "Amount": "string",
          "Unit": "string"
        }
      }
    }
  ]
}
```

```
    },
    "CostFilters": {
      "string" : [ "string" ]
    },
    "CostTypes": {
      "IncludeCredit": boolean,
      "IncludeDiscount": boolean,
      "IncludeOtherSubscription": boolean,
      "IncludeRecurring": boolean,
      "IncludeRefund": boolean,
      "IncludeSubscription": boolean,
      "IncludeSupport": boolean,
      "IncludeTax": boolean,
      "IncludeUpfront": boolean,
      "UseAmortized": boolean,
      "UseBlended": boolean
    },
    "LastUpdatedTime": number,
    "TimePeriod": {
      "End": number,
      "Start": number
    },
    "TimeUnit": "string"
  }
],
"NextToken": "string"
}
```

## Example

This example illustrates one usage of DescribeBudgets.

## Sample Request

```
POST / HTTP/1.1
Host: awsbudgets.<region>.<domain>
x-amz-Date: <Date>
Authorization: AWS4-HMAC-SHA256 Credential=<Credential>,
  SignedHeaders=contenttype;date;host;user-agent;x-amz-date;x-amz-target;x-amzn-
  requestid,Signature=<Signature>
User-Agent: <UserAgentString>
Content-Type: application/x-amz-json-1.1
Content-Length: <PayloadSizeBytes>
Connection: Keep-Alive
```

```
X-Amz-Target: AWSBudgetServiceGateway.DescribeBudgets
{
  "AccountId": "111122223333",
  "MaxResults": 20
}
```

## Sample Response

```
{
  "Budgets": [
    {
      "BudgetLimit": {
        "Amount": "100",
        "Unit": "USD"
      },
      "BudgetName": "Example Limit Fixed Budget ",
      "BudgetType": "COST",
      "CalculatedSpend": {
        "ActualSpend": {
          "Amount": "50",
          "Unit": "USD"
        },
        "ForecastedSpend": {
          "Amount": "100",
          "Unit": "USD"
        }
      },
      "CostFilters": {
        "AZ" : [ "us-east-1" ]
      },
      "CostTypes": {
        "IncludeCredit": true,
        "IncludeDiscount": true,
        "IncludeOtherSubscription": true,
        "IncludeRecurring": true,
        "IncludeRefund": true,
        "IncludeSubscription": true,
        "IncludeSupport": true,
        "IncludeTax": true,
        "IncludeUpfront": true,
        "UseBlended": false
      },
      "TimePeriod": {
```

```
    "Start": 1477353600,
    "End": 1477958399
  },
  "TimeUnit": "MONTHLY"
},
{
  "BudgetLimit": {
    "Amount": "100",
    "Unit": "USD"
  },
  "PlannedBudgetLimits": {
    "1583020800": {
      "Amount": "100",
      "Unit": "USD"
    },
    "1564617600": {
      "Amount": "200",
      "Unit": "USD"
    },
    "1569888000": {
      "Amount": "300",
      "Unit": "USD"
    },
    "1556668800": {
      "Amount": "400",
      "Unit": "USD"
    },
    "1575158400": {
      "Amount": "500",
      "Unit": "USD"
    },
    "1580515200": {
      "Amount": "200",
      "Unit": "USD"
    },
    "1567296000": {
      "Amount": "300",
      "Unit": "USD"
    },
    "1554076800": {
      "Amount": "100",
      "Unit": "USD"
    },
    "1577836800": {
```

```
    "Amount": "200",
    "Unit": "USD"
  },
  "1561939200": {
    "Amount": "100",
    "Unit": "USD"
  },
  "1572566400": {
    "Amount": "110",
    "Unit": "USD"
  },
  "1559347200": {
    "Amount": "120",
    "Unit": "USD"
  }
},
"BudgetName": "Example Planned Limits Budget",
"BudgetType": "COST",
"CalculatedSpend": {
  "ActualSpend": {
    "Amount": "50",
    "Unit": "USD"
  },
  "ForecastedSpend": {
    "Amount": "100",
    "Unit": "USD"
  }
},
"CostFilters": {
  "AZ" : [ "us-east-1" ]
},
"CostTypes": {
  "IncludeCredit": true,
  "IncludeDiscount": true,
  "IncludeOtherSubscription": true,
  "IncludeRecurring": true,
  "IncludeRefund": true,
  "IncludeSubscription": true,
  "IncludeSupport": true,
  "IncludeTax": true,
  "IncludeUpfront": true,
  "UseBlended": false
},
"TimePeriod": {
```

```
        "Start": 1477353600,  
        "End": 1477958399  
    },  
    "TimeUnit": "MONTHLY"  
  }  
],  
"NextToken": "exampleTokenString"  
}
```

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go v2](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)



# DescribeNotificationsForBudget

Service: AWS Budgets

Lists the notifications that are associated with a budget.

## Request Syntax

```
{  
  "AccountId": "string",  
  "BudgetName": "string",  
  "MaxResults": number,  
  "NextToken": "string"  
}
```

## Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#).

The request accepts the following data in JSON format.

### AccountId

The accountId that is associated with the budget whose notifications you want descriptions of.

Type: String

Length Constraints: Fixed length of 12.

Pattern: `\d{12}`

Required: Yes

### BudgetName

The name of the budget whose notifications you want descriptions of.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 100.

Pattern: `^(?![^\w]*action/|(?i).*<script>.*</script>.*)[^\w]+$`

Required: Yes

### MaxResults

An optional integer that represents how many entries a paginated response contains.

Type: Integer

Valid Range: Minimum value of 1. Maximum value of 100.

Required: No

### NextToken

The pagination token that you include in your request to indicate the next set of results that you want to retrieve.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 2147483647.

Pattern: .\*

Required: No

## Response Syntax

```
{
  "NextToken": "string",
  "Notifications": [
    {
      "ComparisonOperator": "string",
      "NotificationState": "string",
      "NotificationType": "string",
      "Threshold": number,
      "ThresholdType": "string"
    }
  ]
}
```

## Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

### NextToken

The pagination token in the service response that indicates the next set of results that you can retrieve.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 2147483647.

Pattern: .\*

### Notifications

A list of notifications that are associated with a budget.

Type: Array of [Notification](#) objects

## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

### **AccessDeniedException**

You are not authorized to use this operation with the given parameters.

HTTP Status Code: 400

### **ExpiredNextTokenException**

The pagination token expired.

HTTP Status Code: 400

### **InternalErrorException**

An error on the server occurred during the processing of your request. Try again later.

HTTP Status Code: 400

### **InvalidNextTokenException**

The pagination token is invalid.

HTTP Status Code: 400

## InvalidParameterException

An error on the client occurred. Typically, the cause is an invalid input value.

HTTP Status Code: 400

## NotFoundException

We can't locate the resource that you specified.

HTTP Status Code: 400

## ThrottlingException

The number of API requests has exceeded the maximum allowed API request throttling limit for the account.

HTTP Status Code: 400

## Examples

### Example

The following is a sample request and response of the DescribeNotificationsForBudget operation.

### Sample Request

```
POST / HTTP/1.1
Host: awsbudgets.<region>.<domain>
x-amz-Date: <Date>
Authorization: AWS4-HMAC-SHA256 Credential=<Credential>,
  SignedHeaders=contenttype;date;host;user-agent;x-amz-date;x-amz-target;x-amzn-
  requestid,Signature=<Signature>
User-Agent: <UserAgentString>
Content-Type: application/x-amz-json-1.1
Content-Length: <PayloadSizeBytes>
Connection: Keep-Alive
X-Amz-Target: AWSBudgetServiceGateway.DescribeNotificationsForBudget
{
  "AccountId": "111122223333",
  "BudgetName": "Example Budget",
  "MaxResults": 5
```

```
}
```

## Sample Response

```
{
  "NextToken": "exampleTokenString",
  "Notifications": [
    {
      "ComparisonOperator": "GREATER_THAN",
      "NotificationType": "ACTUAL",
      "Threshold": 80,
      "ThresholdType": "PERCENTAGE"
    }
  ]
}
```

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go v2](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)

# DescribeSubscribersForNotification

Service: AWS Budgets

Lists the subscribers that are associated with a notification.

## Request Syntax

```
{
  "AccountId": "string",
  "BudgetName": "string",
  "MaxResults": number,
  "NextToken": "string",
  "Notification": {
    "ComparisonOperator": "string",
    "NotificationState": "string",
    "NotificationType": "string",
    "Threshold": number,
    "ThresholdType": "string"
  }
}
```

## Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#).

The request accepts the following data in JSON format.

### AccountId

The accountId that is associated with the budget whose subscribers you want descriptions of.

Type: String

Length Constraints: Fixed length of 12.

Pattern: `\d{12}`

Required: Yes

### BudgetName

The name of the budget whose subscribers you want descriptions of.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 100.

Pattern: `^(?![^\w]*action/|(?i).*<script>.*</script>.*)[^\w]+$`

Required: Yes

### MaxResults

An optional integer that represents how many entries a paginated response contains.

Type: Integer

Valid Range: Minimum value of 1. Maximum value of 100.

Required: No

### NextToken

The pagination token that you include in your request to indicate the next set of results that you want to retrieve.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 2147483647.

Pattern: `.*`

Required: No

### Notification

The notification whose subscribers you want to list.

Type: [Notification](#) object

Required: Yes

## Response Syntax

```
{
  "NextToken": "string",
  "Subscribers": [
    {
```

```
    "Address": "string",  
    "SubscriptionType": "string"  
  }  
]  
}
```

## Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

### NextToken

The pagination token in the service response that indicates the next set of results that you can retrieve.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 2147483647.

Pattern: .\*

### Subscribers

A list of subscribers that are associated with a notification.

Type: Array of [Subscriber](#) objects

Array Members: Minimum number of 1 item. Maximum number of 11 items.

## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

### **AccessDeniedException**

You are not authorized to use this operation with the given parameters.

HTTP Status Code: 400

### **ExpiredNextTokenException**

The pagination token expired.



HTTP Status Code: 400

### **InternalErrorException**

An error on the server occurred during the processing of your request. Try again later.

HTTP Status Code: 400

### **InvalidNextTokenException**

The pagination token is invalid.

HTTP Status Code: 400

### **InvalidParameterException**

An error on the client occurred. Typically, the cause is an invalid input value.

HTTP Status Code: 400

### **NotFoundException**

We can't locate the resource that you specified.

HTTP Status Code: 400

### **ThrottlingException**

The number of API requests has exceeded the maximum allowed API request throttling limit for the account.

HTTP Status Code: 400

## **Examples**

### **Example**

The following is a sample request and response of the `DescribeSubscribersForNotification` operation.

### **Sample Request**

```
POST / HTTP/1.1
Host: awsbudgets.<region>.<domain>
x-amz-Date: <Date>
```

```
Authorization: AWS4-HMAC-SHA256 Credential=<Credential>,
SignedHeaders=contenttype;date;host;user-agent;x-amz-date;x-amz-target;x-amzn-
requestid,Signature=<Signature>
User-Agent: <UserAgentString>
Content-Type: application/x-amz-json-1.1
Content-Length: <PayloadSizeBytes>
Connection: Keep-Alive
X-Amz-Target: AWSBudgetServiceGateway.DescribeSubscribersForNotification
{
  "AccountId": "111122223333",
  "BudgetName": "Example Budget",
  "MaxResults": 5,
  "Notification": {
    "ComparisonOperator": "GREATER_THAN",
    "NotificationType": "ACTUAL",
    "Threshold": 80,
    "ThresholdType": "PERCENTAGE"
  }
}
```

## Sample Response

```
{
  "NextToken": "string",
  "Subscribers": [
    {
      "Address": "example@example.com",
      "SubscriptionType": "EMAIL"
    }
  ]
}
```

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go v2](#)

- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)

# ExecuteBudgetAction

Service: AWS Budgets

Executes a budget action.

## Request Syntax

```
{  
  "AccountId": "string",  
  "ActionId": "string",  
  "BudgetName": "string",  
  "ExecutionType": "string"  
}
```

## Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#).

The request accepts the following data in JSON format.

### AccountId

The account ID of the user. It's a 12-digit number.

Type: String

Length Constraints: Fixed length of 12.

Pattern: `\d{12}`

Required: Yes

### ActionId

A system-generated universally unique identifier (UUID) for the action.

Type: String

Length Constraints: Fixed length of 36.

Pattern: `^[a-fA-F0-9]{8}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{12}$`

Required: Yes

## BudgetName

A string that represents the budget name. The ":" and "\" characters, and the "/action/" substring, aren't allowed.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 100.

Pattern: `^(?![^\:\/\*\/action/|(?i).*<script>.*</script>.*)[^\:\/\*]+`

Required: Yes

## ExecutionType

The type of execution.

Type: String

Valid Values: APPROVE\_BUDGET\_ACTION | RETRY\_BUDGET\_ACTION | REVERSE\_BUDGET\_ACTION | RESET\_BUDGET\_ACTION

Required: Yes

## Response Syntax

```
{
  "AccountId": "string",
  "ActionId": "string",
  "BudgetName": "string",
  "ExecutionType": "string"
}
```

## Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

### AccountId

The account ID of the user. It's a 12-digit number.

Type: String

Length Constraints: Fixed length of 12.

Pattern: `\d{12}`

### ActionId

A system-generated universally unique identifier (UUID) for the action.

Type: String

Length Constraints: Fixed length of 36.

Pattern: `^[a-fA-F0-9]{8}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{12}$`

### BudgetName

A string that represents the budget name. The ":" and "\" characters, and the "/action/" substring, aren't allowed.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 100.

Pattern: `^(?![^\:\\\\]*\/action\/|(?i).*<script>.*</script>.*)[^\:\\\\]+$`

### ExecutionType

The type of execution.

Type: String

Valid Values: APPROVE\_BUDGET\_ACTION | RETRY\_BUDGET\_ACTION | REVERSE\_BUDGET\_ACTION | RESET\_BUDGET\_ACTION

## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

### **AccessDeniedException**

You are not authorized to use this operation with the given parameters.

HTTP Status Code: 400

### **InternalErrorException**

An error on the server occurred during the processing of your request. Try again later.

HTTP Status Code: 400

### **InvalidParameterException**

An error on the client occurred. Typically, the cause is an invalid input value.

HTTP Status Code: 400

### **NotFoundException**

We can't locate the resource that you specified.

HTTP Status Code: 400

### **ResourceLockedException**

The request was received and recognized by the server, but the server rejected that particular method for the requested resource.

HTTP Status Code: 400

### **ThrottlingException**

The number of API requests has exceeded the maximum allowed API request throttling limit for the account.

HTTP Status Code: 400

## **See Also**

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go v2](#)
- [AWS SDK for Java V2](#)

- [AWS SDK for JavaScript V3](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)



# ListTagsForResource

Service: AWS Budgets

Lists tags associated with a budget or budget action resource.

## Request Syntax

```
{  
  "ResourceARN": "string"  
}
```

## Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#).

The request accepts the following data in JSON format.

### ResourceARN

The unique identifier for the resource.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 1011.

Required: Yes

## Response Syntax

```
{  
  "ResourceTags": [  
    {  
      "Key": "string",  
      "Value": "string"  
    }  
  ]  
}
```

## Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

## ResourceTags

The tags associated with the resource.

Type: Array of [ResourceTag](#) objects

Array Members: Minimum number of 0 items. Maximum number of 200 items.

## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

### AccessDeniedException

You are not authorized to use this operation with the given parameters.

HTTP Status Code: 400

### InternalErrorException

An error on the server occurred during the processing of your request. Try again later.

HTTP Status Code: 400

### InvalidParameterException

An error on the client occurred. Typically, the cause is an invalid input value.

HTTP Status Code: 400

### NotFoundException

We can't locate the resource that you specified.

HTTP Status Code: 400

### ThrottlingException

The number of API requests has exceeded the maximum allowed API request throttling limit for the account.

HTTP Status Code: 400

## Examples

### Example

The following is a sample request of the `ListTagsForResource` operation.

### Sample Request

```
POST / HTTP/1.1
Host: awsbudgets.<region>.<domain>
x-amz-Date: <Date>
Authorization: AWS4-HMAC-SHA256 Credential=<Credential>,
  SignedHeaders=contenttype;date;host;user-agent;x-amz-date;x-amz-target;x-amzn-
requestid,Signature=<Signature>
User-Agent: <UserAgentString>
Content-Type: application/x-amz-json-1.1
Content-Length: <PayloadSizeBytes>
Connection: Keep-Alive
X-Amz-Target: AWSBudgetServiceGateway.ListTagsForResource
{
  "ResourceARN": "arn:aws:budgets::111122223333:budget/taggedBudgetName"
}
```

### Example

The following is a sample response of the `ListTagsForResource` operation.

### Sample Response

```
{
  "ResourceTags": [
    {
      "Key": "tagKey1",
      "Value": "value1"
    },
    {
      "Key": "tagKey2",
      "Value": "value1"
    }
  ]
}
```

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go v2](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)

# TagResource

Service: AWS Budgets

Creates tags for a budget or budget action resource.

## Request Syntax

```
{
  "ResourceARN": "string",
  "ResourceTags": [
    {
      "Key": "string",
      "Value": "string"
    }
  ]
}
```

## Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#).

The request accepts the following data in JSON format.

### ResourceARN

The unique identifier for the resource.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 1011.

Required: Yes

### ResourceTags

The tags associated with the resource.

Type: Array of [ResourceTag](#) objects

Array Members: Minimum number of 0 items. Maximum number of 200 items.

Required: Yes

## Response Elements

If the action is successful, the service sends back an HTTP 200 response with an empty HTTP body.

## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

### AccessDeniedException

You are not authorized to use this operation with the given parameters.

HTTP Status Code: 400

### InternalServerErrorException

An error on the server occurred during the processing of your request. Try again later.

HTTP Status Code: 400

### InvalidParameterException

An error on the client occurred. Typically, the cause is an invalid input value.

HTTP Status Code: 400

### NotFoundException

We can't locate the resource that you specified.

HTTP Status Code: 400

### ServiceQuotaExceededException

You've reached the limit on the number of tags you can associate with a resource.

HTTP Status Code: 400

### ThrottlingException

The number of API requests has exceeded the maximum allowed API request throttling limit for the account.

HTTP Status Code: 400

## Examples

### Example

The following is a sample request of the TagResource operation.

### Sample Request

```
POST / HTTP/1.1
Host: awsbudgets.<region>.<domain>
x-amz-Date: <Date>
Authorization: AWS4-HMAC-SHA256 Credential=<Credential>,
  SignedHeaders=contenttype;date;host;user-agent;x-amz-date;x-amz-target;x-amzn-
requestid,Signature=<Signature>
User-Agent: <UserAgentString>
Content-Type: application/x-amz-json-1.1
Content-Length: <PayloadSizeBytes>
Connection: Keep-Alive
X-Amz-Target: AWSBudgetServiceGateway.TagResource
{
  "ResourceARN": "arn:aws:budgets::111122223333:budget/taggedBudgetName",
  "ResourceTags": [
    {
      "Key": "tagKey1",
      "Value": "value1"
    },
    {
      "Key": "tagKey2",
      "Value": "value1"
    }
  ]
}
```

### See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go v2](#)

- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)



# UntagResource

Service: AWS Budgets

Deletes tags associated with a budget or budget action resource.

## Request Syntax

```
{  
  "ResourceARN": "string",  
  "ResourceTagKeys": [ "string" ]  
}
```

## Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#).

The request accepts the following data in JSON format.

### [ResourceARN](#)

The unique identifier for the resource.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 1011.

Required: Yes

### [ResourceTagKeys](#)

The key that's associated with the tag.

Type: Array of strings

Array Members: Minimum number of 0 items. Maximum number of 200 items.

Length Constraints: Minimum length of 1. Maximum length of 128.

Required: Yes

## Response Elements

If the action is successful, the service sends back an HTTP 200 response with an empty HTTP body.

## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

### AccessDeniedException

You are not authorized to use this operation with the given parameters.

HTTP Status Code: 400

### InternalErrorException

An error on the server occurred during the processing of your request. Try again later.

HTTP Status Code: 400

### InvalidParameterException

An error on the client occurred. Typically, the cause is an invalid input value.

HTTP Status Code: 400

### NotFoundException

We can't locate the resource that you specified.

HTTP Status Code: 400

### ThrottlingException

The number of API requests has exceeded the maximum allowed API request throttling limit for the account.

HTTP Status Code: 400

## Examples

### Example

The following is a sample request of the `UntagResource` operation.

### Sample Request

```
POST / HTTP/1.1
Host: awsbudgets.<region>.<domain>
```

```
x-amz-Date: <Date>
Authorization: AWS4-HMAC-SHA256 Credential=<Credential>,
  SignedHeaders=contenttype;date;host;user-agent;x-amz-date;x-amz-target;x-amzn-
requestid,Signature=<Signature>
User-Agent: <UserAgentString>
Content-Type: application/x-amz-json-1.1
Content-Length: <PayloadSizeBytes>
Connection: Keep-Alive
X-Amz-Target: AWSBudgetServiceGateway.UntagResource
{
  "ResourceARN": "arn:aws:budgets::111122223333:budget/taggedBudgetName",
  "ResourceTagKeys": [ "tagKey1" ]
}
```

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go v2](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)

# UpdateBudget

Service: AWS Budgets

Updates a budget. You can change every part of a budget except for the budgetName and the calculatedSpend. When you modify a budget, the calculatedSpend drops to zero until AWS has new usage data to use for forecasting.

## Important

Only one of BudgetLimit or PlannedBudgetLimits can be present in the syntax at one time. Use the syntax that matches your case. The Request Syntax section shows the BudgetLimit syntax. For PlannedBudgetLimits, see the [Examples](#) section.

## Request Syntax

```
{
  "AccountId": "string",
  "NewBudget": {
    "AutoAdjustData": {
      "AutoAdjustType": "string",
      "HistoricalOptions": {
        "BudgetAdjustmentPeriod": number,
        "LookBackAvailablePeriods": number
      },
      "LastAutoAdjustTime": number
    },
    "BudgetLimit": {
      "Amount": "string",
      "Unit": "string"
    },
    "BudgetName": "string",
    "BudgetType": "string",
    "CalculatedSpend": {
      "ActualSpend": {
        "Amount": "string",
        "Unit": "string"
      },
      "ForecastedSpend": {
        "Amount": "string",
        "Unit": "string"
      }
    }
  }
}
```

```

    }
  },
  "CostFilters": {
    "string" : [ "string" ]
  },
  "CostTypes": {
    "IncludeCredit": boolean,
    "IncludeDiscount": boolean,
    "IncludeOtherSubscription": boolean,
    "IncludeRecurring": boolean,
    "IncludeRefund": boolean,
    "IncludeSubscription": boolean,
    "IncludeSupport": boolean,
    "IncludeTax": boolean,
    "IncludeUpfront": boolean,
    "UseAmortized": boolean,
    "UseBlended": boolean
  },
  "LastUpdatedTime": number,
  "PlannedBudgetLimits": {
    "string" : {
      "Amount": "string",
      "Unit": "string"
    }
  },
  "TimePeriod": {
    "End": number,
    "Start": number
  },
  "TimeUnit": "string"
}
}

```

## Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#).

The request accepts the following data in JSON format.

### AccountId

The `accountId` that is associated with the budget that you want to update.

Type: String

Length Constraints: Fixed length of 12.

Pattern: `\d{12}`

Required: Yes

### **NewBudget**

The budget that you want to update your budget to.

Type: [Budget](#) object

Required: Yes

## **Response Elements**

If the action is successful, the service sends back an HTTP 200 response with an empty HTTP body.

## **Errors**

For information about the errors that are common to all actions, see [Common Errors](#).

### **AccessDeniedException**

You are not authorized to use this operation with the given parameters.

HTTP Status Code: 400

### **InternalErrorException**

An error on the server occurred during the processing of your request. Try again later.

HTTP Status Code: 400

### **InvalidParameterException**

An error on the client occurred. Typically, the cause is an invalid input value.

HTTP Status Code: 400

### **NotFoundException**

We can't locate the resource that you specified.

HTTP Status Code: 400

## ThrottlingException

The number of API requests has exceeded the maximum allowed API request throttling limit for the account.

HTTP Status Code: 400

## Examples

### Example

The following is the `PlannedBudgetLimits` syntax.

```
{
  "AccountId": "string",
  "NewBudget": {
    "PlannedBudgetLimits": {
      "string": {
        "Amount": "string",
        "Unit": "string"
      },
    },
    "BudgetName": "string",
    "BudgetType": "string",
    "CalculatedSpend": {
      "ActualSpend": {
        "Amount": "string",
        "Unit": "string"
      },
      "ForecastedSpend": {
        "Amount": "string",
        "Unit": "string"
      }
    },
    "CostFilters": {
      "string" : [ "string" ]
    },
    "CostTypes": {
      "IncludeCredit": boolean,
      "IncludeDiscount": boolean,
      "IncludeOtherSubscription": boolean,
      "IncludeRecurring": boolean,
      "IncludeRefund": boolean,
```

```
    "IncludeSubscription": boolean,
    "IncludeSupport": boolean,
    "IncludeTax": boolean,
    "IncludeUpfront": boolean,
    "UseAmortized": boolean,
    "UseBlended": boolean
  },
  "LastUpdatedTime": number,
  "TimePeriod": {
    "End": number,
    "Start": number
  },
  "TimeUnit": "string"
}
}
```

## Example

The following is a sample request and response of the `UpdateBudget` operation using `BudgetLimit`.

## Sample Request

```
POST / HTTP/1.1
Host: awsbudgets.<region>.<domain>
x-amz-Date: <Date>
Authorization: AWS4-HMAC-SHA256 Credential=<Credential>,
  SignedHeaders=contenttype;date;host;user-agent;x-amz-date;x-amz-target;x-amzn-
requestid,Signature=<Signature>
User-Agent: <UserAgentString>
Content-Type: application/x-amz-json-1.1
Content-Length: <PayloadSizeBytes>
Connection: Keep-Alive
X-Amz-Target: AWSBudgetServiceGateway.UpdateBudget
{
  "AccountId": "111122223333",
  "NewBudget": {
    "BudgetLimit": {
      "Amount": "100",
      "Unit": "USD"
    },
    "BudgetName": "Example Budget",
    "BudgetType": "COST",
```



```
    "CostFilters": {
      "AZ" : [ "us-east-1" ]
    },
    "CostTypes": {
      "IncludeCredit": true,
      "IncludeDiscount": true,
      "IncludeOtherSubscription": true,
      "IncludeRecurring": true,
      "IncludeRefund": true,
      "IncludeSubscription": true,
      "IncludeSupport": true,
      "IncludeTax": true,
      "IncludeUpfront": true,
      "UseBlended": false
    },
    "TimePeriod": {
      "Start": 1477353600,
      "End": 1477958399
    },
    "TimeUnit": "MONTHLY"
  }
}
```

## Example

The following is a sample request and response of the `UpdateBudget` operation using `PlannedBudgetLimits`.

## Sample Request

```
POST / HTTP/1.1
Host: awsbudgets.<region>.<domain>
x-amz-Date: <Date>
Authorization: AWS4-HMAC-SHA256 Credential=<Credential>,
  SignedHeaders=contenttype;date;host;user-agent;x-amz-date;x-amz-target;x-amzn-
requestid,Signature=<Signature>
User-Agent: <UserAgentString>
Content-Type: application/x-amz-json-1.1
Content-Length: <PayloadSizeBytes>
Connection: Keep-Alive
X-Amz-Target: AWSBudgetServiceGateway.UpdateBudget
{
  "AccountId": "111122223333",
```

```
"NewBudget": {
  "PlannedBudgetLimits":{
    "1583020800": {
      "Amount": "100",
      "Unit": "USD"
    },
    "1564617600": {
      "Amount": "200",
      "Unit": "USD"
    },
    "1569888000": {
      "Amount": "300",
      "Unit": "USD"
    },
    "1556668800": {
      "Amount": "400",
      "Unit": "USD"
    },
    "1575158400": {
      "Amount": "500",
      "Unit": "USD"
    },
    "1580515200": {
      "Amount": "200",
      "Unit": "USD"
    },
    "1567296000": {
      "Amount": "300",
      "Unit": "USD"
    },
    "1554076800": {
      "Amount": "100",
      "Unit": "USD"
    },
    "1577836800": {
      "Amount": "200",
      "Unit": "USD"
    },
    "1561939200": {
      "Amount": "100",
      "Unit": "USD"
    },
    "1572566400": {
      "Amount": "110",
```

```
    "Unit": "USD"
  },
  "1559347200": {
    "Amount": "120",
    "Unit": "USD"
  }
},
"BudgetName": "Example Budget",
"BudgetType": "COST",
"CostFilters": {
  "AZ" : [ "us-east-1" ]
},
"CostTypes": {
  "IncludeCredit": true,
  "IncludeDiscount": true,
  "IncludeOtherSubscription": true,
  "IncludeRecurring": true,
  "IncludeRefund": true,
  "IncludeSubscription": true,
  "IncludeSupport": true,
  "IncludeTax": true,
  "IncludeUpfront": true,
  "UseBlended": false
},
"TimePeriod": {
  "Start": 1477353600,
  "End": 1477958399
},
"TimeUnit": "MONTHLY"
}
}
```

## Sample Response

```
{
  "AccountId": "111122223333",
  "NewBudget": {
    "BudgetLimit": {
      "Amount": "200",
      "Unit": "USD"
    },
    "BudgetName": "Example Budget",
    "BudgetType": "COST",
```

```
    "CalculatedSpend": {
      "ActualSpend": {
        "Amount": "0",
        "Unit": "USD"
      },
      "ForecastedSpend": {
        "Amount": "0",
        "Unit": "USD"
      }
    },
    "CostFilters": {
      "AZ" : [ "ap-south-1" ]
    },
    "CostTypes": {
      "IncludeCredit": true,
      "IncludeDiscount": false,
      "IncludeOtherSubscription": true,
      "IncludeRecurring": true,
      "IncludeRefund": true,
      "IncludeSubscription": true,
      "IncludeSupport": true,
      "IncludeTax": true,
      "IncludeUpfront": true,
      "UseBlended": false
    },
    "TimePeriod": {
      "Start": 1477353600,
      "End": 1477958399
    },
    "TimeUnit": "MONTHLY"
  }
}
```

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go v2](#)

- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)

# UpdateBudgetAction

Service: AWS Budgets

Updates a budget action.

## Request Syntax

```
{
  "AccountId": "string",
  "ActionId": "string",
  "ActionThreshold": {
    "ActionThresholdType": "string",
    "ActionThresholdValue": number
  },
  "ApprovalModel": "string",
  "BudgetName": "string",
  "Definition": {
    "IamActionDefinition": {
      "Groups": [ "string" ],
      "PolicyArn": "string",
      "Roles": [ "string" ],
      "Users": [ "string" ]
    },
    "ScpActionDefinition": {
      "PolicyId": "string",
      "TargetIds": [ "string" ]
    },
    "SsmActionDefinition": {
      "ActionSubType": "string",
      "InstanceIds": [ "string" ],
      "Region": "string"
    }
  },
  "ExecutionRoleArn": "string",
  "NotificationType": "string",
  "Subscribers": [
    {
      "Address": "string",
      "SubscriptionType": "string"
    }
  ]
}
```

## Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#).

The request accepts the following data in JSON format.

### AccountId

The account ID of the user. It's a 12-digit number.

Type: String

Length Constraints: Fixed length of 12.

Pattern: `\d{12}`

Required: Yes

### ActionId

A system-generated universally unique identifier (UUID) for the action.

Type: String

Length Constraints: Fixed length of 36.

Pattern: `^[a-fA-F0-9]{8}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{12}$`

Required: Yes

### ActionThreshold

The trigger threshold of the action.

Type: [ActionThreshold](#) object

Required: No

### ApprovalModel

This specifies if the action needs manual or automatic approval.

Type: String

Valid Values: AUTOMATIC | MANUAL

Required: No

## BudgetName

A string that represents the budget name. The ":" and "\" characters, and the "/action/" substring, aren't allowed.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 100.

Pattern: `^(?![^\:\\"/*action/|(?i).*<script>.*</script>.*])[^\:\\"/*action/|(?i).*<script>.*</script>.*][^\:\\"/*action/|(?i).*<script>.*</script>.*]+$`

Required: Yes

## Definition

Specifies all of the type-specific parameters.

Type: [Definition](#) object

Required: No

## ExecutionRoleArn

The role passed for action execution and reversion. Roles and actions must be in the same account.

Type: String

Length Constraints: Minimum length of 32. Maximum length of 618.

Pattern: `^arn:(aws|aws-cn|aws-us-gov|us-iso-east-1|us-isob-east-1):iam::\d{12}:role(\u002F[\u0021-\u007F]+\u002F|[\u002F])[\w+=,.\@-]+$`

Required: No

## NotificationType

The type of a notification. It must be ACTUAL or FORECASTED.

Type: String

Valid Values: ACTUAL | FORECASTED

Required: No

## Subscribers

A list of subscribers.



Type: Array of [Subscriber](#) objects

Array Members: Minimum number of 1 item. Maximum number of 11 items.

Required: No

## Response Syntax

```
{
  "AccountId": "string",
  "BudgetName": "string",
  "NewAction": {
    "ActionId": "string",
    "ActionThreshold": {
      "ActionThresholdType": "string",
      "ActionThresholdValue": number
    },
    "ActionType": "string",
    "ApprovalModel": "string",
    "BudgetName": "string",
    "Definition": {
      "IamActionDefinition": {
        "Groups": [ "string" ],
        "PolicyArn": "string",
        "Roles": [ "string" ],
        "Users": [ "string" ]
      },
      "ScpActionDefinition": {
        "PolicyId": "string",
        "TargetIds": [ "string" ]
      },
      "SsmActionDefinition": {
        "ActionSubType": "string",
        "InstanceIds": [ "string" ],
        "Region": "string"
      }
    },
    "ExecutionRoleArn": "string",
    "NotificationType": "string",
    "Status": "string",
    "Subscribers": [
      {
        "Address": "string",
```

```

        "SubscriptionType": "string"
    }
]
},
"OldAction": {
    "ActionId": "string",
    "ActionThreshold": {
        "ActionThresholdType": "string",
        "ActionThresholdValue": number
    },
    "ActionType": "string",
    "ApprovalModel": "string",
    "BudgetName": "string",
    "Definition": {
        "IamActionDefinition": {
            "Groups": [ "string" ],
            "PolicyArn": "string",
            "Roles": [ "string" ],
            "Users": [ "string" ]
        },
        "ScpActionDefinition": {
            "PolicyId": "string",
            "TargetIds": [ "string" ]
        },
        "SsmActionDefinition": {
            "ActionSubType": "string",
            "InstanceIds": [ "string" ],
            "Region": "string"
        }
    },
    "ExecutionRoleArn": "string",
    "NotificationType": "string",
    "Status": "string",
    "Subscribers": [
        {
            "Address": "string",
            "SubscriptionType": "string"
        }
    ]
}
}

```

## Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

### AccountId

The account ID of the user. It's a 12-digit number.

Type: String

Length Constraints: Fixed length of 12.

Pattern: `\d{12}`

### BudgetName

A string that represents the budget name. The ":" and "\" characters, and the "/action/" substring, aren't allowed.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 100.

Pattern: `^(?![^\:\\"]*action/|(?i).*<script>.*</script>.*)[^\:\\"]+$`

### NewAction

The updated action resource information.

Type: [Action](#) object

### OldAction

The previous action resource information.

Type: [Action](#) object

## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

### **AccessDeniedException**

You are not authorized to use this operation with the given parameters.

HTTP Status Code: 400

### **InternalErrorException**

An error on the server occurred during the processing of your request. Try again later.

HTTP Status Code: 400

### **InvalidParameterException**

An error on the client occurred. Typically, the cause is an invalid input value.

HTTP Status Code: 400

### **NotFoundException**

We can't locate the resource that you specified.

HTTP Status Code: 400

### **ResourceLockedException**

The request was received and recognized by the server, but the server rejected that particular method for the requested resource.

HTTP Status Code: 400

### **ThrottlingException**

The number of API requests has exceeded the maximum allowed API request throttling limit for the account.

HTTP Status Code: 400

## **See Also**

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go v2](#)
- [AWS SDK for Java V2](#)

- [AWS SDK for JavaScript V3](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)

# UpdateNotification

Service: AWS Budgets

Updates a notification.

## Request Syntax

```
{
  "AccountId": "string",
  "BudgetName": "string",
  "NewNotification": {
    "ComparisonOperator": "string",
    "NotificationState": "string",
    "NotificationType": "string",
    "Threshold": number,
    "ThresholdType": "string"
  },
  "OldNotification": {
    "ComparisonOperator": "string",
    "NotificationState": "string",
    "NotificationType": "string",
    "Threshold": number,
    "ThresholdType": "string"
  }
}
```

## Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#).

The request accepts the following data in JSON format.

### AccountId

The accountId that is associated with the budget whose notification you want to update.

Type: String

Length Constraints: Fixed length of 12.

Pattern: \d{12}

Required: Yes

## BudgetName

The name of the budget whose notification you want to update.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 100.

Pattern: `^(?![^\:\]\\]*\/action\/|(?i).*<script>.*</script>.*)[^\:\\\]+$`

Required: Yes

## NewNotification

The updated notification to be associated with a budget.

Type: [Notification](#) object

Required: Yes

## OldNotification

The previous notification that is associated with a budget.

Type: [Notification](#) object

Required: Yes

## Response Elements

If the action is successful, the service sends back an HTTP 200 response with an empty HTTP body.

## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

### **AccessDeniedException**

You are not authorized to use this operation with the given parameters.

HTTP Status Code: 400

### **DuplicateRecordException**

The budget name already exists. Budget names must be unique within an account.

HTTP Status Code: 400

### **InternalServerErrorException**

An error on the server occurred during the processing of your request. Try again later.

HTTP Status Code: 400

### **InvalidParameterException**

An error on the client occurred. Typically, the cause is an invalid input value.

HTTP Status Code: 400

### **NotFoundException**

We can't locate the resource that you specified.

HTTP Status Code: 400

### **ThrottlingException**

The number of API requests has exceeded the maximum allowed API request throttling limit for the account.

HTTP Status Code: 400

## **Examples**

### **Example**

The following is a sample request of the UpdateNotification operation.

### **Sample Request**

```
POST / HTTP/1.1
Host: awsbudgets.<region>.<domain>
x-amz-Date: <Date>
Authorization: AWS4-HMAC-SHA256 Credential=<Credential>,
  SignedHeaders=contenttype;date;host;user-agent;x-amz-date;x-amz-target;x-amzn-
  requestid,Signature=<Signature>
User-Agent: <UserAgentString>
Content-Type: application/x-amz-json-1.1
Content-Length: <PayloadSizeBytes>
Connection: Keep-Alive
```



```
X-Amz-Target: AWSBudgetServiceGateway.UpdateNotification
{
  "AccountId": "111122223333",
  "BudgetName": "Example Budget",
  "NewNotification": {
    "ComparisonOperator": "GREATER_THAN",
    "NotificationType": "ACTUAL",
    "Threshold": 80,
    "ThresholdType": "PERCENTAGE"
  },
  "OldNotification": {
    "ComparisonOperator": "GREATER_THAN",
    "NotificationType": "ACTUAL",
    "Threshold": 80,
    "ThresholdType": "PERCENTAGE"
  }
}
```

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go v2](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)

# UpdateSubscriber

Service: AWS Budgets

Updates a subscriber.

## Request Syntax

```
{
  "AccountId": "string",
  "BudgetName": "string",
  "NewSubscriber": {
    "Address": "string",
    "SubscriptionType": "string"
  },
  "Notification": {
    "ComparisonOperator": "string",
    "NotificationState": "string",
    "NotificationType": "string",
    "Threshold": number,
    "ThresholdType": "string"
  },
  "OldSubscriber": {
    "Address": "string",
    "SubscriptionType": "string"
  }
}
```

## Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#).

The request accepts the following data in JSON format.

### AccountId

The accountId that is associated with the budget whose subscriber you want to update.

Type: String

Length Constraints: Fixed length of 12.

Pattern: `\d{12}`

Required: Yes

### BudgetName

The name of the budget whose subscriber you want to update.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 100.

Pattern: `^(?![^\:\]\\]*\/action\/|(?i).*<script>.*</script>.*)[^\:\\\]+$`

Required: Yes

### NewSubscriber

The updated subscriber that is associated with a budget notification.

Type: [Subscriber](#) object

Required: Yes

### Notification

The notification whose subscriber you want to update.

Type: [Notification](#) object

Required: Yes

### OldSubscriber

The previous subscriber that is associated with a budget notification.

Type: [Subscriber](#) object

Required: Yes

## Response Elements

If the action is successful, the service sends back an HTTP 200 response with an empty HTTP body.

## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

## AccessDeniedException

You are not authorized to use this operation with the given parameters.

HTTP Status Code: 400

## DuplicateRecordException

The budget name already exists. Budget names must be unique within an account.

HTTP Status Code: 400

## InternalErrorException

An error on the server occurred during the processing of your request. Try again later.

HTTP Status Code: 400

## InvalidParameterException

An error on the client occurred. Typically, the cause is an invalid input value.

HTTP Status Code: 400

## NotFoundException

We can't locate the resource that you specified.

HTTP Status Code: 400

## ThrottlingException

The number of API requests has exceeded the maximum allowed API request throttling limit for the account.

HTTP Status Code: 400

## Examples

### Example

The following is a sample request of the `UpdateSubscriber` operation.

### Sample Request

```
POST / HTTP/1.1
Host: awsbudgets.<region>.<domain>
```

```
x-amz-Date: <Date>
Authorization: AWS4-HMAC-SHA256 Credential=<Credential>,
  SignedHeaders=contenttype;date;host;user-agent;x-amz-date;x-amz-target;x-amzn-
requestid,Signature=<Signature>
User-Agent: <UserAgentString>
Content-Type: application/x-amz-json-1.1
Content-Length: <PayloadSizeBytes>
Connection: Keep-Alive
X-Amz-Target: AWSBudgetServiceGateway.UpdateSubscriber
{
  "AccountId": "111122223333",
  "BudgetName": "Example Budget",
  "Notification": {
    "ComparisonOperator": "GREATER_THAN",
    "NotificationType": "ACTUAL",
    "Threshold": 80,
    "ThresholdType": "PERCENTAGE"
  },
  "OldSubscriber": {
    "Address": "example@example.com",
    "SubscriptionType": "EMAIL"
  },
  "NewSubscriber": {
    "Address": "example2@example.com",
    "SubscriptionType": "EMAIL"
  }
}
```

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go v2](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for PHP V3](#)

- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)

## AWS Cost Optimization Hub

The following actions are supported by AWS Cost Optimization Hub:

- [GetPreferences](#)
- [GetRecommendation](#)
- [ListEnrollmentStatuses](#)
- [ListRecommendations](#)
- [ListRecommendationSummaries](#)
- [UpdateEnrollmentStatus](#)
- [UpdatePreferences](#)

## GetPreferences

Service: AWS Cost Optimization Hub

Returns a set of preferences for an account in order to add account-specific preferences into the service. These preferences impact how the savings associated with recommendations are presented —estimated savings after discounts or estimated savings before discounts, for example.

### Response Syntax

