aws

User Guide

Amazon AppFlow

Amazon AppFlow: User Guide

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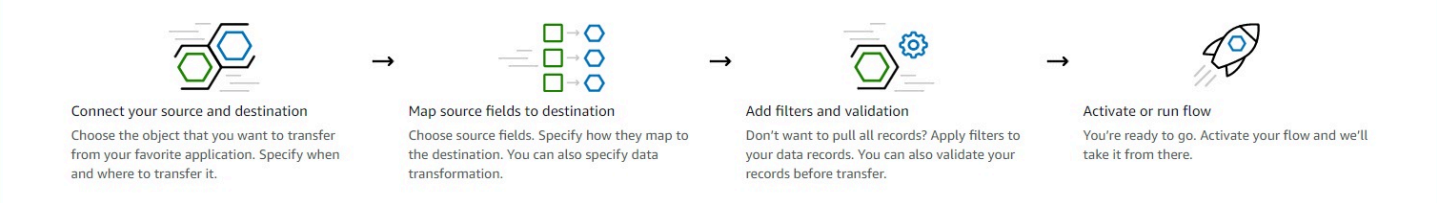
What is Amazon AppFlow?

Amazon AppFlow is a fully-managed integration service that enables you to securely exchange data between software as a service (SaaS) applications, such as Salesforce, and AWS services, such as Amazon Simple Storage Service (Amazon S3) and Amazon Redshift. For example, you can ingest contact records from Salesforce to Amazon Redshift or pull support tickets from Zendesk to an Amazon S3 bucket. The following diagram illustrates how it works:



In addition to this User Guide, you can also refer to the Amazon AppFlow API Reference.

Amazon AppFlow enables you to do the following:

- **Get started quickly** — Create data flows to transfer data between a source and destination in minutes, without writing any code.
- **Keep your data in sync** — Run flows on demand or on a schedule to keep data in sync across your SaaS applications and AWS services.
- **Bring your data together** — Aggregate data from multiple sources so that you can train your analytics tools more effectively and save money.
- **Keep track of your data** — Use Amazon AppFlow flow management tools to monitor what data has moved where and when.
- **Keep your data secure** — Security is a top priority. We encrypt your data at rest and in transit.
- **Transfer data privately** — Amazon AppFlow integrates with AWS PrivateLink to provide private data transfer over AWS infrastructure instead of public data transfer over the internet.
- **Catalog your data for search and discovery** — Catalog the data that you transfer to Amazon S3 in the AWS Glue Data Catalog. When you catalog your data, you make it easier to discover and access with AWS analytics and machine learning services.
- **Organize transferred data into partitions and files** — Use partition and aggregation settings to optimize query performance for applications that access the data that you transfer.
- **Develop custom connectors** — Use the Amazon AppFlow Custom Connector SDKs to build connectors for data sources that aren't already integrated with the service. With custom

connectors, you can transfer data between private APIs, on-premise systems, other cloud services, and AWS. The SDKs are available on GitHub:

- Amazon AppFlow Custom Connector SDK (Python)
- Amazon AppFlow Custom Connector SDK (Java)

For a list of Amazon AppFlow Regions, see Amazon AppFlow Regions and Endpoints in the *AWS General Reference*.

Use cases

Following are some example uses cases that illustrate the benefits of using Amazon AppFlow.

Transfer Salesforce opportunities to Amazon Redshift tables

Create a flow triggered on each new record created in Salesforce Cloud that calculates the sales potential and then transfers the modified record to an Amazon Redshift table.

Analyze Slack conversations

Create a flow triggered on a schedule that transfers conversation data from a Slack channel to Amazon Redshift, Snowflake, or Amazon S3 for storage and analysis.

Transfer support tickets from Zendesk for storage and analysis

Create a manually triggered flow for all tickets with a common case number in Zendesk that transfers ticket data to Amazon Redshift, Snowflake, or Amazon S3 for storage and analysis.

Transfer aggregate data weekly to S3 at 100GB per flow

Create a flow triggered on a weekly schedule to transfer Salesforce, Marketo, ServiceNow, and Zendesk data to Amazon S3 in aggregate up to 100GB per flow with low latency.

Related AWS services

You can use the following services with Amazon AppFlow.

AWS CloudTrail

Amazon AppFlow is integrated with AWS CloudTrail, a service that provides a record of actions taken by a user, role, or an AWS service in Amazon AppFlow. CloudTrail captures all API calls

for Amazon AppFlow as events. The calls captured include calls from the Amazon AppFlow console and code calls to the Amazon AppFlow API operations. If you create a trail, you can enable continuous delivery of CloudTrail events to an Amazon S3 bucket, including events for Amazon AppFlow. If you don't configure a trail, you can still view the most recent events in the CloudTrail console in **Event history**. Using the information collected by CloudTrail, you can determine the request that was made to Amazon AppFlow, the IP address from which the request was made, who made the request, when it was made, and additional details. For more information, see Logging Amazon AppFlow API calls with AWS CloudTrail in the *Amazon AppFlow User Guide*.

AWS CloudFormation

AWS CloudFormation provides a common language for you to model and provision AWS and third party application resources in your cloud environment. AWS CloudFormation allows you to use programming languages or a simple text file to model and provision, in an automated and secure manner, all the resources needed for your applications across all regions and accounts. This gives you a single source of truth for your AWS and third party resources. Amazon AppFlow supports AWS CloudFormation for creating and configuring Amazon AppFlow resources along with the rest of your AWS infrastructure—in a secure, efficient, and repeatable way. For more information, see AWS::AppFlow::ConnectorProfile and AWS::AppFlow::Flow in the *AWS CloudFormation User Guide*.

Amazon EventBridge

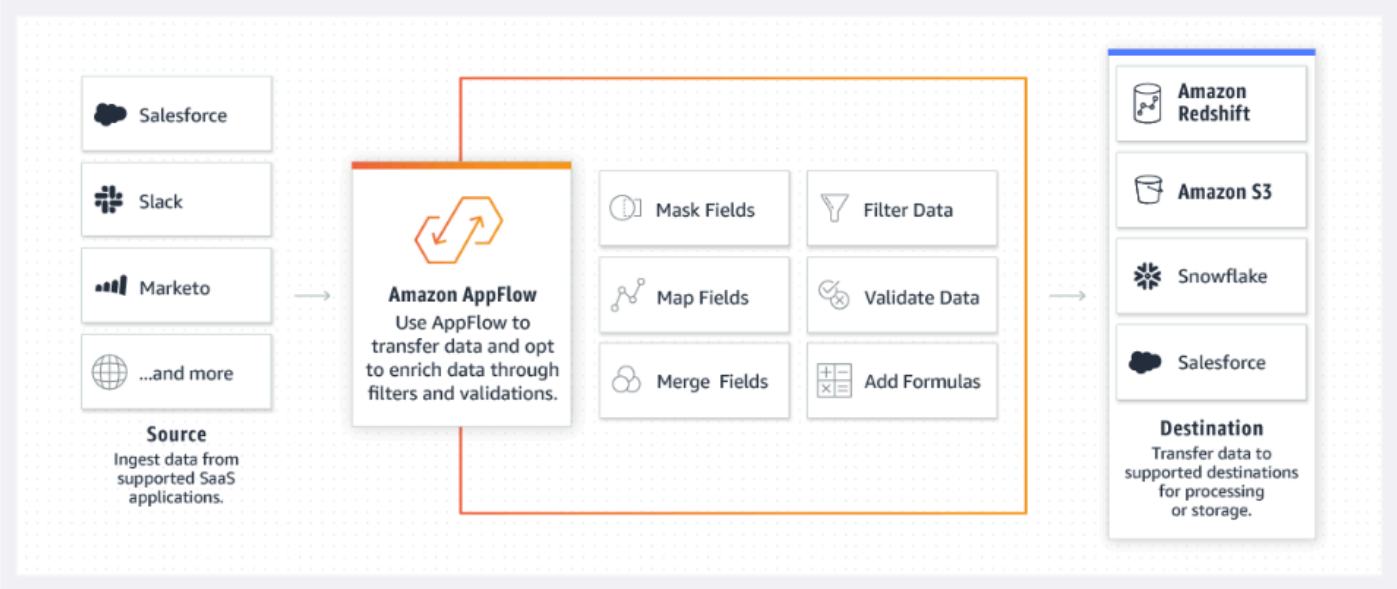
Amazon AppFlow integrates with Amazon EventBridge to receive events from Amazon AppFlow sources such as Salesforce. This enables you to publish events ingested by Amazon AppFlow to a partner event bus in Amazon EventBridge. Amazon AppFlow supports the ingestion of Salesforce Platform events and Change Data Capture events. You can configure rules in Amazon EventBridge to match patterns from events such as those from Salesforce, and then route them to AWS services such as AWS Lambda, AWS Step Functions, Amazon Simple Queue Service, and others. You can also use Amazon AppFlow's private data transfer option to ensure that events don't get exposed to the public internet during transfers between AWS and Salesforce, improving security and minimizing risks of Internet-based attack vectors. For more information, see the Amazon EventBridge documentation page in the *Amazon AppFlow User Guide*.

AWS Identity and Access Management (IAM)

IAM is an AWS service that helps an administrator securely control access to AWS resources. Amazon AppFlow integrates with the IAM service so that you can control who in your organization has access to Amazon AppFlow. For more information, see AWS Identity and Access Management for Amazon AppFlow in the *Amazon AppFlow User Guide*.

Getting started with Amazon AppFlow

This section provides an introduction to Amazon AppFlow with prerequisites for getting started. The following diagram illustrates how you can use Amazon AppFlow to transfer and enrich data from a data source to a data destination in your flow:



Tasks

- Prerequisites

Prerequisites

Complete the following prerequisites before getting started with Amazon AppFlow.

- **AWS account setup** — If you don't have an AWS account, you must create one. For more information, see How to create and activate a new AWS account.
- **SaaS application setup** — You must verify that you have the required information about the source and destination applications, and that they meet the relevant configuration requirements. For application-specific requirements and setup instructions, see Supported source and destination applications.
- **Identity and access management** — Your administrator must grant you the permissions required to create and run flows. For more information, see Identity and access management for Amazon AppFlow .

- **AWS CloudFormation OAuth (Optional)** — If you want to use AWS CloudFormation to create a connector profile for connectors that implement OAuth (such as Salesforce, Slack, Zendesk, and Google Analytics), you must fetch the access and refresh tokens. You can do this by implementing your own UI for OAuth, or by retrieving them from elsewhere. Alternatively, you can use the Amazon AppFlow console to create the connector profile, and then use that connector profile in the flow creation AWS CloudFormation template.
- **Data encryption (Optional)** — Amazon AppFlow encrypts your data and connection details during transit and at rest. For more information, see Data protection in Amazon AppFlow. When you configure a flow, you specify an AWS Key Management Service CMK to use for encryption. You can choose the AWS managed customer master key (CMK) that Amazon AppFlow creates by default, named **AWSDefaultEncryptionKey**, or you can choose a customer managed CMK that you create. To create a CMK, see Creating symmetric CMKs in the *AWS Key Management Service Developer Guide*. For examples of how to set IAM permissions for KMS access, see Identity-based policy examples for Amazon AppFlow.

Tutorial: Transfer data between applications with Amazon AppFlow

This tutorial explains how to use Amazon AppFlow with Amazon Simple Storage Service (Amazon S3) and Salesforce through the AWS Management Console. Optionally, if you want to use a different supported software as a service (SaaS) application, the tutorial provides general instructions for how to create a flow. A flow uses a connection to transfer data between a source and a destination. When you run a flow, Amazon AppFlow verifies that the data is available in the source, processes the data according to the flow configuration, and transfers the processed data to the destination.

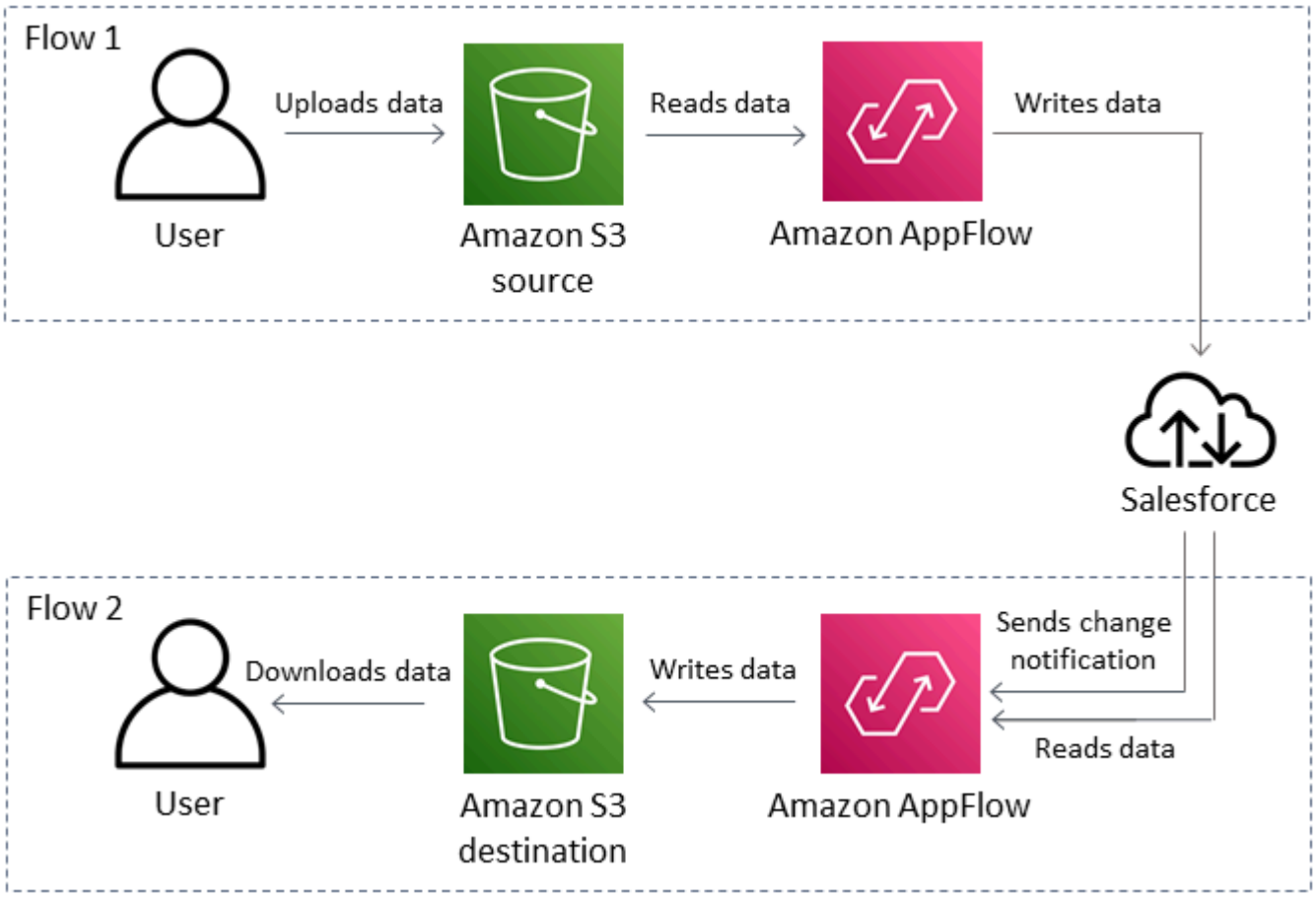
Objective

In this tutorial, you learn to transfer data between applications. Specifically, you transfer data both from Amazon S3 to Salesforce, and from Salesforce to Amazon S3. First, you synchronize additional account records with the customer relationship management (CRM) data already stored in Salesforce (Flow 1). You can optionally add validations to this flow to only transfer good data. Then, you transfer the account data in Salesforce to Amazon S3 in an event-triggered flow (Flow 2). When Amazon AppFlow detects a change to the target data in the CRM storage service, an event-triggered flow runs. This way, you have access to up-to-date information in Amazon S3, where you can import it into an object for data lake hydration to generate business value.

In this tutorial, you accomplish the following:

- Store a sample data set of accounts in Amazon Simple Storage Service (Amazon S3).
- **Flow 1** — Use Amazon AppFlow to transfer data from Amazon S3 to Salesforce.
- **Flow 2** — Use Amazon AppFlow to transfer data from Salesforce to Amazon S3.

The following diagram shows the two workflows.



Estimated cost: Some of the actions in this tutorial may incur minor charges on your AWS account. The provided sample data is 1 KB. Should you choose to use your own data, you might incur greater charges. Reduce charges by completing the tutorial through Step 5: Clean up your resources. For information about pricing, see Amazon S3 pricing and Amazon AppFlow pricing.

Topics

Prerequisites

Before you begin, you need access to an AWS account and an account for a supported application. This tutorial uses Salesforce, but you can follow the steps to create flows with a different application. Before you can access the AWS services in this tutorial, your administrator must grant the required permissions to your user, group, or role.

- **Amazon AppFlow setup** — If you haven't already done so, complete the Getting started prerequisites.
- **AWS Identity and Access Management (IAM) setup** — You or your administrator must attach the AWS managed policy `AmazonAppFlowFullAccess` to your user, group, or role. For information on how to attach an IAM policy, see Adding and removing IAM identity permissions in the *IAM User Guide*. Also, you must create and attach the following policy to your user, group, or role.

```
{
  "Version": "2012-10-17",
  "Statement": [
    {
      "Sid": "VisualEditor0",
      "Effect": "Allow",
      "Action": [
        "s3:GetBucketTagging",
        "s3:ListBucketVersions",
        "s3:CreateBucket",
        "s3:ListBucket",
        "s3:GetBucketPolicy",
        "s3:PutEncryptionConfiguration",
        "s3:GetEncryptionConfiguration",
        "s3:PutBucketTagging",
        "s3:GetObjectTagging",
        "s3:GetBucketOwnershipControls",
        "s3:PutObjectTagging",
        "s3:DeleteObject",
        "s3:DeleteBucket",
        "s3:DeleteObjectTagging",
        "s3:GetBucketPublicAccessBlock",
        "s3:GetBucketPolicyStatus",
        "s3:PutBucketPublicAccessBlock",
        "s3:PutAccountPublicAccessBlock",
        "s3:ListAccessPoints",
```

```
        "s3:PutBucketOwnershipControls",
        "s3:PutObjectVersionTagging",
        "s3:DeleteObjectVersionTagging",
        "s3:GetBucketVersioning",
        "s3:GetBucketAcl",
        "s3:PutObject",
        "s3:GetObject",
        "s3:GetAccountPublicAccessBlock",
        "s3:ListAllMyBuckets",
        "s3:GetAnalyticsConfiguration",
        "s3:GetBucketLocation"
      ],
      "Resource": "*"
    }
  ]
}
```

For information on how to create IAM policies, see Creating IAM policies in the *IAM User Guide*. These two policies grant you all the permissions that you need to complete this tutorial. For more information on the different types of policies, see Managed policies and inline policies in the *IAM User Guide*.

- **Salesforce setup (Optional)** — If you already have a Salesforce account or you want to complete this tutorial with a different SaaS application, you can skip this step. Sign up for a free Salesforce developer account here.

Step 1: Upload data to Amazon S3

Suppose you have data that you want to turn into Salesforce account records. You acquired this data from a web form and used it to generate account records. You can upload this list of additional accounts to Amazon Simple Storage Service (Amazon S3). Amazon AppFlow can transfer the data from Amazon S3 to Salesforce to synchronize your customer relationship management (CRM) data.

To use Amazon S3 as your source for the flow, create a storage container, called a bucket, and populate it with data. Amazon AppFlow can transfer the data within an S3 bucket to any of the supported destinations. In this step, you create an S3 bucket, create a source folder within the S3 bucket, and upload sample data to the source folder.

Topics

(Optional) Download sample data

If you have your own data that you want to use for this tutorial, you can skip this step. Also, if you use a SaaS application other than Salesforce, this sample data may not be useful.

The sample data includes nine account records. Download this sample data set.

To get the sample data

1. Download the zip file tutorial-account-data.zip.
2. Extract the zip file. The unzipped file called `tutorial-account-data.csv` contains the sample data set.

Create an S3 bucket

After you extract your sample data, use the AWS Management Console to create an S3 bucket to store your data. Your S3 bucket must occupy the same AWS Region as the one where you want to use Amazon AppFlow.

To create an S3 bucket

1. Open the Amazon S3 console at https://console.aws.amazon.com/s3/.
2. In the **Buckets** section, choose **Create bucket**.
3. For **Bucket name**, enter a descriptive name. The name must be globally unique. For example, enter ***username*`-appflow-tutorial`**.
4. For **AWS Region**, choose the same Region as your Amazon AppFlow console.

> **Warning**
>
> If your S3 bucket isn't in the same AWS Region as your console, your flow can't access it.

5. Keep the other settings at their default values. Choose **Create bucket**.

Create a folder in an S3 bucket

Now that you have an S3 bucket, use the console to create a folder in the bucket where you want to store the sample data. While a folder isn't essential, it's useful for keeping your files organized.

To create a folder in Amazon S3

1. Open the Amazon S3 console at https://console.aws.amazon.com/s3/.
2. In the **Buckets** section, choose your S3 bucket from the list.
3. Under the **Objects** tab, choose **Create folder**.
4. For the folder name, enter **`source`**.
5. Choose **Create folder**.

Upload data to Amazon S3

Now that you have set up your S3 bucket, upload the data.

To populate the S3 bucket with data

1. Open the Amazon S3 console at https://console.aws.amazon.com/s3/.
2. In the **Buckets** section, choose your S3 bucket from the list.
3. Choose the `source` folder. Then, under the **Objects** tab, choose **Upload**.
4. Choose **Add files**, and choose your data set. If you downloaded the sample data set, choose the `tutorial-account-data.csv` file.
5. Choose **Upload**.

You now have an S3 bucket with sample data in the `source` folder.

Additional resources

For more information on Amazon S3, see the following resources:

- Amazon S3 in the *Amazon AppFlow User Guide*.
- Amazon S3 in the *Amazon S3 User Guide*.

Step 2: Connect Amazon AppFlow to an application

You can securely move your data between supported source and destination applications with a connection in Amazon AppFlow. Connections store the configuration details and credentials necessary to run flows without the need to repeatedly enter information. After you have an established connection with an application, you can use that connection in new or existing flows.

Topics

Prerequisites

Before you begin, complete the tutorial prerequisites.

Create a connection between Amazon AppFlow and a SaaS application

If you want to create and run a flow, you must establish a connection with the software as a service (SaaS). You can create this connection while you create the flow, or you can create the connection separately. Here, you create a connection in Amazon AppFlow before you create the flow.

To create a connection with Salesforce

1. Open the Amazon AppFlow console at https://console.aws.amazon.com/appflow/.
2. Expand the navigation pane on the left-hand side of the console page and choose **Connections**.
3. For **Connectors**, select **Salesforce**.
4. Choose **Create connection**.

5. Leave the default selections and enter a **Connection name**. For example, enter **`my-salesforce-connection`**.
6. Choose **Continue**.
7. If you're not already logged into Salesforce, Amazon AppFlow prompts you to log in.
8. Choose **Allow** to give Amazon AppFlow access to your Salesforce account.

To create a connection with other applications

- Go to the Supported applications page and select the application that you want to connect with. Follow the instructions for your selected application.

You now have a connection in the Amazon AppFlow console to your SaaS account. If you use the same third-party application in both flows, you only need one connection.

Additional resources

For more information on connections, see the following resources:

- Managing connections in the *Amazon AppFlow User Guide*.
- Salesforce in the *Amazon AppFlow User Guide*.

Step 3: Transfer data from Amazon S3 to a SaaS destination

Amazon S3 now hosts your data, but you still need to synchronize all your records in the destination. To transfer data to a supported destination, you must create and run a flow with Amazon AppFlow. In this step, you use the AWS Management Console to send data from Amazon S3 to either Salesforce or another software as a service (SaaS) application.

Topics

- Prerequisites
- Create a flow
- Run a flow
- View transferred data
- (Optional) Edit flow to add validations

Prerequisites

Before you begin, complete Step 1: Upload data to Amazon S3.

Create a flow

The following procedures detail how to create a flow from Amazon S3 to Salesforce, but you can follow the steps with any destination.

To complete Step 1: Specify flow details

1. Open the Amazon AppFlow console at https://console.aws.amazon.com/appflow/. Ensure the AWS Region of your Amazon AppFlow console is the same one as your S3 bucket.
2. Choose **Create flow**.
3. For **Flow name**, enter **`s3-to-SaaS`**. For example, if your destination is Salesforce, enter **`s3-to-salesforce`**.
4. Under **Data encryption**, you have the option to activate custom encryption settings. By default, Amazon AppFlow encrypts your data with a key in AWS Key Management Service (AWS KMS). AWS creates, uses, and manages this key for you. Amazon AppFlow always encrypts your data during transit and at rest. The default encryption is adequate for this tutorial, so don't select custom encryption settings. For more information, see Data protection in the *Amazon AppFlow User Guide*.
5. Under **Tags**, you have the option to add tags to your flow. Tags are key-value pairs that assign metadata to resources that you create. Tags are not necessary for this tutorial. For more information, see Tagging AWS resources in the *AWS General Reference*.
6. To continue to Step 2: Configure flow, choose **Next**.

To complete Step 2: Configure flow

1. For **Source name**, choose **Amazon S3**.
2. In **Bucket details**, for *Choose an S3 bucket*, select your S3 bucket.
3. For *Enter bucket prefix*, enter **`source`**. Bucket prefixes are folders.
4. Ensure **Data format preference** is **CSV format**.
5. Configure the **Destination details**. These details vary based on the destination that you want to transfer data to.
   - If you want to transfer data to Salesforce, do the following:

a. For **Destination name**, select **Salesforce**.

b. For **Choose Salesforce connection**, select your connection. For example, select `my-salesforce-connection`, the connection that you created in the previous step.

> **Tip**
>
> If you don't have a connection, you can choose **Connect** to create one now.

c. If you want to use the sample data that you downloaded, for **Choose Salesforce object**, select **Account**.

- If you want to transfer data to another supported application besides Salesforce, do the following:

a. For **Destination name**, select the destination that you want for your data.

b. For **Choose connection**, select the connection that you created, or create one.

c. Select **object** and specify the correct object type for your data.

d. If there are any other destination details, configure the required fields.

6. In the **Error handling** section, you can specify how you want the flow to handle errors and where to put the data that causes errors. For this tutorial, you can leave the settings in this section at their default values.
7. For **Flow trigger**, leave the default selection **Run on demand**. When you select this value, you use a single button in the console to run the flow.

> **Tip**
>
> You can also run flows on a schedule. Amazon AppFlow bases the time zone for this schedule on your web browser. For more information, see Schedule-triggered flows in the *Amazon AppFlow User Guide*.

8. To continue to Step 3: Map data fields, choose **Next**.

To complete Step 3: Map data fields

1. Map your data fields. These vary based on the destination for your data transfer.
   - If you're transferring to Salesforce, do the following:

a. Under **Mapping method**, leave the default selection **Manually map fields**.

b. Under **Destination record preference**, leave the default selection **Insert new records**.

c. In the **Source to destination field mapping** section, select the *Choose source fields* dropdown and select **Map all fields directly**.

> **Important**
>
> If you use the sample data, ensure Account Name maps to Account Name, Account Type maps to Account Type, Billing State/Province maps to Billing State/Province, Account Rating maps to Account Rating, and Industry maps to Industry.

d. Choose **Map selected fields**.

- If you want to transfer data to another supported application besides Salesforce, do the following:

a. Select **Mapping method** and specify how you want to map your data. You can choose to map the source fields to the destination fields manually, or else upload a .csv file that includes these mappings.

b. Map your fields from the source field name to the destination field name.

2. Under **Validations**, specify what happens to invalid data within the flow. For this step, you don't need any validations.
3. To continue to Step 4: Add filters, choose **Next**.

To complete Step 4: Add filters

1. Under **Filters**, specify what data the flow transfers. With this setting, you can ensure the flow transfers data only when it meets certain criteria. For this tutorial, you don't need any filters.
2. To continue to Step 5: Review and create, choose **Next**.

To complete Step 5: Review and create

- Review the flow settings, and then choose **Create flow**.

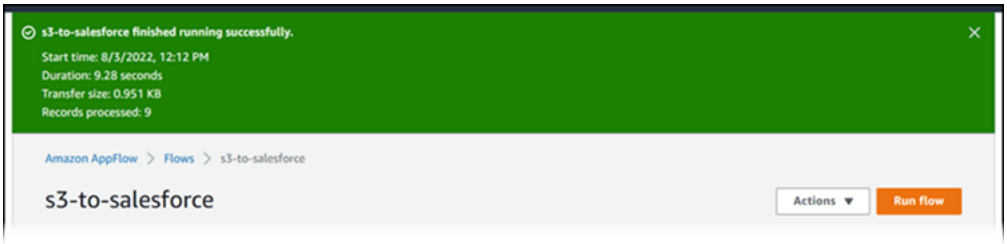
Run a flow

You now have a run-on-demand flow. When you choose the **Run flow** button in the console, this flow transfers your data.

To run a flow

1. In **Flows**, select your flow from the list.
2. Choose **Run flow**.

When the flow successfully runs, a banner appears. If you use the provided data, the banner shows nine processed records.



View transferred data

After your flow runs, you can view the data in the destination.

To view transferred data

- If you use the sample Salesforce account data, navigate to your Salesforce **Account tab** to view the imported account records. For more information on Salesforce accounts, see Salesforce accounts.

You have now transferred data from Amazon S3 to Salesforce or the SaaS application that you chose. If you used Salesforce and the sample data, you have synchronized and expanded your Salesforce account data.

(Optional) Edit flow to add validations

The flow that you ran transferred all the records in the data set. You can add validations to a flow so that you transfer only valid records. In this procedure, if you use the sample data, you edit your Amazon S3 to Salesforce flow to transfer only account records with ratings.

Before you edit and run the flow again, delete the records that you transferred from the original flow.

To delete account records in Salesforce

- Follow the directions in Mass Delete Records.

For the sample data set, suppose you consider account records valid only if they have an account rating. Two of the account records don't have associated account ratings. You don't want these records to transfer from Amazon S3 so that you only have valid data in Salesforce.

To edit a flow and add validations

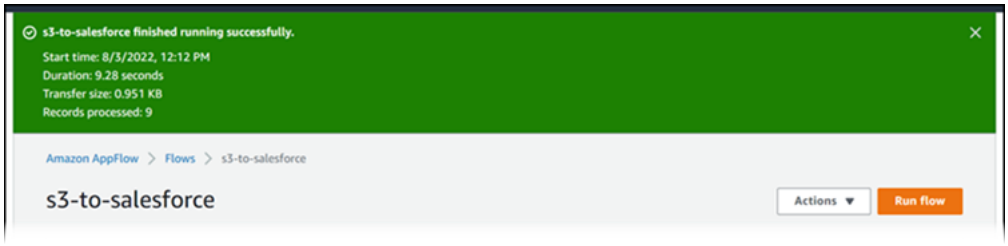
1. Open the Amazon AppFlow console at https://console.aws.amazon.com/appflow/.
2. In **Flows**, choose your flow.
3. Choose **Actions**, then choose **Edit flow**.
4. Choose **Next** until you reach **Step 3: Edit data fields**.
5. In **Validations**, choose **Add validation**.
6. If you use the sample data, for **Field name**, select **Account rating**. For **Condition**, choose **Values missing or null**. For **Action**, choose **Ignore record**. This configuration will omit the transfer of account records with missing rating values.

	A	B	C	D	E
1	**Account Name**	**Account Type**	**Billing State/Province**	**Account Rating**	**Industry**
2	Example1	Customer - Direct	Anywhere	Hot	Apparel
3	Example2	Customer - Channel	Anywhere	Warm	Biotechnology
4	Example3		Anywhere	Cold	Construction
5	Example4	Customer - Direct	Anywhere		Consulting
6	Example5	Customer - Channel	Anywhere	Hot	Education
7	Example6	Customer- Channel	Anywhere	Warm	Electronics
8	Example7		Anywhere	Cold	Energy
9	Example8		Anywhere		Hospitality
10	Example9	Customer - Direct	Anywhere	Hot	Transportation
11					

7. Choose **Save**.

To run the edited flow and view transferred data

1. In **Flows**, select your flow from the list.
2. Choose **Run flow**. When the flow successfully runs, a banner appears.



3. If you use the sample Salesforce account data, navigate to your Salesforce **Account** tab to view the imported account records. For more information on Salesforce accounts, see Salesforce Accounts.

If you used the sample data, only seven of the nine records transferred. `Example4` and `Example8` do not appear because they have no account ratings associated with them.

Step 4: Transfer data from a SaaS source to Amazon S3

Suppose you now want to transfer your data from Salesforce to Amazon S3. With Amazon S3, you can synchronize and replicate customer relationship management (CRM) data into data lakes to analyze or use to drive machine learning. To keep this information up to date, you can create an event-triggered flow from Salesforce to Amazon S3. An event-triggered flow runs when Amazon AppFlow detects a change to the target data in the CRM storage service.

After you create an S3 bucket, you can set up and run a flow with Amazon AppFlow to transfer data from a supported source to the S3 bucket. You can use one S3 bucket as both a source and destination, so you don't need to create a new S3 bucket if you already created one for this tutorial. In this step, you use the AWS Management Console to create and run a flow from Salesforce or another software as a service (SaaS) application to Amazon S3.

Topics

Prerequisites

Before you begin, you need an S3 bucket to receive the data if you don't already have one. You can use the same S3 bucket as both a source and destination for different flows. This tutorial uses Salesforce for a SaaS account, but you can use another supported source application if you want. Some flow options that this tutorial uses don't work for a SaaS application other than Salesforce.

- **Amazon S3 setup** — If you don't already have an S3 bucket, Create an S3 bucket to prepare Amazon S3 to receive your data.
- **Salesforce setup (Optional)** — If you already have a Salesforce account, or you want to complete this tutorial with a different SaaS application, you can skip this step. Sign up for a free Salesforce developer account here.
- **Transfer data to Salesforce (Optional)** — If you use Salesforce for this tutorial, we recommend that you complete Step 3: Transfer data from Amazon S3 before you continue.

Change data capture in Salesforce

To run an event-triggered flow, Amazon AppFlow needs to receive a notification when a record changes. When you use the change data capture feature in Salesforce, you can generate change event notifications for selected entities. If you don't have administrator-level credentials, you might not be able to select entities to generate change notifications. However, the free developer account has administrator privileges.

To enable change data capture

1. Open Salesforce at www.salesforce.com and log in to your account.
2. Navigate to the **Change Data Capture** page.
3. If you use the sample data, select **Account (Account)** to generate change event notifications. Otherwise, select the appropriate entity for your data.

For more information about Salesforce change data capture, see Change Data Capture.

Create a flow

The following procedures detail how to create a flow from Salesforce to Amazon S3, but you can follow the steps with any supported source. Some flow options that this tutorial uses don't work for a SaaS application other than Salesforce, but alternate steps appear.

To complete Step 1: Specify flow details

1. Open the Amazon AppFlow console at https://console.aws.amazon.com/appflow/.
2. Choose **Create flow**.
3. For **Flow name**, enter ***SaaS*-to-s3**. For example, if your source is Salesforce, enter **salesforce-to-s3**.
4. Under **Data encryption**, you have the option to activate custom encryption settings. By default, Amazon AppFlow encrypts your data with a key in AWS Key Management Service (AWS KMS). AWS creates, uses, and manages this key for you. Amazon AppFlow always encrypts your data during transit and at rest. The default encryption is adequate for this tutorial, so don't select custom encryption settings. For more information, see Data protection in the *Amazon AppFlow User Guide*.
5. Under **Tags**, you have the option to add tags to your flow. Tags are key-value pairs that assign metadata to resources that you create. Tags aren't necessary for this tutorial. For more information, see Tagging AWS resources in the *AWS General Reference*.
6. To continue to Step 2: Configure flow, choose **Next**.

To complete Step 2: Configure flow

1. Configure the **Source details**. These details vary based on the source that you want to transfer data from.
   - If you want to transfer data from Salesforce, do the following:
     a. For **Source name**, choose **Salesforce**.
     b. For **Choose Salesforce connection**, select your connection. For example, select `my-salesforce-connection`, the connection that you created in a previous step.

        > **Tip**
        > If you don't have a connection, you can choose **Connect** to create one now.

     c. Select **Salesforce events**.
     d. If you use the sample data, for **Choose Salesforce event**, select **Account Change Event**. Otherwise, select the event that matches your data.
   - If you want to transfer data from another supported application besides Salesforce, do the following:

a. For **Source name**, select the source that you want for your data.

b. For **Choose connection**, select the connection that you created, or create one.

c. Select **object** and specify the correct object type for your data.

d. If there are any other source details, configure the required fields.

2. For **Destination name**, choose **Amazon S3**.
3. In **Bucket details**, for *Choose an S3 bucket*, select your S3 bucket. Use the same S3 bucket that contains the `source` folder from the previous step.
4. For *Enter bucket prefix*, enter **`destination`**. Bucket prefixes are folders.

> **Tip**
>
> If you don't have a folder that matches the name that you entered, the flow automatically creates one when it runs.

5. Configure the **Flow trigger**. This varies based on the source where you want to transfer data from.
   - If you want to transfer data from Salesforce, leave the default selection **Run flow on event**.
   - If you want to transfer data from another supported application besides Salesforce, leave the default selection **Run on demand**. This option allows you to run the flow with the selection of one button in the console.

> **Tip**
>
> You can also run flows on a schedule. Amazon AppFlow bases the time zone for this schedule on your web browser. For more information, see Schedule-triggered flows in the *Amazon AppFlow User Guide*.

6. To continue to Step 3: Map data fields, choose **Next**.

To complete Step 3: Map data fields

1. Under **Mapping method**, leave the default selection **Manually map fields**.
2. In the **Source to destination field mapping** section, select the *Choose source fields* dropdown and select **Map all fields directly**.

3. Under **Validations**, specify what happens to invalid data within the flow. For this step, you don't need any validations.
4. To continue to Step 4: Add filters, choose **Next**.

To complete Step 4: Add filters

1. Under **Filters**, specify what data the flow transfers. With this setting, you can ensure the flow transfers data only when it meets certain criteria. For this tutorial, you don't need any filters.
2. To continue to Step 5: Review and create, choose **Next**.

To complete Step 5: Review and create

- Review the flow settings, then choose **Create flow**.

Run a flow

You now have a flow. The source that you use determines how you run this flow.

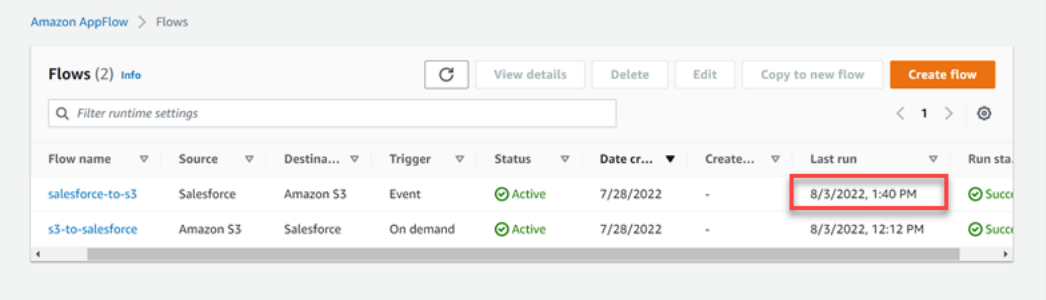
Run an event-triggered flow with Salesforce

Your event-triggered flow runs when a change occurs to a record that you've set up to generate change event notifications. Here, you change a record within your Salesforce account to activate a flow run.

To run an event-triggered flow with Salesforce

1. Open the Amazon AppFlow console at https://console.aws.amazon.com/appflow/.
2. In **Flows**, select the `salesforce-to-s3` flow.
3. Choose **Activate flow**.
4. Open Salesforce at www.salesforce.com and log in to your account.
5. Navigate to the page where Salesforce stores your records. For the sample data, this is the **Accounts** page.
6. Edit one of the records. For example, in the sample data, change the **Rating** in `Example3` from **cold** to **hot**.

After about a minute, refresh your flow page in Amazon AppFlow. When the flow successfully runs, a timestamp from the last flow run appears.



Run an on-demand flow with a supported SaaS source

Your on-demand flow runs when you choose the **Run flow** button in the console.

To run an on-demand flow

1. In **Flows**, select your flow from the list.
2. Choose **Run flow**.

When the flow successfully runs, a banner appears.

View transferred data

The data from your source now resides in your S3 bucket. From the S3 bucket, you can, for example, consume the data from multiple AWS services for analysis. In this step, you download and view the data on your computer.

To retrieve the transferred data

1. Open the Amazon S3 console at https://console.aws.amazon.com/s3/.
2. In **Buckets**, choose your S3 bucket from the list.
3. In your S3 bucket, choose the `destination` folder. Then choose the flow folder, for example, `salesforce-to-s3`.
4. The folder contains one file. Select this file and choose **Download**.

5. Navigate to the file in your `Downloads` folder and rename it with a descriptive name.
6. Open the file to view the updated record.

You've now transferred data from Salesforce or the SaaS that you chose to Amazon S3. If you used Salesforce, you set up an event-triggered flow to keep up-to-date with changing data.

Step 5: Clean up your resources

After you've completed the tutorial, it's good practice to clean up any resources that you no longer want to use. This way, your account doesn't incur any further charges.

Topics

- Clean up in Amazon S3
- Clean up in Amazon AppFlow
- Clean up in Salesforce

Clean up in Amazon S3

Because you used an S3 bucket as both a source and a destination throughout this tutorial, Amazon S3 hosted multiple files. Unless you delete these files, their storage continues to incur charges on your AWS account. Before you delete an S3 bucket, ensure you have saved any important files to another location.

To clean up your S3 bucket

1. Open the Amazon S3 console at https://console.aws.amazon.com/s3/.
2. In the **Buckets** section, select your S3 bucket and choose **Empty**. Follow the prompts to delete the contents of the bucket.
3. In the **Buckets** section, select your S3 bucket and choose **Delete**. Follow the prompts to delete the S3 bucket.

> **Warning**
>
> Because S3 bucket names are globally unique, when you delete your S3 bucket, someone else can use its name. If you want to reserve an S3 bucket name, don't delete the bucket.

Now you have deleted all of the Amazon S3 resources that you created for the tutorial.

For more information on how to empty and delete S3 buckets, see the following resources:

- Emptying a bucket in the *Amazon S3 User Guide*.
- Deleting a bucket in the *Amazon S3 User Guide*.

Clean up in Amazon AppFlow

Amazon AppFlow stores both your connection and flows. To clean up all resources that you created in this tutorial, delete the two flows and your connection to the SaaS application.

To clean up your flows

1. Open the Amazon AppFlow console at https://console.aws.amazon.com/appflow/.
2. In the **Flows** section, select a flow and choose **Delete**. Follow the prompts to delete your flow.
3. Perform the above step for any flows that remain.

To clean up your connection

1. Open the Amazon AppFlow console at https://console.aws.amazon.com/appflow/.
2. In the **Connections** section, under **Connectors**, open the *Choose a connector* box. Select the connector that you used in the tutorial.
3. Select the connection and choose **Delete**.
4. If you used more than one connector, repeat steps 2 and 3 for all connectors.

Now you have deleted all of the resources that you created within Amazon AppFlow for the tutorial.

Clean up in Salesforce

If you used Salesforce for this tutorial and uploaded the sample data from an S3 bucket to Salesforce, you might want to delete the sample account records.

To delete imported records in Salesforce

- Follow the directions in Mass delete records.

After you complete these steps, you have cleaned up all of the resources that you created in this tutorial. Deleted resources no longer incur charges on your AWS account.

Supported source and destination applications

Choose an application in the following list to learn more about its setup requirements.

Topics

- GitLab connector for Amazon AppFlow
- Google Ads connector for Amazon AppFlow
- Google Analytics
- Google Analytics 4 connector for Amazon AppFlow
- Google BigQuery connector for Amazon AppFlow
- Google Calendar connector for Amazon AppFlow
- Google Search Console connector for Amazon AppFlow
- Google Sheets connector for Amazon AppFlow
- HubSpot connector for Amazon AppFlow
- Infor Nexus
- Instagram Ads connector for Amazon AppFlow
- Intercom connector for Amazon AppFlow
- JDBC connector for Amazon AppFlow
- Jira Cloud connector for Amazon AppFlow
- Kustomer connector for Amazon AppFlow
- LinkedIn Ads connector for Amazon AppFlow
- LinkedIn Pages connector for Amazon AppFlow
- Mailchimp connector for Amazon AppFlow
- Marketo
- Microsoft Dynamics 365 connector for Amazon AppFlow
- Microsoft SharePoint Online connector for Amazon AppFlow
- Microsoft Teams connector for Amazon AppFlow
- Mixpanel connector for Amazon AppFlow
- Okta connector for Amazon AppFlow
- Oracle HCM connector for Amazon AppFlow
- PayPal connector for Amazon AppFlow
- Pendo connector for Amazon AppFlow
- Pipedrive connector for Amazon AppFlow
- Productboard connector for Amazon AppFlow
- QuickBooks Online connector for Amazon AppFlow

- Recharge connector for Amazon AppFlow
- Salesforce connector for Amazon AppFlow
- Salesforce Marketing Cloud connector for Amazon AppFlow
- Salesforce Pardot
- SAP OData connector for Amazon AppFlow
- SendGrid connector for Amazon AppFlow
- ServiceNow
- Singular
- Slack
- Smartsheet connector for Amazon AppFlow
- Snapchat Ads connector for Amazon AppFlow
- Snowflake
- Stripe connector for Amazon AppFlow
- Trend Micro
- Typeform connector for Amazon AppFlow
- Upsolver
- Veeva
- WooCommerce connector for Amazon AppFlow
- Zendesk
- Zendesk Chat connector for Amazon AppFlow
- Zendesk Sell connector for Amazon AppFlow
- Zendesk Sunshine connector for Amazon AppFlow
- Zoho CRM connector for Amazon AppFlow
- Zoom connector for Amazon AppFlow

Adobe Analytics connector for Amazon AppFlow

Adobe Analytics is a business analysis software as a service (SaaS) solution. If you're an Adobe Analytics user, your account contains business data, analytics, and more. You can use Amazon AppFlow to transfer data from Adobe Analytics to certain AWS services or other supported applications.

Amazon AppFlow support for Adobe Analytics

Amazon AppFlow supports Adobe Analytics as follows.

Supported as a data source?

Yes. You can use Amazon AppFlow to transfer data from Adobe Analytics.

Supported as a data destination?

No. You can't use Amazon AppFlow to transfer data to Adobe Analytics.

Before you begin

To use Amazon AppFlow to transfer data from Adobe Analytics to supported destinations, you must meet these requirements:

- You have an account with Adobe Analytics that contains the data that you want to transfer. For more information about the Adobe Analytics data objects that Amazon AppFlow supports, see Supported objects.
- In your Adobe Analytics account, you've created an app for Amazon AppFlow. The app provides the client credentials that Amazon AppFlow uses to access your data securely when it makes authenticated calls to your account. For information about how to create an app, see Add a new app in the Adobe Analytics documentation.
- You've configured the app with a redirect URL for Amazon AppFlow.

  Redirect URLs have the following format:

  ```
  https://region.console.aws.amazon.com/appflow/oauth
  ```

  In this URL, *region* is the code for the AWS Region where you use Amazon AppFlow to transfer data from Adobe Analytics. For example, the code for the US East (N. Virginia) Region is `us-east-1`. For that Region, the URL is the following:

  ```
  https://us-east-1.console.aws.amazon.com/appflow/oauth
  ```

  For the AWS Regions that Amazon AppFlow supports, and their codes, see Amazon AppFlow endpoints and quotas in the *AWS General Reference.*

Note the client ID and client secret from your app settings. You provide these values to Amazon AppFlow when you create your connection.

Connecting Amazon AppFlow to your Adobe Analytics account

To connect Amazon AppFlow to your Adobe Analytics account, provide the client credentials from your Adobe Analytics app so that Amazon AppFlow can access your data. If you haven't yet configured your Adobe Analytics account for Amazon AppFlow integration, see Before you begin.

To connect to Adobe Analytics

1. Sign in to the AWS Management Console and open the Amazon AppFlow console at https://console.aws.amazon.com/appflow/.
2. In the navigation pane on the left, choose **Connections**.
3. On the **Manage connections** page, for **Connectors**, choose **Adobe Analytics**.
4. Choose **Create connection**.
5. In the **Connect to Adobe Analytics** window, enter the following information:
   - **Connection name** — A name for the connection.
   - **Client ID** — The client ID in your Adobe Analytics app.
   - **Client secret** — The client secret in your Adobe Analytics app.
   - **X-API-KEY** — Re-enter the client ID in this field.
6. Optionally, under **Data encryption**, choose **Customize encryption settings (advanced)** if you want to encrypt your data with a customer managed key in the AWS Key Management Service (AWS KMS).

   By default, Amazon AppFlow encrypts your data with a KMS key that AWS creates, uses, and manages for you. Choose this option if you want to encrypt your data with your own KMS key instead.

   Amazon AppFlow always encrypts your data during transit and at rest. For more information, see Data protection in Amazon AppFlow.

   If you want to use a KMS key from the current AWS account, select this key under **Choose an AWS KMS key**. If you want to use a KMS key from a different AWS account, enter the Amazon Resource Name (ARN) for that key.
7. Choose **Connect**.

8. In the window that appears, sign in to your Adobe Analytics account, and grant access to Amazon AppFlow.

On the **Manage connections** page, your new connection appears in the **Connections** table. When you create a flow that uses Adobe Analytics as the data source, you can select this connection.

Transferring data from Adobe Analytics with a flow

To transfer data from Adobe Analytics, create an Amazon AppFlow flow, and choose Adobe Analytics as the data source. For the steps to create a flow, see Creating flows in Amazon AppFlow.

When you configure the flow, choose the data object that you want to transfer. For the objects that Amazon AppFlow supports for Adobe Analytics, see Supported objects.

Also, choose the destination where you want to transfer the data object that you selected. For more information about how to configure your destination, see Supported destinations.

Supported destinations

When you create a flow that uses Adobe Analytics as the data source, you can set the destination to any of the following connectors:

- Amazon Lookout for Metrics
- Amazon Redshift
- Amazon RDS for PostgreSQL
- Amazon S3
- HubSpot
- Marketo
- Salesforce
- SAP OData
- Snowflake
- Upsolver
- Zendesk
- Zoho CRM

Supported objects

When you create a flow that uses Adobe Analytics as the data source, you can transfer any of the following data objects to supported destinations:

Object	Field	Data type	Supported filters
Annotation	Apply To All Reports	Boolean	
	Approved	Boolean	
	Color	String	
	Company Id	Integer	
	Created Date	DateTime	
	Date Range	String	
	Description	String	
	Favorite	Boolean	
	Filter By Date Range	String	EQUAL_TO
	Filter By Ids	String	EQUAL_TO
	Filter By Modified After	DateTime	EQUAL_TO
	Id	String	
	Include Type	String	EQUAL_TO
	Locale	String	EQUAL_TO
	Modified By Id	String	
	Modified Date	DateTime	
	Name	String	

Object	Field	Data type	Supported filters
	Owner	Struct	
	Owner FullName	String	
	Report Suite Name	String	
	Rsid	String	
	Scope	Struct	
	Shares	List	
	Sort Property	String	EQUAL_TO
	System User Owned	Boolean	
	Tags	List	
	Usage Summary	Struct	
	Usage Summary With Relevancy Score	String	
Calculated Metric	Approved	Boolean	EQUAL_TO
	Categories	List	
	Compatibility	Struct	
	Created	DateTime	
	Definition	Struct	
	Description	String	
	Favorite	Boolean	EQUAL_TO
	Filter By Ids	String	EQUAL_TO
	Id	String	

Object	Field	Data type	Supported filters
	Include Type	String	EQUAL_TO
	Locale	String	EQUAL_TO
	Modified	DateTime	
	Name	String	EQUAL_TO
	Owner	Struct	
	Owner Full Name	String	
	Owner Id	Integer	EQUAL_TO
	Polarity	String	
	Precision	Integer	
	Report Suite Name	String	
	Rsid	String	
	Rsids	String	EQUAL_TO
	Site Title	String	
	Sort Direction	String	EQUAL_TO
	Sort Property	String	EQUAL_TO
	Tag Names	String	EQUAL_TO
	Tags	List	
	To Be Used In Rs Id	String	EQUAL_TO
	Type	String	
Calculated Metric Function	Category	String	

Object	Field	Data type	Supported filters
	Definition	Struct	
	Description	String	
	Example	String	
	Example Key	String	
	Id	String	
	Locale	String	EQUAL_TO
	Name	String	
	Namespace	String	
	Persistable	Boolean	
Component Metadata Share	Access Level	String	
	Component Id	String	
	Component Type	String	
	Ims Org Id	String	
	Include Type	String	EQUAL_TO
	Share From Ims Id	String	
	Share Id	String	
	Share To Id	Integer	
	Share To Ims Id	String	
	Share To Login	String	
	Share To Type	String	

Object	Field	Data type	Supported filters
	shareToDisplayName	String	
	user Id	Integer	EQUAL_TO
Component Metadata Tag	Components	List	
	Description	String	
	Id	String	
	Name	String	
Date Range	Alternate Variable Names	Struct	
	Approved	Boolean	
	Company ID	Integer	
	Create Date	DateTime	
	Curated Item	Boolean	
	Curated RSID	String	EQUAL_TO
	Definition	String	
	Description	String	
	Disabled Date	DateTime	
	Favorite	Boolean	
	Filter By IDs	String	EQUAL_TO
	Filter By Modified After	DateTime	EQUAL_TO
	ID	String	

Object	Field	Data type	Supported filters
	IMS Org ID	String	
	Include Type	String	EQUAL_TO
	Locale	String	EQUAL_TO
	Modified	DateTime	
	Name	String	
	New Definition	Boolean	EQUAL_TO
	Owner	Struct	
	Owner Full Name	String	
	Shares	List	
	Shares Full Name	String	
	System User Owned	Boolean	
	Tags	List	
	Template	Boolean	
	Usage Summary	Struct	
	Usage Summary With Relevancy Score	String	
Dimension	Allowed For Reporting	Boolean	
	Categories	List	
	Category	String	
	Classifiable	Boolean	EQUAL_TO

Object	Field	Data type	Supported filters
	Description	String	
	Extra Title Info	String	
	Filter Reportable	Boolean	EQUAL_TO
	ID	String	
	Locale	String	EQUAL_TO
	Multi Valued	Boolean	
	Name	String	
	None Settings	Struct	
	Parent	String	
	Pathable	Boolean	
	Reportable	List	
	Segmentable	Boolean	EQUAL_TO
	Standard Component	Boolean	
	Support	List	
	Supports Data Governance	Boolean	
	Tags	List	
	Title	String	
	Type	String	
Discovery	Companies	List	
	IMS Org Id	String	

Object	Field	Data type	Supported filters
Metric	Allocation	Boolean	
	Allowed For Reporting	Boolean	
	Categories	List	
	Category	String	
	Description	String	
	Extra Title Info	String	
	Help Link	String	
	Id	String	
	Locale	String	EQUAL_TO
	Name	String	
	Polarity	String	
	Precision	Integer	
	Segmentable	Boolean	EQUAL_TO
	Standard Component	Boolean	
	Support	List	
	Supports Data Governance	Boolean	
	Tags	List	
	Title	String	
	Type	String	

Object	Field	Data type	Supported filters
	calculated	Boolean	
Project	Access Level	String	
	Approved	Boolean	
	Company Template	Boolean	
	Complexity	Struct	
	Created	DateTime	
	Definition	Struct	
	Description	String	
	External References	Struct	
	Favorite	Boolean	
	Filter By IDs	String	EQUAL_TO
	Id	String	
	Include Type	String	EQUAL_TO
	Locale	String	EQUAL_TO
	Migrated IDs	List	
	Modified	DateTime	
	Name	String	
	Owner	Struct	
	Owner ID	String	EQUAL_TO
	Report Suite Name	String	

Object	Field	Data type	Supported filters
	Rsid	String	
	Shares	List	
	Site Title	String	
	Tags	List	
	Template	Boolean	
	Type	String	
	Usage Summary	Struct	
	versionNotes	String	
Report Suite	Calendar Type	Struct	
	Collection Item Type	String	
	Currency	String	
	Id	String	
	Name	String	
	RS Id Contains	String	EQUAL_TO
	RS Ids	String	
	Rsid	String	
	Timezone Zone Info	String	
Report Top Item	Date Range	String	EQUAL_TO
	End Date	DateTime	EQUAL_TO
	Item Id	String	

Object	Field	Data type	Supported filters
	Locale	String	
	Lookup None Values	Boolean	EQUAL_TO
	Search And	String	EQUAL_TO
	Search Not	String	EQUAL_TO
	Search Or	String	EQUAL_TO
	Search Phrase	String	EQUAL_TO
	Start Date	DateTime	EQUAL_TO
	Value	String	
	search-clause	String	
Segment	Categories	List	
	Created	DateTime	
	Definition	Struct	
	Definition Last Modified	DateTime	
	Description	String	
	Filter By Published Segments	String	EQUAL_TO
	Id	String	
	Include Type	String	EQUAL_TO
	Locale	String	EQUAL_TO
	Modified	DateTime	

Object	Field	Data type	Supported filters
	Modified By ID	String	
	Name	String	EQUAL_TO
	Owner	Struct	
	Owner Full Name	String	
	Publishing Status	Struct	
	RSIDs	String	EQUAL_TO
	Report Suite Name	String	
	Rsid	String	EQUAL_TO
	Segment Filter	String	EQUAL_TO
	Site Title	String	
	Sort Direction	String	EQUAL_TO
	Sort Property	String	EQUAL_TO
	Tag Names	String	EQUAL_TO
	Tags	List	
	compatibility	Struct	
Timezone	Current Timezone Offset	Float	
	Name	String	
	Timezone Id	Integer	
	Timezone Zoneinfo	String	
Usage Log	Date Created	DateTime	

Object	Field	Data type	Supported filters
	End Date	DateTime	EQUAL_TO
	Event	String	EQUAL_TO
	Event Description	String	
	Event Type	String	EQUAL_TO
	IP	String	EQUAL_TO
	IP Address	String	
	Login	String	EQUAL_TO
	Rsid	String	EQUAL_TO
	Start Date	DateTime	EQUAL_TO
User	Admin	Boolean	
	Change Password	Boolean	
	Company ID	Integer	
	Disabled	Boolean	
	Email	String	
	First Name	String	
	Full Name	String	
	IMS User ID	String	
	Last Access	DateTime	
	Last Name	String	
	Login	String	

Object	Field	Data type	Supported filters
	Login ID	Integer	
	Phone Number	String	
	Title	String	
	createDate	DateTime	
	tempLoginEnd	DateTime	

AfterShip connector for Amazon AppFlow

AfterShip is a shipment tracking software as a service (SaaS) solution for e-commerce companies. AfterShip user accounts manage tracking data across more than 600 shipping services worldwide. You can use Amazon AppFlow to transfer data from AfterShip to certain AWS services or other supported applications.

Amazon AppFlow support for AfterShip

Amazon AppFlow supports AfterShip as follows.

Supported as a data source?

Yes. You can use Amazon AppFlow to transfer data from AfterShip.

Supported as a data destination?

No. You can't use Amazon AppFlow to transfer data to AfterShip.

Before you begin

To use Amazon AppFlow to transfer data from AfterShip to supported destinations, you must meet these requirements:

- You have an account with AfterShip that contains the data that you want to transfer. For more information about the AfterShip data objects that Amazon AppFlow supports, see Supported objects.

- In the settings for your account, you've created an API key for Amazon AppFlow. Amazon AppFlow uses the API key to make authenticated calls to your account and securely access your data. For more information, see Get the API key in the *AfterShip API Quick Start*.

Note the value of your API key. When you connect to your AfterShip account, you provide this value to Amazon AppFlow.

Connecting Amazon AppFlow to your AfterShip account

To connect Amazon AppFlow to your AfterShip account, provide details from your AfterShip account so that Amazon AppFlow can access your data. If you haven't yet configured your AfterShip account for Amazon AppFlow integration, see Before you begin.

Users who run the AfterShip connector for Amazon AppFlow can use one of two API versions:

- If you created your API key after July 7, 2022, select as-api-key. This is the latest version of the key and has additional security features, such as Advanced Encryption Standard (AES) and Rivest, Shamir, Adleman (RSA) signatures.
- If you created your API key prior to July 7, 2022, you must select the aftership-api-key. This is a legacy version of the key and doesn't include the additional security features. To use AES or RSA signatures, replace your existing legacy key with a new API key. For more information, see Authentication in the *AfterShip API Quick Start*.

To connect to AfterShip

1. Sign in to the AWS Management Console and open the Amazon AppFlow console at https://console.aws.amazon.com/appflow/.
2. In the navigation pane on the left, choose **Connections**.
3. On the **Manage connections** page, for **Connectors**, choose **AfterShip**.
4. Choose **Create connection**.
5. In the **Connect to AfterShip** window, enter the following information:
    - **API key** – Enter your API key.
    - **API secret key** – Enter your secret key.

6. Optionally, under **Data encryption**, choose **Customize encryption settings (advanced)** if you want to encrypt your data with a customer managed key in the AWS Key Management Service (AWS KMS).

   By default, Amazon AppFlow encrypts your data with a KMS key that AWS creates, uses, and manages for you. Choose this option if you want to encrypt your data with your own KMS key instead.

   Amazon AppFlow always encrypts your data during transit and at rest. For more information, see Data protection in Amazon AppFlow.

   If you want to use a KMS key from the current AWS account, select this key under **Choose an AWS KMS key**. If you want to use a KMS key from a different AWS account, enter the Amazon Resource Name (ARN) for that key.
7. For **Connection name**, enter a name for your connection.
8. Choose **Connect**.
9. In the window that appears, sign in to your AfterShip account, and grant access to Amazon AppFlow.

On the **Manage connections** page, your new connection appears in the **Connections** table. When you create a flow that uses AfterShip as the data source, you can select this connection.

Transferring data from AfterShip with a flow

To transfer data from AfterShip, create an Amazon AppFlow flow, and choose AfterShip as the data source. For the steps to create a flow, see Creating flows in Amazon AppFlow.

When you configure the flow, choose the data object that you want to transfer. For the objects that Amazon AppFlow supports for AfterShip, see Supported objects.

Also, choose the destination where you want to transfer the data object that you selected. For more information about how to configure your destination, see Supported destinations.

Supported destinations

When you create a flow that uses AfterShip as the data source, you can set the destination to any of the following connectors:

- Amazon Lookout for Metrics

- Amazon Redshift
- Amazon RDS for PostgreSQL
- Amazon S3
- HubSpot
- Marketo
- Salesforce
- SAP OData
- Snowflake
- Upsolver
- Zendesk
- Zoho CRM

Supported objects

When you create a flow that uses AfterShip as the data source, you can transfer any of the following data objects to supported destinations:

Object	Field	Data type	Supported filters
Couriers	Name	String	
	Phone	String	
	Slug	String	
	defaultLanguage	String	
	optionalFields	List	
	otherName	String	
	requiredFields	List	
	serviceFromCountryIso3	List	
	supportLanguages	List	

Object	Field	Data type	Supported filters
	webUrl	String	
Trackings	Active	Boolean	
	AftershipEstimated DeliveryDate	String	
	Android	List	
	Checkpoints	List	
	CourierDestination CountryIso3	String	
	CourierRedirectLink	String	
	CourierTrackingLink	String	
	CreatedAt	DateTime	
	CustomFields	List	
	CustomerName	String	
	DeliveryTime	Integer	
	DeliveryType	String	
	DestinationCountry Iso3	String	
	DestinationRawLoca tion	String	
	Emails	List	
	ExpectedDelivery	String	
	FirstAttemptedAt	DateTime	

Object	Field	Data type	Supported filters
	IOs	List	
	Id	String	
	Language	String	
	LastMileTrackingSupported	Boolean	
	LastUpdatedAt	DateTime	
	LatestEstimatedDelivery	String	
	Note	String	
	OnTimeDifference	Integer	
	OnTimeStatus	String	
	OrderDate	DateTime	
	OrderId	String	
	OrderIdPath	String	
	OrderNumber	String	
	OrderPromisedDeliveryDate	String	
	OrderTags	List	
	OriginCountryIso3	String	
	PickupLocation	String	
	PickupNote	String	
	ReturnToSender	Boolean	

Object	Field	Data type	Supported filters
	ShipmentDeliveryDate	DateTime	
	ShipmentPackageCount	Integer	
	ShipmentPickupDate	DateTime	
	ShipmentType	String	
	ShipmentWeight	Float	
	ShipmentWeightUnit	String	
	SignedBy	String	
	Slug	String	
	Smses	List	
	Source	String	
	SubscribedEmails	List	
	SubscribedSmses	List	
	Subtag	String	
	SubtagMessage	String	
	Tag	String	
	Title	String	
	TrackedCount	Integer	
	TrackingAccountNumber	String	

Object	Field	Data type	Supported filters
	TrackingDestinationCountry	String	
	TrackingKey	String	
	TrackingNumber	String	
	TrackingOriginCountry	String	
	TrackingPostalCode	String	
	TrackingShipDate	String	
	TrackingState	String	
	UniqueToken	String	
	UpdatedAt	DateTime	
	shipmentTags	List	

Amazon Connect connector for Amazon AppFlow

Amazon Connect is an AWS service that you can use to set up an omnichannel, cloud-based contact center for your customers. Amazon Connect provides the Customer Profiles feature. This feature helps you create unified customer profiles. These profiles combine customer information from external applications with contact history from Amazon Connect. For example, you can combine contact information, order history, and interaction history from software as a service (SaaS) applications like Salesforce, Zendesk and other Amazon AppFlow connectors. The contact center agents for your organization can use this consolidated information during customer support interactions.