```
{
  "memberAccountDiscountVisibility": "string",
  "savingsEstimationMode": "string"
}
```

### Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

#### memberAccountDiscountVisibility

Retrieves the status of the "member account discount visibility" preference.

Type: String

Valid Values: All | None

#### savingsEstimationMode

Retrieves the status of the "savings estimation mode" preference.

Type: String

Valid Values: BeforeDiscounts | AfterDiscounts

### Errors

For information about the errors that are common to all actions, see [Common Errors](#).

#### **AccessDeniedException**

You are not authorized to use this operation with the given parameters.

HTTP Status Code: 400

### **InternalServerErrorException**

An error on the server occurred during the processing of your request. Try again later.

HTTP Status Code: 500

### **ThrottlingException**

The request was denied due to request throttling.

HTTP Status Code: 400

### **ValidationException**

The input fails to satisfy the constraints specified by an AWS service.

HTTP Status Code: 400

## **See Also**

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go v2](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)



# GetRecommendation

Service: AWS Cost Optimization Hub

Returns both the current and recommended resource configuration and the estimated cost impact for a recommendation.

The `recommendationId` is only valid for up to a maximum of 24 hours as recommendations are refreshed daily. To retrieve the `recommendationId`, use the `ListRecommendations` API.

## Request Syntax

```
{
  "recommendationId": "string"
}
```

## Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#).

The request accepts the following data in JSON format.

### recommendationId

The ID for the recommendation.

Type: String

Required: Yes

## Response Syntax

```
{
  "accountId": "string",
  "actionType": "string",
  "costCalculationLookbackPeriodInDays": number,
  "currencyCode": "string",
  "currentResourceDetails": { ... },
  "currentResourceType": "string",
  "estimatedMonthlyCost": number,
  "estimatedMonthlySavings": number,
  "estimatedSavingsOverCostCalculationLookbackPeriod": number,
}
```

```
"estimatedSavingsPercentage": number,
"implementationEffort": "string",
"lastRefreshTimestamp": number,
"recommendationId": "string",
"recommendationLookbackPeriodInDays": number,
"recommendedResourceDetails": { ... },
"recommendedResourceType": "string",
"region": "string",
"resourceArn": "string",
"resourceId": "string",
"restartNeeded": boolean,
"rollbackPossible": boolean,
"source": "string",
"tags": [
  {
    "key": "string",
    "value": "string"
  }
]
}
```

## Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

### accountId

The account that the recommendation is for.

Type: String

### actionType

The type of action you can take by adopting the recommendation.

Type: String

Valid Values: Rightsize | Stop | Upgrade | PurchaseSavingsPlans |  
PurchaseReservedInstances | MigrateToGraviton

### costCalculationLookbackPeriodInDays

The lookback period used to calculate cost impact for a recommendation.

Type: Integer

### currencyCode

The currency code used for the recommendation.

Type: String

### currentResourceDetails

The details for the resource.

Type: [ResourceDetails](#) object

**Note:** This object is a Union. Only one member of this object can be specified or returned.

### currentResourceType

The type of resource.

Type: String

Valid Values: Ec2Instance | LambdaFunction | EbsVolume | EcsService | Ec2AutoScalingGroup | Ec2InstanceSavingsPlans | ComputeSavingsPlans | SageMakerSavingsPlans | Ec2ReservedInstances | RdsReservedInstances | OpenSearchReservedInstances | RedshiftReservedInstances | ElastiCacheReservedInstances | RdsDbInstanceStorage | RdsDbInstance

### estimatedMonthlyCost

The estimated monthly cost of the current resource. For Reserved Instances and Savings Plans, it refers to the cost for eligible usage.

Type: Double

### estimatedMonthlySavings

The estimated monthly savings amount for the recommendation.

Type: Double

### estimatedSavingsOverCostCalculationLookbackPeriod

The estimated savings amount over the lookback period used to calculate cost impact for a recommendation.

Type: Double

### estimatedSavingsPercentage

The estimated savings percentage relative to the total cost over the cost calculation lookback period.

Type: Double

### implementationEffort

The effort required to implement the recommendation.

Type: String

Valid Values: VeryLow | Low | Medium | High | VeryHigh

### lastRefreshTimestamp

The time when the recommendation was last generated.

Type: Timestamp

### recommendationId

The ID for the recommendation.

Type: String

### recommendationLookbackPeriodInDays

The lookback period that's used to generate the recommendation.

Type: Integer

### recommendedResourceDetails

The details about the recommended resource.

Type: [ResourceDetails](#) object

**Note:** This object is a Union. Only one member of this object can be specified or returned.

### recommendedResourceType

The resource type of the recommendation.

Type: String

Valid Values: Ec2Instance | LambdaFunction | EbsVolume | EcsService | Ec2AutoScalingGroup | Ec2InstanceSavingsPlans | ComputeSavingsPlans | SageMakerSavingsPlans | Ec2ReservedInstances | RdsReservedInstances | OpenSearchReservedInstances | RedshiftReservedInstances | ElastiCacheReservedInstances | RdsDbInstanceStorage | RdsDbInstance

### region

The AWS Region of the resource.

Type: String

### resourceArn

The Amazon Resource Name (ARN) of the resource.

Type: String

### resourceId

The unique identifier for the resource. This is the same as the Amazon Resource Name (ARN), if available.

Type: String

### restartNeeded

Whether or not implementing the recommendation requires a restart.

Type: Boolean

### rollbackPossible

Whether or not implementing the recommendation can be rolled back.

Type: Boolean

### source

The source of the recommendation.

Type: String

Valid Values: ComputeOptimizer | CostExplorer

### tags

A list of tags associated with the resource for which the recommendation exists.

Type: Array of [Tag](#) objects

Array Members: Minimum number of 1 item. Maximum number of 100 items.

## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

### **AccessDeniedException**

You are not authorized to use this operation with the given parameters.

HTTP Status Code: 400

### **InternalServerErrorException**

An error on the server occurred during the processing of your request. Try again later.

HTTP Status Code: 500

### **ResourceNotFoundException**

The specified Amazon Resource Name (ARN) in the request doesn't exist.

HTTP Status Code: 400

### **ThrottlingException**

The request was denied due to request throttling.

HTTP Status Code: 400

### **ValidationException**

The input fails to satisfy the constraints specified by an AWS service.

HTTP Status Code: 400

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface](#)

- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go v2](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)

# ListEnrollmentStatuses

Service: AWS Cost Optimization Hub

Retrieves the enrollment status for an account. It can also return the list of accounts that are enrolled under the organization.

## Request Syntax

```
{  
  "accountId": "string",  
  "includeOrganizationInfo": boolean,  
  "maxResults": number,  
  "nextToken": "string"  
}
```

## Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#).

The request accepts the following data in JSON format.

### accountId

The account ID of a member account in the organization.

Type: String

Pattern: [0-9]{12}

Required: No

### includeOrganizationInfo

Indicates whether to return the enrollment status for the organization.

Type: Boolean

Required: No

### maxResults

The maximum number of objects that are returned for the request.

Type: Integer



Valid Range: Minimum value of 0. Maximum value of 100.

Required: No

### nextToken

The token to retrieve the next set of results.

Type: String

Required: No

## Response Syntax

```
{
  "includeMemberAccounts": boolean,
  "items": [
    {
      "accountId": "string",
      "createdTimestamp": number,
      "lastUpdatedTimestamp": number,
      "status": "string"
    }
  ],
  "nextToken": "string"
}
```

## Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

### includeMemberAccounts

The enrollment status of all member accounts in the organization if the account is the management account.

Type: Boolean

### items

The enrollment status of a specific account ID, including creation and last updated timestamps.

Type: Array of [AccountEnrollmentStatus](#) objects

### [nextToken](#)

The token to retrieve the next set of results.

Type: String

## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

### **AccessDeniedException**

You are not authorized to use this operation with the given parameters.

HTTP Status Code: 400

### **InternalServerError**

An error on the server occurred during the processing of your request. Try again later.

HTTP Status Code: 500

### **ThrottlingException**

The request was denied due to request throttling.

HTTP Status Code: 400

### **ValidationException**

The input fails to satisfy the constraints specified by an AWS service.

HTTP Status Code: 400

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface](#)
- [AWS SDK for .NET](#)

- [AWS SDK for C++](#)
- [AWS SDK for Go v2](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)

# ListRecommendations

Service: AWS Cost Optimization Hub

Returns a list of recommendations.

## Request Syntax

```
{
  "filter": {
    "accountIds": [ "string" ],
    "actionTypes": [ "string" ],
    "implementationEfforts": [ "string" ],
    "recommendationIds": [ "string" ],
    "regions": [ "string" ],
    "resourceArns": [ "string" ],
    "resourceIds": [ "string" ],
    "resourceTypes": [ "string" ],
    "restartNeeded": boolean,
    "rollbackPossible": boolean,
    "tags": [
      {
        "key": "string",
        "value": "string"
      }
    ]
  },
  "includeAllRecommendations": boolean,
  "maxResults": number,
  "nextToken": "string",
  "orderBy": {
    "dimension": "string",
    "order": "string"
  }
}
```

## Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#).

The request accepts the following data in JSON format.

## filter

The constraints that you want all returned recommendations to match.

Type: [Filter](#) object

Required: No

## includeAllRecommendations

List of all recommendations for a resource, or a single recommendation if de-duped by `resourceId`.

Type: Boolean

Required: No

## maxResults

The maximum number of recommendations that are returned for the request.

Type: Integer

Valid Range: Minimum value of 0. Maximum value of 1000.

Required: No

## nextToken

The token to retrieve the next set of results.

Type: String

Required: No

## orderBy

The ordering of recommendations by a dimension.

Type: [OrderBy](#) object

Required: No

## Response Syntax

```
{
```

```
"items": [
  {
    "accountId": "string",
    "actionType": "string",
    "currencyCode": "string",
    "currentResourceSummary": "string",
    "currentResourceType": "string",
    "estimatedMonthlyCost": number,
    "estimatedMonthlySavings": number,
    "estimatedSavingsPercentage": number,
    "implementationEffort": "string",
    "lastRefreshTimestamp": number,
    "recommendationId": "string",
    "recommendationLookbackPeriodInDays": number,
    "recommendedResourceSummary": "string",
    "recommendedResourceType": "string",
    "region": "string",
    "resourceArn": "string",
    "resourceId": "string",
    "restartNeeded": boolean,
    "rollbackPossible": boolean,
    "source": "string",
    "tags": [
      {
        "key": "string",
        "value": "string"
      }
    ]
  }
],
"nextToken": "string"
}
```

## Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

### items

List of all savings recommendations.

Type: Array of [Recommendation](#) objects

## **nextToken**

The token to retrieve the next set of results.

Type: String

## **Errors**

For information about the errors that are common to all actions, see [Common Errors](#).

### **AccessDeniedException**

You are not authorized to use this operation with the given parameters.

HTTP Status Code: 400

### **InternalServerErrorException**

An error on the server occurred during the processing of your request. Try again later.

HTTP Status Code: 500

### **ThrottlingException**

The request was denied due to request throttling.

HTTP Status Code: 400

### **ValidationException**

The input fails to satisfy the constraints specified by an AWS service.

HTTP Status Code: 400

## **See Also**

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)

- [AWS SDK for Go v2](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)



# ListRecommendationSummaries

Service: AWS Cost Optimization Hub

Returns a concise representation of savings estimates for resources. Also returns de-duped savings across different types of recommendations.

## Note

The following filters are not supported for this API: `recommendationIds`, `resourceArns`, and `resourceIds`.

## Request Syntax

```
{
  "filter": {
    "accountIds": [ "string" ],
    "actionTypes": [ "string" ],
    "implementationEfforts": [ "string" ],
    "recommendationIds": [ "string" ],
    "regions": [ "string" ],
    "resourceArns": [ "string" ],
    "resourceIds": [ "string" ],
    "resourceTypes": [ "string" ],
    "restartNeeded": boolean,
    "rollbackPossible": boolean,
    "tags": [
      {
        "key": "string",
        "value": "string"
      }
    ]
  },
  "groupBy": "string",
  "maxResults": number,
  "nextToken": "string"
}
```

## Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#).

The request accepts the following data in JSON format.

### filter

Describes a filter that returns a more specific list of recommendations. Filters recommendations by different dimensions.

Type: [Filter](#) object

Required: No

### groupBy

The grouping of recommendations by a dimension.

Type: String

Required: Yes

### maxResults

The maximum number of recommendations that are returned for the request.

Type: Integer

Valid Range: Minimum value of 0. Maximum value of 1000.

Required: No

### nextToken

The token to retrieve the next set of results.

Type: String

Required: No

## Response Syntax

```
{
  "currencyCode": "string",
  "estimatedTotalDedupedSavings": number,
  "groupBy": "string",
```

```
"items": [  
  {  
    "estimatedMonthlySavings": number,  
    "group": "string",  
    "recommendationCount": number  
  }  
],  
"nextToken": "string"  
}
```

## Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

### currencyCode

The currency code used for the recommendation.

Type: String

### estimatedTotalDedupedSavings

The total overall savings for the aggregated view.

Type: Double

### groupBy

The dimension used to group the recommendations by.

Type: String

### items

List of all savings recommendations.

Type: Array of [RecommendationSummary](#) objects

### nextToken

The token to retrieve the next set of results.

Type: String

## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

### **AccessDeniedException**

You are not authorized to use this operation with the given parameters.

HTTP Status Code: 400

### **InternalServerErrorException**

An error on the server occurred during the processing of your request. Try again later.

HTTP Status Code: 500

### **ThrottlingException**

The request was denied due to request throttling.

HTTP Status Code: 400

### **ValidationException**

The input fails to satisfy the constraints specified by an AWS service.

HTTP Status Code: 400

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go v2](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)

- [AWS SDK for Ruby V3](#)

# UpdateEnrollmentStatus

Service: AWS Cost Optimization Hub

Updates the enrollment (opt in and opt out) status of an account to the Cost Optimization Hub service.

If the account is a management account of an organization, this action can also be used to enroll member accounts of the organization.

You must have the appropriate permissions to opt in to Cost Optimization Hub and to view its recommendations. When you opt in, Cost Optimization Hub automatically creates a service-linked role in your account to access its data.

## Request Syntax

```
{
  "includeMemberAccounts": boolean,
  "status": "string"
}
```

## Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#).

The request accepts the following data in JSON format.

### [includeMemberAccounts](#)

Indicates whether to enroll member accounts of the organization if the account is the management account.

Type: Boolean

Required: No

### [status](#)

Sets the account status.

Type: String

Valid Values: Active | Inactive

Required: Yes

## Response Syntax

```
{
  "status": "string"
}
```

## Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

### status

The enrollment status of the account.

Type: String

## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

### **AccessDeniedException**

You are not authorized to use this operation with the given parameters.

HTTP Status Code: 400

### **InternalServerError**

An error on the server occurred during the processing of your request. Try again later.

HTTP Status Code: 500

### **ThrottlingException**

The request was denied due to request throttling.

HTTP Status Code: 400

## ValidationException

The input fails to satisfy the constraints specified by an AWS service.

HTTP Status Code: 400

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go v2](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)



# UpdatePreferences

Service: AWS Cost Optimization Hub

Updates a set of preferences for an account in order to add account-specific preferences into the service. These preferences impact how the savings associated with recommendations are presented.

## Request Syntax

```
{
  "memberAccountDiscountVisibility": "string",
  "savingsEstimationMode": "string"
}
```

## Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#).

The request accepts the following data in JSON format.

### [memberAccountDiscountVisibility](#)

Sets the "member account discount visibility" preference.

Type: String

Valid Values: All | None

Required: No

### [savingsEstimationMode](#)

Sets the "savings estimation mode" preference.

Type: String

Valid Values: BeforeDiscounts | AfterDiscounts

Required: No

## Response Syntax

```
{
```

```
"memberAccountDiscountVisibility": "string",  
"savingsEstimationMode": "string"  
}
```

## Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

### memberAccountDiscountVisibility

Shows the status of the "member account discount visibility" preference.

Type: String

Valid Values: All | None

### savingsEstimationMode

Shows the status of the "savings estimation mode" preference.

Type: String

Valid Values: BeforeDiscounts | AfterDiscounts

## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

### **AccessDeniedException**

You are not authorized to use this operation with the given parameters.

HTTP Status Code: 400

### **InternalServerErrorException**

An error on the server occurred during the processing of your request. Try again later.

HTTP Status Code: 500

### **ThrottlingException**

The request was denied due to request throttling.

HTTP Status Code: 400

## ValidationException

The input fails to satisfy the constraints specified by an AWS service.

HTTP Status Code: 400

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go v2](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)

## AWS Cost and Usage Report

The following actions are supported by AWS Cost and Usage Report:

- [DeleteReportDefinition](#)
- [DescribeReportDefinitions](#)
- [ListTagsForResource](#)
- [ModifyReportDefinition](#)
- [PutReportDefinition](#)
- [TagResource](#)
- [UntagResource](#)

# DeleteReportDefinition

Service: AWS Cost and Usage Report

Deletes the specified report. Any tags associated with the report are also deleted.

## Request Syntax

```
{  
  "ReportName": "string"  
}
```

## Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#).

The request accepts the following data in JSON format.

### ReportName

The name of the report that you want to delete. The name must be unique, is case sensitive, and can't include spaces.

Type: String

Length Constraints: Maximum length of 256.

Pattern: `[0-9A-Za-z!\-_*\ ' () ]+`

Required: Yes

## Response Syntax

```
{  
  "ResponseMessage": "string"  
}
```

## Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

## ResponseMessage

Whether the deletion was successful or not.

Type: String

## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

### InternalErrorException

An error on the server occurred during the processing of your request. Try again later.

HTTP Status Code: 500

### ValidationException

The input fails to satisfy the constraints specified by an AWS service.

HTTP Status Code: 400

## Examples

**The following is a sample request of the DeleteReportDefinition operation.**

This example illustrates one usage of DeleteReportDefinition.

### Sample Request

```
POST / HTTP/1.1
Host: api.cur.<region>.<domain>
x-amz-Date: <Date>
Authorization: AWS4-HMAC-SHA256 Credential=<Credential>,
  SignedHeaders=contenttype;date;host;user-agent;x-amz-date;x-amz-target;x-amzn-
requestid,Signature=<Signature>
User-Agent: <UserAgentString>
Content-Type: application/x-amz-json-1.1
Content-Length: <PayloadSizeBytes>
Connection: Keep-Alive
X-Amz-Target: AWSOrigamiServiceGateway.DeleteReportDefinition
{
```

```
    "ReportName": "ExampleReport"  
  }
```

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go v2](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)

## DescribeReportDefinitions

Service: AWS Cost and Usage Report

Lists the AWS Cost and Usage Report available to this account.

### Request Syntax

```
{  
  "MaxResults": number,  
  "NextToken": "string"  
}
```

### Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#).

The request accepts the following data in JSON format.

#### MaxResults

The maximum number of results that AWS returns for the operation.

Type: Integer

Valid Range: Fixed value of 5.

Required: No

#### NextToken

A generic string.

Type: String

Length Constraints: Maximum length of 256.

Pattern: `[A-Za-z0-9_\. \- =]*`

Required: No

### Response Syntax

```
{
```

```
"NextToken": "string",
"ReportDefinitions": [
  {
    "AdditionalArtifacts": [ "string" ],
    "AdditionalSchemaElements": [ "string" ],
    "BillingViewArn": "string",
    "Compression": "string",
    "Format": "string",
    "RefreshClosedReports": boolean,
    "ReportName": "string",
    "ReportStatus": {
      "lastDelivery": "string",
      "lastStatus": "string"
    },
    "ReportVersioning": "string",
    "S3Bucket": "string",
    "S3Prefix": "string",
    "S3Region": "string",
    "TimeUnit": "string"
  }
]
```

## Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

### NextToken

A generic string.

Type: String

Length Constraints: Maximum length of 256.

Pattern: [A-Za-z0-9\_\. \- =]\*

### ReportDefinitions

An AWS Cost and Usage Report list owned by the account.

Type: Array of [ReportDefinition](#) objects



## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

### InternalErrorException

An error on the server occurred during the processing of your request. Try again later.

HTTP Status Code: 500

## Examples

The following is a sample request and response of the `DescribeReportDefinitions` operation.

This example illustrates one usage of `DescribeReportDefinitions`.

### Sample Request

```
POST / HTTP/1.1
Host: api.cur.<region>.<domain>
x-amz-Date: <Date>
Authorization: AWS4-HMAC-SHA256 Credential=<Credential>,
  SignedHeaders=contenttype;date;host;user-agent;x-amz-date;x-amz-target;x-amzn-
requestid,Signature=<Signature>
User-Agent: <UserAgentString>
Content-Type: application/x-amz-json-1.1
Content-Length: <PayloadSizeBytes>
Connection: Keep-Alive
X-Amz-Target: AWSOrigamiServiceGateway.DescribeReportDefinitions
{
    "MaxResults": 5
}
```

### Sample Response

```
HTTP/1.1 200 OK
x-amzn-RequestId: <RequestId>
Content-Type: application/x-amz-json-1.1
Content-Length: <PayloadSizeBytes>
Date: <Date>
{
```

```
"ReportDefinitions": [  
  {  
    "AdditionalArtifacts": ["QUICKSIGHT"],  
    "AdditionalSchemaElements": ["RESOURCES"],  
    "Compression": "GZIP",  
    "Format": "textORcsv",  
    "ReportName": "ExampleReport",  
    "S3Bucket": "example-s3-bucket",  
    "S3Prefix": "exampleprefix",  
    "S3Region": "us-east-1",  
    "TimeUnit": "HOURLY"  
  },  
  {  
    "AdditionalArtifacts": ["QUICKSIGHT"],  
    "AdditionalSchemaElements": ["RESOURCES"],  
    "Compression": "GZIP",  
    "Format": "textORcsv",  
    "ReportName": "ExampleReport2",  
    "S3Bucket": "example-s3-bucket",  
    "S3Prefix": "exampleprefix",  
    "S3Region": "us-east-1",  
    "TimeUnit": "HOURLY"  
    "ReportStatus": {  
      "lastDelivery": "20191102T054923Z",  
      "lastStatus": "SUCCESS"  
    }  
  }  
]  
}
```

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go v2](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)

- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)

# ListTagsForResource

Service: AWS Cost and Usage Report

Lists the tags associated with the specified report definition.

## Request Syntax

```
{  
  "ReportName": "string"  
}
```

## Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#).

The request accepts the following data in JSON format.

### ReportName

The report name of the report definition that tags are to be returned for.

Type: String

Length Constraints: Maximum length of 256.

Pattern: `[0-9A-Za-z!\-_.*\']+`

Required: Yes

## Response Syntax

```
{  
  "Tags": [  
    {  
      "Key": "string",  
      "Value": "string"  
    }  
  ]  
}
```

## Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

### Tags

The tags assigned to the report definition resource.

Type: Array of [Tag](#) objects

Array Members: Minimum number of 0 items. Maximum number of 200 items.

## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

### **InternalErrorException**

An error on the server occurred during the processing of your request. Try again later.

HTTP Status Code: 500

### **ResourceNotFoundException**

The specified report (`ReportName`) in the request doesn't exist.

HTTP Status Code: 400

### **ValidationException**

The input fails to satisfy the constraints specified by an AWS service.

HTTP Status Code: 400

## Examples

**The following is a sample request of the `ListTagsForResource` operation.**

This example illustrates one usage of `ListTagsForResource`.

## Sample Request

```
POST / HTTP/1.1
Host: api.cur.<region>.<domain>
x-amz-Date: <Date>
Authorization: AWS4-HMAC-SHA256 Credential=<Credential>,
  SignedHeaders=contenttype;date;host;user-agent;x-amz-date;x-amz-target;x-amzn-
requestid,Signature=<Signature>
User-Agent: <UserAgentString>
Content-Type: application/x-amz-json-1.1
Content-Length: <PayloadSizeBytes>
Connection: Keep-Alive
X-Amz-Target: AWSOrigamiServiceGateway.ListTagsForResource
{
  "ReportName": "ExampleReport",
}
```

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go v2](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)

# ModifyReportDefinition

Service: AWS Cost and Usage Report

Allows you to programmatically update your report preferences.

## Request Syntax

```
{
  "ReportDefinition": {
    "AdditionalArtifacts": [ "string" ],
    "AdditionalSchemaElements": [ "string" ],
    "BillingViewArn": "string",
    "Compression": "string",
    "Format": "string",
    "RefreshClosedReports": boolean,
    "ReportName": "string",
    "ReportStatus": {
      "lastDelivery": "string",
      "lastStatus": "string"
    },
    "ReportVersioning": "string",
    "S3Bucket": "string",
    "S3Prefix": "string",
    "S3Region": "string",
    "TimeUnit": "string"
  },
  "ReportName": "string"
}
```

## Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#).

The request accepts the following data in JSON format.

### ReportDefinition

The definition of AWS Cost and Usage Report. You can specify the report name, time unit, report format, compression format, S3 bucket, additional artifacts, and schema elements in the definition.

Type: [ReportDefinition](#) object

Required: Yes

### ReportName

The name of the report that you want to create. The name must be unique, is case sensitive, and can't include spaces.

Type: String

Length Constraints: Maximum length of 256.

Pattern: `[0-9A-Za-z!\-_.*\']+`

Required: Yes

## Response Elements

If the action is successful, the service sends back an HTTP 200 response with an empty HTTP body.

## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

### InternalErrorException

An error on the server occurred during the processing of your request. Try again later.

HTTP Status Code: 500

### ValidationException

The input fails to satisfy the constraints specified by an AWS service.

HTTP Status Code: 400

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface](#)
- [AWS SDK for .NET](#)



- [AWS SDK for C++](#)
- [AWS SDK for Go v2](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)

# PutReportDefinition

Service: AWS Cost and Usage Report

Creates a new report using the description that you provide.

## Request Syntax

```
{
  "ReportDefinition": {
    "AdditionalArtifacts": [ "string" ],
    "AdditionalSchemaElements": [ "string" ],
    "BillingViewArn": "string",
    "Compression": "string",
    "Format": "string",
    "RefreshClosedReports": boolean,
    "ReportName": "string",
    "ReportStatus": {
      "lastDelivery": "string",
      "lastStatus": "string"
    },
    "ReportVersioning": "string",
    "S3Bucket": "string",
    "S3Prefix": "string",
    "S3Region": "string",
    "TimeUnit": "string"
  },
  "Tags": [
    {
      "Key": "string",
      "Value": "string"
    }
  ]
}
```

## Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#).

The request accepts the following data in JSON format.

## ReportDefinition

Represents the output of the PutReportDefinition operation. The content consists of the detailed metadata and data file information.

Type: [ReportDefinition](#) object

Required: Yes

## Tags

The tags to be assigned to the report definition resource.

Type: Array of [Tag](#) objects

Array Members: Minimum number of 0 items. Maximum number of 200 items.

Required: No

## Response Elements

If the action is successful, the service sends back an HTTP 200 response with an empty HTTP body.

## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

### **DuplicateReportNameException**

A report with the specified name already exists in the account. Specify a different report name.

HTTP Status Code: 400

### **InternalErrorException**

An error on the server occurred during the processing of your request. Try again later.

HTTP Status Code: 500

### **ReportLimitReachedException**

This account already has five reports defined. To define a new report, you must delete an existing report.

HTTP Status Code: 400

## ResourceNotFoundException

The specified report (ReportName) in the request doesn't exist.

HTTP Status Code: 400

## ValidationException

The input fails to satisfy the constraints specified by an AWS service.

HTTP Status Code: 400

## Examples

The following is a sample request of the PutReportDefinition operation.

This example illustrates one usage of PutReportDefinition.

### Sample Request

```
POST / HTTP/1.1
Host: api.cur.<region>.<domain>
x-amz-Date: <Date>
Authorization: AWS4-HMAC-SHA256 Credential=<Credential>,
  SignedHeaders=contenttype;date;host;user-agent;x-amz-date;x-amz-target;x-amzn-
requestid,Signature=<Signature>
User-Agent: <UserAgentString>
Content-Type: application/x-amz-json-1.1
Content-Length: <PayloadSizeBytes>
Connection: Keep-Alive
X-Amz-Target: AWSOrigamiServiceGateway.PutReportDefinition
{
  "ReportDefinition": {
    "ReportName": "ExampleReport",
    "TimeUnit": "DAILY",
    "Format": "textORcsv",
    "Compression": "ZIP",
    "AdditionalSchemaElements": [
      "RESOURCES"
    ],
    "S3Bucket": "example-s3-bucket",
    "S3Prefix": "exampleprefix",
    "S3Region": "us-east-1",
```

```
        "AdditionalArtifacts": [
            "REDSHIFT",
            "QUICKSIGHT"
        ],
        "Tags": [
            {
                "Key": "key-1",
                "Value": "value-1"
            }
        ]
    }
```

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go v2](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)

# TagResource

Service: AWS Cost and Usage Report

Associates a set of tags with a report definition.

## Request Syntax

```
{
  "ReportName": "string",
  "Tags": [
    {
      "Key": "string",
      "Value": "string"
    }
  ]
}
```

## Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#).

The request accepts the following data in JSON format.

### ReportName

The report name of the report definition that tags are to be associated with.

Type: String

Length Constraints: Maximum length of 256.

Pattern: `[0-9A-Za-z!\-_.*\']+`

Required: Yes

### Tags

The tags to be assigned to the report definition resource.

Type: Array of [Tag](#) objects

Array Members: Minimum number of 0 items. Maximum number of 200 items.

Required: Yes

## Response Elements

If the action is successful, the service sends back an HTTP 200 response with an empty HTTP body.

## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

### InternalServerErrorException

An error on the server occurred during the processing of your request. Try again later.

HTTP Status Code: 500

### ResourceNotFoundException

The specified report (`ReportName`) in the request doesn't exist.

HTTP Status Code: 400

### ValidationException

The input fails to satisfy the constraints specified by an AWS service.

HTTP Status Code: 400

## Examples

The following is a sample request of the `TagResource` operation.

This example illustrates one usage of `TagResource`.

### Sample Request

```
POST / HTTP/1.1
Host: api.cur.<region>.<domain>
x-amz-Date: <Date>
Authorization: AWS4-HMAC-SHA256 Credential=<Credential>,
  SignedHeaders=contenttype;date;host;user-agent;x-amz-date;x-amz-target;x-amzn-
  requestid,Signature=<Signature>
User-Agent: <UserAgentString>
```

```
Content-Type: application/x-amz-json-1.1
Content-Length: <PayloadSizeBytes>
Connection: Keep-Alive
X-Amz-Target: AWSOrigamiServiceGateway.TagResource
{
  "ReportName": "ExampleReport",
  "Tags": [
    {
      "Key": "key-1",
      "Value": "value-1"
    }
  ]
}
```

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go v2](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)



# UntagResource

Service: AWS Cost and Usage Report

Disassociates a set of tags from a report definition.

## Request Syntax

```
{
  "ReportName": "string",
  "TagKeys": [ "string" ]
}
```

## Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#).

The request accepts the following data in JSON format.

### ReportName

The report name of the report definition that tags are to be disassociated from.

Type: String

Length Constraints: Maximum length of 256.

Pattern: `[0-9A-Za-z!\-_.*\']+`

Required: Yes

### TagKeys

The tags to be disassociated from the report definition resource.

Type: Array of strings

Array Members: Minimum number of 0 items. Maximum number of 200 items.

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*`

Required: Yes

## Response Elements

If the action is successful, the service sends back an HTTP 200 response with an empty HTTP body.

## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

### InternalErrorException

An error on the server occurred during the processing of your request. Try again later.

HTTP Status Code: 500

### ResourceNotFoundException

The specified report (ReportName) in the request doesn't exist.

HTTP Status Code: 400

### ValidationException

The input fails to satisfy the constraints specified by an AWS service.

HTTP Status Code: 400

## Examples

The following is a sample request of the UntagResource operation.

This example illustrates one usage of UntagResource.

### Sample Request

```
POST / HTTP/1.1
Host: api.cur.<region>.<domain>
x-amz-Date: <Date>
Authorization: AWS4-HMAC-SHA256 Credential=<Credential>,
  SignedHeaders=contenttype;date;host;user-agent;x-amz-date;x-amz-target;x-amzn-
  requestid,Signature=<Signature>
User-Agent: <UserAgentString>
Content-Type: application/x-amz-json-1.1
Content-Length: <PayloadSizeBytes>
Connection: Keep-Alive
```

```
X-Amz-Target: AWSOrigamiServiceGateway.UntagResource
{
  "ReportName": "ExampleReport",
  "TagKeys": ["tag-1", "tag-2"]
}
```

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go v2](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)

## AWS Free Tier

The following actions are supported by AWS Free Tier:

- [GetFreeTierUsage](#)

# GetFreeTierUsage

Service: AWS Free Tier

Returns a list of all Free Tier usage objects that match your filters.

## Request Syntax

```
{
  "filter": {
    "And": [
      "Expression"
    ],
    "Dimensions": {
      "Key": "string",
      "MatchOptions": [ "string" ],
      "Values": [ "string" ]
    },
    "Not": "Expression",
    "Or": [
      "Expression"
    ]
  },
  "maxResults": number,
  "nextToken": "string"
}
```

## Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#).

The request accepts the following data in JSON format.

### filter

An expression that specifies the conditions that you want each FreeTierUsage object to meet.

Type: [Expression](#) object

Required: No

### maxResults

The maximum number of results to return in the response. MaxResults means that there can be up to the specified number of values, but there might be fewer results based on your filters.

Type: Integer

Valid Range: Minimum value of 1. Maximum value of 1000.

Required: No

### nextToken

The pagination token that indicates the next set of results to retrieve.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 8192.

Pattern: `^[\\S\\s]*$`

Required: No

## Response Syntax

```
{
  "freeTierUsages": [
    {
      "actualUsageAmount": number,
      "description": "string",
      "forecastedUsageAmount": number,
      "freeTierType": "string",
      "limit": number,
      "operation": "string",
      "region": "string",
      "service": "string",
      "unit": "string",
      "usageType": "string"
    }
  ],
  "nextToken": "string"
}
```

## Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

## [freeTierUsages](#)

The list of Free Tier usage objects that meet your filter expression.

Type: Array of [FreeTierUsage](#) objects

## [nextToken](#)

The pagination token that indicates the next set of results to retrieve.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 8192.

Pattern: `^[\\S\\s]*$`

## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

### **InternalServerErrorException**

An unexpected error occurred during the processing of your request.

HTTP Status Code: 500

### **ThrottlingException**

The request was denied due to request throttling.

HTTP Status Code: 400

### **ValidationException**

The input fails to satisfy the constraints specified by an AWS service.

HTTP Status Code: 400

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface](#)

- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go v2](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)

## AWS Price List

The following actions are supported by AWS Price List:

- [DescribeServices](#)
- [GetAttributeValues](#)
- [GetPriceListFileUrl](#)
- [GetProducts](#)
- [ListPriceLists](#)

# DescribeServices

Service: AWS Price List

Returns the metadata for one service or a list of the metadata for all services. Use this without a service code to get the service codes for all services. Use it with a service code, such as AmazonEC2, to get information specific to that service, such as the attribute names available for that service. For example, some of the attribute names available for EC2 are volumeType, maxIopsVolume, operation, locationType, and instanceCapacity10xlarge.

## Request Syntax

```
{
  "FormatVersion": "string",
  "MaxResults": number,
  "NextToken": "string",
  "ServiceCode": "string"
}
```

## Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#).

The request accepts the following data in JSON format.

### FormatVersion

The format version that you want the response to be in.

Valid values are: aws\_v1

Type: String

Required: No

### MaxResults

The maximum number of results that you want returned in the response.

Type: Integer

Valid Range: Minimum value of 1. Maximum value of 100.

Required: No



## NextToken

The pagination token that indicates the next set of results that you want to retrieve.

Type: String

Required: No

## ServiceCode

The code for the service whose information you want to retrieve, such as AmazonEC2. You can use the `ServiceCode` to filter the results in a `GetProducts` call. To retrieve a list of all services, leave this blank.

Type: String

Required: No

## Response Syntax

```
{
  "FormatVersion": "string",
  "NextToken": "string",
  "Services": [
    {
      "AttributeNames": [ "string" ],
      "ServiceCode": "string"
    }
  ]
}
```

## Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

### FormatVersion

The format version of the response. For example, `aws_v1`.

Type: String

## NextToken

The pagination token for the next set of retrievable results.

Type: String

## Services

The service metadata for the service or services in the response.

Type: Array of [Service](#) objects

## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

### **ExpiredNextTokenException**

The pagination token expired. Try again without a pagination token.

HTTP Status Code: 400

### **InternalErrorException**

An error on the server occurred during the processing of your request. Try again later.

HTTP Status Code: 500

### **InvalidNextTokenException**

The pagination token is invalid. Try again without a pagination token.

HTTP Status Code: 400

### **InvalidParameterException**

One or more parameters had an invalid value.

HTTP Status Code: 400

### **NotFoundException**

The requested resource can't be found.

HTTP Status Code: 400

## ThrottlingException

You've made too many requests exceeding service quotas.

HTTP Status Code: 400

## Examples

The following is a sample request and response of the `GetService` operation.

This example illustrates one usage of `DescribeServices`.

### Sample Request

```
POST / HTTP/1.1
Host: api.pricing.<region>.<domain>
x-amz-Date: <Date>
Authorization: AWS4-HMAC-SHA256 Credential=<Credential>,
  SignedHeaders=contenttype;date;host;user-agent;x-amz-date;x-amz-target;x-amzn-
requestid,Signature=<Signature>
User-Agent: <UserAgentString>
Content-Type: application/x-amz-json-1.1
Content-Length: <PayloadSizeBytes>
Connection: Keep-Alive
X-Amz-Target: AWSPriceListService.DescribeServices
{
  "ServiceCode": "AmazonEC2",
  "FormatVersion": "aws_v1",
  "NextToken": null,
  "MaxResults": 1
}
```

### Sample Response

```
HTTP/1.1 200 OK
x-amzn-RequestId: <RequestId>
Content-Type: application/x-amz-json-1.1
Content-Length: <PayloadSizeBytes>
Date: <Date>
{
  "FormatVersion": "aws_v1",
  "NextToken": "abcdefg123",
```

```
"Services": [  
  {  
    "AttributeNames": [  
      "volumeType",  
      "maxIopsvolume",  
      "instanceCapacity10xlarge",  
      "locationType",  
      "operation"  
    ],  
    "ServiceCode": "AmazonEC2"  
  }  
]
```

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go v2](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)

# GetAttributeValues

Service: AWS Price List

Returns a list of attribute values. Attributes are similar to the details in a Price List API offer file. For a list of available attributes, see [Offer File Definitions](#) in the [AWS Billing and Cost Management User Guide](#).

## Request Syntax

```
{  
  "AttributeName": "string",  
  "MaxResults": number,  
  "NextToken": "string",  
  "ServiceCode": "string"  
}
```

## Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#).

The request accepts the following data in JSON format.

### [AttributeName](#)

The name of the attribute that you want to retrieve the values for, such as volumeType.

Type: String

Required: Yes

### [MaxResults](#)

The maximum number of results to return in response.

Type: Integer

Valid Range: Minimum value of 1. Maximum value of 100.

Required: No

### [NextToken](#)

The pagination token that indicates the next set of results that you want to retrieve.

Type: String

Required: No

### ServiceCode

The service code for the service whose attributes you want to retrieve. For example, if you want to retrieve an EC2 attribute, use AmazonEC2.

Type: String

Required: Yes

## Response Syntax

```
{
  "AttributeValues": [
    {
      "Value": "string"
    }
  ],
  "NextToken": "string"
}
```

## Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

### AttributeValues

The list of values for an attribute. For example, Throughput Optimized HDD and Provisioned IOPS are two available values for the AmazonEC2 volumeType.

Type: Array of [AttributeValue](#) objects

### NextToken

The pagination token that indicates the next set of results to retrieve.

Type: String

## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

### ExpiredNextTokenException

The pagination token expired. Try again without a pagination token.

HTTP Status Code: 400

### InternalErrorException

An error on the server occurred during the processing of your request. Try again later.

HTTP Status Code: 500

### InvalidNextTokenException

The pagination token is invalid. Try again without a pagination token.

HTTP Status Code: 400

### InvalidParameterException

One or more parameters had an invalid value.

HTTP Status Code: 400

### NotFoundException

The requested resource can't be found.

HTTP Status Code: 400

### ThrottlingException

You've made too many requests exceeding service quotas.

HTTP Status Code: 400

## Examples

**The following is a sample request and response of the `GetAttributeValues` operation.**

This example illustrates one usage of `GetAttributeValues`.

## Sample Request

```

POST / HTTP/1.1
Host: api.pricing.<region>.<domain>
x-amz-Date: <Date>
Authorization: AWS4-HMAC-SHA256 Credential=<Credential>,
  SignedHeaders=contenttype;date;host;user-agent;x-amz-date;x-amz-target;x-amzn-
requestid,Signature=<Signature>
User-Agent: <UserAgentString>
Content-Type: application/x-amz-json-1.1
Content-Length: <PayloadSizeBytes>
Connection: Keep-Alive
X-Amz-Target: AWSPriceListService.GetAttributeValues
{
  "ServiceCode": "AmazonEC2",
  "AttributeName": "volumeType",
  "NextToken": null,
  "MaxResults": 2
}

```

## Sample Response

```

HTTP/1.1 200 OK
x-amzn-RequestId: <RequestId>
Content-Type: application/x-amz-json-1.1
Content-Length: <PayloadSizeBytes>
Date: <Date>
{
  "AttributeValues": [
    {
      "Value": "Throughput Optimized HDD"
    },
    {
      "Value": "Provisioned IOPS"
    }
  ],
  "NextToken":
  "GpgauTGIY7LGezuc15LV0w==:7GzYJ0nw0DBTJ2J66EoTIIynE601uXwQtTRqioJzQadBnDVgHPzI1en4BUQnPCLpzeBk
+Z/9/cTw9G1dnPOHN98+FdmJP7wKU3Q0pQ8MQr5K0eBkIsAqvAQYdL0DkL7tHwPtE5iCEByAmg9gcC/
yBU1vA0sf7R3VaNN4M5jMDv3woSWqASSI1BVB6tgW78YL22KhssoitM/jWW+aP6Jqtq4mldxp/ct6DWA1
+xLFwHU/CbketimPPXyqHF3/UXDw=="
}

```



## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go v2](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)

# GetPriceListFileUrl

Service: AWS Price List

*This feature is in preview release and is subject to change. Your use of AWS Price List API is subject to the Beta Service Participation terms of the [AWS Service Terms](#) (Section 1.10).*

This returns the URL that you can retrieve your Price List file from. This URL is based on the `PriceListArn` and `FileFormat` that you retrieve from the [ListPriceLists](#) response.

## Request Syntax

```
{  
  "FileFormat": "string",  
  "PriceListArn": "string"  
}
```

## Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#).

The request accepts the following data in JSON format.

### [FileFormat](#)

The format that you want to retrieve your Price List files in. The `FileFormat` can be obtained from the [ListPriceLists](#) response.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 255.

Required: Yes

### [PriceListArn](#)

The unique identifier that maps to where your Price List files are located. `PriceListArn` can be obtained from the [ListPriceLists](#) response.

Type: String

Length Constraints: Minimum length of 18. Maximum length of 2048.

Pattern: `arn:[A-Za-z0-9][-.A-Za-z0-9]{0,62}:pricing::price-list/[A-Za-z0-9+_/.-]{1,1023}`

Required: Yes

## Response Syntax

```
{
  "Url": "string"
}
```

## Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

### Url

The URL to download your Price List file from.

Type: String

## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

### **AccessDeniedException**

General authentication failure. The request wasn't signed correctly.

HTTP Status Code: 400

### **InternalServerErrorException**

An error on the server occurred during the processing of your request. Try again later.

HTTP Status Code: 500

### **InvalidParameterException**

One or more parameters had an invalid value.

HTTP Status Code: 400

### **NotFoundException**

The requested resource can't be found.

HTTP Status Code: 400

### **ResourceNotFoundException**

The requested resource can't be found.

HTTP Status Code: 400

### **ThrottlingException**

You've made too many requests exceeding service quotas.

HTTP Status Code: 400

## **Examples**

The following is a sample request and response of the `GetPriceListFileUrl` operation.

This example illustrates one usage of `GetPriceListFileUrl`.

### **Sample Request**

```
POST / HTTP/1.1
Host: api.pricing.<region>.<domain>
x-amz-Date: <Date>Authorization: AWS4-HMAC-SHA256 Credential=<Credential>,
SignedHeaders=contenttype;date;host;user-agent;x-amz-date;x-amz-target;x-amzn-
requestid,Signature=<Signature>User-Agent: <UserAgentString>
Content-Type: application/x-amz-json-1.1
Content-Length: <PayloadSizeBytes>Connection: Keep-Alive
X-Amz-Target: AWSPriceListService.GetPriceListFileUrl{
  "PriceListArn": "arn:aws:pricing::price-list/aws/AmazonEC2/USD/20220603151047/us-
east-1",
  "FileFormat": "json"
}
```

### **Sample Response**

```
HTTP/1.1 200 OK
```

```
x-amzn-RequestId: <RequestId>
Content-Type: application/x-amz-json-1.1
Content-Length: <PayloadSizeBytes>
Date: <Date>
{
  "Url": "https://pricing.us-east-1.amazonaws.com/offers/v1.0/aws/
AmazonEC2/20220603151047/us-east-1/index.json"
}
```

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go v2](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)

# GetProducts

Service: AWS Price List

Returns a list of all products that match the filter criteria.

## Request Syntax

```
{
  "Filters": [
    {
      "Field": "string",
      "Type": "string",
      "Value": "string"
    }
  ],
  "FormatVersion": "string",
  "MaxResults": number,
  "NextToken": "string",
  "ServiceCode": "string"
}
```

## Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#).

The request accepts the following data in JSON format.

### Filters

The list of filters that limit the returned products. only products that match all filters are returned.

Type: Array of [Filter](#) objects

Required: No

### FormatVersion

The format version that you want the response to be in.

Valid values are: aws\_v1

Type: String

Required: No

### MaxResults

The maximum number of results to return in the response.

Type: Integer

Valid Range: Minimum value of 1. Maximum value of 100.

Required: No

### NextToken

The pagination token that indicates the next set of results that you want to retrieve.

Type: String

Required: No

### ServiceCode

The code for the service whose products you want to retrieve.

Type: String

Required: Yes

## Response Syntax

```
{
  "FormatVersion": "string",
  "NextToken": "string",
  "PriceList": [ "string" ]
}
```

## Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

### FormatVersion

The format version of the response. For example, aws\_v1.

Type: String

### NextToken

The pagination token that indicates the next set of results to retrieve.

Type: String

### PriceList

The list of products that match your filters. The list contains both the product metadata and the price information.

Type: Array of strings

## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

### **ExpiredNextTokenException**

The pagination token expired. Try again without a pagination token.

HTTP Status Code: 400

### **InternalErrorException**

An error on the server occurred during the processing of your request. Try again later.

HTTP Status Code: 500

### **InvalidNextTokenException**

The pagination token is invalid. Try again without a pagination token.

HTTP Status Code: 400

### **InvalidParameterException**

One or more parameters had an invalid value.

HTTP Status Code: 400

### **NotFoundException**

The requested resource can't be found.



HTTP Status Code: 400

## ThrottlingException

You've made too many requests exceeding service quotas.

HTTP Status Code: 400

## Examples

The following is a sample request and response of the `GetProducts` operation.

This example illustrates one usage of `GetProducts`.

### Sample Request

```
POST / HTTP/1.1
Host: api.pricing.<region>.<domain>
x-amz-Date: <Date>
Authorization: AWS4-HMAC-SHA256 Credential=<Credential>,
  SignedHeaders=contenttype;date;host;user-agent;x-amz-date;x-amz-target;x-amzn-
requestid,Signature=<Signature>
User-Agent: <UserAgentString>
Content-Type: application/x-amz-json-1.1
Content-Length: <PayloadSizeBytes>
Connection: Keep-Alive
X-Amz-Target: AWSPriceListService.GetProducts
{
  "Filters": [
    {
      "Type": "TERM_MATCH",
      "Field": "ServiceCode",
      "Value": "AmazonEC2"
    },
    {
      "Type": "TERM_MATCH",
      "Field": "volumeType",
      "Value": "Provisioned IOPS"
    }
  ],
  "FormatVersion": "aws_v1",
  "NextToken": null,
  "MaxResults": 1,
```

```
"ServiceCode": "AmazonEC2"
}
```

## Sample Response

```
HTTP/1.1 200 OK
x-amzn-RequestId: <RequestId>
Content-Type: application/x-amz-json-1.1
Content-Length: <PayloadSizeBytes>
Date: <Date>
{
  "FormatVersion": "aws_v1",
  "NextToken": "57r3UcqRjDujbzWfHF7Ciw==:ywSmZsD3mtpQmQLQ5Xf0sIMkYybSj
+vAT+kGmwMFq+K9DGmIoJkz7lunVeami0PgthdWS02a7YKojC0+zY4dJmuN12QvbNhXs
+AJ2Ufn7xGmJncNI2TsEuAsVCUfTAvAQncwamtk6XuZ4YdNnooV62FjkV3ZAn40d9+wAxV7+FImvhUHi/
+f8afgzDh2zPULH8j1V9uUtj0oHp8+DhPUuHXh+WBIIE/aoKpPSm3c=",
  "PriceList": [
    {
      "product": {"productFamily": "Storage", "attributes": {"storageMedia": "SSD-backed", "maxThroughputVolume": "320 MB/sec", "volumeType": "Provisioned IOPS", "maxIopsVolume": "20000", "serviceCode": "AmazonEC2", "usageType": "CAN1-EBS:VolumeUsage.piops", "locationType": "AWS Region", "location": "Canada (Central)", "serviceName": "Amazon Elastic Compute Cloud", "maxVolumeSize": "16 TiB", "operation": "", "sku": "WQGC34PB2AWS8R4U"}, "serviceCode": "AmazonEC2", "terms": {"OnDemand": {"WQGC34PB2AWS8R4U.JRTCKXETXF": {"priceDimensions": {"WQGC34PB2AWS8R4U.JRTCKXETXF.6YS6EN2CT7": {"unit": "GB-Mo", "endRange": "Inf", "description": "$0.138 per GB-month of Provisioned IOPS SSD (io1) provisioned storage - Canada (Central)", "appliesTo": [], "rateCode": "WQGC34PB2AWS8R4U.JRTCKXETXF.6YS6EN2CT7", "beginRange": "0", "pricePerUnit": {"USD": "0.1380000000"}}, "sku": "WQGC34PB2AWS8R4U", "effectiveDate": "2017-08-01T00:00:00Z", "offerTermCode": "JRTCKXETXF", "termAttributes": {}}}}, "version": "20170901182201", "publicationDate": "2017-09-01T18:22:01Z"}
    ]
  }
}
```

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface](#)
- [AWS SDK for .NET](#)

- [AWS SDK for C++](#)
- [AWS SDK for Go v2](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)

## ListPriceLists

Service: AWS Price List

***This feature is in preview release and is subject to change. Your use of AWS Price List API is subject to the Beta Service Participation terms of the [AWS Service Terms](#) (Section 1.10).***

This returns a list of Price List references that the requester is authorized to view, given a ServiceCode, CurrencyCode, and an EffectiveDate. Use without a RegionCode filter to list Price List references from all available AWS Regions. Use with a RegionCode filter to get the Price List reference that's specific to a specific AWS Region. You can use the PriceListArn from the response to get your preferred Price List files through the [GetPriceListFileUrl](#) API.

### Request Syntax

```
{
  "CurrencyCode": "string",
  "EffectiveDate": number,
  "MaxResults": number,
  "NextToken": "string",
  "RegionCode": "string",
  "ServiceCode": "string"
}
```

### Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#).

The request accepts the following data in JSON format.

#### CurrencyCode

The three alphabetical character ISO-4217 currency code that the Price List files are denominated in.

Type: String

Pattern: [A-Z]{3}

Required: Yes

#### EffectiveDate

The date that the Price List file prices are effective from.

Type: Timestamp

Required: Yes

### MaxResults

The maximum number of results to return in the response.

Type: Integer

Valid Range: Minimum value of 1. Maximum value of 100.

Required: No

### NextToken

The pagination token that indicates the next set of results that you want to retrieve.

Type: String

Required: No

### RegionCode

This is used to filter the Price List by AWS Region. For example, to get the price list only for the US East (N. Virginia) Region, use `us-east-1`. If nothing is specified, you retrieve price lists for all applicable Regions. The available RegionCode list can be retrieved from [GetAttributeValues](#) API.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 255.

Required: No

### ServiceCode

The service code or the Savings Plan service code for the attributes that you want to retrieve. For example, to get the list of applicable Amazon EC2 price lists, use `AmazonEC2`. For a full list of service codes containing On-Demand and Reserved Instance (RI) pricing, use the [DescribeServices](#) API.

To retrieve the Reserved Instance and Compute Savings Plan price lists, use `ComputeSavingsPlans`.

To retrieve Machine Learning Savings Plans price lists, use `MachineLearningSavingsPlans`.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 32.

Required: Yes

## Response Syntax

```
{
  "NextToken": "string",
  "PriceLists": [
    {
      "CurrencyCode": "string",
      "FileFormats": [ "string" ],
      "PriceListArn": "string",
      "RegionCode": "string"
    }
  ]
}
```

## Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

### NextToken

The pagination token that indicates the next set of results to retrieve.

Type: String

### PriceLists

The type of price list references that match your request.

Type: Array of [PriceList](#) objects

## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

**AccessDeniedException**

General authentication failure. The request wasn't signed correctly.

HTTP Status Code: 400

**ExpiredNextTokenException**

The pagination token expired. Try again without a pagination token.

HTTP Status Code: 400

**InternalErrorException**

An error on the server occurred during the processing of your request. Try again later.

HTTP Status Code: 500

**InvalidNextTokenException**

The pagination token is invalid. Try again without a pagination token.

HTTP Status Code: 400

**InvalidParameterException**

One or more parameters had an invalid value.

HTTP Status Code: 400

**NotFoundException**

The requested resource can't be found.

HTTP Status Code: 400

**ResourceNotFoundException**

The requested resource can't be found.

HTTP Status Code: 400

**ThrottlingException**

You've made too many requests exceeding service quotas.

HTTP Status Code: 400

## Examples

The following is a sample request and response of the `ListPriceLists` operation.

This example illustrates one usage of `ListPriceLists`.

### Sample Request

```
POST / HTTP/1.1
Host: api.pricing.<region>.<domain>
x-amz-Date: <Date>Authorization: AWS4-HMAC-SHA256 Credential=<Credential>,
  SignedHeaders=contenttype;date;host;user-agent;x-amz-date;x-amz-target;x-amzn-
requestid,Signature=<Signature>User-Agent: <UserAgentString>
Content-Type: application/x-amz-json-1.1
Content-Length: <PayloadSizeBytes>Connection: Keep-Alive
X-Amz-Target: AWSPriceListService.ListPriceLists{
  "ServiceCode": "AmazonEC2",
  "EffectiveDate": 1651363200,
  "CurrencyCode": "USD",
  "RegionCode": "us-east-1",
  "NextToken": null,
  "MaxResults": 10
}
```

### Sample Response

```
HTTP/1.1 200 OK
x-amzn-RequestId: <RequestId>
Content-Type: application/x-amz-json-1.1
Content-Length: <PayloadSizeBytes>
Date: <Date>
{
  "PriceLists": [
    {
      "PriceListArn": "arn:aws:pricing::price-list/aws/AmazonEC2/
USD/20220603151047/us-east-1",
      "RegionCode": "us-east-1",
      "CurrencyCode": "USD",
      "FileFormats": [
        "json",
        "csv"
      ]
    }
  ]
}
```



```
  ],  
  "NextToken": "abcdefg123"  
}
```

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go v2](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)

## Tax Settings

The following actions are supported by Tax Settings:

- [BatchDeleteTaxRegistration](#)
- [BatchPutTaxRegistration](#)
- [DeleteTaxRegistration](#)
- [GetTaxRegistration](#)
- [GetTaxRegistrationDocument](#)
- [ListTaxRegistrations](#)
- [PutTaxRegistration](#)

# BatchDeleteTaxRegistration

Service: Tax Settings

Deletes tax registration for multiple accounts in batch. This can be used to delete tax registrations for up to five accounts in one batch.

## Note

This API operation can't be used to delete your tax registration in Brazil. Use the [Payment preferences](#) page in the AWS Billing and Cost Management console instead.

## Request Syntax

```
POST /BatchDeleteTaxRegistration HTTP/1.1
Content-type: application/json
```

```
{
  "accountIds": [ "string" ]
}
```

## URI Request Parameters

The request does not use any URI parameters.

## Request Body

The request accepts the following data in JSON format.

### [accountIds](#)

List of unique account identifiers.

Type: Array of strings

Array Members: Minimum number of 1 item. Maximum number of 5 items.

Length Constraints: Fixed length of 12.

Pattern:  $^\backslash d+\$$

Required: Yes

## Response Syntax

```
HTTP/1.1 200
Content-type: application/json

{
  "errors": [
    {
      "accountId": "string",
      "code": "string",
      "message": "string"
    }
  ]
}
```

## Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

### errors

The list of errors for the accounts the TRN information could not be deleted for.

Type: Array of [BatchDeleteTaxRegistrationError](#) objects

## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

### **ConflictException**

The exception when the input is creating conflict with the given state.

HTTP Status Code: 409

### **InternalServerError**

The exception thrown when an unexpected error occurs when processing a request.

HTTP Status Code: 500

## ValidationException

The exception when the input doesn't pass validation for at least one of the input parameters.

HTTP Status Code: 400

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go v2](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)

# BatchPutTaxRegistration

Service: Tax Settings

Adds or updates tax registration for multiple accounts in batch. This can be used to add or update tax registrations for up to five accounts in one batch. You can't set a TRN if there's a pending TRN. You'll need to delete the pending TRN first.

To call this API operation for specific countries, see the following country-specific requirements.

## Bangladesh

- You must specify the tax registration certificate document in the `taxRegistrationDocuments` field of the `VerificationDetails` object.

## Brazil

- You must complete the tax registration process in the [Payment preferences](#) page in the AWS Billing and Cost Management console. After your TRN and billing address are verified, you can call this API operation.
- For AWS accounts created through AWS Organizations, you can call this API operation when you don't have a billing address.

## Georgia

- The valid `personType` values are `Physical Person` and `Business`.

## Kenya

- You must specify the `personType` in the `kenyaAdditionalInfo` field of the `additionalTaxInformation` object.
- If the `personType` is `Physical Person`, you must specify the tax registration certificate document in the `taxRegistrationDocuments` field of the `VerificationDetails` object.

## Malaysia

- If you use this operation to set a tax registration number (TRN) in Malaysia, only resellers with a valid sales and service tax (SST) number are required to provide tax registration information.

- By using this API operation to set a TRN in Malaysia, AWS will regard you as self-declaring that you're an authorized business reseller registered with the Royal Malaysia Customs Department (RMCD) and have a valid SST number.
- AWS reserves the right to seek additional information and/or take other actions to support your self-declaration as appropriate.
- If you're not a reseller of AWS services, we don't recommend that you use this operation to set the TRN in Malaysia.
- Only use this API operation to upload the TRNs for accounts through which you're reselling AWS services.
- AWS is currently registered under the following service tax codes. You must include at least one of the service tax codes in the service tax code strings to declare yourself as an authorized registered business reseller.

Taxable service and service tax codes:

Consultancy - 9907061674

Training or coaching service - 9907071685

IT service - 9907101676

Digital services and electronic medium - 9907121690

## Nepal

- The sector valid values are Business and Individual.

## Saudi Arabia

- For address, you must specify addressLine3.

## South Korea

- You must specify the certifiedEmailId and legalName in the TaxRegistrationEntry object. Use Korean characters for legalName.

- You must specify the `businessRepresentativeName`, `itemOfBusiness`, and `lineOfBusiness` in the `southKoreaAdditionalInfo` field of the `additionalTaxInformation` object. Use Korean characters for these fields.
- You must specify the tax registration certificate document in the `taxRegistrationDocuments` field of the `VerificationDetails` object.
- For the address object, use Korean characters for `addressLine1`, `addressLine2`, `city`, `postalCode`, and `stateOrRegion`.

## Spain

- You must specify the `registrationType` in the `spainAdditionalInfo` field of the `additionalTaxInformation` object.
- If the `registrationType` is `Local`, you must specify the tax registration certificate document in the `taxRegistrationDocuments` field of the `VerificationDetails` object.

## Turkey

- You must specify the `sector` in the `taxRegistrationEntry` object.
- If your `sector` is `Business`, `Individual`, or `Government`:
  - Specify the `taxOffice`. If your `sector` is `Individual`, don't enter this value.
  - (Optional) Specify the `kepEmailId`. If your `sector` is `Individual`, don't enter this value.
  - **Note:** In the **Tax Settings** page of the AWS Billing console, `Government` appears as **Public institutions**
- If your `sector` is `Business` and you're subject to KDV tax, you must specify your industry in the `industries` field.
- For address, you must specify `districtOrCounty`.

## Ukraine

- The `sector` valid values are `Business` and `Individual`.

## Request Syntax

```
POST /BatchPutTaxRegistration HTTP/1.1
```

Content-type: application/json

```
{
  "accountIds": [ "string" ],
  "taxRegistrationEntry": {
    "additionalTaxInformation": {
      "canadaAdditionalInfo": {
        "canadaQuebecSalesTaxNumber": "string",
        "canadaRetailSalesTaxNumber": "string",
        "isResellerAccount": boolean,
        "provincialSalesTaxId": "string"
      },
      "estoniaAdditionalInfo": {
        "registryCommercialCode": "string"
      },
      "georgiaAdditionalInfo": {
        "personType": "string"
      },
      "israelAdditionalInfo": {
        "customerType": "string",
        "dealerType": "string"
      },
      "italyAdditionalInfo": {
        "cigNumber": "string",
        "cupNumber": "string",
        "sdiAccountId": "string",
        "taxCode": "string"
      },
      "kenyaAdditionalInfo": {
        "personType": "string"
      },
      "malaysiaAdditionalInfo": {
        "serviceTaxCodes": [ "string" ]
      },
      "polandAdditionalInfo": {
        "individualRegistrationNumber": "string",
        "isGroupVatEnabled": boolean
      },
      "romaniaAdditionalInfo": {
        "taxRegistrationNumberType": "string"
      },
      "saudiArabiaAdditionalInfo": {
        "taxRegistrationNumberType": "string"
      }
    }
  }
}
```



```

    "southKoreaAdditionalInfo": {
      "businessRepresentativeName": "string",
      "itemOfBusiness": "string",
      "lineOfBusiness": "string"
    },
    "spainAdditionalInfo": {
      "registrationType": "string"
    },
    "turkeyAdditionalInfo": {
      "industries": "string",
      "kepEmailId": "string",
      "secondaryTaxId": "string",
      "taxOffice": "string"
    },
    "ukraineAdditionalInfo": {
      "ukraineTrnType": "string"
    }
  },
  "certifiedEmailId": "string",
  "legalAddress": {
    "addressLine1": "string",
    "addressLine2": "string",
    "addressLine3": "string",
    "city": "string",
    "countryCode": "string",
    "districtOrCounty": "string",
    "postalCode": "string",
    "stateOrRegion": "string"
  },
  "legalName": "string",
  "registrationId": "string",
  "registrationType": "string",
  "sector": "string",
  "verificationDetails": {
    "dateOfBirth": "string",
    "taxRegistrationDocuments": [
      {
        "s3Location": {
          "bucket": "string",
          "key": "string"
        }
      }
    ]
  }
}

```

```
}  
}
```

## URI Request Parameters

The request does not use any URI parameters.

## Request Body

The request accepts the following data in JSON format.

### accountIds

List of unique account identifiers.

Type: Array of strings

Array Members: Minimum number of 1 item. Maximum number of 5 items.

Length Constraints: Fixed length of 12.

Pattern: `^\d+$`

Required: Yes

### taxRegistrationEntry

Your TRN information that will be stored to the accounts mentioned in `putEntries`.

Type: [TaxRegistrationEntry](#) object

Required: Yes

## Response Syntax

```
HTTP/1.1 200  
Content-type: application/json  
  
{  
  "errors": [  
    {  
      "accountId": "string",
```

```
        "code": "string",  
        "message": "string"  
    }  
],  
"status": "string"  
}
```

## Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

### errors

List of errors for the accounts the TRN information could not be added or updated to.

Type: Array of [BatchPutTaxRegistrationError](#) objects

### status

The status of your TRN stored in the system after processing. Based on the validation occurring on the TRN, the status can be Verified, Pending or Rejected.

Type: String

Valid Values: Verified | Pending | Deleted | Rejected

## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

### **ConflictException**

The exception when the input is creating conflict with the given state.

HTTP Status Code: 409

### **InternalServerErrorException**

The exception thrown when an unexpected error occurs when processing a request.

HTTP Status Code: 500

## ValidationException

The exception when the input doesn't pass validation for at least one of the input parameters.

HTTP Status Code: 400

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go v2](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)

# DeleteTaxRegistration

Service: Tax Settings

Deletes tax registration for a single account.

## Note

This API operation can't be used to delete your tax registration in Brazil. Use the [Payment preferences](#) page in the AWS Billing and Cost Management console instead.

## Request Syntax

```
POST /DeleteTaxRegistration HTTP/1.1
Content-type: application/json
```

```
{
  "accountId": "string"
}
```

## URI Request Parameters

The request does not use any URI parameters.

## Request Body

The request accepts the following data in JSON format.

### [accountId](#)

Unique account identifier for the TRN information that needs to be deleted. If this isn't passed, the account ID corresponding to the credentials of the API caller will be used for this parameter.

Type: String

Length Constraints: Fixed length of 12.

Pattern: `^\d+$`

Required: No

## Response Syntax

```
HTTP/1.1 200
```

## Response Elements

If the action is successful, the service sends back an HTTP 200 response with an empty HTTP body.

## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

### ConflictException

The exception when the input is creating conflict with the given state.

HTTP Status Code: 409

### InternalServerError

The exception thrown when an unexpected error occurs when processing a request.

HTTP Status Code: 500

### ResourceNotFoundException

The exception thrown when the input doesn't have a resource associated to it.

HTTP Status Code: 404

### ValidationException

The exception when the input doesn't pass validation for at least one of the input parameters.

HTTP Status Code: 400

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface](#)
- [AWS SDK for .NET](#)

- [AWS SDK for C++](#)
- [AWS SDK for Go v2](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)

# GetTaxRegistration

Service: Tax Settings

Retrieves tax registration for a single account.

## Request Syntax

```
POST /GetTaxRegistration HTTP/1.1
Content-type: application/json
```

```
{
  "accountId": "string"
}
```

## URI Request Parameters

The request does not use any URI parameters.

## Request Body

The request accepts the following data in JSON format.

### accountId

Your unique account identifier.

Type: String

Length Constraints: Fixed length of 12.

Pattern:  $^\backslash d+\$$

Required: No

## Response Syntax

```
HTTP/1.1 200
Content-type: application/json
```

```
{
  "taxRegistration": {
    "additionalTaxInformation": {
```



```
"brazilAdditionalInfo": {
  "ccmCode": "string",
  "legalNatureCode": "string"
},
"canadaAdditionalInfo": {
  "canadaQuebecSalesTaxNumber": "string",
  "canadaRetailSalesTaxNumber": "string",
  "isResellerAccount": boolean,
  "provincialSalesTaxId": "string"
},
"estoniaAdditionalInfo": {
  "registryCommercialCode": "string"
},
"georgiaAdditionalInfo": {
  "personType": "string"
},
"indiaAdditionalInfo": {
  "pan": "string"
},
"israelAdditionalInfo": {
  "customerType": "string",
  "dealerType": "string"
},
"italyAdditionalInfo": {
  "cigNumber": "string",
  "cupNumber": "string",
  "sdiAccountId": "string",
  "taxCode": "string"
},
"kenyaAdditionalInfo": {
  "personType": "string"
},
"malaysiaAdditionalInfo": {
  "serviceTaxCodes": [ "string" ]
},
"polandAdditionalInfo": {
  "individualRegistrationNumber": "string",
  "isGroupVatEnabled": boolean
},
"romaniaAdditionalInfo": {
  "taxRegistrationNumberType": "string"
},
"saudiArabiaAdditionalInfo": {
  "taxRegistrationNumberType": "string"
}
```

```
    },
    "southKoreaAdditionalInfo": {
      "businessRepresentativeName": "string",
      "itemOfBusiness": "string",
      "lineOfBusiness": "string"
    },
    "spainAdditionalInfo": {
      "registrationType": "string"
    },
    "turkeyAdditionalInfo": {
      "industries": "string",
      "kepEmailId": "string",
      "secondaryTaxId": "string",
      "taxOffice": "string"
    },
    "ukraineAdditionalInfo": {
      "ukraineTrnType": "string"
    }
  },
  "certifiedEmailId": "string",
  "legalAddress": {
    "addressLine1": "string",
    "addressLine2": "string",
    "addressLine3": "string",
    "city": "string",
    "countryCode": "string",
    "districtOrCounty": "string",
    "postalCode": "string",
    "stateOrRegion": "string"
  },
  "legalName": "string",
  "registrationId": "string",
  "registrationType": "string",
  "sector": "string",
  "status": "string",
  "taxDocumentMetadatas": [
    {
      "taxDocumentAccessToken": "string",
      "taxDocumentName": "string"
    }
  ]
}
```

## Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

### taxRegistration

TRN information of the account mentioned in the request.

Type: [TaxRegistration](#) object

## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

### **InternalServerErrorException**

The exception thrown when an unexpected error occurs when processing a request.

HTTP Status Code: 500

### **ResourceNotFoundException**

The exception thrown when the input doesn't have a resource associated to it.

HTTP Status Code: 404

### **ValidationException**

The exception when the input doesn't pass validation for at least one of the input parameters.

HTTP Status Code: 400

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)

- [AWS SDK for Go v2](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)

# GetTaxRegistrationDocument

Service: Tax Settings

Downloads your tax documents to the Amazon S3 bucket that you specify in your request.

## Request Syntax

```
POST /GetTaxRegistrationDocument HTTP/1.1
Content-type: application/json
```

```
{
  "destinationS3Location": {
    "bucket": "string",
    "prefix": "string"
  },
  "taxDocumentMetadata": {
    "taxDocumentAccessToken": "string",
    "taxDocumentName": "string"
  }
}
```

## URI Request Parameters

The request does not use any URI parameters.

## Request Body

The request accepts the following data in JSON format.

### destinationS3Location

The Amazon S3 bucket that you specify to download your tax documents to.

Type: [DestinationS3Location](#) object

Required: Yes

### taxDocumentMetadata

The metadata for your tax document.

Type: [TaxDocumentMetadata](#) object

Required: Yes

## Response Syntax

```
HTTP/1.1 200
Content-type: application/json

{
  "destinationFilePath": "string"
}
```

## Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

### destinationFilePath

The file path of the Amazon S3 bucket where you want to download your tax document to.

Type: String

Pattern: ^[\s\S]\*\$

## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

### InternalServerError

The exception thrown when an unexpected error occurs when processing a request.

HTTP Status Code: 500

### ValidationException

The exception when the input doesn't pass validation for at least one of the input parameters.

HTTP Status Code: 400

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go v2](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)

# ListTaxRegistrations

Service: Tax Settings

Retrieves the tax registration of accounts listed in a consolidated billing family. This can be used to retrieve up to 100 accounts' tax registrations in one call (default 50).

## Request Syntax

```
POST /ListTaxRegistrations HTTP/1.1
Content-type: application/json
```

```
{
  "maxResults": number,
  "nextToken": "string"
}
```

## URI Request Parameters

The request does not use any URI parameters.

## Request Body

The request accepts the following data in JSON format.

### maxResults

Number of accountDetails results you want in one response.

Type: Integer

Valid Range: Minimum value of 1. Maximum value of 1000.

Required: No

### nextToken

The token to retrieve the next set of results.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 2000.

Pattern: `^[-A-Za-z0-9_+\\=\\/]+$`

Required: No



## Response Syntax

HTTP/1.1 200

Content-type: application/json

```
{
  "accountDetails": [
    {
      "accountId": "string",
      "accountMetaData": {
        "accountName": "string",
        "address": {
          "addressLine1": "string",
          "addressLine2": "string",
          "addressLine3": "string",
          "city": "string",
          "countryCode": "string",
          "districtOrCounty": "string",
          "postalCode": "string",
          "stateOrRegion": "string"
        },
        "addressRoleMap": {
          "string" : {
            "countryCode": "string",
            "stateOrRegion": "string"
          }
        },
        "addressType": "string",
        "seller": "string"
      },
      "taxInheritanceDetails": {
        "inheritanceObtainedReason": "string",
        "parentEntityId": "string"
      },
      "taxRegistration": {
        "additionalTaxInformation": {
          "brazilAdditionalInfo": {
            "ccmCode": "string",
            "legalNatureCode": "string"
          },
          "canadaAdditionalInfo": {
            "canadaQuebecSalesTaxNumber": "string",
            "canadaRetailSalesTaxNumber": "string",

```

```
    "isResellerAccount": boolean,
    "provincialSalesTaxId": "string"
  },
  "estoniaAdditionalInfo": {
    "registryCommercialCode": "string"
  },
  "georgiaAdditionalInfo": {
    "personType": "string"
  },
  "indiaAdditionalInfo": {
    "pan": "string"
  },
  "israelAdditionalInfo": {
    "customerType": "string",
    "dealerType": "string"
  },
  "italyAdditionalInfo": {
    "cigNumber": "string",
    "cupNumber": "string",
    "sdiAccountId": "string",
    "taxCode": "string"
  },
  "kenyaAdditionalInfo": {
    "personType": "string"
  },
  "malaysiaAdditionalInfo": {
    "serviceTaxCodes": [ "string ]
  },
  "polandAdditionalInfo": {
    "individualRegistrationNumber": "string",
    "isGroupVatEnabled": boolean
  },
  "romaniaAdditionalInfo": {
    "taxRegistrationNumberType": "string"
  },
  "saudiArabiaAdditionalInfo": {
    "taxRegistrationNumberType": "string"
  },
  "southKoreaAdditionalInfo": {
    "businessRepresentativeName": "string",
    "itemOfBusiness": "string",
    "lineOfBusiness": "string"
  },
  "spainAdditionalInfo": {
```

```

        "registrationType": "string"
    },
    "turkeyAdditionalInfo": {
        "industries": "string",
        "kepEmailId": "string",
        "secondaryTaxId": "string",
        "taxOffice": "string"
    },
    "ukraineAdditionalInfo": {
        "ukraineTrnType": "string"
    }
},
"certifiedEmailId": "string",
"jurisdiction": {
    "countryCode": "string",
    "stateOrRegion": "string"
},
"legalName": "string",
"registrationId": "string",
"registrationType": "string",
"sector": "string",
"status": "string",
"taxDocumentMetadatas": [
    {
        "taxDocumentAccessToken": "string",
        "taxDocumentName": "string"
    }
]
}
},
"nextToken": "string"
}

```

## Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

### accountDetails

The list of account details. This contains account Ids and TRN Information for each of the linked accounts.

Type: Array of [AccountDetails](#) objects

### **nextToken**

The token to retrieve the next set of results.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 2000.

Pattern: `^[-A-Za-z0-9_+\=\|/]+$`

## **Errors**

For information about the errors that are common to all actions, see [Common Errors](#).

### **InternalServerErrorException**

The exception thrown when an unexpected error occurs when processing a request.

HTTP Status Code: 500

### **ResourceNotFoundException**

The exception thrown when the input doesn't have a resource associated to it.

HTTP Status Code: 404

### **ValidationException**

The exception when the input doesn't pass validation for at least one of the input parameters.

HTTP Status Code: 400

## **See Also**

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)

- [AWS SDK for Go v2](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)

# PutTaxRegistration

Service: Tax Settings

Adds or updates tax registration for a single account. You can't set a TRN if there's a pending TRN. You'll need to delete the pending TRN first.

To call this API operation for specific countries, see the following country-specific requirements.

## Bangladesh

- You must specify the tax registration certificate document in the `taxRegistrationDocuments` field of the `VerificationDetails` object.

## Brazil

- You must complete the tax registration process in the [Payment preferences](#) page in the AWS Billing and Cost Management console. After your TRN and billing address are verified, you can call this API operation.
- For AWS accounts created through AWS Organizations, you can call this API operation when you don't have a billing address.

## Georgia

- The valid `personType` values are `Physical Person` and `Business`.

## Kenya

- You must specify the `personType` in the `kenyaAdditionalInfo` field of the `additionalTaxInformation` object.
- If the `personType` is `Physical Person`, you must specify the tax registration certificate document in the `taxRegistrationDocuments` field of the `VerificationDetails` object.

## Malaysia

- If you use this operation to set a tax registration number (TRN) in Malaysia, only resellers with a valid sales and service tax (SST) number are required to provide tax registration information.

- By using this API operation to set a TRN in Malaysia, AWS will regard you as self-declaring that you're an authorized business reseller registered with the Royal Malaysia Customs Department (RMCD) and have a valid SST number.
- AWS reserves the right to seek additional information and/or take other actions to support your self-declaration as appropriate.
- If you're not a reseller of AWS services, we don't recommend that you use this operation to set the TRN in Malaysia.
- Only use this API operation to upload the TRNs for accounts through which you're reselling AWS services.
- AWS is currently registered under the following service tax codes. You must include at least one of the service tax codes in the service tax code strings to declare yourself as an authorized registered business reseller.

Taxable service and service tax codes:

Consultancy - 9907061674

Training or coaching service - 9907071685

IT service - 9907101676

Digital services and electronic medium - 9907121690

## Nepal

- The sector valid values are Business and Individual.

## Saudi Arabia

- For address, you must specify addressLine3.

## South Korea

- You must specify the certifiedEmailId and legalName in the TaxRegistrationEntry object. Use Korean characters for legalName.

- You must specify the `businessRepresentativeName`, `itemOfBusiness`, and `lineOfBusiness` in the `southKoreaAdditionalInfo` field of the `additionalTaxInformation` object. Use Korean characters for these fields.
- You must specify the tax registration certificate document in the `taxRegistrationDocuments` field of the `VerificationDetails` object.
- For the address object, use Korean characters for `addressLine1`, `addressLine2` city, `postalCode`, and `stateOrRegion`.

## Spain

- You must specify the `registrationType` in the `spainAdditionalInfo` field of the `additionalTaxInformation` object.
- If the `registrationType` is `Local`, you must specify the tax registration certificate document in the `taxRegistrationDocuments` field of the `VerificationDetails` object.

## Turkey

- You must specify the `sector` in the `taxRegistrationEntry` object.
- If your `sector` is `Business`, `Individual`, or `Government`:
  - Specify the `taxOffice`. If your `sector` is `Individual`, don't enter this value.
  - (Optional) Specify the `kepEmailId`. If your `sector` is `Individual`, don't enter this value.
  - **Note:** In the **Tax Settings** page of the AWS Billing console, `Government` appears as **Public institutions**
- If your `sector` is `Business` and you're subject to KDV tax, you must specify your industry in the `industries` field.
- For address, you must specify `districtOrCounty`.

## Ukraine

- The `sector` valid values are `Business` and `Individual`.

## Request Syntax

```
POST /PutTaxRegistration HTTP/1.1
```



Content-type: application/json

```
{
  "accountId": "string",
  "taxRegistrationEntry": {
    "additionalTaxInformation": {
      "canadaAdditionalInfo": {
        "canadaQuebecSalesTaxNumber": "string",
        "canadaRetailSalesTaxNumber": "string",
        "isResellerAccount": boolean,
        "provincialSalesTaxId": "string"
      },
      "estoniaAdditionalInfo": {
        "registryCommercialCode": "string"
      },
      "georgiaAdditionalInfo": {
        "personType": "string"
      },
      "israelAdditionalInfo": {
        "customerType": "string",
        "dealerType": "string"
      },
      "italyAdditionalInfo": {
        "cigNumber": "string",
        "cupNumber": "string",
        "sdiAccountId": "string",
        "taxCode": "string"
      },
      "kenyaAdditionalInfo": {
        "personType": "string"
      },
      "malaysiaAdditionalInfo": {
        "serviceTaxCodes": [ "string" ]
      },
      "polandAdditionalInfo": {
        "individualRegistrationNumber": "string",
        "isGroupVatEnabled": boolean
      },
      "romaniaAdditionalInfo": {
        "taxRegistrationNumberType": "string"
      },
      "saudiArabiaAdditionalInfo": {
        "taxRegistrationNumberType": "string"
      }
    }
  }
}
```

```

    "southKoreaAdditionalInfo": {
      "businessRepresentativeName": "string",
      "itemOfBusiness": "string",
      "lineOfBusiness": "string"
    },
    "spainAdditionalInfo": {
      "registrationType": "string"
    },
    "turkeyAdditionalInfo": {
      "industries": "string",
      "kepEmailId": "string",
      "secondaryTaxId": "string",
      "taxOffice": "string"
    },
    "ukraineAdditionalInfo": {
      "ukraineTrnType": "string"
    }
  },
  "certifiedEmailId": "string",
  "legalAddress": {
    "addressLine1": "string",
    "addressLine2": "string",
    "addressLine3": "string",
    "city": "string",
    "countryCode": "string",
    "districtOrCounty": "string",
    "postalCode": "string",
    "stateOrRegion": "string"
  },
  "legalName": "string",
  "registrationId": "string",
  "registrationType": "string",
  "sector": "string",
  "verificationDetails": {
    "dateOfBirth": "string",
    "taxRegistrationDocuments": [
      {
        "s3Location": {
          "bucket": "string",
          "key": "string"
        }
      }
    ]
  }
}

```

```
}  
}
```

## URI Request Parameters

The request does not use any URI parameters.

## Request Body

The request accepts the following data in JSON format.

### accountId

Your unique account identifier.

Type: String

Length Constraints: Fixed length of 12.

Pattern: `^\d+$`

Required: No

### taxRegistrationEntry

Your TRN information that will be stored to the account mentioned in `accountId`.

Type: [TaxRegistrationEntry](#) object

Required: Yes

## Response Syntax