If you use Amazon Connect, you can also use Amazon AppFlow to transfer data from supported data sources to Customer Profiles.

For more information about Customer Profiles, see Use Amazon Connect Customer Profiles in the *Amazon Connect Administrator Guide*

Amazon AppFlow support for Amazon Connect

Amazon AppFlow supports Amazon Connect as follows.

Supported as a data source?

No. You can't use Amazon AppFlow to transfer data from Amazon Connect.

Supported as a data destination?

Yes. You can use Amazon AppFlow to transfer data to Amazon Connect.

Supported Amazon Connect features

Amazon AppFlow integrates only with the Customer Profiles feature.

Transferring data to Amazon Connect with a flow

To transfer data to Amazon Connect Customer Profiles, you create an Amazon AppFlow flow, and you choose Amazon Connect as the data destination. Then, you use Amazon Connect to set up data mappings in Customer Profiles. These mappings define how data from the data source is mapped to the customer profile.

Before you can use Amazon AppFlow to transfer data to Customer Profiles, you must meet these requirements:

- You have an Amazon Connect instance.
- You have enabled the Customer Profiles feature for your Amazon Connect instance. When you enable Customer Profiles, you create a customer profiles domain, which is the container for your customer data in Amazon Connect.
- You have configured Customer Profiles to encrypt your data under a KMS key.

For more information about creating a flow in Amazon AppFlow and setting up data mappings in Amazon Connect, see Set up integration for external applications using Amazon AppFlow in the *Amazon Connect Administrator Guide*.

Amazon EventBridge

The following are the requirements and connection instructions for using Amazon EventBridge with Amazon AppFlow.

> **Note**
>
> You can use Amazon EventBridge as a destination only.

Topics

Requirements

Amazon AppFlow integrates with Amazon EventBridge to receive events from Salesforce. When you configure a flow that responds to Salesforce events, you can choose Amazon EventBridge as a destination. This enables Salesforce events received by Amazon AppFlow to be routed directly to a partner event bus.

- To configure Amazon EventBridge integration in Amazon AppFlow, you must first create a flow with Amazon EventBridge as the destination and then specify the partner event source.
- Before you can activate the flow, you must go to Amazon EventBridge to associate the partner event source with the event bus. After you complete this association and activate the flow, Salesforce events start flowing to the Amazon EventBridge event bus.

Connection instructions

To create a flow with Amazon EventBridge as the destination

1. Sign in to the AWS Management Console and open the Amazon AppFlow console at https://console.aws.amazon.com/appflow/.
2. Choose **Create flow** and enter a name for your flow.

3. For **Source details**, choose **Salesforce** as the source and select **Salesforce Events** with the specific event name.
4. For **Destination details**, choose Amazon EventBridge as the destination and one of the following partner event sources:

   - **Existing partner event source** - Amazon AppFlow displays a list of existing partner event sources that are available to you.
   - **New partner event source** - Amazon AppFlow creates a new partner event source on your behalf. If you choose this option, the partner event source name generated by Amazon AppFlow appears in a dialog box. (Optional) You can modify this name if needed.

   > **Note**
   >
   > The actual call to Amazon EventBridge API operations for creating this partner event source happens only when you choose **Create flow** in step 11 of this procedure.

5. For **Large event handling**, specify the S3 bucket where you want Amazon AppFlow to send large event information.
6. Ensure that **Run flow on event** is selected in the **Flow trigger** section. This setting ensures that the flow is executed when a new Salesforce event occurs.
7. For field mapping, choose **Map all fields directly**. Alternatively, you can choose the fields that you're interested in using from the **Source field name** list.
8. Choose **Next**.
9. (Optional) Configure filters for data fields in Amazon AppFlow.
10. Choose **Next**.
11. Review the settings and then choose **Create flow**.

To associate the partner event source with the event bus in Amazon EventBridge

1. Open the **Partner event sources** view in the Amazon EventBridge console at https://console.aws.amazon.com/events/home?#/partners/.
2. Choose the partner event source that you created.
3. Choose **Associate with event bus**.
4. Validate the name of the partner event bus.

5. Choose **Associate**.
6. Return to Amazon AppFlow and choose **Activate flow** to activate the flow.

Notes

- Events are limited to 256 KB. For events larger than 256 KB, Amazon AppFlow doesn't send the full event to Amazon EventBridge. Instead, the event payload contains a pointer to an S3 bucket, where you can get the full event.
- Events should be enabled in Salesforce and also in Amazon AppFlow for the destination to receive them. The destination service receives all such events configured for your account. If you need to filter the kinds of events that you want to process, or send different events to different targets, you can use content-based filtering with event patterns.

Related resources

- Receiving events from a SaaS partner in the *Amazon EventBridge* documentation
- Amazon AppFlow now supports Amazon EventBridge as a destination in the AWS *What's new* blog
- Building Salesforce integrations with Amazon EventBridge and Amazon AppFlow in the AWS *Compute* blog

Amazon Lookout for Metrics

The following are the requirements and connection instructions for using Amazon Lookout for Metrics with Amazon AppFlow.

> **Note**
>
> You can use Amazon Lookout for Metrics as a destination only.

Topics

- Related resources

Requirements

- To get access to Amazon Lookout for Metrics, you must first be added to the allow list. To request access, see Amazon Lookout for Metrics Preview. For more information about the service, see Amazon Lookout for Metrics.

Setup instructions

To create a flow with Amazon Lookout for Metrics as the destination

1. Sign in to the AWS Management Console and open the Amazon AppFlow console at https://console.aws.amazon.com/appflow/.
2. Choose **Create flow** and enter a name for your flow.
3. Under **Data encryption**, choose **Customize encryption settings (advanced)** then select an existing customer managed key (CMK) or create a new one. The default AWS managed CMK is not supported when using Amazon Lookout for Metrics as a destination.
4. (Optional) To add a tag, choose **Tags**, **Add tag** and then enter the key name and value.
5. Choose **Next**.
6. For **Source details**, choose a supported source and provide the requested information.
7. For **Destination details**, choose Amazon Lookout for Metrics as the destination for your time-series data.
8. When using Amazon Lookout for Metrics as a destination, only the **Run flow on schedule** option is available. Specify the appropriate schedule settings, such as the frequency, start date, and start time. You can also enter an end date (optional).

   Amazon Lookout for Metrics currently supports the following scheduling options:

   - If the source supports minutes: you can run the flow every 5 or 10 minutes by selecting **5** or **10** from the **Every** dropdown list.
   - If the source supports hours: you can run the flow once an hour by selecting **1** from the **Every** dropdown list.
   - If the source supports days: you can run the flow once a day by selecting **1** from the **Every** dropdown list.

9. Choose **Next**.
10. Under **Source to destination field mapping**, go to the **Source field name** dropdown list and choose **Map all fields directly**. Alternatively, you can manually select the fields that you want to use from the list.

    > **Note**
    >
    > A timestamp field is not required in your data. However, in order to use the anomaly detection feature of Amazon Lookout for Metrics, you need at least one measure or numeric column with values changing over time.

11. (Optional) Under **Validations - optional**, add validations to check whether a field has bad data. For each field, choose the condition that indicates bad data and what action Amazon AppFlow should take when a field in a record is bad.
12. Choose **Next**.
13. (Optional) Specify a filter to determine which records to transfer. To add a filter, choose **Add filter**, select the field name, select a condition, and then specify the criteria.
14. Choose **Next**.
15. Review the settings and then choose **Create flow**.

Notes

- The default AWS managed CMK is not supported when using Amazon Lookout for Metrics as a destination.
- The following sources are supported when using Amazon Lookout for Metrics as a destination:
  - Amplitude
  - Dynatrace
  - Google Analytics
  - Infor Nexus
  - Marketo
  - Salesforce
  - ServiceNow
  - Singular
  - Trend Micro

- Veeva
- Zendesk

- Amazon Lookout for Metrics currently supports the following scheduling options:
  - If the source supports minutes: you can run the flow every 5 or 10 minutes
  - If the source supports hours: you can run the flow once an hour
  - If the source supports days: you can run the flow once a day

Related resources

- Amazon Lookout for Metrics service page
- Amazon Lookout for Metrics Preview

Amazon RDS for PostgreSQL connector for Amazon AppFlow

Amazon Relational Database Service (Amazon RDS) helps you set up and manage relational databases in the AWS Cloud. With Amazon RDS for PostgreSQL, you can set up Amazon RDS databases that run the PostgreSQL open source database system. If you use Amazon RDS for PostgreSQL, you can also use Amazon AppFlow to populate your databases with data that you transfer from certain AWS services or other supported applications.

Amazon AppFlow support for Amazon RDS for PostgreSQL

Amazon AppFlow supports Amazon RDS for PostgreSQL as follows.

Supported as a data source?

No. You can't use Amazon AppFlow to transfer data from Amazon RDS for PostgreSQL.

Supported as a data destination?

Yes. You can use Amazon AppFlow to transfer data to Amazon RDS for PostgreSQL.

Before you begin

Before you can use Amazon AppFlow to transfer data to Amazon RDS for PostgreSQL, you must have one or more Amazon RDS databases where you've set the engine to PostreSQL. For the steps to create such a database, see Creating a PostgreSQL DB instance in the *Amazon RDS User Guide*.

From your database settings, note the endpoint name and port. You provide these values, along with your database user name and password, to Amazon AppFlow when you connect to your database.

Connecting Amazon AppFlow to your Amazon RDS for PostgreSQL database

To connect Amazon AppFlow to your Amazon RDS for PostgreSQL database, provide details from your database settings.

To connect to Amazon RDS for PostgreSQL

1. Sign in to the AWS Management Console and open the Amazon AppFlow console at https://console.aws.amazon.com/appflow/.
2. In the navigation pane on the left, choose **Connections**.
3. On the **Manage connections** page, for **Connectors**, choose **Amazon RDS for PostgreSQL**.
4. Choose **Create connection**.
5. In the **Connect to Amazon RDS for PostgreSQL** window, enter the following information:
   - **driver** – Choose **postgresql**.
   - **hostname** – The endpoint name of the destination DB instance.
   - **port** – The DB instance port number.
   - **username** – The name of the DB instance master user.
   - **password** – The DB instance password.
   - **database** – The DB instance name.
6. Optionally, under **Data encryption**, choose **Customize encryption settings (advanced)** if you want to encrypt your data with a customer managed key in the AWS Key Management Service (AWS KMS).

   By default, Amazon AppFlow encrypts your data with a KMS key that AWS creates, uses, and manages for you. Choose this option if you want to encrypt your data with your own KMS key instead.

   Amazon AppFlow always encrypts your data during transit and at rest. For more information, see Data protection in Amazon AppFlow.

If you want to use a KMS key from the current AWS account, select this key under **Choose an AWS KMS key**. If you want to use a KMS key from a different AWS account, enter the Amazon Resource Name (ARN) for that key.

7. For **Connection name**, enter a name for your connection.
8. Choose **Connect**.

On the **Manage connections** page, your new connection appears in the **Connections** table. When you create a flow that uses Amazon RDS for PostgreSQL as the data destination, you can select this connection.

Transferring data to Amazon RDS for PostgreSQL with a flow

To transfer data to Amazon RDS for PostgreSQL, create an Amazon AppFlow flow, and choose Amazon RDS for PostgreSQL as the data destination. For the steps to create a flow, see Creating flows in Amazon AppFlow.

Amazon Redshift connector for Amazon AppFlow

Amazon Redshift is a data warehouse service in AWS. If you use Amazon Redshift, you can also use Amazon AppFlow to transfer data from supported sources into your Amazon Redshift databases. When you connect Amazon AppFlow to Amazon Redshift with the recommended settings, Amazon AppFlow transfers your data with the Amazon Redshift Data API.

For more information about Amazon Redshift, see the Amazon Redshift Management Guide.

Amazon AppFlow support for Amazon Redshift

Amazon AppFlow supports Amazon Redshift as follows.

Supported as a data source?

No. You can't use Amazon AppFlow to transfer data from Amazon Redshift.

Supported as a data destination?

Yes. You can use Amazon AppFlow to transfer data to Amazon Redshift.

Before you begin

Before you can use Amazon AppFlow to transfer data to Amazon Redshift, you must meet these requirements:

- You have an Amazon Redshift database. If you are new to Amazon Redshift, see the Amazon Redshift Getting Started Guide to learn about basic concepts and tasks. You specify your database in the Amazon Redshift connection settings in Amazon AppFlow.
- **Recommended**: You have an AWS Identity and Access Management (IAM) role that authorizes Amazon AppFlow to access your database through the Amazon Redshift Data API. You need this role to configure an Amazon Redshift connection with the recommended settings. For more information, and for the polices that you attach to this role, see Allow Amazon AppFlow to access Amazon Redshift databases with the Data API.
- You have an Amazon S3 bucket that Amazon AppFlow can use as an intermediate destination when it transfers data to Amazon Redshift. You specify this bucket in the connection settings. For the steps to create a bucket, see Creating a bucket in the *Amazon S3 User Guide*.
- You have an IAM role that grants Amazon Redshift read-only access to Amazon S3. You specify this role in the connection settings, and you associate it with your Amazon Redshift cluster. For more information, and for the polices that you attach to this role, see Allow Amazon Redshift to access your Amazon AppFlow data in Amazon S3.
- In IAM, you're authorized with the required pass role permissions below.

Required pass role permissions

Before you can create an Amazon Redshift connection, you must have certain IAM permissions assigned to you as an AWS user. These permissions must allow you pass IAM roles to Amazon AppFlow and Amazon Redshift, as shown by the following example IAM policy:

```
{
  "Version": "2012-10-17",
  "Statement": [
    {
      "Effect": "Allow",
      "Action": "iam:PassRole",
      "Resource": "arn:aws:iam::account-id:role/appflow-redshift-access-role-name",
      "Condition":
      {
```

```
        "StringEquals":
        {
          "iam:PassedToService": [
            "appflow.amazonaws.com"
          ]
        },
        "StringLike":
        {
          "iam:AssociatedResourceARN": [
            "arn:aws:appflow:region:accountId:connectorprofile/*"
          ]
        }
      }
    },
    {
      "Effect": "Allow",
      "Action": "iam:PassRole",
      "Resource": "arn:aws:iam::accountId:role/redshift-s3-access-role-name",
      "Condition":
      {
        "StringEquals":
        {
          "iam:PassedToService": [
            "redshift.amazonaws.com"
          ]
        },
        "StringLike":
        {
          "iam:AssociatedResourceARN": [
            "arn:aws:appflow:region:accountId:connectorprofile/*"
          ]
        }
      }
    }
  ]
}
```

Before you use this example policy, replace the variable elements with the required values:

- `account-id` – Your AWS account ID.
- `appflow-redshift-access-role-name` – The name of the role that authorizes Amazon AppFlow to access your Amazon Redshift database.

- `region` – The code of the AWS Region where you use Amazon AppFlow. For example, the code for the US East (N. Virginia) Region is `us-east-1`. For the AWS Regions that Amazon AppFlow supports, and their codes, see Amazon AppFlow endpoints and quotas in the *AWS General Reference*.
- `redshift-s3-access-role-name` – The name of the role that grants Amazon Redshift read-only access to Amazon S3.

Connecting Amazon AppFlow to your Amazon Redshift database

To connect Amazon AppFlow to your Amazon Redshift database, provide the required database details, S3 bucket, and IAM roles. If you haven't yet created the required resources, see the preceding section, Before you begin.

To create an Amazon Redshift connection

1. Sign in to the AWS Management Console and open the Amazon AppFlow console at https://console.aws.amazon.com/appflow/.
2. In the navigation pane on the left, choose **Connections**.
3. On the **Manage connections** page, for **Connectors**, choose **Amazon Redshift**.
4. Choose **Create connection**.
5. For **Data warehouse type**, choose whether to connect to **Amazon Redshift Serverless** or an **Amazon Redshift cluster**.
6. If you chose to connect to Amazon Redshift Serverless, enter the following information:
   - **Workgroup name** – The name of your Amazon Redshift workgroup.
   - **Database name** – The name of the Amazon Redshift database that stores the data that you transfer with Amazon AppFlow.
   - **Bucket details** – The Amazon S3 bucket where Amazon AppFlow writes your data as an intermediate destination. Amazon Redshift gets your data from this bucket.
   - **IAM role for Amazon S3 access** – The IAM role that authorizes Amazon Redshift to get and decrypt the data from the S3 bucket.
   - **IAM role for Amazon Redshift Data API access** — The IAM role that authorizes Amazon AppFlow to access your database through the Amazon Redshift Data API.

> **Note**
>
> After you create a connection to Amazon Redshift Serverless, you must also grant the required access privileges to your database user. For more information, see Granting access privileges to the database user (required for Amazon Redshift Serverless).

7. If you chose to connect to an Amazon Redshift cluster, do one of the following:

   - **Recommended:** Choose **Data API** to connect through the Amazon Redshift Data API. This option is recommended because Amazon AppFlow can use the Data API to connect to public and private Amazon Redshift clusters. Enter the following information:

     - **Cluster identifier** – The unique identifier of your Amazon Redshift cluster.
     - **Database name** – The name of the Amazon Redshift database that stores the data that you transfer with Amazon AppFlow.
     - **Bucket details** – The Amazon S3 bucket where Amazon AppFlow writes your data as an intermediate destination. Amazon Redshift gets your data from this bucket.
     - **IAM role for Amazon S3 access** – The IAM role that authorizes Amazon Redshift to get and decrypt the data from the S3 bucket.
     - **IAM role for Amazon Redshift Data API access** – The IAM role that authorizes Amazon AppFlow to access your database through the Amazon Redshift Data API.
     - **Amazon Redshift database user name** – The user name that you use to authenticate with your Amazon Redshift database.

   - **Not recommended:** Choose **JDBC URL** to connect through a Java Database Connectivity (JDBC) URL. For information about the settings for this option, see the Guidance for connections that use JDBC URLs section that follows.

> **Warning**
>
> We don't recommend that you choose the **JDBC URL** option because Amazon AppFlow can't use JDBC URLs to connect to private Amazon Redshift clusters. Amazon AppFlow will discontinue support for JDBC URLs in the near future. We strongly recommend that you configure your connection with the Data API instead.

8. Optionally, under **Data encryption**, choose **Customize encryption settings (advanced)** if you want to encrypt your data with a customer managed key in the AWS Key Management Service (AWS KMS).

   By default, Amazon AppFlow encrypts your data with a KMS key that AWS creates, uses, and manages for you. Choose this option if you want to encrypt your data with your own KMS key instead.

   Amazon AppFlow always encrypts your data during transit and at rest. For more information, see Data protection in Amazon AppFlow.

   If you want to use a KMS key from the current AWS account, select this key under **Choose an AWS KMS key**. If you want to use a KMS key from a different AWS account, enter the Amazon Resource Name (ARN) for that key.
9. For **Connection name**, enter a name for your connection.
10. Choose **Connect**.

On the **Manage connections** page, your new connection appears in the **Connections** table. When you create a flow that uses Amazon Redshift as the data destination, you can select this connection.

Granting access privileges to the database user (required for Amazon Redshift Serverless)

After you connect Amazon AppFlow to Amazon Redshift Serverless, you must also grant access privileges to a database user account. Amazon AppFlow uses this account to access your database. Until you grant the access privileges, Amazon AppFlow can't access your database, and it can't run flows that transfer data to the database.

> **Note**
>
> This action is necessary only if you created a connection to Amazon Redshift Serverless. It isn't necessary if you chose to connect to an Amazon Redshift cluster.

You grant the access privileges to a database user that Amazon Redshift creates for you when you create the connection in Amazon AppFlow. Amazon Redshift names this user `IAMR:`*`data-api-access-role`*. In that name, `data-api-access-role` is the name of the IAM role that

authorizes access to your database through the Amazon Redshift Data API. If you already created the connection in the Amazon AppFlow console, you provided that role for the **IAM role for Amazon Redshift Data API access** field.

Amazon Redshift maps this role to the database user. After you grant the access privileges, Amazon Redshift allows the database user to access your data with the permissions that you assigned to the role.

To grant the access privileges

- Use your SQL client to run the Amazon Redshift SQL command GRANT.

  For example, you can run this command to permit the user to access all of the tables in a specific schema:

  ```
  GRANT ALL ON ALL TABLES IN SCHEMA schema-name TO "IAMR:data-api-access-role"
  ```

  To apply the privileges more restrictively, you can run this command to permit the user to access a specific table in a specific schema:

  ```
  GRANT ALL ON TABLE table-name IN SCHEMA schema-name TO "IAMR:data-api-access-role"
  ```

These examples grant ALL privileges because the user must be able to read the schema and write data to the cluster.

For more information about the GRANT SQL command, see GRANT in the *Amazon Redshift Database Developer Guide*.

Guidance for connections that use JDBC URLs

The following information applies only to Amazon Redshift connections that are configured with JDBC URLs. We don't recommend these types of connections because Amazon AppFlow will discontinue support for JDBC URLs in the near future. You can refer to this section to manage existing connections that use JDBC URLs. However, for any new Amazon Redshift connections that you create, you should configure them with the Data API instead.

JDBC requirements

You must provide Amazon AppFlow with the following:

- The user name and password of your Amazon Redshift user account.
- The JDBC URL of your Amazon Redshift cluster. For more information, see Finding your cluster connection string in the *Amazon Redshift Management Guide*.

You must also do the following:

- Ensure that you enter a correct JDBC connector and password when configuring your Redshift connections. An incorrect JDBC connector or password can return an '[Amazon](500310)' error.
- Ensure that your cluster is publicly accessible by going to the AWS Management Console, navigating to the Amazon Redshift console and choose CLUSTERS. Then, select the cluster that you want to modify and choose **Actions > Modify Publicly > Enable**. Save your changes.

  If you still can't connect to the cluster from the internet or a different network, go to the Amazon Redshift console and select the cluster that you want to modify. Under **Properties**, choose **Network and security settings**. Choose the link next to VPC security group to open the Amazon Elastic Compute Cloud (Amazon EC2) console. On the Inbound Rules tab, make sure that your IP address and the port of your Amazon Redshift cluster are allowed. The default port for Amazon Redshift is 5439, but your port might be different.
- Ensure that your Amazon Redshift cluster is accessible from Amazon AppFlow IP address ranges in your Region.

JDBC settings

- **JDBC URL** — The JDBC URL of the Amazon Redshift cluster where you want to connect.
- **Bucket details** — The Amazon S3 bucket where Amazon AppFlow writes your data as an intermediate destination. Amazon Redshift gets your data from this bucket.
- **IAM role for Amazon S3 access** — The IAM role that authorizes Amazon Redshift to get and decrypt the data from the S3 bucket.
- **Amazon Redshift database user name** — The user name that you use to authenticate with your Amazon Redshift database.
- **Amazon Redshift database password** — The password you use to authenticate with your Amazon Redshift database.

Notes

- The default port for Amazon Redshift is 5439, but your port might be different. To find the Amazon AppFlow IP CIDR block for your region, see AWS IP address ranges in the *Amazon Web Services General Reference*.
- Amazon AppFlow currently supports the insert action when transferring data into Amazon Redshift, but not the update or upsert action.

Related resources

- Finding your cluster connection string in the *Amazon Redshift Management Guide*
- How to make a private Redshift cluster publicly accessible in the AWS Knowledge Center
- Workaround to extract Salesforce data using Amazon AppFlow and upsert it to Amazon Redshift tables hosted on private subnet using data APIs in the Amazon AppFlow GitHub Page

Transferring data to Amazon Redshift with a flow

To transfer data to Amazon Redshift, create an Amazon AppFlow flow, and choose Amazon Redshift as the data destination. For the steps to create a flow, see Creating flows in Amazon AppFlow.

Amazon S3

The following are the requirements and connection instructions for using Amazon Simple Storage Service (Amazon S3) with Amazon AppFlow.

> **Note**
>
> You can use Amazon S3 as a source or a destination.

Topics

- Requirements
- Connection instructions
- Notes

- Supported destinations
- Related resources

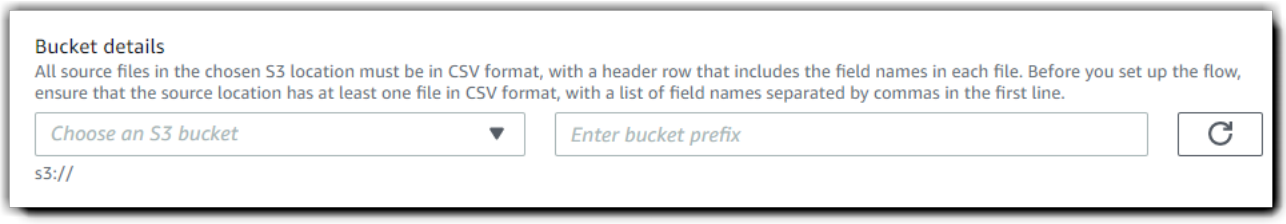
Requirements

- Your S3 buckets must be in the same AWS Region as your console and flow.
- If you use Amazon S3 as the data source, you must place your source files inside a folder in your S3 bucket.
- If your source files are in CSV format, each file must have a header row. The header row is a series of field names separated by commas.
- Each source file should not exceed 125 MB in size. However, you can upload multiple CSV/JSONL files in the source location, and Amazon AppFlow will read from all of them to transfer data over a single flow run. You can check for any applicable destination data transfer limits in Quotas for Amazon AppFlow.
- Amazon AppFlow does not support cross-account access to S3 buckets in order to prevent unauthorized access and potential security concerns.

Connection instructions

To use Amazon S3 as a source or destination while creating a flow

1. Sign in to the AWS Management Console and open the Amazon AppFlow console at https://console.aws.amazon.com/appflow/.
2. Choose **Create flow**.
3. For **Flow details**, enter a name and description for the flow.
4. (Optional) To use a customer managed CMK instead of the default AWS managed CMK, choose **Data encryption**, **Customize encryption settings** and then choose an existing CMK or create a new one.
5. (Optional) To add a tag, choose **Tags**, **Add tag** and then enter the key name and value.
6. Choose **Next**.
7. Choose **Amazon S3** from the **Source name** or **Destination name** dropdown list.
8. Under **Bucket details**, select the S3 bucket that you're retrieving from or adding to. You can specify a prefix, which is equivalent to specifying a folder within the S3 bucket where your source files are located or records are to be written to the destination.



Now that you are connected to your S3 bucket, you can continue with the flow creation steps as described in Creating flows in Amazon AppFlow.

> **Tip**
>
> If you aren't connected successfully, ensure that you have followed the instructions in the Requirements section above.

Notes

- When you use Amazon S3 as a source, you can run schedule-triggered flows at a maximum frequency of one flow run per minute.
- When you use Amazon S3 as a destination, the following additional settings are available.

Setting name	Description
AWS Glue Data Catalog settings	Catalog the data that you transfer in the AWS Glue Data Catalog. When you catalog your data, you make it easier to discover and access with AWS analytics and machine learning services. For more information, see Cataloging the data output from an Amazon AppFlow flow.
Data format preference	• You can specify your preferred file format for the input file(s). The following options are currently available: CSV, JSONL • You can specify your preferred file format for the exported records. The following options are currently available: JSONL (default), CSV, or Apache Parquet.

Setting name	Description
	Note If you choose Parquet as the format for your destination file in Amazon S3, the option to aggregate all records into one file per flow run will not be available. When choosing Parquet, Amazon AppFlow will write the output as string, and not declare the data types as defined by the source.
Filename preference	• You can choose to add a timestamp to the filename. • Your filename will end with the file creation timestamp in YYYY-MM-DDThh:mm:sss format. • The creation date is in UTC time.
Partition and aggregation settings	Organize the data that you transfer into partitions and files of a specified size. These settings can help you optimize query performance for applications that access the data. For more information, see Partitioning and aggregating data output from an Amazon AppFlow flow.

Supported destinations

When you create a flow that uses Amazon S3 as the data source, you can set the destination to any of the following connectors:

- Amazon Connect
- Amazon Honeycode
- Amazon Redshift
- Amazon S3
- Marketo
- Salesforce
- SAP OData

- Snowflake
- Upsolver
- Zendesk

You can also set the destination to any custom connectors that you create with the Amazon AppFlow Custom Connector SDKs for Python or Java. You can download these SDKs from GitHub.

Related resources

- Amazon Simple Storage Service User Guide
- Amazon AppFlow now supports new data formats for ingesting files into Amazon S3 in the AWS *What's new* blog
- Video: How to insert new Salesforce records with data in Amazon S3 using Amazon AppFlow
- Video: How to transfer data from Slack to Amazon S3 using Amazon AppFlow
- Video: How to transfer data from Google Analytics to Amazon S3 using Amazon AppFlow
- Video: How to transfer data from Zendesk Support to Amazon S3 using Amazon AppFlow

Amplitude

The following are the requirements and connection instructions for using Amplitude with Amazon AppFlow.

> **Note**
>
> You can use Amplitude as a source only.

Topics

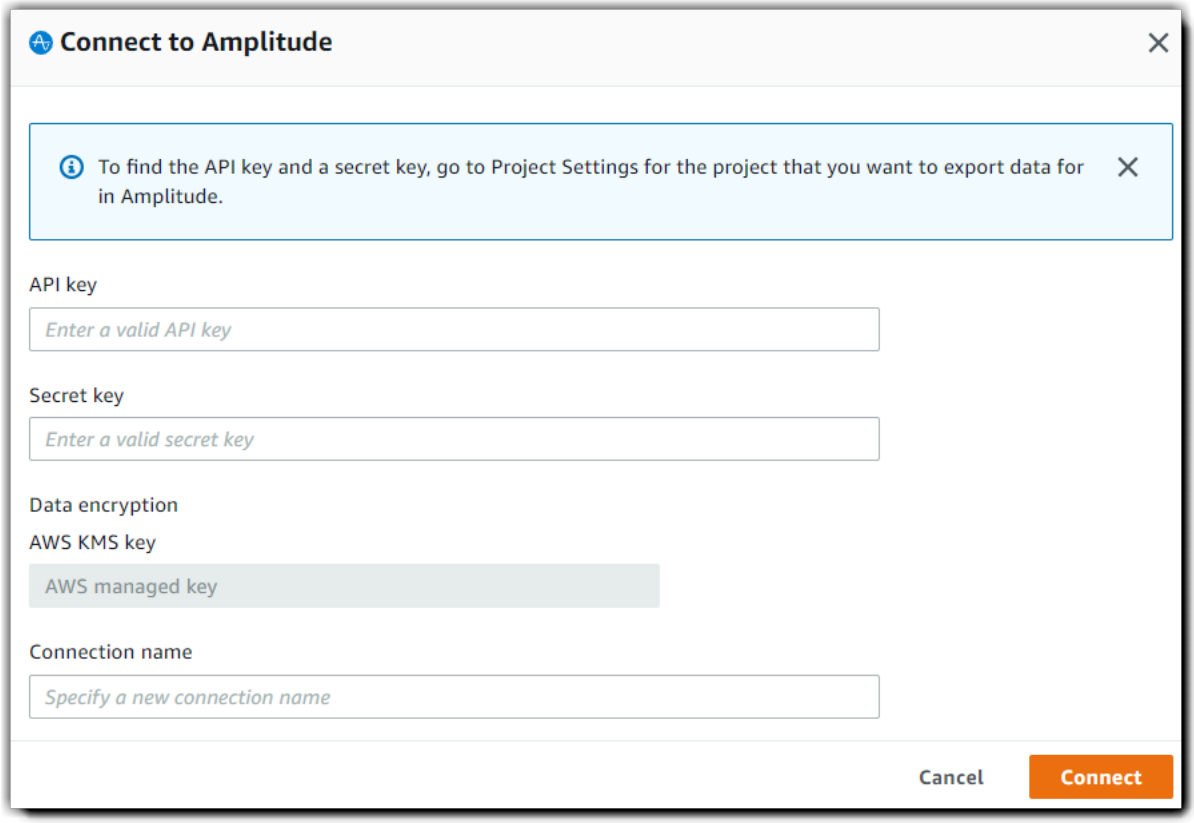
Requirements

You must provide Amazon AppFlow with the API key and secret key for the project with the data that you want to transfer. Your API key can be found on the Settings page of the Amplitude dashboard. For more information about how to retrieve this information from Amplitude, see Settings in the Amplitude documentation.

Connection instructions

To connect to Amplitude while creating a flow

1. Sign in to the AWS Management Console and open the Amazon AppFlow console at https://console.aws.amazon.com/appflow/.
2. Choose **Create flow**.
3. For **Flow details**, enter a name and description for the flow.
4. (Optional) To use a customer managed CMK instead of the default AWS managed CMK, choose **Data encryption**, **Customize encryption settings** and then choose an existing CMK or create a new one.
5. (Optional) To add a tag, choose **Tags**, **Add tag** and then enter the key name and value.
6. Choose **Next**.
7. Choose **Amplitude** from the **Source name** dropdown list.
8. Choose **Connect** to open the **Connect to Amplitude** dialog box.
    a. Under **API key**, enter your API key.
    b. Under **Secret key**, enter your secret key.
    c. Under **Data encryption**, enter your AWS KMS key.
    d. Under **Connection name**, specify a name for your connection.
    e. Choose **Connect**.



9. You will be redirected to the Amplitude login page. When prompted, grant Amazon AppFlow permissions to access your Amplitude account.

Now that you are connected to your Amplitude account, you can continue with the flow creation steps as described in Creating flows in Amazon AppFlow.

Tip

If you aren't connected successfully, ensure that you have followed the instructions in the Requirements.

Notes

- When you use Amplitude as a source, you can run schedule-triggered flows at a maximum frequency of one flow run per day.
- Amplitude can process 25 MB of data as part of a single flow run.

Supported destinations

When you create a flow that uses Amplitude as the data source, you can set the destination to any of the following connectors:

- Lookout for Metrics
- Amazon S3

You can also set the destination to any custom connectors that you create with the Amazon AppFlow Custom Connector SDKs for Python or Java. You can download these SDKs from GitHub.

Related resources

- Settings in the Amplitude documentation
- Breaking Data Silos with Amazon AppFlow and Amplitude from *Inside Amplitude*

Asana connector for Amazon AppFlow

Asana is a cloud-based team collaboration solution that helps teams organize, plan, and complete tasks and projects. If you're an Asana user, your account contains data about your workspaces, projects, tasks, teams, and more. You can use Amazon AppFlow to transfer data from Asana to certain AWS services or other supported applications.

Amazon AppFlow support for Asana

Amazon AppFlow supports Asana as follows.

Supported as a data source?

Yes. You can use Amazon AppFlow to transfer data from Asana.

Supported as a data destination?

No. You can't use Amazon AppFlow to transfer data to Asana.

Before you begin

To use Amazon AppFlow to transfer data from Asana to supported destinations, you must meet these requirements:

- You have an account with Asana that contains the data that you want to transfer. For more information about the Asana data objects that Amazon AppFlow supports, see Supported objects.
- In your Asana account settings, you've created either of the following resources for Amazon AppFlow. These resources provide credentials that Amazon AppFlow uses to access your data securely when it makes authenticated calls to your account.
  - A Developer App, which supports OAuth 2.0 authentication. For information about how to create a Developer App, see OAuth in the Asana Developers documentation.
  - A personal access token. For more information, see Personal access token in the Asana Developers documentation.
- If you created an OAuth app, you've configured it with one or more redirect URLs for Amazon AppFlow.

  Redirect URLs have the following format:

  ```
  https://region.console.aws.amazon.com/appflow/oauth
  ```

  In this URL, *region* is the code for the AWS Region where you use Amazon AppFlow to transfer data from Asana. For example, the code for the US East (N. Virginia) Region is `us-east-1`. For that Region, the URL is the following:

  ```
  https://us-east-1.console.aws.amazon.com/appflow/oauth
  ```

  For the AWS Regions that Amazon AppFlow supports, and their codes, see Amazon AppFlow endpoints and quotas in the *AWS General Reference.*

If you created a Developer App, note the client ID and client secret. If you created a personal access token, note the token value. You provide these values to Amazon AppFlow when you connect to your Asana account.

Connecting Amazon AppFlow to your Asana account

To connect Amazon AppFlow to your Asana account, provide the client credentials from your Developer App, or provide a personal access token. If you haven't yet configured your Asana account for Amazon AppFlow integration, see Before you begin.

To connect to Asana

1. Sign in to the AWS Management Console and open the Amazon AppFlow console at https://console.aws.amazon.com/appflow/.
2. In the navigation pane on the left, choose **Connections**.
3. On the **Manage connections** page, for **Connectors**, choose **Asana**.
4. Choose **Create connection**.
5. In the **Connect to Asana** window, for **Select authentication type**, choose how to authenticate Amazon AppFlow with your Asana account when it requests to access your data:
   - Choose **OAuth2** to authenticate Amazon AppFlow with the client ID and client secret from an Asana Developer App. Then enter values for **Client ID** and **Client secret**.
   - Choose **PAT** to authenticate Amazon AppFlow with a personal access token. Then enter the token value for **Personal access token**.
6. In the **Connect to Asana** window, enter the following information:
7. Optionally, under **Data encryption**, choose **Customize encryption settings (advanced)** if you want to encrypt your data with a customer managed key in the AWS Key Management Service (AWS KMS).

   By default, Amazon AppFlow encrypts your data with a KMS key that AWS creates, uses, and manages for you. Choose this option if you want to encrypt your data with your own KMS key instead.

   Amazon AppFlow always encrypts your data during transit and at rest. For more information, see Data protection in Amazon AppFlow.

   If you want to use a KMS key from the current AWS account, select this key under **Choose an AWS KMS key**. If you want to use a KMS key from a different AWS account, enter the Amazon Resource Name (ARN) for that key.
8. For **Connection name**, enter a name for your connection.
9. Choose **Connect**.
10. In the window that appears, sign in to your Asana account, and grant access to Amazon AppFlow.

On the **Manage connections** page, your new connection appears in the **Connections** table. When you create a flow that uses Asana as the data source, you can select this connection.

Transferring data from Asana with a flow

To transfer data from Asana, create an Amazon AppFlow flow, and choose Asana as the data source. For the steps to create a flow, see Creating flows in Amazon AppFlow.

When you configure the flow, choose the data object that you want to transfer. For the objects that Amazon AppFlow supports for Asana, see Supported objects.

Also, choose the destination where you want to transfer the data object that you selected. For more information about how to configure your destination, see Supported destinations.

Supported destinations

When you create a flow that uses Asana as the data source, you can set the destination to any of the following connectors:

- Amazon Lookout for Metrics
- Amazon Redshift
- Amazon RDS for PostgreSQL
- Amazon S3
- HubSpot
- Marketo
- Salesforce
- SAP OData
- Snowflake
- Upsolver
- Zendesk
- Zoho CRM

Supported objects

When you create a flow that uses Asana as the data source, you can transfer any of the following data objects to supported destinations:

Object	Field	Data type	Supported filters
Audit Log Event	actor	Struct	
	actor_type	String	EQUAL_TO
	context	Struct	
	created_at	DateTime	
	details	Struct	
	event_category	String	
	event_type	String	EQUAL_TO
	gid	String	
	resource	Struct	
	start_end_at	DateTime	GREATER_THAN_OR_EQUAL_TO, LESS_THAN_OR_EQUAL_TO
Goal	current_status_update	Struct	
	due_on	Date	
	followers	List	
	gid	String	
	html_notes	String	
	is_workspace_level	Boolean	EQUAL_TO
	liked	Boolean	
	likes	List	

Object	Field	Data type	Supported filters
	metric	Struct	
	name	String	
	notes	String	
	num_likes	Integer	
	owner	Struct	
	resource_type	String	
	start_on	Date	
	status	String	
	team	Struct	
	time_period	Struct	
	workspace	Struct	
Portfolio	color	String	
	created_at	DateTime	
	created_by	Struct	
	current_status_update	Struct	
	custom_field_settings	List	
	due_on	Date	
	gid	String	
	members	List	
	name	String	

Object	Field	Data type	Supported filters
	owner	Struct	
	permalink_url	String	
	public	Boolean	
	resource_type	String	
	start_on	Date	
	workspace	Struct	
Project	archived	Boolean	EQUAL_TO
	color	String	
	completed	Boolean	
	completed_at	DateTime	
	completed_by	Struct	
	created_at	DateTime	
	created_from_template	Struct	
	current_status	Struct	
	current_status_update	Struct	
	custom_field_settings	List	
	custom_fields	List	
	default_view	String	
	due_date	Date	

Object	Field	Data type	Supported filters
	due_on	Date	
	followers	List	
	gid	String	
	html_notes	String	
	icon	String	
	is_template	Boolean	
	members	List	
	modified_at	DateTime	
	name	String	
	notes	String	
	owner	Struct	
	permalink_url	String	
	public	Boolean	
	resource_type	String	
	start_on	Date	
	team	Struct	
	workspace	Struct	
Section	created_at	DateTime	
	gid	String	
	name	String	

Object	Field	Data type	Supported filters
	project	Struct	
	resource_type	String	
Tag	color	String	
	created_at	DateTime	
	followers	List	
	gid	String	
	name	String	
	notes	String	
	permalink_url	String	
	resource_type	String	
	workspace	Struct	
Task	approval_status	String	
	assignee	Struct	
	assignee_section	Struct	
	assignee_status	String	
	completed	Boolean	EQUAL_TO
	completed_at	DateTime	LESS_THAN _OR_EQUAL _TO, GREATER_T HAN_OR_EQUAL_TO
	completed_by	Struct	

Object	Field	Data type	Supported filters
	completed_on	Date	EQUAL_TO, LESS_THAN _OR_EQUAL _TO, GREATER_T HAN_OR_EQUAL_TO
	created_at	DateTime	LESS_THAN _OR_EQUAL _TO, GREATER_T HAN_OR_EQUAL_TO
	custom_fields	List	
	dependencies	List	
	dependents	List	
	due_at	DateTime	LESS_THAN _OR_EQUAL _TO, GREATER_T HAN_OR_EQUAL_TO
	due_on	Date	EQUAL_TO, LESS_THAN _OR_EQUAL _TO, GREATER_T HAN_OR_EQUAL_TO
	external	Struct	
	followers	List	
	gid	String	
	has_attachment	Boolean	EQUAL_TO
	hearted	Boolean	

Object	Field	Data type	Supported filters
	hearts	List	
	html_notes	String	
	is_blocked	Boolean	EQUAL_TO
	is_blocking	Boolean	EQUAL_TO
	is_rendered_as_separator	Boolean	
	is_subtask	Boolean	EQUAL_TO
	liked	Boolean	
	likes	List	
	memberships	List	
	modified_at	DateTime	LESS_THAN_OR_EQUAL_TO, GREATER_THAN_OR_EQUAL_TO
	modified_on	Date	EQUAL_TO, LESS_THAN_OR_EQUAL_TO, GREATER_THAN_OR_EQUAL_TO
	name	String	
	notes	String	
	num_hearts	Integer	
	num_likes	Integer	
	num_subtasks	Integer	

Object	Field	Data type	Supported filters
	parent	Struct	
	permalink_url	String	
	projects	List	
	resource_subtype	String	EQUAL_TO
	resource_type	String	
	start_at	DateTime	
	start_on	Date	EQUAL_TO, LESS_THAN _OR_EQUAL _TO, GREATER_T HAN_OR_EQUAL_TO
	tags	List	
	text	String	EQUAL_TO
	workspace	Struct	
Team	description	String	
	gid	String	
	html_description	String	
	name	String	
	organization	Struct	
	permalink_url	String	
	resource_type	String	
	visibility	String	

Object	Field	Data type	Supported filters
User	email	String	
	gid	String	
	name	String	
	photo	Struct	
	resource_type	String	
	workspaces	List	
Workspace	email_domains	List	
	gid	String	
	is_organization	Boolean	
	name	String	
	resource_type	String	

BambooHR connector for Amazon AppFlow

BambooHR is a human resources software as a service (SaaS) solution. If you're a BambooHR user, your account contains data on employees and applicants, such as employee information, benefits, vacation time, openings, reports, files, and more. You can use Amazon AppFlow to transfer data from BambooHR to certain AWS services or other supported applications.

Amazon AppFlow support for BambooHR

Amazon AppFlow supports BambooHR as follows.

Supported as a data source?

Yes. You can use Amazon AppFlow to transfer data from BambooHR.

Supported as a data destination?

No. You can't use Amazon AppFlow to transfer data to BambooHR.

Before you begin

To use Amazon AppFlow to transfer data from BambooHR to supported destinations, you must meet these requirements:

- You have an account with BambooHR that contains the data that you want to transfer. For more information about the BambooHR data objects that Amazon AppFlow supports, see Supported objects.
- In the API keys settings for your account, you've created an API key for Amazon AppFlow. Amazon AppFlow uses the API key to make authenticated calls to your account and securely access your data. For more information, see Authentication in the BambooHR documentation.

Note the value of your API key. When you connect to your BambooHR account, you provide this value to Amazon AppFlow.

Connecting Amazon AppFlow to your BambooHR account

To connect Amazon AppFlow to your BambooHR account, provide details from your BambooHR project so that Amazon AppFlow can access your data. If you haven't yet configured your BambooHR project for Amazon AppFlow integration, see Before you begin.

To connect to BambooHR

1. Sign in to the AWS Management Console and open the Amazon AppFlow console at https://console.aws.amazon.com/appflow/.
2. In the navigation pane on the left, choose **Connections**.
3. On the **Manage connections** page, for **Connectors**, choose **BambooHR**.
4. Choose **Create connection**.
5. In the **Connect to BambooHR** window, enter the following information:
   - **API key** – Enter your API key.
   - **Instance URL** – The URL of the instance where you want to run the operation, for example, https://api.bamboohr.com/api/gateway.php/amazonawstest.

- **Zone (Optional)** – The time zone that you access Amazon AppFlow from.

6. Optionally, under **Data encryption**, choose **Customize encryption settings (advanced)** if you want to encrypt your data with a customer managed key in the AWS Key Management Service (AWS KMS).

   By default, Amazon AppFlow encrypts your data with a KMS key that AWS creates, uses, and manages for you. Choose this option if you want to encrypt your data with your own KMS key instead.

   Amazon AppFlow always encrypts your data during transit and at rest. For more information, see Data protection in Amazon AppFlow.

   If you want to use a KMS key from the current AWS account, select this key under **Choose an AWS KMS key**. If you want to use a KMS key from a different AWS account, enter the Amazon Resource Name (ARN) for that key.
7. For **Connection name**, enter a name for your connection.
8. Choose **Connect**.
9. In the window that appears, sign in to your BambooHR account, and grant access to Amazon AppFlow.

On the **Manage connections** page, your new connection appears in the **Connections** table. When you create a flow that uses BambooHR as the data source, you can select this connection.

Transferring data from BambooHR with a flow

To transfer data from BambooHR, create an Amazon AppFlow flow, and choose BambooHR as the data source. For the steps to create a flow, see Creating flows in Amazon AppFlow.

When you configure the flow, choose the data object that you want to transfer. For the objects that Amazon AppFlow supports for BambooHR, see Supported objects.

Also, choose the destination where you want to transfer the data object that you selected. For more information about how to configure your destination, see Supported destinations.

Supported destinations

When you create a flow that uses BambooHR as the data source, you can set the destination to any of the following connectors:

- Amazon Lookout for Metrics
- Amazon Redshift
- Amazon RDS for PostgreSQL
- Amazon S3
- HubSpot
- Marketo
- Salesforce
- SAP OData
- Snowflake
- Upsolver
- Zendesk
- Zoho CRM

Supported objects

When you create a flow that uses BambooHR as the data source, you can transfer any of the following data objects to supported destinations:

Object	Field	Data type	Supported filters
Company Files	Company Name	String	
	Id	Integer	
	can Upload Files	String	
	files	List	
Deduction types	Additional Description	String	
	Allowable Benefit Types	List	
	Can BeCollected By Trax	Boolean	

Object	Field	Data type	Supported filters
	Deduction Note	String	
	Deduction Note Link	String	
	Deduction Note Link Text	String	
	Deduction Type Name	String	
	Default Deduction Code	String	
	Hide Annual Max	Boolean	
	Id	String	
	Managed Deduction Type	String	
	Non Benefit Deduction Type	Boolean	
	Sub Type Text	String	
	Sub Types	List	
Employee Dependents	Address Line 1	String	
	Address Line 2	String	
	City	String	
	Country	String	
	Date Of Birth	Date	
	Employee Id	String	

Object	Field	Data type	Supported filters
	First Name	String	
	Gender	String	
	Home Phone	String	
	Id	String	
	Is Student	String	
	Is Us Citizen	String	
	Last Name	String	
	Masked SIN	String	
	Masked SSN	String	
	Middle Name	String	
	Relationship	String	
	State	String	
	Zip Code	String	
Employees	Can Upload Photo	Boolean	
	Department	List	
	Display Name	String	
	Division	List	
	Employee photo url	String	
	First Name	String	
	ID	String	EQUAL_TO

Object	Field	Data type	Supported filters
	Instagram	String	
	Job Title	List	
	Last Changed	DateTime	GREATER_THAN_OR_EQUAL_TO
	Last Name	String	
	LinkedIn	String	
	Location	List	
	Manager	String	
	Mobile Phone	String	
	Photo Uploaded	Boolean	
	Preferred Name	String	
	Pronouns	List	
	Work Email	String	
	Work Phone	String	
	Work Phone Extension	String	
Training Type	Category	Struct	
	Description	String	
	Due From Hire Date	List	
	Frequency	String	
	Id	String	

Object	Field	Data type	Supported filters
	Link Url	String	
	Renewable	Boolean	
	Required	Boolean	
	Training Type	String	
Users	Email	String	
	Employee Id	Integer	
	First Name	String	
	Id	Integer	
	Last Login	DateTime	
	Last Name	String	
	Status	String	

Blackbaud Raiser's Edge NXT connector for Amazon AppFlow

Blackbaud Raiser's Edge NXT is a customer relationship management (CRM) software as a service (SaaS) solution for nonprofit organizations. If you're a Blackbaud Raiser's Edge NXT user, your account contains data on prospects, analytics, gift management, and more. You can use Amazon AppFlow to transfer data from Blackbaud Raiser's Edge NXT to certain AWS services or other supported applications.

Amazon AppFlow support for Blackbaud Raiser's Edge NXT

Amazon AppFlow supports Blackbaud Raiser's Edge NXT as follows.

Supported as a data source?

Yes. You can use Amazon AppFlow to transfer data from Blackbaud Raiser's Edge NXT.

Supported as a data destination?

No. You can't use Amazon AppFlow to transfer data to Blackbaud Raiser's Edge NXT.

Before you begin

To use Amazon AppFlow to transfer data from Blackbaud Raiser's Edge NXT to supported destinations, you must meet these requirements:

- You have an account with Blackbaud Raiser's Edge NXT that contains the data that you want to transfer. For more information about the Blackbaud Raiser's Edge NXT data objects that Amazon AppFlow supports, see Supported objects.
- In your Blackbaud SKY Developer account, you've created a SKY developer app for Amazon AppFlow. The app provides the client credentials that Amazon AppFlow uses to access your data securely when it makes authenticated calls to your account. You can use default settings for the Grant type, the authorization tokens URL, and the authorization code URL, or use your own. For information about how to create a developer app, see Applications in the SKY API documentation.
- In the setting for Scopes, you've defined access to Blackbaud data with the option **Full data access.**
- You've configured the app with one or more redirect URLs for Amazon AppFlow.

  Redirect URLs have the following format:

  ```
  https://region.console.aws.amazon.com/appflow/oauth
  ```

  In this URL, *region* is the code for the AWS Region where you use Amazon AppFlow to transfer data from Blackbaud Raiser's Edge NXT. For example, the code for the US East (N. Virginia) Region is `us-east-1`. For that Region, the URL is the following:

  ```
  https://us-east-1.console.aws.amazon.com/appflow/oauth
  ```

  For the AWS Regions that Amazon AppFlow supports, and their codes, see Amazon AppFlow endpoints and quotas in the *AWS General Reference*.

Note the client ID, client secret, and subscription key from the settings for your app. You provide these values to Amazon AppFlow when you create your connection.

Connecting Amazon AppFlow to your Blackbaud Raiser's Edge NXT account

To connect Amazon AppFlow to your Blackbaud Raiser's Edge NXT account, provide details from your SKY developer app so that Amazon AppFlow can access your data. If you haven't yet configured your Blackbaud Raiser's Edge NXT account for Amazon AppFlow integration, see Before you begin.

To connect to Blackbaud Raiser's Edge NXT

1. Sign in to the AWS Management Console and open the Amazon AppFlow console at https://console.aws.amazon.com/appflow/.
2. In the navigation pane on the left, choose **Connections**.
3. On the **Manage connections** page, for **Connectors**, choose **Blackbaud Raiser's Edge NXT**.
4. Choose **Create connection**.
5. In the **Connect to Blackbaud Raiser's Edge NXT** window, enter the following information:
   - **Connection name** — Enter a name for your connection.
   - **Client ID** — The client ID in your Blackbaud Raiser's Edge NXT project.
   - **Client secret** — The client secret in your Blackbaud Raiser's Edge NXT project.
   - **Subscription key** — The subscription key in your Blackbaud Raiser's Edge NXT project.
6. Optionally, under **Data encryption**, choose **Customize encryption settings (advanced)** if you want to encrypt your data with a customer managed key in the AWS Key Management Service (AWS KMS).

   By default, Amazon AppFlow encrypts your data with a KMS key that AWS creates, uses, and manages for you. Choose this option if you want to encrypt your data with your own KMS key instead.

   Amazon AppFlow always encrypts your data during transit and at rest. For more information, see Data protection in Amazon AppFlow.

   If you want to use a KMS key from the current AWS account, select this key under **Choose an AWS KMS key**. If you want to use a KMS key from a different AWS account, enter the Amazon Resource Name (ARN) for that key.
7. Choose **Connect**.

8. In the window that appears, sign in to your Blackbaud Raiser's Edge NXT account, and grant access to Amazon AppFlow.

On the **Manage connections** page, your new connection appears in the **Connections** table. When you create a flow that uses Blackbaud Raiser's Edge NXT as the data source, you can select this connection.

Transferring data from Blackbaud Raiser's Edge NXT with a flow

To transfer data from Blackbaud Raiser's Edge NXT, create an Amazon AppFlow flow, and choose Blackbaud Raiser's Edge NXT as the data source. For the steps to create a flow, see Creating flows in Amazon AppFlow.

When you configure the flow, choose the data object that you want to transfer. For the objects that Amazon AppFlow supports for Blackbaud Raiser's Edge NXT, see Supported objects.

Also, choose the destination where you want to transfer the data object that you selected. For more information about how to configure your destination, see Supported destinations.

Supported destinations

When you create a flow that uses Blackbaud Raiser's Edge NXT as the data source, you can set the destination to any of the following connectors:

- Amazon Lookout for Metrics
- Amazon Redshift
- Amazon RDS for PostgreSQL
- Amazon S3
- HubSpot
- Marketo
- Salesforce
- SAP OData
- Snowflake
- Upsolver
- Zendesk
- Zoho CRM

Supported objects

When you create a flow that uses Blackbaud Raiser's Edge NXT as the data source, you can transfer any of the following data objects to supported destinations:

Object	Field	Data type	Supported filters
Action	Category	String	
	Completed	Boolean	
	Completed Date	DateTime	
	Computed Status	String	EQUAL_TO
	Constituent ID	String	
	Date	DateTime	
	Date Added	DateTime	EQUAL_TO
	Date Modified	DateTime	
	Description	String	
	End Time	String	
	Fundraisers	List	
	ID	String	
	Last Modified	DateTime	EQUAL_TO
	List ID	String	EQUAL_TO
	Location	String	
	Opportunity ID	String	
	Outcome	String	
	Priority	String	

Object	Field	Data type	Supported filters
	Start Time	String	
	Status	String	
	Status Code	String	EQUAL_TO
	Summary	String	
	Type	String	
Address	Address Lines	String	
	City	String	
	Constituent ID	String	EQUAL_TO
	Country	String	
	County	String	
	Date Added	DateTime	EQUAL_TO
	Date Modified	DateTime	
	Do Not Mail	Boolean	
	End	DateTime	
	Formatted Address	String	
	ID	String	
	Inactive	Boolean	
	Include Inactive	Boolean	EQUAL_TO
	Last Modified	DateTime	EQUAL_TO
	Postal Code	String	

Object	Field	Data type	Supported filters
	Preferred	Boolean	
	Seasonal End	Struct	
	Seasonal Start	Struct	
	Start	DateTime	
	State	String	
	Type	String	
Appeal	Category	String	
	Date Added	DateTime	EQUAL_TO
	Date Modified	DateTime	
	Description	String	
	End Date	DateTime	
	Goal	Struct	
	ID	String	
	Inactive	Boolean	
	Include Inactive	Boolean	EQUAL_TO
	Last Modified	DateTime	EQUAL_TO
	Lookup ID	String	
	Start Date	DateTime	
Campaign	Category	String	
	Date Added	DateTime	EQUAL_TO

Object	Field	Data type	Supported filters
	Date Modified	DateTime	
	Description	String	
	End Date	DateTime	
	Goal	Struct	
	ID	String	
	Inactive	Boolean	
	Include Inactive	Boolean	EQUAL_TO
	Last Modified	DateTime	EQUAL_TO
	Lookup ID	String	
	Start Date	DateTime	
Constituent	Address	Struct	
	Age	Integer	
	Birthdate	Struct	
	Constituent Code	String	EQUAL_TO
	Constituent ID	String	EQUAL_TO
	Custom Field Category	String	EQUAL_TO
	Date Added	DateTime	EQUAL_TO
	Date Modified	DateTime	
	Deceased	Boolean	
	Email	Struct	

Object	Field	Data type	Supported filters
	First	String	
	Former Name	String	
	Fundraiser Status	String	EQUAL_TO
	Gender	String	
	Gives Anonymously	Boolean	
	ID	String	
	Inactive	Boolean	
	Include Deceased	Boolean	EQUAL_TO
	Include Inactive	Boolean	EQUAL_TO
	Last	String	
	Last Modified	DateTime	EQUAL_TO
	List ID	String	EQUAL_TO
	Lookup ID	String	
	Marital Status	String	
	Middle	String	
	Name	String	
	Online Presence	Struct	
	Phone	Struct	
	Postal Code	String	EQUAL_TO
	Preferred Name	String	

Object	Field	Data type	Supported filters
	Spouse	Struct	
	Suffix	String	
	Suffix 2	String	
	Title	String	
	Title 2	String	
	Type	String	
Custom Field	Category	String	EQUAL_TO
	Comment	String	
	Date	DateTime	
	Date Added	DateTime	EQUAL_TO
	Date Modified	DateTime	
	Gift ID	Integer	EQUAL_TO
	ID	String	
	Last Modified	DateTime	EQUAL_TO
	Parent ID	String	
	Type	String	
	Value	String	EQUAL_TO
Education	Campus	String	
	Class Of Degree	String	
	Constituent ID	String	

Object	Field	Data type	Supported filters
	Date Added	DateTime	EQUAL_TO
	Date Entered	Struct	
	Date Graduated	Struct	
	Date Left	Struct	
	Date Modified	DateTime	
	Degree	String	
	Faculty	String	
	GPA	Double	
	ID	String	
	Known Name	String	
	Last Modified	DateTime	EQUAL_TO
	Majors	List	
	Minors	List	
	Primary	Boolean	
	Registration Number	String	
	School	String	
	Social Organization	String	
	Status	String	
	String	String	
	Subject Of Study	String	

Object	Field	Data type	Supported filters
	Type	String	
	class Of	String	
Email Address	Address	String	
	Constituent ID	String	EQUAL_TO
	Date Added	DateTime	EQUAL_TO
	Date Modified	DateTime	
	Do Not Email	Boolean	
	ID	String	
	Inactive	Boolean	
	Include Inactive	Boolean	EQUAL_TO
	Last Modified	DateTime	EQUAL_TO
	Primary	Boolean	
	Type	String	
Event	Attended Count	Integer	
	Attending Count	Integer	
	Capacity	Integer	
	Category	Struct	
	Date Added	DateTime	EQUAL_TO
	Date Modified	DateTime	
	End Date	Date	

Object	Field	Data type	Supported filters
	End Time	String	
	Event Category	String	EQUAL_TO
	Event ID	String	EQUAL_TO
	Goal	Double	
	ID	String	
	Inactive	Boolean	
	Include Inactive	Boolean	EQUAL_TO
	Invited Count	Integer	
	Last Modified	DateTime	EQUAL_TO
	Lookup ID	String	EQUAL_TO
	Name	String	EQUAL_TO
	Percent Of Goal	Integer	
	Revenue	Double	
	Start Date	Date	
	Start Date From	Date	EQUAL_TO
	Start Date To	DateTime	EQUAL_TO
	Start Time	String	
Event Participant	Attended	Boolean	
	Attended Filter	Boolean	EQUAL_TO
	Class Of	String	

Object	Field	Data type	Supported filters
	Contact ID	String	
	Date Added	DateTime	EQUAL_TO
	Date Modified	DateTime	
	Do Not Call	Boolean	
	Do Not Email	Boolean	
	Donations	Double	
	Email	String	
	Email Eligible Filter	Boolean	EQUAL_TO
	Fees Paid Filter	Boolean	EQUAL_TO
	First Name	String	
	Former Name	String	
	Guests	Struct	
	Host	Struct	
	ID	String	
	Invitation Status	String	EQUAL_TO
	Is Constituent	Boolean	
	Is Constituent Filter	Boolean	EQUAL_TO
	Last Modified	DateTime	EQUAL_TO
	Last Name	String	
	Lookup ID	String	

Object	Field	Data type	Supported filters
	Memberships	Struct	
	Middle Name	String	
	Name	String	EQUAL_TO
	Name Tag	String	
	Online Data Health	String	EQUAL_TO
	Participant Option ID	String	EQUAL_TO
	Participant Options	Struct	
	Participation Level	String	EQUAL_TO
	Participation Level	Struct	
	Phone	String	
	Phone Call Eligible Filter	Boolean	EQUAL_TO
	Preferred Name	String	
	RSVP Date	Struct	
	RSVP Status	String	EQUAL_TO
	Registration Form	Struct	
	Registration Form IDs	String	EQUAL_TO
	Registration Form Include Type	String	EQUAL_TO
	Revenue	Double	
	Seat	String	

Object	Field	Data type	Supported filters
	Suffix	String	
	Summary Note	String	
	Title	String	
	Total Paid	Double	
	Total Registration Fees	Double	
Fund	Category	String	
	Date Added	DateTime	EQUAL_TO
	Date Modified	DateTime	
	Description	String	
	End Date	DateTime	
	Fund ID	Integer	EQUAL_TO
	Goal	Struct	
	ID	String	
	Inactive	Boolean	
	Include Inactive	Boolean	EQUAL_TO
	Last Modified	DateTime	EQUAL_TO
	Lookup ID	String	
	Start Date	DateTime	
	Type	String	

Object	Field	Data type	Supported filters
Fundraiser Assignment	Amount	Struct	
	Appeal ID	String	
	Campaign ID	String	
	Constituent ID	String	EQUAL_TO
	End	DateTime	
	Fund ID	String	
	Fundraiser ID	String	
	ID	String	
	Include Inactive	Boolean	EQUAL_TO
	Start	DateTime	
	Type	String	
Gift	Acknowledgement Status	String	EQUAL_TO
	Acknowledgements	List	
	Amount	Struct	
	Appeal ID	String	EQUAL_TO
	Balance	Struct	
	Batch Number	String	
	Campaign ID	String	EQUAL_TO
	Constituency	String	
	Constituent ID	String	EQUAL_TO

Object	Field	Data type	Supported filters
	Date	DateTime	
	Date Added	DateTime	EQUAL_TO
	Date Modified	DateTime	
	End Gift Amount	Double	EQUAL_TO
	End Gift Date	DateTime	EQUAL_TO
	Fund ID	String	EQUAL_TO
	Fundraisers	List	
	Gift Splits	List	
	Gift Status	String	
	Gift Type	String	EQUAL_TO
	ID	String	
	Is Anonymous	Boolean	
	Last Modified	DateTime	EQUAL_TO
	Linked Gifts	List	
	List ID	String	EQUAL_TO
	Lookup ID	String	
	Origin	String	
	Payments	List	
	Post Date	DateTime	
	Post Status	String	EQUAL_TO

Object	Field	Data type	Supported filters
	Receipt Status	String	EQUAL_TO
	Receipts	List	
	Reference	String	
	Soft Credits	List	
	Start Gift Amount	Double	EQUAL_TO
	Start Gift Date	DateTime	EQUAL_TO
	Subtype	String	
	Type	String	
Gift Batch	Actual Amount	Double	
	Added By	String	
	Approved	Boolean	EQUAL_TO
	Batch Description	String	
	Batch Number	String	EQUAL_TO
	Created By	String	
	Created On	DateTime	
	Date Added	DateTime	
	Has Exceptions	Boolean	EQUAL_TO
	ID	String	
	Is Approved	Boolean	
	Number Of Gifts	Integer	

Object	Field	Data type	Supported filters
	Search Text	String	EQUAL_TO
Membership	Category	String	
	Constituent ID	String	
	Date Added	DateTime	EQUAL_TO
	Date Modified	DateTime	
	Dues	Struct	
	Expires	DateTime	
	ID	String	
	Joined	DateTime	
	Last Modified	DateTime	EQUAL_TO
	Members	List	
	Program	String	
	Standing	String	
	Subcategory	String	
Note	Constituent ID	String	
	Date	Struct	
	Date Added	DateTime	EQUAL_TO
	Date Modified	DateTime	
	ID	String	
	Last Modified	DateTime	EQUAL_TO

Object	Field	Data type	Supported filters
	Summary	String	
	Text	String	
	Type	String	
Online Presence	Address	String	
	Constituent ID	String	EQUAL_TO
	Date Added	DateTime	EQUAL_TO
	Date Modified	DateTime	
	ID	String	
	Inactive	Boolean	
	Include Inactive	Boolean	EQUAL_TO
	Last Modified	DateTime	EQUAL_TO
	Primary	Boolean	
	Type	String	
Opportunity	Ask Amount	Struct	
	Ask Date	DateTime	
	Campaign ID	String	
	Constituent ID	String	EQUAL_TO
	Date Added	DateTime	EQUAL_TO
	Date Modified	DateTime	
	Deadline	DateTime	

Object	Field	Data type	Supported filters
	Expected Amount	Struct	
	Expected Date	DateTime	
	Fund ID	String	
	Funded Amount	Struct	
	Funded Date	DateTime	
	Fundraisers	List	
	ID	String	
	Inactive	Boolean	
	Include Inactive	Boolean	EQUAL_TO
	Last Modified	DateTime	EQUAL_TO
	Linked Gifts	List	
	List ID	String	EQUAL_TO
	Name	String	
	Purpose	String	
	Status	String	
Package	Appeal ID	String	EQUAL_TO
	Category	String	
	Date Added	DateTime	EQUAL_TO
	Date Modified	DateTime	
	Default Gift Aamount	Struct	

Object	Field	Data type	Supported filters
	Description	String	
	End	DateTime	
	Goal	Struct	
	ID	String	
	Inactive	Boolean	
	Include Inactive	Boolean	EQUAL_TO
	Last Modified	DateTime	EQUAL_TO
	Lookup ID	String	
	Notes	String	
	Recipient Count	Integer	
	Start	DateTime	
Phone	Constituent ID	String	EQUAL_TO
	Date Added	DateTime	
	Date Modified	DateTime	
	Do Not Call	Boolean	
	ID	String	
	Inactive	Boolean	
	Number	String	
	Primary	Boolean	
	Type	String	

Object	Field	Data type	Supported filters
Relationship	Comment	String	
	Constituent ID	String	
	Date Added	DateTime	EQUAL_TO
	Date Modified	DateTime	
	End	Struct	
	ID	String	
	Is Constituent Head Of Household	Boolean	
	Is Organization Contact	Boolean	
	Is Primary Business	Boolean	
	Is Spouse	Boolean	
	Is Spouse Head Of Household	Boolean	
	Last Modified	DateTime	EQUAL_TO
	Name	String	
	Organization Contact Type	String	
	Position	String	
	Reciprocal Relationship ID	String	
	Reciprocal Type	String	

Object	Field	Data type	Supported filters
	Relation ID	String	
	Start	Struct	
	Type	String	

Braintree connector for Amazon AppFlow

Braintree is an online payment processing solution. If you're a Braintree user, your account contains data about your transactions. You can use Amazon AppFlow to transfer data from Braintree to certain AWS services or other supported applications.