```
HTTP/1.1 200  
Content-type: application/json  
  
{  
  "status": "string"  
}
```

## Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

### status

The status of your TRN stored in the system after processing. Based on the validation occurring on the TRN, the status can be `Verified`, `Pending` or `Rejected`.

Type: String

Valid Values: `Verified` | `Pending` | `Deleted` | `Rejected`

## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

### **ConflictException**

The exception when the input is creating conflict with the given state.

HTTP Status Code: 409

### **InternalServerError**

The exception thrown when an unexpected error occurs when processing a request.

HTTP Status Code: 500

### **ValidationException**

The exception when the input doesn't pass validation for at least one of the input parameters.

HTTP Status Code: 400

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go v2](#)

- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)

# Data Types

The following data types are supported by AWS Cost Explorer:

- [Anomaly](#)
- [AnomalyDateInterval](#)
- [AnomalyMonitor](#)
- [AnomalyScore](#)
- [AnomalySubscription](#)
- [CostAllocationTag](#)
- [CostAllocationTagBackfillRequest](#)
- [CostAllocationTagStatusEntry](#)
- [CostCategory](#)
- [CostCategoryInheritedValueDimension](#)
- [CostCategoryProcessingStatus](#)
- [CostCategoryReference](#)
- [CostCategoryRule](#)
- [CostCategorySplitChargeRule](#)
- [CostCategorySplitChargeRuleParameter](#)
- [CostCategoryValues](#)
- [Coverage](#)
- [CoverageByTime](#)
- [CoverageCost](#)
- [CoverageHours](#)
- [CoverageNormalizedUnits](#)
- [CurrentInstance](#)
- [DateInterval](#)
- [DimensionValues](#)
- [DimensionValuesWithAttributes](#)
- [DiskResourceUtilization](#)
- [EBSResourceUtilization](#)

- [EC2InstanceDetails](#)
- [EC2ResourceDetails](#)
- [EC2ResourceUtilization](#)
- [EC2Specification](#)
- [ElastiCacheInstanceDetails](#)
- [ESInstanceDetails](#)
- [Expression](#)
- [ForecastResult](#)
- [GenerationSummary](#)
- [Group](#)
- [GroupDefinition](#)
- [Impact](#)
- [InstanceDetails](#)
- [MemoryDBInstanceDetails](#)
- [MetricValue](#)
- [ModifyRecommendationDetail](#)
- [NetworkResourceUtilization](#)
- [RDSInstanceDetails](#)
- [RecommendationDetailData](#)
- [RecommendationDetailHourlyMetrics](#)
- [RedshiftInstanceDetails](#)
- [ReservationAggregates](#)
- [ReservationCoverageGroup](#)
- [ReservationPurchaseRecommendation](#)
- [ReservationPurchaseRecommendationDetail](#)
- [ReservationPurchaseRecommendationMetadata](#)
- [ReservationPurchaseRecommendationSummary](#)
- [ReservationUtilizationGroup](#)
- [ResourceDetails](#)
- [ResourceTag](#)

- [ResourceUtilization](#)
- [ResultByTime](#)
- [RightsizingRecommendation](#)
- [RightsizingRecommendationConfiguration](#)
- [RightsizingRecommendationMetadata](#)
- [RightsizingRecommendationSummary](#)
- [RootCause](#)
- [SavingsPlansAmortizedCommitment](#)
- [SavingsPlansCoverage](#)
- [SavingsPlansCoverageData](#)
- [SavingsPlansDetails](#)
- [SavingsPlansPurchaseRecommendation](#)
- [SavingsPlansPurchaseRecommendationDetail](#)
- [SavingsPlansPurchaseRecommendationMetadata](#)
- [SavingsPlansPurchaseRecommendationSummary](#)
- [SavingsPlansSavings](#)
- [SavingsPlansUtilization](#)
- [SavingsPlansUtilizationAggregates](#)
- [SavingsPlansUtilizationByTime](#)
- [SavingsPlansUtilizationDetail](#)
- [ServiceSpecification](#)
- [SortDefinition](#)
- [Subscriber](#)
- [TagValues](#)
- [TargetInstance](#)
- [TerminateRecommendationDetail](#)
- [TotalImpactFilter](#)
- [UpdateCostAllocationTagsStatusError](#)
- [UtilizationByTime](#)

The following data types are supported by AWS Data Exports:



- [Column](#)
- [DataQuery](#)
- [DestinationConfigurations](#)
- [ExecutionReference](#)
- [ExecutionStatus](#)
- [Export](#)
- [ExportReference](#)
- [ExportStatus](#)
- [RefreshCadence](#)
- [ResourceTag](#)
- [S3Destination](#)
- [S3OutputConfigurations](#)
- [Table](#)
- [TablePropertyDescription](#)
- [ValidationExceptionField](#)

The following data types are supported by AWS Budgets:

- [Action](#)
- [ActionHistory](#)
- [ActionHistoryDetails](#)
- [ActionThreshold](#)
- [AutoAdjustData](#)
- [Budget](#)
- [BudgetedAndActualAmounts](#)
- [BudgetNotificationsForAccount](#)
- [BudgetPerformanceHistory](#)
- [CalculatedSpend](#)
- [CostTypes](#)
- [Definition](#)
- [HistoricalOptions](#)

- [IamActionDefinition](#)
- [Notification](#)
- [NotificationWithSubscribers](#)
- [ResourceTag](#)
- [ScpActionDefinition](#)
- [Spend](#)
- [SsmActionDefinition](#)
- [Subscriber](#)
- [TimePeriod](#)

The following data types are supported by AWS Cost Optimization Hub:

- [AccountEnrollmentStatus](#)
- [BlockStoragePerformanceConfiguration](#)
- [ComputeConfiguration](#)
- [ComputeSavingsPlans](#)
- [ComputeSavingsPlansConfiguration](#)
- [DbInstanceConfiguration](#)
- [EbsVolume](#)
- [EbsVolumeConfiguration](#)
- [Ec2AutoScalingGroup](#)
- [Ec2AutoScalingGroupConfiguration](#)
- [Ec2Instance](#)
- [Ec2InstanceConfiguration](#)
- [Ec2InstanceSavingsPlans](#)
- [Ec2InstanceSavingsPlansConfiguration](#)
- [Ec2ReservedInstances](#)
- [Ec2ReservedInstancesConfiguration](#)
- [EcsService](#)
- [EcsServiceConfiguration](#)
- [ElastiCacheReservedInstances](#)

- [ElastiCacheReservedInstancesConfiguration](#)
- [EstimatedDiscounts](#)
- [Filter](#)
- [InstanceConfiguration](#)
- [LambdaFunction](#)
- [LambdaFunctionConfiguration](#)
- [OpenSearchReservedInstances](#)
- [OpenSearchReservedInstancesConfiguration](#)
- [OrderBy](#)
- [RdsDbInstance](#)
- [RdsDbInstanceConfiguration](#)
- [RdsDbInstanceStorage](#)
- [RdsDbInstanceStorageConfiguration](#)
- [RdsReservedInstances](#)
- [RdsReservedInstancesConfiguration](#)
- [Recommendation](#)
- [RecommendationSummary](#)
- [RedshiftReservedInstances](#)
- [RedshiftReservedInstancesConfiguration](#)
- [ReservedInstancesCostCalculation](#)
- [ReservedInstancesPricing](#)
- [ResourceCostCalculation](#)
- [ResourceDetails](#)
- [ResourcePricing](#)
- [SageMakerSavingsPlans](#)
- [SageMakerSavingsPlansConfiguration](#)
- [SavingsPlansCostCalculation](#)
- [SavingsPlansPricing](#)
- [StorageConfiguration](#)
- [Tag](#)

- [Usage](#)
- [ValidationExceptionDetail](#)

The following data types are supported by AWS Cost and Usage Report:

- [ReportDefinition](#)
- [ReportStatus](#)
- [Tag](#)

The following data types are supported by AWS Free Tier:

- [DimensionValues](#)
- [Expression](#)
- [FreeTierUsage](#)

The following data types are supported by AWS Price List:

- [AttributeValue](#)
- [Filter](#)
- [PriceList](#)
- [Service](#)

The following data types are supported by Tax Settings:

- [AccountDetails](#)
- [AccountMetaData](#)
- [AdditionalInfoRequest](#)
- [AdditionalInfoResponse](#)
- [Address](#)
- [BatchDeleteTaxRegistrationError](#)
- [BatchPutTaxRegistrationError](#)
- [BrazilAdditionalInfo](#)
- [CanadaAdditionalInfo](#)

- [DestinationS3Location](#)
- [EstoniaAdditionalInfo](#)
- [GeorgiaAdditionalInfo](#)
- [IndiaAdditionalInfo](#)
- [IsraelAdditionalInfo](#)
- [ItalyAdditionalInfo](#)
- [Jurisdiction](#)
- [KenyaAdditionalInfo](#)
- [MalaysiaAdditionalInfo](#)
- [PolandAdditionalInfo](#)
- [RomaniaAdditionalInfo](#)
- [SaudiArabiaAdditionalInfo](#)
- [SourceS3Location](#)
- [SouthKoreaAdditionalInfo](#)
- [SpainAdditionalInfo](#)
- [TaxDocumentMetadata](#)
- [TaxInheritanceDetails](#)
- [TaxRegistration](#)
- [TaxRegistrationDocument](#)
- [TaxRegistrationEntry](#)
- [TaxRegistrationWithJurisdiction](#)
- [TurkeyAdditionalInfo](#)
- [UkraineAdditionalInfo](#)
- [ValidationExceptionField](#)
- [VerificationDetails](#)

## AWS Cost Explorer

The following data types are supported by AWS Cost Explorer:

- [Anomaly](#)

- [AnomalyDateInterval](#)
- [AnomalyMonitor](#)
- [AnomalyScore](#)
- [AnomalySubscription](#)
- [CostAllocationTag](#)
- [CostAllocationTagBackfillRequest](#)
- [CostAllocationTagStatusEntry](#)
- [CostCategory](#)
- [CostCategoryInheritedValueDimension](#)
- [CostCategoryProcessingStatus](#)
- [CostCategoryReference](#)
- [CostCategoryRule](#)
- [CostCategorySplitChargeRule](#)
- [CostCategorySplitChargeRuleParameter](#)
- [CostCategoryValues](#)
- [Coverage](#)
- [CoverageByTime](#)
- [CoverageCost](#)
- [CoverageHours](#)
- [CoverageNormalizedUnits](#)
- [CurrentInstance](#)
- [DateInterval](#)
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- [EBSResourceUtilization](#)
- [EC2InstanceDetails](#)
- [EC2ResourceDetails](#)
- [EC2ResourceUtilization](#)
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- [Expression](#)
- [ForecastResult](#)
- [GenerationSummary](#)
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- [SavingsPlansUtilizationByTime](#)
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- [SortDefinition](#)
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- [TargetInstance](#)
- [TerminateRecommendationDetail](#)
- [TotalImpactFilter](#)
- [UpdateCostAllocationTagsStatusError](#)
- [UtilizationByTime](#)



# Anomaly

Service: AWS Cost Explorer

An unusual cost pattern. This consists of the detailed metadata and the current status of the anomaly object.

## Contents

### AnomalyId

The unique identifier for the anomaly.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 1024.

Pattern: `[\S\s]*`

Required: Yes

### AnomalyScore

The latest and maximum score for the anomaly.

Type: [AnomalyScore](#) object

Required: Yes

### Impact

The dollar impact for the anomaly.

Type: [Impact](#) object

Required: Yes

### MonitorArn

The Amazon Resource Name (ARN) for the cost monitor that generated this anomaly.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 1024.

Pattern: `[\S\s]*`

Required: Yes

### **AnomalyEndDate**

The last day the anomaly is detected.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 40.

Pattern: `(\d{4}-\d{2}-\d{2})(T\d{2}:\d{2}:\d{2}Z)?`

Required: No

### **AnomalyStartDate**

The first day the anomaly is detected.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 40.

Pattern: `(\d{4}-\d{2}-\d{2})(T\d{2}:\d{2}:\d{2}Z)?`

Required: No

### **DimensionValue**

The dimension for the anomaly (for example, an AWS service in a service monitor).

Type: String

Length Constraints: Minimum length of 0. Maximum length of 1024.

Pattern: `[\S\s]*`

Required: No

### **Feedback**

The feedback value.

Type: String

Valid Values: YES | NO | PLANNED\_ACTIVITY

Required: No

## RootCauses

The list of identified root causes for the anomaly.

Type: Array of [RootCause](#) objects

Required: No

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

# AnomalyDateInterval

Service: AWS Cost Explorer

The time period for an anomaly.

## Contents

### StartDate

The first date an anomaly was observed.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 40.

Pattern: `(\d{4}-\d{2}-\d{2})(T\d{2}:\d{2}:\d{2}Z)?`

Required: Yes

### EndDate

The last date an anomaly was observed.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 40.

Pattern: `(\d{4}-\d{2}-\d{2})(T\d{2}:\d{2}:\d{2}Z)?`

Required: No

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

# AnomalyMonitor

Service: AWS Cost Explorer

This object continuously inspects your account's cost data for anomalies. It's based on `MonitorType` and `MonitorSpecification`. The content consists of detailed metadata and the current status of the monitor object.

## Contents

### MonitorName

The name of the monitor.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 1024.

Pattern: `[\S\s]*`

Required: Yes

### MonitorType

The possible type values.

Type: String

Valid Values: DIMENSIONAL | CUSTOM

Required: Yes

### CreationDate

The date when the monitor was created.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 40.

Pattern: `(\d{4}-\d{2}-\d{2})(T\d{2}:\d{2}:\d{2}Z)?`

Required: No

### DimensionalValueCount

The value for evaluated dimensions.

Type: Integer

Valid Range: Minimum value of 0.

Required: No

### **LastEvaluatedDate**

The date when the monitor last evaluated for anomalies.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 40.

Pattern:  $(\backslash d\{4\}-\backslash d\{2\}-\backslash d\{2\})(T\backslash d\{2\}:\backslash d\{2\}:\backslash d\{2\}Z)?$

Required: No

### **LastUpdatedDate**

The date when the monitor was last updated.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 40.

Pattern:  $(\backslash d\{4\}-\backslash d\{2\}-\backslash d\{2\})(T\backslash d\{2\}:\backslash d\{2\}:\backslash d\{2\}Z)?$

Required: No

### **MonitorArn**

The Amazon Resource Name (ARN) value.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 1024.

Pattern:  $[\backslash S\backslash s]^*$

Required: No

### **MonitorDimension**

The dimensions to evaluate.

Type: String

Valid Values: SERVICE

Required: No

## MonitorSpecification

Use `Expression` to filter in various Cost Explorer APIs.

Not all `Expression` types are supported in each API. Refer to the documentation for each specific API to see what is supported.

There are two patterns:

- Simple dimension values.
  - There are three types of simple dimension values: `CostCategories`, `Tags`, and `Dimensions`.
    - Specify the `CostCategories` field to define a filter that acts on Cost Categories.
    - Specify the `Tags` field to define a filter that acts on Cost Allocation Tags.
    - Specify the `Dimensions` field to define a filter that acts on the [DimensionValues](#).
  - For each filter type, you can set the dimension name and values for the filters that you plan to use.
    - For example, you can filter for `REGION==us-east-1 OR REGION==us-west-1`. For `GetRightsizingRecommendation`, the `Region` is a full name (for example, `REGION==US East (N. Virginia)`).
    - The corresponding `Expression` for this example is as follows: 

```
{ "Dimensions": { "Key": "REGION", "Values": [ "us-east-1", "us-west-1" ] } }
```
    - As shown in the previous example, lists of dimension values are combined with `OR` when applying the filter.
  - You can also set different match options to further control how the filter behaves. Not all APIs support match options. Refer to the documentation for each specific API to see what is supported.
    - For example, you can filter for linked account names that start with "a".
    - The corresponding `Expression` for this example is as follows: 

```
{ "Dimensions": { "Key": "LINKED_ACCOUNT_NAME", "MatchOptions": [ "STARTS_WITH" ], "Values": [ "a" ] } }
```
- Compound `Expression` types with logical operations.
  - You can use multiple `Expression` types and the logical operators `AND/OR/NOT` to create a list of one or more `Expression` objects. By doing this, you can filter by more advanced options.

- For example, you can filter by `((REGION == us-east-1 OR REGION == us-west-1) OR (TAG.Type == Type1)) AND (USAGE_TYPE != DataTransfer)`.
- The corresponding Expression for this example is as follows: 

```
{ "And": [ {"Or": [ {"Dimensions": { "Key": "REGION", "Values": [ "us-east-1", "us-west-1" ] }}, {"Tags": { "Key": "TagName", "Values": ["Value1"] } } ] }, {"Not": {"Dimensions": { "Key": "USAGE_TYPE", "Values": ["DataTransfer"] }}} ] }
```

### Note

Because each Expression can have only one operator, the service returns an error if more than one is specified. The following example shows an Expression object that creates an error: 

```
{ "And": [ ... ], "Dimensions": { "Key": "USAGE_TYPE", "Values": [ "DataTransfer" ] } }
```

The following is an example of the corresponding error message: "Expression has more than one roots. Only one root operator is allowed for each expression: And, Or, Not, Dimensions, Tags, CostCategories"

### Note

For the `GetRightsizingRecommendation` action, a combination of OR and NOT isn't supported. OR isn't supported between different dimensions, or dimensions and tags. NOT operators aren't supported. Dimensions are also limited to LINKED\_ACCOUNT, REGION, or RIGHTSIZING\_TYPE.

For the `GetReservationPurchaseRecommendation` action, only NOT is supported. AND and OR aren't supported. Dimensions are limited to LINKED\_ACCOUNT.

Type: [Expression](#) object

Required: No

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:



- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

# AnomalyScore

Service: AWS Cost Explorer

Quantifies the anomaly. The higher score means that it's more anomalous.

## Contents

### CurrentScore

The last observed score.

Type: Double

Required: Yes

### MaxScore

The maximum score that's observed during the AnomalyDateInterval.

Type: Double

Required: Yes

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

# AnomalySubscription

Service: AWS Cost Explorer

An `AnomalySubscription` resource (also referred to as an alert subscription) sends notifications about specific anomalies that meet an alerting criteria defined by you.

You can specify the frequency of the alerts and the subscribers to notify.

Anomaly subscriptions can be associated with one or more [AnomalyMonitor](#) resources, and they only send notifications about anomalies detected by those associated monitors. You can also configure a threshold to further control which anomalies are included in the notifications.

Anomalies that don't exceed the chosen threshold and therefore don't trigger notifications from an anomaly subscription will still be available on the console and from the [GetAnomalies](#) API.

## Contents

### Frequency

The frequency that anomaly notifications are sent. Notifications are sent either over email (for DAILY and WEEKLY frequencies) or SNS (for IMMEDIATE frequency). For more information, see [Creating an Amazon SNS topic for anomaly notifications](#).

Type: String

Valid Values: DAILY | IMMEDIATE | WEEKLY

Required: Yes

### MonitorArnList

A list of cost anomaly monitors.

Type: Array of strings

Length Constraints: Minimum length of 20. Maximum length of 2048.

Pattern: `arn:aws[-a-z0-9]*:[a-z0-9]+:[-a-z0-9]*:[0-9]{12}:[-a-zA-Z0-9/_:~]+`

Required: Yes

### Subscribers

A list of subscribers to notify.

Type: Array of [Subscriber](#) objects

Required: Yes

### **SubscriptionName**

The name for the subscription.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 1024.

Pattern: `[\S\s]*`

Required: Yes

### **AccountId**

Your unique account identifier.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 1024.

Pattern: `[\S\s]*`

Required: No

### **SubscriptionArn**

The AnomalySubscription Amazon Resource Name (ARN).

Type: String

Length Constraints: Minimum length of 0. Maximum length of 1024.

Pattern: `[\S\s]*`

Required: No

### **Threshold**

(deprecated)

An absolute dollar value that must be exceeded by the anomaly's total impact (see [Impact](#) for more details) for an anomaly notification to be generated.

This field has been deprecated. To specify a threshold, use `ThresholdExpression`. Continued use of `Threshold` will be treated as shorthand syntax for a `ThresholdExpression`.

One of `Threshold` or `ThresholdExpression` is required for this resource. You cannot specify both.

Type: Double

Valid Range: Minimum value of 0.0.

Required: No

## ThresholdExpression

An [Expression](#) object used to specify the anomalies that you want to generate alerts for. This supports dimensions and nested expressions. The supported dimensions are `ANOMALY_TOTAL_IMPACT_ABSOLUTE` and `ANOMALY_TOTAL_IMPACT_PERCENTAGE`, corresponding to an anomaly's `TotalImpact` and `TotalImpactPercentage`, respectively (see [Impact](#) for more details). The supported nested expression types are `AND` and `OR`. The match option `GREATER_THAN_OR_EQUAL` is required. Values must be numbers between 0 and 10,000,000,000 in string format.

One of `Threshold` or `ThresholdExpression` is required for this resource. You cannot specify both.

The following are examples of valid `ThresholdExpressions`:

- Absolute threshold: 

```
{ "Dimensions": { "Key": "ANOMALY_TOTAL_IMPACT_ABSOLUTE", "MatchOptions": [ "GREATER_THAN_OR_EQUAL" ], "Values": [ "100" ] } }
```
- Percentage threshold: 

```
{ "Dimensions": { "Key": "ANOMALY_TOTAL_IMPACT_PERCENTAGE", "MatchOptions": [ "GREATER_THAN_OR_EQUAL" ], "Values": [ "100" ] } }
```
- AND two thresholds together: 

```
{ "And": [ { "Dimensions": { "Key": "ANOMALY_TOTAL_IMPACT_ABSOLUTE", "MatchOptions": [ "GREATER_THAN_OR_EQUAL" ], "Values": [ "100" ] } }, { "Dimensions": { "Key": "ANOMALY_TOTAL_IMPACT_PERCENTAGE", "MatchOptions": [ "GREATER_THAN_OR_EQUAL" ], "Values": [ "100" ] } } ] }
```
- OR two thresholds together: 

```
{ "Or": [ { "Dimensions": { "Key": "ANOMALY_TOTAL_IMPACT_ABSOLUTE", "MatchOptions": [ "GREATER_THAN_OR_EQUAL" ], "Values": [ "100" ] } }, { "Dimensions":
```

```
{ "Key": "ANOMALY_TOTAL_IMPACT_PERCENTAGE", "MatchOptions":  
  [ "GREATER_THAN_OR_EQUAL" ], "Values": [ "100" ] } } ] }
```

Type: [Expression](#) object

Required: No

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

# CostAllocationTag

Service: AWS Cost Explorer

The cost allocation tag structure. This includes detailed metadata for the `CostAllocationTag` object.

## Contents

### Status

The status of a cost allocation tag.

Type: String

Valid Values: `Active` | `Inactive`

Required: Yes

### TagKey

The key for the cost allocation tag.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 1024.

Pattern: `[\S\s]*`

Required: Yes

### Type

The type of cost allocation tag. You can use `AWSGenerated` or `UserDefined` type tags. `AWSGenerated` type tags are tags that AWS defines and applies to support AWS resources for cost allocation purposes. `UserDefined` type tags are tags that you define, create, and apply to resources.

Type: String

Valid Values: `AWSGenerated` | `UserDefined`

Required: Yes

## LastUpdatedDate

The last date that the tag was either activated or deactivated.

Type: String

Length Constraints: Minimum length of 20. Maximum length of 25.

Pattern: `^\d{4}-\d\d-\d\dT\d\d:\d\d:\d\d(([-]\d\d:\d\d)|Z)$`

Required: No

## LastUsedDate

The last month that the tag was used on an AWS resource.

Type: String

Length Constraints: Minimum length of 20. Maximum length of 25.

Pattern: `^\d{4}-\d\d-\d\dT\d\d:\d\d:\d\d(([-]\d\d:\d\d)|Z)$`

Required: No

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)



# CostAllocationTagBackfillRequest

Service: AWS Cost Explorer

The cost allocation tag backfill request structure that contains metadata and details of a certain backfill.

## Contents

### BackfillFrom

The date the backfill starts from.

Type: String

Length Constraints: Minimum length of 20. Maximum length of 25.

Pattern: `^\d{4}-\d\d-\d\dT\d\d:\d\d:\d\d(( [+ - ]\d\d:\d\d)|Z)$`

Required: No

### BackfillStatus

The status of the cost allocation tag backfill request.

Type: String

Valid Values: SUCCEEDED | PROCESSING | FAILED

Required: No

### CompletedAt

The backfill completion time.

Type: String

Length Constraints: Minimum length of 20. Maximum length of 25.

Pattern: `^\d{4}-\d\d-\d\dT\d\d:\d\d:\d\d(( [+ - ]\d\d:\d\d)|Z)$`

Required: No

### LastUpdatedAt

The time when the backfill status was last updated.

Type: String

Length Constraints: Minimum length of 20. Maximum length of 25.

Pattern: `^\d{4}-\d\d-\d\dT\d\d:\d\d:\d\d(([\+-]\d\d:\d\d)|Z)$`

Required: No

### **RequestedAt**

The time when the backfill was requested.

Type: String

Length Constraints: Minimum length of 20. Maximum length of 25.

Pattern: `^\d{4}-\d\d-\d\dT\d\d:\d\d:\d\d(([\+-]\d\d:\d\d)|Z)$`

Required: No

### **See Also**

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

# CostAllocationTagStatusEntry

Service: AWS Cost Explorer

The cost allocation tag status. The status of a key can either be active or inactive.

## Contents

### Status

The status of a cost allocation tag.

Type: String

Valid Values: Active | Inactive

Required: Yes

### TagKey

The key for the cost allocation tag.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 1024.

Pattern: `[\S\s]*`

Required: Yes

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

# CostCategory

Service: AWS Cost Explorer

The structure of Cost Categories. This includes detailed metadata and the set of rules for the CostCategory object.

## Contents

### CostCategoryArn

The unique identifier for your Cost Category.

Type: String

Length Constraints: Minimum length of 20. Maximum length of 2048.

Pattern: `arn:aws[-a-z0-9]*:[a-z0-9]+:[-a-z0-9]*:[0-9]{12}:[-a-zA-Z0-9/:_]+`

Required: Yes

### EffectiveStart

The effective start date of your Cost Category.

Type: String

Length Constraints: Minimum length of 20. Maximum length of 25.

Pattern: `^\d{4}-\d\d-\d\dT\d\d:\d\d:\d\d(( [+ - ]\d\d:\d\d)|Z)$`

Required: Yes

### Name

The unique name of the Cost Category.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 50.

Pattern: `^(?! )[\p{L}\p{N}\p{Z}-_]*(?<! )$`

Required: Yes

## Rules

The rules are processed in order. If there are multiple rules that match the line item, then the first rule to match is used to determine that Cost Category value.

Type: Array of [CostCategoryRule](#) objects

Array Members: Minimum number of 1 item. Maximum number of 500 items.

Required: Yes

## RuleVersion

The rule schema version in this particular Cost Category.

Type: String

Valid Values: `CostCategoryExpression.v1`

Required: Yes

## DefaultValue

The default value for the cost category.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 50.

Pattern: `^(?! )[\p{L}\p{N}\p{Z}-_]*(?<! )$`

Required: No

## EffectiveEnd

The effective end date of your Cost Category.

Type: String

Length Constraints: Minimum length of 20. Maximum length of 25.

Pattern: `^\d{4}-\d\d-\d\dT\d\d:\d\d:\d\d(( [+ -]\d\d:\d\d)|Z)$`

Required: No

## ProcessingStatus

The list of processing statuses for Cost Management products for a specific cost category.

Type: Array of [CostCategoryProcessingStatus](#) objects

Required: No

## SplitChargeRules

The split charge rules that are used to allocate your charges between your Cost Category values.

Type: Array of [CostCategorySplitChargeRule](#) objects

Array Members: Minimum number of 1 item. Maximum number of 10 items.

Required: No

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

# CostCategoryInheritedValueDimension

Service: AWS Cost Explorer

When you create or update a cost category, you can define the `CostCategoryRule` rule type as `INHERITED_VALUE`. This rule type adds the flexibility to define a rule that dynamically inherits the cost category value from the dimension value that's defined by `CostCategoryInheritedValueDimension`. For example, suppose that you want to dynamically group costs that are based on the value of a specific tag key. First, choose an inherited value rule type, and then choose the tag dimension and specify the tag key to use.

## Contents

### DimensionKey

The key to extract cost category values.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 1024.

Pattern: `[\S\s]*`

Required: No

### DimensionName

The name of the dimension that's used to group costs.

If you specify `LINKED_ACCOUNT_NAME`, the cost category value is based on account name. If you specify `TAG`, the cost category value is based on the value of the specified tag key.

Type: String

Valid Values: `LINKED_ACCOUNT_NAME` | `TAG`

Required: No

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)



# CostCategoryProcessingStatus

Service: AWS Cost Explorer

The list of processing statuses for Cost Management products for a specific cost category.

## Contents

### Component

The Cost Management product name of the applied status.

Type: String

Valid Values: COST\_EXPLORER

Required: No

### Status

The process status for a specific cost category.

Type: String

Valid Values: PROCESSING | APPLIED

Required: No

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

# CostCategoryReference

Service: AWS Cost Explorer

A reference to a Cost Category containing only enough information to identify the Cost Category.

You can use this information to retrieve the full Cost Category information using `DescribeCostCategory`.

## Contents

### CostCategoryArn

The unique identifier for your Cost Category.

Type: String

Length Constraints: Minimum length of 20. Maximum length of 2048.

Pattern: `arn:aws[-a-z0-9]*:[a-z0-9]+:[-a-z0-9]*:[0-9]{12}:[-a-zA-Z0-9/:_]+`

Required: No

### DefaultValue

The default value for the cost category.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 50.

Pattern: `^(?! )[\p{L}\p{N}\p{Z}-_]*(?<! )$`

Required: No

### EffectiveEnd

The Cost Category's effective end date.

Type: String

Length Constraints: Minimum length of 20. Maximum length of 25.

Pattern: `^\d{4}-\d\d-\d\dT\d\d:\d\d:\d\d(([\+-]\d\d:\d\d)|Z)$`

Required: No

## EffectiveStart

The Cost Category's effective start date.

Type: String

Length Constraints: Minimum length of 20. Maximum length of 25.

Pattern: `^\d{4}-\d\d-\d\dT\d\d:\d\d:\d\d(\[+-]\d\d:\d\d)|Z)$`

Required: No

## Name

The unique name of the Cost Category.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 50.

Pattern: `^(?! )[\p{L}\p{N}\p{Z}-_]*(?! )$`

Required: No

## NumberOfRules

The number of rules that are associated with a specific Cost Category.

Type: Integer

Valid Range: Minimum value of 0.

Required: No

## ProcessingStatus

The list of processing statuses for Cost Management products for a specific cost category.

Type: Array of [CostCategoryProcessingStatus](#) objects

Required: No

## Values

A list of unique cost category values in a specific cost category.

Type: Array of strings

Length Constraints: Minimum length of 1. Maximum length of 50.

Pattern: `^(?! )[\p{L}\p{N}\p{Z}-_]*(?! )$`

Required: No

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

# CostCategoryRule

Service: AWS Cost Explorer

Rules are processed in order. If there are multiple rules that match the line item, then the first rule to match is used to determine that Cost Category value.

## Contents

### InheritedValue

The value the line item is categorized as if the line item contains the matched dimension.

Type: [CostCategoryInheritedValueDimension](#) object

Required: No

### Rule

An [Expression](#) object used to categorize costs. This supports dimensions, tags, and nested expressions. Currently the only dimensions supported are LINKED\_ACCOUNT, SERVICE\_CODE, RECORD\_TYPE, LINKED\_ACCOUNT\_NAME, REGION, and USAGE\_TYPE.

RECORD\_TYPE is a dimension used for Cost Explorer APIs, and is also supported for Cost Category expressions. This dimension uses different terms, depending on whether you're using the console or API/JSON editor. For a detailed comparison, see [Term Comparisons](#) in the *AWS Billing and Cost Management User Guide*.

Type: [Expression](#) object

Required: No

### Type

You can define the CostCategoryRule rule type as either REGULAR or INHERITED\_VALUE. The INHERITED\_VALUE rule type adds the flexibility to define a rule that dynamically inherits the cost category value. This value is from the dimension value that's defined by CostCategoryInheritedValueDimension. For example, suppose that you want to costs to be dynamically grouped based on the value of a specific tag key. First, choose an inherited value rule type, and then choose the tag dimension and specify the tag key to use.

Type: String

Valid Values: REGULAR | INHERITED\_VALUE

Required: No

## Value

The default value for the cost category.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 50.

Pattern: `^(?! )[\p{L}\p{N}\p{Z}-_]*(?<! )$`

Required: No

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

# CostCategorySplitChargeRule

Service: AWS Cost Explorer

Use the split charge rule to split the cost of one Cost Category value across several other target values.

## Contents

### Method

The method that's used to define how to split your source costs across your targets.

`Proportional` - Allocates charges across your targets based on the proportional weighted cost of each target.

`Fixed` - Allocates charges across your targets based on your defined allocation percentage.

`>Even` - Allocates costs evenly across all targets.

Type: String

Valid Values: `FIXED` | `PROPORTIONAL` | `EVEN`

Required: Yes

### Source

The Cost Category value that you want to split. That value can't be used as a source or a target in other split charge rules. To indicate uncategorized costs, you can use an empty string as the source.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 1024.

Pattern: `[\S\s]*`

Required: Yes

### Targets

The Cost Category values that you want to split costs across. These values can't be used as a source in other split charge rules.

Type: Array of strings

Array Members: Minimum number of 1 item. Maximum number of 500 items.

Length Constraints: Minimum length of 0. Maximum length of 1024.

Pattern: `[\S\s]*`

Required: Yes

## Parameters

The parameters for a split charge method. This is only required for the FIXED method.

Type: Array of [CostCategorySplitChargeRuleParameter](#) objects

Array Members: Minimum number of 1 item. Maximum number of 10 items.

Required: No

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)



# CostCategorySplitChargeRuleParameter

Service: AWS Cost Explorer

The parameters for a split charge method.

## Contents

### Type

The parameter type.

Type: String

Valid Values: ALLOCATION\_PERCENTAGES

Required: Yes

### Values

The parameter values.

Type: Array of strings

Array Members: Minimum number of 1 item. Maximum number of 500 items.

Length Constraints: Minimum length of 0. Maximum length of 1024.

Pattern: `[\S\s]*`

Required: Yes

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

# CostCategoryValues

Service: AWS Cost Explorer

The Cost Categories values used for filtering the costs.

If `Values` and `Key` are not specified, the `ABSENT MatchOption` is applied to all Cost Categories. That is, it filters on resources that aren't mapped to any Cost Categories.

If `Values` is provided and `Key` isn't specified, the `ABSENT MatchOption` is applied to the Cost Categories `Key` only. That is, it filters on resources without the given Cost Categories key.

## Contents

### Key

The unique name of the Cost Category.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 50.

Pattern: `^(?! )[\p{L}\p{N}\p{Z}-_]*(?<! )$`

Required: No

### MatchOptions

The match options that you can use to filter your results. `MatchOptions` is only applicable for actions related to cost category. The default values for `MatchOptions` is `EQUALS` and `CASE_SENSITIVE`.

Type: Array of strings

Valid Values: `EQUALS` | `ABSENT` | `STARTS_WITH` | `ENDS_WITH` | `CONTAINS` | `CASE_SENSITIVE` | `CASE_INSENSITIVE` | `GREATER_THAN_OR_EQUAL`

Required: No

### Values

The specific value of the Cost Category.

Type: Array of strings

Length Constraints: Minimum length of 0. Maximum length of 1024.

Pattern: `[\S\s]*`

Required: No

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

## Coverage

Service: AWS Cost Explorer

The amount of instance usage that a reservation covered.

### Contents

#### CoverageCost

The amount of cost that the reservation covered.

Type: [CoverageCost](#) object

Required: No

#### CoverageHours

The amount of instance usage that the reservation covered, in hours.

Type: [CoverageHours](#) object

Required: No

#### CoverageNormalizedUnits

The amount of instance usage that the reservation covered, in normalized units.

Type: [CoverageNormalizedUnits](#) object

Required: No

### See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

# CoverageByTime

Service: AWS Cost Explorer

Reservation coverage for a specified period, in hours.

## Contents

### Groups

The groups of instances that the reservation covered.

Type: Array of [ReservationCoverageGroup](#) objects

Required: No

### TimePeriod

The period that this coverage was used over.

Type: [DateInterval](#) object

Required: No

### Total

The total reservation coverage, in hours.

Type: [Coverage](#) object

Required: No

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

# CoverageCost

Service: AWS Cost Explorer

How much it costs to run an instance.

## Contents

### OnDemandCost

How much an On-Demand Instance costs.

Type: String

Required: No

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

## CoverageHours

Service: AWS Cost Explorer

How long a running instance either used a reservation or was On-Demand.

### Contents

#### CoverageHoursPercentage

The percentage of instance hours that a reservation covered.

Type: String

Required: No

#### OnDemandHours

The number of instance running hours that On-Demand Instances covered.

Type: String

Required: No

#### ReservedHours

The number of instance running hours that reservations covered.

Type: String

Required: No

#### TotalRunningHours

The total instance usage, in hours.

Type: String

Required: No

### See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)



## CoverageNormalizedUnits

Service: AWS Cost Explorer

The amount of instance usage, in normalized units. You can use normalized units to see your EC2 usage for multiple sizes of instances in a uniform way. For example, suppose that you run an xlarge instance and a 2xlarge instance. If you run both instances for the same amount of time, the 2xlarge instance uses twice as much of your reservation as the xlarge instance, even though both instances show only one instance-hour. When you use normalized units instead of instance-hours, the xlarge instance used 8 normalized units, and the 2xlarge instance used 16 normalized units.

For more information, see [Modifying Reserved Instances](#) in the *Amazon Elastic Compute Cloud User Guide for Linux Instances*.

### Contents

#### CoverageNormalizedUnitsPercentage

The percentage of your used instance normalized units that a reservation covers.

Type: String

Required: No

#### OnDemandNormalizedUnits

The number of normalized units that are covered by On-Demand Instances instead of a reservation.

Type: String

Required: No

#### ReservedNormalizedUnits

The number of normalized units that a reservation covers.

Type: String

Required: No

#### TotalRunningNormalizedUnits

The total number of normalized units that you used.

Type: String

Required: No

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

## CurrentInstance

Service: AWS Cost Explorer

Context about the current instance.

### Contents

#### CurrencyCode

The currency code that AWS used to calculate the costs for this instance.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 1024.

Pattern: `[\S\s]*`

Required: No

#### InstanceName

The name that you given an instance. This field shows as blank if you haven't given the instance a name.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 1024.

Pattern: `[\S\s]*`

Required: No

#### MonthlyCost

The current On-Demand cost of operating this instance on a monthly basis.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 1024.

Pattern: `[\S\s]*`

Required: No

### **OnDemandHoursInLookbackPeriod**

The number of hours during the lookback period that's billed at On-Demand rates.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 1024.

Pattern: `[\S\s]*`

Required: No

### **ReservationCoveredHoursInLookbackPeriod**

The number of hours during the lookback period that's covered by reservations.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 1024.

Pattern: `[\S\s]*`

Required: No

### **ResourceDetails**

Details about the resource and utilization.

Type: [ResourceDetails](#) object

Required: No

### **ResourceId**

Resource ID of the current instance.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 1024.

Pattern: `[\S\s]*`

Required: No

### **ResourceUtilization**

Utilization information of the current instance during the lookback period.

Type: [ResourceUtilization](#) object

Required: No

### **SavingsPlansCoveredHoursInLookbackPeriod**

The number of hours during the lookback period that's covered by Savings Plans.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 1024.

Pattern: `[\S\s]*`

Required: No

### **Tags**

Cost allocation resource tags that are applied to the instance.

Type: Array of [TagValues](#) objects

Required: No

### **TotalRunningHoursInLookbackPeriod**

The total number of hours that the instance ran during the lookback period.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 1024.

Pattern: `[\S\s]*`

Required: No

## **See Also**

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)



# DateInterval

Service: AWS Cost Explorer

The time period of the request.

## Contents

### End

The end of the time period. The end date is exclusive. For example, if end is 2017-05-01, AWS retrieves cost and usage data from the start date up to, but not including, 2017-05-01.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 40.

Pattern: `(\d{4}-\d{2}-\d{2})(T\d{2}:\d{2}:\d{2}Z)?`

Required: Yes

### Start

The beginning of the time period. The start date is inclusive. For example, if start is 2017-01-01, AWS retrieves cost and usage data starting at 2017-01-01 up to the end date. The start date must be equal to or no later than the current date to avoid a validation error.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 40.

Pattern: `(\d{4}-\d{2}-\d{2})(T\d{2}:\d{2}:\d{2}Z)?`

Required: Yes

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)

- [AWS SDK for Ruby V3](#)



# DimensionValues

Service: AWS Cost Explorer

The metadata that you can use to filter and group your results. You can use `GetDimensionValues` to find specific values.

## Contents

### Key

The names of the metadata types that you can use to filter and group your results. For example, `AZ` returns a list of Availability Zones.

Not all dimensions are supported in each API. Refer to the documentation for each specific API to see what is supported.

`LINK_ACCOUNT_NAME` and `SERVICE_CODE` can only be used in [CostCategoryRule](#).

`ANOMALY_TOTAL_IMPACT_ABSOLUTE` and `ANOMALY_TOTAL_IMPACT_PERCENTAGE` can only be used in [AnomalySubscriptions](#).

Type: String

Valid Values: `AZ` | `INSTANCE_TYPE` | `LINKED_ACCOUNT` | `LINKED_ACCOUNT_NAME` | `OPERATION` | `PURCHASE_TYPE` | `REGION` | `SERVICE` | `SERVICE_CODE` | `USAGE_TYPE` | `USAGE_TYPE_GROUP` | `RECORD_TYPE` | `OPERATING_SYSTEM` | `TENANCY` | `SCOPE` | `PLATFORM` | `SUBSCRIPTION_ID` | `LEGAL_ENTITY_NAME` | `DEPLOYMENT_OPTION` | `DATABASE_ENGINE` | `CACHE_ENGINE` | `INSTANCE_TYPE_FAMILY` | `BILLING_ENTITY` | `RESERVATION_ID` | `RESOURCE_ID` | `RIGHTSIZING_TYPE` | `SAVINGS_PLANS_TYPE` | `SAVINGS_PLAN_ARN` | `PAYMENT_OPTION` | `AGREEMENT_END_DATE_TIME_AFTER` | `AGREEMENT_END_DATE_TIME_BEFORE` | `INVOICING_ENTITY` | `ANOMALY_TOTAL_IMPACT_ABSOLUTE` | `ANOMALY_TOTAL_IMPACT_PERCENTAGE`

Required: No

### MatchOptions

The match options that you can use to filter your results.

`MatchOptions` is only applicable for actions related to Cost Category and Anomaly Subscriptions. Refer to the documentation for each specific API to see what is supported.

The default values for `MatchOptions` are `EQUALS` and `CASE_SENSITIVE`.

Type: Array of strings

Valid Values: `EQUALS` | `ABSENT` | `STARTS_WITH` | `ENDS_WITH` | `CONTAINS` | `CASE_SENSITIVE` | `CASE_INSENSITIVE` | `GREATER_THAN_OR_EQUAL`

Required: No

## Values

The metadata values that you can use to filter and group your results. You can use `GetDimensionValues` to find specific values.

Type: Array of strings

Length Constraints: Minimum length of 0. Maximum length of 1024.

Pattern: `[\S\s]*`

Required: No

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

# DimensionValuesWithAttributes

Service: AWS Cost Explorer

The metadata of a specific type that you can use to filter and group your results. You can use `GetDimensionValues` to find specific values.

## Contents

### Attributes

The attribute that applies to a specific Dimension.

Type: String to string map

Required: No

### Value

The value of a dimension with a specific attribute.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 1024.

Pattern: `[\S\s]*`

Required: No

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

# DiskResourceUtilization

Service: AWS Cost Explorer

The field that contains a list of disk (local storage) metrics that are associated with the current instance.

## Contents

### DiskReadBytesPerSecond

The maximum read throughput operations per second.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 1024.

Pattern: `[\S\s]*`

Required: No

### DiskReadOpsPerSecond

The maximum number of read operations per second.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 1024.

Pattern: `[\S\s]*`

Required: No

### DiskWriteBytesPerSecond

The maximum write throughput operations per second.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 1024.

Pattern: `[\S\s]*`

Required: No

## DiskWriteOpsPerSecond

The maximum number of write operations per second.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 1024.

Pattern: `[\S\s]*`

Required: No

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

## EBSResourceUtilization

Service: AWS Cost Explorer

The EBS field that contains a list of EBS metrics that are associated with the current instance.

### Contents

#### EbsReadBytesPerSecond

The maximum size of read operations per second

Type: String

Length Constraints: Minimum length of 0. Maximum length of 1024.

Pattern: `[\S\s]*`

Required: No

#### EbsReadOpsPerSecond

The maximum number of read operations per second.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 1024.

Pattern: `[\S\s]*`

Required: No

#### EbsWriteBytesPerSecond

The maximum size of write operations per second.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 1024.

Pattern: `[\S\s]*`

Required: No

#### EbsWriteOpsPerSecond

The maximum number of write operations per second.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 1024.

Pattern: `[\S\s]*`

Required: No

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

## EC2InstanceDetails

Service: AWS Cost Explorer

Details about the Amazon EC2 reservations that AWS recommends that you purchase.

### Contents

#### AvailabilityZone

The Availability Zone of the recommended reservation.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 1024.

Pattern: `[\S\s]*`

Required: No

#### CurrentGeneration

Determines whether the recommendation is for a current-generation instance.

Type: Boolean

Required: No

#### Family

The instance family of the recommended reservation.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 1024.

Pattern: `[\S\s]*`

Required: No

#### InstanceType

The type of instance that AWS recommends.

Type: String



Length Constraints: Minimum length of 0. Maximum length of 1024.

Pattern: `[\S\s]*`

Required: No

## Platform

The platform of the recommended reservation. The platform is the specific combination of operating system, license model, and software on an instance.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 1024.

Pattern: `[\S\s]*`

Required: No

## Region

The AWS Region of the recommended reservation.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 1024.

Pattern: `[\S\s]*`

Required: No

## SizeFlexEligible

Determines whether the recommended reservation is size flexible.

Type: Boolean

Required: No

## Tenancy

Determines whether the recommended reservation is dedicated or shared.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 1024.

Pattern: `[\S\s]*`

Required: No

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

## EC2ResourceDetails

Service: AWS Cost Explorer

Details on the Amazon EC2 Resource.

### Contents

#### HourlyOnDemandRate

The hourly public On-Demand rate for the instance type.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 1024.

Pattern: `[\S\s]*`

Required: No

#### InstanceType

The type of AWS instance.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 1024.

Pattern: `[\S\s]*`

Required: No

#### Memory

The memory capacity of the AWS instance.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 1024.

Pattern: `[\S\s]*`

Required: No

#### NetworkPerformance

The network performance capacity of the AWS instance.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 1024.

Pattern: `[\S\s]*`

Required: No

## Platform

The platform of the AWS instance. The platform is the specific combination of operating system, license model, and software on an instance.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 1024.

Pattern: `[\S\s]*`

Required: No

## Region

The AWS Region of the instance.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 1024.

Pattern: `[\S\s]*`

Required: No

## SKU

The SKU of the product.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 1024.

Pattern: `[\S\s]*`

Required: No

## Storage

The disk storage of the AWS instance. This doesn't include EBS storage.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 1024.

Pattern: `[\S\s]*`

Required: No

## Vcpu

The number of VCPU cores in the AWS instance type.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 1024.

Pattern: `[\S\s]*`

Required: No

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

## EC2ResourceUtilization

Service: AWS Cost Explorer

Utilization metrics for the instance.

### Contents

#### DiskResourceUtilization

The field that contains a list of disk (local storage) metrics that are associated with the current instance.

Type: [DiskResourceUtilization](#) object

Required: No

#### EBSResourceUtilization

The EBS field that contains a list of EBS metrics that are associated with the current instance.

Type: [EBSResourceUtilization](#) object

Required: No

#### MaxCpuUtilizationPercentage

The maximum observed or expected CPU utilization of the instance.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 1024.

Pattern: `[\S\s]*`

Required: No

#### MaxMemoryUtilizationPercentage

The maximum observed or expected memory utilization of the instance.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 1024.

Pattern: `[\S\s]*`

Required: No

### **MaxStorageUtilizationPercentage**

The maximum observed or expected storage utilization of the instance. This doesn't include EBS storage.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 1024.

Pattern: `[\S\s]*`

Required: No

### **NetworkResourceUtilization**

The network field that contains a list of network metrics that are associated with the current instance.

Type: [NetworkResourceUtilization](#) object

Required: No

## **See Also**

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

# EC2Specification

Service: AWS Cost Explorer

The Amazon EC2 hardware specifications that you want AWS to provide recommendations for.

## Contents

### OfferingClass

Indicates whether you want a recommendation for standard or convertible reservations.

Type: String

Valid Values: STANDARD | CONVERTIBLE

Required: No

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)



# ElastiCacheInstanceDetails

Service: AWS Cost Explorer

Details about the Amazon ElastiCache reservations that AWS recommends that you purchase.

## Contents

### CurrentGeneration

Determines whether the recommendation is for a current generation instance.

Type: Boolean

Required: No

### Family

The instance family of the recommended reservation.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 1024.

Pattern: `[\S\s]*`

Required: No

### NodeType

The type of node that AWS recommends.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 1024.

Pattern: `[\S\s]*`

Required: No

### ProductDescription

The description of the recommended reservation.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 1024.

Pattern: `[\S\s]*`

Required: No

## Region

The AWS Region of the recommended reservation.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 1024.

Pattern: `[\S\s]*`

Required: No

## SizeFlexEligible

Determines whether the recommended reservation is size flexible.

Type: Boolean

Required: No

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

# ESInstanceDetails

Service: AWS Cost Explorer

Details about the Amazon OpenSearch Service reservations that AWS recommends that you purchase.

## Contents

### CurrentGeneration

Determines whether the recommendation is for a current-generation instance.

Type: Boolean

Required: No

### InstanceClass

The class of instance that AWS recommends.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 1024.

Pattern: `[\S\s]*`

Required: No

### InstanceSize

The size of instance that AWS recommends.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 1024.

Pattern: `[\S\s]*`

Required: No

### Region

The AWS Region of the recommended reservation.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 1024.

Pattern: `[\S\s]*`

Required: No

### **SizeFlexEligible**

Determines whether the recommended reservation is size flexible.

Type: Boolean

Required: No

### **See Also**

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

# Expression

Service: AWS Cost Explorer

Use Expression to filter in various Cost Explorer APIs.

Not all Expression types are supported in each API. Refer to the documentation for each specific API to see what is supported.

There are two patterns:

- Simple dimension values.
  - There are three types of simple dimension values: `CostCategories`, `Tags`, and `Dimensions`.
    - Specify the `CostCategories` field to define a filter that acts on Cost Categories.
    - Specify the `Tags` field to define a filter that acts on Cost Allocation Tags.
    - Specify the `Dimensions` field to define a filter that acts on the [DimensionValues](#).
  - For each filter type, you can set the dimension name and values for the filters that you plan to use.
    - For example, you can filter for `REGION==us-east-1 OR REGION==us-west-1`. For `GetRightsizingRecommendation`, the `Region` is a full name (for example, `REGION==US East (N. Virginia)`).
    - The corresponding Expression for this example is as follows: 

```
{ "Dimensions": { "Key": "REGION", "Values": [ "us-east-1", "us-west-1" ] } }
```
    - As shown in the previous example, lists of dimension values are combined with `OR` when applying the filter.
  - You can also set different match options to further control how the filter behaves. Not all APIs support match options. Refer to the documentation for each specific API to see what is supported.
    - For example, you can filter for linked account names that start with "a".
    - The corresponding Expression for this example is as follows: 

```
{ "Dimensions": { "Key": "LINKED_ACCOUNT_NAME", "MatchOptions": [ "STARTS_WITH" ], "Values": [ "a" ] } }
```
- Compound Expression types with logical operations.
  - You can use multiple Expression types and the logical operators `AND/OR/NOT` to create a list of one or more Expression objects. By doing this, you can filter by more advanced options.

- For example, you can filter by `((REGION == us-east-1 OR REGION == us-west-1) OR (TAG.Type == Type1)) AND (USAGE_TYPE != DataTransfer)`.
- The corresponding Expression for this example is as follows: 

```
{ "And": [ {"Or": [ {"Dimensions": { "Key": "REGION", "Values": [ "us-east-1", "us-west-1" ] }}, {"Tags": { "Key": "TagName", "Values": ["Value1"] } } ] }, {"Not": {"Dimensions": { "Key": "USAGE_TYPE", "Values": ["DataTransfer"] }}} ] }
```

### Note

Because each Expression can have only one operator, the service returns an error if more than one is specified. The following example shows an Expression object that creates an error: 

```
{ "And": [ ... ], "Dimensions": { "Key": "USAGE_TYPE", "Values": [ "DataTransfer" ] } }
```

The following is an example of the corresponding error message: "Expression has more than one roots. Only one root operator is allowed for each expression: And, Or, Not, Dimensions, Tags, CostCategories"

### Note

For the `GetRightsizingRecommendation` action, a combination of OR and NOT isn't supported. OR isn't supported between different dimensions, or dimensions and tags. NOT operators aren't supported. Dimensions are also limited to `LINKED_ACCOUNT`, `REGION`, or `RIGHTSIZING_TYPE`.

For the `GetReservationPurchaseRecommendation` action, only NOT is supported. AND and OR aren't supported. Dimensions are limited to `LINKED_ACCOUNT`.

## Contents

### And

Return results that match both Dimension objects.

Type: Array of [Expression](#) objects

Required: No

## CostCategories

The filter that's based on CostCategory values.

Type: [CostCategoryValues](#) object

Required: No

## Dimensions

The specific Dimension to use for Expression.

Type: [DimensionValues](#) object

Required: No

## Not

Return results that don't match a Dimension object.

Type: [Expression](#) object

Required: No

## Or

Return results that match either Dimension object.

Type: Array of [Expression](#) objects

Required: No

## Tags

The specific Tag to use for Expression.

Type: [TagValues](#) object

Required: No

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)

- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)



# ForecastResult

Service: AWS Cost Explorer

The forecast that's created for your query.

## Contents

### MeanValue

The mean value of the forecast.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 1024.

Pattern: `[\S\s]*`

Required: No

### PredictionIntervalLowerBound

The lower limit for the prediction interval.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 1024.

Pattern: `[\S\s]*`

Required: No

### PredictionIntervalUpperBound

The upper limit for the prediction interval.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 1024.

Pattern: `[\S\s]*`

Required: No

### TimePeriod

The period of time that the forecast covers.

Type: [DateInterval](#) object

Required: No

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

## GenerationSummary

Service: AWS Cost Explorer

The summary of the Savings Plans recommendation generation.

### Contents

#### EstimatedCompletionTime

Indicates the estimated time for when the recommendation generation will complete.

Type: String

Length Constraints: Minimum length of 20. Maximum length of 25.

Pattern: `^\d{4}-\d\d-\d\dT\d\d:\d\d:\d\d(( [+ - ]\d\d:\d\d) | Z)$`

Required: No

#### GenerationCompletionTime

Indicates the completion time of the recommendation generation.

Type: String

Length Constraints: Minimum length of 20. Maximum length of 25.

Pattern: `^\d{4}-\d\d-\d\dT\d\d:\d\d:\d\d(( [+ - ]\d\d:\d\d) | Z)$`

Required: No

#### GenerationStartedTime

Indicates the start time of the recommendation generation.

Type: String

Length Constraints: Minimum length of 20. Maximum length of 25.

Pattern: `^\d{4}-\d\d-\d\dT\d\d:\d\d:\d\d(( [+ - ]\d\d:\d\d) | Z)$`

Required: No

#### GenerationStatus

Indicates whether the recommendation generation succeeded, is processing, or failed.

Type: String

Valid Values: SUCCEEDED | PROCESSING | FAILED

Required: No

### **RecommendationId**

Indicates the ID for this specific recommendation.

Type: String

Length Constraints: Fixed length of 36.

Pattern: `^[\\S\\s]{8}-[\\S\\s]{4}-[\\S\\s]{4}-[\\S\\s]{4}-[\\S\\s]{12}$`

Required: No

### **See Also**

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

## Group

Service: AWS Cost Explorer

One level of grouped data in the results.

### Contents

#### Keys

The keys that are included in this group.

Type: Array of strings

Required: No

#### Metrics

The metrics that are included in this group.

Type: String to [MetricValue](#) object map

Key Length Constraints: Minimum length of 0. Maximum length of 1024.

Key Pattern: `[\S\s]*`

Required: No

### See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

## GroupDefinition

Service: AWS Cost Explorer

Represents a group when you specify a group by criteria or in the response to a query with a specific grouping.

### Contents

#### Key

The string that represents a key for a specified group.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 1024.

Pattern: `[\S\s]*`

Required: No

#### Type

The string that represents the type of group.

Type: String

Valid Values: DIMENSION | TAG | COST\_CATEGORY

Required: No

### See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

## Impact

Service: AWS Cost Explorer

The dollar value of the anomaly.

## Contents

### MaxImpact

The maximum dollar value that's observed for an anomaly.

Type: Double

Required: Yes

### TotalActualSpend

The cumulative dollar amount that was actually spent during the anomaly.

Type: Double

Valid Range: Minimum value of 0.0.

Required: No

### TotalExpectedSpend

The cumulative dollar amount that was expected to be spent during the anomaly. It is calculated using advanced machine learning models to determine the typical spending pattern based on historical data for a customer.

Type: Double

Valid Range: Minimum value of 0.0.

Required: No

### TotalImpact

The cumulative dollar difference between the total actual spend and total expected spend. It is calculated as `TotalActualSpend - TotalExpectedSpend`.

Type: Double

Required: No

## TotalImpactPercentage

The cumulative percentage difference between the total actual spend and total expected spend. It is calculated as  $(\text{TotalImpact} / \text{TotalExpectedSpend}) * 100$ . When `TotalExpectedSpend` is zero, this field is omitted. Expected spend can be zero in situations such as when you start to use a service for the first time.

Type: Double

Valid Range: Minimum value of 0.0.

Required: No

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)



# InstanceDetails

Service: AWS Cost Explorer

Details about the reservations that AWS recommends that you purchase.

## Contents

### EC2InstanceDetails

The Amazon EC2 reservations that AWS recommends that you purchase.

Type: [EC2InstanceDetails](#) object

Required: No

### ElastiCacheInstanceDetails

The ElastiCache reservations that AWS recommends that you purchase.

Type: [ElastiCacheInstanceDetails](#) object

Required: No

### ESInstanceDetails

The Amazon OpenSearch Service reservations that AWS recommends that you purchase.

Type: [ESInstanceDetails](#) object

Required: No

### MemoryDBInstanceDetails

The MemoryDB reservations that AWS recommends that you purchase.

Type: [MemoryDBInstanceDetails](#) object

Required: No

### RDSInstanceDetails

The Amazon RDS reservations that AWS recommends that you purchase.

Type: [RDSInstanceDetails](#) object

Required: No

## RedshiftInstanceDetails

The Amazon Redshift reservations that AWS recommends that you purchase.

Type: [RedshiftInstanceDetails](#) object

Required: No

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

# MemoryDBInstanceDetails

Service: AWS Cost Explorer

Details about the MemoryDB reservations that AWS recommends that you purchase.

## Contents

### CurrentGeneration

Determines whether the recommendation is for a current generation instance.

Type: Boolean

Required: No

### Family

The instance family of the recommended reservation.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 1024.

Pattern: `[\S\s]*`

Required: No

### NodeType

The node type of the recommended reservation.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 1024.

Pattern: `[\S\s]*`

Required: No

### Region

The AWS Region of the recommended reservation.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 1024.

Pattern: `[\S\s]*`

Required: No

### **SizeFlexEligible**

Determines whether the recommended reservation is size flexible.

Type: Boolean

Required: No

### **See Also**

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

# MetricValue

Service: AWS Cost Explorer

The aggregated value for a metric.

## Contents

### Amount

The actual number that represents the metric.

Type: String

Required: No

### Unit

The unit that the metric is given in.

Type: String

Required: No

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

# ModifyRecommendationDetail

Service: AWS Cost Explorer

Details for the modification recommendation.

## Contents

### TargetInstances

Determines whether this instance type is the AWS default recommendation.

Type: Array of [TargetInstance](#) objects

Required: No

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

# NetworkResourceUtilization

Service: AWS Cost Explorer

The network field that contains a list of network metrics that are associated with the current instance.

## Contents

### NetworkInBytesPerSecond

The network inbound throughput utilization measured in Bytes per second (Bps).

Type: String

Length Constraints: Minimum length of 0. Maximum length of 1024.

Pattern: `[\S\s]*`

Required: No

### NetworkOutBytesPerSecond

The network outbound throughput utilization measured in Bytes per second (Bps).

Type: String

Length Constraints: Minimum length of 0. Maximum length of 1024.

Pattern: `[\S\s]*`

Required: No

### NetworkPacketsInPerSecond

The network inbound packets that are measured in packets per second.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 1024.

Pattern: `[\S\s]*`

Required: No

## NetworkPacketsOutPerSecond

The network outbound packets that are measured in packets per second.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 1024.

Pattern: `[\S\s]*`

Required: No

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)



# RDSInstanceDetails

Service: AWS Cost Explorer

Details about the Amazon RDS reservations that AWS recommends that you purchase.

## Contents

### CurrentGeneration

Determines whether the recommendation is for a current-generation instance.

Type: Boolean

Required: No

### DatabaseEdition

The database edition that the recommended reservation supports.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 1024.

Pattern: `[\S\s]*`

Required: No

### DatabaseEngine

The database engine that the recommended reservation supports.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 1024.

Pattern: `[\S\s]*`

Required: No

### DeploymentOption

Determines whether the recommendation is for a reservation in a single Availability Zone or a reservation with a backup in a second Availability Zone.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 1024.

Pattern: `[\S\s]*`

Required: No

## Family

The instance family of the recommended reservation.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 1024.

Pattern: `[\S\s]*`

Required: No

## InstanceType

The type of instance that AWS recommends.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 1024.

Pattern: `[\S\s]*`

Required: No

## LicenseModel

The license model that the recommended reservation supports.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 1024.

Pattern: `[\S\s]*`

Required: No

## Region

The AWS Region of the recommended reservation.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 1024.

Pattern: `[\S\s]*`

Required: No

### **SizeFlexEligible**

Determines whether the recommended reservation is size flexible.

Type: Boolean

Required: No

### **See Also**

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

## RecommendationDetailData

Service: AWS Cost Explorer

The details and metrics for the given recommendation.

### Contents

#### AccountId

The AccountID that the recommendation is generated for.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 1024.

Pattern: `[\S\s]*`

Required: No

#### AccountScope

The account scope that you want your recommendations for. AWS calculates recommendations including the management account and member accounts if the value is set to PAYER. If the value is LINKED, recommendations are calculated for individual member accounts only.

Type: String

Valid Values: PAYER | LINKED

Required: No

#### CurrencyCode

The currency code that AWS used to generate the recommendation and present potential savings.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 1024.

Pattern: `[\S\s]*`

Required: No

### **CurrentAverageCoverage**

The average value of hourly coverage over the lookback period.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 1024.

Pattern: `[\S\s]*`

Required: No

### **CurrentAverageHourlyOnDemandSpend**

The average value of hourly On-Demand spend over the lookback period of the applicable usage type.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 1024.

Pattern: `[\S\s]*`

Required: No

### **CurrentMaximumHourlyOnDemandSpend**

The highest value of hourly On-Demand spend over the lookback period of the applicable usage type.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 1024.

Pattern: `[\S\s]*`

Required: No

### **CurrentMinimumHourlyOnDemandSpend**

The lowest value of hourly On-Demand spend over the lookback period of the applicable usage type.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 1024.

Pattern: `[\S\s]*`

Required: No

### **EstimatedAverageCoverage**

The estimated coverage of the recommended Savings Plan.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 1024.

Pattern: `[\S\s]*`

Required: No

### **EstimatedAverageUtilization**

The estimated utilization of the recommended Savings Plan.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 1024.

Pattern: `[\S\s]*`

Required: No

### **EstimatedMonthlySavingsAmount**

The estimated monthly savings amount based on the recommended Savings Plan.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 1024.

Pattern: `[\S\s]*`

Required: No

### **EstimatedOnDemandCost**

The remaining On-Demand cost estimated to not be covered by the recommended Savings Plan, over the length of the lookback period.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 1024.

Pattern: `[\S\s]*`

Required: No

### **EstimatedOnDemandCostWithCurrentCommitment**

The estimated On-Demand costs you expect with no additional commitment, based on your usage of the selected time period and the Savings Plan you own.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 1024.

Pattern: `[\S\s]*`

Required: No

### **EstimatedROI**

The estimated return on investment that's based on the recommended Savings Plan that you purchased. This is calculated as  $\text{estimatedSavingsAmount}/\text{estimatedSPCost} * 100$ .

Type: String

Length Constraints: Minimum length of 0. Maximum length of 1024.

Pattern: `[\S\s]*`

Required: No

### **EstimatedSavingsAmount**

The estimated savings amount that's based on the recommended Savings Plan over the length of the lookback period.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 1024.

Pattern: `[\S\s]*`

Required: No

### **EstimatedSavingsPercentage**

The estimated savings percentage relative to the total cost of applicable On-Demand usage over the lookback period.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 1024.

Pattern: `[\S\s]*`

Required: No

### **EstimatedSPCost**

The cost of the recommended Savings Plan over the length of the lookback period.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 1024.

Pattern: `[\S\s]*`

Required: No

### **ExistingHourlyCommitment**

The existing hourly commitment for the Savings Plan type.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 1024.

Pattern: `[\S\s]*`

Required: No

### **GenerationTimestamp**

The period of time that you want the usage and costs for.

Type: String

Length Constraints: Minimum length of 20. Maximum length of 25.



Pattern: `^\d{4}-\d\d-\d\dT\d\d:\d\d:\d\d(([\+-]\d\d:\d\d)|Z)$`

Required: No

### **HourlyCommitmentToPurchase**

The recommended hourly commitment level for the Savings Plan type and the configuration that's based on the usage during the lookback period.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 1024.

Pattern: `[\S\s]*`

Required: No

### **InstanceFamily**

The instance family of the recommended Savings Plan.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 1024.

Pattern: `[\S\s]*`

Required: No

### **LatestUsageTimestamp**

The period of time that you want the usage and costs for.

Type: String

Length Constraints: Minimum length of 20. Maximum length of 25.

Pattern: `^\d{4}-\d\d-\d\dT\d\d:\d\d:\d\d(([\+-]\d\d:\d\d)|Z)$`

Required: No

### **LookbackPeriodInDays**

How many days of previous usage that AWS considers when making this recommendation.

Type: String

Valid Values: SEVEN\_DAYS | THIRTY\_DAYS | SIXTY\_DAYS

Required: No

### **MetricsOverLookbackPeriod**

The related hourly cost, coverage, and utilization metrics over the lookback period.

Type: Array of [RecommendationDetailHourlyMetrics](#) objects

Required: No

### **OfferingId**

The unique ID that's used to distinguish Savings Plans from one another.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 1024.

Pattern: `[\S\s]*`

Required: No

### **PaymentOption**

The payment option for the commitment (for example, All Upfront or No Upfront).

Type: String

Valid Values: NO\_UPFRONT | PARTIAL\_UPFRONT | ALL\_UPFRONT | LIGHT\_UTILIZATION  
| MEDIUM\_UTILIZATION | HEAVY\_UTILIZATION

Required: No

### **Region**

The region the recommendation is generated for.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 1024.

Pattern: `[\S\s]*`

Required: No

## SavingsPlansType

The requested Savings Plan recommendation type.

Type: String

Valid Values: COMPUTE\_SP | EC2\_INSTANCE\_SP | SAGEMAKER\_SP

Required: No

## TermInYears

The term of the commitment in years.

Type: String

Valid Values: ONE\_YEAR | THREE\_YEARS

Required: No

## UpfrontCost

The upfront cost of the recommended Savings Plan, based on the selected payment option.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 1024.

Pattern: `[\S\s]*`

Required: No

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

## RecommendationDetailHourlyMetrics

Service: AWS Cost Explorer

Contains the hourly metrics for the given recommendation over the lookback period.

### Contents

#### CurrentCoverage

The current amount of Savings Plans eligible usage that the Savings Plan covered.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 1024.

Pattern: `[\S\s]*`

Required: No

#### EstimatedCoverage

The estimated coverage amount based on the recommended Savings Plan.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 1024.

Pattern: `[\S\s]*`

Required: No

#### EstimatedNewCommitmentUtilization

The estimated utilization for the recommended Savings Plan.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 1024.

Pattern: `[\S\s]*`

Required: No

#### EstimatedOnDemandCost

The remaining On-Demand cost estimated to not be covered by the recommended Savings Plan, over the length of the lookback period.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 1024.

Pattern: `[\S\s]*`

Required: No

## StartTime

The period of time that you want the usage and costs for.

Type: String

Length Constraints: Minimum length of 20. Maximum length of 25.

Pattern: `^\d{4}-\d\d-\d\dT\d\d:\d\d:\d\d(\[[+-]\d\d:\d\d)|Z)$`

Required: No

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

# RedshiftInstanceDetails

Service: AWS Cost Explorer

Details about the Amazon Redshift reservations that AWS recommends that you purchase.

## Contents

### CurrentGeneration

Determines whether the recommendation is for a current-generation instance.

Type: Boolean

Required: No

### Family

The instance family of the recommended reservation.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 1024.

Pattern: `[\S\s]*`

Required: No

### NodeType

The type of node that AWS recommends.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 1024.

Pattern: `[\S\s]*`

Required: No

### Region

The AWS Region of the recommended reservation.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 1024.

Pattern: `[\S\s]*`

Required: No

### **SizeFlexEligible**

Determines whether the recommended reservation is size flexible.

Type: Boolean

Required: No

### **See Also**

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

# ReservationAggregates

Service: AWS Cost Explorer

The aggregated numbers for your reservation usage.

## Contents

### AmortizedRecurringFee

The monthly cost of your reservation. It's amortized over the reservation period.

Type: String

Required: No

### AmortizedUpfrontFee

The upfront cost of your reservation. It's amortized over the reservation period.

Type: String

Required: No

### NetRISavings

How much you saved due to purchasing and utilizing reservation. AWS calculates this by subtracting `TotalAmortizedFee` from `OnDemandCostOfRIHoursUsed`.

Type: String

Required: No

### OnDemandCostOfRIHoursUsed

How much your reservation costs if charged On-Demand rates.

Type: String

Required: No

### PurchasedHours

How many reservation hours that you purchased.

Type: String

Required: No



## **PurchasedUnits**

The number of Amazon EC2 reservation hours that you purchased. It's converted to normalized units. Normalized units are available only for Amazon EC2 usage after November 11, 2017.

Type: String

Required: No

## **RealizedSavings**

The realized savings because of purchasing and using a reservation.

Type: String

Required: No

## **RICostForUnusedHours**

The cost of unused hours for your reservation.

Type: String

Required: No

## **TotalActualHours**

The total number of reservation hours that you used.

Type: String

Required: No

## **TotalActualUnits**

The total number of Amazon EC2 reservation hours that you used. It's converted to normalized units. Normalized units are available only for Amazon EC2 usage after November 11, 2017.

Type: String

Required: No

## **TotalAmortizedFee**

The total cost of your reservation. It's amortized over the reservation period.

Type: String

Required: No

### **TotalPotentialRISavings**

How much you might save if you use your entire reservation.

Type: String

Required: No

### **UnrealizedSavings**

The unrealized savings because of purchasing and using a reservation.

Type: String

Required: No

### **UnusedHours**

The number of reservation hours that you didn't use.

Type: String

Required: No

### **UnusedUnits**

The number of Amazon EC2 reservation hours that you didn't use. It's converted to normalized units. Normalized units are available only for Amazon EC2 usage after November 11, 2017.

Type: String

Required: No

### **UtilizationPercentage**

The percentage of reservation time that you used.

Type: String

Required: No

### **UtilizationPercentageInUnits**

The percentage of Amazon EC2 reservation time that you used. It's converted to normalized units. Normalized units are available only for Amazon EC2 usage after November 11, 2017.

Type: String

Required: No

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

# ReservationCoverageGroup

Service: AWS Cost Explorer

A group of reservations that share a set of attributes.

## Contents

### Attributes

The attributes for this group of reservations.

Type: String to string map

Required: No

### Coverage

How much instance usage this group of reservations covered.

Type: [Coverage](#) object

Required: No

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

# ReservationPurchaseRecommendation

Service: AWS Cost Explorer

A specific reservation that AWS recommends for purchase.

## Contents

### AccountScope

The account scope that AWS recommends that you purchase this instance for. For example, you can purchase this reservation for an entire organization in AWS Organizations.

Type: String

Valid Values: PAYER | LINKED

Required: No

### LookbackPeriodInDays

How many days of previous usage that AWS considers when making this recommendation.

Type: String

Valid Values: SEVEN\_DAYS | THIRTY\_DAYS | SIXTY\_DAYS

Required: No

### PaymentOption

The payment option for the reservation (for example, AllUpfront or NoUpfront).

Type: String

Valid Values: NO\_UPFRONT | PARTIAL\_UPFRONT | ALL\_UPFRONT | LIGHT\_UTILIZATION  
| MEDIUM\_UTILIZATION | HEAVY\_UTILIZATION

Required: No

### RecommendationDetails

Details about the recommended purchases.

Type: Array of [ReservationPurchaseRecommendationDetail](#) objects

Required: No

### RecommendationSummary

A summary about the recommended purchase.

Type: [ReservationPurchaseRecommendationSummary](#) object

Required: No

### ServiceSpecification

Hardware specifications for the service that you want recommendations for.

Type: [ServiceSpecification](#) object

Required: No

### TermInYears

The term of the reservation that you want recommendations for, in years.

Type: String

Valid Values: ONE\_YEAR | THREE\_YEARS

Required: No

### See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

# ReservationPurchaseRecommendationDetail

Service: AWS Cost Explorer

Details about your recommended reservation purchase.

## Contents

### AccountId

The account that this Reserved Instance (RI) recommendation is for.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 1024.

Pattern: `[\S\s]*`

Required: No

### AverageNormalizedUnitsUsedPerHour

The average number of normalized units that you used in an hour during the historical period. AWS uses this to calculate your recommended reservation purchases.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 1024.

Pattern: `[\S\s]*`

Required: No

### AverageNumberOfInstancesUsedPerHour

The average number of instances that you used in an hour during the historical period. AWS uses this to calculate your recommended reservation purchases.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 1024.

Pattern: `[\S\s]*`

Required: No

## AverageUtilization

The average utilization of your instances. AWS uses this to calculate your recommended reservation purchases.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 1024.

Pattern: `[\S\s]*`

Required: No

## CurrencyCode

The currency code that AWS used to calculate the costs for this instance.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 1024.

Pattern: `[\S\s]*`

Required: No

## EstimatedBreakEvenInMonths

How long AWS estimates that it takes for this instance to start saving you money, in months.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 1024.

Pattern: `[\S\s]*`

Required: No

## EstimatedMonthlyOnDemandCost

How much AWS estimates that you spend on On-Demand Instances in a month.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 1024.

Pattern: `[\S\s]*`



Required: No

### **EstimatedMonthlySavingsAmount**

How much AWS estimates that this specific recommendation might save you in a month.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 1024.

Pattern: `[\S\s]*`

Required: No

### **EstimatedMonthlySavingsPercentage**

How much AWS estimates that this specific recommendation might save you in a month, as a percentage of your overall costs.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 1024.

Pattern: `[\S\s]*`

Required: No

### **EstimatedReservationCostForLookbackPeriod**

How much AWS estimates that you might spend for all usage during the specified historical period if you had a reservation.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 1024.

Pattern: `[\S\s]*`

Required: No

### **InstanceDetails**

Details about the reservations that AWS recommends that you purchase.

Type: [InstanceDetails](#) object

Required: No

### **MaximumNormalizedUnitsUsedPerHour**

The maximum number of normalized units that you used in an hour during the historical period. AWS uses this to calculate your recommended reservation purchases.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 1024.

Pattern: `[\S\s]*`

Required: No

### **MaximumNumberOfInstancesUsedPerHour**

The maximum number of instances that you used in an hour during the historical period. AWS uses this to calculate your recommended reservation purchases.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 1024.

Pattern: `[\S\s]*`

Required: No

### **MinimumNormalizedUnitsUsedPerHour**

The minimum number of normalized units that you used in an hour during the historical period. AWS uses this to calculate your recommended reservation purchases.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 1024.

Pattern: `[\S\s]*`

Required: No

### **MinimumNumberOfInstancesUsedPerHour**

The minimum number of instances that you used in an hour during the historical period. AWS uses this to calculate your recommended reservation purchases.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 1024.

Pattern: `[\S\s]*`

Required: No

### **RecommendedNormalizedUnitsToPurchase**

The number of normalized units that AWS recommends that you purchase.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 1024.

Pattern: `[\S\s]*`

Required: No

### **RecommendedNumberOfInstancesToPurchase**

The number of instances that AWS recommends that you purchase.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 1024.

Pattern: `[\S\s]*`

Required: No

### **RecurringStandardMonthlyCost**

How much purchasing this instance costs you on a monthly basis.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 1024.

Pattern: `[\S\s]*`

Required: No

### **UpfrontCost**

How much purchasing this instance costs you upfront.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 1024.

Pattern: `[\S\s]*`

Required: No

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

# ReservationPurchaseRecommendationMetadata

Service: AWS Cost Explorer

Information about a recommendation, such as the timestamp for when AWS made a specific recommendation.

## Contents

### AdditionalMetadata

Additional metadata that might be applicable to the recommendation.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 1024.

Pattern: `[\S\s]*`

Required: No

### GenerationTimestamp

The timestamp for when AWS made the recommendation.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 1024.

Pattern: `[\S\s]*`

Required: No

### RecommendationId

The ID for the recommendation.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 1024.

Pattern: `[\S\s]*`

Required: No

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

# ReservationPurchaseRecommendationSummary

Service: AWS Cost Explorer

A summary about this recommendation, such as the currency code, the amount that AWS estimates that you could save, and the total amount of reservation to purchase.

## Contents

### CurrencyCode

The currency code used for this recommendation.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 1024.

Pattern: `[\S\s]*`

Required: No

### TotalEstimatedMonthlySavingsAmount

The total amount that AWS estimates that this recommendation could save you in a month.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 1024.

Pattern: `[\S\s]*`

Required: No

### TotalEstimatedMonthlySavingsPercentage

The total amount that AWS estimates that this recommendation could save you in a month, as a percentage of your costs.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 1024.

Pattern: `[\S\s]*`

Required: No

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)



# ReservationUtilizationGroup

Service: AWS Cost Explorer

A group of reservations that share a set of attributes.

## Contents

### Attributes

The attributes for this group of reservations.

Type: String to string map

Required: No

### Key

The key for a specific reservation attribute.

Type: String

Required: No

### Utilization

How much you used this group of reservations.

Type: [ReservationAggregates](#) object

Required: No

### Value

The value of a specific reservation attribute.

Type: String

Required: No

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

## ResourceDetails

Service: AWS Cost Explorer

Details for the resource.

### Contents

#### EC2ResourceDetails

Details for the Amazon EC2 resource.

Type: [EC2ResourceDetails](#) object

Required: No

### See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

# ResourceTag

Service: AWS Cost Explorer

The tag structure that contains a tag key and value.

## Note

Tagging is supported only for the following Cost Explorer resource types:  
[AnomalyMonitor](#), [AnomalySubscription](#), [CostCategory](#).

## Contents

### Key

The key that's associated with the tag.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `^([\p{L}\p{Z}\p{N}_ . :/=+\-@]*)$`

Required: Yes

### Value

The value that's associated with the tag.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 256.

Pattern: `^([\p{L}\p{Z}\p{N}_ . :/=+\-@]*)$`

Required: Yes

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

# ResourceUtilization

Service: AWS Cost Explorer

Resource utilization of current resource.

## Contents

### EC2ResourceUtilization

The utilization of current Amazon EC2 instance.

Type: [EC2ResourceUtilization](#) object

Required: No

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

# ResultByTime

Service: AWS Cost Explorer

The result that's associated with a time period.

## Contents

### Estimated

Determines whether the result is estimated.

Type: Boolean

Required: No

### Groups

The groups that this time period includes.

Type: Array of [Group](#) objects

Required: No

### TimePeriod

The time period that the result covers.

Type: [DateInterval](#) object

Required: No

### Total

The total amount of cost or usage accrued during the time period.

Type: String to [MetricValue](#) object map

Key Length Constraints: Minimum length of 0. Maximum length of 1024.

Key Pattern: `[\S\s]*`

Required: No

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)



# RightsizingRecommendation

Service: AWS Cost Explorer

Recommendations to rightsize resources.

## Contents

### AccountId

The account that this recommendation is for.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 1024.

Pattern: `[\S\s]*`

Required: No

### CurrentInstance

Context regarding the current instance.

Type: [CurrentInstance](#) object

Required: No

### FindingReasonCodes

The list of possible reasons why the recommendation is generated, such as under- or over-utilization of specific metrics (for example, CPU, Memory, Network).

Type: Array of strings

Valid Values: CPU\_OVER\_PROVISIONED | CPU\_UNDER\_PROVISIONED  
| MEMORY\_OVER\_PROVISIONED | MEMORY\_UNDER\_PROVISIONED |  
EBS\_THROUGHPUT\_OVER\_PROVISIONED | EBS\_THROUGHPUT\_UNDER\_PROVISIONED  
| EBS\_IOPS\_OVER\_PROVISIONED | EBS\_IOPS\_UNDER\_PROVISIONED |  
NETWORK\_BANDWIDTH\_OVER\_PROVISIONED | NETWORK\_BANDWIDTH\_UNDER\_PROVISIONED  
| NETWORK\_PPS\_OVER\_PROVISIONED | NETWORK\_PPS\_UNDER\_PROVISIONED  
| DISK\_IOPS\_OVER\_PROVISIONED | DISK\_IOPS\_UNDER\_PROVISIONED |  
DISK\_THROUGHPUT\_OVER\_PROVISIONED | DISK\_THROUGHPUT\_UNDER\_PROVISIONED

Required: No

### **ModifyRecommendationDetail**

The details for the modification recommendations.

Type: [ModifyRecommendationDetail](#) object

Required: No

### **RightsizingType**

A recommendation to either terminate or modify the resource.

Type: String

Valid Values: TERMINATE | MODIFY

Required: No

### **TerminateRecommendationDetail**

The details for termination recommendations.

Type: [TerminateRecommendationDetail](#) object

Required: No

## **See Also**

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

# RightsizingRecommendationConfiguration

Service: AWS Cost Explorer

You can use `RightsizingRecommendationConfiguration` to customize recommendations across two attributes. You can choose to view recommendations for instances within the same instance families or across different instance families. You can also choose to view your estimated savings that are associated with recommendations with consideration of existing Savings Plans or Reserved Instance (RI) benefits, or neither.

## Contents

### BenefitsConsidered

The option to consider RI or Savings Plans discount benefits in your savings calculation. The default value is `TRUE`.

Type: Boolean

Required: Yes

### RecommendationTarget

The option to see recommendations within the same instance family or recommendations for instances across other families. The default value is `SAME_INSTANCE_FAMILY`.

Type: String

Valid Values: `SAME_INSTANCE_FAMILY` | `CROSS_INSTANCE_FAMILY`

Required: Yes

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

# RightsizingRecommendationMetadata

Service: AWS Cost Explorer

Metadata for a recommendation set.

## Contents

### AdditionalMetadata

Additional metadata that might be applicable to the recommendation.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 1024.

Pattern: `[\S\s]*`

Required: No

### GenerationTimestamp

The timestamp for when AWS made the recommendation.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 1024.

Pattern: `[\S\s]*`

Required: No

### LookbackPeriodInDays

The number of days of previous usage that AWS considers when making the recommendation.

Type: String

Valid Values: SEVEN\_DAYS | THIRTY\_DAYS | SIXTY\_DAYS

Required: No

### RecommendationId

The ID for the recommendation.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 1024.

Pattern: `[\S\s]*`

Required: No

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

# RightsizingRecommendationSummary

Service: AWS Cost Explorer

The summary of rightsizing recommendations

## Contents

### EstimatedTotalMonthlySavingsAmount

The estimated total savings resulting from modifications, on a monthly basis.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 1024.

Pattern: `[\S\s]*`

Required: No

### SavingsCurrencyCode

The currency code that AWS used to calculate the savings.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 1024.

Pattern: `[\S\s]*`

Required: No

### SavingsPercentage

The savings percentage based on the recommended modifications. It's relative to the total On-Demand costs that are associated with these instances.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 1024.

Pattern: `[\S\s]*`

Required: No

## TotalRecommendationCount

The total number of instance recommendations.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 1024.

Pattern: `[\S\s]*`

Required: No

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

# RootCause

Service: AWS Cost Explorer

The combination of AWS service, linked account, linked account name, Region, and usage type where a cost anomaly is observed. The linked account name will only be available when the account name can be identified.

## Contents

### LinkedAccount

The member account value that's associated with the cost anomaly.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 1024.

Pattern: `[\S\s]*`

Required: No

### LinkedAccountName

The member account name value that's associated with the cost anomaly.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 1024.

Pattern: `[\S\s]*`

Required: No

### Region

The AWS Region that's associated with the cost anomaly.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 1024.