Amazon AppFlow support for Braintree

Amazon AppFlow supports Braintree as follows.

Supported as a data source?

Yes. You can use Amazon AppFlow to transfer data from Braintree.

Supported as a data destination?

No. You can't use Amazon AppFlow to transfer data to Braintree.

Before you begin

To use Amazon AppFlow to transfer data from Braintree to supported destinations, you must meet these requirements:

- You have an account with Braintree that contains the data that you want to transfer.
- In the API settings for your account, you've created an API key for Amazon AppFlow. The API key provides the credentials that Amazon AppFlow uses to access your data securely when it makes authenticated calls to your account. For more information, see Important Gateway Credentials in the Braintree documentation.

From your API key settings, note the values for public key and private key. You provide these values to Amazon AppFlow when you connect to your Braintree account.

Connecting Amazon AppFlow to your Braintree account

To connect Amazon AppFlow to your Braintree account, provide the credentials from your Braintree API key so that Amazon AppFlow can access your data. If you haven't yet configured your Braintree account for Amazon AppFlow integration, see Before you begin.

To connect to Braintree

1. Sign in to the AWS Management Console and open the Amazon AppFlow console at https://console.aws.amazon.com/appflow/.
2. In the navigation pane on the left, choose **Connections**.
3. On the **Manage connections** page, for **Connectors**, choose **Braintree**.
4. Choose **Create connection**.
5. In the **Connect to Braintree** window, enter the following information:

   - **Public Key** – The public key value from the API key in your Braintree account.
   - **Private Key** – The private key value from the API key in your Braintree account.
   - **Braintree Instance Url** – Choose one of the following:
     - **https://payments.braintree-api.com/graphql** – Connects to the Braintree production environment.
     - **https://payments.sandbox.braintree-api.com/graphql** – Connects to the Braintree sandbox environment.

   For more information about these environments, see Try It Out in the Braintree documentation.
6. Optionally, under **Data encryption**, choose **Customize encryption settings (advanced)** if you want to encrypt your data with a customer managed key in the AWS Key Management Service (AWS KMS).

   By default, Amazon AppFlow encrypts your data with a KMS key that AWS creates, uses, and manages for you. Choose this option if you want to encrypt your data with your own KMS key instead.

   Amazon AppFlow always encrypts your data during transit and at rest. For more information, see Data protection in Amazon AppFlow.

If you want to use a KMS key from the current AWS account, select this key under **Choose an AWS KMS key**. If you want to use a KMS key from a different AWS account, enter the Amazon Resource Name (ARN) for that key.

7. For **Connection name**, enter a name for your connection.
8. Choose **Connect**.

On the **Manage connections** page, your new connection appears in the **Connections** table. When you create a flow that uses Braintree as the data source, you can select this connection.

Transferring data from Braintree with a flow

To transfer data from Braintree, create an Amazon AppFlow flow, and choose Braintree as the data source. For the steps to create a flow, see Creating flows in Amazon AppFlow.

Supported destinations

When you create a flow that uses Braintree as the data source, you can set the destination to any of the following connectors:

- Amazon Lookout for Metrics
- Amazon Redshift
- Amazon RDS for PostgreSQL
- Amazon S3
- HubSpot
- Marketo
- Salesforce
- SAP OData
- Snowflake
- Upsolver
- Zendesk
- Zoho CRM

CircleCI connector for Amazon AppFlow

CircleCI is a continuous integration and continuous delivery platform. If you're a CircleCI user, your account contains data about your projects, pipelines, workflows, and more. You can use Amazon AppFlow to transfer data from CircleCI to certain AWS services or other supported applications.

Amazon AppFlow support for CircleCI

Amazon AppFlow supports CircleCI as follows.

Supported as a data source?

Yes. You can use Amazon AppFlow to transfer data from CircleCI.

Supported as a data destination?

No. You can't use Amazon AppFlow to transfer data to CircleCI.

Before you begin

To use Amazon AppFlow to transfer data from CircleCI to supported destinations, you must meet these requirements:

- You have an account with CircleCI that contains the data that you want to transfer. For more information about the CircleCI data objects that Amazon AppFlow supports, see Supported objects.
- In the user settings for your account, you've created a personal API token. For the steps to do this, see Creating a personal API token in the CircleCI Docs site.

You provide the personal API token to Amazon AppFlow in the settings for your CircleCI connection.

Connecting Amazon AppFlow to your CircleCI account

To connect Amazon AppFlow to your CircleCI account, provide your personal API token so that Amazon AppFlow can access your data. If you haven't yet configured your CircleCI account for Amazon AppFlow integration, see Before you begin.

To connect to CircleCI

1. Sign in to the AWS Management Console and open the Amazon AppFlow console at https://console.aws.amazon.com/appflow/.
2. In the navigation pane on the left, choose **Connections**.
3. On the **Manage connections** page, for **Connectors**, choose **CircleCI**.
4. Choose **Create connection**.
5. In the **Connect to CircleCI** window, for **CircleCI Token**, enter the personal API token from the user settings of your CircleCI account
6. Optionally, under **Data encryption**, choose **Customize encryption settings (advanced)** if you want to encrypt your data with a customer managed key in the AWS Key Management Service (AWS KMS).

   By default, Amazon AppFlow encrypts your data with a KMS key that AWS creates, uses, and manages for you. Choose this option if you want to encrypt your data with your own KMS key instead.

   Amazon AppFlow always encrypts your data during transit and at rest. For more information, see Data protection in Amazon AppFlow.

   If you want to use a KMS key from the current AWS account, select this key under **Choose an AWS KMS key**. If you want to use a KMS key from a different AWS account, enter the Amazon Resource Name (ARN) for that key.
7. For **Connection name**, enter a name for your connection.
8. Choose **Connect**.

On the **Manage connections** page, your new connection appears in the **Connections** table. When you create a flow that uses CircleCI as the data source, you can select this connection.

Transferring data from CircleCI with a flow

To transfer data from CircleCI, create an Amazon AppFlow flow, and choose CircleCI as the data source. For the steps to create a flow, see Creating flows in Amazon AppFlow.

When you configure the flow, choose the data object that you want to transfer. For the objects that Amazon AppFlow supports for CircleCI, see Supported objects.

Also, choose the destination where you want to transfer the data object that you selected. For more information about how to configure your destination, see Supported destinations.

Supported destinations

When you create a flow that uses CircleCI as the data source, you can set the destination to any of the following connectors:

- Amazon Lookout for Metrics
- Amazon Redshift
- Amazon RDS for PostgreSQL
- Amazon S3
- HubSpot
- Marketo
- Salesforce
- SAP OData
- Snowflake
- Upsolver
- Zendesk
- Zoho CRM

Supported objects

When you create a flow that uses CircleCI as the data source, you can transfer any of the following data objects to supported destinations:

Object	Field	Data type	Supported filters
Context	Created At	String	
	ID	String	
	Name	String	
	Owner Type	String	EQUAL_TO

Object	Field	Data type	Supported filters
Organization Summary Metric	All Projects	List	
	Org Data	Struct	
	Org Project Data	List	
	Project Names	String	EQUAL_TO
	Reporting Window	String	EQUAL_TO
Pipeline	Branch	String	EQUAL_TO
	Created At	String	
	Errors	List	
	ID	String	
	Number	Integer	
	Project Slug	String	
	State	String	
	Trigger	Struct	
	Trigger Parameters	Struct	
	Updated At	String	
	VCS	Struct	
Pipeline Workflow	Canceled By	String	
	Created At	String	
	Errored By	String	
	ID	String	

Object	Field	Data type	Supported filters
	Name	String	
	Pipeline ID	String	
	Pipeline Number	Integer	
	Project Slug	String	
	Started By	String	
	Status	String	
	Stopped At	String	
	Tag	String	
Project Branch	Branches	List	
	Org ID	String	
	Project ID	String	
	Workflow Name	String	EQUAL_TO
Project Flaky Test	Classname	String	
	File	String	
	Job Name	String	
	Job Number	Integer	
	Pipeline Number	Integer	
	Source	String	
	Test Name	String	
	Time Wasted	Integer	

Object	Field	Data type	Supported filters
	Times Flaked	Integer	
	Workflow Created At	String	
	Workflow ID	String	
	Workflow Name	String	
Project Summary Metric	All Branches	List	
	All Workflows	List	
	Branches	String	EQUAL_TO
	Organization ID	String	
	Project Data	Struct	
	Project ID	String	
	Project Workflow Branch Data	List	
	Project Workflow Data	List	
	Reporting Window	String	EQUAL_TO
	Workflow Names	String	EQUAL_TO
Schedule	Actor	Struct	
	Created At	String	
	Description	String	
	ID	String	
	Name	String	

Object	Field	Data type	Supported filters
	Parameters	Struct	
	Project Slug	String	
	Timetable	Struct	
	Updated At	String	
Workflow Job Timeseries	Branch	String	EQUAL_TO
	Granularity	String	EQUAL_TO
	Max Ended At	String	
	Metrics	Struct	
	Min Started At	String	
	Name	String	
	Start End Date	DateTime	EQUAL_TO, BETWEEN
	Timestamp	String	
Workflow Metric and Trend	All Branches	Boolean	EQUAL_TO
	Branches	String	EQUAL_TO
	Metrics	Struct	
	Trends	Struct	
	Workflow Names	List	
Workflow Recent Run	All Branches	Boolean	EQUAL_TO
	Branch	String	EQUAL_TO
	Created At	String	

Object	Field	Data type	Supported filters
	Credits Used	Integer	
	Duration	Integer	
	ID	String	
	Is Approval	Boolean	
	Start End Date	DateTime	EQUAL_TO, BETWEEN
	Status	String	
	Stopped At	String	
Workflow Summary Metric	All Branches	Boolean	EQUAL_TO
	Branch	String	EQUAL_TO
	Metrics	Struct	
	Name	String	
	Project ID	String	
	Reporting Window	String	EQUAL_TO
	Window End	String	
	Window Start	String	
Workflow Test Metric	Average Test Count	Integer	
	Branch	String	EQUAL_TO
	Most Failed Tests	List	
	Most Failed Tests Extra	Integer	

Object	Field	Data type	Supported filters
	Slowest Tests	List	
	Slowest Tests Extra	Integer	
	Test Runs	List	
	Total Test Runs	Integer	

Coupa connector for Amazon AppFlow

Coupa is a business spend software as a service (SaaS) solution. If you're a Coupa user, your account contains data on procurements, invoicing, expenses, payments, and more. You can use Amazon AppFlow to transfer data between Coupa and certain AWS services or other supported applications.

Amazon AppFlow support for Coupa

Amazon AppFlow supports Coupa as follows.

Supported as a data source?

Yes. You can use Amazon AppFlow to transfer data from Coupa.

Supported as a data destination?

No. You can't use Amazon AppFlow to transfer data to Coupa.

Before you begin

To use Amazon AppFlow to transfer data from Coupa to supported destinations, you must meet these requirements:

- You have an account with Coupa that contains the data that you want to transfer. For more information about the Coupa data objects that Amazon AppFlow supports, see Supported objects.

- In your Amazon AppFlow account, you've created an OAuth2/OIDC client app for Amazon AppFlow. The app provides the client credentials that Amazon AppFlow uses to access your data securely when it makes authenticated calls to your account.

  For information about how to create an OAuth2 client app, see OAuth 2.0 Getting Started with Coupa API in the *Coupa Compass*.
- You've given your app a Grant type of Client Credentials.
- You've chosen the following scopes to be included in the API:
  - `core.accounting.read`
  - `core.approval.read`
  - `core.common.read`
  - `core.easyform_response.read`
  - `core.expense.read`
  - `core.integration.read`
  - `core.inventory.adjustment.read`
  - `core.inventory.asn.read`
  - `core.inventory.balance.read`
  - `core.inventory.consumption.read`
  - `core.inventory.cycle_counts.read`
  - `core.inventory.receiving.read`
  - `core.inventory.return_to_supplier.read`
  - `core.inventory.transfer. read`
  - `core.invoice.read`
  - `core.item.read`
  - `core.legal_entity.read`
  - `core.pay.charges.read`
  - `core.pay.payment_accounts.read`
  - `core.pay.payments.read`
  - `core.pay.virtual_cards.read`
  - `core.payables.allocations.read`
  - `core.payables.expense.read`

- core.payables.external.read"
- core.payables.invoice.read
- core.payables.order.read
- core.project.read
- core.purchase_order. read
- core.requisition.read
- core.sourcing.pending_supplier.read
- core.sourcing.read
- core.sourcing.response.read
- core.supplier.read
- core.supplier_information_sites.read
- core.supplier_information_tax registrations.read
- core.supplier_sharing_settings.read
- core.supplier_sites.read
- core.uom.read
- core.user.read
- core.user_group.read
- email login offline_access openid profile
- travel_booking.common.read
- travel_booking.team.read
- travel_booking.trip.read
- travel_booking.user.read
- treasury.cash_management.read

Note the client ID, client secret, and instance URL for your Coupa project.

Connecting Amazon AppFlow to your Coupa account

To connect Amazon AppFlow to your Coupa account, provide details from your Coupa project so that Amazon AppFlow can access your data. If you haven't yet configured your Coupa project for Amazon AppFlow integration, see Before you begin.

To connect to Coupa

1. Sign in to the AWS Management Console and open the Amazon AppFlow console at https://console.aws.amazon.com/appflow/.
2. In the navigation pane on the left, choose **Connections**.
3. On the **Manage connections** page, for **Connectors**, choose **Coupa**.
4. Choose **Create connection**.
5. In the **Connect to Coupa** window, enter the following information:

   - **Connection name** — A name for the connection.
   - **Authorization tokens URL** — From the dropdown menu, choose one of the following options: For partner and demo instances, choose https://\{company_name}.coupacloud.com.oauth2/token. For customer instances, choose https://\{company_name}.coupahost.com.oauth2/token.
   - **Custom authorization tokens URL** — The same company name used in the authorization tokens URL.
   - **Client ID** — The client ID in your Coupa project.
   - **Client secret** — The client secret in your Coupa project.
   - **Instance URL** — The instance URL of your Coupa project. For example, https://{company_name}.coupacloud.com (for partner and demo instances), or https://{company_name}.coupahost.com (for customer instances).
6. Optionally, under **Data encryption**, choose **Customize encryption settings (advanced)** if you want to encrypt your data with a customer managed key in the AWS Key Management Service (AWS KMS).

   By default, Amazon AppFlow encrypts your data with a KMS key that AWS creates, uses, and manages for you. Choose this option if you want to encrypt your data with your own KMS key instead.

   Amazon AppFlow always encrypts your data during transit and at rest. For more information, see Data protection in Amazon AppFlow.

   If you want to use a KMS key from the current AWS account, select this key under **Choose an AWS KMS key**. If you want to use a KMS key from a different AWS account, enter the Amazon Resource Name (ARN) for that key.
7. For **Connection name**, enter a name for your connection.

8. Choose **Connect**.
9. In the window that appears, sign in to your Coupa account, and grant access to Amazon AppFlow.

On the **Manage connections** page, your new connection appears in the **Connections** table. When you create a flow that uses Coupa as the data source, you can select this connection.

Transferring data from Coupa with a flow

To transfer data from Coupa, create an Amazon AppFlow flow, and choose Coupa as the data source. For the steps to create a flow, see Creating flows in Amazon AppFlow.

When you configure the flow, choose the data object that you want to transfer. For the objects that Amazon AppFlow supports for Coupa, see Supported objects.

Also, choose the destination where you want to transfer the data object that you selected. For more information about how to configure your destination, see Supported destinations.

Supported destinations

When you create a flow that uses Coupa as the data source, you can set the destination to any of the following connectors:

- Amazon Lookout for Metrics
- Amazon Redshift
- Amazon RDS for PostgreSQL
- Amazon S3
- HubSpot
- Marketo
- Salesforce
- SAP OData
- Snowflake
- Upsolver
- Zendesk
- Zoho CRM

Supported objects

When you create a flow that uses Coupa as the data source, you can transfer any of the following data objects to supported destinations:

Object	Field	Data type	Supported filters
Approval			
Charge	account-type-id	Integer	EQUAL_TO, NOT_EQUAL _TO, LESS_THAN , GREATER_T HAN, LESS_THAN _OR_EQUAL _TO, GREATER_T HAN_OR_EQUAL_TO
	accounting-currency	Struct	
	accounting-total	BigDecimal	
	card-provider-acco unt	String	EQUAL_TO, CONTAINS, NOT_EQUAL _TO, LESS_THAN , GREATER_T HAN, LESS_THAN _OR_EQUAL _TO, GREATER_T HAN_OR_EQUAL_TO
	charge-allocations	List	
	charge-date	DateTime	EQUAL_TO, NOT_EQUAL _TO, BETWEEN, LESS_THAN , GREATER_T

Object	Field	Data type	Supported filters
			HAN, LESS_THAN _OR_EQUAL _TO, GREATER_T HAN_OR_EQUAL_TO
	charge-tax-lines	List	
	coupa-pay-id	Integer	EQUAL_TO, NOT_EQUAL _TO, LESS_THAN , GREATER_T HAN, LESS_THAN _OR_EQUAL _TO, GREATER_T HAN_OR_EQUAL_TO
	coupa-pay-statemen t-id	Integer	EQUAL_TO, NOT_EQUAL _TO, LESS_THAN , GREATER_T HAN, LESS_THAN _OR_EQUAL _TO, GREATER_T HAN_OR_EQUAL_TO
	created-at	DateTime	EQUAL_TO, NOT_EQUAL _TO, BETWEEN, LESS_THAN , GREATER_T HAN, LESS_THAN _OR_EQUAL _TO, GREATER_T HAN_OR_EQUAL_TO
	created-by	Struct	

Object	Field	Data type	Supported filters
	currency	Struct	
	document-id	Integer	
	document-type	String	
	expense-holding-account	Struct	
	exported	Boolean	EQUAL_TO, NOT_EQUAL_TO
	external-ref-id	String	EQUAL_TO, CONTAINS, NOT_EQUAL_TO, LESS_THAN, GREATER_THAN, LESS_THAN_OR_EQUAL_TO, GREATER_THAN_OR_EQUAL_TO
	holding-account	Struct	
	id	Integer	EQUAL_TO, NOT_EQUAL_TO, LESS_THAN, GREATER_THAN, LESS_THAN_OR_EQUAL_TO, GREATER_THAN_OR_EQUAL_TO
	issuer-bank	Struct	
	issuer-reconciliation-id	String	

Object	Field	Data type	Supported filters
	last-exported-at	DateTime	EQUAL_TO, NOT_EQUAL _TO, BETWEEN, LESS_THAN , GREATER_T HAN, LESS_THAN _OR_EQUAL _TO, GREATER_T HAN_OR_EQUAL_TO
	mcc	String	EQUAL_TO, CONTAINS, NOT_EQUAL _TO, LESS_THAN , GREATER_T HAN, LESS_THAN _OR_EQUAL _TO, GREATER_T HAN_OR_EQUAL_TO
	merchant-currency	Struct	
	merchant-reference	String	EQUAL_TO, CONTAINS, NOT_EQUAL _TO, LESS_THAN , GREATER_T HAN, LESS_THAN _OR_EQUAL _TO, GREATER_T HAN_OR_EQUAL_TO
	merchant-total	BigDecimal	
	order-header-curre ncy	String	

Object	Field	Data type	Supported filters
	order-header-id	Integer	
	order-header-number	String	
	order-header-total	String	
	payment-partner	Struct	
	posting-date	DateTime	EQUAL_TO, NOT_EQUAL _TO, BETWEEN, LESS_THAN , GREATER_T HAN, LESS_THAN _OR_EQUAL _TO, GREATER_T HAN_OR_EQUAL_TO
	statement	Struct	
	statement-id	Integer	EQUAL_TO, NOT_EQUAL _TO, LESS_THAN , GREATER_T HAN, LESS_THAN _OR_EQUAL _TO, GREATER_T HAN_OR_EQUAL_TO
	statement-name	String	
	supplier	Struct	

Object	Field	Data type	Supported filters
	supplier-id	Integer	EQUAL_TO, NOT_EQUAL _TO, LESS_THAN , GREATER_T HAN, LESS_THAN _OR_EQUAL _TO, GREATER_T HAN_OR_EQUAL_TO
	supplier-name	String	
	tax-currency	Struct	
	tax-total	BigDecimal	
	total	BigDecimal	
	updated-at	DateTime	EQUAL_TO, NOT_EQUAL _TO, BETWEEN, LESS_THAN , GREATER_T HAN, LESS_THAN _OR_EQUAL _TO, GREATER_T HAN_OR_EQUAL_TO
	updated-by	Struct	
	virtual-card	Struct	

Object	Field	Data type	Supported filters
	virtual-card-id	Integer	EQUAL_TO, NOT_EQUAL _TO, LESS_THAN , GREATER_T HAN, LESS_THAN _OR_EQUAL _TO, GREATER_T HAN_OR_EQUAL_TO
Expense Report	approvals	List	
	art-der-ausgabe	String	EQUAL_TO, CONTAINS, NOT_EQUAL _TO, LESS_THAN , GREATER_T HAN, LESS_THAN _OR_EQUAL _TO, GREATER_T HAN_OR_EQUAL_TO
	audit-score	Integer	
	auditor-note	String	EQUAL_TO, CONTAINS, NOT_EQUAL _TO, LESS_THAN , GREATER_T HAN, LESS_THAN _OR_EQUAL _TO, GREATER_T HAN_OR_EQUAL_TO
	comments	List	

Object	Field	Data type	Supported filters
	created-at	DateTime	EQUAL_TO, NOT_EQUAL _TO, BETWEEN, LESS_THAN , GREATER_T HAN, LESS_THAN _OR_EQUAL _TO, GREATER_T HAN_OR_EQUAL_TO
	created-by	Struct	
	currency	Struct	
	end-date	DateTime	EQUAL_TO, BETWEEN, NOT_EQUAL _TO, LESS_THAN , GREATER_T HAN, LESS_THAN _OR_EQUAL _TO, GREATER_T HAN_OR_EQUAL_TO
	events	List	
	expense-lines	List	
	expense-policy-vio lations	List	
	expense-report-pre approvals	List	
	expensed-by	Struct	

Object	Field	Data type	Supported filters
	exported	Boolean	EQUAL_TO, NOT_EQUAL_TO
	external-src-name	String	EQUAL_TO, CONTAINS, NOT_EQUAL _TO, LESS_THAN , GREATER_T HAN, LESS_THAN _OR_EQUAL _TO, GREATER_T HAN_OR_EQUAL_TO
	external-src-ref	String	EQUAL_TO, CONTAINS, NOT_EQUAL _TO, LESS_THAN , GREATER_T HAN, LESS_THAN _OR_EQUAL _TO, GREATER_T HAN_OR_EQUAL_TO
	id	Integer	EQUAL_TO, NOT_EQUAL _TO, LESS_THAN , GREATER_T HAN, LESS_THAN _OR_EQUAL _TO, GREATER_T HAN_OR_EQUAL_TO
	is-trip	Boolean	EQUAL_TO, NOT_EQUAL_TO

Object	Field	Data type	Supported filters
	last-exported-at	DateTime	EQUAL_TO, BETWEEN, NOT_EQUAL _TO, LESS_THAN , GREATER_T HAN, LESS_THAN _OR_EQUAL _TO, GREATER_T HAN_OR_EQUAL_TO
	paid	Boolean	
	past-due	Boolean	
	payment	Struct	
	payment-channel	String	EQUAL_TO, CONTAINS, NOT_EQUAL _TO, LESS_THAN , GREATER_T HAN, LESS_THAN _OR_EQUAL _TO, GREATER_T HAN_OR_EQUAL_TO
	reconciliation-lines	List	
	reimbursable-total-amount	BigDecimal	EQUAL_TO, NOT_EQUAL _TO, LESS_THAN , GREATER_T HAN, LESS_THAN _OR_EQUAL _TO, GREATER_T HAN_OR_EQUAL_TO

Object	Field	Data type	Supported filters
	reimbursable-total-currency	Struct	
	reject-reason	String	EQUAL_TO, CONTAINS, NOT_EQUAL_TO, LESS_THAN, GREATER_THAN, LESS_THAN_OR_EQUAL_TO, GREATER_THAN_OR_EQUAL_TO
	report-due-date	DateTime	
	report-warnings	List	
	start-date	DateTime	EQUAL_TO, BETWEEN, NOT_EQUAL_TO, LESS_THAN, GREATER_THAN, LESS_THAN_OR_EQUAL_TO, GREATER_THAN_OR_EQUAL_TO
	status	String	EQUAL_TO, CONTAINS, NOT_EQUAL_TO, LESS_THAN, GREATER_THAN, LESS_THAN_OR_EQUAL_TO, GREATER_THAN_OR_EQUAL_TO

Object	Field	Data type	Supported filters
	submitted-at	DateTime	EQUAL_TO, NOT_EQUAL _TO, BETWEEN, LESS_THAN , GREATER_T HAN, LESS_THAN _OR_EQUAL _TO, GREATER_T HAN_OR_EQUAL_TO
	submitted-by	Struct	
	title	String	EQUAL_TO, CONTAINS, NOT_EQUAL _TO, LESS_THAN , GREATER_T HAN, LESS_THAN _OR_EQUAL _TO, GREATER_T HAN_OR_EQUAL_TO
	total	BigDecimal	EQUAL_TO, NOT_EQUAL _TO, LESS_THAN , GREATER_T HAN, LESS_THAN _OR_EQUAL _TO, GREATER_T HAN_OR_EQUAL_TO
	travel-trip	Struct	

Object	Field	Data type	Supported filters
	type-de-note-de-frais	String	EQUAL_TO, CONTAINS, NOT_EQUAL _TO, LESS_THAN , GREATER_T HAN, LESS_THAN _OR_EQUAL _TO, GREATER_T HAN_OR_EQUAL_TO
	type-of-expense	String	EQUAL_TO, CONTAINS, NOT_EQUAL _TO, LESS_THAN , GREATER_T HAN, LESS_THAN _OR_EQUAL _TO, GREATER_T HAN_OR_EQUAL_TO
	updated-at	DateTime	EQUAL_TO, NOT_EQUAL _TO, BETWEEN, LESS_THAN , GREATER_T HAN, LESS_THAN _OR_EQUAL _TO, GREATER_T HAN_OR_EQUAL_TO
	updated-by	Struct	
Invoice	abandon-reason	Struct	
	account-type	Struct	

Object	Field	Data type	Supported filters
	advance-payment-received-amount	BigDecimal	EQUAL_TO, NOT_EQUAL_TO, LESS_THAN, GREATER_THAN, LESS_THAN_OR_EQUAL_TO, GREATER_THAN_OR_EQUAL_TO
	amount-due	BigDecimal	EQUAL_TO, NOT_EQUAL_TO, LESS_THAN, GREATER_THAN, LESS_THAN_OR_EQUAL_TO, GREATER_THAN_OR_EQUAL_TO
	amount-due-less-discount	BigDecimal	EQUAL_TO, NOT_EQUAL_TO, LESS_THAN, GREATER_THAN, LESS_THAN_OR_EQUAL_TO, GREATER_THAN_OR_EQUAL_TO
	amount-of-advance-payment	BigDecimal	EQUAL_TO, NOT_EQUAL_TO, LESS_THAN, GREATER_THAN, LESS_THAN_OR_EQUAL_TO, GREATER_THAN_OR_EQUAL_TO

Object	Field	Data type	Supported filters
	approvals	List	
	archive-entity-id	Integer	
	attachments	List	
	bill-to-address	Struct	
	buyer-tax-registration	Struct	
	canceled	Boolean	
	cash-accounting-scheme-reference	String	EQUAL_TO, CONTAINS, NOT_EQUAL_TO, LESS_THAN, GREATER_THAN, LESS_THAN_OR_EQUAL_TO, GREATER_THAN_OR_EQUAL_TO
	cash-register-operator	String	
	channel	String	EQUAL_TO, CONTAINS, NOT_EQUAL_TO, LESS_THAN, GREATER_THAN, LESS_THAN_OR_EQUAL_TO, GREATER_THAN_OR_EQUAL_TO
	clearance-document	String	

Object	Field	Data type	Supported filters
	comments	String	EQUAL_TO, CONTAINS, NOT_EQUAL _TO, LESS_THAN , GREATER_T HAN, LESS_THAN _OR_EQUAL _TO, GREATER_T HAN_OR_EQUAL_TO
	compliant	Boolean	EQUAL_TO, NOT_EQUAL_TO
	confirmation	String	EQUAL_TO, CONTAINS, NOT_EQUAL _TO, LESS_THAN , GREATER_T HAN, LESS_THAN _OR_EQUAL _TO, GREATER_T HAN_OR_EQUAL_TO
	content-validation	Boolean	EQUAL_TO, NOT_EQUAL_TO
	contract	Struct	
	correct-value-of-s upply	BigDecimal	EQUAL_TO, NOT_EQUAL _TO, LESS_THAN , GREATER_T HAN, LESS_THAN _OR_EQUAL _TO, GREATER_T HAN_OR_EQUAL_TO

Object	Field	Data type	Supported filters
	coupa-accelerate-status	String	EQUAL_TO, CONTAINS, NOT_EQUAL_TO, LESS_THAN, GREATER_THAN, LESS_THAN_OR_EQUAL_TO, GREATER_THAN_OR_EQUAL_TO
	created-at	DateTime	EQUAL_TO, NOT_EQUAL_TO, BETWEEN, LESS_THAN, GREATER_THAN, LESS_THAN_OR_EQUAL_TO, GREATER_THAN_OR_EQUAL_TO
	created-by	Struct	
	credit-note-differences-with-original-invoice	BigDecimal	EQUAL_TO, NOT_EQUAL_TO, LESS_THAN, GREATER_THAN, LESS_THAN_OR_EQUAL_TO, GREATER_THAN_OR_EQUAL_TO

Object	Field	Data type	Supported filters
	credit-reason	String	EQUAL_TO, CONTAINS, NOT_EQUAL _TO, LESS_THAN , GREATER_T HAN, LESS_THAN _OR_EQUAL _TO, GREATER_T HAN_OR_EQUAL_TO
	currency	Struct	
	currency-id	Integer	
	current-integration-history-records	List	
	custom-fields	Struct	
	customer-accounting-tax	BigDecimal	EQUAL_TO, NOT_EQUAL _TO, LESS_THAN , GREATER_T HAN, LESS_THAN _OR_EQUAL _TO, GREATER_T HAN_OR_EQUAL_TO
	customer-accounting-tax-less-discount	BigDecimal	EQUAL_TO, NOT_EQUAL _TO, LESS_THAN , GREATER_T HAN, LESS_THAN _OR_EQUAL _TO, GREATER_T HAN_OR_EQUAL_TO

Object	Field	Data type	Supported filters
	customs-declaration-date	DateTime	EQUAL_TO, NOT_EQUAL _TO, BETWEEN, LESS_THAN , GREATER_T HAN, LESS_THAN _OR_EQUAL _TO, GREATER_T HAN_OR_EQUAL_TO
	customs-declaration-number	String	EQUAL_TO, CONTAINS, NOT_EQUAL _TO, LESS_THAN , GREATER_T HAN, LESS_THAN _OR_EQUAL _TO, GREATER_T HAN_OR_EQUAL_TO
	customs-office	String	EQUAL_TO, CONTAINS, NOT_EQUAL _TO, LESS_THAN , GREATER_T HAN, LESS_THAN _OR_EQUAL _TO, GREATER_T HAN_OR_EQUAL_TO

Object	Field	Data type	Supported filters
	date-of-discovery-of-facts-decisive-for-correction	DateTime	EQUAL_TO, NOT_EQUAL_TO, BETWEEN, LESS_THAN, GREATER_THAN, LESS_THAN_OR_EQUAL_TO, GREATER_THAN_OR_EQUAL_TO
	date-received	DateTime	
	delivery-date	DateTime	EQUAL_TO, NOT_EQUAL_TO, BETWEEN, LESS_THAN, GREATER_THAN, LESS_THAN_OR_EQUAL_TO, GREATER_THAN_OR_EQUAL_TO
	delivery-number	String	EQUAL_TO, CONTAINS, NOT_EQUAL_TO, LESS_THAN, GREATER_THAN, LESS_THAN_OR_EQUAL_TO, GREATER_THAN_OR_EQUAL_TO
	destination-country	Struct	

Object	Field	Data type	Supported filters
	discount-amount	BigDecimal	EQUAL_TO, NOT_EQUAL _TO, LESS_THAN , GREATER_T HAN, LESS_THAN _OR_EQUAL _TO, GREATER_T HAN_OR_EQUAL_TO
	discount-due-date	DateTime	EQUAL_TO, NOT_EQUAL _TO, BETWEEN, LESS_THAN , GREATER_T HAN, LESS_THAN _OR_EQUAL _TO, GREATER_T HAN_OR_EQUAL_TO
	discount-percent	Float	EQUAL_TO, NOT_EQUAL _TO, LESS_THAN , GREATER_T HAN, LESS_THAN _OR_EQUAL _TO, GREATER_T HAN_OR_EQUAL_TO

Object	Field	Data type	Supported filters
	dispute-method	String	EQUAL_TO, CONTAINS, NOT_EQUAL _TO, LESS_THAN , GREATER_T HAN, LESS_THAN _OR_EQUAL _TO, GREATER_T HAN_OR_EQUAL_TO
	dispute-reasons	List	
	document-type	String	
	early-payment-prov isions	String	EQUAL_TO, CONTAINS, NOT_EQUAL _TO, LESS_THAN , GREATER_T HAN, LESS_THAN _OR_EQUAL _TO, GREATER_T HAN_OR_EQUAL_TO
	endorsement-on-inv oices	String	EQUAL_TO, CONTAINS, NOT_EQUAL _TO, LESS_THAN , GREATER_T HAN, LESS_THAN _OR_EQUAL _TO, GREATER_T HAN_OR_EQUAL_TO

Object	Field	Data type	Supported filters
	exchange-rate	BigDecimal	EQUAL_TO, NOT_EQUAL _TO, LESS_THAN , GREATER_T HAN, LESS_THAN _OR_EQUAL _TO, GREATER_T HAN_OR_EQUAL_TO
	exported	Boolean	EQUAL_TO, NOT_EQUAL_TO
	failed-tolerances	List	
	folio-number	String	EQUAL_TO, CONTAINS, NOT_EQUAL _TO, LESS_THAN , GREATER_T HAN, LESS_THAN _OR_EQUAL _TO, GREATER_T HAN_OR_EQUAL_TO
	form-of-payment	String	EQUAL_TO, CONTAINS, NOT_EQUAL _TO, LESS_THAN , GREATER_T HAN, LESS_THAN _OR_EQUAL _TO, GREATER_T HAN_OR_EQUAL_TO
	freight-type	String	

Object	Field	Data type	Supported filters
	gross-total	BigDecimal	
	gross-total-less-discount	BigDecimal	EQUAL_TO, NOT_EQUAL_TO, LESS_THAN, GREATER_THAN, LESS_THAN_OR_EQUAL_TO, GREATER_THAN_OR_EQUAL_TO
	handling-amount	BigDecimal	EQUAL_TO, NOT_EQUAL_TO, LESS_THAN, GREATER_THAN, LESS_THAN_OR_EQUAL_TO, GREATER_THAN_OR_EQUAL_TO
	id	Integer	EQUAL_TO, NOT_EQUAL_TO, LESS_THAN, GREATER_THAN, LESS_THAN_OR_EQUAL_TO, GREATER_THAN_OR_EQUAL_TO

Object	Field	Data type	Supported filters
	image-scan	String	EQUAL_TO, CONTAINS, NOT_EQUAL _TO, LESS_THAN , GREATER_T HAN, LESS_THAN _OR_EQUAL _TO, GREATER_T HAN_OR_EQUAL_TO
	image-scan-content-type	String	EQUAL_TO, CONTAINS, NOT_EQUAL _TO, LESS_THAN , GREATER_T HAN, LESS_THAN _OR_EQUAL _TO, GREATER_T HAN_OR_EQUAL_TO
	image-scan-file-name	String	EQUAL_TO, CONTAINS, NOT_EQUAL _TO, LESS_THAN , GREATER_T HAN, LESS_THAN _OR_EQUAL _TO, GREATER_T HAN_OR_EQUAL_TO

Object	Field	Data type	Supported filters
	image-scan-file-size	Integer	EQUAL_TO, NOT_EQUAL _TO, LESS_THAN , GREATER_T HAN, LESS_THAN _OR_EQUAL _TO, GREATER_T HAN_OR_EQUAL_TO
	image-scan-url	String	EQUAL_TO, CONTAINS, NOT_EQUAL _TO, LESS_THAN , GREATER_T HAN, LESS_THAN _OR_EQUAL _TO, GREATER_T HAN_OR_EQUAL_TO
	inbound-invoice	Struct	
	inbox-name	String	
	internal-note	String	EQUAL_TO, CONTAINS, NOT_EQUAL _TO, LESS_THAN , GREATER_T HAN, LESS_THAN _OR_EQUAL _TO, GREATER_T HAN_OR_EQUAL_TO
	invoice-charges	List	

Object	Field	Data type	Supported filters
	invoice-date	DateTime	EQUAL_TO, NOT_EQUAL _TO, BETWEEN, LESS_THAN , GREATER_T HAN, LESS_THAN _OR_EQUAL _TO, GREATER_T HAN_OR_EQUAL_TO
	invoice-from-address	Struct	
	invoice-issuance-time	String	
	invoice-lines	List	
	invoice-number	String	EQUAL_TO, CONTAINS, NOT_EQUAL _TO, LESS_THAN , GREATER_T HAN, LESS_THAN _OR_EQUAL _TO, GREATER_T HAN_OR_EQUAL_TO
	invoice-payment-re ceipts	List	

Object	Field	Data type	Supported filters
	invoice-reference-number	String	EQUAL_TO, CONTAINS, NOT_EQUAL_TO, LESS_THAN, GREATER_THAN, LESS_THAN_OR_EQUAL_TO, GREATER_THAN_OR_EQUAL_TO
	is-credit-note	Boolean	EQUAL_TO, NOT_EQUAL_TO
	issuance-place	String	EQUAL_TO, CONTAINS, NOT_EQUAL_TO, LESS_THAN, GREATER_THAN, LESS_THAN_OR_EQUAL_TO, GREATER_THAN_OR_EQUAL_TO
	last-exported-at	DateTime	EQUAL_TO, NOT_EQUAL_TO, BETWEEN, LESS_THAN, GREATER_THAN, LESS_THAN_OR_EQUAL_TO, GREATER_THAN_OR_EQUAL_TO

Object	Field	Data type	Supported filters
	late-payment-penalties	String	EQUAL_TO, CONTAINS, NOT_EQUAL_TO, LESS_THAN, GREATER_THAN, LESS_THAN_OR_EQUAL_TO, GREATER_THAN_OR_EQUAL_TO
	legal-destination-country	Struct	
	line-count	Integer	EQUAL_TO, NOT_EQUAL_TO, LESS_THAN, GREATER_THAN, LESS_THAN_OR_EQUAL_TO, GREATER_THAN_OR_EQUAL_TO
	line-level-taxation	Boolean	EQUAL_TO, NOT_EQUAL_TO
	lock-version-key	Integer	EQUAL_TO, NOT_EQUAL_TO, LESS_THAN, GREATER_THAN, LESS_THAN_OR_EQUAL_TO, GREATER_THAN_OR_EQUAL_TO

Object	Field	Data type	Supported filters
	margin-scheme	String	EQUAL_TO, CONTAINS, NOT_EQUAL_TO, LESS_THAN, GREATER_THAN, LESS_THAN_OR_EQUAL_TO, GREATER_THAN_OR_EQUAL_TO
	means-of-payment	String	
	misc-amount	BigDecimal	EQUAL_TO, NOT_EQUAL_TO, LESS_THAN, GREATER_THAN, LESS_THAN_OR_EQUAL_TO, GREATER_THAN_OR_EQUAL_TO
	municipal-tax-number	String	
	national-enrollment-of-conveyor	String	
	nature-of-operation	String	

Object	Field	Data type	Supported filters
	net-due-date	DateTime	EQUAL_TO, NOT_EQUAL _TO, BETWEEN, LESS_THAN , GREATER_T HAN, LESS_THAN _OR_EQUAL _TO, GREATER_T HAN_OR_EQUAL_TO
	net-total-less-dis count	BigDecimal	EQUAL_TO, NOT_EQUAL _TO, LESS_THAN , GREATER_T HAN, LESS_THAN _OR_EQUAL _TO, GREATER_T HAN_OR_EQUAL_TO
	new-means-of-trans port	String	EQUAL_TO, CONTAINS, NOT_EQUAL _TO, LESS_THAN , GREATER_T HAN, LESS_THAN _OR_EQUAL _TO, GREATER_T HAN_OR_EQUAL_TO
	origin-country	Struct	

Object	Field	Data type	Supported filters
	origin-currency-gross	BigDecimal	EQUAL_TO, NOT_EQUAL _TO, LESS_THAN , GREATER_T HAN, LESS_THAN _OR_EQUAL _TO, GREATER_T HAN_OR_EQUAL_TO
	origin-currency-net	BigDecimal	EQUAL_TO, NOT_EQUAL _TO, LESS_THAN , GREATER_T HAN, LESS_THAN _OR_EQUAL _TO, GREATER_T HAN_OR_EQUAL_TO
	original-invoice-date	DateTime	EQUAL_TO, NOT_EQUAL _TO, BETWEEN, LESS_THAN , GREATER_T HAN, LESS_THAN _OR_EQUAL _TO, GREATER_T HAN_OR_EQUAL_TO

Object	Field	Data type	Supported filters
	original-invoice-number	String	EQUAL_TO, CONTAINS, NOT_EQUAL_TO, LESS_THAN, GREATER_THAN, LESS_THAN_OR_EQUAL_TO, GREATER_THAN_OR_EQUAL_TO
	original-value-of-supply	BigDecimal	EQUAL_TO, NOT_EQUAL_TO, LESS_THAN, GREATER_THAN, LESS_THAN_OR_EQUAL_TO, GREATER_THAN_OR_EQUAL_TO
	paid	Boolean	EQUAL_TO, NOT_EQUAL_TO
	pay-invoice	Struct	
	payment-agreement-notes	List	
	payment-channel	String	EQUAL_TO, CONTAINS, NOT_EQUAL_TO, LESS_THAN, GREATER_THAN, LESS_THAN_OR_EQUAL_TO, GREATER_THAN_OR_EQUAL_TO

Object	Field	Data type	Supported filters
	payment-date	DateTime	
	payment-method	String	EQUAL_TO, CONTAINS, NOT_EQUAL _TO, LESS_THAN , GREATER_T HAN, LESS_THAN _OR_EQUAL _TO, GREATER_T HAN_OR_EQUAL_TO
	payment-notes	String	EQUAL_TO, CONTAINS, NOT_EQUAL _TO, LESS_THAN , GREATER_T HAN, LESS_THAN _OR_EQUAL _TO, GREATER_T HAN_OR_EQUAL_TO
	payment-order-numb er	String	
	payment-order-refe rence	String	EQUAL_TO, CONTAINS, NOT_EQUAL _TO, LESS_THAN , GREATER_T HAN, LESS_THAN _OR_EQUAL _TO, GREATER_T HAN_OR_EQUAL_TO
	payment-term	Struct	

Object	Field	Data type	Supported filters
	payments	List	
	place-of-issuance	String	EQUAL_TO, CONTAINS, NOT_EQUAL _TO, LESS_THAN , GREATER_T HAN, LESS_THAN _OR_EQUAL _TO, GREATER_T HAN_OR_EQUAL_TO
	place-of-supply	String	EQUAL_TO, CONTAINS, NOT_EQUAL _TO, LESS_THAN , GREATER_T HAN, LESS_THAN _OR_EQUAL _TO, GREATER_T HAN_OR_EQUAL_TO
	pre-payment-date	DateTime	EQUAL_TO, NOT_EQUAL _TO, BETWEEN, LESS_THAN , GREATER_T HAN, LESS_THAN _OR_EQUAL _TO, GREATER_T HAN_OR_EQUAL_TO
	protocol-number	String	
	reconciliation-lines	List	

Object	Field	Data type	Supported filters
	remit-to-address	Struct	
	requested-by	Struct	
	requester-email	String	
	requester-lookup-name	String	
	requester-name	String	
	resolution-number	String	
	reverse-charge-reference	String	EQUAL_TO, CONTAINS, NOT_EQUAL_TO, LESS_THAN, GREATER_THAN, LESS_THAN_OR_EQUAL_TO, GREATER_THAN_OR_EQUAL_TO
	security-code-of-issuer	String	
	self-billing-reference	String	EQUAL_TO, CONTAINS, NOT_EQUAL_TO, LESS_THAN, GREATER_THAN, LESS_THAN_OR_EQUAL_TO, GREATER_THAN_OR_EQUAL_TO
	sender-email	String	

Object	Field	Data type	Supported filters
	serial-code-of-fiscal-invoice	String	
	series	String	EQUAL_TO, CONTAINS, NOT_EQUAL _TO, LESS_THAN , GREATER_T HAN, LESS_THAN _OR_EQUAL _TO, GREATER_T HAN_OR_EQUAL_TO
	ship-from-address	Struct	
	ship-to-address	Struct	
	shipping-amount	BigDecimal	EQUAL_TO, NOT_EQUAL _TO, LESS_THAN , GREATER_T HAN, LESS_THAN _OR_EQUAL _TO, GREATER_T HAN_OR_EQUAL_TO
	shipping-term	Struct	
	show-tax-information	Boolean	

Object	Field	Data type	Supported filters
	signed-qr-code	String	EQUAL_TO, CONTAINS, NOT_EQUAL _TO, LESS_THAN , GREATER_T HAN, LESS_THAN _OR_EQUAL _TO, GREATER_T HAN_OR_EQUAL_TO
	spend-load-id	String	
	split-payment-mech anism	Boolean	EQUAL_TO, NOT_EQUAL_TO
	state-tax-number	String	
	state-tax-number-for-substitute-taxp ayer	String	
	status	String	EQUAL_TO, CONTAINS, NOT_EQUAL _TO, LESS_THAN , GREATER_T HAN, LESS_THAN _OR_EQUAL _TO, GREATER_T HAN_OR_EQUAL_TO
	supplier	Struct	
	supplier-created	Boolean	

Object	Field	Data type	Supported filters
	supplier-invoice-issuer-name	String	EQUAL_TO, CONTAINS, NOT_EQUAL_TO, LESS_THAN, GREATER_THAN, LESS_THAN_OR_EQUAL_TO, GREATER_THAN_OR_EQUAL_TO
	supplier-invoice-reviewer-name	String	EQUAL_TO, CONTAINS, NOT_EQUAL_TO, LESS_THAN, GREATER_THAN, LESS_THAN_OR_EQUAL_TO, GREATER_THAN_OR_EQUAL_TO
	supplier-note	String	EQUAL_TO, CONTAINS, NOT_EQUAL_TO, LESS_THAN, GREATER_THAN, LESS_THAN_OR_EQUAL_TO, GREATER_THAN_OR_EQUAL_TO

Object	Field	Data type	Supported filters
	supplier-payment-collector-name	String	EQUAL_TO, CONTAINS, NOT_EQUAL_TO, LESS_THAN, GREATER_THAN, LESS_THAN_OR_EQUAL_TO, GREATER_THAN_OR_EQUAL_TO
	supplier-remit-to	Struct	
	supplier-tax-registration	Struct	
	supplier-total	BigDecimal	
	taggings	List	
	tags	List	
	tax-amount	BigDecimal	
	tax-amount-engine	BigDecimal	
	tax-code	Struct	
	tax-code-engine	String	
	tax-due-to-supplier	BigDecimal	EQUAL_TO, NOT_EQUAL_TO, LESS_THAN, GREATER_THAN, LESS_THAN_OR_EQUAL_TO, GREATER_THAN_OR_EQUAL_TO

Object	Field	Data type	Supported filters
	tax-lines	List	
	tax-rate	Float	
	tax-rate-engine	String	
	taxes-in-origin-country-currency	BigDecimal	EQUAL_TO, NOT_EQUAL_TO, LESS_THAN, GREATER_THAN, LESS_THAN_OR_EQUAL_TO, GREATER_THAN_OR_EQUAL_TO
	tcs-tax-lines	List	
	tolerance-failures	String	EQUAL_TO, CONTAINS, NOT_EQUAL_TO, LESS_THAN, GREATER_THAN, LESS_THAN_OR_EQUAL_TO, GREATER_THAN_OR_EQUAL_TO
	total-taxes-less-discount	BigDecimal	EQUAL_TO, NOT_EQUAL_TO, LESS_THAN, GREATER_THAN, LESS_THAN_OR_EQUAL_TO, GREATER_THAN_OR_EQUAL_TO

Object	Field	Data type	Supported filters
	total-with-taxes	BigDecimal	
	transaction-notification-date	DateTime	EQUAL_TO, NOT_EQUAL_TO, BETWEEN, LESS_THAN, GREATER_THAN, LESS_THAN_OR_EQUAL_TO, GREATER_THAN_OR_EQUAL_TO
	transaction-uuid	String	EQUAL_TO, CONTAINS, NOT_EQUAL_TO, LESS_THAN, GREATER_THAN, LESS_THAN_OR_EQUAL_TO, GREATER_THAN_OR_EQUAL_TO
	type-of-document	String	
	type-of-operation	String	
	type-of-receipt	String	EQUAL_TO, CONTAINS, NOT_EQUAL_TO, LESS_THAN, GREATER_THAN, LESS_THAN_OR_EQUAL_TO, GREATER_THAN_OR_EQUAL_TO

Object	Field	Data type	Supported filters
	type-of-relationship	String	EQUAL_TO, CONTAINS, NOT_EQUAL _TO, LESS_THAN , GREATER_T HAN, LESS_THAN _OR_EQUAL _TO, GREATER_T HAN_OR_EQUAL_TO
	unique-identification-code-of-cash-receipt	String	
	updated-at	DateTime	EQUAL_TO, NOT_EQUAL _TO, BETWEEN, LESS_THAN , GREATER_T HAN, LESS_THAN _OR_EQUAL _TO, GREATER_T HAN_OR_EQUAL_TO
	updated-by	Struct	
	use-of-invoice	String	EQUAL_TO, CONTAINS, NOT_EQUAL _TO, LESS_THAN , GREATER_T HAN, LESS_THAN _OR_EQUAL _TO, GREATER_T HAN_OR_EQUAL_TO
	vehicle-license-plate	String	

Object	Field	Data type	Supported filters
	verification-code	String	
	volume-amount	String	
	volume-brand	String	
	volume-gross-weight	String	
	volume-liquid-weight	String	
	volume-numbering	String	
	volume-type	String	
	withholding-tax-lines	List	
	withholding-tax-override	BigDecimal	EQUAL_TO, NOT_EQUAL_TO, LESS_THAN, GREATER_THAN, LESS_THAN_OR_EQUAL_TO, GREATER_THAN_OR_EQUAL_TO
Payment	created-at	DateTime	EQUAL_TO, NOT_EQUAL_TO, LESS_THAN, GREATER_THAN, LESS_THAN_OR_EQUAL_TO, GREATER_THAN_OR_EQUAL_TO, BETWEEN
	created-by	Struct	

Object	Field	Data type	Supported filters
	description	String	EQUAL_TO, NOT_EQUAL _TO, LESS_THAN , GREATER_T HAN, LESS_THAN _OR_EQUAL _TO, GREATER_T HAN_OR_EQUAL_TO, CONTAINS
	digital-check	String	
	error-text	String	EQUAL_TO, NOT_EQUAL _TO, LESS_THAN , GREATER_T HAN, LESS_THAN _OR_EQUAL _TO, GREATER_T HAN_OR_EQUAL_TO, CONTAINS
	estimated-pay-from-total	BigDecimal	
	exchange-rate	String	EQUAL_TO, NOT_EQUAL _TO, LESS_THAN , GREATER_T HAN, LESS_THAN _OR_EQUAL _TO, GREATER_T HAN_OR_EQUAL_TO, CONTAINS

Object	Field	Data type	Supported filters
	exported	Boolean	EQUAL_TO, NOT_EQUAL_TO
	external-ref-id	Integer	
	id	Integer	EQUAL_TO, NOT_EQUAL _TO, LESS_THAN , GREATER_T HAN, LESS_THAN _OR_EQUAL _TO, GREATER_T HAN_OR_EQUAL_TO
	last-exported-at	DateTime	EQUAL_TO, NOT_EQUAL _TO, LESS_THAN , GREATER_T HAN, LESS_THAN _OR_EQUAL _TO, GREATER_T HAN_OR_EQUAL_TO, BETWEEN
	line-num	Integer	EQUAL_TO, NOT_EQUAL _TO, LESS_THAN , GREATER_T HAN, LESS_THAN _OR_EQUAL _TO, GREATER_T HAN_OR_EQUAL_TO
	pay-from-account	List	
	pay-from-currency	Struct	

Object	Field	Data type	Supported filters
	pay-from-external-gl-account	List	
	pay-from-total	BigDecimal	
	pay-to-account	List	
	pay-to-currency	Struct	
	pay-to-external-gl-account	List	
	pay-to-total	BigDecimal	
	payee	Struct	
	payment-batch	Struct	
	payment-batch-id	Integer	EQUAL_TO, NOT_EQUAL _TO, LESS_THAN , GREATER_T HAN, LESS_THAN _OR_EQUAL _TO, GREATER_T HAN_OR_EQUAL_TO
	payment-details	List	

Object	Field	Data type	Supported filters
	payment-identifier	String	EQUAL_TO, NOT_EQUAL _TO, LESS_THAN , GREATER_T HAN, LESS_THAN _OR_EQUAL _TO, GREATER_T HAN_OR_EQUAL_TO, CONTAINS
	released-at	String	
	reporting-currency	Struct	
	reporting-pay-from-total	BigDecimal	
	reporting-pay-to-total	BigDecimal	
	source-name	String	EQUAL_TO, NOT_EQUAL _TO, LESS_THAN , GREATER_T HAN, LESS_THAN _OR_EQUAL _TO, GREATER_T HAN_OR_EQUAL_TO, CONTAINS

Object	Field	Data type	Supported filters
	source-reference	String	EQUAL_TO, NOT_EQUAL _TO, LESS_THAN , GREATER_T HAN, LESS_THAN _OR_EQUAL _TO, GREATER_T HAN_OR_EQUAL_TO, CONTAINS
	status	String	EQUAL_TO, NOT_EQUAL _TO, LESS_THAN , GREATER_T HAN, LESS_THAN _OR_EQUAL _TO, GREATER_T HAN_OR_EQUAL_TO, CONTAINS
	type	String	EQUAL_TO, NOT_EQUAL _TO, LESS_THAN , GREATER_T HAN, LESS_THAN _OR_EQUAL _TO, GREATER_T HAN_OR_EQUAL_TO, CONTAINS

Object	Field	Data type	Supported filters
	updated-at	DateTime	EQUAL_TO, NOT_EQUAL _TO, LESS_THAN , GREATER_T HAN, LESS_THAN _OR_EQUAL _TO, GREATER_T HAN_OR_EQUAL_TO, BETWEEN
	updated-by	Struct	
Purchase Order	acknowledged-at	DateTime	EQUAL_TO, NOT_EQUAL _TO, BETWEEN, LESS_THAN , GREATER_T HAN, LESS_THAN _OR_EQUAL _TO, GREATER_T HAN_OR_EQUAL_TO
	acknowledged-flag	Boolean	EQUAL_TO, NOT_EQUAL_TO
	attachments	List	
	change-type	String	EQUAL_TO, CONTAINS, NOT_EQUAL _TO, LESS_THAN , GREATER_T HAN, LESS_THAN _OR_EQUAL _TO, GREATER_T HAN_OR_EQUAL_TO

Object	Field	Data type	Supported filters
	classification	String	
	confirm-by-hrs	Integer	
	coupa-accelerate-status	String	EQUAL_TO, CONTAINS, NOT_EQUAL_TO, LESS_THAN, GREATER_THAN, LESS_THAN_OR_EQUAL_TO, GREATER_THAN_OR_EQUAL_TO
	created-at	DateTime	EQUAL_TO, NOT_EQUAL_TO, BETWEEN, LESS_THAN, GREATER_THAN, LESS_THAN_OR_EQUAL_TO, GREATER_THAN_OR_EQUAL_TO
	created-by	Struct	
	currency	Struct	
	current-integration-history-records	List	
	custom-fields	Struct	
	exported	Boolean	EQUAL_TO, NOT_EQUAL_TO
	hide-price	Boolean	

Object	Field	Data type	Supported filters
	id	Integer	EQUAL_TO, NOT_EQUAL _TO, LESS_THAN , GREATER_T HAN, LESS_THAN _OR_EQUAL _TO, GREATER_T HAN_OR_EQUAL_TO
	internal-revision	Integer	
	invoice-stop	Boolean	
	last-exported-at	DateTime	EQUAL_TO, NOT_EQUAL _TO, BETWEEN, LESS_THAN , GREATER_T HAN, LESS_THAN _OR_EQUAL _TO, GREATER_T HAN_OR_EQUAL_TO
	milestones	List	
	order-confirmation-level	Integer	EQUAL_TO, NOT_EQUAL _TO, LESS_THAN , GREATER_T HAN, LESS_THAN _OR_EQUAL _TO, GREATER_T HAN_OR_EQUAL_TO

Object	Field	Data type	Supported filters
	payment-method	String	EQUAL_TO, CONTAINS, NOT_EQUAL _TO, LESS_THAN , GREATER_T HAN, LESS_THAN _OR_EQUAL _TO, GREATER_T HAN_OR_EQUAL_TO
	payment-term	Struct	
	pcard	Struct	
	po-number	String	EQUAL_TO, CONTAINS, NOT_EQUAL _TO, LESS_THAN , GREATER_T HAN, LESS_THAN _OR_EQUAL _TO, GREATER_T HAN_OR_EQUAL_TO
	price-hidden	Boolean	EQUAL_TO, NOT_EQUAL_TO
	reason-insight-events	List	
	recurring-rules	List	
	requester	Struct	
	ship-to-address	Struct	

Object	Field	Data type	Supported filters
	ship-to-attention	String	EQUAL_TO, CONTAINS, NOT_EQUAL _TO, LESS_THAN , GREATER_T HAN, LESS_THAN _OR_EQUAL _TO, GREATER_T HAN_OR_EQUAL_TO
	ship-to-user	Struct	
	shipping-term	Struct	
	spend-load-id	String	
	status	String	EQUAL_TO, CONTAINS, NOT_EQUAL _TO, LESS_THAN , GREATER_T HAN, LESS_THAN _OR_EQUAL _TO, GREATER_T HAN_OR_EQUAL_TO
	supplier	Struct	
	supplier-site	Struct	

Object	Field	Data type	Supported filters
	transmission-emails	String	EQUAL_TO, CONTAINS, NOT_EQUAL_TO, LESS_THAN, GREATER_THAN, LESS_THAN_OR_EQUAL_TO, GREATER_THAN_OR_EQUAL_TO
	transmission-method-override	String	EQUAL_TO, CONTAINS, NOT_EQUAL_TO, LESS_THAN, GREATER_THAN, LESS_THAN_OR_EQUAL_TO, GREATER_THAN_OR_EQUAL_TO
	transmission-status	String	
	type	String	
	updated-at	DateTime	EQUAL_TO, NOT_EQUAL_TO, BETWEEN, LESS_THAN, GREATER_THAN, LESS_THAN_OR_EQUAL_TO, GREATER_THAN_OR_EQUAL_TO
	updated-by	Struct	

Object	Field	Data type	Supported filters
	user-group-members	List	
	user-members	List	
	version	Integer	EQUAL_TO, NOT_EQUAL _TO, LESS_THAN , GREATER_T HAN, LESS_THAN _OR_EQUAL _TO, GREATER_T HAN_OR_EQUAL_TO
Purchase Order Line	account	Struct	
	account-allocations	List	
	accounting-total	BigDecimal	EQUAL_TO, NOT_EQUAL _TO, LESS_THAN , GREATER_T HAN, LESS_THAN _OR_EQUAL _TO, GREATER_T HAN_OR_EQUAL_TO
	accounting-total-c urrency	Struct	
	amount-components	List	
	asset-tags	List	
	attachments	List	
	bulk-price	Struct	

Object	Field	Data type	Supported filters
	commodity	Struct	
	contract	Struct	
	created-at	DateTime	EQUAL_TO, NOT_EQUAL _TO, BETWEEN, LESS_THAN , GREATER_T HAN, LESS_THAN _OR_EQUAL _TO, GREATER_T HAN_OR_EQUAL_TO
	created-by	Struct	
	currency	Struct	
	custom-fields	Struct	
	department	Struct	
	description	String	EQUAL_TO, NOT_EQUAL _TO, CONTAINS, LESS_THAN , GREATER_T HAN, LESS_THAN _OR_EQUAL _TO, GREATER_T HAN_OR_EQUAL_TO