Pattern: `[\S\s]*`

Required: No



## Service

The AWS service name that's associated with the cost anomaly.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 1024.

Pattern: `[\S\s]*`

Required: No

## UsageType

The UsageType value that's associated with the cost anomaly.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 1024.

Pattern: `[\S\s]*`

Required: No

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

# SavingsPlansAmortizedCommitment

Service: AWS Cost Explorer

The amortized amount of Savings Plans purchased in a specific account during a specific time interval.

## Contents

### AmortizedRecurringCommitment

The amortized amount of your Savings Plans commitment that was purchased with either a `Partial` or a `NoUpfront`.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 1024.

Pattern: `[\S\s]*`

Required: No

### AmortizedUpfrontCommitment

The amortized amount of your Savings Plans commitment that was purchased with an `Upfront` or `PartialUpfront` Savings Plans.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 1024.

Pattern: `[\S\s]*`

Required: No

### TotalAmortizedCommitment

The total amortized amount of your Savings Plans commitment, regardless of your Savings Plans purchase method.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 1024.

Pattern: `[\S\s]*`

Required: No

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

# SavingsPlansCoverage

Service: AWS Cost Explorer

The amount of Savings Plans eligible usage that's covered by Savings Plans. All calculations consider the On-Demand equivalent of your Savings Plans usage.

## Contents

### Attributes

The attribute that applies to a specific Dimension.

Type: String to string map

Required: No

### Coverage

The amount of Savings Plans eligible usage that the Savings Plans covered.

Type: [SavingsPlansCoverageData](#) object

Required: No

### TimePeriod

The time period of the request.

Type: [DateInterval](#) object

Required: No

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

# SavingsPlansCoverageData

Service: AWS Cost Explorer

Specific coverage percentage, On-Demand costs, and spend covered by Savings Plans, and total Savings Plans costs for an account.

## Contents

### CoveragePercentage

The percentage of your existing Savings Plans covered usage, divided by all of your eligible Savings Plans usage in an account (or set of accounts).

Type: String

Length Constraints: Minimum length of 0. Maximum length of 1024.

Pattern: `[\S\s]*`

Required: No

### OnDemandCost

The cost of your AWS usage at the public On-Demand rate.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 1024.

Pattern: `[\S\s]*`

Required: No

### SpendCoveredBySavingsPlans

The amount of your AWS usage that's covered by a Savings Plans.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 1024.

Pattern: `[\S\s]*`

Required: No

## TotalCost

The total cost of your AWS usage, regardless of your purchase option.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 1024.

Pattern: `[\S\s]*`

Required: No

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

# SavingsPlansDetails

Service: AWS Cost Explorer

The attribute details on a specific Savings Plan.

## Contents

### InstanceFamily

A group of instance types that Savings Plans applies to.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 1024.

Pattern: `[\S\s]*`

Required: No

### OfferingId

The unique ID that's used to distinguish Savings Plans from one another.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 1024.

Pattern: `[\S\s]*`

Required: No

### Region

A collection of AWS resources in a geographic area. Each AWS Region is isolated and independent of the other Regions.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 1024.

Pattern: `[\S\s]*`

Required: No

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)



# SavingsPlansPurchaseRecommendation

Service: AWS Cost Explorer

Contains your request parameters, Savings Plan Recommendations Summary, and Details.

## Contents

### AccountScope

The account scope that you want your recommendations for. Amazon Web Services calculates recommendations that include the management account and member accounts if the value is set to PAYER. If the value is LINKED, recommendations are calculated for individual member accounts only.

Type: String

Valid Values: PAYER | LINKED

Required: No

### LookbackPeriodInDays

The lookback period in days that's used to generate the recommendation.

Type: String

Valid Values: SEVEN\_DAYS | THIRTY\_DAYS | SIXTY\_DAYS

Required: No

### PaymentOption

The payment option that's used to generate the recommendation.

Type: String

Valid Values: NO\_UPFRONT | PARTIAL\_UPFRONT | ALL\_UPFRONT | LIGHT\_UTILIZATION | MEDIUM\_UTILIZATION | HEAVY\_UTILIZATION

Required: No

### SavingsPlansPurchaseRecommendationDetails

Details for the Savings Plans that we recommend that you purchase to cover existing Savings Plans eligible workloads.

Type: Array of [SavingsPlansPurchaseRecommendationDetail](#) objects

Required: No

### **SavingsPlansPurchaseRecommendationSummary**

Summary metrics for your Savings Plans Recommendations.

Type: [SavingsPlansPurchaseRecommendationSummary](#) object

Required: No

### **SavingsPlansType**

The requested Savings Plans recommendation type.

Type: String

Valid Values: COMPUTE\_SP | EC2\_INSTANCE\_SP | SAGEMAKER\_SP

Required: No

### **TermInYears**

The Savings Plans recommendation term in years. It's used to generate the recommendation.

Type: String

Valid Values: ONE\_YEAR | THREE\_YEARS

Required: No

## **See Also**

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

# SavingsPlansPurchaseRecommendationDetail

Service: AWS Cost Explorer

Details for your recommended Savings Plans.

## Contents

### AccountId

The AccountID the recommendation is generated for.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 1024.

Pattern: `[\S\s]*`

Required: No

### CurrencyCode

The currency code that AWS used to generate the recommendations and present potential savings.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 1024.

Pattern: `[\S\s]*`

Required: No

### CurrentAverageHourlyOnDemandSpend

The average value of hourly On-Demand spend over the lookback period of the applicable usage type.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 1024.

Pattern: `[\S\s]*`

Required: No

**CurrentMaximumHourlyOnDemandSpend**

The highest value of hourly On-Demand spend over the lookback period of the applicable usage type.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 1024.

Pattern: `[\S\s]*`

Required: No

**CurrentMinimumHourlyOnDemandSpend**

The lowest value of hourly On-Demand spend over the lookback period of the applicable usage type.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 1024.

Pattern: `[\S\s]*`

Required: No

**EstimatedAverageUtilization**

The estimated utilization of the recommended Savings Plans.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 1024.

Pattern: `[\S\s]*`

Required: No

**EstimatedMonthlySavingsAmount**

The estimated monthly savings amount based on the recommended Savings Plans.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 1024.

Pattern: `[\S\s]*`

Required: No

### **EstimatedOnDemandCost**

The remaining On-Demand cost estimated to not be covered by the recommended Savings Plans, over the length of the lookback period.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 1024.

Pattern: `[\S\s]*`

Required: No

### **EstimatedOnDemandCostWithCurrentCommitment**

The estimated On-Demand costs you expect with no additional commitment, based on your usage of the selected time period and the Savings Plans you own.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 1024.

Pattern: `[\S\s]*`

Required: No

### **EstimatedROI**

The estimated return on investment that's based on the recommended Savings Plans that you purchased. This is calculated as  $\text{estimatedSavingsAmount} / \text{estimatedSPCost} * 100$ .

Type: String

Length Constraints: Minimum length of 0. Maximum length of 1024.

Pattern: `[\S\s]*`

Required: No

### **EstimatedSavingsAmount**

The estimated savings amount that's based on the recommended Savings Plans over the length of the lookback period.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 1024.

Pattern: `[\S\s]*`

Required: No

### **EstimatedSavingsPercentage**

The estimated savings percentage relative to the total cost of applicable On-Demand usage over the lookback period.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 1024.

Pattern: `[\S\s]*`

Required: No

### **EstimatedSPCost**

The cost of the recommended Savings Plans over the length of the lookback period.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 1024.

Pattern: `[\S\s]*`

Required: No

### **HourlyCommitmentToPurchase**

The recommended hourly commitment level for the Savings Plans type and the configuration that's based on the usage during the lookback period.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 1024.

Pattern: `[\S\s]*`

Required: No

## RecommendationDetailId

Contains detailed information about a specific Savings Plan recommendation.

Type: String

Length Constraints: Fixed length of 36.

Pattern: `^\S\S]{8}-[\S\S]{4}-[\S\S]{4}-[\S\S]{4}-[\S\S]{12}$`

Required: No

## SavingsPlansDetails

Details for your recommended Savings Plans.

Type: [SavingsPlansDetails](#) object

Required: No

## UpfrontCost

The upfront cost of the recommended Savings Plans, based on the selected payment option.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 1024.

Pattern: `[\S\S]*`

Required: No

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

# SavingsPlansPurchaseRecommendationMetadata

Service: AWS Cost Explorer

Metadata about your Savings Plans Purchase Recommendations.

## Contents

### AdditionalMetadata

Additional metadata that might be applicable to the recommendation.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 1024.

Pattern: `[\S\s]*`

Required: No

### GenerationTimestamp

The timestamp that shows when the recommendations were generated.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 1024.

Pattern: `[\S\s]*`

Required: No

### RecommendationId

The unique identifier for the recommendation set.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 1024.

Pattern: `[\S\s]*`

Required: No



## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

# SavingsPlansPurchaseRecommendationSummary

Service: AWS Cost Explorer

Summary metrics for your Savings Plans Purchase Recommendations.

## Contents

### CurrencyCode

The currency code that AWS used to generate the recommendations and present potential savings.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 1024.

Pattern: `[\S\s]*`

Required: No

### CurrentOnDemandSpend

The current total on demand spend of the applicable usage types over the lookback period.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 1024.

Pattern: `[\S\s]*`

Required: No

### DailyCommitmentToPurchase

The recommended Savings Plans cost on a daily (24 hourly) basis.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 1024.

Pattern: `[\S\s]*`

Required: No

## EstimatedMonthlySavingsAmount

The estimated monthly savings amount that's based on the recommended Savings Plans purchase.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 1024.

Pattern: `[\S\s]*`

Required: No

## EstimatedOnDemandCostWithCurrentCommitment

The estimated On-Demand costs you expect with no additional commitment. It's based on your usage of the selected time period and the Savings Plans you own.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 1024.

Pattern: `[\S\s]*`

Required: No

## EstimatedROI

The estimated return on investment that's based on the recommended Savings Plans and estimated savings.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 1024.

Pattern: `[\S\s]*`

Required: No

## EstimatedSavingsAmount

The estimated total savings over the lookback period, based on the purchase of the recommended Savings Plans.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 1024.

Pattern: `[\S\s]*`

Required: No

### **EstimatedSavingsPercentage**

The estimated savings relative to the total cost of On-Demand usage, over the lookback period. This is calculated as  $\text{estimatedSavingsAmount} / \text{CurrentOnDemandSpend} * 100$ .

Type: String

Length Constraints: Minimum length of 0. Maximum length of 1024.

Pattern: `[\S\s]*`

Required: No

### **EstimatedTotalCost**

The estimated total cost of the usage after purchasing the recommended Savings Plans. This is a sum of the cost of Savings Plans during this term, and the remaining On-Demand usage.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 1024.

Pattern: `[\S\s]*`

Required: No

### **HourlyCommitmentToPurchase**

The recommended hourly commitment that's based on the recommendation parameters.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 1024.

Pattern: `[\S\s]*`

Required: No

### **TotalRecommendationCount**

The aggregate number of Savings Plans recommendations that exist for your account.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 1024.

Pattern: `[\S\s]*`

Required: No

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

# SavingsPlansSavings

Service: AWS Cost Explorer

The amount of savings that you're accumulating, against the public On-Demand rate of the usage accrued in an account.

## Contents

### NetSavings

The savings amount that you're accumulating for the usage that's covered by a Savings Plans, when compared to the On-Demand equivalent of the same usage.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 1024.

Pattern: `[\S\s]*`

Required: No

### OnDemandCostEquivalent

How much the amount that the usage would have cost if it was accrued at the On-Demand rate.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 1024.

Pattern: `[\S\s]*`

Required: No

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)



# SavingsPlansUtilization

Service: AWS Cost Explorer

The measurement of how well you're using your existing Savings Plans.

## Contents

### TotalCommitment

The total amount of Savings Plans commitment that's been purchased in an account (or set of accounts).

Type: String

Length Constraints: Minimum length of 0. Maximum length of 1024.

Pattern: `[\S\s]*`

Required: No

### UnusedCommitment

The amount of your Savings Plans commitment that wasn't consumed from Savings Plans eligible usage in a specific period.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 1024.

Pattern: `[\S\s]*`

Required: No

### UsedCommitment

The amount of your Savings Plans commitment that was consumed from Savings Plans eligible usage in a specific period.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 1024.

Pattern: `[\S\s]*`



Required: No

## UtilizationPercentage

The amount of UsedCommitment divided by the TotalCommitment for your Savings Plans.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 1024.

Pattern: `[\S\s]*`

Required: No

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

# SavingsPlansUtilizationAggregates

Service: AWS Cost Explorer

The aggregated utilization metrics for your Savings Plans usage.

## Contents

### Utilization

A ratio of your effectiveness of using existing Savings Plans to apply to workloads that are Savings Plans eligible.

Type: [SavingsPlansUtilization](#) object

Required: Yes

### AmortizedCommitment

The total amortized commitment for a Savings Plans. This includes the sum of the upfront and recurring Savings Plans fees.

Type: [SavingsPlansAmortizedCommitment](#) object

Required: No

### Savings

The amount that's saved by using existing Savings Plans. Savings returns both net savings from Savings Plans and also the `onDemandCostEquivalent` of the Savings Plans when considering the utilization rate.

Type: [SavingsPlansSavings](#) object

Required: No

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)

- [AWS SDK for Ruby V3](#)

# SavingsPlansUtilizationByTime

Service: AWS Cost Explorer

The amount of Savings Plans utilization (in hours).

## Contents

### TimePeriod

The time period of the request.

Type: [DateInterval](#) object

Required: Yes

### Utilization

A ratio of your effectiveness of using existing Savings Plans to apply to workloads that are Savings Plans eligible.

Type: [SavingsPlansUtilization](#) object

Required: Yes

### AmortizedCommitment

The total amortized commitment for a Savings Plans. This includes the sum of the upfront and recurring Savings Plans fees.

Type: [SavingsPlansAmortizedCommitment](#) object

Required: No

### Savings

The amount that's saved by using existing Savings Plans. Savings returns both net savings from Savings Plans and also the `onDemandCostEquivalent` of the Savings Plans when considering the utilization rate.

Type: [SavingsPlansSavings](#) object

Required: No

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

# SavingsPlansUtilizationDetail

Service: AWS Cost Explorer

A single daily or monthly Savings Plans utilization rate and details for your account. A management account in an organization have access to member accounts. You can use `GetDimensionValues` to determine the possible dimension values.

## Contents

### AmortizedCommitment

The total amortized commitment for a Savings Plans. Includes the sum of the upfront and recurring Savings Plans fees.

Type: [SavingsPlansAmortizedCommitment](#) object

Required: No

### Attributes

The attribute that applies to a specific `Dimension`.

Type: String to string map

Required: No

### Savings

The amount saved by using existing Savings Plans. Savings returns both net savings from savings plans and also the `onDemandCostEquivalent` of the Savings Plans when considering the utilization rate.

Type: [SavingsPlansSavings](#) object

Required: No

### SavingsPlanArn

The unique Amazon Resource Name (ARN) for a particular Savings Plan.

Type: String

Required: No

## Utilization

A ratio of your effectiveness of using existing Savings Plans to apply to workloads that are Savings Plans eligible.

Type: [SavingsPlansUtilization](#) object

Required: No

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

# ServiceSpecification

Service: AWS Cost Explorer

Hardware specifications for the service that you want recommendations for.

## Contents

### EC2Specification

The Amazon EC2 hardware specifications that you want AWS to provide recommendations for.

Type: [EC2Specification](#) object

Required: No

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)



## SortDefinition

Service: AWS Cost Explorer

The details for how to sort the data.

### Contents

#### Key

The key that's used to sort the data.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 1024.

Pattern: `[\S\s]*`

Required: Yes

#### SortOrder

The order that's used to sort the data.

Type: String

Valid Values: ASCENDING | DESCENDING

Required: No

### See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

# Subscriber

Service: AWS Cost Explorer

The recipient of AnomalySubscription notifications.

## Contents

### Address

The email address or SNS Amazon Resource Name (ARN). This depends on the Type.

Type: String

Length Constraints: Minimum length of 6. Maximum length of 302.

Pattern: `(^[a-zA-Z0-9.!#$%&'*=+?^_'\{\}~-]+@[a-zA-Z0-9_-]+(\.[a-zA-Z0-9_-]+)+$)|(^arn:(aws[a-zA-Z-]*):sns:[a-zA-Z0-9-]+:[0-9]{12}:[a-zA-Z0-9_-]+(\.fifo)?$)`

Required: No

### Status

Indicates if the subscriber accepts the notifications.

Type: String

Valid Values: CONFIRMED | DECLINED

Required: No

### Type

The notification delivery channel.

Type: String

Valid Values: EMAIL | SNS

Required: No

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

# TagValues

Service: AWS Cost Explorer

The values that are available for a tag.

If `Values` and `Key` aren't specified, the `ABSENT MatchOption` is applied to all tags. That is, it's filtered on resources with no tags.

If `Key` is provided and `Values` isn't specified, the `ABSENT MatchOption` is applied to the tag `Key` only. That is, it's filtered on resources without the given tag key.

## Contents

### Key

The key for the tag.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 1024.

Pattern: `[\S\s]*`

Required: No

### MatchOptions

The match options that you can use to filter your results. `MatchOptions` is only applicable for actions related to Cost Category. The default values for `MatchOptions` are `EQUALS` and `CASE_SENSITIVE`.

Type: Array of strings

Valid Values: `EQUALS` | `ABSENT` | `STARTS_WITH` | `ENDS_WITH` | `CONTAINS` | `CASE_SENSITIVE` | `CASE_INSENSITIVE` | `GREATER_THAN_OR_EQUAL`

Required: No

### Values

The specific value of the tag.

Type: Array of strings

Length Constraints: Minimum length of 0. Maximum length of 1024.

Pattern: `[\S\s]*`

Required: No

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

## TargetInstance

Service: AWS Cost Explorer

Details on recommended instance.

### Contents

#### CurrencyCode

The currency code that AWS used to calculate the costs for this instance.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 1024.

Pattern: `[\S\s]*`

Required: No

#### DefaultTargetInstance

Determines whether this recommendation is the defaulted AWS recommendation.

Type: Boolean

Required: No

#### EstimatedMonthlyCost

The expected cost to operate this instance type on a monthly basis.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 1024.

Pattern: `[\S\s]*`

Required: No

#### EstimatedMonthlySavings

The estimated savings that result from modification, on a monthly basis.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 1024.

Pattern: `[\S\s]*`

Required: No

### ExpectedResourceUtilization

The expected utilization metrics for target instance type.

Type: [ResourceUtilization](#) object

Required: No

### PlatformDifferences

Explains the actions that you might need to take to successfully migrate your workloads from the current instance type to the recommended instance type.

Type: Array of strings

Valid Values: HYPERVISOR | NETWORK\_INTERFACE | STORAGE\_INTERFACE | INSTANCE\_STORE\_AVAILABILITY | VIRTUALIZATION\_TYPE

Required: No

### ResourceDetails

Details on the target instance type.

Type: [ResourceDetails](#) object

Required: No

### See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

# TerminateRecommendationDetail

Service: AWS Cost Explorer

Details on termination recommendation.

## Contents

### CurrencyCode

The currency code that AWS used to calculate the costs for this instance.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 1024.

Pattern: `[\S\s]*`

Required: No

### EstimatedMonthlySavings

The estimated savings that result from modification, on a monthly basis.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 1024.

Pattern: `[\S\s]*`

Required: No

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)



# TotalImpactFilter

Service: AWS Cost Explorer

Filters cost anomalies based on the total impact.

## Contents

### NumericOperator

The comparing value that's used in the filter.

Type: String

Valid Values: EQUAL | GREATER\_THAN\_OR\_EQUAL | LESS\_THAN\_OR\_EQUAL | GREATER\_THAN | LESS\_THAN | BETWEEN

Required: Yes

### StartValue

The lower bound dollar value that's used in the filter.

Type: Double

Required: Yes

### EndValue

The upper bound dollar value that's used in the filter.

Type: Double

Required: No

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)



# UpdateCostAllocationTagsStatusError

Service: AWS Cost Explorer

Gives a detailed description of the result of an action. It's on each cost allocation tag entry in the request.

## Contents

### Code

An error code representing why the action failed on this entry.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 1024.

Pattern: `[\S\s]*`

Required: No

### Message

A message explaining why the action failed on this entry.

Type: String

Required: No

### TagKey

The key for the cost allocation tag.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 1024.

Pattern: `[\S\s]*`

Required: No

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

# UtilizationByTime

Service: AWS Cost Explorer

The amount of utilization, in hours.

## Contents

### Groups

The groups that this utilization result uses.

Type: Array of [ReservationUtilizationGroup](#) objects

Required: No

### TimePeriod

The period of time that this utilization was used for.

Type: [DateInterval](#) object

Required: No

### Total

The total number of reservation hours that were used.

Type: [ReservationAggregates](#) object

Required: No

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

## AWS Data Exports

The following data types are supported by AWS Data Exports:

- [Column](#)
- [DataQuery](#)
- [DestinationConfigurations](#)
- [ExecutionReference](#)
- [ExecutionStatus](#)
- [Export](#)
- [ExportReference](#)
- [ExportStatus](#)
- [RefreshCadence](#)
- [ResourceTag](#)
- [S3Destination](#)
- [S3OutputConfigurations](#)
- [Table](#)
- [TablePropertyDescription](#)
- [ValidationExceptionField](#)

# Column

Service: AWS Data Exports

Includes basic information for a data column such as its description, name, and type.

## Contents

### Description

The description for a column.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 1024.

Pattern: `^[\S\s]*$`

Required: No

### Name

The column name.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 1024.

Pattern: `^[\S\s]*$`

Required: No

### Type

The kind of data a column stores.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 1024.

Pattern: `^[\S\s]*$`

Required: No

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)



# DataQuery

Service: AWS Data Exports

The SQL query of column selections and row filters from the data table you want.

## Contents

### QueryStatement

The query statement.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 36000.

Pattern: `^[\\S\\s]*$`

Required: Yes

### TableConfigurations

The table configuration.

Type: String to string to string map map

Key Length Constraints: Minimum length of 0. Maximum length of 1024.

Key Pattern: `^[\\S\\s]*$`

Key Length Constraints: Minimum length of 0. Maximum length of 1024.

Key Pattern: `^[\\S\\s]*$`

Value Length Constraints: Minimum length of 0. Maximum length of 1024.

Value Pattern: `^[\\S\\s]*$`

Required: No

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

# DestinationConfigurations

Service: AWS Data Exports

The destinations used for data exports.

## Contents

### S3Destination

An object that describes the destination of the data exports file.

Type: [S3Destination](#) object

Required: Yes

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

# ExecutionReference

Service: AWS Data Exports

The reference for the data export update.

## Contents

### ExecutionId

The ID for this specific execution.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 1024.

Pattern: `^[\\S\\s]*$`

Required: Yes

### ExecutionStatus

The status of this specific execution.

Type: [ExecutionStatus](#) object

Required: Yes

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

## ExecutionStatus

Service: AWS Data Exports

The status of the execution.

### Contents

#### CompletedAt

The time when the execution was completed.

Type: Timestamp

Required: No

#### CreatedAt

The time when the execution was created.

Type: Timestamp

Required: No

#### LastUpdatedAt

The time when the execution was last updated.

Type: Timestamp

Required: No

#### StatusCode

The code for the status of the execution.

Type: String

Valid Values: INITIATION\_IN\_PROCESS | QUERY\_QUEUED | QUERY\_IN\_PROCESS  
| QUERY\_FAILURE | DELIVERY\_IN\_PROCESS | DELIVERY\_SUCCESS |  
DELIVERY\_FAILURE

Required: No

#### StatusReason

The reason for the failed status.

Type: String

Valid Values: INSUFFICIENT\_PERMISSION | BILL\_OWNER\_CHANGED | INTERNAL\_FAILURE

Required: No

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

# Export

Service: AWS Data Exports

The details that are available for an export.

## Contents

### DataQuery

The data query for this specific data export.

Type: [DataQuery](#) object

Required: Yes

### DestinationConfigurations

The destination configuration for this specific data export.

Type: [DestinationConfigurations](#) object

Required: Yes

### Name

The name of this specific data export.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `^[0-9A-Za-z!\-_.*\'()]+$`

Required: Yes

### RefreshCadence

The cadence for AWS to update the export in your S3 bucket.

Type: [RefreshCadence](#) object

Required: Yes

### Description

The description for this specific data export.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 1024.

Pattern: `^\S\s]*$`

Required: No

### **ExportArn**

The Amazon Resource Name (ARN) for this export.

Type: String

Length Constraints: Minimum length of 20. Maximum length of 2048.

Pattern: `^arn:aws[-a-z0-9]*:[-a-z0-9]+:[-a-z0-9]*:[0-9]{12}:[-a-zA-Z0-9/:_]+$`

Required: No

### **See Also**

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)



# ExportReference

Service: AWS Data Exports

The reference details for a given export.

## Contents

### ExportArn

The Amazon Resource Name (ARN) for this export.

Type: String

Length Constraints: Minimum length of 20. Maximum length of 2048.

Pattern: `^arn:aws[-a-z0-9]*:[-a-z0-9]+:[-a-z0-9]*:[0-9]{12}:[-a-zA-Z0-9/:_]+`

Required: Yes

### ExportName

The name of this specific data export.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `^[0-9A-Za-z!\-_.*\ '()]+`

Required: Yes

### ExportStatus

The status of this specific data export.

Type: [ExportStatus](#) object

Required: Yes

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

## ExportStatus

Service: AWS Data Exports

The status of the data export.

### Contents

#### CreatedAt

The timestamp of when the export was created.

Type: Timestamp

Required: No

#### LastRefreshedAt

The timestamp of when the export was last generated.

Type: Timestamp

Required: No

#### LastUpdatedAt

The timestamp of when the export was updated.

Type: Timestamp

Required: No

#### StatusCode

The status code for the request.

Type: String

Valid Values: HEALTHY | UNHEALTHY

Required: No

#### StatusReason

The description for the status code.

Type: String

Valid Values: INSUFFICIENT\_PERMISSION | BILL\_OWNER\_CHANGED | INTERNAL\_FAILURE

Required: No

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

# RefreshCadence

Service: AWS Data Exports

The cadence for AWS to update the data export in your S3 bucket.

## Contents

### Frequency

The frequency that data exports are updated. The export refreshes each time the source data updates, up to three times daily.

Type: String

Valid Values: SYNCHRONOUS

Required: Yes

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

# ResourceTag

Service: AWS Data Exports

The tag structure that contains a tag key and value.

## Contents

### Key

The key that's associated with the tag.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Required: Yes

### Value

The value that's associated with the tag.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 256.

Required: Yes

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

## S3Destination

Service: AWS Data Exports

Describes the destination Amazon Simple Storage Service (Amazon S3) bucket name and object keys of a data exports file.

### Contents

#### S3Bucket

The name of the Amazon S3 bucket used as the destination of a data export file.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 1024.

Pattern: `^[\\S\\s]*$`

Required: Yes

#### S3OutputConfigurations

The output configuration for the data export.

Type: [S3OutputConfigurations](#) object

Required: Yes

#### S3Prefix

The S3 path prefix you want prepended to the name of your data export.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 1024.

Pattern: `^[\\S\\s]*$`

Required: Yes

#### S3Region

The S3 bucket Region.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 1024.

Pattern: `^[\\S\\s]*$`

Required: Yes

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)



# S3OutputConfigurations

Service: AWS Data Exports

The compression type, file format, and overwrite preference for the data export.

## Contents

### Compression

The compression type for the data export.

Type: String

Valid Values: GZIP | PARQUET

Required: Yes

### Format

The file format for the data export.

Type: String

Valid Values: TEXT\_OR\_CSV | PARQUET

Required: Yes

### OutputType

The output type for the data export.

Type: String

Valid Values: CUSTOM

Required: Yes

### Overwrite

The rule to follow when generating a version of the data export file. You have the choice to overwrite the previous version or to be delivered in addition to the previous versions. Overwriting exports can save on Amazon S3 storage costs. Creating new export versions allows you to track the changes in cost and usage data over time.

Type: String

Valid Values: CREATE\_NEW\_REPORT | OVERWRITE\_REPORT

Required: Yes

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

## Table

Service: AWS Data Exports

The details for the data export table.

### Contents

#### Description

The description for the table.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 1024.

Pattern: `^[\\S\\s]*$`

Required: No

#### TableName

The name of the table.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 1024.

Pattern: `^[\\S\\s]*$`

Required: No

#### TableProperties

The properties for the table.

Type: Array of [TablePropertyDescription](#) objects

Required: No

### See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

# TablePropertyDescription

Service: AWS Data Exports

The properties for the data export table.

## Contents

### DefaultValue

The default value for the table.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 1024.

Pattern: `^[\\S\\s]*$`

Required: No

### Description

The description for the table.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 1024.

Pattern: `^[\\S\\s]*$`

Required: No

### Name

The name of the table.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 1024.

Pattern: `^[\\S\\s]*$`

Required: No

### ValidValues

The valid values for the table.

Type: Array of strings

Length Constraints: Minimum length of 0. Maximum length of 1024.

Pattern: `^[\\S\\s]*$`

Required: No

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

# ValidationExceptionField

Service: AWS Data Exports

The input failed to meet the constraints specified by the AWS service in a specified field.

## Contents

### Message

A message with the reason for the validation exception error.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 1024.

Pattern: `^\S\s]*$`

Required: Yes

### Name

The field name where the invalid entry was detected.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 1024.

Pattern: `^\S\s]*$`

Required: Yes

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

# AWS Budgets

The following data types are supported by AWS Budgets:

- [Action](#)
- [ActionHistory](#)
- [ActionHistoryDetails](#)
- [ActionThreshold](#)
- [AutoAdjustData](#)
- [Budget](#)
- [BudgetedAndActualAmounts](#)
- [BudgetNotificationsForAccount](#)
- [BudgetPerformanceHistory](#)
- [CalculatedSpend](#)
- [CostTypes](#)
- [Definition](#)
- [HistoricalOptions](#)
- [IamActionDefinition](#)
- [Notification](#)
- [NotificationWithSubscribers](#)
- [ResourceTag](#)
- [ScpActionDefinition](#)
- [Spend](#)
- [SsmActionDefinition](#)
- [Subscriber](#)
- [TimePeriod](#)



## Action

Service: AWS Budgets

A budget action resource.

### Contents

#### ActionId

A system-generated universally unique identifier (UUID) for the action.

Type: String

Length Constraints: Fixed length of 36.

Pattern: `^[a-fA-F0-9]{8}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{12}$`

Required: Yes

#### ActionThreshold

The trigger threshold of the action.

Type: [ActionThreshold](#) object

Required: Yes

#### ActionType

The type of action. This defines the type of tasks that can be carried out by this action. This field also determines the format for definition.

Type: String

Valid Values: `APPLY_IAM_POLICY | APPLY_SCP_POLICY | RUN_SSM_DOCUMENTS`

Required: Yes

#### ApprovalModel

This specifies if the action needs manual or automatic approval.

Type: String

Valid Values: AUTOMATIC | MANUAL

Required: Yes

### BudgetName

A string that represents the budget name. The ":" and "\" characters, and the "/action/" substring, aren't allowed.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 100.

Pattern: `^(?![^\:\\\]*\/action\/|(?i).*<script>.*</script>.*)[^\:\\\]+$`

Required: Yes

### Definition

Where you specify all of the type-specific parameters.

Type: [Definition](#) object

Required: Yes

### ExecutionRoleArn

The role passed for action execution and reversion. Roles and actions must be in the same account.

Type: String

Length Constraints: Minimum length of 32. Maximum length of 618.

Pattern: `^arn:(aws|aws-cn|aws-us-gov|us-iso-east-1|us-isob-east-1):iam::\d{12}:role(\u002F[\u0021-\u007F]+\u002F|[\u002F])[\w+=,.\@-]+$`

Required: Yes

### NotificationType

The type of a notification. It must be ACTUAL or FORECASTED.

Type: String

Valid Values: ACTUAL | FORECASTED

Required: Yes

## Status

The status of the action.

Type: String

Valid Values: STANDBY | PENDING | EXECUTION\_IN\_PROGRESS | EXECUTION\_SUCCESS | EXECUTION\_FAILURE | REVERSE\_IN\_PROGRESS | REVERSE\_SUCCESS | REVERSE\_FAILURE | RESET\_IN\_PROGRESS | RESET\_FAILURE

Required: Yes

## Subscribers

A list of subscribers.

Type: Array of [Subscriber](#) objects

Array Members: Minimum number of 1 item. Maximum number of 11 items.

Required: Yes

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

# ActionHistory

Service: AWS Budgets

The historical records for a budget action.

## Contents

### ActionHistoryDetails

The description of the details for the event.

Type: [ActionHistoryDetails](#) object

Required: Yes

### EventType

This distinguishes between whether the events are triggered by the user or are generated by the system.

Type: String

Valid Values: SYSTEM | CREATE\_ACTION | DELETE\_ACTION | UPDATE\_ACTION | EXECUTE\_ACTION

Required: Yes

### Status

The status of action at the time of the event.

Type: String

Valid Values: STANDBY | PENDING | EXECUTION\_IN\_PROGRESS | EXECUTION\_SUCCESS | EXECUTION\_FAILURE | REVERSE\_IN\_PROGRESS | REVERSE\_SUCCESS | REVERSE\_FAILURE | RESET\_IN\_PROGRESS | RESET\_FAILURE

Required: Yes

### Timestamp

A generic time stamp. In Java, it's transformed to a Date object.

Type: Timestamp

Required: Yes

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

# ActionHistoryDetails

Service: AWS Budgets

The description of the details for the event.

## Contents

### Action

The budget action resource.

Type: [Action](#) object

Required: Yes

### Message

A generic string.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 2147483647.

Pattern: .\*

Required: Yes

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

# ActionThreshold

Service: AWS Budgets

The trigger threshold of the action.

## Contents

### ActionThresholdType

The type of threshold for a notification.

Type: String

Valid Values: PERCENTAGE | ABSOLUTE\_VALUE

Required: Yes

### ActionThresholdValue

The threshold of a notification.

Type: Double

Valid Range: Minimum value of 0. Maximum value of 15000000000000.

Required: Yes

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

# AutoAdjustData

Service: AWS Budgets

The parameters that determine the budget amount for an auto-adjusting budget.

## Contents

### AutoAdjustType

The string that defines whether your budget auto-adjusts based on historical or forecasted data.

Type: String

Valid Values: HISTORICAL | FORECAST

Required: Yes

### HistoricalOptions

The parameters that define or describe the historical data that your auto-adjusting budget is based on.

Type: [HistoricalOptions](#) object

Required: No

### LastAutoAdjustTime

The last time that your budget was auto-adjusted.

Type: Timestamp

Required: No

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)



- [AWS SDK for Ruby V3](#)

# Budget

Service: AWS Budgets

Represents the output of the `CreateBudget` operation. The content consists of the detailed metadata and data file information, and the current status of the budget object.

This is the Amazon Resource Name (ARN) pattern for a budget:

```
arn:aws:budgets::AccountId:budget/budgetName
```

## Contents

### BudgetName

The name of a budget. The name must be unique within an account. The `:` and `\` characters, and the `"/action/"` substring, aren't allowed in `BudgetName`.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 100.

Pattern: `^(?![^\:\\\\]*\/action\/|(?i).*<script>.*</script>.*)[^\:\\\\]+$`

Required: Yes

### BudgetType

Specifies whether this budget tracks costs, usage, RI utilization, RI coverage, Savings Plans utilization, or Savings Plans coverage.

Type: String

Valid Values: `USAGE` | `COST` | `RI_UTILIZATION` | `RI_COVERAGE` | `SAVINGS_PLANS_UTILIZATION` | `SAVINGS_PLANS_COVERAGE`

Required: Yes

### TimeUnit

The length of time until a budget resets the actual and forecasted spend.

Type: String

Valid Values: `DAILY` | `MONTHLY` | `QUARTERLY` | `ANNUALLY`

Required: Yes

### **AutoAdjustData**

The parameters that determine the budget amount for an auto-adjusting budget.

Type: [AutoAdjustData](#) object

Required: No

### **BudgetLimit**

The total amount of cost, usage, RI utilization, RI coverage, Savings Plans utilization, or Savings Plans coverage that you want to track with your budget.

`BudgetLimit` is required for cost or usage budgets, but optional for RI or Savings Plans utilization or coverage budgets. RI and Savings Plans utilization or coverage budgets default to 100. This is the only valid value for RI or Savings Plans utilization or coverage budgets. You can't use `BudgetLimit` with `PlannedBudgetLimits` for `CreateBudget` and `UpdateBudget` actions.

Type: [Spend](#) object

Required: No

### **CalculatedSpend**

The actual and forecasted cost or usage that the budget tracks.

Type: [CalculatedSpend](#) object

Required: No

### **CostFilters**

The cost filters, such as `Region`, `Service`, `LinkedAccount`, `Tag`, or `CostCategory`, that are applied to a budget.

AWS Budgets supports the following services as a `Service` filter for RI budgets:

- Amazon EC2
- Amazon Redshift
- Amazon Relational Database Service
- Amazon ElastiCache
- Amazon OpenSearch Service

Type: String to array of strings map

Key Length Constraints: Minimum length of 0. Maximum length of 2147483647.

Key Pattern: . \*

Length Constraints: Minimum length of 0. Maximum length of 2147483647.

Pattern: [\\S\\s]\*

Required: No

### **CostTypes**

The types of costs that are included in this COST budget.

USAGE, RI\_UTILIZATION, RI\_COVERAGE, SAVINGS\_PLANS\_UTILIZATION, and SAVINGS\_PLANS\_COVERAGE budgets do not have CostTypes.

Type: [CostTypes](#) object

Required: No

### **LastUpdatedTime**

The last time that you updated this budget.

Type: Timestamp

Required: No

### **PlannedBudgetLimits**

A map containing multiple BudgetLimit, including current or future limits.

PlannedBudgetLimits is available for cost or usage budget and supports both monthly and quarterly TimeUnit.

For monthly budgets, provide 12 months of PlannedBudgetLimits values. This must start from the current month and include the next 11 months. The key is the start of the month, UTC in epoch seconds.

For quarterly budgets, provide four quarters of PlannedBudgetLimits value entries in standard calendar quarter increments. This must start from the current quarter and include the next three quarters. The key is the start of the quarter, UTC in epoch seconds.

If the planned budget expires before 12 months for monthly or four quarters for quarterly, provide the `PlannedBudgetLimits` values only for the remaining periods.

If the budget begins at a date in the future, provide `PlannedBudgetLimits` values from the start date of the budget.

After all of the `BudgetLimit` values in `PlannedBudgetLimits` are used, the budget continues to use the last limit as the `BudgetLimit`. At that point, the planned budget provides the same experience as a fixed budget.

`DescribeBudget` and `DescribeBudgets` response along with `PlannedBudgetLimits` also contain `BudgetLimit` representing the current month or quarter limit present in `PlannedBudgetLimits`. This only applies to budgets that are created with `PlannedBudgetLimits`. Budgets that are created without `PlannedBudgetLimits` only contain `BudgetLimit`. They don't contain `PlannedBudgetLimits`.

Type: String to [Spend](#) object map

Key Length Constraints: Minimum length of 0. Maximum length of 2147483647.

Key Pattern: . \*

Required: No

## TimePeriod

The period of time that's covered by a budget. You set the start date and end date. The start date must come before the end date. The end date must come before 06/15/87 00:00 UTC.

If you create your budget and don't specify a start date, AWS defaults to the start of your chosen time period (DAILY, MONTHLY, QUARTERLY, or ANNUALLY). For example, if you created your budget on January 24, 2018, chose DAILY, and didn't set a start date, AWS set your start date to 01/24/18 00:00 UTC. If you chose MONTHLY, AWS set your start date to 01/01/18 00:00 UTC. If you didn't specify an end date, AWS set your end date to 06/15/87 00:00 UTC. The defaults are the same for the AWS Billing and Cost Management console and the API.

You can change either date with the `UpdateBudget` operation.

After the end date, AWS deletes the budget and all the associated notifications and subscribers.

Type: [TimePeriod](#) object

Required: No

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

# BudgetedAndActualAmounts

Service: AWS Budgets

The amount of cost or usage that you created the budget for, compared to your actual costs or usage.

## Contents

### ActualAmount

Your actual costs or usage for a budget period.

Type: [Spend](#) object

Required: No

### BudgetedAmount

The amount of cost or usage that you created the budget for.

Type: [Spend](#) object

Required: No

### TimePeriod

The time period that's covered by this budget comparison.

Type: [TimePeriod](#) object

Required: No

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

# BudgetNotificationsForAccount

Service: AWS Budgets

The budget name and associated notifications for an account.

## Contents

### BudgetName

A string that represents the budget name. The ":" and "\" characters, and the "/action/" substring, aren't allowed.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 100.

Pattern: `^(?![^\:\\\]*\/action\/|(?i).*<script>.*</script>.*)[^\:\\\]+$`

Required: No

### Notifications

A list of notifications.

Type: Array of [Notification](#) objects

Required: No

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)



# BudgetPerformanceHistory

Service: AWS Budgets

A history of the state of a budget at the end of the budget's specified time period.

## Contents

### BudgetedAndActualAmountsList

A list of amounts of cost or usage that you created budgets for, which are compared to your actual costs or usage.

Type: Array of [BudgetedAndActualAmounts](#) objects

Required: No

### BudgetName

A string that represents the budget name. The ":" and "\" characters, and the "/action/" substring, aren't allowed.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 100.

Pattern: `^(?![^\:\\\\]*\/action\/|(?i).*<script>.*</script>.*)[^\:\\\\]+$`

Required: No

### BudgetType

The type of a budget. It must be one of the following types:

COST, USAGE, RI\_UTILIZATION, RI\_COVERAGE, SAVINGS\_PLANS\_UTILIZATION, or SAVINGS\_PLANS\_COVERAGE.

Type: String

Valid Values: USAGE | COST | RI\_UTILIZATION | RI\_COVERAGE | SAVINGS\_PLANS\_UTILIZATION | SAVINGS\_PLANS\_COVERAGE

Required: No

## CostFilters

The history of the cost filters for a budget during the specified time period.

Type: String to array of strings map

Key Length Constraints: Minimum length of 0. Maximum length of 2147483647.

Key Pattern: .\*

Length Constraints: Minimum length of 0. Maximum length of 2147483647.

Pattern: [\\S\\s]\*

Required: No

## CostTypes

The history of the cost types for a budget during the specified time period.

Type: [CostTypes](#) object

Required: No

## TimeUnit

The time unit of the budget, such as MONTHLY or QUARTERLY.

Type: String

Valid Values: DAILY | MONTHLY | QUARTERLY | ANNUALLY

Required: No

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

# CalculatedSpend

Service: AWS Budgets

The `actualSpend` tracks how much you've used, cost, usage, RI units, or Savings Plans units and the `forecastedSpend` tracks how much that you're predicted to spend based on your historical usage profile.

For example, if it's the 20th of the month and you have spent 50 dollars on Amazon EC2, your `actualSpend` is 50 USD, and your `forecastedSpend` is 75 USD.

## Contents

### ActualSpend

The amount of cost, usage, RI units, or Savings Plans units that you used.

Type: [Spend](#) object

Required: Yes

### ForecastedSpend

The amount of cost, usage, RI units, or Savings Plans units that you're forecasted to use.

Type: [Spend](#) object

Required: No

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

# CostTypes

Service: AWS Budgets

The types of cost that are included in a COST budget, such as tax and subscriptions.

USAGE, RI\_UTILIZATION, RI\_COVERAGE, SAVINGS\_PLANS\_UTILIZATION, and SAVINGS\_PLANS\_COVERAGE budgets don't have CostTypes.

## Contents

### IncludeCredit

Specifies whether a budget includes credits.

The default value is `true`.

Type: Boolean

Required: No

### IncludeDiscount

Specifies whether a budget includes discounts.

The default value is `true`.

Type: Boolean

Required: No

### IncludeOtherSubscription

Specifies whether a budget includes non-RI subscription costs.

The default value is `true`.

Type: Boolean

Required: No

### IncludeRecurring

Specifies whether a budget includes recurring fees such as monthly RI fees.

The default value is `true`.

Type: Boolean

Required: No

### **IncludeRefund**

Specifies whether a budget includes refunds.

The default value is `true`.

Type: Boolean

Required: No

### **IncludeSubscription**

Specifies whether a budget includes subscriptions.

The default value is `true`.

Type: Boolean

Required: No

### **IncludeSupport**

Specifies whether a budget includes support subscription fees.

The default value is `true`.

Type: Boolean

Required: No

### **IncludeTax**

Specifies whether a budget includes taxes.

The default value is `true`.

Type: Boolean

Required: No

### **IncludeUpfront**

Specifies whether a budget includes upfront RI costs.

The default value is `true`.

Type: Boolean

Required: No

### **UseAmortized**

Specifies whether a budget uses the amortized rate.

The default value is `false`.

Type: Boolean

Required: No

### **UseBlended**

Specifies whether a budget uses a blended rate.

The default value is `false`.

Type: Boolean

Required: No

## **See Also**

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

## Definition

Service: AWS Budgets

Specifies all of the type-specific parameters.

## Contents

### IamActionDefinition

The AWS Identity and Access Management (IAM) action definition details.

Type: [IamActionDefinition](#) object

Required: No

### ScpActionDefinition

The service control policies (SCPs) action definition details.

Type: [ScpActionDefinition](#) object

Required: No

### SsmActionDefinition

The AWS Systems Manager (SSM) action definition details.

Type: [SsmActionDefinition](#) object

Required: No

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

# HistoricalOptions

Service: AWS Budgets

The parameters that define or describe the historical data that your auto-adjusting budget is based on.

## Contents

### BudgetAdjustmentPeriod

The number of budget periods included in the moving-average calculation that determines your auto-adjusted budget amount. The maximum value depends on the `TimeUnit` granularity of the budget:

- For the `DAILY` granularity, the maximum value is 60.
- For the `MONTHLY` granularity, the maximum value is 12.
- For the `QUARTERLY` granularity, the maximum value is 4.
- For the `ANNUALLY` granularity, the maximum value is 1.

Type: Integer

Valid Range: Minimum value of 1. Maximum value of 60.

Required: Yes

### LookBackAvailablePeriods

The integer that describes how many budget periods in your `BudgetAdjustmentPeriod` are included in the calculation of your current `BudgetLimit`. If the first budget period in your `BudgetAdjustmentPeriod` has no cost data, then that budget period isn't included in the average that determines your budget limit.

For example, if you set `BudgetAdjustmentPeriod` as 4 quarters, but your account had no cost data in the first quarter, then only the last three quarters are included in the calculation. In this scenario, `LookBackAvailablePeriods` returns 3.

You can't set your own `LookBackAvailablePeriods`. The value is automatically calculated from the `BudgetAdjustmentPeriod` and your historical cost data.

Type: Integer

Valid Range: Minimum value of 1. Maximum value of 60.



Required: No

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

# IamActionDefinition

Service: AWS Budgets

The AWS Identity and Access Management (IAM) action definition details.

## Contents

### PolicyArn

The Amazon Resource Name (ARN) of the policy to be attached.

Type: String

Length Constraints: Minimum length of 25. Maximum length of 684.

Pattern: `^arn:(aws|aws-cn|aws-us-gov|us-iso-east-1|us-isob-east-1):iam::(\d{12}|aws):policy(\u002F[\u0021-\u007F]+\u002F|\u002F)[\w+=,.\e-]+$`

Required: Yes

### Groups

A list of groups to be attached. There must be at least one group.

Type: Array of strings

Array Members: Minimum number of 1 item. Maximum number of 100 items.

Length Constraints: Minimum length of 1. Maximum length of 640.

Pattern: `^([\u0021-\u007F]+\u002F)?[\w+=,.\e-]+$`

Required: No

### Roles

A list of roles to be attached. There must be at least one role.

Type: Array of strings

Array Members: Minimum number of 1 item. Maximum number of 100 items.

Length Constraints: Minimum length of 1. Maximum length of 576.

Pattern: `^([\u0021-\u007F]+\u002F)?[\w+=,.\e-]+$`

Required: No

## Users

A list of users to be attached. There must be at least one user.

Type: Array of strings

Array Members: Minimum number of 1 item. Maximum number of 100 items.

Length Constraints: Minimum length of 1. Maximum length of 576.

Pattern: `^([\u0021-\u007F]+\u002F)?[\w+=, .@- ]+$`

Required: No

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

# Notification

Service: AWS Budgets

A notification that's associated with a budget. A budget can have up to ten notifications.

Each notification must have at least one subscriber. A notification can have one SNS subscriber and up to 10 email subscribers, for a total of 11 subscribers.

For example, if you have a budget for 200 dollars and you want to be notified when you go over 160 dollars, create a notification with the following parameters:

- A `notificationType` of ACTUAL
- A `thresholdType` of PERCENTAGE
- A `comparisonOperator` of GREATER\_THAN
- A notification threshold of 80

## Contents

### ComparisonOperator

The comparison that's used for this notification.

Type: String

Valid Values: GREATER\_THAN | LESS\_THAN | EQUAL\_TO

Required: Yes

### NotificationType

Specifies whether the notification is for how much you have spent (ACTUAL) or for how much that you're forecasted to spend (FORECASTED).

Type: String

Valid Values: ACTUAL | FORECASTED

Required: Yes

## Threshold

The threshold that's associated with a notification. Thresholds are always a percentage, and many customers find value being alerted between 50% - 200% of the budgeted amount. The maximum limit for your threshold is 1,000,000% above the budgeted amount.

Type: Double

Valid Range: Minimum value of 0. Maximum value of 15000000000000.

Required: Yes

## NotificationState

Specifies whether this notification is in alarm. If a budget notification is in the ALARM state, you passed the set threshold for the budget.

Type: String

Valid Values: OK | ALARM

Required: No

## ThresholdType

The type of threshold for a notification. For ABSOLUTE\_VALUE thresholds, AWS notifies you when you go over or are forecasted to go over your total cost threshold. For PERCENTAGE thresholds, AWS notifies you when you go over or are forecasted to go over a certain percentage of your forecasted spend. For example, if you have a budget for 200 dollars and you have a PERCENTAGE threshold of 80%, AWS notifies you when you go over 160 dollars.

Type: String

Valid Values: PERCENTAGE | ABSOLUTE\_VALUE

Required: No

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)

- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

# NotificationWithSubscribers

Service: AWS Budgets

A notification with subscribers. A notification can have one SNS subscriber and up to 10 email subscribers, for a total of 11 subscribers.

## Contents

### Notification

The notification that's associated with a budget.

Type: [Notification](#) object

Required: Yes

### Subscribers

A list of subscribers who are subscribed to this notification.

Type: Array of [Subscriber](#) objects

Array Members: Minimum number of 1 item. Maximum number of 11 items.

Required: Yes

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

# ResourceTag

Service: AWS Budgets

The tag structure that contains a tag key and value.

## Contents

### Key

The key that's associated with the tag.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Required: Yes

### Value

The value that's associated with the tag.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 256.

Required: Yes

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)



# ScpActionDefinition

Service: AWS Budgets

The service control policies (SCP) action definition details.

## Contents

### PolicyId

The policy ID attached.

Type: String

Length Constraints: Minimum length of 10. Maximum length of 130.

Pattern: `^p-[0-9a-zA-Z_]{8,128}$`

Required: Yes

### TargetIds

A list of target IDs.

Type: Array of strings

Array Members: Minimum number of 1 item. Maximum number of 100 items.

Length Constraints: Minimum length of 12. Maximum length of 68.

Pattern: `^(ou-[0-9a-z]{4,32}-[a-z0-9]{8,32}$)|(\d{12})`

Required: Yes

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)



# Spend

Service: AWS Budgets

The amount of cost or usage that's measured for a budget.

*Cost example:* A Spend for 3 USD of costs has the following parameters:

- An Amount of 3
- A Unit of USD

*Usage example:* A Spend for 3 GB of S3 usage has the following parameters:

- An Amount of 3
- A Unit of GB

## Contents

### Amount

The cost or usage amount that's associated with a budget forecast, actual spend, or budget threshold.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 2147483647.

Pattern: (`[0-9]*\.`)?`[0-9]+`

Required: Yes

### Unit

The unit of measurement that's used for the budget forecast, actual spend, or budget threshold.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 2147483647.

Pattern: `.*`

Required: Yes

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

# SsmActionDefinition

Service: AWS Budgets

The AWS Systems Manager (SSM) action definition details.

## Contents

### ActionSubType

The action subType.

Type: String

Valid Values: STOP\_EC2\_INSTANCES | STOP\_RDS\_INSTANCES

Required: Yes

### InstanceIds

The EC2 and RDS instance IDs.

Type: Array of strings

Array Members: Minimum number of 1 item. Maximum number of 100 items.

Length Constraints: Minimum length of 1. Maximum length of 63.

Pattern: `^i-(\w{8}|\w{17})$|^[a-zA-Z]( [\w-]{0,61}\w)?$`

Required: Yes

### Region

The Region to run the SSM document.

Type: String

Length Constraints: Minimum length of 9. Maximum length of 20.

Pattern: `^\w{2}-\w+(-\w+)?-\d$`

Required: Yes

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

# Subscriber

Service: AWS Budgets

The subscriber to a budget notification. The subscriber consists of a subscription type and either an Amazon SNS topic or an email address.

For example, an email subscriber has the following parameters:

- A `subscriptionType` of EMAIL
- An address of `example@example.com`

## Contents

### Address

The address that AWS sends budget notifications to, either an SNS topic or an email.

When you create a subscriber, the value of `Address` can't contain line breaks.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 2147483647.

Pattern: `(.*[\n\r\t\f\ ]?)*`

Required: Yes

### SubscriptionType

The type of notification that AWS sends to a subscriber.

Type: String

Valid Values: SNS | EMAIL

Required: Yes

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)



## TimePeriod

Service: AWS Budgets

The period of time that's covered by a budget. The period has a start date and an end date. The start date must come before the end date. There are no restrictions on the end date.

### Contents

#### End

The end date for a budget. If you didn't specify an end date, AWS set your end date to `06/15/87 00:00 UTC`. The defaults are the same for the AWS Billing and Cost Management console and the API.

After the end date, AWS deletes the budget and all the associated notifications and subscribers. You can change your end date with the `UpdateBudget` operation.

Type: Timestamp

Required: No

#### Start

The start date for a budget. If you created your budget and didn't specify a start date, AWS defaults to the start of your chosen time period (`DAILY`, `MONTHLY`, `QUARTERLY`, or `ANNUALLY`). For example, if you created your budget on January 24, 2018, chose `DAILY`, and didn't set a start date, AWS set your start date to `01/24/18 00:00 UTC`. If you chose `MONTHLY`, AWS set your start date to `01/01/18 00:00 UTC`. The defaults are the same for the AWS Billing and Cost Management console and the API.

You can change your start date with the `UpdateBudget` operation.

Type: Timestamp

Required: No

### See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

## AWS Cost Optimization Hub

The following data types are supported by AWS Cost Optimization Hub:

- [AccountEnrollmentStatus](#)
- [BlockStoragePerformanceConfiguration](#)
- [ComputeConfiguration](#)
- [ComputeSavingsPlans](#)
- [ComputeSavingsPlansConfiguration](#)
- [DbInstanceConfiguration](#)
- [EbsVolume](#)
- [EbsVolumeConfiguration](#)
- [Ec2AutoScalingGroup](#)
- [Ec2AutoScalingGroupConfiguration](#)
- [Ec2Instance](#)
- [Ec2InstanceConfiguration](#)
- [Ec2InstanceSavingsPlans](#)
- [Ec2InstanceSavingsPlansConfiguration](#)
- [Ec2ReservedInstances](#)
- [Ec2ReservedInstancesConfiguration](#)
- [EcsService](#)
- [EcsServiceConfiguration](#)
- [ElastiCacheReservedInstances](#)
- [ElastiCacheReservedInstancesConfiguration](#)
- [EstimatedDiscounts](#)
- [Filter](#)
- [InstanceConfiguration](#)

- [LambdaFunction](#)
- [LambdaFunctionConfiguration](#)
- [OpenSearchReservedInstances](#)
- [OpenSearchReservedInstancesConfiguration](#)
- [OrderBy](#)
- [RdsDbInstance](#)
- [RdsDbInstanceConfiguration](#)
- [RdsDbInstanceStorage](#)
- [RdsDbInstanceStorageConfiguration](#)
- [RdsReservedInstances](#)
- [RdsReservedInstancesConfiguration](#)
- [Recommendation](#)
- [RecommendationSummary](#)
- [RedshiftReservedInstances](#)
- [RedshiftReservedInstancesConfiguration](#)
- [ReservedInstancesCostCalculation](#)
- [ReservedInstancesPricing](#)
- [ResourceCostCalculation](#)
- [ResourceDetails](#)
- [ResourcePricing](#)
- [SageMakerSavingsPlans](#)
- [SageMakerSavingsPlansConfiguration](#)
- [SavingsPlansCostCalculation](#)
- [SavingsPlansPricing](#)
- [StorageConfiguration](#)
- [Tag](#)
- [Usage](#)
- [ValidationExceptionDetail](#)

# AccountEnrollmentStatus

Service: AWS Cost Optimization Hub

Describes the enrollment status of an organization's member accounts in Cost Optimization Hub.

## Contents

### accountId

The AWS account ID.

Type: String

Pattern: [0-9]{12}

Required: No

### createdTimestamp

The time when the account enrollment status was created.

Type: Timestamp

Required: No

### lastUpdatedTimestamp

The time when the account enrollment status was last updated.

Type: Timestamp

Required: No

### status

The account enrollment status.

Type: String

Valid Values: Active | Inactive

Required: No

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

# BlockStoragePerformanceConfiguration

Service: AWS Cost Optimization Hub

Describes the Amazon Elastic Block Store performance configuration of the current and recommended resource configuration for a recommendation.

## Contents

### iops

The number of I/O operations per second.

Type: Double

Required: No

### throughput

The throughput that the volume supports.

Type: Double

Required: No

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

# ComputeConfiguration

Service: AWS Cost Optimization Hub

Describes the performance configuration for compute services such as Amazon EC2, Lambda, and ECS.

## Contents

### architecture

The architecture of the resource.

Type: String

Required: No

### memorySizeInMB

The memory size of the resource.

Type: Integer

Required: No

### platform

The platform of the resource. The platform is the specific combination of operating system, license model, and software on an instance.

Type: String

Required: No

### vCpu

The number of vCPU cores in the resource.

Type: Double

Required: No

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)



# ComputeSavingsPlans

Service: AWS Cost Optimization Hub

The Compute Savings Plans recommendation details.

## Contents

### configuration

Configuration details of the Compute Savings Plans to purchase.

Type: [ComputeSavingsPlansConfiguration](#) object

Required: No

### costCalculation

Cost impact of the Savings Plans purchase recommendation.

Type: [SavingsPlansCostCalculation](#) object

Required: No

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

# ComputeSavingsPlansConfiguration

Service: AWS Cost Optimization Hub

The Compute Savings Plans configuration used for recommendations.

## Contents

### accountScope

The account scope that you want your recommendations for. AWS calculates recommendations including the management account and member accounts if the value is set to PAYER. If the value is LINKED, recommendations are calculated for individual member accounts only.

Type: String

Required: No

### hourlyCommitment

The hourly commitment for the Savings Plans type.

Type: String

Required: No

### paymentOption

The payment option for the commitment.

Type: String

Required: No

### term

The Savings Plans recommendation term in years.

Type: String

Required: No

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

# DbInstanceConfiguration

Service: AWS Cost Optimization Hub

The DB instance configuration used for recommendations.

## Contents

### dbInstanceClass

The DB instance class of the DB instance.

Type: String

Required: No

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

# EbsVolume

Service: AWS Cost Optimization Hub

Describes the Amazon Elastic Block Store volume configuration of the current and recommended resource configuration for a recommendation.

## Contents

### configuration

The Amazon Elastic Block Store volume configuration used for recommendations.

Type: [EbsVolumeConfiguration](#) object

Required: No

### costCalculation

Cost impact of the recommendation.

Type: [ResourceCostCalculation](#) object

Required: No

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

# EbsVolumeConfiguration

Service: AWS Cost Optimization Hub

The Amazon Elastic Block Store volume configuration used for recommendations.

## Contents

### attachmentState

The Amazon Elastic Block Store attachment state.

Type: String

Required: No

### performance

The Amazon Elastic Block Store performance configuration.

Type: [BlockStoragePerformanceConfiguration](#) object

Required: No

### storage

The disk storage of the Amazon Elastic Block Store volume.

Type: [StorageConfiguration](#) object

Required: No

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

# Ec2AutoScalingGroup

Service: AWS Cost Optimization Hub

The EC2 Auto Scaling group recommendation details.

## Contents

### configuration

The EC2 Auto Scaling group configuration used for recommendations.

Type: [Ec2AutoScalingGroupConfiguration](#) object

Required: No

### costCalculation

Cost impact of the recommendation.

Type: [ResourceCostCalculation](#) object

Required: No

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

# Ec2AutoScalingGroupConfiguration

Service: AWS Cost Optimization Hub

The EC2 auto scaling group configuration used for recommendations.

## Contents

### instance

Details about the instance.

Type: [InstanceConfiguration](#) object

Required: No

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)



## Ec2Instance

Service: AWS Cost Optimization Hub

Describes the EC2 instance configuration of the current and recommended resource configuration for a recommendation.

### Contents

#### configuration

The EC2 instance configuration used for recommendations.

Type: [Ec2InstanceConfiguration](#) object

Required: No

#### costCalculation

Cost impact of the recommendation.

Type: [ResourceCostCalculation](#) object

Required: No

### See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

# Ec2InstanceConfiguration

Service: AWS Cost Optimization Hub

The EC2 instance configuration used for recommendations.

## Contents

### instance

Details about the instance.

Type: [InstanceConfiguration](#) object

Required: No

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

# Ec2InstanceSavingsPlans

Service: AWS Cost Optimization Hub

The EC2 instance Savings Plans recommendation details.

## Contents

### configuration

The EC2 instance Savings Plans configuration used for recommendations.

Type: [Ec2InstanceSavingsPlansConfiguration](#) object

Required: No

### costCalculation

Cost impact of the Savings Plans purchase recommendation.

Type: [SavingsPlansCostCalculation](#) object

Required: No

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

# Ec2InstanceSavingsPlansConfiguration

Service: AWS Cost Optimization Hub

The EC2 instance Savings Plans configuration used for recommendations.

## Contents

### **accountScope**

The account scope that you want your recommendations for.

Type: String

Required: No

### **hourlyCommitment**

The hourly commitment for the Savings Plans type.

Type: String

Required: No

### **instanceFamily**

The instance family of the recommended Savings Plan.

Type: String

Required: No

### **paymentOption**

The payment option for the commitment.

Type: String

Required: No

### **savingsPlansRegion**

The AWS Region of the commitment.

Type: String

Required: No

**term**

The Savings Plans recommendation term in years.

Type: String

Required: No

**See Also**

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

# Ec2ReservedInstances

Service: AWS Cost Optimization Hub

The EC2 reserved instances recommendation details.

## Contents

### configuration

The EC2 reserved instances configuration used for recommendations.

Type: [Ec2ReservedInstancesConfiguration](#) object

Required: No

### costCalculation

Cost impact of the purchase recommendation.

Type: [ReservedInstancesCostCalculation](#) object

Required: No

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

## Ec2ReservedInstancesConfiguration

Service: AWS Cost Optimization Hub

The EC2 reserved instances configuration used for recommendations.

### Contents

#### **accountScope**

The account scope that you want your recommendations for.

Type: String

Required: No

#### **currentGeneration**

Determines whether the recommendation is for a current generation instance.

Type: String

Required: No

#### **instanceFamily**

The instance family of the recommended reservation.

Type: String

Required: No

#### **instanceType**

The type of instance that AWS recommends.

Type: String

Required: No

#### **monthlyRecurringCost**

How much purchasing reserved instances costs you on a monthly basis.

Type: String

Required: No

**normalizedUnitsToPurchase**

The number of normalized units that AWS recommends that you purchase.

Type: String

Required: No

**numberOfInstancesToPurchase**

The number of instances that AWS recommends that you purchase.

Type: String

Required: No

**offeringClass**

Indicates whether the recommendation is for standard or convertible reservations.

Type: String

Required: No

**paymentOption**

The payment option for the commitment.

Type: String

Required: No

**platform**

The platform of the recommended reservation. The platform is the specific combination of operating system, license model, and software on an instance.

Type: String

Required: No

**reservedInstancesRegion**

The AWS Region of the commitment.

Type: String



Required: No

### **service**

The service that you want your recommendations for.

Type: String

Required: No

### **sizeFlexEligible**

Determines whether the recommendation is size flexible.

Type: Boolean

Required: No

### **tenancy**

Determines whether the recommended reservation is dedicated or shared.

Type: String

Required: No

### **term**

The reserved instances recommendation term in years.

Type: String

Required: No

### **upfrontCost**

How much purchasing this instance costs you upfront.

Type: String

Required: No

## **See Also**

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

## EcsService

Service: AWS Cost Optimization Hub

The ECS service recommendation details.

### Contents

#### configuration

The ECS service configuration used for recommendations.

Type: [EcsServiceConfiguration](#) object

Required: No

#### costCalculation

Cost impact of the recommendation.

Type: [ResourceCostCalculation](#) object

Required: No

### See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

# EcsServiceConfiguration

Service: AWS Cost Optimization Hub

The ECS service configuration used for recommendations.

## Contents

### compute

Details about the compute configuration.

Type: [ComputeConfiguration](#) object

Required: No

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

# ElastiCacheReservedInstances

Service: AWS Cost Optimization Hub

The ElastiCache reserved instances recommendation details.

## Contents

### configuration

The ElastiCache reserved instances configuration used for recommendations.

Type: [ElastiCacheReservedInstancesConfiguration](#) object

Required: No

### costCalculation

Cost impact of the purchase recommendation.

Type: [ReservedInstancesCostCalculation](#) object

Required: No

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

# ElastiCacheReservedInstancesConfiguration

Service: AWS Cost Optimization Hub

The ElastiCache reserved instances configuration used for recommendations.

## Contents

### **accountScope**

The account scope that you want your recommendations for.

Type: String

Required: No

### **currentGeneration**

Determines whether the recommendation is for a current generation instance.

Type: String

Required: No

### **instanceFamily**

The instance family of the recommended reservation.

Type: String

Required: No

### **instanceType**

The type of instance that AWS recommends.

Type: String

Required: No

### **monthlyRecurringCost**

How much purchasing reserved instances costs you on a monthly basis.

Type: String

Required: No

**normalizedUnitsToPurchase**

The number of normalized units that AWS recommends that you purchase.

Type: String

Required: No

**numberOfInstancesToPurchase**

The number of instances that AWS recommends that you purchase.

Type: String

Required: No

**paymentOption**

The payment option for the commitment.

Type: String

Required: No

**reservedInstancesRegion**

The AWS Region of the commitment.

Type: String

Required: No

**service**

The service that you want your recommendations for.

Type: String

Required: No

**sizeFlexEligible**

Determines whether the recommendation is size flexible.

Type: Boolean

Required: No

**term**

The reserved instances recommendation term in years.

Type: String

Required: No

**upfrontCost**

How much purchasing this instance costs you upfront.

Type: String

Required: No

**See Also**

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)



# EstimatedDiscounts

Service: AWS Cost Optimization Hub

Estimated discount details of the current and recommended resource configuration for a recommendation.

## Contents

### otherDiscount

Estimated other discounts include all discounts that are not itemized. Itemized discounts include `reservedInstanceDiscount` and `savingsPlansDiscount`.

Type: Double

Required: No

### reservedInstancesDiscount

Estimated reserved instance discounts.

Type: Double

Required: No

### savingsPlansDiscount

Estimated Savings Plans discounts.

Type: Double

Required: No

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

## Filter

Service: AWS Cost Optimization Hub

Describes a filter that returns a more specific list of recommendations. Filters recommendations by different dimensions.

### Contents

#### **accountIds**

The account that the recommendation is for.

Type: Array of strings

Array Members: Minimum number of 1 item. Maximum number of 100 items.

Pattern: [0-9]{12}

Required: No

#### **actionTypes**

The type of action you can take by adopting the recommendation.

Type: Array of strings

Array Members: Minimum number of 1 item. Maximum number of 100 items.

Valid Values: Rightsize | Stop | Upgrade | PurchaseSavingsPlans |  
PurchaseReservedInstances | MigrateToGraviton

Required: No

#### **implementationEfforts**

The effort required to implement the recommendation.

Type: Array of strings

Array Members: Minimum number of 1 item. Maximum number of 100 items.

Valid Values: VeryLow | Low | Medium | High | VeryHigh

Required: No

**recommendationIds**

The IDs for the recommendations.

Type: Array of strings

Array Members: Minimum number of 1 item. Maximum number of 100 items.

Required: No

**regions**

The AWS Region of the resource.

Type: Array of strings

Array Members: Minimum number of 1 item. Maximum number of 100 items.

Required: No

**resourceArns**

The Amazon Resource Name (ARN) of the recommendation.

Type: Array of strings

Array Members: Minimum number of 1 item. Maximum number of 100 items.

Required: No

**resourceIds**

The resource ID of the recommendation.

Type: Array of strings

Array Members: Minimum number of 1 item. Maximum number of 100 items.

Required: No

**resourceTypes**

The resource type of the recommendation.

Type: Array of strings

Array Members: Minimum number of 1 item. Maximum number of 100 items.

Valid Values: Ec2Instance | LambdaFunction | EbsVolume | EcsService | Ec2AutoScalingGroup | Ec2InstanceSavingsPlans | ComputeSavingsPlans | SageMakerSavingsPlans | Ec2ReservedInstances | RdsReservedInstances | OpenSearchReservedInstances | RedshiftReservedInstances | ElastiCacheReservedInstances | RdsDbInstanceStorage | RdsDbInstance

Required: No

### **restartNeeded**

Whether or not implementing the recommendation requires a restart.

Type: Boolean

Required: No

### **rollbackPossible**

Whether or not implementing the recommendation can be rolled back.

Type: Boolean

Required: No

### **tags**

A list of tags assigned to the recommendation.

Type: Array of [Tag](#) objects

Array Members: Minimum number of 1 item. Maximum number of 100 items.

Required: No

## **See Also**

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)



# InstanceConfiguration

Service: AWS Cost Optimization Hub

The Instance configuration used for recommendations.

## Contents

### type

Details about the type.

Type: String

Required: No

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

# LambdaFunction

Service: AWS Cost Optimization Hub

The Lambda function recommendation details.

## Contents

### configuration

The Lambda function configuration used for recommendations.

Type: [LambdaFunctionConfiguration](#) object

Required: No

### costCalculation

Cost impact of the recommendation.

Type: [ResourceCostCalculation](#) object

Required: No

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

# LambdaFunctionConfiguration

Service: AWS Cost Optimization Hub

The Lambda function configuration used for recommendations.

## Contents

### compute

Details about the compute configuration.

Type: [ComputeConfiguration](#) object

Required: No

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)



# OpenSearchReservedInstances

Service: AWS Cost Optimization Hub

The OpenSearch reserved instances recommendation details.

## Contents

### configuration

The OpenSearch reserved instances configuration used for recommendations.

Type: [OpenSearchReservedInstancesConfiguration](#) object

Required: No

### costCalculation

Cost impact of the purchase recommendation.

Type: [ReservedInstancesCostCalculation](#) object

Required: No

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

# OpenSearchReservedInstancesConfiguration

Service: AWS Cost Optimization Hub

The OpenSearch reserved instances configuration used for recommendations.

## Contents

### **accountScope**

The account scope that you want your recommendations for.

Type: String

Required: No

### **currentGeneration**

Determines whether the recommendation is for a current generation instance.

Type: String

Required: No

### **instanceType**

The type of instance that AWS recommends.

Type: String

Required: No

### **monthlyRecurringCost**

How much purchasing reserved instances costs you on a monthly basis.

Type: String

Required: No

### **normalizedUnitsToPurchase**

The number of normalized units that AWS recommends that you purchase.

Type: String

Required: No

**numberOfInstancesToPurchase**

The number of instances that AWS recommends that you purchase.

Type: String

Required: No

**paymentOption**

The payment option for the commitment.

Type: String

Required: No

**reservedInstancesRegion**

The AWS Region of the commitment.

Type: String

Required: No

**service**

The service that you want your recommendations for.

Type: String

Required: No

**sizeFlexEligible**

Determines whether the recommendation is size flexible.

Type: Boolean

Required: No

**term**

The reserved instances recommendation term in years.

Type: String

Required: No

## upfrontCost

How much purchasing this instance costs you upfront.

Type: String

Required: No

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

# OrderBy

Service: AWS Cost Optimization Hub

Defines how rows will be sorted in the response.

## Contents

### dimension

Sorts by dimension values.

Type: String

Required: No

### order

The order that's used to sort the data.

Type: String

Valid Values: Asc | Desc

Required: No

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

# RdsDbInstance

Service: AWS Cost Optimization Hub

Contains the details of an Amazon RDS DB instance.

## Contents

### configuration

The Amazon RDS DB instance configuration used for recommendations.

Type: [RdsDbInstanceConfiguration](#) object

Required: No

### costCalculation

Cost impact of the resource recommendation.

Type: [ResourceCostCalculation](#) object

Required: No

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

# RdsDbInstanceConfiguration

Service: AWS Cost Optimization Hub

The Amazon RDS DB instance configuration used for recommendations.

## Contents

### instance

Details about the instance configuration.

Type: [DbInstanceConfiguration](#) object

Required: No

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

# RdsDbInstanceStorage

Service: AWS Cost Optimization Hub

Contains the details of an Amazon RDS DB instance storage.

## Contents

### configuration

The Amazon RDS DB instance storage configuration used for recommendations.

Type: [RdsDbInstanceStorageConfiguration](#) object

Required: No

### costCalculation

Cost impact of the resource recommendation.

Type: [ResourceCostCalculation](#) object

Required: No

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)



# RdsDbInstanceStorageConfiguration

Service: AWS Cost Optimization Hub

The Amazon RDS DB instance storage configuration used for recommendations.

## Contents

### **allocatedStorageInGb**

The new amount of storage in GB to allocate for the DB instance.

Type: Double

Required: No

### **iops**

The amount of Provisioned IOPS (input/output operations per second) to be initially allocated for the DB instance.

Type: Double

Required: No

### **storageThroughput**

The storage throughput for the DB instance.

Type: Double

Required: No

### **storageType**

The storage type to associate with the DB instance.

Type: String

Required: No

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

# RdsReservedInstances

Service: AWS Cost Optimization Hub

The RDS reserved instances recommendation details.

## Contents

### configuration

The RDS reserved instances configuration used for recommendations.

Type: [RdsReservedInstancesConfiguration](#) object

Required: No

### costCalculation

Cost impact of the purchase recommendation.

Type: [ReservedInstancesCostCalculation](#) object

Required: No

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

# RdsReservedInstancesConfiguration

Service: AWS Cost Optimization Hub

The RDS reserved instances configuration used for recommendations.

## Contents

### **accountScope**

The account scope that you want your recommendations for.

Type: String

Required: No

### **currentGeneration**

Determines whether the recommendation is for a current generation instance.

Type: String

Required: No

### **databaseEdition**

The database edition that the recommended reservation supports.

Type: String

Required: No

### **databaseEngine**

The database engine that the recommended reservation supports.

Type: String

Required: No

### **deploymentOption**

Determines whether the recommendation is for a reservation in a single Availability Zone or a reservation with a backup in a second Availability Zone.

Type: String

Required: No

### **instanceFamily**

The instance family of the recommended reservation.

Type: String

Required: No

### **instanceType**

The type of instance that AWS recommends.

Type: String

Required: No

### **licenseModel**

The license model that the recommended reservation supports.

Type: String

Required: No

### **monthlyRecurringCost**

How much purchasing this instance costs you on a monthly basis.

Type: String

Required: No

### **normalizedUnitsToPurchase**

The number of normalized units that AWS recommends that you purchase.

Type: String

Required: No

### **numberOfInstancesToPurchase**

The number of instances that AWS recommends that you purchase.

Type: String

Required: No

### **paymentOption**

The payment option for the commitment.

Type: String

Required: No

### **reservedInstancesRegion**

The AWS Region of the commitment.

Type: String

Required: No

### **service**

The service that you want your recommendations for.

Type: String

Required: No

### **sizeFlexEligible**

Determines whether the recommendation is size flexible.

Type: Boolean

Required: No

### **term**

The reserved instances recommendation term in years.

Type: String

Required: No

### **upfrontCost**

How much purchasing this instance costs you upfront.

Type: String

Required: No

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

## Recommendation

Service: AWS Cost Optimization Hub

Describes a recommendation.

### Contents

#### **accountId**

The account that the recommendation is for.

Type: String

Required: No

#### **actionType**

The type of tasks that can be carried out by this action.

Type: String

Required: No

#### **currencyCode**

The currency code used for the recommendation.

Type: String

Required: No

#### **currentResourceSummary**

Describes the current resource.

Type: String

Required: No

#### **currentResourceType**

The current resource type.

Type: String

Required: No



**estimatedMonthlyCost**

The estimated monthly cost of the current resource. For Reserved Instances and Savings Plans, it refers to the cost for eligible usage.

Type: Double

Required: No

**estimatedMonthlySavings**

The estimated monthly savings amount for the recommendation.

Type: Double

Required: No

**estimatedSavingsPercentage**

The estimated savings percentage relative to the total cost over the cost calculation lookback period.

Type: Double

Required: No

**implementationEffort**

The effort required to implement the recommendation.

Type: String

Required: No

**lastRefreshTimestamp**

The time when the recommendation was last generated.

Type: Timestamp

Required: No

**recommendationId**

The ID for the recommendation.

Type: String

Required: No

### **recommendationLookbackPeriodInDays**

The lookback period that's used to generate the recommendation.

Type: Integer

Required: No

### **recommendedResourceSummary**

Describes the recommended resource.

Type: String

Required: No

### **recommendedResourceType**

The recommended resource type.

Type: String

Required: No

### **region**

The AWS Region of the resource.

Type: String

Required: No

### **resourceArn**

The Amazon Resource Name (ARN) for the recommendation.

Type: String

Required: No

### **resourceId**

The resource ID for the recommendation.

Type: String

Required: No

### **restartNeeded**

Whether or not implementing the recommendation requires a restart.

Type: Boolean

Required: No

### **rollbackPossible**

Whether or not implementing the recommendation can be rolled back.

Type: Boolean

Required: No

### **source**

The source of the recommendation.

Type: String

Valid Values: `ComputeOptimizer` | `CostExplorer`

Required: No

### **tags**

A list of tags assigned to the recommendation.

Type: Array of [Tag](#) objects

Array Members: Minimum number of 1 item. Maximum number of 100 items.

Required: No

## **See Also**

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)

- [AWS SDK for Ruby V3](#)

# RecommendationSummary

Service: AWS Cost Optimization Hub

The summary of rightsizing recommendations, including de-duped savings from all types of recommendations.

## Contents

### **estimatedMonthlySavings**

The estimated total savings resulting from modifications, on a monthly basis.

Type: Double

Required: No

### **group**

The grouping of recommendations.

Type: String

Required: No

### **recommendationCount**

The total number of instance recommendations.

Type: Integer

Required: No

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

# RedshiftReservedInstances

Service: AWS Cost Optimization Hub

The Redshift reserved instances recommendation details.

## Contents

### configuration

The Redshift reserved instances configuration used for recommendations.

Type: [RedshiftReservedInstancesConfiguration](#) object

Required: No

### costCalculation

Cost impact of the purchase recommendation.

Type: [ReservedInstancesCostCalculation](#) object

Required: No

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

# RedshiftReservedInstancesConfiguration

Service: AWS Cost Optimization Hub

The Redshift reserved instances configuration used for recommendations.

## Contents

### **accountScope**

The account scope that you want your recommendations for.

Type: String

Required: No

### **currentGeneration**

Determines whether the recommendation is for a current generation instance.

Type: String

Required: No

### **instanceFamily**

The instance family of the recommended reservation.

Type: String

Required: No

### **instanceType**

The type of instance that AWS recommends.

Type: String

Required: No

### **monthlyRecurringCost**

How much purchasing reserved instances costs you on a monthly basis.

Type: String

Required: No

**normalizedUnitsToPurchase**

The number of normalized units that AWS recommends that you purchase.

Type: String

Required: No

**numberOfInstancesToPurchase**

The number of instances that AWS recommends that you purchase.

Type: String

Required: No

**paymentOption**

The payment option for the commitment.

Type: String

Required: No

**reservedInstancesRegion**

The AWS Region of the commitment.

Type: String

Required: No

**service**

The service that you want your recommendations for.

Type: String

Required: No

**sizeFlexEligible**

Determines whether the recommendation is size flexible.

Type: Boolean

Required: No



**term**

The reserved instances recommendation term in years.

Type: String

Required: No

**upfrontCost**

How much purchasing this instance costs you upfront.

Type: String

Required: No

**See Also**

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

# ReservedInstancesCostCalculation

Service: AWS Cost Optimization Hub

Cost impact of the purchase recommendation.

## Contents

### pricing

Pricing details of the purchase recommendation.

Type: [ReservedInstancesPricing](#) object

Required: No

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

# ReservedInstancesPricing

Service: AWS Cost Optimization Hub

Pricing details for your recommended reserved instance.

## Contents

### **estimatedMonthlyAmortizedReservationCost**

The estimated cost of your recurring monthly fees for the recommended reserved instance across the month.

Type: Double

Required: No

### **estimatedOnDemandCost**

The remaining On-Demand cost estimated to not be covered by the recommended reserved instance, over the length of the lookback period.

Type: Double

Required: No

### **monthlyReservationEligibleCost**

The cost of paying for the recommended reserved instance monthly.

Type: Double

Required: No

### **savingsPercentage**

The savings percentage relative to the total On-Demand costs that are associated with this instance.

Type: Double

Required: No

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

# ResourceCostCalculation

Service: AWS Cost Optimization Hub

Cost impact of the resource recommendation.

## Contents

### pricing

Pricing details of the resource recommendation.

Type: [ResourcePricing](#) object

Required: No

### usages

Usage details of the resource recommendation.

Type: Array of [Usage](#) objects

Required: No

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

## ResourceDetails

Service: AWS Cost Optimization Hub

Contains detailed information about the specified resource.

### Contents

#### Important

This data type is a UNION, so only one of the following members can be specified when used or returned.

#### **computeSavingsPlans**

The Compute Savings Plans recommendation details.

Type: [ComputeSavingsPlans](#) object

Required: No

#### **ebsVolume**

The Amazon Elastic Block Store volume recommendation details.

Type: [EbsVolume](#) object

Required: No

#### **ec2AutoScalingGroup**

The EC2 Auto Scaling group recommendation details.

Type: [Ec2AutoScalingGroup](#) object

Required: No

#### **ec2Instance**

The EC2 instance recommendation details.

Type: [Ec2Instance](#) object

Required: No

## **ec2InstanceSavingsPlans**

The EC2 instance Savings Plans recommendation details.

Type: [Ec2InstanceSavingsPlans](#) object

Required: No

## **ec2ReservedInstances**

The EC2 reserved instances recommendation details.

Type: [Ec2ReservedInstances](#) object

Required: No

## **ecsService**

The ECS service recommendation details.

Type: [EcsService](#) object

Required: No

## **elastiCacheReservedInstances**

The ElastiCache reserved instances recommendation details.

Type: [ElastiCacheReservedInstances](#) object

Required: No

## **lambdaFunction**

The Lambda function recommendation details.

Type: [LambdaFunction](#) object

Required: No

## **openSearchReservedInstances**

The OpenSearch reserved instances recommendation details.

Type: [OpenSearchReservedInstances](#) object

Required: No

## **rdsDbInstance**

The DB instance recommendation details.

Type: [RdsDbInstance](#) object

Required: No

## **rdsDbInstanceStorage**

The DB instance storage recommendation details.

Type: [RdsDbInstanceStorage](#) object

Required: No

## **rdsReservedInstances**

The RDS reserved instances recommendation details.

Type: [RdsReservedInstances](#) object

Required: No

## **redshiftReservedInstances**

The Redshift reserved instances recommendation details.

Type: [RedshiftReservedInstances](#) object

Required: No

## **sageMakerSavingsPlans**

The SageMaker Savings Plans recommendation details.

Type: [SageMakerSavingsPlans](#) object

Required: No

## **See Also**

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)



- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

# ResourcePricing

Service: AWS Cost Optimization Hub

Contains pricing information about the specified resource.

## Contents

### **estimatedCostAfterDiscounts**

The savings estimate incorporating all discounts with AWS, such as Reserved Instances and Savings Plans.

Type: Double

Required: No

### **estimatedCostBeforeDiscounts**

The savings estimate using AWS public pricing without incorporating any discounts.

Type: Double

Required: No

### **estimatedDiscounts**

The estimated discounts for a recommendation.

Type: [EstimatedDiscounts](#) object

Required: No

### **estimatedNetUnusedAmortizedCommitments**

The estimated net unused amortized commitment for the recommendation.

Type: Double

Required: No

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

# SageMakerSavingsPlans

Service: AWS Cost Optimization Hub

The SageMaker Savings Plans recommendation details.

## Contents

### configuration

The SageMaker Savings Plans configuration used for recommendations.

Type: [SageMakerSavingsPlansConfiguration](#) object

Required: No

### costCalculation

Cost impact of the Savings Plans purchase recommendation.

Type: [SavingsPlansCostCalculation](#) object

Required: No

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

# SageMakerSavingsPlansConfiguration

Service: AWS Cost Optimization Hub

The SageMaker Savings Plans configuration used for recommendations.

## Contents

### **accountScope**

The account scope that you want your recommendations for.

Type: String

Required: No

### **hourlyCommitment**

The hourly commitment for the Savings Plans type.

Type: String

Required: No

### **paymentOption**

The payment option for the commitment.

Type: String

Required: No

### **term**

The Savings Plans recommendation term in years.

Type: String

Required: No

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

# SavingsPlansCostCalculation

Service: AWS Cost Optimization Hub

Cost impact of the purchase recommendation.

## Contents

### pricing

Pricing details of the purchase recommendation.

Type: [SavingsPlansPricing](#) object

Required: No

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

# SavingsPlansPricing

Service: AWS Cost Optimization Hub

Pricing information about a Savings Plan.

## Contents

### **estimatedMonthlyCommitment**

Estimated monthly commitment for the Savings Plan.

Type: Double

Required: No

### **estimatedOnDemandCost**

Estimated On-Demand cost you will pay after buying the Savings Plan.

Type: Double

Required: No

### **monthlySavingsPlansEligibleCost**

The cost of paying for the recommended Savings Plan monthly.

Type: Double

Required: No

### **savingsPercentage**

Estimated savings as a percentage of your overall costs after buying the Savings Plan.

Type: Double

Required: No

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:



- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

# StorageConfiguration

Service: AWS Cost Optimization Hub

The storage configuration used for recommendations.

## Contents

### sizeInGb

The storage volume.

Type: Double

Required: No

### type

The storage type.

Type: String

Required: No

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

# Tag

Service: AWS Cost Optimization Hub

The tag structure that contains a tag key and value.

## Contents

### key

The key that's associated with the tag.

Type: String

Required: No

### value

The value that's associated with the tag.

Type: String

Required: No

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

# Usage

Service: AWS Cost Optimization Hub

Details about the usage.

## Contents

### **operation**

The operation value.

Type: String

Required: No

### **productCode**

The product code.

Type: String

Required: No

### **unit**

The usage unit.

Type: String

Required: No

### **usageAmount**

The usage amount.

Type: Double

Required: No

### **usageType**

The usage type.

Type: String

Required: No

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

# ValidationExceptionDetail

Service: AWS Cost Optimization Hub

The input failed to meet the constraints specified by the AWS service in a specified field.

## Contents

### fieldName

The field name where the invalid entry was detected.

Type: String

Required: Yes

### message

A message with the reason for the validation exception error.

Type: String

Required: Yes

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

## AWS Cost and Usage Report

The following data types are supported by AWS Cost and Usage Report:

- [ReportDefinition](#)
- [ReportStatus](#)
- [Tag](#)



# ReportDefinition

Service: AWS Cost and Usage Report

The definition of AWS Cost and Usage Report. You can specify the report name, time unit, report format, compression format, S3 bucket, additional artifacts, and schema elements in the definition.

## Contents

### AdditionalSchemaElements

A list of strings that indicate additional content that AWS includes in the report, such as individual resource IDs.

Type: Array of strings

Valid Values: RESOURCES | SPLIT\_COST\_ALLOCATION\_DATA | MANUAL\_DISCOUNT\_COMPATIBILITY

Required: Yes

### Compression

The compression format that AWS uses for the report.

Type: String

Valid Values: ZIP | GZIP | Parquet

Required: Yes

### Format

The format that AWS saves the report in.

Type: String

Valid Values: textORcsv | Parquet

Required: Yes

### ReportName

The name of the report that you want to create. The name must be unique, is case sensitive, and can't include spaces.



Type: String

Length Constraints: Maximum length of 256.

Pattern: `[0-9A-Za-z!\-_.*\ '() ]+`

Required: Yes

### **S3Bucket**

The S3 bucket where AWS delivers the report.

Type: String

Length Constraints: Maximum length of 256.

Pattern: `[A-Za-z0-9_\.\- ]+`

Required: Yes

### **S3Prefix**

The prefix that AWS adds to the report name when AWS delivers the report. Your prefix can't include spaces.

Type: String

Length Constraints: Maximum length of 256.

Pattern: `[0-9A-Za-z!\-_.*\ '()/ ]*`

Required: Yes

### **S3Region**

The region of the S3 bucket that AWS delivers the report into.

Type: String

Valid Values: `af-south-1 | ap-east-1 | ap-south-1 | ap-south-2 | ap-southeast-1 | ap-southeast-2 | ap-southeast-3 | ap-northeast-1 | ap-northeast-2 | ap-northeast-3 | ca-central-1 | eu-central-1 | eu-central-2 | eu-west-1 | eu-west-2 | eu-west-3 | eu-north-1 | eu-south-1 | eu-south-2 | me-central-1 | me-south-1 | sa-east-1 | us-east-1 | us-east-2 | us-west-1 | us-west-2 | cn-north-1 | cn-northwest-1`

Required: Yes

### **TimeUnit**

The length of time covered by the report.

Type: String

Valid Values: HOURLY | DAILY | MONTHLY

Required: Yes

### **AdditionalArtifacts**

A list of manifests that you want AWS to create for this report.

Type: Array of strings

Valid Values: REDSHIFT | QUICKSIGHT | ATHENA

Required: No

### **BillingViewArn**

The Amazon resource name of the billing view. The `BillingViewArn` is needed to create AWS Cost and Usage Report for each billing group maintained in the AWS Billing Conductor service. The `BillingViewArn` for a billing group can be constructed as: `arn:aws:billing::payer-account-id:billingview/billing-group-primary-account-id`

Type: String

Length Constraints: Maximum length of 128.

Pattern: `(arn:aws(-cn)?:billing::[0-9]{12}:billingview/)?[a-zA-Z0-9_\\+=\\.\\-@].{1,30}`

Required: No

### **RefreshClosedReports**

Whether you want AWS to update your reports after they have been finalized if AWS detects charges related to previous months. These charges can include refunds, credits, or support fees.

Type: Boolean

Required: No

## ReportStatus

The status of the report.

Type: [ReportStatus](#) object

Required: No

## ReportVersioning

Whether you want AWS to overwrite the previous version of each report or to deliver the report in addition to the previous versions.

Type: String

Valid Values: CREATE\_NEW\_REPORT | OVERWRITE\_REPORT

Required: No

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

# ReportStatus

Service: AWS Cost and Usage Report

A two element dictionary with a `lastDelivery` and `lastStatus` key whose values describe the date and status of the last delivered report for a particular report definition.

## Contents

### lastDelivery

A timestamp that gives the date of a report delivery.

Type: String

Length Constraints: Minimum length of 16. Maximum length of 20.

Pattern: `[0-9]{8}[T][0-9]{6}([Z]|[-+][0-9]{4})`

Required: No

### lastStatus

An enum that gives the status of a report delivery.

Type: String

Valid Values: `SUCCESS` | `ERROR_PERMISSIONS` | `ERROR_NO_BUCKET`

Required: No

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

# Tag

Service: AWS Cost and Usage Report

Describes a tag. A tag is a key-value pair. You can add up to 50 tags to a report definition.

## Contents

### Key

The key of the tag. Tag keys are case sensitive. Each report definition can only have up to one tag with the same key. If you try to add an existing tag with the same key, the existing tag value will be updated to the new value.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: . \*

Required: Yes

### Value

The value of the tag. Tag values are case-sensitive. This can be an empty string.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 256.

Pattern: . \*

Required: Yes

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

# AWS Free Tier

The following data types are supported by AWS Free Tier:

- [DimensionValues](#)
- [Expression](#)
- [FreeTierUsage](#)

## DimensionValues

Service: AWS Free Tier

Contains the specifications for the filters to use for your request.

### Contents

#### Key

The name of the dimension that you want to filter on.

Type: String

Valid Values: SERVICE | OPERATION | USAGE\_TYPE | REGION | FREE\_TIER\_TYPE | DESCRIPTION | USAGE\_PERCENTAGE

Required: Yes

#### MatchOptions

The match options that you can use to filter your results. You can specify only one of these values in the array.

Type: Array of strings

Valid Values: EQUALS | STARTS\_WITH | ENDS\_WITH | CONTAINS | GREATER\_THAN\_OR\_EQUAL

Required: Yes

#### Values

The metadata values you can specify to filter upon, so that the results all match at least one of the specified values.

Type: Array of strings

Array Members: Minimum number of 1 item.

Length Constraints: Minimum length of 1. Maximum length of 20.

Pattern: `^[ a-zA-Z0-9\-\:\.\_\|\,\$\(\)]*$`

Required: Yes

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)



## Expression

Service: AWS Free Tier

Use Expression to filter in the `GetFreeTierUsage` API operation.

You can use the following patterns:

- Simple dimension values (Dimensions root operator)
- Complex expressions with logical operators (AND, NOT, and OR root operators).

For *simple dimension values*, you can set the dimension name, values, and match type for the filters that you plan to use.

### Example for simple dimension values

You can filter to match exactly for `REGION==us-east-1 OR REGION==us-west-1`.

The corresponding Expression appears like the following: 