Object	Field	Data type	Supported filters
	easy-form-response-id	Integer	EQUAL_TO, NOT_EQUAL _TO, LESS_THAN , GREATER_T HAN, LESS_THAN _OR_EQUAL _TO, GREATER_T HAN_OR_EQUAL_TO
	external-reference-number	String	EQUAL_TO, NOT_EQUAL _TO, CONTAINS, LESS_THAN , GREATER_T HAN, LESS_THAN _OR_EQUAL _TO, GREATER_T HAN_OR_EQUAL_TO
	external-reference-type	String	EQUAL_TO, NOT_EQUAL _TO, CONTAINS, LESS_THAN , GREATER_T HAN, LESS_THAN _OR_EQUAL _TO, GREATER_T HAN_OR_EQUAL_TO
	extra-line-attribute	Struct	
	form-response	List	

Object	Field	Data type	Supported filters
	id	Integer	EQUAL_TO, NOT_EQUAL _TO, LESS_THAN , GREATER_T HAN, LESS_THAN _OR_EQUAL _TO, GREATER_T HAN_OR_EQUAL_TO
	invoice-stop	Boolean	EQUAL_TO, NOT_EQUAL_TO
	invoiced	BigDecimal	EQUAL_TO, NOT_EQUAL _TO, LESS_THAN , GREATER_T HAN, LESS_THAN _OR_EQUAL _TO, GREATER_T HAN_OR_EQUAL_TO
	item	Struct	
	line-num	String	EQUAL_TO, NOT_EQUAL _TO, CONTAINS, LESS_THAN , GREATER_T HAN, LESS_THAN _OR_EQUAL _TO, GREATER_T HAN_OR_EQUAL_TO
	line-owner	Struct	

Object	Field	Data type	Supported filters
	manufacturer-name	String	EQUAL_TO, NOT_EQUAL _TO, CONTAINS, LESS_THAN , GREATER_T HAN, LESS_THAN _OR_EQUAL _TO, GREATER_T HAN_OR_EQUAL_TO
	manufacturer-part-number	String	EQUAL_TO, NOT_EQUAL _TO, CONTAINS, LESS_THAN , GREATER_T HAN, LESS_THAN _OR_EQUAL _TO, GREATER_T HAN_OR_EQUAL_TO
	match-type	String	EQUAL_TO, NOT_EQUAL _TO, CONTAINS, LESS_THAN , GREATER_T HAN, LESS_THAN _OR_EQUAL _TO, GREATER_T HAN_OR_EQUAL_TO
	milestones	List	

Object	Field	Data type	Supported filters
	minimum-order-quantity	BigDecimal	EQUAL_TO, NOT_EQUAL_TO, LESS_THAN, GREATER_THAN, LESS_THAN_OR_EQUAL_TO, GREATER_THAN_OR_EQUAL_TO
	need-by-date	DateTime	EQUAL_TO, NOT_EQUAL_TO, BETWEEN, LESS_THAN, GREATER_THAN, LESS_THAN_OR_EQUAL_TO, GREATER_THAN_OR_EQUAL_TO
	order-header-id	Integer	EQUAL_TO, NOT_EQUAL_TO, LESS_THAN, GREATER_THAN, LESS_THAN_OR_EQUAL_TO, GREATER_THAN_OR_EQUAL_TO

Object	Field	Data type	Supported filters
	order-header-number	String	EQUAL_TO, NOT_EQUAL _TO, CONTAINS, LESS_THAN , GREATER_T HAN, LESS_THAN _OR_EQUAL _TO, GREATER_T HAN_OR_EQUAL_TO
	order-increment	Struct	
	order-line-tax-detail	Struct	
	period	Struct	
	price	BigDecimal	EQUAL_TO, NOT_EQUAL _TO, LESS_THAN , GREATER_T HAN, LESS_THAN _OR_EQUAL _TO, GREATER_T HAN_OR_EQUAL_TO
	quantity	BigDecimal	EQUAL_TO, NOT_EQUAL _TO, LESS_THAN , GREATER_T HAN, LESS_THAN _OR_EQUAL _TO, GREATER_T HAN_OR_EQUAL_TO
	receipt-approval-r equired	Boolean	EQUAL_TO, NOT_EQUAL_TO

Object	Field	Data type	Supported filters
	receipt-required	Boolean	EQUAL_TO, NOT_EQUAL_TO
	received	BigDecimal	EQUAL_TO, NOT_EQUAL _TO, LESS_THAN , GREATER_T HAN, LESS_THAN _OR_EQUAL _TO, GREATER_T HAN_OR_EQUAL_TO
	receiving-warehouse	Struct	
	recurring-rules	List	
	reporting-total	BigDecimal	EQUAL_TO, NOT_EQUAL _TO, LESS_THAN , GREATER_T HAN, LESS_THAN _OR_EQUAL _TO, GREATER_T HAN_OR_EQUAL_TO
	requester	Struct	
	requisition-line-id	Integer	
	rfq-easy-form-resp onse-id	Integer	
	rfq-form-response	List	

Object	Field	Data type	Supported filters
	savings-pct	BigDecimal	EQUAL_TO, NOT_EQUAL _TO, LESS_THAN , GREATER_T HAN, LESS_THAN _OR_EQUAL _TO, GREATER_T HAN_OR_EQUAL_TO
	service-type	String	EQUAL_TO, NOT_EQUAL _TO, CONTAINS, LESS_THAN , GREATER_T HAN, LESS_THAN _OR_EQUAL _TO, GREATER_T HAN_OR_EQUAL_TO
	source-part-num	String	EQUAL_TO, NOT_EQUAL _TO, CONTAINS, LESS_THAN , GREATER_T HAN, LESS_THAN _OR_EQUAL _TO, GREATER_T HAN_OR_EQUAL_TO

Object	Field	Data type	Supported filters
	spend-load-id	String	EQUAL_TO, NOT_EQUAL _TO, CONTAINS, LESS_THAN , GREATER_T HAN, LESS_THAN _OR_EQUAL _TO, GREATER_T HAN_OR_EQUAL_TO
	status	String	EQUAL_TO, NOT_EQUAL _TO, CONTAINS, LESS_THAN , GREATER_T HAN, LESS_THAN _OR_EQUAL _TO, GREATER_T HAN_OR_EQUAL_TO
	sub-line-num	Integer	EQUAL_TO, NOT_EQUAL _TO, LESS_THAN , GREATER_T HAN, LESS_THAN _OR_EQUAL _TO, GREATER_T HAN_OR_EQUAL_TO

Object	Field	Data type	Supported filters
	supp-aux-part-num	String	EQUAL_TO, NOT_EQUAL _TO, CONTAINS, LESS_THAN , GREATER_T HAN, LESS_THAN _OR_EQUAL _TO, GREATER_T HAN_OR_EQUAL_TO
	supplier	Struct	
	supplier-order-num ber	String	EQUAL_TO, NOT_EQUAL _TO, CONTAINS, LESS_THAN , GREATER_T HAN, LESS_THAN _OR_EQUAL _TO, GREATER_T HAN_OR_EQUAL_TO
	supplier-site-id	Integer	EQUAL_TO, NOT_EQUAL _TO, LESS_THAN , GREATER_T HAN, LESS_THAN _OR_EQUAL _TO, GREATER_T HAN_OR_EQUAL_TO
	third_party_supplier	Struct	

Object	Field	Data type	Supported filters
	total	BigDecimal	EQUAL_TO, NOT_EQUAL _TO, LESS_THAN , GREATER_T HAN, LESS_THAN _OR_EQUAL _TO, GREATER_T HAN_OR_EQUAL_TO
	type	String	EQUAL_TO, NOT_EQUAL _TO, CONTAINS, LESS_THAN , GREATER_T HAN, LESS_THAN _OR_EQUAL _TO, GREATER_T HAN_OR_EQUAL_TO
	uom	Struct	
	updated-at	DateTime	EQUAL_TO, NOT_EQUAL _TO, BETWEEN, LESS_THAN , GREATER_T HAN, LESS_THAN _OR_EQUAL _TO, GREATER_T HAN_OR_EQUAL_TO
	updated-by	Struct	

Object	Field	Data type	Supported filters
	version	Integer	EQUAL_TO, NOT_EQUAL _TO, LESS_THAN , GREATER_T HAN, LESS_THAN _OR_EQUAL _TO, GREATER_T HAN_OR_EQUAL_TO
Receipt	account	Struct	
	account-allocations	List	
	adjustment-code	Struct	
	asn-header	Struct	
	asn-line	Struct	
	asset-tags	List	
	attachments	List	
	barcode	String	EQUAL_TO, CONTAINS, NOT_EQUAL _TO, LESS_THAN , GREATER_T HAN, LESS_THAN _OR_EQUAL _TO, GREATER_T HAN_OR_EQUAL_TO

Object	Field	Data type	Supported filters
	comments	String	EQUAL_TO, CONTAINS, NOT_EQUAL _TO, LESS_THAN , GREATER_T HAN, LESS_THAN _OR_EQUAL _TO, GREATER_T HAN_OR_EQUAL_TO
	created-at	DateTime	EQUAL_TO, NOT_EQUAL _TO, BETWEEN, LESS_THAN , GREATER_T HAN, LESS_THAN _OR_EQUAL _TO, GREATER_T HAN_OR_EQUAL_TO
	created-by	Struct	
	currency	Struct	
	current-integration-history-records	List	
	exported	Boolean	EQUAL_TO, NOT_EQUAL_TO
	from-warehouse	Struct	
	from-warehouse-location	Struct	

Object	Field	Data type	Supported filters
	id	Integer	EQUAL_TO, NOT_EQUAL _TO, LESS_THAN , GREATER_T HAN, LESS_THAN _OR_EQUAL _TO, GREATER_T HAN_OR_EQUAL_TO
	inspection-code	Struct	
	inventory-transact ion-lots	List	
	inventory-transact ion-valuations	List	
	item	Struct	
	last-exported-at	DateTime	EQUAL_TO, NOT_EQUAL _TO, BETWEEN, LESS_THAN , GREATER_T HAN, LESS_THAN _OR_EQUAL _TO, GREATER_T HAN_OR_EQUAL_TO

Object	Field	Data type	Supported filters
	match-reference	String	EQUAL_TO, CONTAINS, NOT_EQUAL _TO, LESS_THAN , GREATER_T HAN, LESS_THAN _OR_EQUAL _TO, GREATER_T HAN_OR_EQUAL_TO
	order-line	Struct	
	original-transaction	Struct	
	original-transaction-id	Integer	
	price	BigDecimal	EQUAL_TO, NOT_EQUAL _TO, LESS_THAN , GREATER_T HAN, LESS_THAN _OR_EQUAL _TO, GREATER_T HAN_OR_EQUAL_TO
	quantity	BigDecimal	EQUAL_TO, NOT_EQUAL _TO, LESS_THAN , GREATER_T HAN, LESS_THAN _OR_EQUAL _TO, GREATER_T HAN_OR_EQUAL_TO
	reason-insight	Struct	

Object	Field	Data type	Supported filters
	receipt	Struct	
	receipts-batch-id	Integer	
	received-weight	BigDecimal	EQUAL_TO, NOT_EQUAL _TO, LESS_THAN , GREATER_T HAN, LESS_THAN _OR_EQUAL _TO, GREATER_T HAN_OR_EQUAL_TO
	receiving-form-res ponse	Struct	
	rfid-tag	String	EQUAL_TO, CONTAINS, NOT_EQUAL _TO, LESS_THAN , GREATER_T HAN, LESS_THAN _OR_EQUAL _TO, GREATER_T HAN_OR_EQUAL_TO
	soft-close-for-rec eiving	Boolean	
	spend-load-id	String	

Object	Field	Data type	Supported filters
	status	String	EQUAL_TO, CONTAINS, NOT_EQUAL _TO, LESS_THAN , GREATER_T HAN, LESS_THAN _OR_EQUAL _TO, GREATER_T HAN_OR_EQUAL_TO
	to-warehouse	Struct	
	to-warehouse-locat ion	Struct	
	total	BigDecimal	EQUAL_TO, NOT_EQUAL _TO, LESS_THAN , GREATER_T HAN, LESS_THAN _OR_EQUAL _TO, GREATER_T HAN_OR_EQUAL_TO
	transaction-date	DateTime	EQUAL_TO, NOT_EQUAL _TO, BETWEEN, LESS_THAN , GREATER_T HAN, LESS_THAN _OR_EQUAL _TO, GREATER_T HAN_OR_EQUAL_TO

Object	Field	Data type	Supported filters
	type	String	EQUAL_TO, CONTAINS, NOT_EQUAL _TO, LESS_THAN , GREATER_T HAN, LESS_THAN _OR_EQUAL _TO, GREATER_T HAN_OR_EQUAL_TO
	uom	Struct	
	updated-at	DateTime	EQUAL_TO, NOT_EQUAL _TO, BETWEEN, LESS_THAN , GREATER_T HAN, LESS_THAN _OR_EQUAL _TO, GREATER_T HAN_OR_EQUAL_TO
	updated-by	Struct	
	voided-value	BigDecimal	EQUAL_TO, NOT_EQUAL _TO, LESS_THAN , GREATER_T HAN, LESS_THAN _OR_EQUAL _TO, GREATER_T HAN_OR_EQUAL_TO
Requisition	approvals	List	
	approver	Struct	

Object	Field	Data type	Supported filters
	attachments	List	
	buyer-note	String	EQUAL_TO, CONTAINS, NOT_EQUAL _TO, LESS_THAN , GREATER_T HAN, LESS_THAN _OR_EQUAL _TO, GREATER_T HAN_OR_EQUAL_TO
	created-at	DateTime	EQUAL_TO, NOT_EQUAL _TO, BETWEEN, LESS_THAN , GREATER_T HAN, LESS_THAN _OR_EQUAL _TO, GREATER_T HAN_OR_EQUAL_TO
	created-by	Struct	
	currency	Struct	
	current-approval	Struct	
	custom-fields	Struct	
	department	Struct	
	exported	Boolean	EQUAL_TO, NOT_EQUAL_TO
	external-po-reference	String	

Object	Field	Data type	Supported filters
	hide-price	Struct	
	id	Integer	EQUAL_TO, NOT_EQUAL _TO, LESS_THAN , GREATER_T HAN, LESS_THAN _OR_EQUAL _TO, GREATER_T HAN_OR_EQUAL_TO
	justification	String	EQUAL_TO, CONTAINS, NOT_EQUAL _TO, LESS_THAN , GREATER_T HAN, LESS_THAN _OR_EQUAL _TO, GREATER_T HAN_OR_EQUAL_TO
	line-count	Integer	EQUAL_TO, NOT_EQUAL _TO, LESS_THAN , GREATER_T HAN, LESS_THAN _OR_EQUAL _TO, GREATER_T HAN_OR_EQUAL_TO
	milestones	List	
	mobile-currency	Struct	
	mobile-total	BigDecimal	

Object	Field	Data type	Supported filters
	need-by-date	DateTime	EQUAL_TO, NOT_EQUAL _TO, BETWEEN, LESS_THAN , GREATER_T HAN, LESS_THAN _OR_EQUAL _TO, GREATER_T HAN_OR_EQUAL_TO
	pcard	Struct	
	price-hidden	Boolean	EQUAL_TO, NOT_EQUAL_TO
	receiving-warehouse-id	Integer	
	recurring-rules	List	
	reject-reason-comment	String	
	req-title	String	EQUAL_TO, CONTAINS, NOT_EQUAL _TO, LESS_THAN , GREATER_T HAN, LESS_THAN _OR_EQUAL _TO, GREATER_T HAN_OR_EQUAL_TO
	requested-by	Struct	
	requester	Struct	

Object	Field	Data type	Supported filters
	ship-to-address	Struct	
	ship-to-attention	String	EQUAL_TO, CONTAINS, NOT_EQUAL _TO, LESS_THAN , GREATER_T HAN, LESS_THAN _OR_EQUAL _TO, GREATER_T HAN_OR_EQUAL_TO
	spend-load-id	String	
	status	String	EQUAL_TO, CONTAINS, NOT_EQUAL _TO, LESS_THAN , GREATER_T HAN, LESS_THAN _OR_EQUAL _TO, GREATER_T HAN_OR_EQUAL_TO
	submitted-at	DateTime	EQUAL_TO, NOT_EQUAL _TO, BETWEEN, LESS_THAN , GREATER_T HAN, LESS_THAN _OR_EQUAL _TO, GREATER_T HAN_OR_EQUAL_TO
	taggings	List	

Object	Field	Data type	Supported filters
	tags	List	
	total	BigDecimal	
	updated-at	DateTime	EQUAL_TO, NOT_EQUAL _TO, BETWEEN, LESS_THAN , GREATER_T HAN, LESS_THAN _OR_EQUAL _TO, GREATER_T HAN_OR_EQUAL_TO
	updated-by	Struct	
	user-group-members	List	
	user-members	List	
Requisition Line	account	Struct	
	account-allocations	List	
	alternate-status	String	
	asset-tags	List	
	attachments	List	
	commodity	Struct	
	confirm-by-hrs	BigDecimal	
	contract	Struct	
	created-at	DateTime	
	created-by	Struct	

Object	Field	Data type	Supported filters
	currency	Struct	
	description	String	
	easy-form-response-id	Integer	
	extra-line-attribute	Struct	
	form-response	List	
	id	Integer	
	image-url	String	
	item	Struct	
	line-num	Integer	
	line-owner	Struct	
	line-type	String	
	manufacturer-name	String	
	manufacturer-part-number	String	
	milestones	List	
	minimum-order-quantity	BigDecimal	
	need-by-date	DateTime	
	order-confirmation-level	String	
	order-increment	String	

Object	Field	Data type	Supported filters
	order-line-id	Integer	
	order-pad-line	Struct	
	payment-term	Struct	
	period	Struct	
	punchout-site	Struct	
	quantity	BigDecimal	
	realtime-extension	Struct	
	receipt-required	Boolean	
	recurring-rules	List	
	requisition-line-tax-detail	Struct	
	requisition_id	Integer	EQUAL_TO, NOT_EQUAL _TO, LESS_THAN , GREATER_T HAN, LESS_THAN _OR_EQUAL _TO, GREATER_T HAN_OR_EQUAL_TO
	service-type	String	
	shipping-term	Struct	
	source	String	
	source-details	String	
	source-part-num	String	

Object	Field	Data type	Supported filters
	source-type	String	
	spend-load-id	String	
	status	String	
	sub-line-num	Integer	
	supp-aux-part-num	String	
	supplier	Struct	
	supplier-site	Struct	
	supplier-site-id	Integer	
	taggings	List	
	tags	List	
	total	BigDecimal	
	transmission-emails	String	
	transmission-method-override	String	
	unit-price	BigDecimal	
	unit-price-in-usd	BigDecimal	
	unspsc-code	String	
	uom	Struct	
	updated-at	DateTime	
	updated-by	Struct	
Supplier Information			

Datadog

The following are the requirements and connection instructions for using Datadog with Amazon AppFlow.

> **Note**
>
> You can use Datadog as a source only.

Topics

Requirements

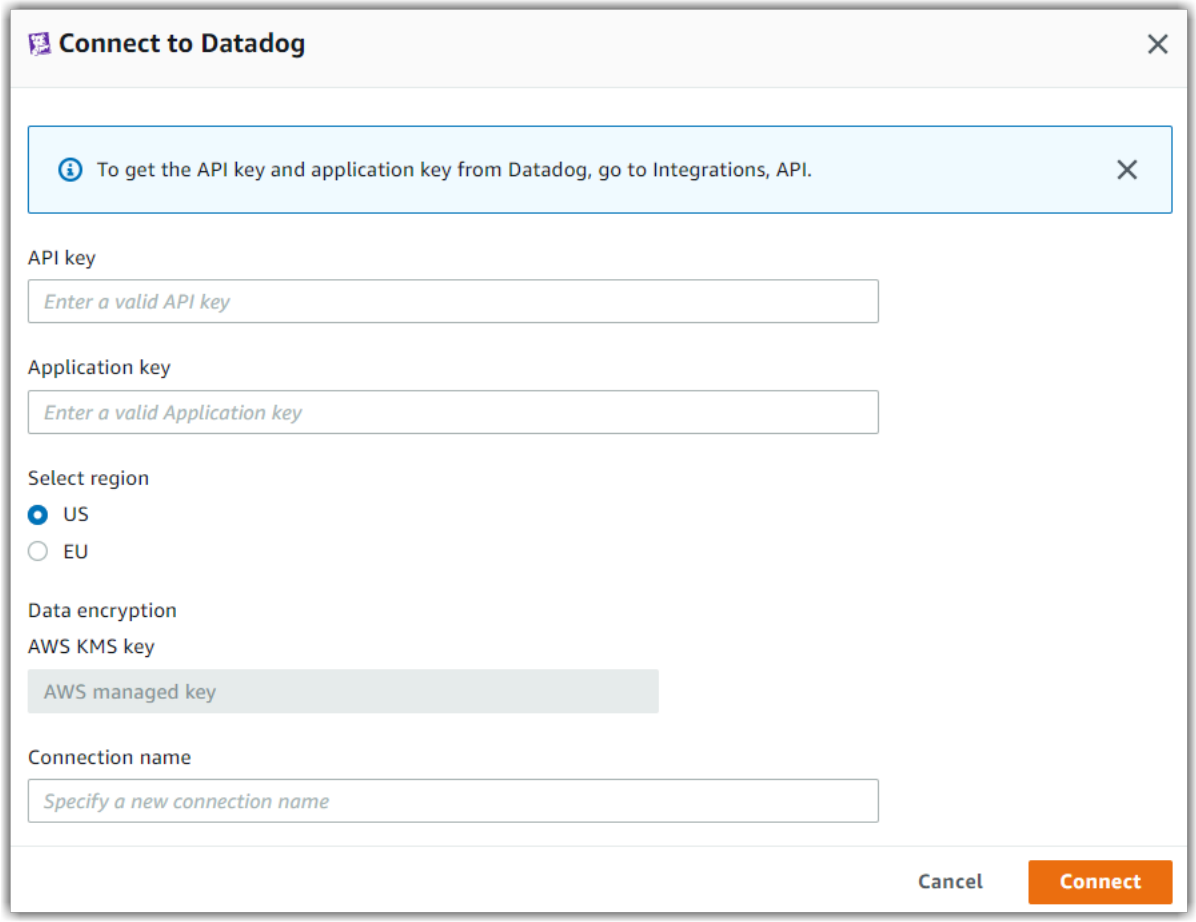
- You must provide Amazon AppFlow with an API key and an application key. For more information about how to retrieve your API key and application key, see the API and Application Keys information in the Datadog documentation.
- You must configure your flow with a date range and query filter.

Connection instructions

To connect to Datadog while creating a flow

1. Sign in to the AWS Management Console and open the Amazon AppFlow console at https://console.aws.amazon.com/appflow/.
2. Choose **Create flow**.
3. For **Flow details**, enter a name and description for the flow.
4. (Optional) To use a customer managed CMK instead of the default AWS managed CMK, choose **Data encryption**, **Customize encryption settings** and then choose an existing CMK or create a new one.

5. (Optional) To add a tag, choose **Tags**, **Add tag** and then enter the key name and value.
6. Choose **Next**.
7. Choose **Datadog** from the **Source name** dropdown list.
8. Choose **Connect** to open the **Connect to Datadog** dialog box.
    a. Under **API key**, enter your API key.
    b. Under **Application key**, enter your application key.
    c. Under **Select region**, select the region for your instance of Datadog.
    d. Under **Data encryption**, enter your AWS KMS key.
    e. Under **Connection name**, specify a name for your connection.
    f. Choose **Connect**.



9. You will be redirected to the Datadog login page. When prompted, grant Amazon AppFlow permissions to access your Datadog account.

Now that you are connected to your Datadog, you can continue with the flow creation steps as described in Creating flows in Amazon AppFlow.

> **Tip**
>
> If you aren't connected successfully, ensure that you have followed the instructions in the Requirements section.

Notes

- When you use Datadog as a source, you can run schedule-triggered flows at a maximum frequency of one flow run per minute.

Supported destinations

When you create a flow that uses Datadog as the data source, you can set the destination to any of the following connectors:

- Amazon Connect
- Amazon Honeycode
- Amazon Redshift
- Amazon S3
- Marketo
- Salesforce
- Snowflake
- Upsolver
- Zendesk

You can also set the destination to any custom connectors that you create with the Amazon AppFlow Custom Connector SDKs for Python or Java . You can download these SDKs from GitHub.

Related resources

- API and Application Keys information in the *Datadog* documentation

Delighted connector for Amazon AppFlow

Delighted is a cloud-based survey tool that helps its users distribute surveys and then collect and analyze the feedback. If you're a Delighted user, then your account contains data about your survey responses. You can use Amazon AppFlow to transfer data from Delighted to certain AWS services or other supported applications.

Amazon AppFlow support for Delighted

Amazon AppFlow supports Delighted as follows.

Supported as a data source?

Yes. You can use Amazon AppFlow to transfer data from Delighted.

Supported as a data destination?

No. You can't use Amazon AppFlow to transfer data to Delighted.

Before you begin

To use Amazon AppFlow to transfer data from Delighted to supported destinations, you must have an account with Delighted that contains the data that you want to transfer. For more information about the Delighted data objects that Amazon AppFlow supports, see Supported objects.

From your account settings, note the API key. You provide this value to Amazon AppFlow when you create a connection to your Delighted account. For more information about Delighted API keys, see Authentication in the Delighted API documentation.

Connecting Amazon AppFlow to your Delighted account

To connect Amazon AppFlow to your Delighted account, provide the API key from your Delighted account settings so that Amazon AppFlow can access your data.

To connect to Delighted

1. Sign in to the AWS Management Console and open the Amazon AppFlow console at https://console.aws.amazon.com/appflow/.
2. In the navigation pane on the left, choose **Connections**.
3. On the **Manage connections** page, for **Connectors**, choose **Delighted**.

4. Choose **Create connection**.
5. In the **Connect to Delighted** window, for **API Key**, enter a test or live API key from your Delighted account.
6. Optionally, under **Data encryption**, choose **Customize encryption settings (advanced)** if you want to encrypt your data with a customer managed key in the AWS Key Management Service (AWS KMS).

   By default, Amazon AppFlow encrypts your data with a KMS key that AWS creates, uses, and manages for you. Choose this option if you want to encrypt your data with your own KMS key instead.

   Amazon AppFlow always encrypts your data during transit and at rest. For more information, see Data protection in Amazon AppFlow.

   If you want to use a KMS key from the current AWS account, select this key under **Choose an AWS KMS key**. If you want to use a KMS key from a different AWS account, enter the Amazon Resource Name (ARN) for that key.
7. For **Connection name**, enter a name for your connection.
8. Choose **Connect**.

On the **Manage connections** page, your new connection appears in the **Connections** table. When you create a flow that uses Delighted as the data source, you can select this connection.

Transferring data from Delighted with a flow

To transfer data from Delighted, create an Amazon AppFlow flow, and choose Delighted as the data source. For the steps to create a flow, see Creating flows in Amazon AppFlow.

When you configure the flow, choose the data object that you want to transfer. For the objects that Amazon AppFlow supports for Delighted, see Supported objects.

Also, choose the destination where you want to transfer the data object that you selected. For more information about how to configure your destination, see Supported destinations.

Supported destinations

When you create a flow that uses Delighted as the data source, you can set the destination to any of the following connectors:

- Amazon Lookout for Metrics
- Amazon Redshift
- Amazon RDS for PostgreSQL
- Amazon S3
- HubSpot
- Marketo
- Salesforce
- SAP OData
- Snowflake
- Upsolver
- Zendesk
- Zoho CRM

Supported objects

When you create a flow that uses Delighted as the data source, you can transfer any of the following data objects to supported destinations:

Object	Field	Data type	Supported filters
Bounce	bounced_at	DateTime	
	email	String	
	name	String	
	person_id	String	
	since	DateTime	EQUAL_TO
	until	DateTime	EQUAL_TO
Metric	detractor_count	Integer	
	detractor_percent	Double	

Object	Field	Data type	Supported filters
	nps	Integer	
	passive_count	Integer	
	passive_percent	Double	
	promoter_count	Integer	
	promoter_percent	Double	
	response_count	Integer	
	since	DateTime	EQUAL_TO
	trend	String	EQUAL_TO
	until	DateTime	EQUAL_TO
People	created_at	DateTime	
	email	String	EQUAL_TO
	id	String	
	last_responded_at	DateTime	
	last_sent_at	DateTime	
	name	String	
	next_survey_scheduled_at	DateTime	
	phone_number	String	EQUAL_TO
	since	DateTime	EQUAL_TO
	until	DateTime	EQUAL_TO
Survey Response	additional_answers	List	

Object	Field	Data type	Supported filters
	comment	String	
	created_at	DateTime	
	id	String	
	notes	List	
	order	String	EQUAL_TO
	permalink	String	
	person	String	
	person_email	String	EQUAL_TO
	person_id	String	EQUAL_TO
	person_properties	Struct	
	score	Integer	
	since	DateTime	EQUAL_TO
	survey_type	String	
	tags	List	
	trend	String	EQUAL_TO
	until	DateTime	EQUAL_TO
	updated_at	DateTime	
	updated_since	DateTime	EQUAL_TO
	updated_until	DateTime	EQUAL_TO
Unsubscribe	email	String	

Object	Field	Data type	Supported filters
	name	String	
	person_id	String	
	since	DateTime	EQUAL_TO
	unsubscribed_at	DateTime	
	until	DateTime	EQUAL_TO

DocuSign Monitor connector for Amazon AppFlow

DocuSign Monitor provides data about digital agreements that are processed through DocuSign. If you're a DocuSign user, your account contains monitoring data about your DocuSign activity. You can use Amazon AppFlow to transfer your monitoring data to certain AWS services or other supported applications.

Amazon AppFlow support for DocuSign Monitor

Amazon AppFlow supports DocuSign Monitor as follows.

Supported as a data source?

Yes. You can use Amazon AppFlow to transfer data from DocuSign Monitor.

Supported as a data destination?

No. You can't use Amazon AppFlow to transfer data to DocuSign Monitor.

Before you begin

To use Amazon AppFlow to transfer data from DocuSign Monitor to supported destinations, you must meet these requirements:

- You have an account with DocuSign that contains the data that you want to transfer. For more information about the DocuSign Monitor data objects that Amazon AppFlow supports, see Supported objects.

- In the settings for your Docusign account, you've created an app and integration key for Amazon AppFlow. The app provides the client credentials that Amazon AppFlow uses to access your data securely when it makes authenticated calls to your account. For more information, see Configure your app in the DocuSign Developer documentation.
- In the settings for your app, you've done the following:
  - Created a secret key.
  - Added a redirect URL for Amazon AppFlow.

    Redirect URLs have the following format:

    ```
    https://region.console.aws.amazon.com/appflow/oauth
    ```

    In this URL, *region* is the code for the AWS Region where you use Amazon AppFlow to transfer data from DocuSign Monitor. For example, the code for the US East (N. Virginia) Region is `us-east-1`. For that Region, the URL is the following:

    ```
    https://us-east-1.console.aws.amazon.com/appflow/oauth
    ```

    For the AWS Regions that Amazon AppFlow supports, and their codes, see Amazon AppFlow endpoints and quotas in the *AWS General Reference.*

From your app settings, note your integration key and secret key because you specify these values in the connection settings in Amazon AppFlow.

Connecting Amazon AppFlow to your DocuSign account

To connect Amazon AppFlow to your DocuSign account, provide the integration key and secret key from your app so that Amazon AppFlow can access your data. If you haven't yet configured your DocuSign account for Amazon AppFlow integration, see Before you begin.

To connect to DocuSign Monitor

1. Sign in to the AWS Management Console and open the Amazon AppFlow console at https://console.aws.amazon.com/appflow/.
2. In the navigation pane on the left, choose **Connections**.
3. On the **Manage connections** page, for **Connectors**, choose **DocuSign Monitor**.
4. Choose **Create connection**.

5. In the **Connect to DocuSign Monitor** window, enter the following information:

   - **Client ID** – The integration key from your app settings.
   - **Client secret** – The secret key from your app settings.

6. Optionally, under **Data encryption**, choose **Customize encryption settings (advanced)** if you want to encrypt your data with a customer managed key in the AWS Key Management Service (AWS KMS).

   By default, Amazon AppFlow encrypts your data with a KMS key that AWS creates, uses, and manages for you. Choose this option if you want to encrypt your data with your own KMS key instead.

   Amazon AppFlow always encrypts your data during transit and at rest. For more information, see Data protection in Amazon AppFlow.

   If you want to use a KMS key from the current AWS account, select this key under **Choose an AWS KMS key**. If you want to use a KMS key from a different AWS account, enter the Amazon Resource Name (ARN) for that key.

7. For **Connection name**, enter a name for your connection.
8. Choose **Continue**.
9. In the window that appears, sign in to your DocuSign account, and grant access to Amazon AppFlow.

On the **Manage connections** page, your new connection appears in the **Connections** table. When you create a flow that uses DocuSign Monitor as the data source, you can select this connection.

Transferring data from DocuSign Monitor with a flow

To transfer data from DocuSign Monitor, create an Amazon AppFlow flow, and choose DocuSign Monitor as the data source. For the steps to create a flow, see Creating flows in Amazon AppFlow.

When you configure the flow, choose the data object that you want to transfer. For the objects that Amazon AppFlow supports for DocuSign Monitor, see Supported objects.

Also, choose the destination where you want to transfer the data object that you selected. For more information about how to configure your destination, see Supported destinations.

Supported destinations

When you create a flow that uses DocuSign Monitor as the data source, you can set the destination to any of the following connectors:

- Amazon Lookout for Metrics
- Amazon Redshift
- Amazon RDS for PostgreSQL
- Amazon S3
- HubSpot
- Marketo
- Salesforce
- SAP OData
- Snowflake
- Upsolver
- Zendesk
- Zoho CRM

Supported objects

When you create a flow that uses Docusign Monitor as the data source, you can transfer any of the following data objects to supported destinations:

Object	Field	Data type	Supported filters
Monitoring Data	accountId	String	CONTAINS, EQUAL_TO, NOT_EQUAL_TO
	action	String	CONTAINS, EQUAL_TO, NOT_EQUAL_TO

Object	Field	Data type	Supported filters
	affectedUserId	String	CONTAINS, EQUAL_TO, NOT_EQUAL_TO
	affectedUserIsMemberOfDomain	Boolean	EQUAL_TO, NOT_EQUAL_TO
	application	String	
	begin_end_time	DateTime	BETWEEN
	browser	String	CONTAINS
	city	String	CONTAINS, EQUAL_TO, NOT_EQUAL_TO
	country	String	CONTAINS, EQUAL_TO, NOT_EQUAL_TO
	customerVisible	String	
	data	Struct	
	device	String	CONTAINS
	environment	String	
	eventId	String	CONTAINS, EQUAL_TO, NOT_EQUAL_TO
	field	String	CONTAINS, EQUAL_TO, NOT_EQUAL_TO

Object	Field	Data type	Supported filters
	integratorKey	String	CONTAINS, EQUAL_TO, NOT_EQUAL_TO
	ipAddress	String	CONTAINS, EQUAL_TO, NOT_EQUAL_TO
	ipAddressLocation	Struct	
	isUserMem berOfDomain	Boolean	EQUAL_TO, NOT_EQUAL_TO
	latitude	Double	EQUAL_TO, NOT_EQUAL_TO
	longitude	Double	EQUAL_TO, NOT_EQUAL_TO
	object	String	CONTAINS, EQUAL_TO, NOT_EQUAL_TO
	organizationId	String	CONTAINS, EQUAL_TO, NOT_EQUAL_TO
	os	String	CONTAINS
	property	String	CONTAINS, EQUAL_TO, NOT_EQUAL_TO
	proxyLevel	String	
	proxyStatus	String	
	proxyType	String	

Object	Field	Data type	Supported filters
	referencedUserId	String	
	referencedUserIsMemberOfDomain	Boolean	
	result	String	CONTAINS, EQUAL_TO, NOT_EQUAL_TO
	site	String	
	source	String	
	state	String	CONTAINS, EQUAL_TO, NOT_EQUAL_TO
	timestamp	String	
	traceToken	String	
	userAgent	String	CONTAINS
	userAgentClientInfo	Struct	
	userId	String	CONTAINS, EQUAL_TO, NOT_EQUAL_TO
	version	String	

Domo connector for Amazon AppFlow

Domo is a business intelligence solution. If you're a Domo user, your account contains data about your Domo resources, such as your datasets and data permissions policies. You can use Amazon AppFlow to transfer data from Domo to certain AWS services or other supported applications.

Amazon AppFlow support for Domo

Amazon AppFlow supports Domo as follows.

Supported as a data source?

Yes. You can use Amazon AppFlow to transfer data from Domo.

Supported as a data destination?

No. You can't use Amazon AppFlow to transfer data to Domo.

Before you begin

To use Amazon AppFlow to transfer data from Domo to supported destinations, you must meet these requirements:

- You have an account with Domo that contains the data that you want to transfer. For more information about the Domo data objects that Amazon AppFlow supports, see Supported objects.
- On the Domo for Developers site, you've created a client for Amazon AppFlow. The client provides the credentials that Amazon AppFlow uses to access your data securely when it makes authenticated calls to your account. For the steps to create a client, see API Authentication Quickstart in the Domo for Developers documentation.

From the client settings, note client ID and secret because you provide these values in the connection settings in Amazon AppFlow.

Connecting Amazon AppFlow to your Domo account

To connect Amazon AppFlow to your Domo account, provide the client ID and secret from your client so that Amazon AppFlow can access your data. If you haven't yet configured your Domo account for Amazon AppFlow integration, see Before you begin.

To connect to Domo

1. Sign in to the AWS Management Console and open the Amazon AppFlow console at https://console.aws.amazon.com/appflow/.
2. In the navigation pane on the left, choose **Connections**.

3. On the **Manage connections** page, for **Connectors**, choose **Domo**.
4. Choose **Create connection**.
5. In the **Connect to Domo** window, enter the following information:
   - **Client ID** – The client ID from your Domo client.
   - **Client secret** – The secret from your Domo client.
6. Optionally, under **Data encryption**, choose **Customize encryption settings (advanced)** if you want to encrypt your data with a customer managed key in the AWS Key Management Service (AWS KMS).

   By default, Amazon AppFlow encrypts your data with a KMS key that AWS creates, uses, and manages for you. Choose this option if you want to encrypt your data with your own KMS key instead.

   Amazon AppFlow always encrypts your data during transit and at rest. For more information, see Data protection in Amazon AppFlow.

   If you want to use a KMS key from the current AWS account, select this key under **Choose an AWS KMS key**. If you want to use a KMS key from a different AWS account, enter the Amazon Resource Name (ARN) for that key.
7. For **Connection name**, enter a name for your connection.
8. Choose **Connect**.

On the **Manage connections** page, your new connection appears in the **Connections** table. When you create a flow that uses Domo as the data source, you can select this connection.

Transferring data from Domo with a flow

To transfer data from Domo, create an Amazon AppFlow flow, and choose Domo as the data source. For the steps to create a flow, see Creating flows in Amazon AppFlow.

When you configure the flow, choose the data object that you want to transfer. For the objects that Amazon AppFlow supports for Domo, see Supported objects.

Also, choose the destination where you want to transfer the data object that you selected. For more information about how to configure your destination, see Supported destinations.

When transferring dataset data objects, the limit is 1000 records per page. Pagination is not supported for data-permission-policy data objects, and the lambda limit is 5.5 MB.

Supported destinations

When you create a flow that uses Domo as the data source, you can set the destination to any of the following connectors:

- Amazon Lookout for Metrics
- Amazon Redshift
- Amazon RDS for PostgreSQL
- Amazon S3
- HubSpot
- Marketo
- Salesforce
- SAP OData
- Snowflake
- Upsolver
- Zendesk
- Zoho CRM

Supported objects

When you create a flow that uses Domo as the data source, you can transfer any of the following data objects to supported destinations:

Object	Field	Data type	Supported filters
Data Permission Policy	Filters	List	
	Groups	List	
	Id	String	
	Name	String	

Object	Field	Data type	Supported filters
	Type	String	
	Users	List	
	Virtual Users	List	
Dataset	Columns	Integer	
	CreatedAt	String	
	Description	String	
	Id	String	
	Name	String	
	Owner	Struct	
	PDP Enabled	Boolean	
	Rows	Integer	
	UpdatedAt	String	

Dynatrace

The following are the requirements and connection instructions for using Dynatrace with Amazon AppFlow.

> **Note**
>
> You can use Dynatrace as a source only.

Topics

- Requirements
- Connection instructions

- Notes
- Supported destinations
- Related resources

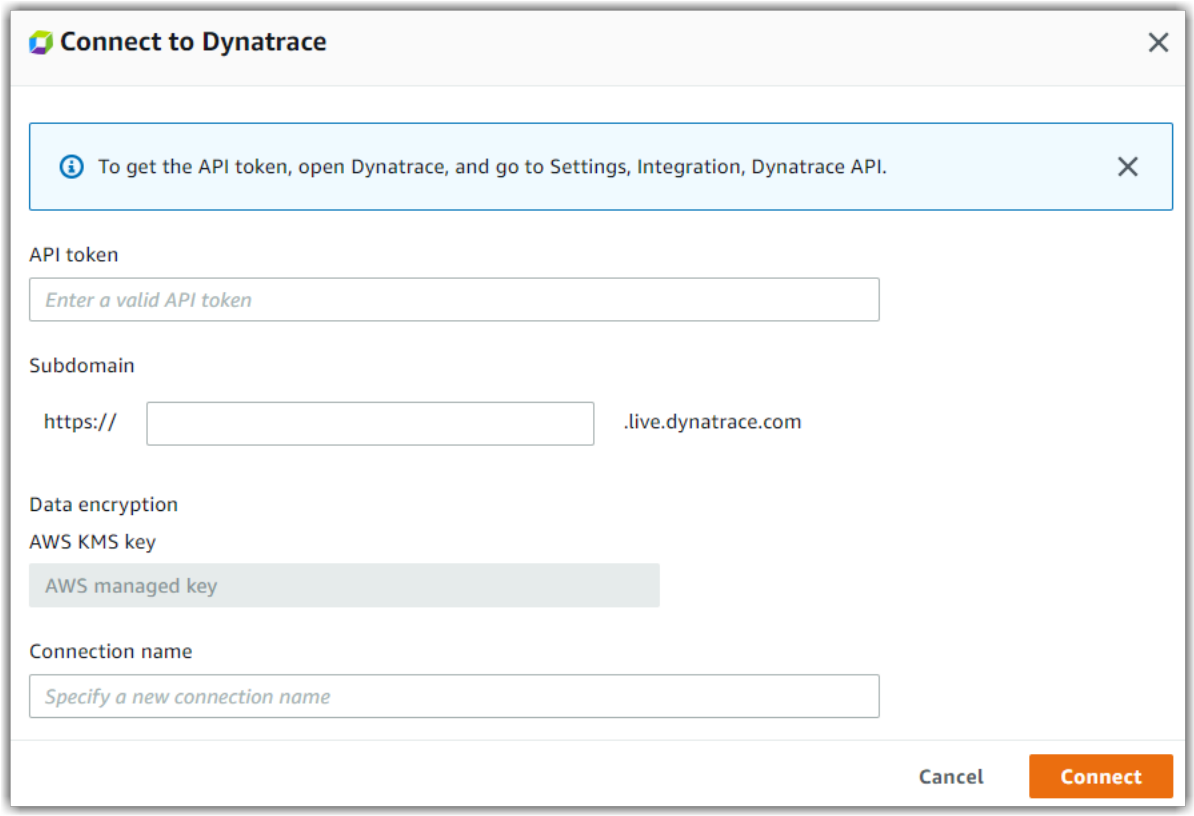
Requirements

- You must provide Amazon AppFlow with an API token. For more information about how to retrieve or generate an API token to use with Amazon AppFlow, see the Access tokens instructions in the Dynatrace documentation.
- You must configure your flow with a date filter with a date range that does not exceed 30 days.

Connection instructions

To connect to Dynatrace while creating a flow

1. Sign in to the AWS Management Console and open the Amazon AppFlow console at https://console.aws.amazon.com/appflow/.
2. Choose **Create flow**.
3. For **Flow details**, enter a name and description for the flow.
4. (Optional) To use a customer managed CMK instead of the default AWS managed CMK, choose **Data encryption**, **Customize encryption settings** and then choose an existing CMK or create a new one.
5. (Optional) To add a tag, choose **Tags**, **Add tag** and then enter the key name and value.
6. Choose **Next**.
7. Choose **Dynatrace** from the **Source name** dropdown list.
8. Choose **Connect** to open the **Connect to Dynatrace** dialog box.
    a. Under **API token**, enter your API token.
    b. Under **Subdomain**, enter the subdomain for your instance of Dynatrace.
    c. Under **Data encryption**, enter your AWS KMS key.
    d. Under **Connection name**, specify a name for your connection.
    e. Choose **Connect**.



9. You will be redirected to the Dynatrace login page. When prompted, grant Amazon AppFlow permissions to access your Dynatrace account.

Now that you are connected to your Dynatrace account, you can continue with the flow creation steps as described in Creating flows in Amazon AppFlow.

Tip

If you aren't connected successfully, ensure that you have followed the instructions in the Requirements.

Notes

- When you use Dynatrace as a source, you can run schedule-triggered flows at a maximum frequency of one flow run per minute.

Supported destinations

When you create a flow that uses Dynatrace as the data source, you can set the destination to any of the following connectors:

- Amazon Connect
- Amazon Honeycode
- Lookout for Metrics
- Amazon Redshift
- Amazon S3
- Marketo
- Salesforce
- Snowflake
- Upsolver
- Zendesk

You can also set the destination to any custom connectors that you create with the Amazon AppFlow Custom Connector SDKs for Python or Java. You can download these SDKs from GitHub.

Related resources

- Access tokens instructions in the Dynatrace documentation
- Dynatrace API documentation for more information about the types of data you can extract from Dynatrace
- Dynatrace is launch partner of Amazon AppFlow – a service for easy and secure data transfer from *Dynatrace Resources*

Facebook Ads connector for Amazon AppFlow

You can use the Facebook Ads connector in Amazon AppFlow to transfer data about the ads that you run with the Facebook Marketing API. The Marketing API is a series of Graph API endpoints that create and manage ads on Facebook and Instagram. After you connect Amazon AppFlow to your Facebook developer account, you can transfer data about your ads, campaigns, budgets, and more.

Topics

Facebook Ads support

The following list summarizes how Amazon AppFlow supports the Facebook Marketing API through the Facebook Ads connector.

Supported as a data source?

Yes. You can use Amazon AppFlow to transfer data about your Facebook ads from the Marketing API.

Supported as a data destination?

No. You can't use Amazon AppFlow to transfer data to the Marketing API or your Facebook developer account.

Supported versions

Amazon AppFlow supports the following versions of the Marketing API:

- v16.0
- v15.0
- v14.0

For more information about Marketing API versions, see Changelog in the Meta for Developers documentation.

Before you begin

To use Amazon AppFlow to transfer data from the Marketing API to supported destinations, you'll need to meet these requirements:

- You have a Meta for Developers account.
- Your account contains an app with its type set to *Business*. For information about creating an app, see Create an App in the Meta for Developers App Development documentation.
- Your Meta for Developers app includes the *Facebook Login* product, which you've configured to meet the following additional requirements:
  - Client OAuth login is enabled
  - Web OAuth login is enabled
  - One or more OAuth redirect URIs are present for Amazon AppFlow. Each of these URIs has the following form:

    `https://region.console.aws.amazon.com/appflow/oauth`

    In this URI, *region* is the code for the AWS Region where you use Amazon AppFlow to transfer data from the Marketing API. For example, if you use Amazon AppFlow in the US East (N. Virginia) region, the URI is `https://us-east-1.console.aws.amazon.com/appflow/oauth`.

    For the AWS Regions that Amazon AppFlow supports, see Amazon AppFlow endpoints and quotas in the *AWS General Reference.*

  For more information about Facebook Login, see Facebook Login in the Meta For Developers documentation.
- Your Meta for Developers app includes the *Marketing API* product, which you use to manage the ads that Amazon AppFlow transfers data about.

Connecting Amazon AppFlow to the Facebook Marketing API

To connect Amazon AppFlow to data about your Facebook ads, create an Amazon AppFlow connection where you provide details about your Meta for Developers app. If you haven't yet configured your app for Amazon AppFlow integration, see Before you begin.

To connect to Facebook Ads

1. Sign in to the AWS Management Console and open the Amazon AppFlow console at https://console.aws.amazon.com/appflow/.
2. In the navigation pane on the left, choose **Connections**.
3. On the **Manage connections** page, for **Connectors**, choose **Facebook Ads**.

4. Choose **Create connection**.
5. In the **Connect to Facebook Ads** window, enter the following information:

   - **Custom authorization code URL** – Specify the Marketing API version that you use in your Facebook developer app to complete the URL shown in the console:

     `https://www.facebook.com/version/dialog/oauth`

     For example, if you use v14.0, the URL is `https://www.facebook.com/v14.0/dialog/oauth`.

     For the Marketing API versions that Amazon AppFlow supports, see Facebook Ads support.
   - **Client ID** – The App ID that's assigned to your Meta for Developers app.
   - **Client secret** – The App secret that's assigned to your Meta for Developers app.
   - **Facebook Instance URL** – Choose **https://graph.facebook.com**.
   - **Facebook API version** – Choose the Marketing API version that you use. This version must match the one that you specified for **Custom authorization code URL**.
6. Optionally, under **Data encryption**, choose **Customize encryption settings (advanced)** if you want to encrypt your data with a customer managed key in the AWS Key Management Service (AWS KMS).

   By default, Amazon AppFlow encrypts your data with a KMS key that AWS creates, uses, and manages for you. Choose this option if you want to encrypt your data with your own KMS key instead.

   Amazon AppFlow always encrypts your data during transit and at rest. For more information, see Data protection in Amazon AppFlow.

   If you want to use a KMS key from the current AWS account, select this key under **Choose an AWS KMS key**. If you want to use a KMS key from a different AWS account, enter the Amazon Resource Name (ARN) for that key.
7. For **Connection name**, enter a name for your connection.
8. Choose **Connect**.

On the **Manage connections** page, your new connection appears in the **Connections** table. When you create a flow that uses Facebook Ads as the data source, you can select this connection.

Transferring data from the Facebook Marketing API with a flow

To transfer data about your Facebook ads from the Marketing API, create an Amazon AppFlow flow, and choose Facebook Ads as the data source. For the steps to create a flow, see Creating flows in Amazon AppFlow.

When you configure the flow, choose which data object you want to transfer. For most Facebook Ads objects, you must choose two values: one for **Choose Facebook Ads object**, and another for **Choose Facebook Ads subobject**. The subobject is an individual instance of the object. For example, if the object that you choose is **Campaigns**, then the subobject is the specific campaign to transfer data from. For the objects that Amazon AppFlow supports for Facebook Ads, see Supported objects.

Also choose the destination where you want to transfer the data object that you selected. For information on how to configure your destination, see Supported destinations.

Supported objects

When you create a flow that uses Facebook Ads as the data source, you can transfer any of the following data objects:

- Account
- Campaigns
- Ad Sets
- Campaign Budget
- Ads
- Ad Creatives

For more information about these objects and the data that they contain, see Ad Campaign Structure in the Meta for Developers Marketing API documentation.

Supported destinations

When you create a flow that uses Facebook Ads as the data source, you can set the destination to any of the following connectors:

- Amazon Lookout for Metrics
- Amazon Redshift

- Amazon RDS for PostgreSQL
- Amazon S3
- HubSpot
- Marketo
- Salesforce
- SAP OData
- Snowflake
- Upsolver
- Zendesk
- Zoho CRM

Facebook Page Insights connector for Amazon AppFlow

Facebook Page Insights provides Facebook Page owners with information about the performance and visitor demographics of their Pages. You can use Amazon AppFlow to transfer data from Facebook Page Insights to certain AWS services or other supported applications.

Amazon AppFlow support for Facebook Page Insights

Amazon AppFlow supports Facebook Page Insights as follows.

Supported as a data source?

Yes. You can use Amazon AppFlow to transfer data from Facebook Page Insights.

Supported as a data destination?

No. You can't use Amazon AppFlow to transfer data to Facebook Page Insights.

Supported API version

Amazon AppFlow retrieves your Facebook Page Insights data by sending requests to Graph API v15.0.

Before you begin

To use Amazon AppFlow to transfer data from Facebook Page Insights to supported destinations, you must meet these requirements:

- You have a Facebook account and one or more Facebook Pages that contain the data that you want to transfer. For more information about the Facebook Page Insights data objects that Amazon AppFlow supports, see Supported objects.
- You have a Meta for Developers account.
- Your account contains an app with its type set to *Business*. For information about how to create an app, see Create an App in the Meta for Developers App Development documentation.
- Your Meta for Developers app includes the *Facebook Login* product, and you've configured this product to meet the following additional requirements:
  - Client OAuth login is enabled.
  - Web OAuth login is enabled.
  - One or more OAuth redirect URIs are present for Amazon AppFlow. Each of these URIs has the following form:

    `https://region.console.aws.amazon.com/appflow/oauth`

    In this URI, *region* is the code for the AWS Region where you use Amazon AppFlow to transfer data from the Marketing API. For example, if you use Amazon AppFlow in the US East (N. Virginia) region, the URI is `https://us-east-1.console.aws.amazon.com/appflow/oauth`.

    For the AWS Regions that Amazon AppFlow supports, see Amazon AppFlow endpoints and quotas in the *AWS General Reference.*

  For more information about Facebook Login, see Facebook Login in the Meta For Developers documentation.
- In the Data Use Checkup settings for your app, you've activated the public_profile and email permissions. For the steps to configure Data Use Checkup settings, see Data Use Checkup in the Meta for Developers App Development documentation.
- You've configured your app with the following permissions:
  - `ads_management`
  - `ads_read`
  - `page_events`
  - `pages_manage_ads`
  - `pages_manage_cta`
  - `pages_manage_engagement`

- `pages_manage_instant_articles`
- `pages_manage_metadata`
- `pages_manage_posts`
- `pages_read_engagement`
- `pages_read_user_content`
- `pages_show_list`
- `public_profile`
- `read_insights`

For more information about these permissions, see Permissions Reference in the Meta for Developers Graph API documentation.

From the settings for your app, note the app ID and app secret. You provide these values to Amazon AppFlow in the connection settings.

Connecting Amazon AppFlow to your Facebook Page Insights account

To connect Amazon AppFlow to your Facebook account, provide the app credentials from your Meta for Developers app so that Amazon AppFlow can access your data. If you haven't yet configured an app for Amazon AppFlow integration, see Before you begin.

To connect to Facebook Page Insights

1. Sign in to the AWS Management Console and open the Amazon AppFlow console at https://console.aws.amazon.com/appflow/.
2. In the navigation pane on the left, choose **Connections**.
3. On the **Manage connections** page, for **Connectors**, choose **Facebook Page Insights**.
4. Choose **Create connection**.
5. In the **Connect to Facebook Page Insights** window, enter the following information:
   - **Client ID** – The app ID from your Meta for Developers app.
   - **Client secret** – The app secret from your Meta for Developers app.
6. Optionally, under **Data encryption**, choose **Customize encryption settings (advanced)** if you want to encrypt your data with a customer managed key in the AWS Key Management Service (AWS KMS).

By default, Amazon AppFlow encrypts your data with a KMS key that AWS creates, uses, and manages for you. Choose this option if you want to encrypt your data with your own KMS key instead.

Amazon AppFlow always encrypts your data during transit and at rest. For more information, see Data protection in Amazon AppFlow.

If you want to use a KMS key from the current AWS account, select this key under **Choose an AWS KMS key**. If you want to use a KMS key from a different AWS account, enter the Amazon Resource Name (ARN) for that key.

7. For **Connection name**, enter a name for your connection.
8. Choose **Continue**.
9. In the window that appears, sign in to your Facebook account, and grant access to Amazon AppFlow.

On the **Manage connections** page, your new connection appears in the **Connections** table. When you create a flow that uses Facebook Page Insights as the data source, you can select this connection.

Transferring data from Facebook Page Insights with a flow

To transfer data from Facebook Page Insights, create an Amazon AppFlow flow, and choose Facebook Page Insights as the data source. For the steps to create a flow, see Creating flows in Amazon AppFlow.

When you configure the flow, choose the data object that you want to transfer. For the objects that Amazon AppFlow supports for Facebook Page Insights, see Supported objects.

Also, choose the destination where you want to transfer the data object that you selected. For more information about how to configure your destination, see Supported destinations.

Supported destinations

When you create a flow that uses Facebook Page Insights as the data source, you can set the destination to any of the following connectors:

- Amazon Lookout for Metrics
- Amazon Redshift

- Amazon RDS for PostgreSQL
- Amazon S3
- HubSpot
- Marketo
- Salesforce
- SAP OData
- Snowflake
- Upsolver
- Zendesk
- Zoho CRM

Supported objects

When you create a flow that uses Facebook Page Insights as the data source, you can transfer any of the following data objects to supported destinations:

Object	Field	Data type	Supported filters
Feed	Created Time	String	
	ID	String	
	Message	String	
	Since	DateTime	EQUAL_TO
	Story	String	
Page	Category	String	
	Category List	List	
	ID	String	
	Name	String	
	Task	List	

Object	Field	Data type	Supported filters
Page CTA Click	Description	String	
	ID	String	
	Name	String	
	Period	String	EQUAL_TO
	Since	DateTime	EQUAL_TO
	Title	String	
	Value	List	
Page Content	Description	String	
	ID	String	
	Name	String	
	Period	String	EQUAL_TO
	Since	DateTime	EQUAL_TO
	Title	String	
	Value	List	
Page Engagement	Description	String	
	ID	String	
	Name	String	
	Period	String	EQUAL_TO
	Since	DateTime	EQUAL_TO
	Title	String	

Object	Field	Data type	Supported filters
	Value	List	
Page Impression	Description	String	
	ID	String	
	Name	String	
	Period	String	EQUAL_TO
	Since	DateTime	EQUAL_TO
	Title	String	
	Value	List	
Page Post	Description	String	
	ID	String	
	Name	String	
	Period	String	EQUAL_TO
	Since	DateTime	EQUAL_TO
	Title	String	
	Value	List	
Page Post Engagement	Description	String	
	ID	String	
	Name	String	
	Period	String	
	Title	String	

Object	Field	Data type	Supported filters
	Value	List	
Page Post Impression	Description	String	
	ID	String	
	Name	String	
	Period	String	
	Title	String	
	Value	List	
Page Post Reaction	Description	String	
	ID	String	
	Name	String	
	Period	String	
	Title	String	
	Value	List	
Page Reaction	Description	String	
	ID	String	
	Name	String	
	Period	String	EQUAL_TO
	Since	DateTime	EQUAL_TO
	Title	String	
	Value	List	

Object	Field	Data type	Supported filters
Page User Demographics	Description	String	
	ID	String	
	Name	String	
	Period	String	EQUAL_TO
	Since	DateTime	EQUAL_TO
	Title	String	
	Value	List	
Page Video Post	Description	String	
	ID	String	
	Name	String	
	Period	String	EQUAL_TO
	Since	DateTime	EQUAL_TO
	Title	String	
	Value	List	
Page Video View	Description	String	
	ID	String	
	Name	String	
	Period	String	EQUAL_TO
	Since	DateTime	EQUAL_TO
	Title	String	

Object	Field	Data type	Supported filters
	Value	List	
Page View	Description	String	
	ID	String	
	Name	String	
	Period	String	EQUAL_TO
	Since	DateTime	EQUAL_TO
	Title	String	
	Value	List	
Story	Description	String	
	ID	String	
	Name	String	
	Period	String	EQUAL_TO
	Since	DateTime	EQUAL_TO
	Title	String	
	Value	List	

Freshdesk connector for Amazon AppFlow

Freshdesk is an online customer service solution. If you're a Freshdesk user, your account contains data about your customer engagements, including agents, conversations, and satisfaction ratings. You can use Amazon AppFlow to transfer data from Freshdesk to certain AWS services or other supported applications.

Amazon AppFlow support for Freshdesk

Amazon AppFlow supports Freshdesk as follows.

Supported as a data source?

Yes. You can use Amazon AppFlow to transfer data from Freshdesk.

Supported as a data destination?

No. You can't use Amazon AppFlow to transfer data to Freshdesk.

Before you begin

To use Amazon AppFlow to transfer data from Freshdesk to supported destinations, you must meet these requirements:

- You have an account with Freshdesk that contains the data that you want to transfer. For more information about the Freshdesk data objects that Amazon AppFlow supports, see Supported objects.

Note the following values because you specify them in the connection settings in Amazon AppFlow.

- The API key from the profile settings of your Freshdesk account. The API key authenticates third-party services like Amazon AppFlow to access your account. For the steps to find the key, see How to find your API key at the Freshdesk support site.
- Your Freshdesk address.

Connecting Amazon AppFlow to your Freshdesk account

To connect Amazon AppFlow to your Freshdesk account, provide your API key and Freshdesk address.

To connect to Freshdesk

1. Sign in to the AWS Management Console and open the Amazon AppFlow console at https://console.aws.amazon.com/appflow/.
2. In the navigation pane on the left, choose **Connections**.

3. On the **Manage connections** page, for **Connectors**, choose **Freshdesk**.
4. Choose **Create connection**.
5. In the **Connect to Freshdesk** window, enter the following information:
   - **API key** – The API key from your Freshdesk profile settings.
   - **Instance URL** – Your Freshdeskaddress, such as `https:`*`my-company-name`*`.freshdesk.com`.
6. Optionally, under **Data encryption**, choose **Customize encryption settings (advanced)** if you want to encrypt your data with a customer managed key in the AWS Key Management Service (AWS KMS).

   By default, Amazon AppFlow encrypts your data with a KMS key that AWS creates, uses, and manages for you. Choose this option if you want to encrypt your data with your own KMS key instead.

   Amazon AppFlow always encrypts your data during transit and at rest. For more information, see Data protection in Amazon AppFlow.

   If you want to use a KMS key from the current AWS account, select this key under **Choose an AWS KMS key**. If you want to use a KMS key from a different AWS account, enter the Amazon Resource Name (ARN) for that key.
7. For **Connection name**, enter a name for your connection.
8. Choose **Connect**.

On the **Manage connections** page, your new connection appears in the **Connections** table. When you create a flow that uses Freshdesk as the data source, you can select this connection.

Transferring data from Freshdesk with a flow

To transfer data from Freshdesk, create an Amazon AppFlow flow, and choose Freshdesk as the data source. For the steps to create a flow, see Creating flows in Amazon AppFlow.

When you configure the flow, choose the data object that you want to transfer. For the objects that Amazon AppFlow supports for Freshdesk, see Supported objects.

Also, choose the destination where you want to transfer the data object that you selected. For more information about how to configure your destination, see Supported destinations.

Supported destinations

When you create a flow that uses Freshdesk as the data source, you can set the destination to any of the following connectors:

- Amazon Lookout for Metrics
- Amazon Redshift
- Amazon RDS for PostgreSQL
- Amazon S3
- HubSpot
- Marketo
- Salesforce
- SAP OData
- Snowflake
- Upsolver
- Zendesk
- Zoho CRM

Supported objects

When you create a flow that uses Freshdesk as the data source, you can transfer any of the following data objects to supported destinations:

Object	Field	Data type	Supported filters
Agent	Available	Boolean	
	Available Since	DateTime	
	Contact	Map	
	Created At	DateTime	
	Email	String	EQUAL_TO
	ID	Long	

Object	Field	Data type	Supported filters
	Mobile	Long	EQUAL_TO
	Occasional	Boolean	
	Phone	Long	EQUAL_TO
	Signature	String	
	Ticket Scope	Long	
	Type	String	
	Updated At	DateTime	
Business Hour	Business Hour	Map	
	Created At	DateTime	
	Description	String	
	ID	Long	
	Is Default	Boolean	
	Name	String	
	Time Zone	String	
	Updated At	DateTime	
Comment	Answer	Boolean	
	Body	String	
	Body Text	String	
	Created At	DateTime	
	Forum ID	Long	

Object	Field	Data type	Supported filters
	ID	Long	
	Published	Boolean	
	Spam	Boolean	
	Topic ID	Long	
	Trash	Boolean	
	Updated At	DateTime	
	User ID	Long	
Company	Account Tier	String	
	Created At	DateTime	EQUAL_TO, LESS_THAN _OR_EQUAL _TO, GREATER_T HAN_OR_EQUAL_TO
	Custom Field	Map	
	Description	String	
	Domain	List	
	Domain	String	EQUAL_TO
	Health Score	String	
	ID	Long	
	Industry	String	
	Name	String	
	Note	String	

Object	Field	Data type	Supported filters
	Renewal Date	Date	
	Updated At	DateTime	EQUAL_TO, LESS_THAN _OR_EQUAL _TO, GREATER_T HAN_OR_EQUAL_TO
Contact	Active	Boolean	EQUAL_TO
	Address	String	
	Company ID	Long	EQUAL_TO
	Created At	DateTime	LESS_THAN _OR_EQUAL _TO, GREATER_T HAN_OR_EQUAL_TO, EQUAL_TO
	Custom Fields	Map	
	Description	String	
	Email	String	EQUAL_TO
	ID	Long	
	Job Title	String	
	Language	String	EQUAL_TO
	Mobile	String	EQUAL_TO
	Name	String	
	Other Companies	List	
	Phone	String	EQUAL_TO

Object	Field	Data type	Supported filters
	Tag	String	EQUAL_TO
	Time Zone	String	EQUAL_TO
	Twitter Id	String	EQUAL_TO
	Updated At	DateTime	LESS_THAN _OR_EQUAL _TO, GREATER_T HAN_OR_EQUAL_TO
Conversation	Attachment	List	
	Bcc Email	List	
	Body	String	
	Body Text	String	
	Cc Email	List	
	Created At	DateTime	
	From Email	String	
	ID	Long	
	Incoming	Boolean	
	Last Edited At	DateTime	
	Last Edited User ID	Long	
	Private	Boolean	
	Source	Long	
	Support Email	String	
	Ticket ID	Long	

Object	Field	Data type	Supported filters
	To Email	String	
	Updated At	DateTime	
	User ID	Long	
Email Config	Active	Boolean	
	Created At	DateTime	
	Group ID	Long	
	ID	Long	
	Name	String	
	Primary Role	Boolean	
	Product Id	Long	
	Reply Email	String	
	To Email	String	
	Updated At	DateTime	
Email Inbox	Active	Boolean	EQUAL_TO
	Created At	DateTime	
	Custom Mailbox	Map	
	Default Reply Email	Boolean	
	Forward Email	String	EQUAL_TO
	Freshdesk Mailbox	Map	
	Group ID	Long	EQUAL_TO

Object	Field	Data type	Supported filters
	Mailbox Type	String	
	Name	String	
	Product ID	Long	EQUAL_TO
	Support_Email	String	EQUAL_TO
	Updated At	DateTime	
	id	Long	
Forum	Description	String	
	Forum Category ID	Long	
	Forum Type	Long	
	Forum Visibility	Long	
	ID	Long	
	Name	String	
	Position	Long	
	Posts Count	Long	
	Topics Count	Long	
Forum Category	Created At	DateTime	
	Description	String	
	ID	Long	
	Name	String	
	Updated At	DateTime	

Object	Field	Data type	Supported filters
Group	Auto Ticket Assign	Long	
	Business Hour Id	Long	
	Created At	DateTime	
	Description	String	
	Escalate To	Long	
	ID	Long	
	Name	String	
	Unassigned For	String	
	Updated At	DateTime	
Product	Created At	DateTime	
	Description	String	
	ID	Long	
	Name	String	
	Updated At	DateTime	
Role	Created At	DateTime	
	Default	Boolean	
	Description	String	
	ID	Long	
	Name	String	
	Updated At	DateTime	

Object	Field	Data type	Supported filters
Satisfaction Rating	Agent ID	Long	
	Created At	DateTime	
	Created_Since	DateTime	EQUAL_TO
	Feedback	String	
	Group ID	Long	
	ID	Long	
	Rating	Map	
	Survey ID	Long	
	Ticket ID	Long	
	Updated_At	DateTime	
	User ID	Long	EQUAL_TO
Skill	Agent	List	
	Condtion	List	
	Created At	DateTime	
	ID	Long	
	Match Type	String	
	Name	String	
	Rank	String	
	Updated At	DateTime	
Solution	Created At	DateTime	

Object	Field	Data type	Supported filters
	Description	String	
	ID	Long	
	Name	String	
	Term	String	CONTAINS
	Updated At	DateTime	
Survey	ID	Long	
	Question	List	
	Title	String	
Ticket	Agent ID	Integer	EQUAL_TO
	Cc Email	List	
	Created At	DateTime	LESS_THAN _OR_EQUAL _TO, GREATER_T HAN_OR_EQUAL_TO, EQUAL_TO
	Custom Field	Map	
	Due By	DateTime	EQUAL_TO
	Email Config Id	Long	
	Fr Due By	DateTime	EQUAL_TO
	Fr Escalated	Boolean	
	Fwd Email	List	
	Group ID	Long	EQUAL_TO

Object	Field	Data type	Supported filters
	ID	Long	
	Is Escalated	Boolean	
	Priority	Long	EQUAL_TO
	Product ID	Long	
	Reply Cc Email	List	
	Requester ID	Long	
	Responder ID	Long	
	Source	Long	
	Spam	Boolean	
	Status	Long	EQUAL_TO
	Subject	String	
	Tag	String	EQUAL_TO
	To email	List	
	Type	String	EQUAL_TO
	Updated At	DateTime	LESS_THAN _OR_EQUAL _TO, GREATER_T HAN_OR_EQUAL_TO
Time Entry	Agent ID	Long	EQUAL_TO
	Billable	Boolean	EQUAL_TO
	Company ID	Long	EQUAL_TO
	Created At	DateTime	

Object	Field	Data type	Supported filters
	Executed After	DateTime	EQUAL_TO
	Executed At	DateTime	
	Executed Before	DateTime	EQUAL_TO
	ID	Long	
	Note	String	
	Start Time	DateTime	
	Ticket ID	Long	
	Time Spent	String	
	Timer Running	Boolean	
	Updated At	DateTime	
Topic	Created At	DateTime	
	Forum ID	Long	
	Hit	Long	
	ID	Long	
	Locked	Boolean	
	Merged Topic ID	Long	
	Post Count	Long	
	Published	String	
	Replied At	DateTime	
	Replied By	DateTime	

Object	Field	Data type	Supported filters
	Stamp Type	Long	
	Sticky	Boolean	
	Title	String	
	Updated At	DateTime	
	User ID	Long	
	User Vote	Long	

Freshsales connector for Amazon AppFlow

Freshsales is a Customer Relationship Management (CRM) service that helps companies leverage customer data and interactions. If you're a Freshsales user, your account contains information about communication, timelines, meetings, chats, workflows, and more. You can use Amazon AppFlow to transfer data from Freshsales to certain AWS services or other supported applications.

Amazon AppFlow support for Freshsales

Amazon AppFlow supports Freshsales as follows.

Supported as a data source?

Yes. You can use Amazon AppFlow to transfer data from Freshsales.

Supported as a data destination?

No. You can't use Amazon AppFlow to transfer data to Freshsales.

Before you begin

To use Amazon AppFlow to transfer data from Freshsales to supported destinations, you must have an account with Freshsales that contains the data that you want to transfer. For more information about the Freshsales data objects that Amazon AppFlow supports, see Supported objects.

From the API settings of your Freshsales account, note the value of your API key. When you connect to your Freshsales account, you provide this value to Amazon AppFlow. For more information, see How to find my API key? on the Freshsales support site.

Connecting Amazon AppFlow to your Freshsales account

To connect Amazon AppFlow to your Freshsales account, provide details from your Freshsales project so that Amazon AppFlow can access your data. If you haven't yet configured your Freshsales project for Amazon AppFlow integration, see Before you begin.

To connect to Freshsales

1. Sign in to the AWS Management Console and open the Amazon AppFlow console at https://console.aws.amazon.com/appflow/.
2. In the navigation pane on the left, choose **Connections**.
3. On the **Manage connections** page, for **Connectors**, choose **Freshsales**.
4. Choose **Create connection**.
5. In the **Connect to Freshsales** window, enter the following information:

   - **API key** – Enter the word **token** in this field.
   - **API secret key** – Enter your secret key. This is named “Your API Key” in the Freshsales console, for example, **sfg999666t673t7t82**.
   - **Instance URL** – Enter the URL for your Freshsales instance, for example, https://my-freshsales-instance.myfreshworks.com/crm1/sales.
6. Optionally, under **Data encryption**, choose **Customize encryption settings (advanced)** if you want to encrypt your data with a customer managed key in the AWS Key Management Service (AWS KMS).

   By default, Amazon AppFlow encrypts your data with a KMS key that AWS creates, uses, and manages for you. Choose this option if you want to encrypt your data with your own KMS key instead.

   Amazon AppFlow always encrypts your data during transit and at rest. For more information, see Data protection in Amazon AppFlow.

   If you want to use a KMS key from the current AWS account, select this key under **Choose an AWS KMS key**. If you want to use a KMS key from a different AWS account, enter the Amazon Resource Name (ARN) for that key.

7. For **Connection name**, enter a name for your connection.
8. Choose **Connect**.
9. In the window that appears, sign in to your Freshsales account, and grant access to Amazon AppFlow.

On the **Manage connections** page, your new connection appears in the **Connections** table. When you create a flow that uses Freshsales as the data source, you can select this connection.

Transferring data from Freshsales with a flow

To transfer data from Freshsales, create an Amazon AppFlow flow, and choose Freshsales as the data source. For the steps to create a flow, see Creating flows in Amazon AppFlow.

When you configure the flow, choose the data object that you want to transfer. For the objects that Amazon AppFlow supports for Freshsales, see Supported objects.

Also, choose the destination where you want to transfer the data object that you selected. For more information about how to configure your destination, see Supported destinations.

Supported destinations

When you create a flow that uses Freshsales as the data source, you can set the destination to any of the following connectors:

- Amazon Lookout for Metrics
- Amazon Redshift
- Amazon RDS for PostgreSQL
- Amazon S3
- HubSpot
- Marketo
- Salesforce
- SAP OData
- Snowflake
- Upsolver
- Zendesk
- Zoho CRM

Supported objects

When you create a flow that uses Freshsales as the data source, you can transfer any of the following data objects to supported destinations:

Object	Field	Data type	Supported filters
accounts			
contacts			

GitHub connector for Amazon AppFlow

GitHub is a service that hosts code repositories for software developers, and it provides version control with Git. If you're a GitHub user, your account contains data about your repositories, such as branches, commits, and pull requests. You can use Amazon AppFlow to transfer data from GitHub to certain AWS services or other supported applications.

Amazon AppFlow support for GitHub

Amazon AppFlow supports GitHub as follows.

Supported as a data source?

Yes. You can use Amazon AppFlow to transfer data from GitHub.

Supported as a data destination?

No. You can't use Amazon AppFlow to transfer data to GitHub.

Before you begin

To use Amazon AppFlow to transfer data from GitHub to supported destinations, you must meet these requirements:

- You have an account with GitHub that contains the data that you want to transfer. For more information about the GitHub data objects that Amazon AppFlow supports, see Supported objects.

- In the developer settings of your account, you've created either of the following resources for Amazon AppFlow. These resources provide credentials that Amazon AppFlow uses to access your data securely when it makes authenticated calls to your account.
  - An OAuth app. For the steps to create one, see Creating an OAuth App in the GitHub Docs.
  - A personal access token. For the steps to create one, see Creating a personal access token in the GitHub Docs.
- If you created an OAuth app, you've configured it with the following settings:
  - You've set the homepage URL to `https://console.aws.amazon.com/appflow/home`.
  - You've specified a callback URL for Amazon AppFlow.

    Redirect URLs have the following format:

    ```
    https://region.console.aws.amazon.com/appflow/oauth
    ```

    In this URL, *region* is the code for the AWS Region where you use Amazon AppFlow to transfer data from GitHub. For example, the code for the US East (N. Virginia) Region is `us-east-1`. For that Region, the URL is the following:

    ```
    https://us-east-1.console.aws.amazon.com/appflow/oauth
    ```

    For the AWS Regions that Amazon AppFlow supports, and their codes, see Amazon AppFlow endpoints and quotas in the *AWS General Reference.*
  - You've generated a client secret.
- If you created a personal access token, it permits the following recommended scopes. If you want to allow fewer scopes, you can omit any that apply to objects that you don't want to transfer.
  - `repo:status`
  - `repo_deployment`
  - `public_repo`
  - `security_events`
  - `admin:repo_hook`
  - `read:repo_hook`
  - `read:org`
  - `read:public_key`
  - `notifications`

- `read:user`
- `user:email`
- `read:discussion`

For more information about these scopes, see Available scopes in the GitHub Docs.

If you created an OAuth app, note the client ID and client secret. If you created a personal access token, note the token value. You provide these values to Amazon AppFlow when you connect to your GitHub account.

Connecting Amazon AppFlow to your GitHub account

To connect Amazon AppFlow to your GitHub account, provide the client credentials from your OAuth app, or provide a personal access token. If you haven't yet configured your GitHub account for Amazon AppFlow integration, see Before you begin.

To connect to GitHub

1. Sign in to the AWS Management Console and open the Amazon AppFlow console at https://console.aws.amazon.com/appflow/.
2. In the navigation pane on the left, choose **Connections**.
3. On the **Manage connections** page, for **Connectors**, choose **GitHub**.
4. Choose **Create connection**.
5. In the **Connect to GitHub** window, for **Select authentication type**, choose how to authenticate Amazon AppFlow with your GitHub account when it requests to access your data:
   - Choose **OAuth2** to authenticate Amazon AppFlow with the client ID and client secret from an OAuth app. Then, enter values for **Client ID** and **Client secret**.
   - Choose **BasicAuthPersonalAccessToken** to authenticate Amazon AppFlow with a personal access token. Then, enter values for **User name** and **Personal Access Token**.
6. Optionally, under **Data encryption**, choose **Customize encryption settings (advanced)** if you want to encrypt your data with a customer managed key in the AWS Key Management Service (AWS KMS).

   By default, Amazon AppFlow encrypts your data with a KMS key that AWS creates, uses, and manages for you. Choose this option if you want to encrypt your data with your own KMS key instead.

Amazon AppFlow always encrypts your data during transit and at rest. For more information, see Data protection in Amazon AppFlow.

If you want to use a KMS key from the current AWS account, select this key under **Choose an AWS KMS key**. If you want to use a KMS key from a different AWS account, enter the Amazon Resource Name (ARN) for that key.

7. For **Connection name**, enter a name for your connection.
8. Choose **Continue**. A window appears that asks if you want to allow Amazon AppFlow to access your GitHub account.
9. Choose **Authorize**.
10. Confirm the access request with GitHub. You can choose **Send SMS** to use a two-factor authentication code, or you can choose **Use your password** to enter your password.

On the **Manage connections** page, your new connection appears in the **Connections** table. When you create a flow that uses GitHub as the data source, you can select this connection.

Transferring data from GitHub with a flow

To transfer data from GitHub, create an Amazon AppFlow flow, and choose GitHub as the data source. For the steps to create a flow, see Creating flows in Amazon AppFlow.

When you configure the flow, choose the data object that you want to transfer. For the objects that Amazon AppFlow supports for GitHub, see Supported objects.

Also, choose the destination where you want to transfer the data object that you selected. For more information about how to configure your destination, see Supported destinations.

Supported destinations

When you create a flow that uses GitHub as the data source, you can set the destination to any of the following connectors:

- Amazon Lookout for Metrics
- Amazon Redshift
- Amazon RDS for PostgreSQL
- Amazon S3
- HubSpot

- Marketo
- Salesforce
- SAP OData
- Snowflake
- Upsolver
- Zendesk
- Zoho CRM

Supported objects

When you create a flow that uses GitHub as the data source, you can transfer any of the following data objects to supported destinations:

Object	Field	Data type	Supported filters
Branch	Commit	Struct	
	Name	String	
	Protected	Boolean	EQUAL_TO
	Protection	Struct	
	Protection URL	String	
Card (aka Project Card)	Archived	Boolean	
	Archived State	String	EQUAL_TO
	Column URL	String	
	Content URL	String	
	Created at	DateTime	
	Creator	Struct	
	Node ID	String	

Object	Field	Data type	Supported filters
	Note	String	
	Project URL	String	
	URL	String	
	Updated at	DateTime	
	id	Long	
Commit	Author	Struct	
	Comments URL	String	
	Commit	Struct	
	Commit Author Name	String	EQUAL_TO
	Committer	Struct	
	HTML URL	String	
	Node ID	String	
	Parents	List	
	SHA	String	EQUAL_TO
	URL	String	
	Updated since	DateTime	EQUAL_TO
Commit Comment	Author Association	String	
	Body	String	
	Commit ID	String	
	Created at	DateTime	

Object	Field	Data type	Supported filters
	HTML URL	String	
	Line	Long	
	Node ID	String	
	Path	String	
	Position	Long	
	Reactions	Struct	
	URL	String	
	Updated at	DateTime	
	User	Struct	
	id	Long	
Commit Pull Request	Active Lock Reason	String	
	Assignee	Struct	
	Assignees	List	
	Author Association	String	
	Auto Merge	Struct	
	Base	Struct	
	Body	String	
	Closed at	DateTime	
	Comments URL	String	
	Commits URL	String	

Object	Field	Data type	Supported filters
	Created at	DateTime	
	Diff URL	String	
	Draft	Boolean	
	HTML URL	String	
	Head	Struct	
	ID	Long	
	Issue URL	String	
	Labels	List	
	Locked	Boolean	
	Merge Commit SHA	String	
	Merged at	DateTime	
	Milestone	Struct	
	Node ID	String	
	Number	Long	
	Patch URL	String	
	Requested Reviewers	List	
	Requested Teams	List	
	Review Comment URL	String	
	Review Comments URL	String	

Object	Field	Data type	Supported filters
	State	String	
	Statuses URL	String	
	Title	String	
	URL	String	
	Updated at	DateTime	
	User	Struct	
	_links	Struct	
Deployment	Created at	DateTime	
	Creator	Struct	
	Description	String	
	Environment	String	EQUAL_TO
	ID	Long	
	Node ID	String	
	Original Environment	String	
	Payload	Struct	
	Performed via GitHub app	Struct	
	Production Environment	Boolean	
	Repository URL	String	
	SHA	String	EQUAL_TO

Object	Field	Data type	Supported filters
	Statuses URL	String	
	Task	String	EQUAL_TO
	Transient Environment	Boolean	
	URL	String	
	Updated at	DateTime	
	ref	String	EQUAL_TO
Deployment Status	Created at	DateTime	
	Creator	Struct	
	Deployment URL	String	
	Description	String	
	Environment	String	
	Environment URL	String	
	ID	Long	
	Log URL	String	
	Node ID	String	
	Performed via GitHub app	Struct	
	Repository URL	String	
	State	String	
	Target URL	String	

Object	Field	Data type	Supported filters
	URL	String	
	Updated at	DateTime	
Fork	Allow Forking	Boolean	
	Archive URL	String	
	Archived	Boolean	
	Assignees URL	String	
	Blobs URL	String	
	Branches URL	String	
	Clone URL	String	
	Collaborators URL	String	
	Comments URL	String	
	Commits URL	String	
	Compare URL	String	
	Contents URL	String	
	Contributors URL	String	
	Created at	DateTime	
	Default Branch	String	
	Deployments URL	String	
	Description	String	
	Disabled	Boolean	

Object	Field	Data type	Supported filters
	Downloads URL	String	
	Events URL	String	
	Fork	Boolean	
	Forks	Long	
	Forks Count	Long	
	Forks URL	String	
	Full Name	String	
	Git Commits URL	String	
	Git Refs URL	String	
	Git Tags URL	String	
	Git URL	String	
	HTML URL	String	
	Has Downloads	Boolean	
	Has Issues	Boolean	
	Has Pages	Boolean	
	Has Projects	Boolean	
	Has Wiki	Boolean	
	Homepage	String	
	Hooks URL	String	
	ID	Long	

Object	Field	Data type	Supported filters
	Is Template	Boolean	
	Issue Comment URL	String	
	Issue Events URL	String	
	Issues URL	String	
	Keys URL	String	
	Labels URL	String	
	Language	String	
	Languages URL	String	
	License	Struct	
	Merges URL	String	
	Milestones URL	String	
	Mirror URL	String	
	Name	String	
	Node ID	String	
	Notifications URL	String	
	Open Issues	Long	
	Open Issues Count	Long	
	Owner	Struct	
	Permissions	Struct	
	Private	Boolean	

Object	Field	Data type	Supported filters
	Pulls URL	String	
	Pushed at	DateTime	
	Releases URL	String	
	SSH URL	String	
	SVN URL	String	
	Size	Long	
	Stargazers Count	Long	
	Stargazers URL	String	
	Statuses URL	String	
	Subscribers URL	String	
	Subscription URL	String	
	Tags URL	String	
	Teams URL	String	
	Topics	List	
	Trees URL	String	
	URL	String	
	Updated at	DateTime	
	Visibility	String	
	Watchers	Long	
	Watchers Count	Long	

Object	Field	Data type	Supported filters
Issue	Active Lock Reason	String	
	Assignee	Struct	
	Assignees	List	
	Author Association	String	
	Body	String	
	Closed at	DateTime	
	Closed by	Struct	
	Comments	Long	
	Comments URL	String	
	Created at	DateTime	
	Events URL	String	
	Filter	String	EQUAL_TO
	HTML URL	String	
	ID	Long	
	Issue Labels Name	String	EQUAL_TO
	Labels	List	
	Labels URL	String	
	Locked	Boolean	
	Milestone	Struct	
	Node ID	String	

Object	Field	Data type	Supported filters
	Number	Long	
	Performed via GitHub App	Struct	
	Reactions	Struct	
	Repository URL	String	
	State	String	EQUAL_TO
	Timeline URL	String	
	Title	String	
	URL	String	
	Updated at	DateTime	EQUAL_TO
	User	Struct	
Issue Assignee	Avatar URL	String	
	Events URL	String	
	Followers URL	String	
	Following URL	String	
	Gists URL	String	
	Gravatar ID	String	
	HTML URL	String	
	ID	Long	
	Login	String	
	Node ID	String	

Object	Field	Data type	Supported filters
	Organizations URL	String	
	Received Events URL	String	
	Repos URL	String	
	Site Admin	Boolean	
	Starred URL	String	
	Subscriptions URL	String	
	Type	String	
	URL	String	
Issue Comment	Author Association	String	
	Body	String	
	Created at	DateTime	
	HTML URL	String	
	ID	Long	
	Issue URL	String	
	Node ID	String	
	Performed via GitHub app	Struct	
	Reactions	Struct	
	URL	String	
	Updated at	DateTime	EQUAL_TO
	User	Struct	

Object	Field	Data type	Supported filters
Issue Event	Actor	Struct	
	Assignee	Struct	
	Assigner	Struct	
	Commit ID	String	
	Commit URL	String	
	Created at	DateTime	
	Event	String	
	ID	Long	
	Node ID	String	
	Performed via GitHub app	Struct	
	URL	String	
Label	Color	String	
	Default	Boolean	
	Description	String	
	ID	Long	
	Name	String	
	Node ID	String	
	URL	String	
Milestone	Closed Issues	Long	
	Closed at	DateTime	

Object	Field	Data type	Supported filters
	Created at	DateTime	
	Creator	Struct	
	Description	String	
	Due on	DateTime	
	HTML URL	String	
	ID	Long	
	Labels URL	String	
	Node ID	String	
	Number	Long	
	Open Issues	Long	
	State	String	EQUAL_TO
	Title	String	
	URL	String	
	Updated at	DateTime	
Organization	Avatar URL	String	
	Description	String	
	Events URL	String	
	Hooks URL	String	
	ID	Long	
	Issues URL	String	

Object	Field	Data type	Supported filters
	Login	String	
	Members URL	String	
	Node ID	String	
	Public Members URL	String	
	Repos URL	String	
	URL	String	
Project	Body	String	
	Created at	DateTime	
	Creator	Struct	
	ID	Long	
	Name	String	
	Node ID	String	
	Number	Long	
	Organization Permission	String	
	Private	Boolean	
	State	String	EQUAL_TO
	Updated at	DateTime	
Project Column	Created at	DateTime	
	ID	Long	
	Name	String	

Object	Field	Data type	Supported filters
	Node ID	String	
	Updated at	DateTime	
Pull Request	Active Lock Reason	String	
	Assignee	Struct	
	Assignees	List	
	Author Association	String	
	Auto Merge	Struct	
	Base	Struct	
	Body	String	
	Closed at	DateTime	
	Comments URL	String	
	Commits URL	String	
	Created at	DateTime	
	Diff URL	String	
	Draft	Boolean	
	HTML URL	String	
	Head	Struct	
	ID	Long	
	Issue URL	String	
	Labels	List	

Object	Field	Data type	Supported filters
	Locked	Boolean	
	Merge Commit SHA	String	
	Merged at	DateTime	
	Milestone	Struct	
	Node ID	String	
	Number	Long	
	Patch URL	String	
	Pull Request Base	String	EQUAL_TO
	Pull Request Head Label	String	EQUAL_TO
	Requested Reviewers	List	
	Requested Teams	List	
	Review Comment URL	String	
	Review Comments URL	String	
	State	String	EQUAL_TO
	Statuses URL	String	
	Title	String	
	URL	String	
	Updated at	DateTime	
	User	Struct	

Object	Field	Data type	Supported filters
	_links	Struct	
Pull Request Commit	Author	Struct	
	Comments URL	String	
	Commit	Struct	
	Committer	Struct	
	HTML URL	String	
	Node ID	String	
	Parents	List	
	SHA	String	
	URL	String	
Pull Request Review	Author Association	String	
	Body	String	
	Commit ID	String	
	HTML URL	String	
	ID	Long	
	Node ID	String	
	Pull Request URL	String	
	State	String	
	Submitted at	DateTime	
	User	Struct	

Object	Field	Data type	Supported filters
	_links	Struct	
Release	Assets	List	
	Assets URL	String	
	Author	Struct	
	Body	String	
	Created at	DateTime	
	Draft	Boolean	
	HTML URL	String	
	ID	Long	
	Name	String	
	Node ID	String	
	Prerelease	Boolean	
	Published at	DateTime	
	Tag Name	String	
	Tarball URL	String	
	Target Commitish	String	
	URL	String	
	Upload URL	String	
	Zipball URL	String	
Repository	Allow Auto Merge	Boolean	

Object	Field	Data type	Supported filters
	Allow Forking	Boolean	
	Allow Merge Commit	Boolean	
	Allow Rebase Merge	Boolean	
	Allow Squash Merge	Boolean	
	Allow Update Branch	Boolean	
	Archive URL	String	
	Archived	Boolean	
	Assignees URL	String	
	Blobs URL	String	
	Branches URL	String	
	Clone URL	String	
	Collaborators URL	String	
	Comments URL	String	
	Commits URL	String	
	Compare URL	String	
	Contents URL	String	
	Contributors URL	String	
	Created at	DateTime	
	Default Branch	String	
	Delete Branch on Merge	Boolean	

Object	Field	Data type	Supported filters
	Deployments URL	String	
	Description	String	
	Disabled	Boolean	
	Downloads URL	String	
	Events URL	String	
	Fork	Boolean	
	Forks	Long	
	Forks Count	Long	
	Forks URL	String	
	Full Name	String	
	Git Commits URL	String	
	Git Refs URL	String	
	Git Tags URL	String	
	Git URL	String	
	HTML URL	String	
	Has Downloads	Boolean	
	Has Issues	Boolean	
	Has Pages	Boolean	
	Has Projects	Boolean	
	Has Wiki	Boolean	

Object	Field	Data type	Supported filters
	Homepage	String	
	Hooks URL	String	
	ID	Long	
	Is Template	Boolean	
	Issue Comment URL	String	
	Issue Events URL	String	
	Issues URL	String	
	Keys URL	String	
	Labels URL	String	
	Language	String	
	Languages URL	String	
	License	Struct	
	Merges URL	String	
	Milestones URL	String	
	Mirror URL	String	
	Name	String	
	Network Count	Long	
	Node ID	String	
	Notifications URL	String	
	Open Issues	Long	

Object	Field	Data type	Supported filters
	Open Issues Count	Long	
	Owner	Struct	
	Permissions	Struct	
	Private	Boolean	
	Pulls URL	String	
	Pushed at	DateTime	
	Releases URL	String	
	SSH URL	String	
	SVN URL	String	
	Size	Long	
	Stargazers Count	Long	
	Stargazers URL	String	
	Statuses URL	String	
	Subscribers Count	Long	
	Subscribers URL	String	
	Subscription URL	String	
	Tags URL	String	
	Teams URL	String	
	Temp Clone Token	String	
	Topics	List	

Object	Field	Data type	Supported filters
	Trees URL	String	
	Type	String	EQUAL_TO
	URL	String	
	Updated at	DateTime	
	Visibility	String	
	Watchers	Long	
	Watchers Count	Long	
Repository Issue	Active Lock Reason	String	
	Assignee	Struct	
	Assignees	List	
	Author Association	String	
	Body	String	
	Closed at	DateTime	
	Closed by	Struct	
	Comments	Long	
	Comments URL	String	
	Created at	DateTime	
	Creator	String	EQUAL_TO
	Events URL	String	
	HTML URL	String	

Object	Field	Data type	Supported filters
	ID	Long	
	Labels	List	
	Labels URL	String	
	Locked	Boolean	
	Mentioned	String	EQUAL_TO
	Milestone	Struct	
	Node ID	String	
	Number	Long	
	Performed via GitHub App	Struct	
	Reactions	Struct	
	Repository Issue Assignee Login	String	EQUAL_TO
	Repository Issue Labels Name	String	EQUAL_TO
	Repository Issue Milestone Number	String	EQUAL_TO
	Repository URL	String	
	State	String	EQUAL_TO
	Timeline URL	String	
	Title	String	
	URL	String	

Object	Field	Data type	Supported filters
	Updated at	DateTime	EQUAL_TO
	User	Struct	
Repository Project	Body	String	
	Created at	DateTime	
	Creator	Struct	
	ID	Long	
	Name	String	
	Node ID	String	
	Number	Long	
	Organization Permission	String	
	Private	Boolean	
	State	String	EQUAL_TO
	Updated at	DateTime	
Review Comment	Author Association	String	
	Body	Struct	
	Commit ID	String	
	Created at	DateTime	
	Diff Hunk	String	
	HTML URL	String	
	ID	Long	

Object	Field	Data type	Supported filters
	In Reply to ID	Long	
	Node id	String	
	Original Commit ID	String	
	Original Position	Long	
	Path	String	
	Position	Long	
	Pull Request Review ID	Long	
	Pull Request URL	String	
	URL	String	
	Updated at	DateTime	EQUAL_TO
	User	Struct	
	_links	Struct	
Stargazer	Avatar URL	String	
	Events URL	String	
	Followers URL	String	
	Following URL	String	
	Gists URL	String	
	Gravatar ID	String	
	HTML URL	String	
	ID	Long	

Object	Field	Data type	Supported filters
	Login	String	
	Node ID	String	
	Organizations URL	String	
	Received Events URL	String	
	Repos URL	String	
	Site Admin	String	
	Starred URL	String	
	Subscriptions URL	String	
	Type	String	
	URL	String	
Team	Description	String	
	HTML URL	String	
	ID	Long	
	Members URL	String	
	Name	String	
	Node ID	String	
	Parent	Struct	
	Permission	String	
	Privacy	String	
	Repositories URL	String	

Object	Field	Data type	Supported filters
	Slug	String	
	URL	String	
Team Member	Avatar URL	String	
	Events URL	String	
	Followers URL	String	
	Following URL	String	
	Gists URL	String	
	Gravatar ID	String	
	HTML URL	String	
	ID	Long	
	Login	String	
	Node ID	String	
	Organizations URL	String	
	Received Events URL	String	
	Repos URL	String	
	Site Admin	Boolean	
	Starred URL	String	
	Subscriptions URL	String	
	Type	String	
	URL	String	

Object	Field	Data type	Supported filters
Watcher	Avatar URL	String	
	Events URL	String	
	Followers URL	String	
	Following URL	String	
	Gists URL	String	
	Gravatar ID	String	
	HTML URL	String	
	ID	Long	
	Login	String	
	Node ID	String	
	Organizations URL	String	
	Received Events URL	String	
	Repos URL	String	
	Site Admin	Boolean	
	Starred URL	String	
	Subscriptions URL	String	
	Type	String	
	URL	String	

GitLab connector for Amazon AppFlow

GitLab is an open source code repository and software development platform. If you're a GitLab user, your account contains data about your projects and repositories. You can use Amazon AppFlow to transfer data from GitLab to certain AWS services or other supported applications.

Amazon AppFlow support for GitLab

Amazon AppFlow supports GitLab as follows.

Supported as a data source?

Yes. You can use Amazon AppFlow to transfer data from GitLab.

Supported as a data destination?

No. You can't use Amazon AppFlow to transfer data to GitLab.

Supported API version

Amazon AppFlow retrieves your data by sending requests to the GitLab v4 REST API.

Before you begin

To use Amazon AppFlow to transfer data from GitLab to supported destinations, you must meet these requirements:

- You have a GitLab account and one or more projects that contain the data that you want to transfer. For more information about the GitLab data objects that Amazon AppFlow supports, see Supported objects.
- In the settings of your account, you've created either of the following resources for Amazon AppFlow. These resources provide credentials that Amazon AppFlow uses to access your data securely when it makes authenticated calls to your account.
  - An application, which provides OAuth 2.0 authentication. For the steps to create an application, see User owned applications in the GitLab Docs.
  - A personal access token. For the steps to create one, see Create a personal access token in the GitLab Docs.

    Your personal access token must permit the `api` scope.
- If you created an application, you've configured it with the following settings:

- You've specified a redirect URL for Amazon AppFlow.

  Redirect URLs have the following format:

  ```
  https://region.console.aws.amazon.com/appflow/oauth
  ```

  In this URL, *region* is the code for the AWS Region where you use Amazon AppFlow to transfer data from GitLab. For example, the code for the US East (N. Virginia) Region is `us-east-1`. For that Region, the URL is the following:

  ```
  https://us-east-1.console.aws.amazon.com/appflow/oauth
  ```

  For the AWS Regions that Amazon AppFlow supports, and their codes, see Amazon AppFlow endpoints and quotas in the *AWS General Reference*.
- You've permitted the scopes that provide access to the data objects that you want to transfer. For information about GitLab OAuth 2.0 scopes, see Authorized applications in the GitLab Docs.

If you created an application, note the application ID and secret. If you created a personal access token, note the token value. You provide these values to Amazon AppFlow when you connect to your GitLab account.

Connecting Amazon AppFlow to your GitLab account

To connect Amazon AppFlow to your GitLab account, provide the credentials from your application, or provide a personal access token. If you haven't yet configured your GitLab account for Amazon AppFlow integration, see Before you begin.

To connect to GitLab

1. Sign in to the AWS Management Console and open the Amazon AppFlow console at https://console.aws.amazon.com/appflow/.
2. In the navigation pane on the left, choose **Connections**.
3. On the **Manage connections** page, for **Connectors**, choose **GitLab**.
4. Choose **Create connection**.
5. In the **Connect to GitLab** window, for **Select authentication type**, choose how to authenticate Amazon AppFlow with your GitLab account when it requests to access your data:

- Choose **OAuth2** to authenticate Amazon AppFlow with the credentials from an application. Then, enter the following values:
  - **Client ID** – The application ID.
  - **Client secret** – The secret.
- Choose **PersonalAccessToken** to authenticate Amazon AppFlow with a personal access token. Then, enter the token value for **Personal access token**.

6. Optionally, under **Data encryption**, choose **Customize encryption settings (advanced)** if you want to encrypt your data with a customer managed key in the AWS Key Management Service (AWS KMS).

   By default, Amazon AppFlow encrypts your data with a KMS key that AWS creates, uses, and manages for you. Choose this option if you want to encrypt your data with your own KMS key instead.

   Amazon AppFlow always encrypts your data during transit and at rest. For more information, see Data protection in Amazon AppFlow.

   If you want to use a KMS key from the current AWS account, select this key under **Choose an AWS KMS key**. If you want to use a KMS key from a different AWS account, enter the Amazon Resource Name (ARN) for that key.
7. For **Connection name**, enter a name for your connection.
8. Depending on the authentication type that you chose, do one of the following:
   - If you chose **OAuth2**, choose **Continue**. Then, in the window that appears, sign in to your GitLab account, and grant access to Amazon AppFlow.
   - If you chose **PersonalAccessToken**, choose **Connect**.

On the **Manage connections** page, your new connection appears in the **Connections** table. When you create a flow that uses GitLab as the data source, you can select this connection.

Transferring data from GitLab with a flow

To transfer data from GitLab, create an Amazon AppFlow flow, and choose GitLab as the data source. For the steps to create a flow, see Creating flows in Amazon AppFlow.

When you configure the flow, choose the data object that you want to transfer. For the objects that Amazon AppFlow supports for GitLab, see Supported objects.

Also, choose the destination where you want to transfer the data object that you selected. For more information about how to configure your destination, see Supported destinations.

Supported destinations

When you create a flow that uses GitLab as the data source, you can set the destination to any of the following connectors:

- Amazon Lookout for Metrics
- Amazon Redshift
- Amazon RDS for PostgreSQL
- Amazon S3
- HubSpot
- Marketo
- Salesforce
- SAP OData
- Snowflake
- Upsolver
- Zendesk
- Zoho CRM

Supported objects

When you create a flow that uses GitLab as the data source, you can transfer any of the following data objects to supported destinations:

Object	Field	Data type	Supported filters
Branch	can_push	Boolean	
	commit	Struct	
	default	Boolean	

Object	Field	Data type	Supported filters
	developers_can_merge	Boolean	
	developers_can_push	Boolean	
	merged	Boolean	
	name	String	
	protected	Boolean	
	search	String	EQUAL_TO
	web_url	String	
Commit	all	Boolean	EQUAL_TO
	author_email	String	
	author_name	String	
	authored_date	DateTime	
	committed_date	DateTime	
	committer_email	String	
	committer_name	String	
	created_at	DateTime	
	first_parent	Boolean	EQUAL_TO
	id	String	
	message	String	
	order	String	EQUAL_TO
	parent_ids	List	

Object	Field	Data type	Supported filters
	path	String	EQUAL_TO
	ref_name	String	EQUAL_TO
	short_id	String	
	since	DateTime	GREATER_THAN_OR_EQUAL_TO
	since_until	DateTime	BETWEEN
	title	String	
	trailers	Boolean	EQUAL_TO
	until	DateTime	LESS_THAN_OR_EQUAL_TO
	web_url	String	
	with_stats	Boolean	EQUAL_TO
Group	auto_devops_enabled	String	
	avatar_url	String	
	created_at	DateTime	
	default_branch_protection	Integer	
	description	String	
	emails_disabled	String	
	file_template_project_id	Integer	
	full_name	String	

Object	Field	Data type	Supported filters
	full_path	String	
	id	Integer	
	ip_restriction_ranges	String	
	ldap_access	String	
	ldap_cn	String	
	lfs_enabled	Boolean	
	mentions_disabled	String	
	min_access_level	Integer	EQUAL_TO
	name	String	
	order_by	String	EQUAL_TO
	owned	Boolean	EQUAL_TO
	parent_id	String	
	path	String	
	project_creation_level	String	
	request_access_enabled	Boolean	
	require_two_factor_authentication	Boolean	
	search	String	EQUAL_TO
	share_with_group_lock	Boolean	

Object	Field	Data type	Supported filters
	skip_groups	Integer	EQUAL_TO
	sort	String	EQUAL_TO
	statistics	Boolean	EQUAL_TO
	subgroup_creation_level	String	
	top_level_only	Boolean	EQUAL_TO
	two_factor_grace_period	Integer	
	visibility	String	
	web_url	String	
	with_custom_attributes	Boolean	EQUAL_TO
Group Member	access_level	Integer	
	avatar_url	String	
	created_at	DateTime	
	created_by	Struct	
	email	String	
	expires_at	DateTime	
	group_saml_identity	Struct	
	id	Integer	
	is_using_seat	String	
	membership_state	String	

Object	Field	Data type	Supported filters
	name	String	
	query	String	EQUAL_TO
	show_seat_info	Boolean	EQUAL_TO
	skip_users	Integer	EQUAL_TO
	state	String	
	user_ids	Integer	EQUAL_TO
	username	String	
	web_url	String	
Group label	closed_issues_count	Integer	
	color	String	
	description	String	
	description_html	String	
	id	Integer	
	include_ancestor_groups	Boolean	EQUAL_TO
	include_descendant_groups	Boolean	EQUAL_TO
	name	String	
	only_group_labels	Boolean	EQUAL_TO
	open_issues_count	Integer	
	open_merge_requests_count	Integer	

Object	Field	Data type	Supported filters
	search	String	EQUAL_TO
	subscribed	Boolean	
	text_color	String	
	with_counts	Boolean	EQUAL_TO
Group milestone	created_at	DateTime	
	description	String	
	due_date	Date	
	expired	Boolean	
	group_id	Integer	
	id	Integer	
	iid	Integer	
	iids	Integer	EQUAL_TO
	include_parent_milestones	Boolean	EQUAL_TO
	search	String	EQUAL_TO
	start_date	Date	
	state	String	EQUAL_TO
	title	String	EQUAL_TO
	updated_at	DateTime	
	web_url	String	
Issue	_links	Struct	

Object	Field	Data type	Supported filters
	assignee	Struct	
	assignee_id	Integer	EQUAL_TO
	assignee_username	String	EQUAL_TO
	assignees	List	
	author	Struct	
	author_id	String	EQUAL_TO
	author_username	String	EQUAL_TO
	blocking_issues_count	Integer	
	closed_at	DateTime	
	closed_by	String	
	confidential	Boolean	EQUAL_TO
	created_after	DateTime	GREATER_THAN_OR_EQUAL_TO
	created_at	DateTime	
	created_before	DateTime	LESS_THAN_OR_EQUAL_TO
	created_before_after	DateTime	BETWEEN
	description	String	
	discussion_locked	Boolean	
	downvotes	Integer	
	due_date	String	EQUAL_TO

Object	Field	Data type	Supported filters
	has_tasks	Boolean	
	id	Integer	
	iid	Integer	
	iids	Integer	EQUAL_TO
	issue_type	String	EQUAL_TO
	labels	List	
	merge_requests_count	Integer	
	milestone	Struct	
	milestone_id	String	EQUAL_TO
	moved_to_id	String	
	my_reaction_emoji	String	EQUAL_TO
	non_archived	Boolean	EQUAL_TO
	order_by	String	EQUAL_TO
	project_id	Integer	
	references	Struct	
	scope	String	EQUAL_TO
	search	String	EQUAL_TO
	service_desk_reply_to	String	
	severity	String	
	sort	String	EQUAL_TO

Object	Field	Data type	Supported filters
	state	String	EQUAL_TO
	task_completion_status	Struct	
	task_status	String	
	time_stats	Struct	
	title	String	
	type	String	
	updated_after	DateTime	GREATER_THAN_OR_EQUAL_TO
	updated_at	DateTime	
	updated_before	DateTime	LESS_THAN_OR_EQUAL_TO
	updated_before_after	DateTime	BETWEEN
	upvotes	Integer	
	user_notes_count	Integer	
	web_url	String	
	with_labels_details	Boolean	EQUAL_TO
Job	allow_failure	Boolean	
	artifacts	List	
	artifacts_expire_at	DateTime	
	artifacts_file	Struct	
	commit	Struct	

Object	Field	Data type	Supported filters
	coverage	String	
	created_at	DateTime	
	duration	Integer	
	failure_reason	String	
	finished_at	DateTime	
	id	Integer	
	name	String	
	pipeline	Struct	
	project	Struct	
	queued_duration	Integer	
	ref	String	
	runner	String	
	scope	String	EQUAL_TO
	stage	String	
	started_at	DateTime	
	status	String	
	tag	Boolean	
	tag_list	List	
	user	Struct	
	web_url	String	

Object	Field	Data type	Supported filters
Pipeline	created_at	DateTime	
	id	Integer	
	iid	Integer	
	order_by	String	EQUAL_TO
	project_id	Integer	
	ref	String	EQUAL_TO
	scope	String	EQUAL_TO
	sha	String	EQUAL_TO
	sort	String	EQUAL_TO
	source	String	EQUAL_TO
	status	String	EQUAL_TO
	updated_after	DateTime	GREATER_THAN_OR_EQUAL_TO
	updated_at	DateTime	
	updated_before	DateTime	LESS_THAN_OR_EQUAL_TO
	updated_before_after	DateTime	BETWEEN
	username	String	EQUAL_TO
	web_url	String	
	yaml_errors	Boolean	EQUAL_TO
Project	_links	Struct	

Object	Field	Data type	Supported filters
	allow_merge_on_skipped_pipeline	String	
	analytics_access_level	String	
	archived	Boolean	EQUAL_TO
	auto_cancel_pending_pipelines	String	
	auto_devops_deploy_strategy	String	
	auto_devops_enabled	Boolean	
	autoclose_referenced_issues	Boolean	
	avatar_url	String	
	build_timeout	Integer	
	builds_access_level	String	
	can_create_merge_request_in	Boolean	
	ci_allow_fork_pipelines_to_run_in_parent_project	Boolean	
	ci_config_path	String	
	ci_default_git_depth	Integer	
	ci_forward_deployment_enabled	Boolean	

Object	Field	Data type	Supported filters
	ci_job_token_scope_enabled	Boolean	
	ci_separated_caches	Boolean	
	compliance_frameworks	List	
	container_expiration_policy	Struct	
	container_registry_access_level	String	
	container_registry_enabled	Boolean	
	container_registry_image_prefix	String	
	created_at	DateTime	
	creator_id	Integer	
	default_branch	String	
	description	String	
	emails_disabled	String	
	empty_Repo	Boolean	
	enforce_auth_checks_on_uploads	Boolean	
	external_authorization_classification_label	String	

Object	Field	Data type	Supported filters
	forking_access_level	String	
	forks_count	Integer	
	http_url_to_repo	String	
	id	Integer	
	id_after	Integer	EQUAL_TO
	id_before	Integer	EQUAL_TO
	import_status	String	
	imported	Boolean	EQUAL_TO
	issues_access_level	String	
	issues_enabled	Boolean	
	jobs_enabled	Boolean	
	keep_latest_artifact	Boolean	
	last_activity_after	DateTime	GREATER_THAN_OR_EQUAL_TO
	last_activity_at	DateTime	
	last_activity_before	DateTime	LESS_THAN_OR_EQUAL_TO
	last_activity_before_after	DateTime	BETWEEN
	lfs_enabled	Boolean	
	membership	Boolean	EQUAL_TO

Object	Field	Data type	Supported filters
	merge_commit_template	String	
	merge_method	String	
	merge_requests_access_level	String	
	merge_requests_enabled	Boolean	
	min_access_level	Integer	EQUAL_TO
	name	String	
	name_with_namespace	String	
	namespace	Struct	
	only_allow_merge_if_all_discussions_are_resolved	Boolean	
	only_allow_merge_if_pipeline_succeeds	Boolean	
	open_issues_count	Integer	
	operations_access_level	String	
	order_by	String	EQUAL_TO
	owned	Boolean	EQUAL_TO
	packages_enabled	Boolean	
	pages_access_level	String	

Object	Field	Data type	Supported filters
	path	String	
	path_with_namespace	String	
	permissions	Struct	
	printing_merge_request_link_enabled	Boolean	
	public_jobs	Boolean	
	readme_url	String	
	remove_source_branch_after_merge	Boolean	
	repository_access_level	String	
	repository_storage	String	EQUAL_TO
	request_access_enabled	Boolean	
	requirements_access_level	String	
	requirements_enabled	Boolean	
	resolve_outdated_diff_discussions	Boolean	
	restrict_user_defined_variables	Boolean	

Object	Field	Data type	Supported filters
	runner_token_expiration_interval	String	
	search	String	EQUAL_TO
	search_namespaces	Boolean	EQUAL_TO
	security_and_compliance_access_level	String	
	security_and_compliance_enabled	Boolean	
	service_desk_enabled	Boolean	
	shared_runners_enabled	Boolean	
	shared_with_groups	List	
	simple	Boolean	EQUAL_TO
	snippets_access_level	String	
	snippets_enabled	Boolean	
	sort	String	EQUAL_TO
	squash_commit_template	String	
	squash_option	String	
	ssh_url_to_repo	String	
	star_count	Integer	
	starred	Boolean	EQUAL_TO

Object	Field	Data type	Supported filters
	statistics	Boolean	EQUAL_TO
	suggestion_commit_message	String	
	tag_list	List	
	topic	String	EQUAL_TO
	topic_id	Integer	EQUAL_TO
	topics	List	
	visibility	String	EQUAL_TO
	web_url	String	
	wiki_access_level	String	
	wiki_enabled	Boolean	
	with_custom_attributes	Boolean	EQUAL_TO
	with_issues_enabled	Boolean	EQUAL_TO
	with_merge_requests_enabled	Boolean	EQUAL_TO
	with_programming_language	Boolean	EQUAL_TO
Project Label	closed_issues_count	Integer	
	color	String	
	description	String	
	description_html	String	

Object	Field	Data type	Supported filters
	id	Integer	
	include_ancestor_groups	Boolean	EQUAL_TO
	is_project_label	Boolean	
	name	String	
	open_issues_count	Integer	
	open_merge_requests_count	Integer	
	priority	Integer	
	search	String	EQUAL_TO
	subscribed	Boolean	
	text_color	String	
	with_counts	Boolean	EQUAL_TO
Project Member	access_level	Integer	
	avatar_url	String	
	created_at	DateTime	
	created_by	Struct	
	email	String	
	expires_at	DateTime	
	group_saml_identity	Struct	
	id	Integer	

Object	Field	Data type	Supported filters
	is_using_seat	String	
	membership_state	String	
	name	String	
	query	String	EQUAL_TO
	show_seat_info	Boolean	EQUAL_TO
	skip_users	Integer	EQUAL_TO
	state	String	
	user_ids	Integer	EQUAL_TO
	username	String	
	web_url	String	
Project Merge Request	allow_collaboration	Boolean	
	allow_maintainer_to_push	Boolean	
	approvals_before_merge	String	
	assignee	Struct	
	assignee_id	Integer	EQUAL_TO
	assignees	List	
	author	Struct	
	author_id	Integer	EQUAL_TO
	author_username	Integer	EQUAL_TO

Object	Field	Data type	Supported filters
	blocking_discussions_resolved	Boolean	
	closed_at	DateTime	
	closed_by	String	
	created_after	DateTime	GREATER_THAN_OR_EQUAL_TO
	created_at	DateTime	
	created_before	DateTime	LESS_THAN_OR_EQUAL_TO
	created_before_after	DateTime	BETWEEN
	deployed_after	DateTime	GREATER_THAN_OR_EQUAL_TO
	deployed_before	DateTime	LESS_THAN_OR_EQUAL_TO
	deployed_before_after	DateTime	BETWEEN
	description	String	
	discussion_locked	String	
	downvotes	Integer	
	draft	Boolean	
	environment	String	EQUAL_TO
	force_remove_source_branch	Boolean	

Object	Field	Data type	Supported filters
	has_conflicts	Boolean	
	id	Integer	
	iid	Integer	
	labels	List	
	merge_commit_sha	String	
	merge_status	String	
	merge_user	Struct	
	merge_when_pipeline_succeeds	Boolean	
	merged_at	DateTime	
	merged_by	Struct	
	milestone	Struct	
	my_reaction_emoji	String	EQUAL_TO
	order_by	String	EQUAL_TO
	project_id	Integer	
	references	Struct	
	reviewer_id	Integer	EQUAL_TO
	reviewer_username	String	EQUAL_TO
	reviewers	List	
	scope	String	EQUAL_TO
	search	String	EQUAL_TO

Object	Field	Data type	Supported filters
	sha	String	
	should_remove_source_branch	Boolean	
	sort	String	EQUAL_TO
	source_branch	String	EQUAL_TO
	source_project_id	Integer	
	squash	Boolean	
	squash_commit_sha	String	
	state	String	EQUAL_TO
	target_branch	String	EQUAL_TO
	target_project_id	Integer	
	task_completion_status	Struct	
	time_stats	Struct	
	title	String	
	updated_after	DateTime	GREATER_THAN_OR_EQUAL_TO
	updated_at	DateTime	
	updated_before	DateTime	LESS_THAN_OR_EQUAL_TO
	updated_before_after	DateTime	BETWEEN
	upvotes	Integer	

Object	Field	Data type	Supported filters
	user_notes_count	Integer	
	view	String	EQUAL_TO
	web_url	String	
	wip	String	EQUAL_TO
	with_labels_details	Boolean	EQUAL_TO
	with_merge_status_recheck	Boolean	EQUAL_TO
	work_in_progress	Boolean	
Project milestone	created_at	DateTime	
	description	String	
	due_date	Date	
	expired	Boolean	
	id	Integer	
	iid	Integer	
	iids	Integer	EQUAL_TO
	include_parent_milestones	Boolean	EQUAL_TO
	project_id	Integer	
	search	String	EQUAL_TO
	start_date	Date	
	state	String	EQUAL_TO

Object	Field	Data type	Supported filters
	title	String	EQUAL_TO
	updated_at	DateTime	
	web_url	String	
Release	_links	Struct	
	assets	Struct	
	author	Struct	
	commit	Struct	
	commit_path	String	
	created_at	DateTime	
	description	String	
	evidences	List	
	include_html_description	Boolean	EQUAL_TO
	milestones	List	
	name	String	
	order_by	String	EQUAL_TO
	released_at	DateTime	
	sort	String	EQUAL_TO
	tag_name	String	
	tag_path	String	
	upcoming_release	Boolean	

Object	Field	Data type	Supported filters
Tag	commit	Struct	
	message	String	
	name	String	
	order_by	String	EQUAL_TO
	protected	Boolean	
	release	Struct	
	search	String	EQUAL_TO
	sort	String	EQUAL_TO
	target	String	

Google Ads connector for Amazon AppFlow

Google Ads is a platform that advertisers use to display ads on the web, such as in Google search results, YouTube videos, mobile apps, and on websites. If you are a Google Ads user, you can use Amazon AppFlow to transfer data about your account, ad campaigns, and ad groups to certain AWS services or other supported applications.

Topics

Google Ads support

Amazon AppFlow supports Google Ads as follows.

Supported as a data source?

Yes. You can use Amazon AppFlow to transfer data from your Google Ads account.

Supported as a data destination?

No. You can't use Amazon AppFlow to transfer data to your Google Ads account.

Before you begin

To use Amazon AppFlow to transfer data from Google Ads to AWS services, you'll need to meet these requirements:

- You have a Google Cloud Platform account and a Google Cloud project.
- In your Google Cloud project, you've enabled the Google Ads API. For information on how to enable APIs, see Enable and disable APIs in the API Console Help for Google Cloud Platform.
- You have a Google Ads developer token. For information on how to retrieve or create a developer token, see Obtain Your Developer Token in the Google Ads API documentation.
- In your Google Cloud project, you've configured an OAuth consent screen for external users that meets the following requirements:
  - You've set *amazon.com* as an authorized domain.
  - You've set *Google Ads API* as an authorized scope.

  For information about the OAuth consent screen, see Setting up your OAuth consent screen in the Google Cloud Platform Console Help.
- In your Google Cloud project, you've configured an OAuth 2.0 client ID. For information on how to create one, see Setting up OAuth 2.0 in the Google Cloud Platform Console Help.

  The OAuth 2.0 client ID must have one or more authorized redirect URLs for Amazon AppFlow.

  Redirect URLs have the following format:

```
https://region.console.aws.amazon.com/appflow/oauth
```

In this URL, *region* is the code for the AWS Region where you use Amazon AppFlow to transfer data from Google Ads. For example, the code for the US East (N. Virginia) Region is `us-east-1`. For that Region, the URL is the following:

```
https://us-east-1.console.aws.amazon.com/appflow/oauth
```

For the AWS Regions that Amazon AppFlow supports, and their codes, see Amazon AppFlow endpoints and quotas in the *AWS General Reference*.

From your Google Ads settings, note your developer token. From the settings for your OAuth 2.0 client ID in your Google Cloud project, note your client ID and client secret. You will provide these values to Amazon AppFlow when you connect to your Google Cloud project.

Connecting Amazon AppFlow to your Google Ads account

To connect Amazon AppFlow to your Google Ads account, provide details from the Google Cloud project so that Amazon AppFlow can access your Google Ads data. If you haven't yet configured your Google Cloud project for Amazon AppFlow integration, see Before you begin.

To connect to Google Ads

1. Sign in to the AWS Management Console and open the Amazon AppFlow console at https://console.aws.amazon.com/appflow/.
2. In the navigation pane on the left, choose **Connections**.
3. On the **Manage connections** page, for **Connectors**, choose **Google Ads**.
4. Choose **Create connection**.
5. In the **Connect to Google Ads** window, enter the following information:
   - **Access type** – Choose **offline**.
   - **Client ID** – The client ID of the OAuth 2.0 client ID in your Google Cloud project.
   - **Client secret** – The client secret of the OAuth 2.0 client ID in your Google Cloud project.
   - **Google Ads developer token** – The developer token from your Google Ads account.
   - **Google Ads instance URL** – Choose **https://googleads.googleapis.com**.
   - **Google Ads API version** – Choose **v9**.

- **Manager account ID** – Optionally, the account ID of a Google Ads manager account that you want to connect with Amazon AppFlow.

6. Optionally, under **Data encryption**, choose **Customize encryption settings (advanced)** if you want to encrypt your data with a customer managed key in the AWS Key Management Service (AWS KMS).

   By default, Amazon AppFlow encrypts your data with a KMS key that AWS creates, uses, and manages for you. Choose this option if you want to encrypt your data with your own KMS key instead.

   Amazon AppFlow always encrypts your data during transit and at rest. For more information, see Data protection in Amazon AppFlow.

   If you want to use a KMS key from the current AWS account, select this key under **Choose an AWS KMS key**. If you want to use a KMS key from a different AWS account, enter the Amazon Resource Name (ARN) for that key.
7. For **Connection name**, enter a name for your connection.
8. Choose **Connect**. A **Sign in with Google** window opens.
9. Choose your Google account, and sign in.
10. On the page titled **amazon.com wants to access your Google Account**, choose Continue.

On the **Manage connections** page, your new connection appears in the **Connections** table. When you create a flow that uses Google Ads as the data source, you can select this connection.

Transferring data from Google Ads with a flow

To transfer data from Google Ads, create an Amazon AppFlow flow, and choose Google Ads as the data source. For the steps to create a flow, see Creating flows in Amazon AppFlow.

When you configure the flow, choose which data object you want to transfer. For the objects that Amazon AppFlow supports for Google Ads, see Supported objects.

Also choose the destination where you want to transfer the data object that you selected. For more information about how to configure your destination, see Supported destinations.

Supported objects

When you create a flow that uses Google Ads as the data source, you can transfer any of the following data objects to supported destinations:

- Account
- Account Budget
- Campaign
- Campaign Budget
- Ad Group
- Ad Group Ad

Supported destinations

When you create a flow that uses Google Ads as the data source, you can set the destination to any of the following connectors:

- Amazon Lookout for Metrics
- Amazon Redshift
- Amazon RDS for PostgreSQL
- Amazon S3
- HubSpot
- Marketo
- Salesforce
- SAP OData
- Snowflake
- Upsolver
- Zendesk
- Zoho CRM

Google Analytics

The following are the requirements and connection instructions for using Google Analytics with Amazon AppFlow.

Notes

- The Google Analytics connector transfers data only from Universal Analytics properties. If you want to transfer data from Google Analytics 4 properties instead, use the Google Analytics 4 connector.

  In time, Google Analytics will end support for Universal Analytics properties, and that platform will fully support only Google Analytics 4 properties. For more information, see Introducing the next generation of Analytics, Google Analytics 4 (GA4).

- You can use Google Analytics as a source only.

Requirements

You must log in to the Google API Console at https://console.developers.google.com and do the following:

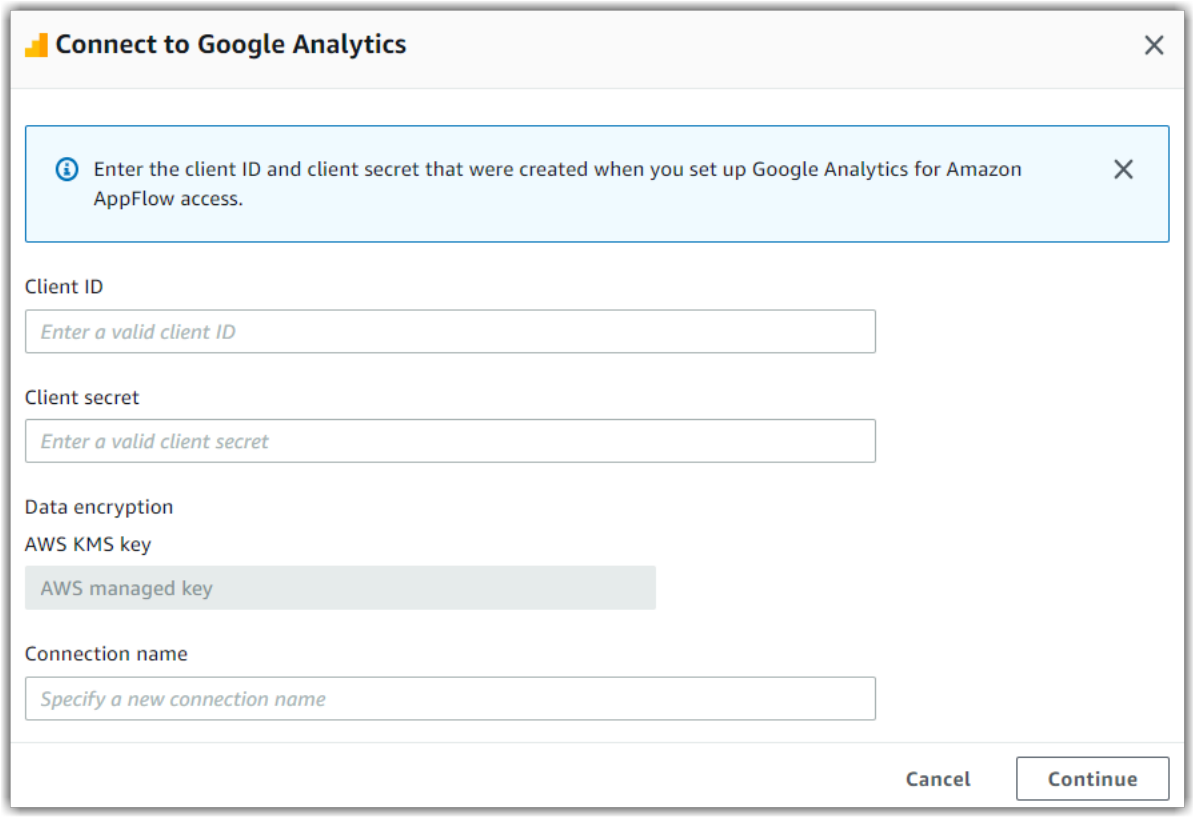
- Activate the Analytics API.
- Create a new app named **AppFlow**. Set the user type as **Internal**. Add the scope for read-only access and add `amazon.com` as an authorized domain.
- Create a new OAuth 2.0 client. Set the application type as **Web application**.
- Set the authorized JavaScript origins URL to `https://console.aws.amazon.com`.
- Set the authorized redirect URL to `https://region.console.aws.amazon.com/appflow/oauth`. For example, if you use Amazon AppFlow in the US East (N. Virginia) Region, set the URL to `https://us-east-1.console.aws.amazon.com/appflow/oauth`.
- Provide Amazon AppFlow with your client ID and client secret. After you provide them, you are redirected to the Google login page. When prompted, grant Amazon AppFlow permissions to access your Google Analytics account. Note that your Google Analytics user account must also be a Google Workspaces user account.

For more information, see Management API - Authorization in the Google Analytics documentation.

Connection instructions

To connect to Google Analytics while creating a flow

1. Sign in to the AWS Management Console and open the Amazon AppFlow console at https://console.aws.amazon.com/appflow/.
2. Choose **Create flow**.
3. For **Flow details**, enter a name and description for the flow.
4. (Optional) To use a customer managed key in the AWS Key Management Service (AWS KMS) instead of the default AWS managed KMS key, choose **Data encryption**, **Customize encryption settings** and then choose an existing KMS key or create a new one.
5. (Optional) To add a tag, choose **Tags**, **Add tag** and then enter the key name and value.
6. Choose **Next**.
7. Choose **Google Analytics** from the **Source name** dropdown list.
8. Choose **Connect** to open the **Connect to Google Analytics** dialog box.
    a. Under **Client ID**, enter your client ID.
    b. Under **Client secret**, enter your client secret.
    c. Under **Secret access key**, enter your secret access key.
    d. Under **Data encryption**, enter your AWS KMS key.
    e. Under **Connection name**, specify a name for your connection.
    f. Choose **Continue**.



9. You will be redirected to the Google Analytics login page. When prompted, grant Amazon AppFlow permissions to access your Google Analytics account.

Now that you are connected to your Google Analytics account, you can continue with the flow creation steps as described in Creating flows in Amazon AppFlow.

Tip

If you aren't connected successfully, ensure that you have followed the instructions in the Requirements section.

Notes

- When you use Google Analytics as a source, you can run schedule-triggered flows at a maximum frequency of one flow run per day.

- Google Analytics can process 9 dimension and 10 metrics (including custom ones) as part of a single flow run.
- If you choose Google Analytics, you can only specify JSON as the data format for the Amazon S3 destination file.
- You can import custom dimensions and metrics from Google Analytics into Amazon S3. To specify custom dimensions or metrics, choose the **upload a .csv file with mapped field** option in the **Map data fields** step of the flow configuration. In the source field name in the CSV file, specify the custom dimension or the metric as `ga:dimension`*XX* or `ga:metric`*XX*, with *XX* containing the actual index (numerical value) that you provided to Google Analytics.

  The following is an example row in the CSV file:

  ```
  ga:dimension24|DIMENSION, PriceDimension
  ```

  This imports the custom dimension in Google Analytics to a field named `PriceDimension` in the destination Amazon S3 file.

  > **Note**
  >
  > The option to specify custom dimensions and metrics is available only when you upload a CSV file with mapped fields, and not when you manually map fields using the console.