```
{ "Dimensions": { "Key": "REGION", "Values": [ "us-east-1", "us-west-1" ], "MatchOptions": ["EQUALS"] } }
```

As shown in the previous example, lists of dimension values are combined with OR when you apply the filter.

For *complex expressions with logical operators*, you can have nested expressions to use the logical operators and specify advanced filtering.

### Example for complex expressions with logical operators

You can filter by `((REGION == us-east-1 OR REGION == us-west-1) OR (SERVICE CONTAINS AWSLambda)) AND (USAGE_TYPE !CONTAINS DataTransfer)`.

The corresponding Expression appears like the following: 

```
{ "And": [ {"Or": [ {"Dimensions": { "Key": "REGION", "Values": [ "us-east-1", "us-west-1" ], "MatchOptions": ["EQUALS"] }}, {"Dimensions": { "Key": "SERVICE", "Values": ["AWSLambda"], "MatchOptions": ["CONTAINS"] } } ]}, {"Not": {"Dimensions": { "Key": "USAGE_TYPE", "Values": ["DataTransfer"], "MatchOptions": ["CONTAINS"] }}} ] }
```

In the following **Contents**, you must specify exactly one of the following root operators.

## Contents

### And

Return results that match all Expressions that you specified in the array.

Type: Array of [Expression](#) objects

Required: No

### Dimensions

The specific dimension, values, and match type to filter objects with.

Type: [DimensionValues](#) object

Required: No

### Not

Return results that don't match the Expression that you specified.

Type: [Expression](#) object

Required: No

### Or

Return results that match any of the Expressions that you specified. in the array.

Type: Array of [Expression](#) objects

Required: No

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

## FreeTierUsage

Service: AWS Free Tier

Consists of a AWS Free Tier offer's metadata and your data usage for the offer.

### Contents

#### **actualUsageAmount**

Describes the actual usage accrued month-to-day (MTD) that you've used so far.

Type: Double

Required: No

#### **description**

The description of the Free Tier offer.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 1024.

Pattern: `^[\\S\\s]*$`

Required: No

#### **forecastedUsageAmount**

Describes the forecasted usage by the month that you're expected to use.

Type: Double

Required: No

#### **freeTierType**

Describes the type of the Free Tier offer. For example, the offer can be "12 Months Free", "Always Free", and "Free Trial".

Type: String

Length Constraints: Minimum length of 0. Maximum length of 1024.

Pattern: `^[\\S\\s]*$`

Required: No

### **limit**

Describes the maximum usage allowed in Free Tier.

Type: Double

Required: No

### **operation**

Describes usageType more granularly with the specific AWS service API operation. For example, this can be the RunInstances API operation for Amazon Elastic Compute Cloud.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 1024.

Pattern: `^\S\s]*$`

Required: No

### **region**

Describes the AWS Region for which this offer is applicable

Type: String

Length Constraints: Minimum length of 0. Maximum length of 1024.

Pattern: `^\S\s]*$`

Required: No

### **service**

The name of the AWS service providing the Free Tier offer. For example, this can be Amazon Elastic Compute Cloud.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 1024.

Pattern: `^\S\s]*$`

Required: No

### **unit**

Describes the unit of the `usageType`, such as `Hrs`.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 1024.

Pattern: `^[\\S\\s]*$`

Required: No

### **usageType**

Describes the usage details of the offer. For example, this might be `Global-BoxUsage:freetrial`.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 1024.

Pattern: `^[\\S\\s]*$`

Required: No

## **See Also**

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

## **AWS Price List**

The following data types are supported by AWS Price List:

- [AttributeValue](#)

- [Filter](#)
- [PriceList](#)
- [Service](#)

# AttributeValue

Service: AWS Price List

The values of a given attribute, such as `Throughput Optimized HDD` or `Provisioned IOPS` for the Amazon `EC2 volumeType` attribute.

## Contents

### Value

The specific value of an `attributeName`.

Type: String

Required: No

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

## Filter

Service: AWS Price List

The constraints that you want all returned products to match.

### Contents

#### Field

The product metadata field that you want to filter on. You can filter by just the service code to see all products for a specific service, filter by just the attribute name to see a specific attribute for multiple services, or use both a service code and an attribute name to retrieve only products that match both fields.

Valid values include: `ServiceCode`, and all attribute names

For example, you can filter by the `AmazonEC2` service code and the `volumeType` attribute name to get the prices for only Amazon EC2 volumes.

Type: String

Required: Yes

#### Type

The type of filter that you want to use.

Valid values are: `TERM_MATCH`. `TERM_MATCH` returns only products that match both the given filter field and the given value.

Type: String

Valid Values: `TERM_MATCH`

Required: Yes

#### Value

The service code or attribute value that you want to filter by. If you're filtering by service code this is the actual service code, such as `AmazonEC2`. If you're filtering by attribute name, this is the attribute value that you want the returned products to match, such as a `Provisioned IOPS` volume.



Type: String

Required: Yes

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

## PriceList

Service: AWS Price List

*This feature is in preview release and is subject to change. Your use of AWS Price List API is subject to the Beta Service Participation terms of the [AWS Service Terms](#) (Section 1.10).*

This is the type of price list references that match your request.

### Contents

#### CurrencyCode

The three alphabetical character ISO-4217 currency code the Price List files are denominated in.

Type: String

Pattern: [A-Z]{3}

Required: No

#### FileFormats

The format you want to retrieve your Price List files. The FileFormat can be obtained from the [ListPriceList](#) response.

Type: Array of strings

Length Constraints: Minimum length of 1. Maximum length of 255.

Required: No

#### PriceListArn

The unique identifier that maps to where your Price List files are located. PriceListArn can be obtained from the [ListPriceList](#) response.

Type: String

Length Constraints: Minimum length of 18. Maximum length of 2048.

Pattern: arn:[A-Za-z0-9][-.A-Za-z0-9]{0,62}:pricing:::price-list/[A-Za-z0-9+\_/.-]{1,1023}

Required: No

## RegionCode

This is used to filter the Price List by AWS Region. For example, to get the price list only for the US East (N. Virginia) Region, use `us-east-1`. If nothing is specified, you retrieve price lists for all applicable Regions. The available RegionCode list can be retrieved from [GetAttributeValues](#) API.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 255.

Required: No

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

## Service

Service: AWS Price List

The metadata for a service, such as the service code and available attribute names.

### Contents

#### ServiceCode

The code for the AWS service.

Type: String

Required: Yes

#### AttributeNames

The attributes that are available for this service.

Type: Array of strings

Required: No

### See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

## Tax Settings

The following data types are supported by Tax Settings:

- [AccountDetails](#)
- [AccountMetaData](#)
- [AdditionalInfoRequest](#)

- [AdditionalInfoResponse](#)
- [Address](#)
- [BatchDeleteTaxRegistrationError](#)
- [BatchPutTaxRegistrationError](#)
- [BrazilAdditionalInfo](#)
- [CanadaAdditionalInfo](#)
- [DestinationS3Location](#)
- [EstoniaAdditionalInfo](#)
- [GeorgiaAdditionalInfo](#)
- [IndiaAdditionalInfo](#)
- [IsraelAdditionalInfo](#)
- [ItalyAdditionalInfo](#)
- [Jurisdiction](#)
- [KenyaAdditionalInfo](#)
- [MalaysiaAdditionalInfo](#)
- [PolandAdditionalInfo](#)
- [RomaniaAdditionalInfo](#)
- [SaudiArabiaAdditionalInfo](#)
- [SourceS3Location](#)
- [SouthKoreaAdditionalInfo](#)
- [SpainAdditionalInfo](#)
- [TaxDocumentMetadata](#)
- [TaxInheritanceDetails](#)
- [TaxRegistration](#)
- [TaxRegistrationDocument](#)
- [TaxRegistrationEntry](#)
- [TaxRegistrationWithJurisdiction](#)
- [TurkeyAdditionalInfo](#)
- [UkraineAdditionalInfo](#)
- [ValidationExceptionField](#)

- [VerificationDetails](#)

## AccountDetails

Service: Tax Settings

An object with your accountId and TRN information.

### Contents

#### accountId

List of unique account identifiers.

Type: String

Length Constraints: Fixed length of 12.

Pattern:  $^\backslash d+\$$

Required: No

#### accountMetaData

The meta data information associated with the account.

Type: [AccountMetaData](#) object

Required: No

#### taxInheritanceDetails

Tax inheritance information associated with the account.

Type: [TaxInheritanceDetails](#) object

Required: No

#### taxRegistration

Your TRN information. Instead of having full legal address, here TRN information will have jurisdiction details (for example, country code and state/region/province if applicable).

Type: [TaxRegistrationWithJurisdiction](#) object

Required: No

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)



# AccountMetaData

Service: Tax Settings

The meta data information associated with the account.

## Contents

### accountName

The AWS accounts name.

Type: String

Pattern: `^[\\s\\S]*$`

Required: No

### address

The details of the address associated with the TRN information.

Type: [Address](#) object

Required: No

### addressRoleMap

Address roles associated with the account containing country code information.

Type: String to [Jurisdiction](#) object map

Valid Keys: `TaxAddress` | `BillingAddress` | `ContactAddress`

Required: No

### addressType

The type of address associated with the legal profile.

Type: String

Valid Values: `TaxAddress` | `BillingAddress` | `ContactAddress`

Required: No

## seller

Seller information associated with the account.

Type: String

Pattern: `^[\\s\\S]*$`

Required: No

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

# AdditionalInfoRequest

Service: Tax Settings

Additional tax information associated with your tax registration number (TRN). Depending on the TRN for a specific country, you might need to specify this information when you set your TRN.

You can only specify one of the following parameters and the value can't be empty.

## Note

The parameter that you specify must match the country for the TRN, if available. For example, if you set a TRN in Canada for specific provinces, you must also specify the `canadaAdditionalInfo` parameter.

## Contents

### **canadaAdditionalInfo**

Additional tax information associated with your TRN in Canada.

Type: [CanadaAdditionalInfo](#) object

Required: No

### **estoniaAdditionalInfo**

Additional tax information to specify for a TRN in Estonia.

Type: [EstoniaAdditionalInfo](#) object

Required: No

### **georgiaAdditionalInfo**

Additional tax information to specify for a TRN in Georgia.

Type: [GeorgiaAdditionalInfo](#) object

Required: No

### **israelAdditionalInfo**

Additional tax information to specify for a TRN in Israel.

Type: [IsraelAdditionalInfo](#) object

Required: No

### **italyAdditionalInfo**

Additional tax information to specify for a TRN in Italy.

Type: [ItalyAdditionalInfo](#) object

Required: No

### **kenyaAdditionalInfo**

Additional tax information to specify for a TRN in Kenya.

Type: [KenyaAdditionalInfo](#) object

Required: No

### **malaysiaAdditionalInfo**

Additional tax information to specify for a TRN in Malaysia.

Type: [MalaysiaAdditionalInfo](#) object

Required: No

### **polandAdditionalInfo**

Additional tax information associated with your TRN in Poland.

Type: [PolandAdditionalInfo](#) object

Required: No

### **romaniaAdditionalInfo**

Additional tax information to specify for a TRN in Romania.

Type: [RomaniaAdditionalInfo](#) object

Required: No

### **saudiArabiaAdditionalInfo**

Additional tax information associated with your TRN in Saudi Arabia.

Type: [SaudiArabiaAdditionalInfo](#) object

Required: No

### **southKoreaAdditionalInfo**

Additional tax information to specify for a TRN in South Korea.

Type: [SouthKoreaAdditionalInfo](#) object

Required: No

### **spainAdditionalInfo**

Additional tax information to specify for a TRN in Spain.

Type: [SpainAdditionalInfo](#) object

Required: No

### **turkeyAdditionalInfo**

Additional tax information to specify for a TRN in Turkey.

Type: [TurkeyAdditionalInfo](#) object

Required: No

### **ukraineAdditionalInfo**

Additional tax information associated with your TRN in Ukraine.

Type: [UkraineAdditionalInfo](#) object

Required: No

## **See Also**

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)



## AdditionalInfoResponse

Service: Tax Settings

Additional tax information associated with your TRN. The Tax Settings API returns country-specific information in the response when any additional information is present with your TRN for the following countries.

### Contents

#### **brazilAdditionalInfo**

Additional tax information associated with your TRN in Brazil. The Tax Settings API returns this information in your response when any additional information is present with your TRN in Brazil.

Type: [BrazilAdditionalInfo](#) object

Required: No

#### **canadaAdditionalInfo**

Additional tax information associated with your TRN in Canada.

Type: [CanadaAdditionalInfo](#) object

Required: No

#### **estoniaAdditionalInfo**

Additional tax information associated with your TRN in Estonia.

Type: [EstoniaAdditionalInfo](#) object

Required: No

#### **georgiaAdditionalInfo**

Additional tax information associated with your TRN in Georgia.

Type: [GeorgiaAdditionalInfo](#) object

Required: No

#### **indiaAdditionalInfo**

Additional tax information in India.

Type: [IndiaAdditionalInfo](#) object

Required: No

### **israelAdditionalInfo**

Additional tax information associated with your TRN in Israel.

Type: [IsraelAdditionalInfo](#) object

Required: No

### **italyAdditionalInfo**

Additional tax information associated with your TRN in Italy.

Type: [ItalyAdditionalInfo](#) object

Required: No

### **kenyaAdditionalInfo**

Additional tax information associated with your TRN in Kenya.

Type: [KenyaAdditionalInfo](#) object

Required: No

### **malaysiaAdditionalInfo**

Additional tax information associated with your TRN in Malaysia.

Type: [MalaysiaAdditionalInfo](#) object

Required: No

### **polandAdditionalInfo**

Additional tax information associated with your TRN in Poland.

Type: [PolandAdditionalInfo](#) object

Required: No

### **romaniaAdditionalInfo**

Additional tax information to specify for a TRN in Romania.

Type: [RomaniaAdditionalInfo](#) object



Required: No

### **saudiArabiaAdditionalInfo**

Additional tax information associated with your TRN in Saudi Arabia.

Type: [SaudiArabiaAdditionalInfo](#) object

Required: No

### **southKoreaAdditionalInfo**

Additional tax information associated with your TRN in South Korea.

Type: [SouthKoreaAdditionalInfo](#) object

Required: No

### **spainAdditionalInfo**

Additional tax information associated with your TRN in Spain.

Type: [SpainAdditionalInfo](#) object

Required: No

### **turkeyAdditionalInfo**

Additional tax information associated with your TRN in Turkey.

Type: [TurkeyAdditionalInfo](#) object

Required: No

### **ukraineAdditionalInfo**

Additional tax information associated with your TRN in Ukraine.

Type: [UkraineAdditionalInfo](#) object

Required: No

## **See Also**

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

# Address

Service: Tax Settings

The details of the address associated with the TRN information.

## Contents

### addressLine1

The first line of the address.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 180.

Pattern: `^(?!\\s*$)[\\s\\S]+$`

Required: Yes

### city

The city that the address is in.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 50.

Pattern: `^(?!\\s*$)[\\s\\S]+$`

Required: Yes

### countryCode

The country code for the country that the address is in.

Type: String

Length Constraints: Fixed length of 2.

Pattern: `^[a-zA-Z]+$`

Required: Yes

### postalCode

The postal code associated with the address.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 20.

Pattern: `^(?!\\s*$)[\\s\\S]+$`

Required: Yes

### **addressLine2**

The second line of the address, if applicable.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 60.

Pattern: `^(?!\\s*$)[\\s\\S]+$`

Required: No

### **addressLine3**

The third line of the address, if applicable. Currently, the Tax Settings API accepts the `addressLine3` parameter only for Saudi Arabia. When you specify a TRN in Saudi Arabia, you must enter the `addressLine3` and specify the building number for the address. For example, you might enter 1234.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 60.

Pattern: `^(?!\\s*$)[\\s\\S]+$`

Required: No

### **districtOrCounty**

The district or county the address is located.

#### **Note**

For addresses in Brazil, this parameter uses the name of the neighborhood. When you set a TRN in Brazil, use `districtOrCounty` for the neighborhood name.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 50.

Pattern: `^(?!\\s*$)[\\s\\S]+$`

Required: No

### **stateOrRegion**

The state, region, or province that the address is located.

If this is required for tax settings, use the same name as shown on the **Tax Settings** page.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 50.

Pattern: `^(?!\\s*$)[\\s\\S]+$`

Required: No

## **See Also**

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

# BatchDeleteTaxRegistrationError

Service: Tax Settings

The error object for representing failures in the BatchDeleteTaxRegistration operation.

## Contents

### accountId

The unique account identifier for the account whose tax registration couldn't be deleted during the BatchDeleteTaxRegistration operation.

Type: String

Length Constraints: Fixed length of 12.

Pattern: `^\d+$`

Required: Yes

### message

The error message for an individual failure in the BatchDeleteTaxRegistration operation.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 1024.

Pattern: `^[\\s\\S]*$`

Required: Yes

### code

The error code for an individual failure in BatchDeleteTaxRegistration operation.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 50.

Pattern: `^[\\s\\S]*$`

Required: No

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

# BatchPutTaxRegistrationError

Service: Tax Settings

The error object for representing failures in the BatchPutTaxRegistration operation.

## Contents

### accountId

The unique account identifier for the account that the tax registration couldn't be added, or updated during the BatchPutTaxRegistration operation.

Type: String

Length Constraints: Fixed length of 12.

Pattern: `^\d+$`

Required: Yes

### message

The error message for an individual failure in the BatchPutTaxRegistration operation.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 1024.

Pattern: `^[\\s\\S]*$`

Required: Yes

### code

The error code for an individual failure in the BatchPutTaxRegistration operation.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 50.

Pattern: `^[\\s\\S]*$`

Required: No



## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

## BrazilAdditionalInfo

Service: Tax Settings

Additional tax information associated with your TRN in Brazil.

### Contents

#### ccmCode

The Cadastro de Contribuintes Mobiliários (CCM) code for your TRN in Brazil. This only applies for a CNPJ tax type for the São Paulo municipality.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 1024.

Pattern: `^\d+$`

Required: No

#### legalNatureCode

Legal nature of business, based on your TRN in Brazil. This only applies for a CNPJ tax type.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 1024.

Pattern: `^\d+$`

Required: No

### See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

## CanadaAdditionalInfo

Service: Tax Settings

Additional tax information associated with your TRN in Canada .

### Contents

#### canadaQuebecSalesTaxNumber

The Quebec Sales Tax ID number. Leave blank if you do not have a Quebec Sales Tax ID number.

Type: String

Pattern:  $^([\text{0-9}]{10})(\text{TQ}[\text{0-9}]{4})?\$$

Required: No

#### canadaRetailSalesTaxNumber

Manitoba Retail Sales Tax ID number. Customers purchasing AWS services for resale in Manitoba must provide a valid Retail Sales Tax ID number for Manitoba. Leave this blank if you do not have a Retail Sales Tax ID number in Manitoba or are not purchasing AWS services for resale.

Type: String

Pattern:  $^([\text{0-9}]{6}-[\text{0-9}]{1})\$$

Required: No

#### isResellerAccount

The value for this parameter must be `true` if the `provincialSalesTaxId` value is provided for a TRN in British Columbia, Saskatchewan, or Manitoba provinces.

To claim a provincial sales tax (PST) and retail sales tax (RST) reseller exemption, you must confirm that purchases from this account were made for resale. Otherwise, remove the PST or RST number from the `provincialSalesTaxId` parameter from your request.

Type: Boolean

Required: No

#### provincialSalesTaxId

The provincial sales tax ID for your TRN in Canada. This parameter can represent the following:

- Provincial sales tax ID number for British Columbia and Saskatchewan provinces
- Manitoba retail sales tax ID number for Manitoba province
- Quebec sales tax ID number for Quebec province

The Tax Setting API only accepts this parameter if the TRN is specified for the previous provinces. For other provinces, the Tax Settings API doesn't accept this parameter.

Type: String

Length Constraints: Minimum length of 7. Maximum length of 16.

Pattern: `^[0-9A-Z/-]+$`

Required: No

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

## DestinationS3Location

Service: Tax Settings

The location of the Amazon S3 bucket that you specify to download your tax documents to.

### Contents

#### bucket

The name of your Amazon S3 bucket that you specify to download your tax documents to.

Type: String

Length Constraints: Minimum length of 3. Maximum length of 63.

Pattern: `^(?=^.{3,63}$)(?!^\d+\.)+\d+$(^(([a-z0-9]|[a-z0-9][a-z0-9\-\-])*[a-z0-9])\.)*([a-z0-9]|[a-z0-9][a-z0-9\-\-])*[a-z0-9])$)`

Required: Yes

#### prefix

The Amazon S3 object prefix that you specify for your tax document file.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 512.

Pattern: `^\.*\S.*$`

Required: No

### See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

# EstoniaAdditionalInfo

Service: Tax Settings

Additional tax information associated with your TRN in Estonia.

## Contents

### registryCommercialCode

Registry commercial code (RCC) for your TRN in Estonia. This value is an eight-numeric string, such as 12345678.

Type: String

Length Constraints: Fixed length of 8.

Pattern: `^\d+$`

Required: Yes

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

# GeorgiaAdditionalInfo

Service: Tax Settings

Additional tax information associated with your TRN in Georgia.

## Contents

### personType

The legal person or physical person assigned to this TRN in Georgia.

Type: String

Valid Values: Legal Person | Physical Person | Business

Required: Yes

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

# IndiaAdditionalInfo

Service: Tax Settings

Additional tax information in India.

## Contents

### pan

India pan information associated with the account.

Type: String

Pattern: `^[A-Z]{5}[0-9]{4}[A-Z]{1}$`

Required: No

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)



# IsraelAdditionalInfo

Service: Tax Settings

Additional tax information associated with your TRN in Israel.

## Contents

### customerType

Customer type for your TRN in Israel. The value can be `Business` or `Individual`. Use `Business` for entities such as not-for-profit and financial institutions.

Type: String

Valid Values: `Business` | `Individual`

Required: Yes

### dealerType

Dealer type for your TRN in Israel. If you're not a local authorized dealer with an Israeli VAT ID, specify your tax identification number so that AWS can send you a compliant tax invoice.

Type: String

Valid Values: `Authorized` | `Non-authorized`

Required: Yes

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

# ItalyAdditionalInfo

Service: Tax Settings

Additional tax information associated with your TRN in Italy.

## Contents

### cigNumber

The tender procedure identification code.

Type: String

Pattern: `^([0-9A-Z]{1,15})$`

Required: No

### cupNumber

Additional tax information to specify for a TRN in Italy. This is managed by the Interministerial Committee for Economic Planning (CIPE) which characterizes every public investment project (Individual Project Code).

Type: String

Pattern: `^([0-9A-Z]{1,15})$`

Required: No

### sdiAccountId

Additional tax information to specify for a TRN in Italy. Use CodiceDestinatario to receive your invoices via web service (API) or FTP.

Type: String

Pattern: `^[0-9A-Z]{6,7}$`

Required: No

### taxCode

List of service tax codes for your TRN in Italy. You can use your customer tax code as part of a VAT Group.

Type: String

Pattern: `^([0-9]{11}|[A-Z]{6}[0-9]{2}[A-Z][0-9]{2}[A-Z][0-9]{3}[A-Z])$`

Required: No

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

# Jurisdiction

Service: Tax Settings

The jurisdiction details of the TRN information of the customers. This doesn't contain full legal address, and contains only country code and state/region/province.

## Contents

### countryCode

The country code of the jurisdiction.

Type: String

Length Constraints: Fixed length of 2.

Pattern: `^[a-zA-Z]+$`

Required: Yes

### stateOrRegion

The state, region, or province associated with the country of the jurisdiction, if applicable.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 50.

Pattern: `^(?!\\s*$)[\\s\\S]+$`

Required: No

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

# KenyaAdditionalInfo

Service: Tax Settings

Additional tax information associated with your TRN in Kenya.

## Contents

### personType

The legal person or physical person assigned to this TRN in Kenya.

Type: String

Valid Values: Legal Person | Physical Person | Business

Required: Yes

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

# MalaysiaAdditionalInfo

Service: Tax Settings

Additional tax information associated with your TRN in Malaysia.

## Contents

### serviceTaxCodes

List of service tax codes for your TRN in Malaysia.

Type: Array of strings

Array Members: Minimum number of 1 item. Maximum number of 4 items.

Valid Values: Consultancy | Digital Service And Electronic Medium | IT Services | Training Or Coaching

Required: Yes

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

## PolandAdditionalInfo

Service: Tax Settings

Additional tax information associated with your TRN in Poland.

### Contents

#### individualRegistrationNumber

The individual tax registration number (NIP). Individual NIP is valid for other taxes excluding VAT purposes.

Type: String

Pattern: `^([0-9]{10})$`

Required: No

#### isGroupVatEnabled

True if your business is a member of a VAT group with a NIP active for VAT purposes. Otherwise, this is false.

Type: Boolean

Required: No

### See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

# RomaniaAdditionalInfo

Service: Tax Settings

Additional tax information to specify for a TRN in Romania.

## Contents

### taxRegistrationNumberType

The tax registration number type. The value can be `TaxRegistrationNumber` or `LocalRegistrationNumber`.

Type: String

Valid Values: `TaxRegistrationNumber` | `LocalRegistrationNumber`

Required: Yes

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)



# SaudiArabiaAdditionalInfo

Service: Tax Settings

Additional tax information associated with your TRN in Saudi Arabia.

## Contents

### taxRegistrationNumberType

The tax registration number type.

Type: String

Valid Values: TaxRegistrationNumber | TaxIdentificationNumber | CommercialRegistrationNumber

Required: No

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

## SourceS3Location

Service: Tax Settings

The Amazon S3 bucket in your account where your tax document is located.

### Contents

#### bucket

The name of your Amazon S3 bucket that your tax document is located.

Type: String

Length Constraints: Minimum length of 3. Maximum length of 63.

Pattern: `^(?=^.{3,63}$)(?!^\d+\.)+\d+$)^(([a-z0-9]|[a-z0-9][a-z0-9\-*[a-z0-9])\.)*([a-z0-9]|[a-z0-9][a-z0-9\-*[a-z0-9])$)$`

Required: Yes

#### key

The object key of your tax document object in Amazon S3.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 1024.

Pattern: `^\.*\S.*$`

Required: Yes

### See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

## SouthKoreaAdditionalInfo

Service: Tax Settings

Additional tax information associated with your TRN in South Korea.

### Contents

#### **businessRepresentativeName**

The business legal name based on the most recently uploaded tax registration certificate.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 200.

Pattern: `^[0-9\u3130-\u318F\uAC00-\uD7AF,.( )-\s]*$`

Required: Yes

#### **itemOfBusiness**

Item of business based on the most recently uploaded tax registration certificate.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 100.

Pattern: `^[0-9\u3130-\u318F\uAC00-\uD7AF,.( )-\s]*$`

Required: Yes

#### **lineOfBusiness**

Line of business based on the most recently uploaded tax registration certificate.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 100.

Pattern: `^[0-9\u3130-\u318F\uAC00-\uD7AF,.( )-\s]*$`

Required: Yes

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

# SpainAdditionalInfo

Service: Tax Settings

Additional tax information associated with your TRN in Spain.

## Contents

### registrationType

The registration type in Spain.

Type: String

Valid Values: Intra-EU | Local

Required: Yes

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

# TaxDocumentMetadata

Service: Tax Settings

The metadata for your tax document.

## Contents

### taxDocumentAccessToken

The tax document access token, which contains information that the Tax Settings API uses to locate the tax document.

 **Note**

If you update your tax registration, the existing `taxDocumentAccessToken` won't be valid. To get the latest token, call the `GetTaxRegistration` or `ListTaxRegistrations` API operation. This token is valid for 24 hours.

Type: String

Pattern: `^[\\s\\S]*$`

Required: Yes

### taxDocumentName

The name of your tax document.

Type: String

Pattern: `^[\\s\\S]*$`

Required: Yes

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)

- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

# TaxInheritanceDetails

Service: Tax Settings

Tax inheritance information associated with the account.

## Contents

### inheritanceObtainedReason

Tax inheritance reason information associated with the account.

Type: String

Pattern: `^\s\S]*$`

Required: No

### parentEntityId

Tax inheritance parent account information associated with the account.

Type: String

Length Constraints: Fixed length of 12.

Pattern: `^\d+$`

Required: No

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)



# TaxRegistration

Service: Tax Settings

Your TRN information.

## Contents

### legalAddress

The legal address associated with your TRN registration.

Type: [Address](#) object

Required: Yes

### legalName

The legal name associated with your TRN registration.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 200.

Pattern: `^(?!\\s*$)[\\s\\S]+$`

Required: Yes

### registrationId

Your tax registration unique identifier.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 20.

Pattern: `^(?!\\s*$)[\\s\\S]+$`

Required: Yes

### registrationType

Type of your tax registration. This can be either VAT or GST.

Type: String

Valid Values: VAT | GST | CPF | CNPJ | SST

Required: Yes

### **status**

The status of your TRN. This can be either `Verified`, `Pending`, `Deleted`, or `Rejected`.

Type: String

Valid Values: `Verified` | `Pending` | `Deleted` | `Rejected`

Required: Yes

### **additionalTaxInformation**

Additional tax information associated with your TRN.

Type: [AdditionalInfoResponse](#) object

Required: No

### **certifiedEmailId**

The email address to receive VAT invoices.

Type: String

Pattern: `^[A-Za-z0-9._%+-]+@[A-Za-z0-9.-]+\.[A-Za-z]{2,20}$`

Required: No

### **sector**

The industry that describes your business. For business-to-business (B2B) customers, specify `Business`. For business-to-consumer (B2C) customers, specify `Individual`. For business-to-government (B2G), specify `Government`. Note that certain values may not be applicable for the request country. Please refer to country specific information in API document.

Type: String

Valid Values: `Business` | `Individual` | `Government`

Required: No

### **taxDocumentMetadatas**

The metadata for your tax document.

Type: Array of [TaxDocumentMetadata](#) objects

Array Members: Minimum number of 1 item. Maximum number of 5 items.

Required: No

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

# TaxRegistrationDocument

Service: Tax Settings

Tax registration document information.

## Contents

### s3Location

The Amazon S3 location where your tax registration document is stored.

Type: [SourceS3Location](#) object

Required: Yes

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

# TaxRegistrationEntry

Service: Tax Settings

The TRN information you provide when you add a new TRN, or update.

## Contents

### registrationId

Your tax registration unique identifier.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 20.

Pattern: `^(?!\\s*$)[\\s\\S]+$`

Required: Yes

### registrationType

Your tax registration type. This can be either VAT or GST.

Type: String

Valid Values: VAT | GST | CPF | CNPJ | SST

Required: Yes

### additionalTaxInformation

Additional tax information associated with your TRN. You only need to specify this parameter if AWS collects any additional information for your country within [AdditionalInfoRequest](#).

Type: [AdditionalInfoRequest](#) object

Required: No

### certifiedEmailId

The email address to receive VAT invoices.

Type: String

Pattern: `^[A-Za-z0-9._%+-]+@[A-Za-z0-9.-]+\\.[A-Za-z]{2,20}$`

Required: No

## legalAddress

The legal address associated with your TRN.

### Note

If you're setting a TRN in Brazil for the CNPJ tax type, you don't need to specify the legal address.

For TRNs in other countries and for CPF tax types Brazil, you must specify the legal address.

Type: [Address](#) object

Required: No

## legalName

The legal name associated with your TRN.

### Note

If you're setting a TRN in Brazil, you don't need to specify the legal name. For TRNs in other countries, you must specify the legal name.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 200.

Pattern: `^(?!\\s*$)[\\s\\S]+$`

Required: No

## sector

The industry that describes your business. For business-to-business (B2B) customers, specify Business. For business-to-consumer (B2C) customers, specify Individual. For business-to-government (B2G), specify Government. Note that certain values may not be applicable for the request country. Please refer to country specific information in API document.

Type: String

Valid Values: Business | Individual | Government

Required: No

### verificationDetails

Additional details needed to verify your TRN information in Brazil. You only need to specify this parameter when you set a TRN in Brazil that is the CPF tax type.

#### Note

Don't specify this parameter to set a TRN in Brazil of the CNPJ tax type or to set a TRN for another country.

Type: [VerificationDetails](#) object

Required: No

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

# TaxRegistrationWithJurisdiction

Service: Tax Settings

Your TRN information with jurisdiction details. This doesn't contain the full legal address associated with the TRN information.

## Contents

### jurisdiction

The jurisdiction associated with your TRN information.

Type: [Jurisdiction](#) object

Required: Yes

### legalName

The legal name associated with your TRN information.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 200.

Pattern: `^(?!\\s*$)[\\s\\S]+$`

Required: Yes

### registrationId

Your tax registration unique identifier.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 20.

Pattern: `^(?!\\s*$)[\\s\\S]+$`

Required: Yes

### registrationType

The type of your tax registration. This can be either VAT or GST.

Type: String



Valid Values: VAT | GST | CPF | CNPJ | SST

Required: Yes

### **status**

The status of your TRN. This can be either Verified, Pending, Deleted, or Rejected.

Type: String

Valid Values: Verified | Pending | Deleted | Rejected

Required: Yes

### **additionalTaxInformation**

Additional tax information associated with your TRN.

Type: [AdditionalInfoResponse](#) object

Required: No

### **certifiedEmailId**

The email address to receive VAT invoices.

Type: String

Pattern: `^[A-Za-z0-9._%+-]+@[A-Za-z0-9.-]+\.[A-Za-z]{2,20}$`

Required: No

### **sector**

The industry that describes your business. For business-to-business (B2B) customers, specify Business. For business-to-consumer (B2C) customers, specify Individual. For business-to-government (B2G), specify Government. Note that certain values may not be applicable for the request country. Please refer to country specific information in API document.

Type: String

Valid Values: Business | Individual | Government

Required: No

## taxDocumentMetadatas

The metadata for your tax document.

Type: Array of [TaxDocumentMetadata](#) objects

Array Members: Minimum number of 1 item. Maximum number of 5 items.

Required: No

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

# TurkeyAdditionalInfo

Service: Tax Settings

Additional tax information associated with your TRN in Turkey.

## Contents

### industries

The industry information that tells the Tax Settings API if you're subject to additional withholding taxes. This information required for business-to-business (B2B) customers. This information is conditionally mandatory for B2B customers who are subject to KDV tax.

Type: String

Valid Values: CirculatingOrg | ProfessionalOrg | Banks | Insurance | PensionAndBenefitFunds | DevelopmentAgencies

Required: No

### kepEmailId

The Registered Electronic Mail (REM) that is used to send notarized communication. This parameter is optional for business-to-business (B2B) and business-to-government (B2G) customers. It's not required for business-to-consumer (B2C) customers.

Type: String

Pattern: `^[\\s\\S]*$`

Required: No

### secondaryTaxId

Secondary tax ID ("harcama birimi VKN"si). If one isn't provided, we will use your VKN as the secondary ID.

Type: String

Pattern: `^([0-9]{10})$`

Required: No

## taxOffice

The tax office where you're registered. You can enter this information as a string. The Tax Settings API will add this information to your invoice. This parameter is required for business-to-business (B2B) and business-to-government customers. It's not required for business-to-consumer (B2C) customers.

Type: String

Pattern: `^\[s\S]*$`

Required: No

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

# UkraineAdditionalInfo

Service: Tax Settings

Additional tax information associated with your TRN in Ukraine.

## Contents

### ukraineTrnType

The tax registration type.

Type: String

Valid Values: Business | Individual

Required: Yes

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

# ValidationExceptionField

Service: Tax Settings

The information about the specified parameter in the request that caused an error.

## Contents

### name

The name of the parameter that caused a `ValidationException` error.

Type: String

Pattern: `^(?!\\s*$)[\\s\\S]+$`

Required: Yes

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

## VerificationDetails

Service: Tax Settings

Required information to verify your TRN.

### Contents

#### dateOfBirth

Date of birth to verify your submitted TRN. Use the YYYY-MM-DD format.

Type: String

Length Constraints: Fixed length of 10.

Pattern:  $^(\backslash d\{4\}-(0[0-9]|1[0-2])-([0-2][0-9]|3[0-1]))\$$

Required: No

#### taxRegistrationDocuments

The tax registration document, which is required for specific countries such as Bangladesh, Kenya, South Korea and Spain.

Type: Array of [TaxRegistrationDocument](#) objects

Array Members: Minimum number of 1 item. Maximum number of 5 items.

Required: No

### See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

# Common Parameters

The following list contains the parameters that all actions use for signing Signature Version 4 requests with a query string. Any action-specific parameters are listed in the topic for that action. For more information about Signature Version 4, see [Signing AWS API requests](#) in the *IAM User Guide*.

## Action

The action to be performed.

Type: string

Required: Yes

## Version

The API version that the request is written for, expressed in the format YYYY-MM-DD.

Type: string

Required: Yes

## X-Amz-Algorithm

The hash algorithm that you used to create the request signature.

Condition: Specify this parameter when you include authentication information in a query string instead of in the HTTP authorization header.

Type: string

Valid Values: AWS4-HMAC-SHA256

Required: Conditional

## X-Amz-Credential

The credential scope value, which is a string that includes your access key, the date, the region you are targeting, the service you are requesting, and a termination string ("aws4\_request"). The value is expressed in the following format: *access\_key/YYYYMMDD/region/service/aws4\_request*.



For more information, see [Create a signed AWS API request](#) in the *IAM User Guide*.

Condition: Specify this parameter when you include authentication information in a query string instead of in the HTTP authorization header.

Type: string

Required: Conditional

### **X-Amz-Date**

The date that is used to create the signature. The format must be ISO 8601 basic format (YYYYMMDD'T'HHMMSS'Z'). For example, the following date time is a valid X-Amz-Date value: 20120325T120000Z.

Condition: X-Amz-Date is optional for all requests; it can be used to override the date used for signing requests. If the Date header is specified in the ISO 8601 basic format, X-Amz-Date is not required. When X-Amz-Date is used, it always overrides the value of the Date header. For more information, see [Elements of an AWS API request signature](#) in the *IAM User Guide*.

Type: string

Required: Conditional

### **X-Amz-Security-Token**

The temporary security token that was obtained through a call to AWS Security Token Service (AWS STS). For a list of services that support temporary security credentials from AWS STS, see [AWS services that work with IAM](#) in the *IAM User Guide*.

Condition: If you're using temporary security credentials from AWS STS, you must include the security token.

Type: string

Required: Conditional

### **X-Amz-Signature**

Specifies the hex-encoded signature that was calculated from the string to sign and the derived signing key.

Condition: Specify this parameter when you include authentication information in a query string instead of in the HTTP authorization header.

Type: string

Required: Conditional

### **X-Amz-SignedHeaders**

Specifies all the HTTP headers that were included as part of the canonical request. For more information about specifying signed headers, see [Create a signed AWS API request](#) in the *IAM User Guide*.

Condition: Specify this parameter when you include authentication information in a query string instead of in the HTTP authorization header.

Type: string

Required: Conditional

# Common Errors

This section lists the errors common to the API actions of all AWS services. For errors specific to an API action for this service, see the topic for that API action.

## **AccessDeniedException**

You do not have sufficient access to perform this action.

HTTP Status Code: 400

## **IncompleteSignature**

The request signature does not conform to AWS standards.

HTTP Status Code: 400

## **InternalFailure**

The request processing has failed because of an unknown error, exception or failure.

HTTP Status Code: 500

## **InvalidAction**

The action or operation requested is invalid. Verify that the action is typed correctly.

HTTP Status Code: 400

## **InvalidClientTokenId**

The X.509 certificate or AWS access key ID provided does not exist in our records.

HTTP Status Code: 403

## **NotAuthorized**

You do not have permission to perform this action.

HTTP Status Code: 400

## **OptInRequired**

The AWS access key ID needs a subscription for the service.

HTTP Status Code: 403

**RequestExpired**

The request reached the service more than 15 minutes after the date stamp on the request or more than 15 minutes after the request expiration date (such as for pre-signed URLs), or the date stamp on the request is more than 15 minutes in the future.

HTTP Status Code: 400

**ServiceUnavailable**

The request has failed due to a temporary failure of the server.

HTTP Status Code: 503

**ThrottlingException**

The request was denied due to request throttling.

HTTP Status Code: 400

**ValidationError**

The input fails to satisfy the constraints specified by an AWS service.

HTTP Status Code: 400