Supported destinations

When you create a flow that uses Google Analytics as the data source, you can set the destination to any of the following connectors:

- Lookout for Metrics
- Amazon S3
- Upsolver

You can also set the destination to any custom connectors that you create with the Amazon AppFlow Custom Connector SDKs for Python or Java. You can download these SDKs from GitHub.

Related resources

- Management API - Authorization in the Google Analytics documentation

- Create a Property in the Google Analytics documentation
- Analyzing Google Analytics data with Amazon AppFlow and Athena in the *AWS Big Data Blog*
- Video: How to transfer data from Google Analytics to Amazon S3 using Amazon AppFlow

Google Analytics 4 connector for Amazon AppFlow

Google Analytics 4 is an analytics service that tracks and reports metrics about visitor interactions with your apps and websites. These metrics include page views, active users, and events. You can use Amazon AppFlow to transfer data from Google Analytics 4 to certain AWS services or other supported applications.

> **Note**
>
> The Google Analytics 4 connector transfers data only from Google Analytics 4 properties. If you want to transfer data from Universal Analytics properties instead, use the Google Analytics connector.
> In time, Google Analytics will end support for Universal Analytics properties, and that platform will fully support only Google Analytics 4 properties. For more information, see Introducing the next generation of Analytics, Google Analytics 4 (GA4).

Amazon AppFlow support for Google Analytics 4

Amazon AppFlow supports Google Analytics 4 as follows.

Supported as a data source?

Yes. You can use Amazon AppFlow to transfer data from Google Analytics 4.

Supported as a data destination?

No. You can't use Amazon AppFlow to transfer data to Google Analytics 4.

Before you begin

To use Amazon AppFlow to transfer data from Google Analytics 4 to supported destinations, you must meet these requirements:

- You have a Google Analytics account with one or more data streams that collect the data that you want to transfer. For more information about the Google Analytics 4 data objects that Amazon AppFlow supports, see Supported objects.
- You have a Google Cloud Platform account and a Google Cloud project.
- In your Google Cloud project, you've enabled the following APIs:
  - Google Analytics API
  - Google Analytics Admin API
  - Google Analytics Data API

  For the steps to enable these APIs, see Enable and disable APIs in the API Console Help for Google Cloud Platform.
- In your Google Cloud project, you've configured an OAuth consent screen for external users. For information about the OAuth consent screen, see Setting up your OAuth consent screen in the Google Cloud Platform Console Help.
- In your Google Cloud project, you've configured an OAuth 2.0 client ID. For the steps to create an OAuth 2.0 client ID, see Setting up OAuth 2.0 in the Google Cloud Platform Console Help.

  The OAuth 2.0 client ID must have one or more authorized redirect URLs for Amazon AppFlow.

  Redirect URLs have the following format:

  ```
  https://region.console.aws.amazon.com/appflow/oauth
  ```

  In this URL, *region* is the code for the AWS Region where you use Amazon AppFlow to transfer data from Google Analytics 4. For example, the code for the US East (N. Virginia) Region is `us-east-1`. For that Region, the URL is the following:

  ```
  https://us-east-1.console.aws.amazon.com/appflow/oauth
  ```

  For the AWS Regions that Amazon AppFlow supports, and their codes, see Amazon AppFlow endpoints and quotas in the *AWS General Reference*.

Note the client ID and client secret from the settings for your OAuth 2.0 client ID. When you connect to your Google Cloud project, you provide these values to Amazon AppFlow.

Connecting Amazon AppFlow to Google Analytics 4

To connect Amazon AppFlow to Google Analytics 4, provide the client credentials from the OAuth 2.0 client ID from your Google Cloud project. Amazon AppFlow uses these credentials to access your data. If you haven't yet configured your Google Cloud project for Amazon AppFlow integration, see Before you begin.

To connect to Google Analytics 4

1. Sign in to the AWS Management Console and open the Amazon AppFlow console at https://console.aws.amazon.com/appflow/.
2. In the navigation pane on the left, choose **Connections**.
3. On the **Manage connections** page, for **Connectors**, choose **Google Analytics 4**.
4. Choose **Create connection**.
5. In the **Connect to Google Analytics 4** window, enter the following information:
   - **Access type** – Choose **offline**.
   - **Client ID** – The client ID of the OAuth 2.0 client ID in your Google Cloud project.
   - **Client secret** – The client secret of the OAuth 2.0 client ID in your Google Cloud project.
6. Optionally, under **Data encryption**, choose **Customize encryption settings (advanced)** if you want to encrypt your data with a customer managed key in the AWS Key Management Service (AWS KMS).

   By default, Amazon AppFlow encrypts your data with a KMS key that AWS creates, uses, and manages for you. Choose this option if you want to encrypt your data with your own KMS key instead.

   Amazon AppFlow always encrypts your data during transit and at rest. For more information, see Data protection in Amazon AppFlow.

   If you want to use a KMS key from the current AWS account, select this key under **Choose an AWS KMS key**. If you want to use a KMS key from a different AWS account, enter the Amazon Resource Name (ARN) for that key.
7. For **Connection name**, enter a name for your connection.
8. Choose **Continue**.
9. In the window that appears, sign in to your Google account, and grant access to Amazon AppFlow.

On the **Manage connections** page, your new connection appears in the **Connections** table. When you create a flow that uses Google Analytics 4 as the data source, you can select this connection.

Transferring data from Google Analytics 4 with a flow

To transfer data from Google Analytics 4, create an Amazon AppFlow flow, and choose Google Analytics 4 as the data source. For the steps to create a flow, see Creating flows in Amazon AppFlow.

When you configure the flow, choose the data object that you want to transfer. For the objects that Amazon AppFlow supports for Google Analytics 4, see Supported objects.

Also, choose the destination where you want to transfer the data object that you selected. For more information about how to configure your destination, see Supported destinations.

Supported destinations

When you create a flow that uses Google Analytics 4 as the data source, you can set the destination to any of the following connectors:

- Amazon Lookout for Metrics
- Amazon Redshift
- Amazon RDS for PostgreSQL
- Amazon S3
- HubSpot
- Marketo
- Salesforce
- SAP OData
- Snowflake
- Upsolver
- Zendesk
- Zoho CRM

Supported objects

When you create a flow that uses Google Analytics 4 as the data source, you can transfer any of the following data objects to supported destinations:

Object	Field	Data type	Supported filters
Core Report			
Real-Time Report	Dimension:appVersion	String	CONTAINS, EQUAL_TO
	Dimension:audienceId	String	CONTAINS, EQUAL_TO
	Dimension:audienceName	String	CONTAINS, EQUAL_TO
	Dimension:city	String	CONTAINS, EQUAL_TO
	Dimension:cityId	String	CONTAINS, EQUAL_TO
	Dimension:country	String	CONTAINS, EQUAL_TO
	Dimension:countryId	String	CONTAINS, EQUAL_TO
	Dimension:deviceCategory	String	CONTAINS, EQUAL_TO
	Dimension:eventName	String	CONTAINS, EQUAL_TO
	Dimension:minutesAgo	String	CONTAINS, EQUAL_TO
	Dimension:platform	String	CONTAINS, EQUAL_TO
	Dimension:streamId	String	CONTAINS, EQUAL_TO

Object	Field	Data type	Supported filters
	Dimension:streamName	String	CONTAINS, EQUAL_TO
	Dimension:unifiedScreenName	String	CONTAINS, EQUAL_TO
	Metrics:activeUsers	String	
	Metrics:conversions	String	
	Metrics:eventCount	String	
	Metrics:screenPageViews	String	

Google BigQuery connector for Amazon AppFlow

Google BigQuery is a query and analysis solution. If you're a Google BigQuery user, your account contains data, analytics, and more. You can use Amazon AppFlow to transfer data between Google BigQuery and certain AWS services or other supported applications.

Amazon AppFlow support for Google BigQuery

Amazon AppFlow supports Google BigQuery as follows.

Supported as a data source?

Yes. You can use Amazon AppFlow to transfer data from Google BigQuery.

Supported as a data destination?

Yes. You can use Amazon AppFlow to transfer data to Google BigQuery.

Before you begin

To use Amazon AppFlow to transfer data from Google BigQuery to supported destinations, you must meet these requirements:

- You have an account with Google BigQuery that contains the data that you want to transfer. For more information about the Google BigQuery data objects that Amazon AppFlow supports, see Supported objects.
- In your Google BigQuery account, you've created an External OAuth2 Google Cloud web app for Amazon AppFlow, and you've added the appropriate scopes. The app provides the client credentials that Amazon AppFlow uses to access your data securely when it makes authenticated calls to your account. For information about how to create an app, see Building a Node.js app on App Engine in the Google BigQuery documentation.
- You've activated the access scopes that provide access to the data that you want to transfer. For more information about Google BigQuery scopes, see Comply with OAuth 2.0 policies in the *Google Identity Documentation*.
- You've configured the app with one or more redirect URLs for Amazon AppFlow.

  Redirect URLs have the following format:

  ```
  https://region.console.aws.amazon.com/appflow/oauth
  ```

  In this URL, *region* is the code for the AWS Region where you use Amazon AppFlow to transfer data from Google BigQuery. For example, the code for the US East (N. Virginia) Region is `us-east-1`. For that Region, the URL is the following:

  ```
  https://us-east-1.console.aws.amazon.com/appflow/oauth
  ```

  For the AWS Regions that Amazon AppFlow supports, and their codes, see Amazon AppFlow endpoints and quotas in the *AWS General Reference.*
- Note the client ID and client secret from the settings for your OAuth 2.0 client ID. You provide these values to Amazon AppFlow when you connect to your Google BigQuery project.

Connecting Amazon AppFlow to your Google BigQuery account

To connect Amazon AppFlow to your Google BigQuery account, provide the client credentials from your Google Cloud web app so that Amazon AppFlow can access your data. If you haven't yet configured your Google BigQuery project for Amazon AppFlow integration, see Before you begin.

To connect to Google BigQuery

1. Sign in to the AWS Management Console and open the Amazon AppFlow console at https://console.aws.amazon.com/appflow/.
2. In the navigation pane on the left, choose **Connections**.
3. On the **Manage connections** page, for **Connectors**, choose **Google BigQuery**.
4. Choose **Create connection**.
5. In the **Connect to Google BigQuery** window, enter the following information:
   - **Connection name** — A name for your connection.
   - **access_type** — Specify an access type to generate a refresh token.
   - **Client ID** — The client ID in your Google Cloud web app.
   - **Client secret** — The client secret in your Google Cloud web app.
6. Optionally, under **Data encryption**, choose **Customize encryption settings (advanced)** if you want to encrypt your data with a customer managed key in the AWS Key Management Service (AWS KMS).

   By default, Amazon AppFlow encrypts your data with a KMS key that AWS creates, uses, and manages for you. Choose this option if you want to encrypt your data with your own KMS key instead.

   Amazon AppFlow always encrypts your data during transit and at rest. For more information, see Data protection in Amazon AppFlow.

   If you want to use a KMS key from the current AWS account, select this key under **Choose an AWS KMS key**. If you want to use a KMS key from a different AWS account, enter the Amazon Resource Name (ARN) for that key.
7. Choose **Connect**.
8. In the window that appears, sign in to your Google BigQuery account, and grant access to Amazon AppFlow.

On the **Manage connections** page, your new connection appears in the **Connections** table. When you create a flow that uses Google BigQuery as the data source, you can select this connection.

API preference

When you use Google BigQuery as either the source or destination, you can configure the **Google BigQuery API preference** setting. Use this setting to specify whether Amazon AppFlow uses synchronous (smaller data transfers) or asynchronous (larger transfers) data transfer when you run your flow.

The Amazon AppFlow console provides this setting on the **Configure flow** page under **Source details** or **Destination details**. To view it, expand the **Additional settings** section.

You can choose one of these options:

- **Automatic (default)** — For each flow run, Amazon AppFlow selects the type of data transfer to use.
- **Standard** — Amazon AppFlow uses only Google BigQuery synchronous data transfer. This option optimizes your flow for small to medium-sized data transfers.
- **Bulk** — Amazon AppFlow runs Google BigQuery asynchronous data transfers, and it's optimal for large datasets.

Transferring data to or from Google BigQuery with a flow

To transfer data to or from Google BigQuery, create an Amazon AppFlow flow, and choose Google BigQuery as the data source or destination. For the steps to create a flow, see Creating flows in Amazon AppFlow.

When you configure the flow, choose the data object that you want to transfer. For the objects that Amazon AppFlow supports for Google BigQuery, see Supported objects.

Also, choose the destination where you want to transfer the data object that you selected. For more information about how to configure your destination, see Supported destinations.

Supported destinations

When you create a flow that uses Google BigQuery as the data source, you can set the destination to any of the following connectors:

- Amazon Lookout for Metrics
- Amazon Redshift

- Amazon RDS for PostgreSQL
- Amazon S3
- HubSpot
- Marketo
- Salesforce
- SAP OData
- Snowflake
- Upsolver
- Zendesk
- Zoho CRM

Supported objects

When you create a flow that uses Google BigQuery as the data source, you can transfer any data from any table that you've defined. Other connectors support specific objects, but the Google BigQuery connector lacks predefined entities. Instead, it displays entities dynamically, based on the current column headers in the Google BigQuery table itself.

Google Calendar connector for Amazon AppFlow

Google Calendar is an online calendar service that helps users schedule meetings, set up events, set reminders, and share their schedules. If you're a Google Calendar user, your account contains data about your calendar, events, access controls list rules, and more. You can use Amazon AppFlow to transfer data from Google Calendar to certain AWS services or other supported applications.

Amazon AppFlow support for Google Calendar

Amazon AppFlow supports Google Calendar as follows.

Supported as a data source?

Yes. You can use Amazon AppFlow to transfer data from Google Calendar.

Supported as a data destination?

No. You can't use Amazon AppFlow to transfer data to Google Calendar.

Before you begin

To use Amazon AppFlow to transfer data from Google Calendar to supported destinations, you must meet these requirements:

- You have a Google account that you use to sign in and use the Google Calendar app. In your Google account, Google Calendar contains the data that you want to transfer.
- You have a Google Cloud Platform account and a Google Cloud project.
- In your Google Cloud project, you've enabled the Google Calendar API. For the steps to enable it, see Enable and disable APIs in the API Console Help for Google Cloud Platform.
- In your Google Cloud project, you've configured an OAuth consent screen for external users. For information about the OAuth consent screen, see Setting up your OAuth consent screen in the Google Cloud Platform Console Help.
- In your Google Cloud project, you've configured an OAuth 2.0 client ID that meets the following requirements:
  - You've set the application type to **Web application**.
  - You've added one or more authorized redirect URLs for Amazon AppFlow.

    Redirect URLs have the following format:

    ```
    https://region.console.aws.amazon.com/appflow/oauth
    ```

    In this URL, *region* is the code for the AWS Region where you use Amazon AppFlow to transfer data from Google Calendar. For example, the code for the US East (N. Virginia) Region is `us-east-1`. For that Region, the URL is the following:

    ```
    https://us-east-1.console.aws.amazon.com/appflow/oauth
    ```

    For the AWS Regions that Amazon AppFlow supports, and their codes, see Amazon AppFlow endpoints and quotas in the *AWS General Reference*.

  For the steps to create an OAuth 2.0 client ID, see Setting up OAuth 2.0 in the Google Cloud Platform Console Help.

Note the client ID and client secret from the settings for your OAuth 2.0 client ID. You provide these values to Amazon AppFlow when you connect to your Google Cloud project.

Connecting Amazon AppFlow to your Google Calendar account

To connect Amazon AppFlow to Google Calendar, provide the client credentials from the OAuth 2.0 client ID from your Google Cloud project. Amazon AppFlow uses these credentials to access your data. If you haven't yet configured your Google Cloud project for Amazon AppFlow integration, see Before you begin.

To connect to Google Calendar

1. Sign in to the AWS Management Console and open the Amazon AppFlow console at https://console.aws.amazon.com/appflow/.
2. In the navigation pane on the left, choose **Connections**.
3. On the **Manage connections** page, for **Connectors**, choose **Google Calendar**.
4. Choose **Create connection**.
5. In the **Connect to Google Calendar** window, enter the following information:
   - **Access type** – Choose **offline**.
   - **Client ID** – The client ID of the OAuth 2.0 client ID in your Google Cloud project.
   - **Client secret** – The client secret of the OAuth 2.0 client ID in your Google Cloud project.
6. Optionally, under **Data encryption**, choose **Customize encryption settings (advanced)** if you want to encrypt your data with a customer managed key in the AWS Key Management Service (AWS KMS).

   By default, Amazon AppFlow encrypts your data with a KMS key that AWS creates, uses, and manages for you. Choose this option if you want to encrypt your data with your own KMS key instead.

   Amazon AppFlow always encrypts your data during transit and at rest. For more information, see Data protection in Amazon AppFlow.

   If you want to use a KMS key from the current AWS account, select this key under **Choose an AWS KMS key**. If you want to use a KMS key from a different AWS account, enter the Amazon Resource Name (ARN) for that key.
7. For **Connection name**, enter a name for your connection.
8. Choose **Connect**.
9. In the window that appears, sign in to your Google account, and grant access to Amazon AppFlow.

On the **Manage connections** page, your new connection appears in the **Connections** table. When you create a flow that uses Google Calendar as the data source, you can select this connection.

Transferring data from Google Calendar with a flow

To transfer data from Google Calendar, create an Amazon AppFlow flow, and choose Google Calendar as the data source. For the steps to create a flow, see Creating flows in Amazon AppFlow.

When you configure the flow, choose the data object that you want to transfer. For the objects that Amazon AppFlow supports for Google Calendar, see Supported objects.

Also, choose the destination where you want to transfer the data object that you selected. For more information about how to configure your destination, see Supported destinations.

Supported destinations

When you create a flow that uses Google Calendar as the data source, you can set the destination to any of the following connectors:

- Amazon Lookout for Metrics
- Amazon Redshift
- Amazon RDS for PostgreSQL
- Amazon S3
- HubSpot
- Marketo
- Salesforce
- SAP OData
- Snowflake
- Upsolver
- Zendesk
- Zoho CRM

Supported objects

When you create a flow that uses Google Calendar as the data source, you can transfer any of the following data objects to supported destinations:

Object	Field	Data type	Supported filters
Access Control List Rule	etag	String	
	id	String	
	kind	String	
	role	String	
	scope	Struct	
	showDeleted	Boolean	EQUAL_TO, NOT_EQUAL_TO
Calendar	accessRole	String	
	backgroundColor	String	
	colorId	String	
	conferenceProperties	Struct	
	defaultReminders	List	
	deleted	Boolean	
	description	String	
	etag	String	
	foregroundColor	String	
	hidden	Boolean	
	id	String	
	kind	String	
	location	String	
	minAccessRole	String	EQUAL_TO

Object	Field	Data type	Supported filters
	notificationSettings	Struct	
	primary	Boolean	
	selected	Boolean	
	showDeleted	Boolean	EQUAL_TO, NOT_EQUAL_TO
	showHidden	Boolean	EQUAL_TO, NOT_EQUAL_TO
	summary	String	
	summaryOverride	String	
	timeZone	String	
Event	anyoneCanAddSelf	Boolean	
	attachments	List	
	attendees	List	
	attendeesOmitted	Boolean	
	colorId	String	
	conferenceData	Struct	
	created	DateTime	
	creator	Struct	
	description	String	
	end	Struct	
	endTimeUnspecified	Boolean	

Object	Field	Data type	Supported filters
	etag	String	
	eventType	String	
	extendedProperties	Struct	
	gadget	Struct	
	guestsCanInviteOthers	Boolean	
	guestsCanModify	Boolean	
	guestsCanSeeOtherGuests	Boolean	
	hangoutLink	String	
	htmlLink	String	
	iCalUID	String	EQUAL_TO
	id	String	
	kind	String	
	location	String	
	locked	Boolean	
	maxAttendees	Integer	EQUAL_TO
	orderBy	String	EQUAL_TO
	organizer	Struct	
	originalStartTime	Struct	
	privateCopy	Boolean	

Object	Field	Data type	Supported filters
	privateExtendedProperty	String	EQUAL_TO
	q	String	EQUAL_TO
	recurrence	List	
	recurringEventId	String	
	reminders	Struct	
	sequence	Integer	
	sharedExtendedProperty	String	EQUAL_TO
	showDeleted	Boolean	EQUAL_TO, NOT_EQUAL_TO
	singleEvents	Boolean	EQUAL_TO, NOT_EQUAL_TO
	source	Struct	
	start	Struct	
	status	String	
	summary	String	
	timeMax	DateTime	EQUAL_TO
	timeMin	DateTime	EQUAL_TO
	transparency	String	
	updated	DateTime	
	updatedMin	DateTime	EQUAL_TO

Object	Field	Data type	Supported filters
	visibility	String	
My Calendar	accessRole	String	
	backgroundColor	String	
	colorId	String	
	conferenceProperties	Struct	
	defaultReminders	List	
	deleted	Boolean	
	description	String	
	etag	String	
	foregroundColor	String	
	hidden	Boolean	
	id	String	
	kind	String	
	location	String	
	notificationSettings	Struct	
	primary	Boolean	
	selected	Boolean	
	showDeleted	Boolean	EQUAL_TO, NOT_EQUAL_TO
	showHidden	Boolean	EQUAL_TO, NOT_EQUAL_TO

Object	Field	Data type	Supported filters
	summary	String	
	summaryOverride	String	
	timeZone	String	

Google Search Console connector for Amazon AppFlow

Google Search Console is a service from Google that allows website owners to optimize and manage their sites' presence in Google Search results. If you're a Google Search Console user, your account contains data about your sites and their search traffic. You can use Amazon AppFlow to transfer data from Google Search Console to certain AWS services or other supported applications.

Amazon AppFlow support for Google Search Console

Amazon AppFlow supports Google Search Console as follows.

Supported as a data source?

Yes. You can use Amazon AppFlow to transfer data from Google Search Console.

Supported as a data destination?

No. You can't use Amazon AppFlow to transfer data to Google Search Console.

Before you begin

To use Amazon AppFlow to transfer data from Google Search Console to supported destinations, you must meet these requirements:

- You have a Google Cloud Platform account and a Google Cloud project.
- In Google Search Console, you have one or more verified website properties that have the data that you want to transfer. For the steps to add a property, see Add a website property to Search Console in the Search Console Help. For more information about the Google Search Console data objects that Amazon AppFlow supports, see the section called "Supported objects".
- In your Google Cloud project, you've enabled the Google Search Console API. For the steps to enable it, see Enable and disable APIs in the API Console Help for Google Cloud Platform.

- In your Google Cloud project, you've configured an OAuth consent screen for external users that meets the following requirements:
  - You've set *amazon.com* as an authorized domain.
  - You've set *Google Ads API* as an authorized scope.

  For information about the OAuth consent screen, see Setting up your OAuth consent screen in the Google Cloud Platform Console Help.
- In your Google Cloud project, you've configured an OAuth 2.0 client ID. For the steps to create one, see Setting up OAuth 2.0 in the Google Cloud Platform Console Help.

  The OAuth 2.0 client ID must have one or more authorized redirect URLs for Amazon AppFlow.

  Redirect URLs have the following format:

  ```
  https://region.console.aws.amazon.com/appflow/oauth
  ```

  In this URL, *region* is the code for the AWS Region where you use Amazon AppFlow to transfer data from Google Search Console. For example, the code for the US East (N. Virginia) Region is `us-east-1`. For that Region, the URL is the following:

  ```
  https://us-east-1.console.aws.amazon.com/appflow/oauth
  ```

  For the AWS Regions that Amazon AppFlow supports, and their codes, see Amazon AppFlow endpoints and quotas in the *AWS General Reference.*

Note the client ID and client secret from the settings for your OAuth 2.0 client ID. You provide these values to Amazon AppFlow when you connect to your Google Cloud project.

Connecting Amazon AppFlow to your Google Search Console account

To connect Amazon AppFlow to your Google Search Console account, provide the client credentials from the OAuth 2.0 client ID from your Google Cloud project. Amazon AppFlow uses these credentials to access your data. If you haven't yet configured your Google Cloud project for Amazon AppFlow integration, see Before you begin.

To connect to Google Search Console

1. Sign in to the AWS Management Console and open the Amazon AppFlow console at https://console.aws.amazon.com/appflow/.
2. In the navigation pane on the left, choose **Connections**.
3. On the **Manage connections** page, for **Connectors**, choose **Google Search Console**.
4. Choose **Create connection**.
5. In the **Connect to Google Search Console** window, enter the following information:
   - **access_type** – Choose **offline**.
   - **Client ID** – The client ID of the OAuth 2.0 client ID in your Google Cloud project.
   - **Client secret** – The client secret of the OAuth 2.0 client ID in your Google Cloud project.
6. Optionally, under **Data encryption**, choose **Customize encryption settings (advanced)** if you want to encrypt your data with a customer managed key in the AWS Key Management Service (AWS KMS).

   By default, Amazon AppFlow encrypts your data with a KMS key that AWS creates, uses, and manages for you. Choose this option if you want to encrypt your data with your own KMS key instead.

   Amazon AppFlow always encrypts your data during transit and at rest. For more information, see Data protection in Amazon AppFlow.

   If you want to use a KMS key from the current AWS account, select this key under **Choose an AWS KMS key**. If you want to use a KMS key from a different AWS account, enter the Amazon Resource Name (ARN) for that key.
7. For **Connection name**, enter a name for your connection.
8. Choose **Connect**. A **Sign in with Google** window opens.
9. Choose your Google account, and sign in.
10. On the page titled **amazon.com wants to access your Google Account**, choose Continue.

On the **Manage connections** page, your new connection appears in the **Connections** table. When you create a flow that uses Google Search Console as the data source, you can select this connection.

Transferring data from Google Search Console with a flow

To transfer data from Google Search Console, create an Amazon AppFlow flow, and choose Google Search Console as the data source. For the steps to create a flow, see Creating flows in Amazon AppFlow.

When you configure the flow, choose the data object that you want to transfer. For the objects that Amazon AppFlow supports for Google Search Console, see Supported objects.

Also, choose the destination where you want to transfer the data object that you selected. For more information about how to configure your destination, see Supported destinations.

Supported destinations

When you create a flow that uses Google Search Console as the data source, you can set the destination to any of the following connectors:

- Amazon Lookout for Metrics
- Amazon Redshift
- Amazon RDS for PostgreSQL
- Amazon S3
- HubSpot
- Marketo
- Salesforce
- SAP OData
- Snowflake
- Upsolver
- Zendesk
- Zoho CRM

Supported objects

When you create a flow that uses Google Search Console as the data source, you can transfer any of the following data objects to supported destinations:

Object	Field	Data type	Supported filters
Search Analytic	clicks	Double	
	country	String	EQUAL_TO
	ctr	Double	
	device	String	EQUAL_TO
	dimension	String	EQUAL_TO
	impressions	Double	
	keys	List	
	page	String	EQUAL_TO, CONTAINS
	position	Double	
	query	String	EQUAL_TO, CONTAINS
	search_type	String	EQUAL_TO
	start_end_date	DateTime	BETWEEN
Site	permissionLevel	String	
	siteUrl	String	
Sitemap	contents	List	
	errors	Long	
	isPending	Boolean	
	isSitemapsIndex	Boolean	
	lastDownloaded	DateTime	

Object	Field	Data type	Supported filters
	lastSubmitted	DateTime	
	path	String	
	type	String	
	warnings	Long	

Google Sheets connector for Amazon AppFlow

Google Sheets is a spreadsheet based collaboration service that helps teams share data in real time across multiple devices. If you're a Google Sheets user, your account contains data about spreadsheets, documents, slides, meetings, security, and more. You can use Amazon AppFlow to transfer data from Google Sheets to certain AWS services or other supported applications.

Amazon AppFlow support for Google Sheets

Amazon AppFlow supports Google Sheets as follows.

Supported as a data source?

Yes. You can use Amazon AppFlow to transfer data from Google Sheets.

Supported as a data destination?

No. You can't use Amazon AppFlow to transfer data to Google Sheets.

Amazon AppFlow currently supports Google Sheets API v4 and Google Drive API v3.

Before you begin

To use Amazon AppFlow to transfer data from Google Sheets to supported destinations, you must meet these requirements:

- You have a Google account where you sign in to use the Google Sheets app. In your Google account, Google Sheets contains the data that you want to transfer.
- You have a Google Cloud Platform account and a Google Cloud project.

- In your Google Cloud project, you've enabled the Google Sheets API and Google Drive APIs. For the steps to enable them, see Enable and disable APIs in the API Console Help for Google Cloud Platform.
- In your Google Cloud project, you've configured an OAuth consent screen for external users. For more information about the OAuth consent screen, see Setting up your OAuth consent screen in the Google Cloud Platform Console Help.
- In the OAuth consent screen, you've added the following scopes:
  - The Google Sheets API read-only scope, https://www.googleapis.com/auth/spreadsheets.readonly.
  - The Google Drive API read-only scope, https://www.googleapis.com/auth/drive.readonly.

  For more information about these scopes, see OAuth 2.0 Scopes for Google APIs in the Google Identity documentation.
- In your Google Cloud project, you've configured an OAuth 2.0 client ID. For the steps to create this client ID, see Setting up OAuth 2.0 in the Google Cloud Platform Console Help.

  The OAuth 2.0 client ID must have one or more authorized redirect URLs for Amazon AppFlow.

  Redirect URLs have the following format:

  ```
  https://region.console.aws.amazon.com/appflow/oauth
  ```

  In this URL, *region* is the code for the AWS Region where you use Amazon AppFlow to transfer data from Google Sheets. For example, the code for the US East (N. Virginia) Region is `us-east-1`. For that Region, the URL is the following:

  ```
  https://us-east-1.console.aws.amazon.com/appflow/oauth
  ```

  For the AWS Regions that Amazon AppFlow supports, and their codes, see Amazon AppFlow endpoints and quotas in the *AWS General Reference.*
- In addition, set the authorized JavaScript origins URL to the following:

  `https://region.console.aws.amazon.com`

  Like the *region* in the redirect URLs, the region in the JavaScript origins URL is the code for the AWS region where you use Amazon AppFlow to transfer data from Google Sheets. So if, as above, you're in the US East (N. Virginia) Region, the URL is the following:

```
https://us-east-1.console.aws.amazon.com
```

Note the client ID and client secret from the settings for your OAuth 2.0 client ID. You provide these values to Amazon AppFlow when you connect to your Google Cloud project.

Connecting Amazon AppFlow to your Google Sheets account

To connect Amazon AppFlow to your Google Sheets account, provide details from your Google Sheets project so that Amazon AppFlow can access your data. If you haven't yet configured your Google Sheets project for Amazon AppFlow integration, see Before you begin.

To connect to Google Sheets

1. Sign in to the AWS Management Console and open the Amazon AppFlow console at https://console.aws.amazon.com/appflow/.
2. In the navigation pane on the left, choose **Connections**.
3. On the **Manage connections** page, for **Connectors**, choose **Google Sheets**.
4. Choose **Create connection**.
5. In the **Connect to Google Sheets** window, enter the following information:
   - **Access type** – Choose **offline**.
   - **Client ID** – The client ID of the OAuth 2.0 client ID in your Google Sheets project.
   - **Client secret** – The client secret of the OAuth 2.0 client ID in your Google Sheets project.
6. Optionally, under **Data encryption**, choose **Customize encryption settings (advanced)** if you want to encrypt your data with a customer managed key in the AWS Key Management Service (AWS KMS).

   By default, Amazon AppFlow encrypts your data with a KMS key that AWS creates, uses, and manages for you. Choose this option if you want to encrypt your data with your own KMS key instead.

   Amazon AppFlow always encrypts your data during transit and at rest. For more information, see Data protection in Amazon AppFlow.

   If you want to use a KMS key from the current AWS account, select this key under **Choose an AWS KMS key**. If you want to use a KMS key from a different AWS account, enter the Amazon Resource Name (ARN) for that key.

7. For **Connection name**, enter a name for your connection.
8. Choose **Connect**.
9. In the window that appears, sign in to your Google Sheets account, and grant access to Amazon AppFlow.

On the **Manage connections** page, your new connection appears in the **Connections** table. When you create a flow that uses Google Sheets as the data source, you can select this connection.

Transferring data from Google Sheets with a flow

To transfer data from Google Sheets, create an Amazon AppFlow flow, and choose Google Sheets as the data source. For the steps to create a flow, see Creating flows in Amazon AppFlow.

When you configure the flow, choose the data object that you want to transfer. For the objects that Amazon AppFlow supports for Google Sheets, see Supported objects.

Also, choose the destination where you want to transfer the data object that you selected. For more information about how to configure your destination, see Supported destinations.

If a flow is left idle for too long, it can time out. To increase the default session time, see Set session length for Google Cloud services in the Google Workspace Admin Help.

Note also that the Google Sheets API is a shared service. To keep the overall environment functioning smoothly, Google places limits on the number of read requests you're allowed per minute. If you exceed the limit, Google Sheets will generate an error. To learn more about limits, and about how to request an increase in your limit, see Usage limits in the Google Sheets Reference.

Supported destinations

When you create a flow that uses Google Sheets as the data source, you can set the destination to any of the following connectors:

- Amazon Lookout for Metrics
- Amazon Redshift
- Amazon RDS for PostgreSQL
- Amazon S3
- HubSpot

- Marketo
- Salesforce
- SAP OData
- Snowflake
- Upsolver
- Zendesk
- Zoho CRM

Supported objects

When you create a flow that uses Google Sheets as the data source, you can transfer any of the supported data objects to supported destinations. Other connectors support specific objects, but the Google Sheets connector lacks predefined entities. Instead, it displays entities dynamically, based on the current column headers in the Google Sheets spreadsheet itself.

Note that if you change or update the column headers after creating a flow, you'll need to either update the headers by using the Amazon AppFlow update flow page, or create a new flow. For information on updating a flow, see Managing Amazon AppFlow flows . For information on creating a new flow, see Creating flows in Amazon AppFlow .

HubSpot connector for Amazon AppFlow

HubSpot is a customer relations management (CRM) solution that supports marketing, sales, customer service, and content management. After you connect Amazon AppFlow your HubSpot account, you can use HubSpot as a data source or destination in your flows. Run these flows to transfer data between HubSpot and AWS services or other supported applications.

Amazon AppFlow support for HubSpot

Amazon AppFlow supports HubSpot as follows.

Supported as a data source?

Yes. You can use Amazon AppFlow to transfer data from HubSpot.

Supported as a data destination?

Yes. You can use Amazon AppFlow to transfer data to HubSpot.

Supported API versions

Amazon AppFlow can retrieve your data by sending requests to the following versions of the HubSpot API:

- v3
- v2
- v1

Before you begin

To use Amazon AppFlow to transfer data from HubSpot to supported destinations, you must meet these requirements:

- You have an account with HubSpot that contains the data that you want to transfer. For more information about the HubSpot data objects that Amazon AppFlow supports, see Supported objects.
- You have an App Developers account with HubSpot Developers.
- In HubSpot Developers, you've created an app for Amazon AppFlow. The app provides the client credentials that Amazon AppFlow uses to access your data securely when it makes authenticated calls to your account. For the steps to create an app, see Creating and installing apps in the HubSpot Developers documentation.
- You've configured your app as follows:
  - You've specified a redirect URL for Amazon AppFlow.

    Redirect URLs have the following format:

    ```
    https://region.console.aws.amazon.com/appflow/oauth
    ```

    In this URL, *region* is the code for the AWS Region where you use Amazon AppFlow to transfer data from HubSpot. For example, the code for the US East (N. Virginia) Region is `us-east-1`. For that Region, the URL is the following:

    ```
    https://us-east-1.console.aws.amazon.com/appflow/oauth
    ```

    For the AWS Regions that Amazon AppFlow supports, and their codes, see Amazon AppFlow endpoints and quotas in the *AWS General Reference.*

- You've permitted the following scopes:
  - `automation`
  - `content`
  - `crm.lists.read`
  - `crm.lists.write`
  - `crm.objects.companies.read`
  - `crm.objects.companies.write`
  - `crm.objects.contacts.read`
  - `crm.objects.contacts.write`
  - `crm.objects.custom.read`
  - `crm.objects.custom.write`
  - `crm.objects.deals.read`
  - `crm.objects.deals.write`
  - `crm.objects.owners.read`
  - `crm.schemas.custom.read`
  - `e-commerce`
  - `forms`
  - `oauth`
  - `sales-email-read`
  - `tickets`

  For more information about these scopes, see Scopes in the HubSpot Developers documentation.

From your app settings, note your client ID and client secret because you specify these values in the connection settings in Amazon AppFlow.

Connecting Amazon AppFlow to your HubSpot account

To connect Amazon AppFlow to your HubSpot account, provide details from your HubSpot Developers app so that Amazon AppFlow can access your data. If you haven't yet configured your HubSpot account for Amazon AppFlow integration, see Before you begin.

To connect to HubSpot

1. Sign in to the AWS Management Console and open the Amazon AppFlow console at https://console.aws.amazon.com/appflow/.
2. In the navigation pane on the left, choose **Connections**.
3. On the **Manage connections** page, for **Connectors**, choose **HubSpot**.
4. Choose **Create connection**.
5. In the **Connect to HubSpot** window, provide the client credentials from your app for **Client ID** and **Client secret**.
6. Optionally, under **Data encryption**, choose **Customize encryption settings (advanced)** if you want to encrypt your data with a customer managed key in the AWS Key Management Service (AWS KMS).

   By default, Amazon AppFlow encrypts your data with a KMS key that AWS creates, uses, and manages for you. Choose this option if you want to encrypt your data with your own KMS key instead.

   Amazon AppFlow always encrypts your data during transit and at rest. For more information, see Data protection in Amazon AppFlow.

   If you want to use a KMS key from the current AWS account, select this key under **Choose an AWS KMS key**. If you want to use a KMS key from a different AWS account, enter the Amazon Resource Name (ARN) for that key.
7. For **Connection name**, enter a name for your connection.
8. Choose **Connect**.
9. In the window that appears, sign in to your HubSpot account, and grant access to Amazon AppFlow.

On the **Manage connections** page, your new connection appears in the **Connections** table. When you create a flow that uses HubSpot as the data source, you can select this connection.

Transferring data to or from HubSpot with a flow

To transfer data to or from HubSpot, create an Amazon AppFlow flow, and choose HubSpot as the data source or destination. For the steps to create a flow, see Creating flows in Amazon AppFlow.

When you configure a flow that uses HubSpot as the data source, you choose the data object that you want to transfer. For the objects that Amazon AppFlow supports for HubSpot, see Supported objects. You also choose the destination where you want to transfer the data object that you selected. For more information about how to configure your destination, see Supported destinations.

Supported destinations

When you create a flow that uses HubSpot as the data source, you can set the destination to any of the following connectors:

- Amazon Lookout for Metrics
- Amazon Redshift
- Amazon RDS for PostgreSQL
- Amazon S3
- HubSpot
- Marketo
- Salesforce
- SAP OData
- Snowflake
- Upsolver
- Zendesk
- Zoho CRM

Supported objects

When you create a flow that uses HubSpot as the data source, you can transfer any of the following data objects to supported destinations:

HubSpot API v3

Object	Field	Data type	Supported filters
Call			
Company			

Object	Field	Data type	Supported filters
Contact			
Custom Object			
Deal			
Email			
Meeting			
Note			
Owner	Archived	Boolean	
	Created At	DateTime	
	Email	String	
	Firstname	String	
	Id	String	
	Lastname	String	
	Teams	List	
	Updated At	DateTime	
	User Id	Integer	
Postal Mail			
Product			
Task			
Ticket			
WorkFlow	Contact List Id's	Struct	

Object	Field	Data type	Supported filters
	Enabled	Boolean	
	Id	Integer	
	Inserted At	Integer	
	Name	String	
	Persona Tag Id's	List	
	Type	String	
	Updated At	Integer	

HubSpot API v2

Object	Field	Data type	Supported filters
Form	Always Create New Company	Boolean	
	Business Unit Id	Integer	
	Captcha Enabled	Boolean	
	Cloneable	Boolean	
	Create Marketable Contact	Boolean	
	Created At	Long	
	Css Class	String	
	Custom Uid	String	
	Deletable	Boolean	
	DeletedAt	Integer	

Object	Field	Data type	Supported filters
	Edit Version	Integer	
	Editable	Boolean	
	FormFieldGroups	List	
	Guid	String	
	Ignore Current Values	Boolean	
	Inline Message	String	
	Internal Updated At	Long	
	Is Published	Boolean	
	Kickback Emails Json	Integer	
	Kickback email work flow Id	String	
	Method	String	
	Name	String	
	Notify Recipients	String	
	Parent Id	Integer	
	Payment Session Template Ids	List	
	Portable Key	String	
	Portal Id	Integer	
	Publish At	Integer	
	Published At	Integer	

Object	Field	Data type	Supported filters
	Redirect	String	
	Selected External Options	List	
	Style	Struct	
	Submit Text	String	
	Thank You Message Json	String	
	Theme Color	String	
	Theme Name	String	
	Unpublish At	Integer	
	Updated At	Long	

HubSpot API v1

Object	Field	Data type	Supported filters
CRM_Pipeline	Active	Boolean	
	Created At	Long	
	Default	Boolean	
	Display Order	Integer	
	Label	String	
	Object Type	String	
	ObjectTypeId	List	
	Pipeline Id	String	

Object	Field	Data type	Supported filters
	Stages	List	
	Updated At	Long	
Campaign	App Id	Integer	
	App Name	String	
	Id	String	
	Last Updated Time	String	
Contact_List	Archived	Boolean	
	Author Id	String	
	Created At	Long	
	Dynamic	Boolean	
	Filters	List	
	Ils Filter Branch	String	
	Internal	Boolean	
	Limit Exempt	Boolean	
	List Id	Integer	
	List Type	String	
	Meta Data	Struct	
	Name	String	
	Parent Id	Integer	
	Portal Id	Integer	

Object	Field	Data type	Supported filters
	Read Only	Boolean	
	Team Ids	List	
	Updated At	Long	
Email_Event	App Id	Integer	
	App Name	String	
	Attempt	Integer	
	Browser	Struct	
	Created	Integer	
	Device Type	String	
	Drop Message	String	
	Drop Reason	String	
	Email Campaign Id	Long	
	Filtered Event	Boolean	
	From	String	
	Id	String	
	Location	Struct	
	Portal Id	Integer	
	Recipient	String	
	Reply To	List	
	Response	String	

Object	Field	Data type	Supported filters
	Sent By	Struct	
	Smtp Id	String	
	Subject	String	
	Suppressed Message	String	
	Suppressed Reason	String	
	Type	String	
	User Agent	Struct	
	bcc	List	
	cc	List	
	duration	Integer	

Infor Nexus

The following are the requirements and connection instructions for using Infor Nexus with Amazon AppFlow.

> **Note**
>
> You can use Infor Nexus as a source only.

Topics

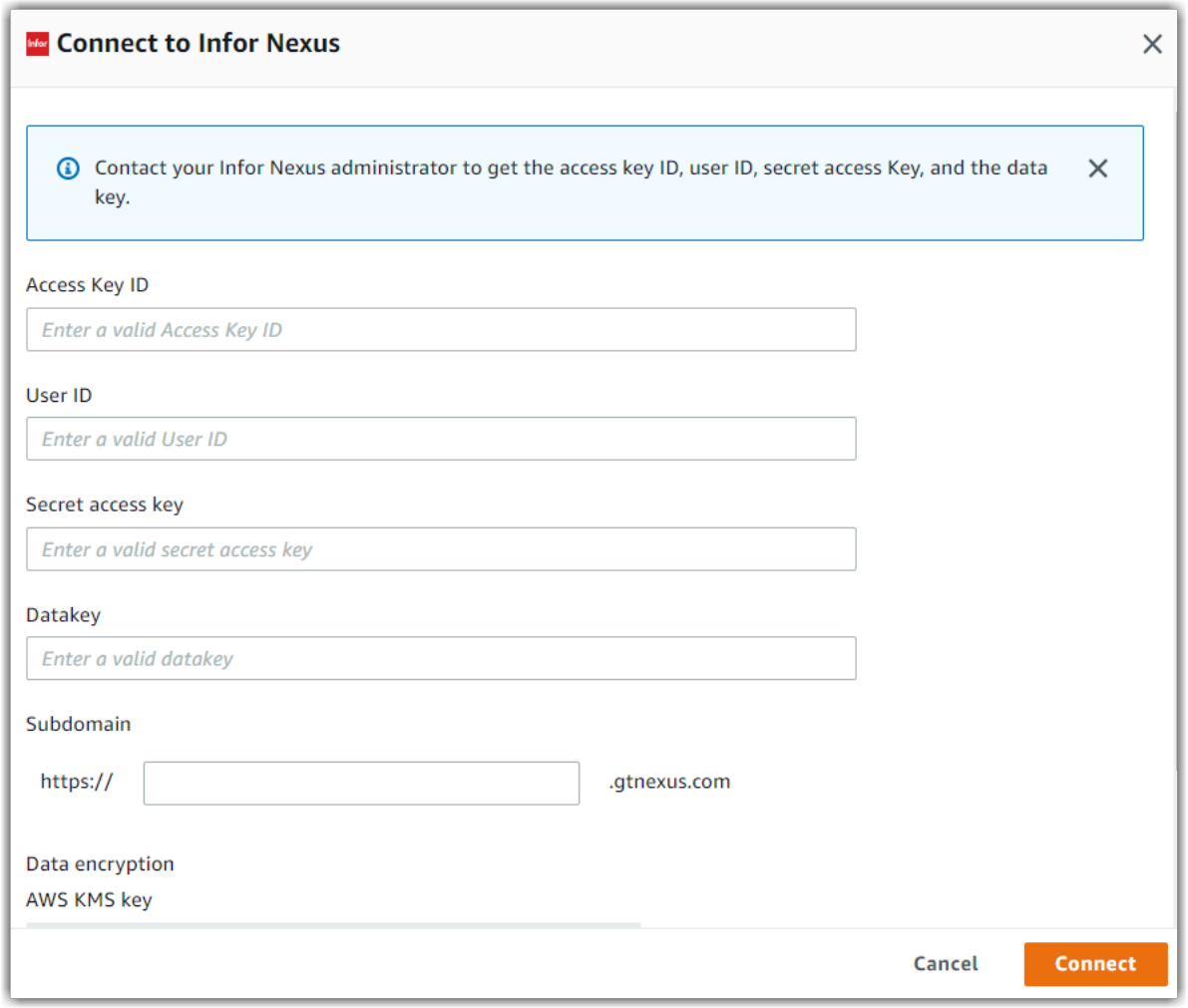
Requirements

- Amazon AppFlow uses hash-based message authentication (HMAC) to connect to Infor Nexus.
- You must provide Amazon AppFlow with your access key ID, user ID, secret access key, and data key. To retrieve this information, contact your Infor Nexus administrator.

Connection instructions

To connect to Infor Nexus while creating a flow

1. Sign in to the AWS Management Console and open the Amazon AppFlow console at https://console.aws.amazon.com/appflow/.
2. Choose **Create flow**.
3. For **Flow details**, enter a name and description for the flow.
4. (Optional) To use a customer managed CMK instead of the default AWS managed CMK, choose **Data encryption**, **Customize encryption settings** and then choose an existing CMK or create a new one.
5. (Optional) To add a tag, choose **Tags**, **Add tag** and then enter the key name and value.
6. Choose **Next**.
7. Choose **Infor Nexus** from the **Source name** dropdown list.
8. Choose **Connect** to open the **Connect to Infor Nexus** dialog box.
    a. Under **Access Key ID**, enter your access key ID.
    b. Under **User ID**, enter your Infor Nexus user ID.
    c. Under **Secret access key**, enter your secret access key.
    d. Under **Datakey**, enter your data key.
    e. Under **Subdomain**, enter the subdomain for your instance of Infor Nexus.
    f. Under **Data encryption**, enter your AWS KMS key.
    g. Under **Connection name**, specify a name for your connection.
    h. Choose **Connect**.



9. You will be redirected to the Infor Nexus login page. When prompted, grant Amazon AppFlow permissions to access your Infor Nexus account.

Now that you are connected to your Infor Nexus account, you can continue with the flow creation steps as described in Creating flows in Amazon AppFlow.

Tip

If you aren't connected successfully, ensure that you have followed the instructions in the Requirements section.

Supported destinations

When you create a flow that uses Infor Nexus as the data source, you can set the destination to any of the following connectors:

- Amazon Connect
- Amazon Honeycode
- Lookout for Metrics
- Amazon Redshift
- Amazon S3
- Marketo
- Salesforce
- Snowflake
- Upsolver
- Zendesk

You can also set the destination to any custom connectors that you create with the Amazon AppFlow Custom Connector SDKs for Python or Java . You can download these SDKs from GitHub.

Notes

- When you use Infor Nexus as a source, you can run schedule-triggered flows at a maximum frequency of one flow run per minute.

Instagram Ads connector for Amazon AppFlow

Instagram Ads is an advertising solution for Instagram. If you run ads on Instagram, your account contains data about your ads, campaigns, ad images, and more. You can use Amazon AppFlow to transfer data from Instagram Ads to certain AWS services or other supported applications.

Amazon AppFlow support for Instagram Ads

Amazon AppFlow supports Instagram Ads as follows.

Supported as a data source?

Yes. You can use Amazon AppFlow to transfer data from Instagram Ads.

Supported as a data destination?

No. You can't use Amazon AppFlow to transfer data to Instagram Ads.

Before you begin

To use Amazon AppFlow to transfer data from Instagram Ads to supported destinations, you must meet these requirements:

- You have an Instagram business account that you use to run your ads. For more information about the Instagram Ads data objects that Amazon AppFlow supports, see Supported objects.
- You've connected your Instagram business account to a Facebook Page. This connection makes it possible for third-party applications like Amazon AppFlow to access your Instagram data. For the steps to connect, see Add or Remove an Instagram Account From Your Facebook Page in the Meta Business Help Center.
- You have a Meta for Developers account.
- Your Meta for Developers account contains an app with its type set to *Business*. For information about how to create an app, see Create an App in the Meta for Developers App Development documentation.
- Your Meta for Developers app includes the *Facebook Login* product, and you've configured the product to meet the following additional requirements:
  - Client OAuth login is enabled.
  - Web OAuth login is enabled.
  - One or more OAuth redirect URIs are present for Amazon AppFlow. Each of these URIs has the following form:

    `https://region.console.aws.amazon.com/appflow/oauth`

    In this URI, *region* is the code for the AWS Region where you use Amazon AppFlow to transfer data from the Marketing API. For example, if you use Amazon AppFlow in the US East (N. Virginia) region, the URI is `https://us-east-1.console.aws.amazon.com/appflow/oauth`.

For the AWS Regions that Amazon AppFlow supports, see Amazon AppFlow endpoints and quotas in the *AWS General Reference*.

For more information about Facebook Login, see Facebook Login in the Meta For Developers documentation.

- Your app includes the *Marketing API* product, and you use this product to manage the ads that Amazon AppFlow transfers data about.
- You've configured your app with the following permissions:
  - `ads_management`
  - `ads_read`
  - `business_management`
  - `read_insights`

  For more information about these permissions, see Permissions Reference in the Meta for Developers Graph API documentation.

  Each of these permissions must be approved for *Advanced Access* through the *App Review* process. For the steps to create an App Review submission, see Submitting For Review in the Meta for Developers App Review documentation.

From the settings for your app, note the app ID and app secret. You provide these values to Amazon AppFlow when you connect to your account.

Connecting Amazon AppFlow to Instagram Ads

To connect Amazon AppFlow to Instagram Ads, provide the app credentials from your Meta for Developers app so that Amazon AppFlow can access your data. If you haven't yet configured an app for Amazon AppFlow integration, see Before you begin.

To connect to Instagram Ads

1. Sign in to the AWS Management Console and open the Amazon AppFlow console at https://console.aws.amazon.com/appflow/.
2. In the navigation pane on the left, choose **Connections**.
3. On the **Manage connections** page, for **Connectors**, choose **Instagram Ads**.
4. Choose **Create connection**.

5. In the **Connect to Instagram Ads** window, enter the following information:

   - **Client ID** – The app ID from your Meta for Developers app.
   - **Client secret** – The app secret from your Meta for Developers app.

6. Optionally, under **Data encryption**, choose **Customize encryption settings (advanced)** if you want to encrypt your data with a customer managed key in the AWS Key Management Service (AWS KMS).

   By default, Amazon AppFlow encrypts your data with a KMS key that AWS creates, uses, and manages for you. Choose this option if you want to encrypt your data with your own KMS key instead.

   Amazon AppFlow always encrypts your data during transit and at rest. For more information, see Data protection in Amazon AppFlow.

   If you want to use a KMS key from the current AWS account, select this key under **Choose an AWS KMS key**. If you want to use a KMS key from a different AWS account, enter the Amazon Resource Name (ARN) for that key.

7. For **Connection name**, enter a name for your connection.
8. Choose **Continue**.
9. In the window that appears, sign in to your account, and grant access to Amazon AppFlow.

On the **Manage connections** page, your new connection appears in the **Connections** table. When you create a flow that uses Instagram Ads as the data source, you can select this connection.

Transferring data from Instagram Ads with a flow

To transfer data from Instagram Ads, create an Amazon AppFlow flow, and choose Instagram Ads as the data source. For the steps to create a flow, see Creating flows in Amazon AppFlow.

When you configure the flow, choose the data object that you want to transfer. For the objects that Amazon AppFlow supports for Instagram Ads, see Supported objects.

Also, choose the destination where you want to transfer the data object that you selected. For more information about how to configure your destination, see Supported destinations.

Supported destinations

When you create a flow that uses Instagram Ads as the data source, you can set the destination to any of the following connectors:

- Amazon Lookout for Metrics
- Amazon Redshift
- Amazon RDS for PostgreSQL
- Amazon S3
- HubSpot
- Marketo
- Salesforce
- SAP OData
- Snowflake
- Upsolver
- Zendesk
- Zoho CRM

Supported objects

When you create a flow that uses Instagram ads as the data source, you can transfer any of the following data objects to supported destinations:

Object	Field	Data type	Supported filters
Ad			
Ad Creative			
Ad Image	Account ID	String	
	Created Time	DateTime	
	Creative	List	
	Hash	String	EQUAL_TO

Object	Field	Data type	Supported filters
	Height	Integer	
	ID	String	
	Is Associated Creatives In Adgroup	Boolean	
	Name	String	
	Original Height	Integer	
	Original Width	Integer	
	Permalink URL	String	
	Status	String	
	URL	String	
	URL 128	String	
	Updated Time	DateTime	
	Width	Integer	
Ad Insight	Account Currency	String	
	Account ID	String	
	Account Name	String	
	Action	List	
	Action Value	List	
	Ad Click Action	List	
	Ad ID	String	
	Ad Impression Action	List	

Object	Field	Data type	Supported filters
	Ad Name	String	
	Adset ID	String	
	Adset Name	String	
	Age Targeting	String	
	Attribution Setting	String	
	Auction Bid	String	
	Auction Competitiveness	String	
	Auction Max Competitor Bid	String	
	Buying Type	String	
	CPC	String	
	CPM	String	
	CTR	String	
	Campaign ID	String	
	Campaign Name	String	
	Canvas Avg View Percent	String	
	Canvas Avg View Time	String	
	Catalog Segment Action	List	

Object	Field	Data type	Supported filters
	Catalog Segment Value	List	
	Catalog Segment Value Mobile	List	
	Catalog Segment Value Omni	List	
	Catalog Segment Value Website	List	
	Click	String	
	Conversion	List	
	Conversion Rate Ranking	String	
	Conversion Value	List	
	Converted Product Quantity	List	
	Converted Product Value	List	
	Cost Per 15sec Video View	List	
	Cost Per Action Type	List	
	Cost Per Ad Click	List	
	Cost Per Conversion	List	
	Cost Per DDA Count	String	

Object	Field	Data type	Supported filters
	Cost Per Inline Link Click	String	
	Cost Per Inline Post Engagement	String	
	Cost Per One Thousand Ad Impression	List	
	Cost Per Outbound Click	List	
	Cost Per Thruplay	List	
	Cost Per Unique Action Type	List	
	Cost Per Unique Click	String	
	Cost Per Unique Inline Link Click	String	
	Cost Per Unique Outbound Click	List	
	Cost per 2sec Video View	List	
	DDA Count	String	
	DDA Result	List	
	Engagement Rate Ranking	String	
	Frequency	String	

Object	Field	Data type	Supported filters
	Full View Impression	String	
	Full View Reach	String	
	Impression	String	
	Inline Link Click	String	
	Inline Link Click CTR	String	
	Inline Post Engagement	String	
	Instant Experience Clicks To Open	String	
	Instant Experience Clicks To Start	String	
	Instant Experience Outbound Click	List	
	Mobile App Purchase Roas	List	
	Objective	String	
	Optimization Goal	String	
	Outbound Click	List	
	Outbound Clicks CTR	List	
	Purchase Roas	List	
	Qualifying Question Qualify Answer Rate	String	
	Quality Ranking	String	

Object	Field	Data type	Supported filters
	Reach	String	
	Social Spend	String	
	Spend	String	
	Start Date	String	
	Stop Date	String	
	Unique Click	String	
	Video 30sec Watched Action	List	
	Video Avg Time Watched Action	List	
	Video P100 Watched Action	List	
	Video P25 Watched Action	List	
	Video P50 Watched Action	List	
	Video P95 Watched Action	List	
	Video Play Action	List	
	Video Play Curve Action	List	
	Website CTR	List	
	Website Purchase Roas	List	

Object	Field	Data type	Supported filters
Ad Set			
Campaign			

Intercom connector for Amazon AppFlow

Intercom is a customer engagement solution. It helps organizations learn who is using a website or product so that the organization can engage those users with targeted messages and support. If you're an Intercom user, then your account contains data about your contacts, conversations, customer segments, and more. You can use Amazon AppFlow to transfer data from Intercom to certain AWS services or other supported applications.

Amazon AppFlow support for Intercom

Amazon AppFlow supports Intercom as follows.

Supported as a data source?

Yes. You can use Amazon AppFlow to transfer data from Intercom.

Supported as a data destination?

No. You can't use Amazon AppFlow to transfer data to Intercom.

Before you begin

To use Amazon AppFlow to transfer data from Intercom to supported destinations, you must meet these requirements:

- You have an account with Intercom that contains the data that you want to transfer. For more information about the Intercom data objects that Amazon AppFlow supports, see Supported objects.
- In your Intercom account, you've created an app for Amazon AppFlow. The app provides the credentials that Amazon AppFlow uses to access your data securely when it makes authenticated calls to your account. For the steps to create an app, see How do I create an app? in the Intercom Help Center.

- You've configured the app with a redirect URL for Amazon AppFlow.

  Redirect URLs have the following format:

  ```
  https://region.console.aws.amazon.com/appflow/oauth
  ```

  In this URL, *region* is the code for the AWS Region where you use Amazon AppFlow to transfer data from Intercom. For example, the code for the US East (N. Virginia) Region is `us-east-1`. For that Region, the URL is the following:

  ```
  https://us-east-1.console.aws.amazon.com/appflow/oauth
  ```

  For the AWS Regions that Amazon AppFlow supports, and their codes, see Amazon AppFlow endpoints and quotas in the *AWS General Reference.*

> **Note**
>
> You must add your connecting profile region redirect URL (or URLs) to the list of redirect URLs in your Intercom app. If you don't make this addition, the app defaults to the first redirect URL in the list, and your connection will fail. For more information, see Redirect URLs in the Intercom Developer Platform Help Center.

From the settings for your app, note the client ID and client Secret. You provide these values to Amazon AppFlow when you connect to your Intercom account.

Connecting Amazon AppFlow to your Intercom account

To connect Amazon AppFlow to your Intercom account, provide the client credentials from your Intercom app so that Amazon AppFlow can access your data. If you haven't yet configured your Intercom account for Amazon AppFlow integration, see Before you begin.

To connect to Intercom

1. Sign in to the AWS Management Console and open the Amazon AppFlow console at https://console.aws.amazon.com/appflow/.
2. In the navigation pane on the left, choose **Connections**.
3. On the **Manage connections** page, for **Connectors**, choose **Intercom**.

4. Choose **Create connection**.
5. In the **Connect to Intercom** window, enter the following information:

   - **Authorization tokens URL** — Choose the URL based on the data host region where you use Intercom (Europe, US, Australia).
   - **Authorization code URL** — Choose the URL based on the data host region where you use Intercom (Europe, US, Australia).
   - **Client ID** — The client ID from your Intercom app.
   - **Client secret** — The client secret from your Intercom app.
   - **Instance URL** — Choose the URL based on the data host region where you use Intercom (Europe, US, Australia).
6. Optionally, under **Data encryption**, choose **Customize encryption settings (advanced)** if you want to encrypt your data with a customer managed key in the AWS Key Management Service (AWS KMS).

   By default, Amazon AppFlow encrypts your data with a KMS key that AWS creates, uses, and manages for you. Choose this option if you want to encrypt your data with your own KMS key instead.

   Amazon AppFlow always encrypts your data during transit and at rest. For more information, see Data protection in Amazon AppFlow.

   If you want to use a KMS key from the current AWS account, select this key under **Choose an AWS KMS key**. If you want to use a KMS key from a different AWS account, enter the Amazon Resource Name (ARN) for that key.
7. For **Connection name**, enter a name for your connection.
8. Choose **Connect**.
9. In the window that appears, sign in to your Intercom account, and grant access to Amazon AppFlow.

On the **Manage connections** page, your new connection appears in the **Connections** table. When you create a flow that uses Intercom as the data source, you can select this connection.

Transferring data from Intercom with a flow

To transfer data from Intercom, create an Amazon AppFlow flow, and choose Intercom as the data source. For the steps to create a flow, see Creating flows in Amazon AppFlow.

When you configure the flow, choose the data object that you want to transfer. For the objects that Amazon AppFlow supports for Intercom, see Supported objects.

Also, choose the destination where you want to transfer the data object that you selected. For more information about how to configure your destination, see Supported destinations.

Supported destinations

When you create a flow that uses Intercom as the data source, you can set the destination to any of the following connectors:

- Amazon Lookout for Metrics
- Amazon Redshift
- Amazon RDS for PostgreSQL
- Amazon S3
- HubSpot
- Marketo
- Salesforce
- SAP OData
- Snowflake
- Upsolver
- Zendesk
- Zoho CRM

Supported objects

When you create a flow that uses Intercom as the data source, you can transfer any of the following data objects to supported destinations:

Object	Field	Data type	Supported filters
Admin	Avatar	Struct	
	Away Mode Enabled	Boolean	
	Away Mode Reassign	Boolean	
	Email	String	
	Has Inbox Seat	Boolean	
	Id	String	
	Job Title	String	
	Name	String	
	Team Ids	List	
	Type	String	
Company	App Id	String	
	Company Id	String	
	Created At	Date	
	Custom Attributes	Struct	
	Id	String	
	Industry	String	
	Last Request At	Date	
	Monthly Spend	Integer	
	Name	String	
	Plan	Struct	

Object	Field	Data type	Supported filters
	Remote Created At	Date	
	Segments	Struct	
	Session Count	Integer	
	Size	Integer	
	Tags	Struct	
	Type	String	
	Updated At	Date	
	User Count	Integer	
	Website	String	
Contact	Android App Name	String	CONTAINS, EQUAL_TO, NOT_EQUAL_TO
	Android App Version	String	
	Android Device	String	
	Android Last Seen At	Date	
	Android Os Version	String	
	Android Sdk Version	String	CONTAINS, EQUAL_TO, NOT_EQUAL_TO
	Avatar	String	
	Browser	String	CONTAINS, EQUAL_TO, NOT_EQUAL_TO

Object	Field	Data type	Supported filters
	Browser Language	String	CONTAINS, EQUAL_TO, NOT_EQUAL_TO
	Browser Version	String	CONTAINS, EQUAL_TO, NOT_EQUAL_TO
	City	String	CONTAINS, EQUAL_TO, NOT_EQUAL_TO
	Companies	List	
	Country	String	CONTAINS, EQUAL_TO, NOT_EQUAL_TO
	Created At	Date	GREATER_THAN, LESS_THAN, EQUAL_TO
	Custom Attributes	Struct	
	Email	String	CONTAINS, EQUAL_TO, NOT_EQUAL_TO
	External Id	String	CONTAINS, EQUAL_TO, NOT_EQUAL_TO
	Has Hard Bounced	Boolean	EQUAL_TO
	Id	String	EQUAL_TO, NOT_EQUAL_TO

Object	Field	Data type	Supported filters
	Ios App Name	String	CONTAINS, EQUAL_TO, NOT_EQUAL_TO
	Ios App Version	String	
	Ios Device	String	
	Ios Last Seen At	Date	
	Ios Os Version	String	CONTAINS, EQUAL_TO, NOT_EQUAL_TO
	Ios Sdk Version	String	CONTAINS, EQUAL_TO, NOT_EQUAL_TO
	Language Override	String	CONTAINS, EQUAL_TO, NOT_EQUAL_TO
	Last Contacted At	Date	GREATER_THAN, LESS_THAN, EQUAL_TO
	Last Email Clicked At	Date	GREATER_THAN, LESS_THAN, EQUAL_TO
	Last Email Opened At	Date	GREATER_THAN, LESS_THAN, EQUAL_TO
	Last Replied At	Date	GREATER_THAN, LESS_THAN, EQUAL_TO

Object	Field	Data type	Supported filters
	Last Seen At	Date	GREATER_THAN, LESS_THAN, EQUAL_TO
	Location	Struct	
	Marked Email As Spam	Boolean	EQUAL_TO
	Name	String	CONTAINS, EQUAL_TO, NOT_EQUAL_TO
	Notes	List	
	Opted Out Subscription Types	Struct	
	Os	String	CONTAINS, EQUAL_TO, NOT_EQUAL_TO
	Owner Id	Integer	EQUAL_TO, NOT_EQUAL_TO, GREATER_THAN, LESS_THAN
	Phone	String	CONTAINS, EQUAL_TO, NOT_EQUAL_TO
	Referrer	Struct	
	Region	String	CONTAINS, EQUAL_TO, NOT_EQUAL_TO

Object	Field	Data type	Supported filters
	Role	String	EQUAL_TO, NOT_EQUAL_TO
	SMS Content	Boolean	
	Signed Up At	Date	GREATER_THAN, LESS_THAN, EQUAL_TO
	Social Profiles	List	
	Tags	List	
	Type	String	
	Unsubscribed From Emails	Boolean	EQUAL_TO
	Unsubscribed From SMS	Boolean	
	Updated At	Date	GREATER_THAN, LESS_THAN, EQUAL_TO
	Utm Campaign	String	
	Utm Content	String	
	Utm Medium	String	
	Utm Source	String	
	Utm Term	String	
	Workspace Id	String	

Object	Field	Data type	Supported filters
Conversation	Admin Assignee Id	Integer	EQUAL_TO, NOT_EQUAL_TO, GREATER_THAN, LESS_THAN
	Contacts	List	
	Conversation Parts	List	
	Conversation Rating	Struct	
	Count assignments	Integer	EQUAL_TO, NOT_EQUAL_TO, GREATER_THAN, LESS_THAN
	Count conversation parts	Integer	EQUAL_TO, NOT_EQUAL_TO, GREATER_THAN, LESS_THAN
	Count reopens	Integer	EQUAL_TO, NOT_EQUAL_TO, GREATER_THAN, LESS_THAN
	Created At	DateTime	GREATER_THAN, LESS_THAN , EQUAL_TO, NOT_EQUAL_TO
	Custom Attributes	Struct	
	First Contact Reply	Struct	

Object	Field	Data type	Supported filters
	First admin reply at	DateTime	GREATER_THAN, LESS_THAN , EQUAL_TO, NOT_EQUAL_TO
	First assignment at	DateTime	GREATER_THAN, LESS_THAN , EQUAL_TO, NOT_EQUAL_TO
	First close at	DateTime	GREATER_THAN, LESS_THAN , EQUAL_TO, NOT_EQUAL_TO
	First contact reply at	DateTime	GREATER_THAN, LESS_THAN , EQUAL_TO, NOT_EQUAL_TO
	Id	Integer	EQUAL_TO, NOT_EQUAL_TO, GREATER_THAN, LESS_THAN
	Last admin reply at	DateTime	GREATER_THAN, LESS_THAN , EQUAL_TO, NOT_EQUAL_TO
	Last assignment admin reply at	DateTime	GREATER_THAN, LESS_THAN , EQUAL_TO, NOT_EQUAL_TO

Object	Field	Data type	Supported filters
	Last assignment at	DateTime	GREATER_THAN, LESS_THAN , EQUAL_TO, NOT_EQUAL_TO
	Last close at	DateTime	GREATER_THAN, LESS_THAN , EQUAL_TO, NOT_EQUAL_TO
	Last closed by Id	String	CONTAINS, EQUAL_TO, NOT_EQUAL_TO
	Last contact reply at	DateTime	GREATER_THAN, LESS_THAN , EQUAL_TO, NOT_EQUAL_TO
	Median time to reply	Integer	EQUAL_TO, NOT_EQUAL_TO, GREATER_THAN, LESS_THAN
	Open	Boolean	EQUAL_TO
	Priority	String	EQUAL_TO, NOT_EQUAL_TO
	Rating admin id	String	CONTAINS, EQUAL_TO, NOT_EQUAL_TO
	Rating contact id	String	CONTAINS, EQUAL_TO, NOT_EQUAL_TO

Object	Field	Data type	Supported filters
	Rating remark	String	CONTAINS, EQUAL_TO, NOT_EQUAL_TO
	Rating requested at	DateTime	GREATER_THAN, LESS_THAN , EQUAL_TO, NOT_EQUAL_TO
	Rating requested at	DateTime	GREATER_THAN, LESS_THAN , EQUAL_TO, NOT_EQUAL_TO
	Rating score	Integer	EQUAL_TO, NOT_EQUAL_TO, GREATER_THAN, LESS_THAN
	Read	Boolean	EQUAL_TO
	Sla Applied	Struct	
	Snoozed Until	DateTime	GREATER_THAN, LESS_THAN , EQUAL_TO, NOT_EQUAL_TO
	Source	Struct	
	Source Id	String	EQUAL_TO, NOT_EQUAL_TO
	Source author email	String	CONTAINS, EQUAL_TO, NOT_EQUAL_TO

Object	Field	Data type	Supported filters
	Source author id	String	CONTAINS, EQUAL_TO, NOT_EQUAL_TO
	Source author name	String	CONTAINS, EQUAL_TO, NOT_EQUAL_TO
	Source author type	String	CONTAINS, EQUAL_TO, NOT_EQUAL_TO
	Source body	String	CONTAINS, EQUAL_TO, NOT_EQUAL_TO
	Source delivered as	String	EQUAL_TO, NOT_EQUAL_TO
	Source subject	String	CONTAINS, EQUAL_TO, NOT_EQUAL_TO
	Source type	String	EQUAL_TO, NOT_EQUAL_TO
	Source url	String	CONTAINS, EQUAL_TO, NOT_EQUAL_TO
	State	String	CONTAINS, EQUAL_TO, NOT_EQUAL_TO
	Statistics	Struct	
	Tags	List	

Object	Field	Data type	Supported filters
	Team Assignee Id	String	CONTAINS, EQUAL_TO, NOT_EQUAL_TO
	Teammates	List	
	Time to admin reply	Integer	EQUAL_TO, NOT_EQUAL_TO, GREATER_THAN, LESS_THAN
	Time to assignment	Integer	EQUAL_TO, NOT_EQUAL_TO, GREATER_THAN, LESS_THAN
	Time to first close	Integer	EQUAL_TO, NOT_EQUAL_TO, GREATER_THAN, LESS_THAN
	Time to last close	Integer	EQUAL_TO, NOT_EQUAL_TO, GREATER_THAN, LESS_THAN
	Title	String	
	Topics	List	
	Type	String	
	Updated At	DateTime	GREATER_THAN, LESS_THAN , EQUAL_TO, NOT_EQUAL_TO

Object	Field	Data type	Supported filters
	Waiting Since	DateTime	GREATER_THAN, LESS_THAN , EQUAL_TO, NOT_EQUAL_TO
Data Attribute	Admin Id	String	
	Api Writable	Boolean	
	Archived	Boolean	
	Created At	Date	
	Custom	Boolean	
	Data Type	String	
	Description	String	
	Full Name	String	
	Id	Integer	
	Label	String	
	Model	String	
	Name	String	
	Options	List	
	Type	String	
	Ui Writable	Boolean	
	Updated At	Date	
Segment	Count	Integer	
	Created At	Date	

Object	Field	Data type	Supported filters
	Id	String	
	Name	String	
	Person Type	String	
	Type	String	
	Updated At	Date	
Tag	Id	String	
	Name	String	
	Type	String	
Team	Admin Ids	List	
	Id	String	
	Name	String	
	Type	String	

JDBC connector for Amazon AppFlow

Java Database Connectivity (JDBC) is a Java API that developers use to connect their applications to relational databases. JDBC is included in the Java Standard Edition from Oracle. You can use Amazon AppFlow to transfer data from a databases by a creating a JDBC connection. Then you can transfer the data to other databases, AWS services, or other supported applications.

Amazon AppFlow support for JDBC

Amazon AppFlow supports JDBC as follows.

Supported as a data source?

Yes. You can use Amazon AppFlow to transfer data from databases through the JDBC API.

Supported as a data destination?

Yes. You can use Amazon AppFlow to transfer data to databases through the JDBC API.

Before you begin

Before you can use Amazon AppFlow to transfer data to or from a database using the JDBC connector, you must have one or more databases that support and are enabled for JDBC API access. For more information about installing the JDBC driver, see the JDBC documentation for your version of Java, such as the JDBC Getting Started documentation in the Oracle Java SE 8 Documentation.

From your database settings, note the endpoint name and port. You provide these values, along with your database user name and password, to Amazon AppFlow when you connect to your database.

Connecting Amazon AppFlow to a database through JDBC

To connect Amazon AppFlow to your database through the JDBC API, provide details from your database settings so that Amazon AppFlow can access your data.

To connect through JDBC

1. Sign in to the AWS Management Console and open the Amazon AppFlow console at https://console.aws.amazon.com/appflow/.
2. In the navigation pane on the left, choose **Connections**.
3. On the **Manage connections** page, for **Connectors**, choose **JDBC**.
4. Choose **Create connection**.
5. In the **Connect to JDBC** window, enter the following information:

   - **driver** — Choose **mysql** or **postgresql** depending on the type of database where you want to connect.
   - **hostname** — The hostname associated with the database that you're connecting to.
   - **port** — The port that is activated for JDBC access to the database.
   - **username** — The user name for a user that has access to the database.
   - **password** — The password associated with the user name.

- **database** — The name of the database where you want to connect.

6. Optionally, under **Data encryption**, choose **Customize encryption settings (advanced)** if you want to encrypt your data with a customer managed key in the AWS Key Management Service (AWS KMS).

   By default, Amazon AppFlow encrypts your data with a KMS key that AWS creates, uses, and manages for you. Choose this option if you want to encrypt your data with your own KMS key instead.

   Amazon AppFlow always encrypts your data during transit and at rest. For more information, see Data protection in Amazon AppFlow.

   If you want to use a KMS key from the current AWS account, select this key under **Choose an AWS KMS key**. If you want to use a KMS key from a different AWS account, enter the Amazon Resource Name (ARN) for that key.
7. For **Connection name**, enter a name for your connection.
8. Choose **Connect**.

On the **Manage connections** page, your new connection appears in the **Connections** table. When you create a flow that uses JDBC as the data source, you can select this connection.

Transferring data to or from a database through JDBC

To transfer data to or from a database through the JDBC API, create an Amazon AppFlow flow, and choose JDBC as the data source or the data destination. For the steps to create a flow, see Creating flows in Amazon AppFlow.

When you configure the a flow that uses the JDBC connector as a source or destination, you set the following options:

- **connection** – The Amazon AppFlow JDBC connection that you created.
- **API Version** – The supported JDBC API version.
- **object** – Typically, the database schema.
- **subobject** – Typically, the name of the database table that you want to transfer data to or from.

Supported destinations

When you create a flow that uses JDBC as the data source, you can set the destination to any of the following connectors:

- Amazon Lookout for Metrics
- Amazon Redshift
- Amazon RDS for PostgreSQL
- Amazon S3
- JDBC
- Marketo
- Salesforce
- SAP OData
- Snowflake
- Upsolver
- Zendesk

Jira Cloud connector for Amazon AppFlow

Jira Cloud is a platform developed by Atlassian. The platform includes issue tracking products that help teams plan and track their agile projects. If you're a Jira Cloud user, your account contains data about your projects, such as issues, workflows, and events. You can use Amazon AppFlow to transfer your Jira Cloud data to certain AWS services or other supported applications.

Amazon AppFlow support for Jira Cloud

Amazon AppFlow supports Jira Cloud as follows.

Supported as a data source?

Yes. You can use Amazon AppFlow to transfer data from Jira Cloud.

Supported as a data destination?

No. You can't use Amazon AppFlow to transfer data to Jira Cloud.

Supported Jira Cloud products

Amazon AppFlow uses the Jira REST API to transfer data objects from the Jira Software product. It does not transfer objects that are unique to the other products in Jira Cloud: Jira Work Management and Jira Service Management.

Amazon AppFlow only connects to Jira Software on Jira Cloud. Amazon AppFlow doesn't connect to the on-premise Jira Software Data Center product.

Supported Jira API version

Version 2

Before you begin

To use Amazon AppFlow to transfer data from Jira Cloud to supported destinations, you must meet these requirements:

- You have an Atlassian account where you use the Jira Software product in Jira Cloud.
- In the developer console for your Atlassian account, you've created an OAuth 2.0 integration app for Amazon AppFlow. This app provides the client credentials that Amazon AppFlow uses to access your data securely when it makes authenticated calls to your account. For more information, see Enabling OAuth 2.0 (3LO) in the Atlassian Developer documentation.

  You must configure your app as follows:

  - In the authorization settings, you've specified a callback URL for Amazon AppFlow.

    Redirect URLs have the following format:

    ```
    https://region.console.aws.amazon.com/appflow/oauth
    ```

    In this URL, *region* is the code for the AWS Region where you use Amazon AppFlow to transfer data from Jira Cloud. For example, the code for the US East (N. Virginia) Region is `us-east-1`. For that Region, the URL is the following:

    ```
    https://us-east-1.console.aws.amazon.com/appflow/oauth
    ```

    For the AWS Regions that Amazon AppFlow supports, and their codes, see Amazon AppFlow endpoints and quotas in the *AWS General Reference.*

- In the distribution settings, you've set the distribution status to **Sharing**.
- In the permissions settings, you've added the Jira API, and you've enabled the recommended scopes below.

In the settings for your app, note the client ID and client secret because you need them to create a connection in Amazon AppFlow.

Recommended scopes

Before Amazon AppFlow can securely access your data in Jira Cloud, the permissions settings for your OAuth 2.0 integration app must allow the necessary scopes for the Jira API. We recommend that you enable the scopes below so that Amazon AppFlow can access all supported data objects.

If you want to allow fewer scopes, you can omit any scopes that apply to objects that you don't want to transfer.

You can add scopes to your app by managing permissions in the Atlassian Developer console.

- Under **Jira platform REST API** scopes, we recommend that you add all scopes.
- Under **Granular scopes**, we recommend that you add the following scopes:
  - `read:application-role:jira`
  - `read:audit-log:jira`
  - `read:avatar:jira`
  - `read:field:jira`
  - `read:group:jira`
  - `read:instance-configuration:jira`
  - `read:issue-details:jira`
  - `read:issue-event:jira`
  - `read:issue-link-type:jira`
  - `read:issue-meta:jira`
  - `read:issue-security-level:jira`
  - `read:issue-security-scheme:jira`
  - `read:issue-type-scheme:jira`
  - `read:issue-type-screen-scheme:jira`

- read:issue-type:jira
- read:issue.time-tracking:jira
- read:label:jira
- read:notification-scheme:jira
- read:permission:jira
- read:priority:jira
- read:project:jira
- read:project-category:jira
- read:project-role:jira
- read:project-type:jira
- read:project-version:jira
- read:project.component:jir
- read:project.property:jira
- read:resolution:jira
- read:screen:jira
- read:status:jira
- read:user:jira
- read:workflow-scheme:jira
- read:workflow:jira
- read:field-configuration:jira
- read:issue-type-hierarchy:jira
- read:webhook:jira

Connecting Amazon AppFlow to your Jira Cloud account

To connect Amazon AppFlow to your Jira Cloud account, provide details from your OAuth 2.0 integration app so that Amazon AppFlow can access your data. If you haven't yet configured your Jira Cloud account for Amazon AppFlow integration, see Before you begin.

To connect to Jira Cloud

1. Sign in to the AWS Management Console and open the Amazon AppFlow console at https://console.aws.amazon.com/appflow/.
2. In the navigation pane on the left, choose **Connections**.
3. On the **Manage connections** page, for **Connectors**, choose **Jira Cloud**.
4. Choose **Create connection**.
5. In the **Connect to Jira Cloud** window, enter the following information:
   - **Client ID** – The client ID from the OAuth 2.0 integration app.
   - **Client secret** – The client secret from the OAuth 2.0 integration app.
   - **Jira Cloud Domain URL** – The URL where you sign in to your Jira Cloud account, for example, `https://your-account.atlassian.net`.
6. Optionally, under **Data encryption**, choose **Customize encryption settings (advanced)** if you want to encrypt your data with a customer managed key in the AWS Key Management Service (AWS KMS).

   By default, Amazon AppFlow encrypts your data with a KMS key that AWS creates, uses, and manages for you. Choose this option if you want to encrypt your data with your own KMS key instead.

   Amazon AppFlow always encrypts your data during transit and at rest. For more information, see Data protection in Amazon AppFlow.

   If you want to use a KMS key from the current AWS account, select this key under **Choose an AWS KMS key**. If you want to use a KMS key from a different AWS account, enter the Amazon Resource Name (ARN) for that key.
7. For **Connection name**, enter a name for your connection.
8. Choose **Continue**. A window appears that asks if you want to allow Amazon AppFlow to access your Atlassian account.
9. Choose **Accept**.

On the **Manage connections** page, your new connection appears in the **Connections** table. When you create a flow that uses Jira Cloud as the data source, you can select this connection.

Transferring data from Jira Cloud with a flow

To transfer data from Jira Cloud, create an Amazon AppFlow flow, and choose Jira Cloud as the data source. For the steps to create a flow, see Creating flows in Amazon AppFlow.

When you configure the flow, choose the data object that you want to transfer. For the objects that Amazon AppFlow supports for Jira Cloud, see Supported objects.

Also, choose the destination where you want to transfer the data object that you selected. For more information about how to configure your destination, see Supported destinations.

Supported objects

When you create a flow that uses Jira Cloud as the data source, you can transfer any of the following data objects to supported destinations:

Object	**Jira API endpoint** **To retrieve your data, Amazon AppFlow queries the following endpoints in the Jira REST API. The following paths are appended to the base URI `https://your-account.atlassian.net/rest/api/2`**
Audit Record	`/auditing/record`
Groups	`/group/bulk`
Issue	`/search`
Issue Events	`/events`
Issue Fields	`/field`
Issue Field Configurations	`/fieldconfiguration`
Issue Link Type	`/issueLinkType`
Issue Notification Schemes	`/notificationscheme`
Issue Priority	`/priority`

Object	Jira API endpoint To retrieve your data, Amazon AppFlow queries the following endpoints in the Jira REST API. The following paths are appended to the base URI https://*your-account*.atlassian.net/rest/api/2
Issue Resolution	/resolution
Issue Security Scheme	/issuesecurityschemes
Issue Type	/issuetype
Issue Type Scheme	/issuetypescheme
Issue Type Screen Scheme	/issuetypescreenscheme
Jira Settings	/application-properties
Jira Settings Advanced	/application-properties/advanced-settings
Jira Settings Global	/configuration
Label	/label
Myself	/myself
Permission	/mypermissions
Project	/project/search
Project Category	/projectCategory
Project Type	/project/type
Server Info	/serverInfo
User	/users

Object	Jira API endpoint To retrieve your data, Amazon AppFlow queries the following endpoints in the Jira REST API. The following paths are appended to the base URI `https://your-account.atlassian.net/rest/api/2`
Workflow	`/workflow`
Workflow Scheme	`/workflowscheme`
Workflow Scheme Project Association	`/workflowscheme/project`
Workflow Status	`/status`
Workflow Status Category	`/statuscategory`

For more information about these objects, see the Jira REST API v2 documentation.

Supported destinations

When you create a flow that uses Jira Cloud as the data source, you can set the destination to any of the following connectors:

- Amazon Lookout for Metrics
- Amazon Redshift
- Amazon RDS for PostgreSQL
- Amazon S3
- HubSpot
- Marketo
- Salesforce
- SAP OData
- Snowflake
- Upsolver
- Zendesk

- Zoho CRM

Kustomer connector for Amazon AppFlow

Kustomer is a Customer Relationship Management (CRM) service that helps companies create and maintain operational solutions with customers. If you're a Kustomer user, your account contains customer data across a number of digital channels. You can use Amazon AppFlow to transfer data from Kustomer to certain AWS services or other supported applications.

Amazon AppFlow support for Kustomer

Amazon AppFlow supports Kustomer as follows.

Supported as a data source?

Yes. You can use Amazon AppFlow to transfer data from Kustomer.

Supported as a data destination?

No. You can't use Amazon AppFlow to transfer data to Kustomer.

Before you begin

To use Amazon AppFlow to transfer data from Kustomer to supported destinations, you must meet these requirements:

- You have an account with Kustomer that contains the data that you want to transfer. For more information about the Kustomer data objects that Amazon AppFlow supports, see Supported objects.
- In the API keys settings for your account, you've created an API key for Amazon AppFlow, and you have the token value. Amazon AppFlow uses the API key token to make authenticated calls to your account and securely access your data. For the steps to create a key, see API keys in the Kustomer Help Center.

To connect Amazon AppFlow to your Kustomer account, you provide the token of your API key. You can view and copy this token only when you create the API key. If you don't have the token value, create a new API key.

Connecting Amazon AppFlow to your Kustomer account

To connect Amazon AppFlow to your Kustomer account, provide details from your Kustomer project so that Amazon AppFlow can access your data. If you haven't yet configured your Kustomer project for Amazon AppFlow integration, see Before you begin.

To connect to Kustomer

1. Sign in to the AWS Management Console and open the Amazon AppFlow console at https://console.aws.amazon.com/appflow/.
2. In the navigation pane on the left, choose **Connections**.
3. On the **Manage connections** page, for **Connectors**, choose **Kustomer**.
4. Choose **Create connection**.
5. In the **Connect to Kustomer** window, enter the following information:
   - **Access token** – The access token that you created earlier.
   - **Instance URL** – The URL of the instance where you want to run the operation, for example, https://domain.api.kustomerapp.com.
6. Optionally, under **Data encryption**, choose **Customize encryption settings (advanced)** if you want to encrypt your data with a customer managed key in the AWS Key Management Service (AWS KMS).

   By default, Amazon AppFlow encrypts your data with a KMS key that AWS creates, uses, and manages for you. Choose this option if you want to encrypt your data with your own KMS key instead.

   Amazon AppFlow always encrypts your data during transit and at rest. For more information, see Data protection in Amazon AppFlow.

   If you want to use a KMS key from the current AWS account, select this key under **Choose an AWS KMS key**. If you want to use a KMS key from a different AWS account, enter the Amazon Resource Name (ARN) for that key.
7. For **Connection name**, enter a name for your connection.
8. Choose **Connect**.
9. In the window that appears, sign in to your Kustomer account, and grant access to Amazon AppFlow.

On the **Manage connections** page, your new connection appears in the **Connections** table. When you create a flow that uses Kustomer as the data source, you can select this connection.

Transferring data from Kustomer with a flow

To transfer data from Kustomer, create an Amazon AppFlow flow, and choose Kustomer as the data source. For the steps to create a flow, see Creating flows in Amazon AppFlow.

When you configure the flow, choose the data object that you want to transfer. For the objects that Amazon AppFlow supports for Kustomer, see Supported objects.

Also, choose the destination where you want to transfer the data object that you selected. For more information about how to configure your destination, see Supported destinations.

Supported destinations

When you create a flow that uses Kustomer as the data source, you can set the destination to any of the following connectors:

- Amazon Lookout for Metrics
- Amazon Redshift
- Amazon RDS for PostgreSQL
- Amazon S3
- HubSpot
- Marketo
- Salesforce
- SAP OData
- Snowflake
- Upsolver
- Zendesk
- Zoho CRM

Supported objects

When you create a flow that uses Kustomer as the data source, you can transfer any of the following data objects to supported destinations:

Object	Field	Data type	Supported filters
Apps	ID	String	
	actions	Struct	
	autoUpdate	Boolean	
	cards	Struct	
	commands	Struct	
	createdAt	DateTime	
	current	String	
	dataSubscriptions	List	
	disabled	Boolean	
	events	Struct	
	hooks	Struct	
	inboundHookUris	List	
	klasses	Struct	
	kviews	Struct	
	meta	Struct	
	modifiedAt	DateTime	
	name	String	
	outboundWebhooks	Struct	
	roles	List	
	settings	Struct	

Object	Field	Data type	Supported filters
	settingsPageConfig	String	
	shortcuts	Struct	
	status	String	
	statusAt	DateTime	
	templates	Struct	
	triggers	Struct	
	updatedAt	DateTime	
	version	String	
	widgets	List	
	workflows	Struct	
Audit Logs	ID	String	
	changes	Struct	
	client	String	
	createdAt	DateTime	BETWEEN
	eventName	String	
	eventVerb	String	
	expiresAt	DateTime	
	ip	String	
	objectId	String	
	objectType	String	

Object	Field	Data type	Supported filters
	org	String	
	publishedAt	DateTime	
	userId	String	
	userType	String	
Auth Customer Settings	ID	String	
	corsWhitelist	List	
	createdAt	DateTime	
	secret	String	
	updatedAt	DateTime	
Auth Roles	ID	String	
Auth Tokens	CreatedAt	DateTime	
	ID	String	
	UpdatedAt	DateTime	
	cidr	List	
	expireAt	DateTime	
	ipAddress	String	
	lastAccessedAt	DateTime	
	lastTokenChars	String	
	name	String	
	roles	List	

Object	Field	Data type	Supported filters
Brands	CreatedAt	DateTime	
	ID	String	
	UpdatedAt	DateTime	
	default	Boolean	
	iconUrl	String	
	modifiedAt	DateTime	
	name	String	
Cards	CreatedAt	DateTime	
	ID	String	
	UpdatedAt	DateTime	
	contexts	List	
	description	String	
	modifiedAt	DateTime	
	name	String	
	url	String	
Categories	CreatedAt	DateTime	
	ID	String	
	UpdatedAt	DateTime	
	categoryPositions	List	
	hash	String	

Object	Field	Data type	Supported filters
	langs	Struct	
	modifiedAt	DateTime	
	positions	List	
	published	Boolean	
	root	Boolean	
Chat Settings	autoreply	String	
	closableChat	Boolean	
	colors	Struct	
	default	Boolean	
	disableAttachments	Boolean	
	embedIconColor	String	
	embedIconUrl	String	
	enabled	Boolean	
	fallbackEmailIntroduction	String	
	fallbackEmailSubject	String	
	greeting	String	
	id	String	
	modifiedAt	DateTime	
	noHistory	Boolean	
	offhoursImageUrl	String	

Object	Field	Data type	Supported filters
	offhoursMessage	String	
	outboundChatEnabled	Boolean	
	pushSettings	Struct	
	settingsVersion	Integer	
	showBrandingIdentifier	Boolean	
	showEmailInputBanner	Boolean	
	showTypingIndicatorCustomerWeb	Boolean	
	showTypingIndicatorWeb	Boolean	
	singleSessionChat	Boolean	
	suppressConversationReopen	Boolean	
	teamName	String	
	updatedAt	DateTime	
	version	Integer	
	volumeControl	Struct	
	widgetType	String	
Companies	CreatedAt	DateTime	
	Domains	List	

Object	Field	Data type	Supported filters
	Emails	List	
	Id	String	
	Locations	List	
	ModifiedAt	DateTime	
	Name	String	
	Phones	List	
	Rev	Integer	
	RoleGroupVersions	List	
	Socials	List	
	Tags	List	
	UpdatedAt	DateTime	
	Urls	List	
	Whatsapps	List	
Conversation	accessOverride	List	
	assignedTeams	List	
	assignedUsers	List	
	assistant	Struct	
	channels	List	
	createdAt	DateTime	
	direction	String	

Object	Field	Data type	Supported filters
	ended	Boolean	
	endedAt	DateTime	
	endedByType	String	
	endedReason	String	
	firstDone	Struct	
	firstMessageIn	Struct	
	firstMessageOut	Struct	
	firstResponse	Struct	
	firstResponseSince LastDone	Struct	
	id	String	
	importedAt	String	
	inboundMe ssageCount	Integer	
	lastActivityAt	DateTime	
	lastDone	Struct	
	lastMessageAt	DateTime	
	lastMessageDirection	String	
	lastMessageIn	Struct	
	lastMessageOut	Struct	
	lastMessageUnrespo ndedTo	Struct	

Object	Field	Data type	Supported filters
	lastMessageUnrespondedToSinceLastDone	Struct	
	lastResponse	Struct	
	matchedTimeBasedRules	List	
	messageCount	Integer	
	modifiedAt	DateTime	
	name	String	
	noteCount	Integer	
	outboundMessageCount	Integer	
	phase	String	
	predictions	List	
	preview	String	
	priority	Integer	
	rev	Integer	
	roleGroupVersions	List	
	satisfaction	Integer	
	satisfactionLevel	Struct	
	sentiment	String	
	skills	List	

Object	Field	Data type	Supported filters
	spam	Boolean	
	status	String	
	suggestedShortcuts	List	
	suggestedTags	List	
	tags	List	
	updatedAt	DateTime	
Customers	Display Color	String	
	Display Icon	String	
	Display Name	String	
	ExternalId	String	
	ExternalIds	List	
	Locale	String	
	Name	String	
	accessOverride	List	
	activeUsers	List	
	companyName	String	
	conversationCounts	Struct	
	createdAt	DateTime	
	defaultLang	String	
	deleted	Boolean	

Object	Field	Data type	Supported filters
	emails	List	
	facebookIds	List	
	firstName	String	
	gender	String	
	id	String	
	instagramIds	List	
	lastActivityAt	DateTime	
	lastConversation	Struct	
	lastName	String	
	locations	List	
	modifiedAt	DateTime	
	phones	List	
	preview	Struct	
	progressiveStatus	String	
	recentItems	List	
	recentLocation	Struct	
	rev	Integer	
	roleGroupVersions	List	
	satisfactionLevel	Struct	
	sharedEmails	List	

Object	Field	Data type	Supported filters
	sharedExternalIds	List	
	sharedPhones	List	
	sharedSocials	List	
	socials	List	
	tags	List	
	timeZone	String	
	updatedAt	DateTime	
	urls	List	
	verified	Boolean	
	watchers	List	
	whatsapps	List	
Customers Searches	accessTeams	List	
	accessUsers	List	
	badgeColor	String	
	cacheable	Boolean	
	createdAt	DateTime	
	data	Struct	
	dataHash	String	
	defaultVisibility	String	
	icon	String	

Object	Field	Data type	Supported filters
	id	String	
	modifiedAt	DateTime	
	name	String	
	position	Integer	
	private	Boolean	
	showBadge	Boolean	
	teamVisibilities	List	
	updatedAt	DateTime	
	userVisibilities	List	
Customers Searches Pinned	ID	String	
	createdAt	DateTime	
	search	String	
Customers Searches Positions	children	List	
	createdAt	DateTime	
	id	String	
	modifiedAt	DateTime	
	positions	List	
	rev	Integer	
	updatedAt	DateTime	
Hooks Email	createdAt	DateTime	

Object	Field	Data type	Supported filters
	debug	Boolean	
	description	String	
	email	String	
	eventName	String	
	hash	String	
	id	String	
	key	String	
	modifiedAt	DateTime	
	title	String	
	updatedAt	DateTime	
Hooks Web	createdAt	DateTime	
	debug	Boolean	
	description	String	
	eventName	String	
	hash	String	
	id	String	
	modifiedAt	DateTime	
	title	String	
	updatedAt	DateTime	
	url	String	

Object	Field	Data type	Supported filters
	version	Integer	
KB Articles	ID	String	
	categories	List	
	createdAt	DateTime	
	deleted	Boolean	
	deletedAt	DateTime	
	hash	String	
	knowledgeBases	List	
	langVersions	Struct	
	latestLangs	Struct	
	metaDescription	String	
	metaKeywords	List	
	metaTitle	String	
	modifiedAt	DateTime	
	publishedAt	DateTime	
	scope	String	
	source	String	
	status	String	
	tags	List	
	title	String	

Object	Field	Data type	Supported filters
	updatedAt	DateTime	
KB Forms	advanced	Boolean	
	body	String	
	channel	String	
	componentsV2	Struct	
	conditions	Struct	
	createdAt	DateTime	
	deflection	Boolean	
	formHookEnabled	Boolean	
	hash	String	
	id	String	
	klass	String	
	layout	List	
	layoutV2	List	
	modifiedAt	String	
	name	String	
	published	Boolean	
	publishedAt	DateTime	
	recaptcha	Boolean	
	replyFrom	String	

Object	Field	Data type	Supported filters
	slug	String	
	snippets	List	
	updatedAt	DateTime	
	wcag	Boolean	
KB Routes	ID	String	
	createdAt	DateTime	
	modifiedAt	DateTime	
	routableId	String	
	routableType	String	
	updatedAt	DateTime	
	url	String	
KB Tags	ID	String	
	createdAt	DateTime	
	modifiedAt	DateTime	
	name	String	
	updatedAt	DateTime	
KB Templates	ID	String	
	beta	Boolean	
	createdAt	DateTime	
	description	String	

Object	Field	Data type	Supported filters
	images	List	
	jsxSnippets	List	
	manifest	Struct	
	title	String	
	updatedAt	DateTime	
	version	String	
KB Themes	ID	String	
	active	Boolean	
	configSnippets	List	
	createdAt	DateTime	
	custom	Boolean	
	default	Boolean	
	jsxSnippets	List	
	lastFileUpdatedAt	DateTime	
	manifest	Struct	
	modifiedAt	DateTime	
	name	String	
	rev	Integer	
	status	String	
	templateTitle	String	

Object	Field	Data type	Supported filters
	templateVersion	String	
	templateVersionId	String	
	updatedAt	DateTime	
Kviews	advanced	Boolean	
	appDisabled	Boolean	
	components	Struct	
	conditions	Struct	
	context	String	
	createdAt	DateTime	
	enabled	Boolean	
	id	String	
	layout	List	
	meta	Struct	
	modifiedAt	DateTime	
	resource	String	
	rev	Integer	
	template	String	
	updatedAt	DateTime	
Messages	app	String	
	assignedTeams	List	

Object	Field	Data type	Supported filters
	assignedUsers	List	
	auto	Boolean	
	channel	String	
	createdAt	DateTime	
	createdByTeams	List	
	direction	String	
	directionType	String	
	errorAt	DateTime	
	externalId	String	
	id	String	
	intentDetections	List	
	meta	Struct	
	modifiedAt	DateTime	
	preview	String	
	reactions	List	
	redacted	Boolean	
	rev	Integer	
	sentAt	DateTime	
	size	Integer	
	status	String	

Object	Field	Data type	Supported filters
	subject	String	
	updatedAt	DateTime	
Notes	body	String	CONTAINS
	createdAt	DateTime	
	createdByTeams	List	
	id	String	
	modifiedAt	DateTime	
	updatedAt	DateTime	
Notifications	createdAt	DateTime	
	event	Struct	
	id	String	
	name	String	
	status	String	
	updatedAt	DateTime	
Outbound Accounts	account	String	
	aliasUsername	Boolean	
	app	String	
	channel	String	
	name	String	
Outbound Webhooks	appDisabled	Boolean	

Object	Field	Data type	Supported filters
	consecutiveErrorsCount	Integer	
	createdAt	DateTime	
	enabled	Boolean	
	events	List	
	headers	List	
	id	String	
	isError	Boolean	
	name	String	
	token	String	
	updatedAt	DateTime	
	url	String	
Outbound Webhooks Events	events	List	
Outbound Webhooks Transactions	ID	String	
	eventName	String	
	nextRetry	String	
	sentAt	Long	
	status	String	
	webhookId	String	
Routing Queue Rules	ID	String	

Object	Field	Data type	Supported filters
	createdAt	String	
	criteria	Struct	
	description	String	
	enabled	Boolean	
	modifiedAt	String	
	name	String	
	updatedAt	String	
Routing Queues	ID	String	
	createdAt	DateTime	
	deleted	Boolean	
	description	String	
	displayName	String	
	itemSize	Integer	
	modifiedAt	DateTime	
	name	String	
	priority	Integer	
	restrictTransfersByUsers	Boolean	
	settings	Struct	
	system	Boolean	
	updatedAt	DateTime	

Object	Field	Data type	Supported filters
Routing Settings	capacity	Struct	
	createdAt	DateTime	
	enabled	Boolean	
	externalQueues	List	
	id	String	
	modifiedAt	DateTime	
	updatedAt	DateTime	
	workItemCapacity	Integer	
Routing Statuses	ID	String	
	createdAt	DateTime	
	description	String	
	enabled	Boolean	
	name	String	
	routable	Boolean	
	selectable	Boolean	
	statusType	String	
	system	Boolean	
	updatedAt	DateTime	
Routing Work Items	channel	String	
	completedAt	DateTime	

Object	Field	Data type	Supported filters
	createdAt	DateTime	
	firstEnterQueueAt	DateTime	
	handle	Struct	
	hasSkills	Boolean	
	id	String	
	itemSize	Integer	
	ivr	Struct	
	lastRevision	Struct	
	modifiedAt	DateTime	
	paused	Boolean	
	priority	Integer	
	queuedCount	Integer	
	resource	Struct	
	resourceCreatedAt	DateTime	
	resourceDirection	String	
	resourceFirstQueue Time	Integer	
	resourceRev	Integer	
	resourceType	String	
	rev	Integer	
	skills	List	

Object	Field	Data type	Supported filters
	status	String	
	updatedAt	DateTime	
	workItemNumber	Integer	
Routing Work Sessions	capacity	List	
	capacityRemaining	Integer	
	capacityStatus	String	
	createdAt	DateTime	
	handledConversationCount	Integer	
	handledItemCount	Integer	
	hasPendingItem	Boolean	
	hasSkills	Boolean	
	id	String	
	idleSince	DateTime	
	lastRevision	Struct	
	modifiedAt	DateTime	
	pausedWorkItemCount	Integer	
	rev	Integer	
	routable	Boolean	
	signedInAt	DateTime	

Object	Field	Data type	Supported filters
	signedOutAt	DateTime	
	skills	List	
	statusType	String	
	totalAvailable	Struct	
	totalAvailableAtCapacity	Struct	
	totalAvailableIdleCapacity	String	
	totalCapacity	Integer	
	totalTimeByStatus	Struct	
	totalUnavailable	Struct	
	totalUnavailableAtCapacity	Struct	
	updatedAt	DateTime	
	workItemCount	Integer	
Satisfaction	ID	String	
	allQuestions	List	
	channel	String	
	createdAt	DateTime	
	criteria	Struct	
	delayTime	Double	
	description	String	

Object	Field	Data type	Supported filters
	enabled	Boolean	
	followUpType	String	
	formType	String	
	from	Struct	
	introduction	String	
	metaDescription	String	
	metaTitle	String	
	modifiedAt	DateTime	
	name	String	
	negativeQuestions	List	
	positiveQuestions	List	
	questions	List	
	ratingPrompt	String	
	scale	Struct	
	updatedAt	DateTime	
Schedules	CreatedAt	DateTime	
	ID	String	
	UpdatedAt	DateTime	
	default	Boolean	
	hours	Struct	

Object	Field	Data type	Supported filters
	modifiedAt	DateTime	
	name	String	
	timezone	String	
Settings	ID	String	
	app	String	
	category	String	
	createdAt	DateTime	
	modifiedAt	DateTime	
	name	String	
	type	String	
	value	String	
Shortcuts	appDisabled	Boolean	
	conversation	Struct	
	createdAt	DateTime	
	deleted	Boolean	
	draft	Struct	
	id	String	
	isPrivate	Boolean	
	modifiedAt	DateTime	
	name	String	

Object	Field	Data type	Supported filters
	payload	Struct	
	rev	Integer	
	updatedAt	DateTime	
Shortcuts Categories	categoryPositions	List	
	createdAt	DateTime	
	id	String	
	modifiedAt	DateTime	
	name	String	
	root	Boolean	
	shortcutPositions	List	
	updatedAt	DateTime	
Snippets	app	String	
	createdAt	DateTime	
	description	String	
	id	String	
	key	String	
	langs	Struct	
	name	String	
	source	String	
Snoozes	createdAt	DateTime	

Object	Field	Data type	Supported filters
	enabled	Boolean	
	id	String	
	modifiedAt	DateTime	
	name	String	
	type	String	
	updatedAt	DateTime	
	value	String	
Spam Senders	channel	String	
	createdAt	DateTime	
	id	String	
	list	String	
	modifiedAt	DateTime	
	sender	String	
	updatedAt	DateTime	
Teams	createdAt	DateTime	
	deleted	Boolean	
	displayName	String	
	icon	String	
	id	String	
	members	List	

Object	Field	Data type	Supported filters
	modifiedAt	DateTime	
	name	String	
	roleGroups	List	
	updatedAt	DateTime	
Users	CreatedAt	DateTime	
	DisplayName	String	
	Email	String	
	EmailVerifiedAt	DateTime	
	FirstEmailVerifiedAt	DateTime	
	Id	String	
	ModifiedAt	DateTime	
	Name	String	
	Password	Struct	
	RoleGroups	List	
	Roles	List	
	UpdatedAt	DateTime	
	UserType	String	
	firstLoginAt	DateTime	
	isEmailValid	Boolean	
klasses	appDisabled	Boolean	

Object	Field	Data type	Supported filters
	color	String	
	createdAt	DateTime	
	icon	String	
	id	String	
	name	String	
	s3DataUrl	String	
	status	String	
	updatedAt	DateTime	

LinkedIn Ads connector for Amazon AppFlow

LinkedIn Ads is an ad platform that helps organizations and brands to reach audiences throughout the user community of professionals on LinkedIn. If you use LinkedIn Ads, your account contains data about your ads and campaigns. You can use Amazon AppFlow to transfer data from LinkedIn Ads to certain AWS services or other supported applications.

Amazon AppFlow support for LinkedIn Ads

Amazon AppFlow supports LinkedIn Ads as follows.

Supported as a data source?

Yes. You can use Amazon AppFlow to transfer data from LinkedIn Ads.

Supported as a data destination?

No. You can't use Amazon AppFlow to transfer data to LinkedIn Ads.

Supported API version

Amazon AppFlow retrieves your LinkedIn Ads data by sending requests to version 202212 of the LinkedIn API.

Before you begin

To use Amazon AppFlow to transfer data from LinkedIn Ads to supported destinations, you must meet these requirements:

- You have a LinkedIn account and a LinkedIn Page. For the steps to create a page, see Create a LinkedIn Page on LinkedIn Help.
- In LinkedIn Developers, you've created an app, and you've configured it with the following settings:
  - The app is associated with your LinkedIn Page.
  - The app includes the Marketing Developer Platform product.
  - The app Auth settings have one or more redirect URLs for Amazon AppFlow.

    Redirect URLs have the following format:

    ```
    https://region.console.aws.amazon.com/appflow/oauth
    ```

    In this URL, *region* is the code for the AWS Region where you use Amazon AppFlow to transfer data from LinkedIn Ads. For example, the code for the US East (N. Virginia) Region is `us-east-1`. For that Region, the URL is the following:

    ```
    https://us-east-1.console.aws.amazon.com/appflow/oauth
    ```

    For the AWS Regions that Amazon AppFlow supports, and their codes, see Amazon AppFlow endpoints and quotas in the *AWS General Reference*.
- From your LinkedIn account, you've created a LinkedIn Campaign Manager account, which you use to manage your ads on LinkedIn. For the steps to create an account, see Create an ad account in Campaign Manager as a new advertiser on LinkedIn Help.

From the Auth settings for your app, note the client ID and client secret. You provide these values to Amazon AppFlow when you connect to LinkedIn Ads.

Connecting Amazon AppFlow to LinkedIn Ads

To connect Amazon AppFlow to LinkedIn Ads, provide the client credentials from your LinkedIn Developers app so that Amazon AppFlow can access your data. If you haven't yet configured your LinkedIn account for Amazon AppFlow integration, see Before you begin.

To connect to LinkedIn Ads

1. Sign in to the AWS Management Console and open the Amazon AppFlow console at https://console.aws.amazon.com/appflow/.
2. In the navigation pane on the left, choose **Connections**.
3. On the **Manage connections** page, for **Connectors**, choose **LinkedIn Ads**.
4. Choose **Create connection**.
5. In the **Connect to LinkedIn Ads** window, enter the following information:
   - **Client ID** – The client ID from the Auth settings of your LinkedIn Developers app.
   - **Client secret** – The client secret from the Auth settings of your LinkedIn Developers app.
6. Optionally, under **Data encryption**, choose **Customize encryption settings (advanced)** if you want to encrypt your data with a customer managed key in the AWS Key Management Service (AWS KMS).

   By default, Amazon AppFlow encrypts your data with a KMS key that AWS creates, uses, and manages for you. Choose this option if you want to encrypt your data with your own KMS key instead.

   Amazon AppFlow always encrypts your data during transit and at rest. For more information, see Data protection in Amazon AppFlow.

   If you want to use a KMS key from the current AWS account, select this key under **Choose an AWS KMS key**. If you want to use a KMS key from a different AWS account, enter the Amazon Resource Name (ARN) for that key.
7. For **Connection name**, enter a name for your connection.
8. Choose **Continue**.
9. In the window that appears, sign in to your LinkedIn account, and grant access to Amazon AppFlow.

On the **Manage connections** page, your new connection appears in the **Connections** table. When you create a flow that uses LinkedIn Ads as the data source, you can select this connection.

Transferring data from LinkedIn Ads with a flow

To transfer data from LinkedIn Ads, create an Amazon AppFlow flow, and choose LinkedIn Ads as the data source. For the steps to create a flow, see Creating flows in Amazon AppFlow.

When you configure the flow, choose the data object that you want to transfer. For the objects that Amazon AppFlow supports for LinkedIn Ads, see Supported objects.

Also, choose the destination where you want to transfer the data object that you selected. For more information about how to configure your destination, see Supported destinations.

Supported destinations

When you create a flow that uses LinkedIn Ads as the data source, you can set the destination to any of the following connectors:

- Amazon Lookout for Metrics
- Amazon Redshift
- Amazon RDS for PostgreSQL
- Amazon S3
- HubSpot
- Marketo
- Salesforce
- SAP OData
- Snowflake
- Upsolver
- Zendesk
- Zoho CRM

Supported objects

When you create a flow that uses LinkedIn Ads as the data source, you can transfer any of the following data objects to supported destinations:

Object	Field	Data type	Supported filters
Ad Account	Change Audit Stamp	Struct	
	Currency	String	
	Field	String	EQUAL_TO

Object	Field	Data type	Supported filters
	ID	Long	EQUAL_TO
	Name	String	EQUAL_TO
	Notified On Campaign Optimization	Boolean	
	Notified On Creative Approval	Boolean	
	Notified On Creative Rejection	Boolean	
	Notified On End Of Campaign	Boolean	
	Notified On New Features Enabled	Boolean	
	Order	String	EQUAL_TO
	Reference	String	EQUAL_TO
	Serving Status	List	
	Status	String	EQUAL_TO
	Test	Boolean	EQUAL_TO
	Type	String	EQUAL_TO
	Version	Struct	
Ad Analytics	Action Click	Long	
	Ad Unit Click	Long	

Object	Field	Data type	Supported filters
	Approximate Unique Impression	Long	
	Card Click	Long	
	Card Impression	Long	
	Click	Long	
	Comment	Long	
	Comment Like	Long	
	Company Page Click	Long	
	Conversion Value In Local Currency	BigDecimal	
	Cost In Local Currency	BigDecimal	
	Cost In USD	BigDecimal	
	Date Range	Struct	EQUAL_TO
	External Website Conversion	Long	
	External Website Post Click Conversion	Long	
	External Website Post View Conversion	Long	
	Follow	Long	
	Full Screen Play	Long	
	Impression	Long	

Object	Field	Data type	Supported filters
	Landing Page Click	Long	
	Lead Generation Mail Contact Info Share	Long	
	Lead Generation Mail Interested Click	Long	
	Like	Long	
	One Click Lead	Long	
	One Click Lead Form Open	Long	
	Open	Long	
	Other Engagement	Long	
	Pivot	String	
	Pivot Value	String	
	Pivot Value List	List	
	Reaction	Long	
	Send	Long	
	Share	Long	
	Start	DateTime	EQUAL_TO, BETWEEN
	Text URL Click	Long	
	Total Engagement	Long	
	Video Completion	Long	

Object	Field	Data type	Supported filters
	Video First Quartile Completion	Long	
	Video Midpoint Completion	Long	
	Video Start	Long	
	Video Third Quartile Completion	Long	
	Video View	Long	
	Viral Card Click	Long	
	Viral Click	Long	
	Viral Comment	Long	
	Viral Comment Like	Long	
	Viral Company Page Click	Long	
	Viral External Website Conversion	Long	
	Viral External Website Post Click Conversion	Long	
	Viral External Website Post View Conversion	Long	
	Viral Follow	Long	
	Viral Full Screen Play	Long	

Object	Field	Data type	Supported filters
	Viral Impression	Long	
	Viral Job Application	BigDecimal	
	Viral Landing Page Click	Long	
	Viral Like	Long	
	Viral One Click Lead	Long	
	Viral One Click Lead Form Open	Long	
	Viral Other Engagement	Long	
	Viral Reaction	Long	
	Viral Share	Long	
	Viral Total Engagement	Long	
	Viral Video Completio n	Long	
	Viral Video First Quartile Completion	Long	
	Viral Video Midpoint Completion	Long	
	Viral Video Start	Long	
	Viral Video Third Quartile Completion	Long	
	Viral Video View	Long	

Object	Field	Data type	Supported filters
	viral Card Impression	Long	
Ad Creative	Campaign	String	EQUAL_TO
	Change Audit Stamp	Struct	
	Field	String	EQUAL_TO
	ID	Long	EQUAL_TO
	Order	String	EQUAL_TO
	Reference	String	EQUAL_TO
	Review	List	
	Serving Status	List	
	Sort	String	EQUAL_TO
	Status	String	EQUAL_TO
	Test	Boolean	EQUAL_TO
	Type	String	EQUAL_TO
	Variable	Struct	
	Version	Struct	
Campaign	Account	String	EQUAL_TO
	Associated Entity	String	EQUAL_TO
	Audience Expansion Enabled	Boolean	
	Campaign Group	String	EQUAL_TO
	Change Audit Stamp	Struct	

Object	Field	Data type	Supported filters
	Cost Type	String	
	Creative Selection	String	
	Daily Budget	Struct	
	Field	String	EQUAL_TO
	Format	String	
	ID	Long	EQUAL_TO
	Locale	Struct	
	Name	String	EQUAL_TO
	Objective Type	String	
	Offsite Delivery Enabled	Boolean	
	Offsite Preferences	Struct	
	Optimization Target Type	String	
	Order	String	EQUAL_TO
	Pacing Strategy	String	
	Run Schedule	Struct	
	Serving Status	List	
	Status	String	EQUAL_TO
	Story Delivery Enabled	Boolean	
	Targeting Criteria	Struct	

Object	Field	Data type	Supported filters
	Test	Boolean	EQUAL_TO
	Total Budget	Struct	
	Type	String	EQUAL_TO
	Unit Cost	Struct	
	Version	Struct	
Campaign Group	Account	String	EQUAL_TO
	Allowed Campaign Type	List	
	Backfilled	Boolean	
	Change Audit Stamp	Struct	
	Field	String	EQUAL_TO
	ID	Long	EQUAL_TO
	Name	String	EQUAL_TO
	Order	String	EQUAL_TO
	Run Schedule	Long	
	Serving Status	List	
	Status	String	EQUAL_TO
	Test	Boolean	EQUAL_TO
	Total Budget	Struct	
Share Statistic	Organizational Entity	String	

Object	Field	Data type	Supported filters
	Start	DateTime	EQUAL_TO, BETWEEN
	Time Range	Struct	
	Total Share Statistic	Struct	

LinkedIn Pages connector for Amazon AppFlow

LinkedIn Pages is a solution for organizations to post industry updates, job opportunities, and information. If you're a LinkedIn Pages user, your account contains data about your pages, followers, and engagement. You can use Amazon AppFlow to transfer data from LinkedIn Pages to certain AWS services or other supported applications.

Amazon AppFlow support for LinkedIn Pages

Amazon AppFlow supports LinkedIn Pages as follows.

Supported as a data source?

Yes. You can use Amazon AppFlow to transfer data from LinkedIn Pages.

Supported as a data destination?

No. You can't use Amazon AppFlow to transfer data to LinkedIn Pages.

Supported API version

Amazon AppFlow retrieves your LinkedIn Pages data by sending requests to version 202212 of the LinkedIn API.

Before you begin

To use Amazon AppFlow to transfer data from LinkedIn Pages to supported destinations, you must meet these requirements:

- You have a LinkedIn account and a LinkedIn Page. For the steps to create a page, see Create a LinkedIn Page on LinkedIn Help.

- In LinkedIn Developers, you've created an app, and you've configured it as follows:
  - The app is associated with your LinkedIn Page.
  - The app includes the Marketing Developer Platform product.
  - The app Auth settings include one or more redirect URLs for Amazon AppFlow.

    Redirect URLs have the following format:

    ```
    https://region.console.aws.amazon.com/appflow/oauth
    ```

    In this URL, *region* is the code for the AWS Region where you use Amazon AppFlow to transfer data from LinkedIn Pages. For example, the code for the US East (N. Virginia) Region is `us-east-1`. For that Region, the URL is the following:

    ```
    https://us-east-1.console.aws.amazon.com/appflow/oauth
    ```

    For the AWS Regions that Amazon AppFlow supports, and their codes, see Amazon AppFlow endpoints and quotas in the *AWS General Reference.*

From the Auth settings for your app, note the client ID and client secret. You provide these values to Amazon AppFlow when you connect to LinkedIn Pages.

Connecting Amazon AppFlow LinkedIn Pages

To connect Amazon AppFlow to LinkedIn Pages, provide the client credentials from your LinkedIn Developers app so that Amazon AppFlow can access your data. If you haven't yet configured your LinkedIn account for Amazon AppFlow integration, see Before you begin.

To connect to LinkedIn Pages

1. Sign in to the AWS Management Console and open the Amazon AppFlow console at https://console.aws.amazon.com/appflow/.
2. In the navigation pane on the left, choose **Connections**.
3. On the **Manage connections** page, for **Connectors**, choose **LinkedIn Pages**.
4. Choose **Create connection**.
5. In the **Connect to LinkedIn Pages** window, enter the following information:

   - **Client ID** – The client ID from the Auth settings of your LinkedIn Developers app.

- **Client secret** – The client secret from the Auth settings of your LinkedIn Developers app.

6. Optionally, under **Data encryption**, choose **Customize encryption settings (advanced)** if you want to encrypt your data with a customer managed key in the AWS Key Management Service (AWS KMS).

   By default, Amazon AppFlow encrypts your data with a KMS key that AWS creates, uses, and manages for you. Choose this option if you want to encrypt your data with your own KMS key instead.

   Amazon AppFlow always encrypts your data during transit and at rest. For more information, see Data protection in Amazon AppFlow.

   If you want to use a KMS key from the current AWS account, select this key under **Choose an AWS KMS key**. If you want to use a KMS key from a different AWS account, enter the Amazon Resource Name (ARN) for that key.
7. For **Connection name**, enter a name for your connection.
8. Choose **Connect**.
9. In the window that appears, sign in to your LinkedIn account, and grant access to Amazon AppFlow.

On the **Manage connections** page, your new connection appears in the **Connections** table. When you create a flow that uses LinkedIn Pages as the data source, you can select this connection.

Transferring data from LinkedIn Pages with a flow

To transfer data from LinkedIn Pages, create an Amazon AppFlow flow, and choose LinkedIn Pages as the data source. For the steps to create a flow, see Creating flows in Amazon AppFlow.

When you configure the flow, choose the data object that you want to transfer. For the objects that Amazon AppFlow supports for LinkedIn Pages, see Supported objects.

Also, choose the destination where you want to transfer the data object that you selected. For more information about how to configure your destination, see Supported destinations.

Supported destinations

When you create a flow that uses LinkedIn Pages as the data source, you can set the destination to any of the following connectors:

- Amazon Lookout for Metrics
- Amazon Redshift
- Amazon RDS for PostgreSQL
- Amazon S3
- HubSpot
- Marketo
- Salesforce
- SAP OData
- Snowflake
- Upsolver
- Zendesk
- Zoho CRM

Supported objects

When you create a flow that uses LinkedIn Pages as the data source, you can transfer any of the following data objects to supported destinations:

Object	Field	Data type	Supported filters
Follower Statistics	Follower Counts By Association Type	List	
	Follower Counts By Country	List	
	Follower Counts By Function	List	
	Follower Counts By Industry	List	
	Follower Counts By Region	List	

Object	Field	Data type	Supported filters
	Follower Counts By Seniority	List	
	Follower Counts By Staff Count Range	List	
	Follower Gain	Struct	
	Organizational Entity	String	
	Start	DateTime	EQUAL_TO, BETWEEN
	Time Granularity Type	String	EQUAL_TO
	Time Range	Struct	
Page Statistics	Organization	String	
	Page Statistics By Country	List	
	Page Statistics By Function	List	
	Page Statistics By Industry	List	
	Page Statistics By Region	List	
	Page Statistics By Seniority	List	
	Page Statistics By Staff Count Range	List	

Object	Field	Data type	Supported filters
	Start	DateTime	EQUAL_TO, BETWEEN
	Time Granularity Type	String	EQUAL_TO
	Time Range	Struct	
	Total Page Statistics	Struct	
Share Statistics	Organizational Entity	String	
	Start	DateTime	EQUAL_TO, BETWEEN
	Time Granularity Type	String	EQUAL_TO
	Time Range	Struct	
	Total Share Statistics	Struct	

Mailchimp connector for Amazon AppFlow

Mailchimp is a marketing automation platform and email marketing service. If you're a Mailchimp user, your account contains data about your email campaigns, such as open and click details, segments, and automations. You can use Amazon AppFlow to transfer data from Mailchimp to certain AWS services or other supported applications.

Amazon AppFlow support for Mailchimp

Amazon AppFlow supports Mailchimp as follows.

Supported as a data source?

Yes. You can use Amazon AppFlow to transfer data from Mailchimp.

Supported as a data destination?

No. You can't use Amazon AppFlow to transfer data to Mailchimp.

Before you begin

To use Amazon AppFlow to transfer data from Mailchimp to supported destinations, you must meet these requirements:

- You have an account with Mailchimp that contains the data that you want to transfer. For more information about the Mailchimp data objects that Amazon AppFlow supports, see Supported objects.
- In your account, you've created an API key. For the steps to create one, see About API Keys in the Mailchimp Help Center.

Note the API key from your account settings. You provide it to Amazon AppFlow when you connect to your Mailchimp account.

Connecting Amazon AppFlow to your Mailchimp account

To connect Amazon AppFlow to your Mailchimp account, provide your API key so that Amazon AppFlow can access your data. If you haven't yet configured your Mailchimp account for Amazon AppFlow integration, see Before you begin.

To connect to Mailchimp

1. Sign in to the AWS Management Console and open the Amazon AppFlow console at https://console.aws.amazon.com/appflow/.
2. In the navigation pane on the left, choose **Connections**.
3. On the **Manage connections** page, for **Connectors**, choose **Mailchimp**.
4. Choose **Create connection**.
5. In the **Connect to Mailchimp** window, enter the following information:
   - **API Key** – The API key from your Mailchimp account settings.
   - **Instance URL** – The Mailchimp Marketing API URL that provides access to your Mailchimp data. These URLs have the form `https://data-center.api.mailchimp.com`, where

data-center is the data center for your account. For more information, see API structure in the Mailchimp Marketing API documentation.

6. Optionally, under **Data encryption**, choose **Customize encryption settings (advanced)** if you want to encrypt your data with a customer managed key in the AWS Key Management Service (AWS KMS).

   By default, Amazon AppFlow encrypts your data with a KMS key that AWS creates, uses, and manages for you. Choose this option if you want to encrypt your data with your own KMS key instead.

   Amazon AppFlow always encrypts your data during transit and at rest. For more information, see Data protection in Amazon AppFlow.

   If you want to use a KMS key from the current AWS account, select this key under **Choose an AWS KMS key**. If you want to use a KMS key from a different AWS account, enter the Amazon Resource Name (ARN) for that key.
7. For **Connection name**, enter a name for your connection.
8. Choose **Connect**.

On the **Manage connections** page, your new connection appears in the **Connections** table. When you create a flow that uses Mailchimp as the data source, you can select this connection.

Transferring data from Mailchimp with a flow

To transfer data from Mailchimp, create an Amazon AppFlow flow, and choose Mailchimp as the data source. For the steps to create a flow, see Creating flows in Amazon AppFlow.

When you configure the flow, choose the data object that you want to transfer. For the objects that Amazon AppFlow supports for Mailchimp, see Supported objects.

Also, choose the destination where you want to transfer the data object that you selected. For more information about how to configure your destination, see Supported destinations.

Supported destinations

When you create a flow that uses Mailchimp as the data source, you can set the destination to any of the following connectors:

- Amazon Lookout for Metrics
- Amazon Redshift
- Amazon RDS for PostgreSQL
- Amazon S3
- HubSpot
- Marketo
- Salesforce
- SAP OData
- Snowflake
- Upsolver
- Zendesk
- Zoho CRM

Supported objects

When you create a flow that uses Mailchimp as the data source, you can transfer any of the following data objects to supported destinations:

Object	Field	Data type	Supported filters
Abuse Report	Campaign ID	String	
	Date	String	
	Email Address	String	
	Email ID	String	
	ID	Integer	
	List ID	String	
	List Is Active	Boolean	
	Merge Field	Struct	

Object	Field	Data type	Supported filters
	Vip	Boolean	
Automation	Create Time	DateTime	LESS_THAN, GREATER_THAN
	Email Sent	Integer	
	ID	String	
	Recipient	Struct	
	Report Summary	Struct	
	Setting	Struct	
	Start Time	DateTime	LESS_THAN, GREATER_THAN
	Status	String	EQUAL_TO
	Tracking	Struct	
	Trigger Setting	Struct	
Campaign	Ab Split Opts	Struct	
	Archive Url	String	
	Content Type	String	
	Create Time	DateTime	LESS_THAN, GREATER_THAN
	Delivery Status	Struct	
	Email Sent	Integer	
	Folder ID	String	EQUAL_TO
	ID	String	

Object	Field	Data type	Supported filters
	List ID	String	EQUAL_TO
	Long Archive Url	String	
	Member ID	String	EQUAL_TO
	Need Block Refresh	Boolean	
	Parent Campaign ID	String	
	Recipient	Struct	
	Report Summary	Struct	
	Resendable	Boolean	
	Rss Opts	Struct	
	Send Time	DateTime	LESS_THAN, GREATER_THAN
	Setting	Struct	
	Social Card	Struct	
	Sort Field	String	EQUAL_TO
	Status	String	EQUAL_TO
	Tracking	Struct	
	Type	String	EQUAL_TO
	Variate Settings	Struct	
	Web ID	Integer	
Click Detail	Ab Split	Struct	
	Campaign ID	String	

Object	Field	Data type	Supported filters
	Click Percentage	Float	
	ID	String	
	Last Click	String	
	Total Click	Integer	
	Unique Click	Integer	
	Unique Click Percentage	Float	
	Url	String	
List	Beamer Address	String	
	Campaign Default	Struct	
	Campaign Last Sent	DateTime	LESS_THAN, GREATER_THAN
	Contact	Struct	
	Date Created	DateTime	LESS_THAN, GREATER_THAN
	Double Optin	Boolean	
	Email	String	EQUAL_TO
	Email Type Option	Boolean	
	Has Ecommerce Store	Boolean	EQUAL_TO
	Has Welcome	Boolean	
	ID	String	
	Include Total Contact	Boolean	EQUAL_TO

Object	Field	Data type	Supported filters
	List Rating	Integer	
	Marketing Permission	Boolean	
	Module	Struct	
	Name	String	
	Notify On Subscribe	String	
	Notify On Unsubscribe	String	
	Permission Reminder	String	
	Sort Field	String	EQUAL_TO
	Stats	Struct	
	Subscribe Url Short	String	
	Use Archive Bar	Boolean	
	Visibility	String	
	Web_ID	Integer	
	subscribe Url Long	String	
Open Detail	Campaign ID	String	
	Contact Status	String	
	Email Address	String	
	Email ID	String	
	List ID	String	
	List is Active	Boolean	

Object	Field	Data type	Supported filters
	Merge Field	Struct	
	Open	Struct	
	Open Count	Integer	
	Since	DateTime	EQUAL_TO
	Vip	Boolean	
Segment	Created At	DateTime	LESS_THAN, GREATER_THAN
	ID	Integer	
	Include Cleaned	Boolean	EQUAL_TO
	Include Unsubscribed	Boolean	EQUAL_TO
	List ID	String	
	Member Count	Integer	
	Name	String	
	Option	Struct	
	Type	String	EQUAL_TO
	Updated At	DateTime	LESS_THAN, GREATER_THAN
Segment Member	Email Address	String	
	Email Client	String	
	Email Type	String	
	ID	String	

Object	Field	Data type	Supported filters
	Include Cleaned	Boolean	EQUAL_TO
	Include Unsubscribed	Boolean	EQUAL_TO
	Interest	Struct	
	Ip Opt	String	
	Ip Signup	String	
	Language	String	
	Last Changed	String	
	Last Note	Struct	
	List ID	String	
	Location	Struct	
	Member Rating	Integer	
	Merge Field	Struct	
	Stats	Struct	
	Status	String	
	Timestamp Opt	String	
	Timestamp Signup	String	
	Unique Email ID	String	
	Vip	Boolean	
Store	Address	Struct	
	Automation	Struct	

Object	Field	Data type	Supported filters
	Connected Site	Struct	
	Created At	String	
	Currency Code	String	
	Domain	String	
	Email Address	String	
	ID	String	
	Is Syncing	Boolean	
	List ID	String	
	List Is Active	Boolean	
	Money Format	String	
	Name	String	
	Phone	String	
	Platform	String	
	Primary Locale	String	
	Timezone	String	
	Updated At	String	
Unsubscribed	Campaign ID	String	
	Email Address	String	
	Email ID	String	
	List ID	String	

Object	Field	Data type	Supported filters
	List Is Active	Boolean	
	Merge Field	Struct	
	Reason	String	
	Timestamp	String	
	Vip	Boolean	

Marketo

The following are the requirements and connection instructions for using Marketo with Amazon AppFlow.

> **Note**
>
> You can use Marketo as a source or destination.

Topics

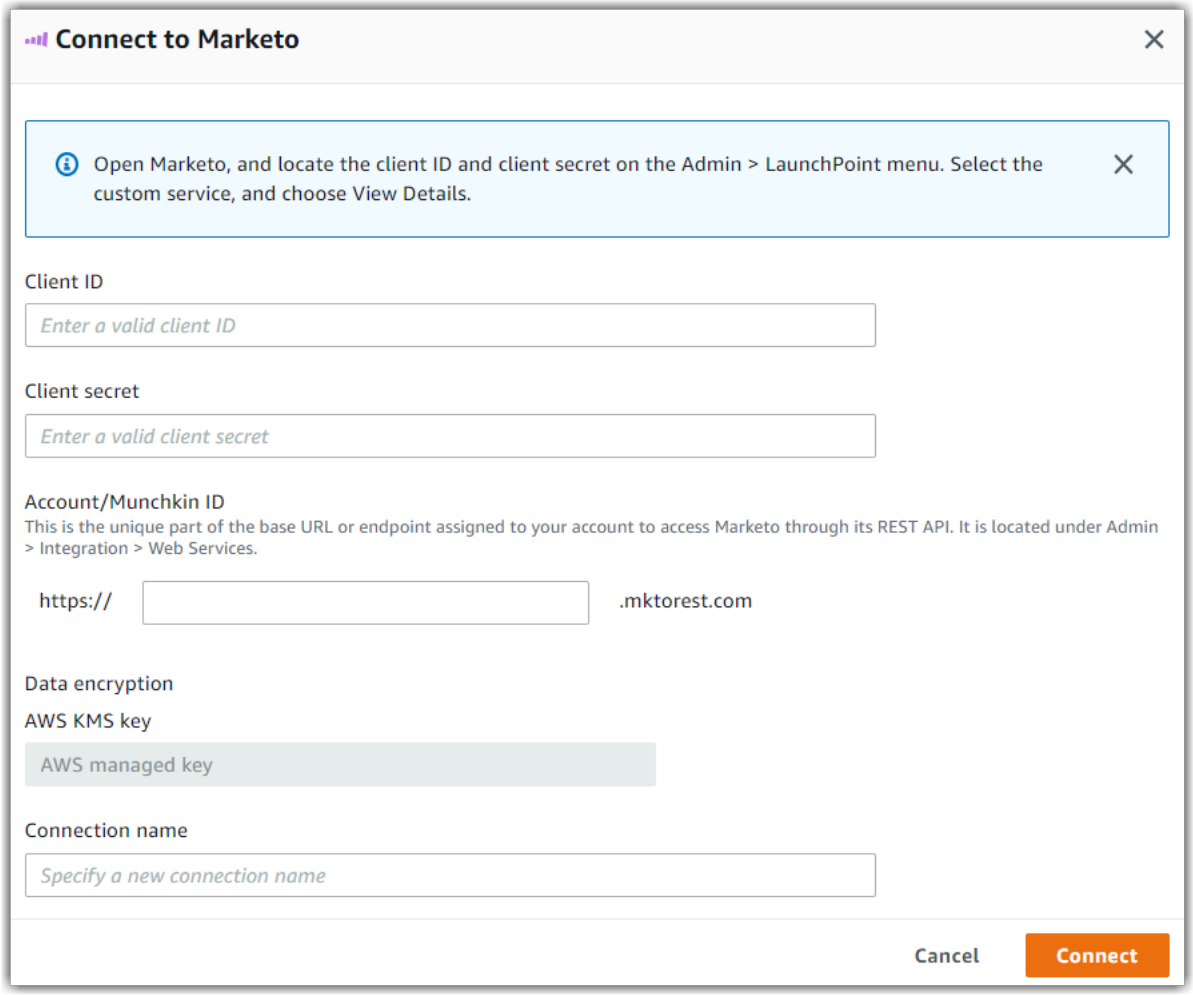
Requirements

You must provide Amazon AppFlow with your client ID and client secret. For more information about how to retrieve your client ID and client secret, see Credentials for API Access in the Marketo documentation.

Connection instructions

To connect to Marketo while creating a flow

1. Sign in to the AWS Management Console and open the Amazon AppFlow console at https://console.aws.amazon.com/appflow/.
2. Choose **Create flow**.
3. For **Flow details**, enter a name and description for the flow.
4. (Optional) To use a customer managed CMK instead of the default AWS managed CMK, choose **Data encryption**, **Customize encryption settings**. Then choose an existing CMK or create a new one.
5. (Optional) To add a tag, choose **Tags**, **Add tag**, and then enter the key name and value.
6. Choose **Next**.
7. Choose **Marketo** from the **Source name** or **Destination name** dropdown list.
8. Choose **Connect** to open the **Connect to Marketo** dialog box.
    a. Under **Client ID**, enter your Marketo client ID.
    b. Under **Client secret**, enter your client secret.
    c. Under **Account/Munchkin ID**, specify the unique part of the base URL or endpoint assigned to your Marketo account.
    d. Under **Data encryption**, enter your AWS KMS key.
    e. Under **Connection name**, specify a name for your connection.
    f. Choose **Connect**.



9. You will be redirected to the Marketo login page. When prompted, grant Amazon AppFlow permissions to access your Marketo account.

Now that you are connected to your Marketo account, you can continue with the flow creation steps as described in Creating flows in Amazon AppFlow.

Tip

If you aren't connected successfully, ensure that you have followed the instructions in Requirements.

Notes

- When you use Marketo as a source, you can run schedule-triggered flows at a maximum frequency of one flow run per hour.
- Depending on your instance, Marketo might queue requests for data extraction. This can result in longer flow run times. If you want to avoid queueing, contact your Marketo administrator for assistance. We recommend that you avoid running concurrent flows using Marketo if your use case does not benefit from it.
- Depending on your Marketo instance, you can submit more than one bulk import request (with limitations). Each request is added as a job to be processed in a First-In-First-Out (FIFO) queue. A maximum of two jobs are processed at the same time. A maximum of ten jobs are allowed in the queue at any given time, including the two currently being processed. If you exceed the ten job maximum, a 1016: Too many imports error is returned. If you want to avoid queueing, contact your Marketo administrator for assistance.
- There is a soft quota of 1 GB per flow when extracting data from Marketo. If you need to process more records in a single flow, you can submit a request to Amazon AppFlow through the Amazon AppFlow support channel. For more information, see Creating a support case in the *AWS Support User Guide*.

Supported destinations

When you create a flow that uses Marketo as the data source, you can set the destination to any of the following connectors:

- Amazon Connect
- Amazon Honeycode
- Lookout for Metrics
- Amazon Redshift
- Amazon S3
- Marketo
- Salesforce
- Snowflake
- Upsolver
- Zendesk

You can also set the destination to any custom connectors that you create with the Amazon AppFlow Custom Connector SDKs for Python or Java. You can download these SDKs from GitHub.

Related resources

- Credentials for API Access in the Marketo documentation
- API Limits with Marketo in the Marketo documentation
- Error Codes with Marketo in the Marketo documentation
- Video: Introduction to the Marketo Connector in Amazon AppFlow

Microsoft Dynamics 365 connector for Amazon AppFlow

Microsoft Dynamics 365 is a portfolio of business applications for enterprise resource planning (ERP) and customer relationship management (CRM). If you're a Microsoft Dynamics 365 user, your account contains data about your business, such as your products, customers, business units, and more. You can use Amazon AppFlow to transfer data from Microsoft Dynamics 365 to certain AWS services or other supported applications.

Amazon AppFlow support for Microsoft Dynamics 365

Amazon AppFlow supports Microsoft Dynamics 365 as follows.

Supported as a data source?

Yes. You can use Amazon AppFlow to transfer data from Microsoft Dynamics 365.

Supported as a data destination?

No. You can't use Amazon AppFlow to transfer data to Microsoft Dynamics 365.

Before you begin

To use Amazon AppFlow to transfer data from Microsoft Dynamics 365 to supported destinations, you must meet these requirements:

- You have a Microsoft account, and you've used it to sign up for Microsoft Dynamics 365. Your Microsoft Dynamics 365 account contains the data that you want to transfer.

- In the Microsoft Azure portal, you've created an app registration for Amazon AppFlow. The registered app provides the client credentials that authenticate Amazon AppFlow when it accesses the data in your account. For the steps to register an app, see Register an application with the Microsoft identity platform in the Microsoft Graph documentation.
- You've configured your registered app with the following settings:
  - In the authentication settings, you've added a platform, and you've set the platform application type to *web*. You've configured the platform with a redirect URL for Amazon AppFlow.

    Redirect URLs have the following format:

    ```
    https://region.console.aws.amazon.com/appflow/oauth
    ```

    In this URL, *region* is the code for the AWS Region where you use Amazon AppFlow to transfer data from Microsoft Dynamics 365. For example, the code for the US East (N. Virginia) Region is `us-east-1`. For that Region, the URL is the following:

    ```
    https://us-east-1.console.aws.amazon.com/appflow/oauth
    ```

    For the AWS Regions that Amazon AppFlow supports, and their codes, see Amazon AppFlow endpoints and quotas in the *AWS General Reference.*

    For the steps to add a platform and set the redirect URL, see Add a redirect URI in the Microsoft Graph documentation.
  - You've created a client secret. For the steps to create one, see Add a client secret in the Microsoft Graph documentation.

    Notes

    - When you connect Amazon AppFlow to your Microsoft Dynamics 365 account, you provide the client secret *value*. You don't provide the client secret *ID*.
    - At the time that you create the client secret, you must store it's value somewhere that you can access later. After you leave the page where you create the client secret, Microsoft Azure never shows the value again.
  - In the app manifest, you've edited the following attributes to have a value of `true`:
    - `"allowPublicClient": true,`

- `"oauth2AllowIdTokenImplicitFlow": true,`
- `"oauth2AllowImplicitFlow": true,`

For more information about these attributes, and for the steps to configure the app manifest, see Azure Active Directory app manifest in the Microsoft identity platform documentation.

- In the API permissions settings, you've set the following configurations:
  - The app permits the `user_impersonation` permission for the Dynamics CRM API.
  - The app permits the `User.Read` permission for the Microsoft Graph API. For information about this permission, see the Microsoft Graph permissions reference in the Microsoft Graph documentation.
  - You've turned on the option to grant admin consent. For more information, see Admin consent in the Microsoft identity platform documentation.

Note the following values because you'll need them when you connect Amazon AppFlow to your Microsoft Dynamics 365 account:

- The application (client) ID of your registered app.
- The directory (tenant) ID of your registered app.
- The client secret value (not the client secret ID) of your registered app.
- The service root URL of your Dynamics 365 instance. You can find this value in the **Developer Resources** page in the Dynamics 365 web application. For information on how to access this page, see Developer resources page in the Dynamics 365 documentation.

  The service root URL has the following format:

  ```
  https://instance-id.api.crm.dynamics.com/api/data/v9.2/
  ```

  You don't provide this URL to Amazon AppFlow directly. Instead, you provide segments of it for the fields **Custom authorization code URL** and **Instance URL**.

Connecting Amazon AppFlow to your Microsoft Dynamics 365 account

To connect Amazon AppFlow to Microsoft Dynamics 365, provide details from your registered app in Microsoft Azure so that Amazon AppFlow can access your data. If you haven't yet configured your Microsoft account for Amazon AppFlow integration, see Before you begin.

To connect to Microsoft Dynamics 365

1. Sign in to the AWS Management Console and open the Amazon AppFlow console at https://console.aws.amazon.com/appflow/.
2. In the navigation pane on the left, choose **Connections**.
3. On the **Manage connections** page, for **Connectors**, choose **Microsoft Dynamics 365**.
4. Choose **Create connection**.
5. In the **Connect to Microsoft Dynamics 365** window, enter the following information:
   - **Custom authorization code URL** — From your service root URL, the segment *instance-id*`.api.crm.dynamics.com`.
   - **Client ID** — The application (client) ID of your registered app.
   - **Client secret** — The client secret value (not the client secret ID) of your registered app.
   - **Instance URL** — From your service root URL, the segment `https://`*instance-id*`.api.crm.dynamics.com`.
6. Optionally, under **Data encryption**, choose **Customize encryption settings (advanced)** if you want to encrypt your data with a customer managed key in the AWS Key Management Service (AWS KMS).

   By default, Amazon AppFlow encrypts your data with a KMS key that AWS creates, uses, and manages for you. Choose this option if you want to encrypt your data with your own KMS key instead.

   Amazon AppFlow always encrypts your data during transit and at rest. For more information, see Data protection in Amazon AppFlow.

   If you want to use a KMS key from the current AWS account, select this key under **Choose an AWS KMS key**. If you want to use a KMS key from a different AWS account, enter the Amazon Resource Name (ARN) for that key.
7. For **Connection name**, enter a name for your connection.
8. Choose **Connect**.
9. In the window that appears, sign in to your Microsoft Dynamics 365 account, and grant access to Amazon AppFlow.

On the **Manage connections** page, your new connection appears in the **Connections** table. When you create a flow that uses Microsoft Dynamics 365 as the data source, you can select this connection.

Transferring data from Microsoft Dynamics 365 with a flow

To transfer data from Microsoft Dynamics 365, create an Amazon AppFlow flow, and choose Microsoft Dynamics 365 as the data source. For the steps to create a flow, see Creating flows in Amazon AppFlow.

Supported destinations

When you create a flow that uses Microsoft Dynamics 365 as the data source, you can set the destination to any of the following connectors:

- Amazon Lookout for Metrics
- Amazon Redshift
- Amazon RDS for PostgreSQL
- Amazon S3
- HubSpot
- Marketo
- Salesforce
- SAP OData
- Snowflake
- Upsolver
- Zendesk
- Zoho CRM

Microsoft SharePoint Online connector for Amazon AppFlow

Microsoft SharePoint Online is a collaboration solution that teams use to share files, data, and other resources throughout their organization. If you're a SharePoint user, you have sites with document libraries that contain various types of documents, like PDFs, Microsoft Word documents, Microsoft Excel files, and more. You can use Amazon AppFlow to transfer these documents to

Amazon S3. When you run a transfer, Amazon AppFlow also provides a file with descriptive metadata for each document.

Amazon AppFlow support for Microsoft SharePoint Online

Amazon AppFlow supports Microsoft SharePoint Online as follows.

Supported as a data source?

Yes. You can use Amazon AppFlow to transfer documents and metadata from Microsoft SharePoint Online.

Supported as a data destination?

No. You can't use Amazon AppFlow to transfer data to Microsoft SharePoint Online.

Supported destination for SharePoint Online data

You can transfer only to Amazon S3.

Supported SharePoint products

Amazon AppFlow connects only to Microsoft SharePoint Online. It doesn't connect to the on-premises SharePoint Server product.

Before you begin

To use Amazon AppFlow to transfer data from Microsoft SharePoint Online to supported destinations, you must meet the following requirements:

- You have a Microsoft account where you've signed up for Microsoft SharePoint Online. Your SharePoint account must have at least one site with a document library. The document library must have the documents that you want to transfer.
- You have your Azure AD tenant ID. You provide this ID to Amazon AppFlow when you connect to your Microsoft SharePoint Online account. For the steps to look up the ID, see Find your Azure AD tenant in the Azure portal documentation.

If you meet those requirements, you're ready to create a connection between Amazon AppFlow and your Sharepoint account. No additional steps are necessary in your Microsoft account because Amazon AppFlow fulfills the remaining requirements with an *AWS managed client app*.

The AWS managed client app for Sharepoint

The AWS managed client app for Sharepoint simplifies the connection setup. If you use it, you don't have to provide the OAuth 2.0 credentials of a client ID and client secret. To get those credentials, you would have to create an app registration in Microsoft Azure. Instead, the only information that you must get from your Microsoft account is your Azure tenant ID. To create the connection, you provide the tenant ID and, when Amazon AppFlow prompts you, you sign into your Microsoft account and authorize Amazon AppFlow to access to your Sharepoint data.

Alternatively, you can choose to create a connection that uses OAuth 2.0 credentials from your own app registration instead of the AWS managed client app. This option is more complicated, but it gives you more control over the credentials. For example, you could use Microsoft Azure to change the credentials, revoke them, or manage who can access them.

Requirements for using your own app registration (optional)

If you want to authorize Amazon AppFlow with the OAuth 2.0 credentials from your own app registration, you must meet these requirements:

- In the Microsoft Azure portal, you've created an app registration for Amazon AppFlow. For the steps to register an app, see Register an application with the Microsoft identity platform in the Microsoft Graph documentation.
- You've configured your registered app as follows:
  - You've added one or more redirect URLs for Amazon AppFlow.

    Redirect URLs have the following format:

    ```
    https://region.console.aws.amazon.com/appflow/oauth
    ```

    In this URL, *region* is the code for the AWS Region where you use Amazon AppFlow to transfer data from Microsoft SharePoint Online. For example, the code for the US East (N. Virginia) Region is `us-east-1`. For that Region, the URL is the following:

    ```
    https://us-east-1.console.aws.amazon.com/appflow/oauth
    ```

    For the AWS Regions that Amazon AppFlow supports, and their codes, see Amazon AppFlow endpoints and quotas in the *AWS General Reference.*
  - You've added the recommended permissions.

- You've created a client secret.

Note the following values from your registered app because you provide them to Amazon AppFlow when you connect to your Sharepoint account:

- Application (client) ID
- Client secret

Recommended permissions for the app registration

Before Amazon AppFlow can securely access your data in Microsoft SharePoint Online, your registered app must allow the necessary permissions for the Microsoft Graph API. We recommend that you allow the following permissions so that Amazon AppFlow can access all supported resources.

You can add permissions to your registered app by using the API permissions page in the Microsoft Azure portal. Configure your permissions as follows:

- Under **Microsoft APIs**, choose **Microsoft Graph**.
- For the permissions type, choose **delegated**. For information about delegated permissions, see Permission types in the Microsoft identity platform documentation.
- Add the following recommended permissions:
  - `offline_access`
  - `Sites.Read.All`
  - `Sites.ReadWrite.All`
  - `User.Read`

  For information about these permissions, see the Microsoft Graph permissions reference in the Microsoft Graph documentation.

Connecting Amazon AppFlow to your Microsoft SharePoint Online account

To connect Amazon AppFlow to Microsoft SharePoint Online, provide details from your registered app in Microsoft Azure so that Amazon AppFlow can access the documents in your SharePoint

document libraries. If you haven't yet configured your Microsoft account for Amazon AppFlow integration, see Before you begin.

To connect to Microsoft SharePoint Online

1. Sign in to the AWS Management Console and open the Amazon AppFlow console at https://console.aws.amazon.com/appflow/.
2. In the navigation pane on the left, choose **Connections**.
3. On the **Manage connections** page, for **Connectors**, choose **Microsoft SharePoint Online**.
4. Choose **Create connection**.
5. In the **Connect to Microsoft SharePoint Online** window, enter the following information about your registered app:
   - **Custom authorization tokens URL** – Your Azure AD tenant ID.
   - **Custom authorization code URL** – Azure AD tenant ID
6. By default, the **Use AWS managed client app** checkbox is activated. You can do either of the following:
   - If you want to use the AWS managed client app, keep the checkbox activated.
   - If you want to use your own client app (called an app registration in Microsoft Azure), choose the checkbox to deactivate it. Then, provide values for **Client ID** and **Client secret**.
7. Optionally, under **Data encryption**, choose **Customize encryption settings (advanced)** if you want to encrypt your data with a customer managed key in the AWS Key Management Service (AWS KMS).

   By default, Amazon AppFlow encrypts your data with a KMS key that AWS creates, uses, and manages for you. Choose this option if you want to encrypt your data with your own KMS key instead.

   Amazon AppFlow always encrypts your data during transit and at rest. For more information, see Data protection in Amazon AppFlow.

   If you want to use a KMS key from the current AWS account, select this key under **Choose an AWS KMS key**. If you want to use a KMS key from a different AWS account, enter the Amazon Resource Name (ARN) for that key.
8. For **Connection name**, enter a name for your connection.

9. Choose **Continue**. A window appears that asks if you want to allow Amazon AppFlow to access your Microsoft SharePoint Online account.
10. Choose **Authorize**.

On the **Manage connections** page, your new connection appears in the **Connections** table. When you create a flow that uses Microsoft SharePoint Online as the data source, you can select this connection.

Transferring data from Microsoft SharePoint Online with a flow

To transfer documents and metadata from Microsoft SharePoint Online to Amazon S3, create an Amazon AppFlow flow. In the flow configuration, you set the data source by choosing a Microsoft SharePoint Online connection. Specifically for flows that transfer from SharePoint, you also choose a SharePoint site that's hosted in your account, and one or more SharePoint document libraries that belong to the site. You also set the data destination by choosing an Amazon S3 bucket in your AWS account.

To configure a flow with Microsoft SharePoint Online as the data source

For the standard steps to create a flow, see Create a flow using the AWS console. Use the following steps only to configure the data source and data destination details for a flow that transfers from SharePoint. You configure these settings when you reach the **Configure flow** page in the flow creation process.

1. Under **Source details**, for **Source name**, choose **Microsoft SharePoint Online**.
2. For **Choose Microsoft SharePoint Online connection**, choose the connection that you created. If you haven't created a connection yet, see the section called “Connecting to Microsoft SharePoint Online”.
3. For **Choose API version**, choose **v1.0**.
4. For **Choose Microsoft SharePoint Online site**, choose the SharePoint site in your account that contains the documents that you want to transfer.
5. Under **Selected resources**, the console shows the document libraries that belong to the SharePoint site. Each document library is represented as a folder. If a folder contains subfolders or documents, you can expand the folder to show its contents.

Select the check box for one or more folders to pick the documents that your flow transfers to Amazon S3. When you run the flow, Amazon AppFlow transfers the documents that are in the folder, in addition to the documents that are in all of its subfolders.

For the limits that apply to how many folders and documents you can transfer, see Quotas and limitations for the Microsoft SharePoint Online connector.

6. Under **Destination details**, for **Destination name**, choose **Amazon S3**. Then, for **Bucket details**, choose the S3 bucket that stores the output from your flow. To organize your output, you can specify an optional prefix, which becomes a folder in your S3 bucket.

After you configure your flow with a SharePoint document library and a destination S3 bucket, you can work through the remaining flow configuration steps in the console by using the standard steps.

Microsoft SharePoint Online output in Amazon S3

When you run a flow that transfers from SharePoint, Amazon AppFlow creates the following items in the destination S3 bucket:

- A JSON file that contains metadata about every document that Amazon AppFlow transfers from your document libraries. For the metadata fields, see Supported metadata fields for Microsoft SharePoint Online documents. The name of the file is the execution ID of the flow run. To learn what flow run the execution ID is associated with, you can view a list of IDs under the **Run history** tab in the details page for a flow.
- A folder that contains the folders and documents that you transferred from the document libraries of your site. The name of this folder is also the execution ID of the flow run.

The scope of the output depends on whether you configured the flow to run on a schedule or run on demand:

- If the flow runs on a schedule, Amazon AppFlow performs incremental data transfers. When the flow runs for the first time, Amazon AppFlow transfers every document in the document libraries that you chose in the data source configuration. Then, for all subsequent flow runs, Amazon AppFlow transfers only those files that you created or changed in SharePoint since the prior flow run.

To configure a flow to run on a schedule, you can use the console to set the schedule settings under **Flow trigger** in the flow creation process.

- If the flow runs on demand, Amazon AppFlow performs full data transfers. For every flow run, Amazon AppFlow transfers every document in the document libraries that you chose in the data source configuration.

  To configure a flow to run on demand, you can use the console to set this option under **Flow trigger** in the flow creation process. After you create an on-demand flow, you run the flow by choosing **Run flow** on the flow details page.

Supported metadata fields for Microsoft SharePoint Online documents

When you run a flow that transfers documents from Microsoft SharePoint Online, Amazon AppFlow creates a metadata file in the destination S3 bucket. The metadata describes each document that Amazon AppFlow transferred for the flow run.

The following table lists the metadata fields that Amazon AppFlow supports. For each transferred document, Amazon AppFlow writes only those fields that apply to the document type.

Metadata field	Data type	Supported filters
Audio	Struct	
Bundle	Struct	
Created DateTime	DateTime	
CreatedBy	Struct	
Deleted	Struct	
Description	String	
Entity Content Tag	String	
Entity Tag	String	
File	Struct	

Metadata field	Data type	Supported filters
File System Info	Struct	
File Type	String	EQUAL_TO
Id	String	
Image	Struct	
Last Modified By	Struct	
Last Modified DateTime	DateTime	GREATER_THAN
Location	Struct	
Malware	Struct	
Name	String	
Package	Struct	
Parent Reference	Struct	
Pending Operations	Struct	
Photo	Struct	
Publication	Struct	
Remote Item	Struct	
Root	Struct	
Search Result	Struct	
SharePoint Ids	Struct	
Shared	Struct	
Size	Integer	

Metadata field	Data type	Supported filters
Special Folder	Struct	
Video	Struct	
Web Dav Url	String	
Web Url	String	

Quotas and limitations for the Microsoft SharePoint Online connector

The following table lists the quotas that apply to flows that transfer from SharePoint.

Resource	Quota
The maximum number of SharePoint document library folders transferred by a flow	17
The maximum size of any file transferred by a flow	250 GB
The maximum number of files transferred by a flow run	10,000
The maximum total data size transferred by a flow run	250 GB

The following limitations also apply to flows that transfer from SharePoint:

- For scheduled flows, if a flow remains running when the next flow run is scheduled to start, then Amazon AppFlow skips the next flow run. Amazon AppFlow does this to allow the first flow run enough time to complete.
- Amazon AppFlow doesn't provide the option to catalog your output in the AWS Glue Data Catalog. Amazon AppFlow typically provides that option for flows that transfer to Amazon S3, but the option is available only for structured source data. The documents that you transfer from your SharePoint document libraries are unstructured data.

- Amazon AppFlow doesn't provide the data partitioning options that it typically provides for flows that transfer to Amazon S3. Amazon AppFlow partitions all SharePoint output only into folders that are named after the execution ID of the flow run.

Microsoft Teams connector for Amazon AppFlow

Microsoft Teams is a platform developed by Microsoft that helps teams collaborate through chat, online meetings, and more. If you're a Microsoft Teams user, your account contains data about your resources, including teams, groups, and channels. You can use Amazon AppFlow to transfer data from Microsoft Teams to certain AWS services or other supported applications.

Amazon AppFlow support for Microsoft Teams

Amazon AppFlow supports Microsoft Teams as follows.

Supported as a data source?

Yes. You can use Amazon AppFlow to transfer data from Microsoft Teams.

Supported as a data destination?

No. You can't use Amazon AppFlow to transfer data to Microsoft Teams.

Before you begin

To use Amazon AppFlow to transfer data from Microsoft Teams to supported destinations, you must meet these requirements:

- You have a Microsoft account with which you've signed up for the following services:
  - Microsoft Teams. For more information about the Microsoft Teams data objects that Amazon AppFlow supports, see Supported objects.
  - Microsoft 365.
  - The Microsoft 365 Developer Program.
- In the Microsoft Azure portal, you've created an app registration for Amazon AppFlow. The registered app provides the client credentials that Amazon AppFlow uses to access your data securely when it makes authenticated calls to your account. For the steps to register an app, see Register an application with the Microsoft identity platform in the Microsoft Graph documentation.

- You've configured your registered app with the following settings:
  - You've added one or more redirect URLs for Amazon AppFlow.

    Redirect URLs have the following format:

    ```
    https://region.console.aws.amazon.com/appflow/oauth
    ```

    In this URL, *region* is the code for the AWS Region where you use Amazon AppFlow to transfer data from Microsoft Teams. For example, the code for the US East (N. Virginia) Region is `us-east-1`. For that Region, the URL is the following:

    ```
    https://us-east-1.console.aws.amazon.com/appflow/oauth
    ```

    For the AWS Regions that Amazon AppFlow supports, and their codes, see Amazon AppFlow endpoints and quotas in the *AWS General Reference.*
  - You've added the recommended permissions below.
  - You've created a client secret.

Note the following values from your registered app because you provide them to Amazon AppFlow when you connect to your Microsoft Teams account:

- Application (client) ID
- Directory (tenant) ID
- Client secret

Recommended permissions

Before Amazon AppFlow can securely access your data in Microsoft Teams, your registered app must allow the necessary permissions for the Microsoft Graph API. We recommend that you enable the permissions below so that Amazon AppFlow can access all supported data objects.

If you want to grant fewer permissions, you can omit any permissions that apply to objects that you don't want to transfer.

You can add permissions to your registered app by using the API permissions page in the Microsoft Azure portal. Configure your permissions as follows:

- Under **Microsoft APIs**, choose **Microsoft Graph**.
- For the permissions type, choose **delegated**. For information about delegated permissions, see Permission types in the Microsoft identity platform documentation.
- Add the following recommended permissions:
  - `User.Read`
  - `Offline_access`
  - `User.Read.All`
  - `User.ReadWrite.All`
  - `TeamsTab.ReadWriteForTeam`
  - `TeamsTab.ReadWriteForChat`
  - `TeamsTab.ReadWrite.All`
  - `TeamsTab.Read.All`
  - `TeamSettings.ReadWrite.All`
  - `TeamSettings.Read.All`
  - `TeamMember.ReadWrite.All`
  - `TeamMember.Read.All`
  - `Team.ReadBasic.All`
  - `GroupMember.ReadWrite.All`
  - `GroupMember.Read.All`
  - `Group.ReadWrite.All`
  - `Group.Read.All`
  - `Directory.ReadWrite.All`
  - `Directory.Read.All`
  - `Directory.AccessAsUser.All`
  - `Chat.ReadWrite`
  - `Chat.ReadBasic`
  - `Chat.Read`
  - `ChannelSettings.ReadWrite.All`
  - `ChannelSettings.Read.All`
  - `ChannelMessage.Read.All`

- `Channel.ReadBasic.All`

  For information about these permissions, see the Microsoft Graph permissions reference in the Microsoft Graph documentation.

- Enable the option to grant admin consent to your app. For more information, see Admin consent in the Microsoft identity platform documentation.

Connecting Amazon AppFlow to your Microsoft Teams account

To connect Amazon AppFlow to Microsoft Teams, provide details from your registered app in Microsoft Azure so that Amazon AppFlow can access your data. If you haven't yet configured your Microsoft account for Amazon AppFlow integration, see Before you begin.

To connect to Microsoft Teams

1. Sign in to the AWS Management Console and open the Amazon AppFlow console at https://console.aws.amazon.com/appflow/.
2. In the navigation pane on the left, choose **Connections**.
3. On the **Manage connections** page, for **Connectors**, choose **Microsoft Teams**.
4. Choose **Create connection**.
5. In the **Connect to Microsoft Teams** window, enter the following information about your registered app:

   - **Custom authorization tokens URL** – The directory (tenant) ID.
   - **Custom authorization code URL** – The directory (tenant) ID
   - The **Client ID** and **Client secret**.
6. Optionally, under **Data encryption**, choose **Customize encryption settings (advanced)** if you want to encrypt your data with a customer managed key in the AWS Key Management Service (AWS KMS).

   By default, Amazon AppFlow encrypts your data with a KMS key that AWS creates, uses, and manages for you. Choose this option if you want to encrypt your data with your own KMS key instead.

   Amazon AppFlow always encrypts your data during transit and at rest. For more information, see Data protection in Amazon AppFlow.

If you want to use a KMS key from the current AWS account, select this key under **Choose an AWS KMS key**. If you want to use a KMS key from a different AWS account, enter the Amazon Resource Name (ARN) for that key.

7. For **Connection name**, enter a name for your connection.
8. Choose **Continue**. A **Sign in** window opens.
9. Enter your user name and password to sign in to your Microsoft account.
10. On the **Permissions requested** page, choose **Accept**.

On the **Manage connections** page, your new connection appears in the **Connections** table. When you create a flow that uses Microsoft Teams as the data source, you can select this connection.

Transferring data from Microsoft Teams with a flow

To transfer data from Microsoft Teams, create an Amazon AppFlow flow, and choose Microsoft Teams as the data source. For the steps to create a flow, see Creating flows in Amazon AppFlow.

When you configure the flow, choose the data object that you want to transfer. For the objects that Amazon AppFlow supports for Microsoft Teams, see Supported objects.

Also, choose the destination where you want to transfer the data object that you selected. For more information about how to configure your destination, see Supported destinations.

Supported destinations

When you create a flow that uses Microsoft Teams as the data source, you can set the destination to any of the following connectors:

- Amazon Lookout for Metrics
- Amazon Redshift
- Amazon RDS for PostgreSQL
- Amazon S3
- HubSpot
- Marketo
- Salesforce

- SAP OData
- Snowflake
- Upsolver
- Zendesk
- Zoho CRM

Supported objects

When you create a flow that uses Microsoft Teams as the data source, you can transfer any of the following data objects to supported destinations:

Object	Field	Data type	Supported filters
Calendar Event	Allow New Time Proposals	Boolean	
	Attendees	List	
	Body	Struct	
	Body Preview	String	
	Categories	List	
	Change Key	String	
	Created DateTime	DateTime	
	End	Struct	
	Has Attachments	Boolean	
	Hide Attendees	Boolean	
	ICalUId	String	NOT_EQUAL_TO, EQUAL_TO
	Id	String	

Object	Field	Data type	Supported filters
	Importance	String	NOT_EQUAL_TO, EQUAL_TO
	Is AllDay	Boolean	
	Is Cancelled	Boolean	
	Is Draft	Boolean	
	Is Online Meeting	Boolean	
	Is Organizer	Boolean	
	Is Reminder On	Boolean	
	Last Modified DateTime	DateTime	
	Location	Struct	
	Locations	List	
	Occurrence Id	String	
	Online Meeting	Struct	
	Online Meeting Provider	String	
	Online Meeting Url	String	
	Organizer	Struct	
	Original End Time Zone	String	
	Original Start Time Zone	String	

Object	Field	Data type	Supported filters
	Recurrence	Struct	
	Reminder Minutes Before Start	Integer	
	Response Requested	Boolean	
	Response Status	Struct	
	Sensitivity	String	NOT_EQUAL_TO, EQUAL_TO
	Series Master Id	String	
	Show As	String	NOT_EQUAL_TO, EQUAL_TO
	Start	Struct	
	Subject	String	NOT_EQUAL _TO, EQUAL_TO, CONTAINS
	Transaction Id	String	
	Type	String	NOT_EQUAL_TO, EQUAL_TO
	WebLink	String	
Channel	Created DateTime	DateTime	
	Description	String	NOT_EQUAL _TO, EQUAL_TO, CONTAINS

Object	Field	Data type	Supported filters
	Display Name	String	NOT_EQUAL _TO, EQUAL_TO, CONTAINS
	Email	String	
	Id	String	NOT_EQUAL _TO, EQUAL_TO, CONTAINS
	Is Favorite By Default	Boolean	
	Membership Type	String	
	WebUrl	String	
Channel Message	Attachments	List	
	Body	Struct	
	Channel Identity	Struct	
	Chat Id	String	
	Created DateTime	DateTime	
	Deleted DateTime	DateTime	
	Etag	String	
	Event Detail	Struct	
	From	Struct	
	Id	String	
	Importance	String	
	Last Edited DateTime	DateTime	

Object	Field	Data type	Supported filters
	Last Modified DateTime	DateTime	
	Locale	String	
	Mentions	List	
	Message Type	String	
	Policy Violation	Struct	
	Reactions	List	
	Reply To Id	String	
	Subject	String	
	Summary	String	
	WebUrl	String	
Channel Message Reply	Attachments	List	
	Body	Struct	
	Channel Identity	Struct	
	Chat Id	String	
	Created DateTime	DateTime	
	Etag	String	
	Event Detail	Struct	
	From	Struct	
	Id	String	
	Importance	String	

Object	Field	Data type	Supported filters
	Last Edited DateTime	DateTime	
	Last Modified DateTime	DateTime	
	Locale	String	
	Mentions	List	
	Message Type	String	
	Policy Violation	Struct	
	Reactions	List	
	Reply To Id	String	
	Subject	String	
	Summary	String	
	WebUrl	String	
	dDeleted DateTime	DateTime	
Channel Tab	Configuration	Struct	
	Display Name	String	NOT_EQUAL_TO, EQUAL_TO, CONTAINS
	Id	String	NOT_EQUAL_TO, EQUAL_TO, CONTAINS
	WebUrl	String	
Chat	Chat Type	String	NOT_EQUAL_TO, EQUAL_TO

Object	Field	Data type	Supported filters
	Created DateTime	DateTime	
	Id	String	NOT_EQUAL_TO, EQUAL_TO
	Last Updated DateTime	DateTime	
	Online Meeting Info	Struct	
	Tenant Id	String	NOT_EQUAL_TO, EQUAL_TO
	Topic	String	NOT_EQUAL_TO, EQUAL_TO
	WebUrl	String	
Group	Classification	String	
	Created DateTime	DateTime	
	Creation Options	List	
	Deleted DateTime	DateTime	
	Description	String	
	Display Name	String	EQUAL_TO
	Expiration DateTime	DateTime	
	Group Types	List	
	Id	String	EQUAL_TO
	Is Assignable To Role	Boolean	
	Mail	String	EQUAL_TO

Object	Field	Data type	Supported filters
	Mail Enabled	Boolean	EQUAL_TO
	Mail Nickname	String	EQUAL_TO
	Membership Rule	String	EQUAL_TO
	Membership Rule Processing State	String	EQUAL_TO
	On Premises Domain Name	String	
	On Premises Last Sync DateTime	DateTime	
	On Premises Net Bios Name	String	
	On Premises Provisioning Errors	List	
	On Premises Sam Account Name	String	
	On Premises Sync Enabled	Boolean	
	OnPremises Security Identifier	String	
	Preferred Data Location	String	
	Preferred Language	String	
	Proxy Addresses	List	

Object	Field	Data type	Supported filters
	Renewed DateTime	DateTime	EQUAL_TO, LESS_THAN _OR_EQUAL _TO, GREATER_T HAN_OR_EQUAL_TO
	Resource Behavior Options	List	
	Resource Provisioning Options	List	
	Security Enabled	Boolean	EQUAL_TO
	Security Identifier	String	
	Theme	String	
	Visibility	String	
Group Member	Business Phones	List	
	Display Name	String	
	Given Name	String	
	Id	String	EQUAL_TO
	Job Title	String	
	Mail	String	
	Mobile Phone	String	
	Office Location	String	
	Preferred Language	String	
	Surname	String	

Object	Field	Data type	Supported filters
	User Principal Name	String	
Team	Classification	String	
	Created DateTime	DateTime	
	Description	String	
	Discovery Settings	Struct	
	Display Name	String	
	Fun Settings	Struct	
	Guest Settings	Struct	
	Id	String	
	Internal Id	String	
	Is Archived	Boolean	
	Is Membership Limited To Owners	Boolean	
	Member Settings	Struct	
	Messaging Settings	Struct	
	Specialization	String	
	Summary	String	
	Visibility	Struct	
	WebUrl	String	
Team Member	Display Name	String	NOT_EQUAL_TO, EQUAL_TO

Object	Field	Data type	Supported filters
	Email	String	
	Id	String	
	Roles	List	
	Tenant Id	String	
	User Id	String	
	Visible History Start DateTime	DateTime	

Mixpanel connector for Amazon AppFlow

Mixpanel is a service that provides analytics about user engagement in web and mobile applications. If you use Mixpanel, you can also use Amazon AppFlow to transfer your data to certain AWS services or other supported applications.

Topics

Mixpanel support

Amazon AppFlow supports Mixpanel as follows.

Supported as a data source?

Yes. You can use Amazon AppFlow to transfer data from your Mixpanel account.

Supported as a data destination?

No. You can't use Amazon AppFlow to transfer data to your Mixpanel account.

Before you begin

Before you can use Amazon AppFlow to transfer data from Mixpanel, you need the following:

- A Mixpanel project that contains the data that you want to transfer.
- A *service account* for your Mixpanel project. In Mixpanel, a service account is a type of user that you authorize to access a project programmatically with the Mixpanel API. Amazon AppFlow needs this account to access your data. For more information, see Service Accounts in the Mixpanel documentation.

  When you create a Mixpanel connection in Amazon AppFlow, you provide the following properties from your service account:

  - Username
  - Secret

Connecting Amazon AppFlow to your Mixpanel account

To connect Amazon AppFlow to your Mixpanel project, provide details about the service account that enables Amazon AppFlow to access your data. To create a service account, see Before you begin.

To connect to Mixpanel

1. Sign in to the AWS Management Console and open the Amazon AppFlow console at https://console.aws.amazon.com/appflow/.
2. In the navigation pane on the left, choose **Connections**.
3. On the **Manage connections** page, for **Connectors**, choose **Mixpanel**.
4. Choose **Create connection**.
5. In the **Connect to Mixpanel** window, enter the following:

   - **User name** – The user name of the Mixpanel service account that provides access to your project.

- **Password** – The service account secret.
- **MixPanel Instance URL** – Choose **https://mixpanel.com/api/app/me**.
- **MixPanel API version** – Choose **2.0**.

6. Optionally, under **Data encryption**, choose **Customize encryption settings (advanced)** if you want to encrypt your data with a customer managed key in the AWS Key Management Service (AWS KMS).

   By default, Amazon AppFlow encrypts your data with a KMS key that AWS creates, uses, and manages for you. Choose this option if you want to encrypt your data with your own KMS key instead.

   Amazon AppFlow always encrypts your data during transit and at rest. For more information, see Data protection in Amazon AppFlow.

   If you want to use a KMS key from the current AWS account, select this key under **Choose an AWS KMS key**. If you want to use a KMS key from a different AWS account, enter the Amazon Resource Name (ARN) for that key.
7. For **Connection name**, enter a name for your connection.
8. Choose **Connect**.

On the **Manage connections** page, your new connection appears in the **Connections** table. When you create a flow that uses Mixpanel as the data source, you can select this connection.

Transferring data from Mixpanel with a flow

To transfer data from Mixpanel, create an Amazon AppFlow flow, and choose Mixpanel as the data source. To learn how to create a flow, see Creating flows in Amazon AppFlow.

When you configure the flow, choose which data object that you want to transfer. For more information about the objects that Amazon AppFlow supports for Mixpanel, see Supported objects.

> ⚠ **Required filters for Mixpanel data objects**
>
> When you create a flow and use Mixpanel as the data source, most data objects require you to specify one or more *filters*. Filters are typically optional criteria that you use to transfer data objects selectively. Specifically for flows that transfer from Mixpanel, you must specify filters to provide Amazon AppFlow with parameter values that it needs to query your data.

For the filters that are required for each Mixpanel data object, see the section called "Supported objects".

Also choose the destination where you want to transfer the data object that you selected. For more information on how to configure your destination, see the section called "Supported destinations".

Supported objects

When you create a flow that uses Mixpanel as the data source, you can transfer any of the data objects shown in the following table. To retrieve each object, Amazon AppFlow sends a query to the URI in the *Mixpanel endpoint* column. Most data objects support one or more filters that appear under *Supported filters*. Flows that transfer from Mixpanel require certain filters.

Object	Mixpanel endpoint **The following paths are appended to the base URI: `https://mixpanel.com/api/2.0` .**	Supported filters
Annotations	`/annotations`	• from_date
Cohorts	`/cohorts/list`	None
Engage	`/engage`	None
Events	`/events`	• event* • from_date* • interval • to_date* • type* • unit* • workspace_id
Events Names	`/events/names`	• limit • type*

Object	Mixpanel endpoint The following paths are appended to the base URI: `https://mixpanel.com/api/2.0 .`	Supported filters
		• workspace_id
Events Properties	`/events/properties`	• event* • from_date* • interval • limit • name* • to_date* • type* • unit* • workspace_id
Events Properties Top	`/events/properties/top`	• event* • limit • workspace_id
Events Properties Values	`/events/properties/values`	• event* • limit • name* • workspace_id
Events Top	`/events/top`	• limit • type* • workspace_id

Object	Mixpanel endpoint **The following paths are appended to the base URI: `https://mixpanel.com/api/2.0` .**	Supported filters
Funnels	`/funnels`	• from_date* • funnel_id* • interval • length • length_unit • limit • to_date • unit* • workspace_id
Profile Event Activity	`/stream/query`	• distinct_ids • from_date* • to_date* • workspace_id
Retention	`/retention/addiction`	• addiction_unit • event • from_date* • limit • to_date* • unit* • workspace_id

Object	Mixpanel endpoint **The following paths are appended to the base URI: `https://mixpanel.com/api/2.0 .`**	Supported filters
Segmentation	`/segmentation`	• event* • from_date* • interval • limit • to_date* • type • unit • workspace_id
Segmentation Average	`/segmentation/average`	• event* • from_date* • on* • to_date* • unit • workspace_id
Segmentation Numeric	`/segmentation/numeric`	• event* • from_date* • on* • to_date* • type • unit • workspace_id

Object	Mixpanel endpoint **The following paths are appended to the base URI: `https://mixpanel.com/api/2.0 .`**	Supported filters
Segmentation Sum	`/segmentation/sum`	• event* • from_date* • on* • to_date* • unit • workspace_id

* You must specify this filter in your flow definition before Amazon AppFlow can successfully retrieve your data.

Supported destinations

When you create a flow that uses Mixpanel as the data source, you can set the destination to any of the following connectors:

- Amazon Lookout for Metrics
- Amazon Redshift
- Amazon RDS for PostgreSQL
- Amazon S3
- HubSpot
- Marketo
- Salesforce
- SAP OData
- Snowflake
- Upsolver
- Zendesk

- Zoho CRM

Okta connector for Amazon AppFlow

Okta is an identity and access management solution. If you you're an Okta user, your account contains data about your Okta objects, such as your users, groups, devices and applications. You can use Amazon AppFlow to transfer data from Okta to certain AWS services or other supported applications.

Amazon AppFlow support for Okta

Amazon AppFlow supports Okta as follows.

Supported as a data source?

Yes. You can use Amazon AppFlow to transfer data from Okta.

Supported as a data destination?

No. You can't use Amazon AppFlow to transfer data to Okta.

Before you begin

To use Amazon AppFlow to transfer data from Okta to supported destinations, you must meet these requirements:

- You have an account with Okta that contains the data that you want to transfer. For more information about the Okta data objects that Amazon AppFlow supports, see Supported objects.
- In your account , you've created either of the following resources for Amazon AppFlow. These resources provide credentials that Amazon AppFlow uses to access your data securely when it makes authenticated calls to your account.
  - An OIDC app integration to support OAuth 2.0 authentication. For the steps to create an app integration, see Create OIDC app integrations in the Okta Help Center.
  - An API token. For the steps to create one, see Create an API token in the Okta Help Center.
- If you created an OIDC app integration, you've configured it with the following settings:
  - The application type is *Web Application*.
  - The activated grant types include *Authorization Code* and *Refresh Token*.
  - The sign-in redirect URIs include one or more URLs for Amazon AppFlow.

Redirect URLs have the following format:

```
https://region.console.aws.amazon.com/appflow/oauth
```

In this URL, *region* is the code for the AWS Region where you use Amazon AppFlow to transfer data from Okta. For example, the code for the US East (N. Virginia) Region is `us-east-1`. For that Region, the URL is the following:

```
https://us-east-1.console.aws.amazon.com/appflow/oauth
```

For the AWS Regions that Amazon AppFlow supports, and their codes, see Amazon AppFlow endpoints and quotas in the *AWS General Reference*.

- The following scopes are permitted:
  - `okta.apps.read`
  - `okta.devices.read`
  - `okta.groups.read`
  - `okta.users.read`
  - `okta.userTypes.read`

If you created an OIDC app integration, note the client ID and client secret . If you created an API token, note the token value. You provide these values to Amazon AppFlow when you connect to your Okta account.

Connecting Amazon AppFlow to your Okta account

To connect Amazon AppFlow to your Okta account, provide the client credentials from your app integration, or provide an API token. If you haven't yet configured your Okta account for Amazon AppFlow integration, see Before you begin.

To connect to Okta

1. Sign in to the AWS Management Console and open the Amazon AppFlow console at https://console.aws.amazon.com/appflow/.
2. In the navigation pane on the left, choose **Connections**.
3. On the **Manage connections** page, for **Connectors**, choose **Okta**.

4. Choose **Create connection**.
5. In the **Connect to Okta** window, for **Select authentication type**, choose how to authenticate Amazon AppFlow with your Okta account when it requests to access your data:
   - Choose **OAuth2** to authenticate Amazon AppFlow with the client credentials from an OIDC app integration. Then, specify the following:
     - **Authorization tokens URL** and **Authorization code URL** – For each of these fields, do the following:
       1. Choose the format of your Okta Org URL. For more information, see Org URLs in the Okta Developer documentation.
       2. Enter your Okta subdomain. For the steps to look up your subdomain, see Find your Okta domain in the Okta Developer documentation..
     - **Client ID** – The client ID from your app integration.
     - **Client secret** – The client secret from your app integration.
   - Choose **Okta_API_Token** to authenticate Amazon AppFlow with an API token. Then, enter the token value for **Okta API Token**.
6. For **Your Okta Domain URL**, enter your domain URL, such as ***my-domain*.okta.com**. For the steps to find your domain, see Find your Okta domain in the Okta Developer documentation.
7. Optionally, under **Data encryption**, choose **Customize encryption settings (advanced)** if you want to encrypt your data with a customer managed key in the AWS Key Management Service (AWS KMS).

   By default, Amazon AppFlow encrypts your data with a KMS key that AWS creates, uses, and manages for you. Choose this option if you want to encrypt your data with your own KMS key instead.

   Amazon AppFlow always encrypts your data during transit and at rest. For more information, see Data protection in Amazon AppFlow.

   If you want to use a KMS key from the current AWS account, select this key under **Choose an AWS KMS key**. If you want to use a KMS key from a different AWS account, enter the Amazon Resource Name (ARN) for that key.
8. For **Connection name**, enter a name for your connection.
9. Choose **Continue**.

10. In the window that appears, sign in to your Okta account, and grant access to Amazon AppFlow.

On the **Manage connections** page, your new connection appears in the **Connections** table. When you create a flow that uses Okta as the data source, you can select this connection.

Transferring data from Okta with a flow

To transfer data from Okta, create an Amazon AppFlow flow, and choose Okta as the data source. For the steps to create a flow, see Creating flows in Amazon AppFlow.

When you configure the flow, choose the data object that you want to transfer. For the objects that Amazon AppFlow supports for Okta, see Supported objects.

Also, choose the destination where you want to transfer the data object that you selected. For more information about how to configure your destination, see Supported destinations.

Supported destinations

When you create a flow that uses Okta as the data source, you can set the destination to any of the following connectors:

- Amazon Lookout for Metrics
- Amazon Redshift
- Amazon RDS for PostgreSQL
- Amazon S3
- HubSpot
- Marketo
- Salesforce
- SAP OData
- Snowflake
- Upsolver
- Zendesk
- Zoho CRM

Supported objects

When you create a flow that uses Okta as the data source, you can transfer any of the following data objects to supported destinations:

Object	Field	Data type	Supported filters
Application	Accessibility	Struct	
	Created	DateTime	
	Credentials	Struct	
	Credentials Signing Key ID	String	EQUAL_TO
	Embedded	Struct	
	Features	List	
	Group ID	String	EQUAL_TO
	ID	String	
	Label	String	
	Last Updated	DateTime	
	Links	Struct	
	Name	String	EQUAL_TO
	Profile	Struct	
	Request Object Signing Alg	String	
	Settings	Struct	
	Status	String	EQUAL_TO

Object	Field	Data type	Supported filters
	User ID	String	EQUAL_TO
	Visibility	Struct	
	signOnMode	String	
Device	Created	DateTime	
	Display Name	String	EQUAL_TO
	ID	String	EQUAL_TO
	IMEI	String	EQUAL_TO
	Last Updated	DateTime	EQUAL_TO, NOT_EQUAL _TO, GREATER_T HAN, GREATER_T HAN_OR_EQ UAL_TO, LESS_THAN , LESS_THAN _OR_EQUAL_TO
	Links	Struct	
	Manufacturer	String	EQUAL_TO
	Mobile Equipment Identifier (MEID)	String	EQUAL_TO
	Model	String	EQUAL_TO
	OS Version	String	EQUAL_TO
	Platform	String	EQUAL_TO
	Profile	Struct	
	Registered	Boolean	EQUAL_TO

Object	Field	Data type	Supported filters
	Resource Alternate ID	String	
	Resource Display Name	Struct	
	Resource ID	String	
	Resource Type	String	
	Secure Hardware Present	Boolean	EQUAL_TO
	Serial Number	String	EQUAL_TO
	Status	String	EQUAL_TO
	Windows Security identifier (SID)	String	EQUAL_TO
	macOS UDID	String	EQUAL_TO
	tpmPublicKeyHash	String	EQUAL_TO
Group	Created	DateTime	EQUAL_TO, NOT_EQUAL _TO, GREATER_T HAN, GREATER_T HAN_OR_EQ UAL_TO, LESS_THAN , LESS_THAN _OR_EQUAL_TO
	Embedded	Struct	
	GUID (objectGUID) of the Windows Group	String	EQUAL_TO
	Group Description	String	EQUAL_TO

Object	Field	Data type	Supported filters
	Group Name	String	EQUAL_TO
	ID	String	EQUAL_TO
	Last Membership Updated	DateTime	EQUAL_TO, NOT_EQUAL _TO, GREATER_T HAN, GREATER_T HAN_OR_EQ UAL_TO, LESS_THAN , LESS_THAN _OR_EQUAL_TO
	Last Updated	DateTime	EQUAL_TO, NOT_EQUAL _TO, GREATER_T HAN, GREATER_T HAN_OR_EQ UAL_TO, LESS_THAN , LESS_THAN _OR_EQUAL_TO
	Links	Struct	
	Object Class	List	
	Profile	Struct	
	SAM Account Name	String	EQUAL_TO
	Source ID	String	EQUAL_TO
	Type	String	EQUAL_TO
	Windows Domain Qualified Name	String	EQUAL_TO

Object	Field	Data type	Supported filters
	Windows Group Distinguished Name	String	EQUAL_TO
User	Activated	DateTime	EQUAL_TO, NOT_EQUAL _TO, GREATER_T HAN, GREATER_T HAN_OR_EQ UAL_TO, LESS_THAN , LESS_THAN _OR_EQUAL_TO
	City	String	EQUAL_TO
	Cost Center	String	EQUAL_TO
	Country Code	String	EQUAL_TO
	Created	DateTime	EQUAL_TO, NOT_EQUAL _TO, GREATER_T HAN, GREATER_T HAN_OR_EQ UAL_TO, LESS_THAN , LESS_THAN _OR_EQUAL_TO
	Credentials	Struct	
	Department	String	EQUAL_TO
	Display Name	String	EQUAL_TO
	Division	String	EQUAL_TO
	Email	String	EQUAL_TO

Object	Field	Data type	Supported filters
	Embedded Resources	Struct	
	Employee Number	String	EQUAL_TO
	First Name	String	EQUAL_TO
	Honorific Prefix	String	EQUAL_TO
	Honorific Suffix	String	EQUAL_TO
	ID	String	EQUAL_TO
	Last Login	DateTime	
	Last Name	String	EQUAL_TO
	Last Updated	DateTime	EQUAL_TO, NOT_EQUAL _TO, GREATER_T HAN, GREATER_T HAN_OR_EQ UAL_TO, LESS_THAN , LESS_THAN _OR_EQUAL_TO
	Links	Struct	
	Locale	String	EQUAL_TO
	Manager Display Name	String	EQUAL_TO
	Manager ID	String	EQUAL_TO
	Middle Name	String	EQUAL_TO
	Mobile Phone	String	EQUAL_TO
	Nickname	String	EQUAL_TO

Object	Field	Data type	Supported filters
	Occupation	String	EQUAL_TO
	Organization	String	EQUAL_TO
	Password Changed	DateTime	
	Postal Address	String	EQUAL_TO
	Preferred Language	String	EQUAL_TO
	Primary Phone	String	EQUAL_TO
	Profile	Struct	
	Profile URL	String	EQUAL_TO
	Second Email	String	EQUAL_TO
	State	String	EQUAL_TO
	Status	String	EQUAL_TO
	Status Changed	DateTime	EQUAL_TO, NOT_EQUAL _TO, GREATER_T HAN, GREATER_T HAN_OR_EQ UAL_TO, LESS_THAN , LESS_THAN _OR_EQUAL_TO
	Street Address	String	EQUAL_TO
	Timezone	String	EQUAL_TO
	Title	String	EQUAL_TO
	Transitioning to status	String	

Object	Field	Data type	Supported filters
	Type	Struct	
	Type ID	String	EQUAL_TO
	User Type	String	EQUAL_TO
	Username	String	EQUAL_TO
	Zip Code	String	EQUAL_TO
User Type	Created	DateTime	
	Created By	String	
	Default	Boolean	
	Description	String	
	Display Name	String	
	ID	String	
	Last Updated	DateTime	
	Last Updated By	String	
	Links	Struct	
	Name	String	

Oracle HCM connector for Amazon AppFlow

Oracle Human Capital Management (HCM) is a cloud-based application for human resources (HR) processes. You can use Amazon AppFlow to transfer data from Oracle HCM to certain AWS services or other supported applications.

Amazon AppFlow support for Oracle HCM

Amazon AppFlow supports Oracle HCM as follows.

Supported as a data source?

Yes. You can use Amazon AppFlow to transfer data from Oracle HCM.

Supported as a data destination?

No. You can't use Amazon AppFlow to transfer data to Oracle HCM.

Before you begin

To use Amazon AppFlow to transfer data from Oracle HCM to supported destinations, you must have an account with Oracle HCM that contains the data that you want to transfer.

Connecting Amazon AppFlow to your Oracle HCM account

To connect Amazon AppFlow to your Oracle HCM account, provide your account credentials and instance URL.

To connect to Oracle HCM

1. Sign in to the AWS Management Console and open the Amazon AppFlow console at https://console.aws.amazon.com/appflow/.
2. In the navigation pane on the left, choose **Connections**.
3. On the **Manage connections** page, for **Connectors**, choose **Oracle HCM**.
4. Choose **Create connection**.
5. In the **Connect to Oracle HCM** window, enter the following information:
   - **User name** – The user name for your Oracle HCM account.
   - **Password** – The password for your Oracle HCM account.
   - **Oraclehcm Instance URL** – The URL of your Oracle HCM instance.
6. Optionally, under **Data encryption**, choose **Customize encryption settings (advanced)** if you want to encrypt your data with a customer managed key in the AWS Key Management Service (AWS KMS).

   By default, Amazon AppFlow encrypts your data with a KMS key that AWS creates, uses, and manages for you. Choose this option if you want to encrypt your data with your own KMS key instead.

Amazon AppFlow always encrypts your data during transit and at rest. For more information, see Data protection in Amazon AppFlow.

If you want to use a KMS key from the current AWS account, select this key under **Choose an AWS KMS key**. If you want to use a KMS key from a different AWS account, enter the Amazon Resource Name (ARN) for that key.

7. For **Connection name**, enter a name for your connection.
8. Choose **Connect**.

On the **Manage connections** page, your new connection appears in the **Connections** table. When you create a flow that uses Oracle HCM as the data source, you can select this connection.

Transferring data from Oracle HCM with a flow

To transfer data from Oracle HCM, create an Amazon AppFlow flow, and choose Oracle HCM as the data source. For the steps to create a flow, see Creating flows in Amazon AppFlow.

Supported destinations

When you create a flow that uses Oracle HCM as the data source, you can set the destination to any of the following connectors:

- Amazon Lookout for Metrics
- Amazon Redshift
- Amazon RDS for PostgreSQL
- Amazon S3
- HubSpot
- Marketo
- Salesforce
- SAP OData
- Snowflake
- Upsolver
- Zendesk

- Zoho CRM

PayPal connector for Amazon AppFlow

PayPal is a payments system that facilitates online money transfers between parties, such as transfers between customers and online vendors. If you're a PayPal user, your account contains data about your transactions, such as their payers, dates, and statuses. You can use Amazon AppFlow to transfer data from PayPal to certain AWS services or other supported applications.

Amazon AppFlow support for PayPal

Amazon AppFlow supports PayPal as follows.

Supported as a data source?

Yes. You can use Amazon AppFlow to transfer data from PayPal.

Supported as a data destination?

No. You can't use Amazon AppFlow to transfer data to PayPal.

Before you begin

To use Amazon AppFlow to transfer data from PayPal to supported destinations, you must meet these requirements:

- You have an account with PayPal that contains the data that you want to transfer. For more information about the PayPal data objects that Amazon AppFlow supports, see Supported objects.
- In PayPal Developer, you've created a REST API app for Amazon AppFlow. The app provides the client credentials that Amazon AppFlow uses to access your data securely when it makes authenticated calls to your account. For the steps to create an app, see How do I create REST API credentials? in the PayPal Help Center.
- You have configured the app with one or more redirect URLs for Amazon AppFlow.

  Redirect URLs have the following format:

```
https://region.console.aws.amazon.com/appflow/oauth
```

In this URL, *region* is the code for the AWS Region where you use Amazon AppFlow to transfer data from PayPal. For example, the code for the US East (N. Virginia) Region is `us-east-1`. For that Region, the URL is the following:

```
https://us-east-1.console.aws.amazon.com/appflow/oauth
```

For the AWS Regions that Amazon AppFlow supports, and their codes, see Amazon AppFlow endpoints and quotas in the *AWS General Reference.*

Note the client ID and secret from the settings for your REST API app. You provide these values to Amazon AppFlow when you connect to your PayPal account.

Connecting Amazon AppFlow to your PayPal account

To connect Amazon AppFlow to your PayPal account, provide the client credentials from your REST API app so that Amazon AppFlow can access your data. If you haven't yet configured your PayPal account for Amazon AppFlow integration, see Before you begin.

To connect to PayPal

1. Sign in to the AWS Management Console and open the Amazon AppFlow console at https://console.aws.amazon.com/appflow/.
2. In the navigation pane on the left, choose **Connections**.
3. On the **Manage connections** page, for **Connectors**, choose **PayPal**.
4. Choose **Create connection**.
5. In the **Connect to PayPal** window, enter the following information:

   - **Authorization tokens URL** – Do one of the following:
     - To connect to a REST API app in the PayPal Live environment, choose **https://api-m.paypal.com/v1/oauth2/token**.
     - To connect to a REST API app in the PayPal Sandbox environment, choose **https://api-m.sandbox.paypal.com/v1/oauth2/token**.
   - **Client ID** – The client ID of your REST API app in PayPal Developer.
   - **Client secret** – The secret of your REST API app in PayPal Developer.
   - **Instance URL** – Do one of the following:

- To connect to a REST API app in the PayPal Live environment, choose **https://api-m.paypal.com**.
- To connect to a REST API app in the PayPal Sandbox environment, choose **https://api-m.sandbox.paypal.com**.

6. Optionally, under **Data encryption**, choose **Customize encryption settings (advanced)** if you want to encrypt your data with a customer managed key in the AWS Key Management Service (AWS KMS).

   By default, Amazon AppFlow encrypts your data with a KMS key that AWS creates, uses, and manages for you. Choose this option if you want to encrypt your data with your own KMS key instead.

   Amazon AppFlow always encrypts your data during transit and at rest. For more information, see Data protection in Amazon AppFlow.

   If you want to use a KMS key from the current AWS account, select this key under **Choose an AWS KMS key**. If you want to use a KMS key from a different AWS account, enter the Amazon Resource Name (ARN) for that key.
7. For **Connection name**, enter a name for your connection.
8. Choose **Connect**.
9. In the window that appears, sign in to your PayPal account, and grant access to Amazon AppFlow.

On the **Manage connections** page, your new connection appears in the **Connections** table. When you create a flow that uses PayPal as the data source, you can select this connection.

Transferring data from PayPal with a flow

To transfer data from PayPal, create an Amazon AppFlow flow, and choose PayPal as the data source. For the steps to create a flow, see Creating flows in Amazon AppFlow.

When you configure the flow, choose the data object that you want to transfer. For the objects that Amazon AppFlow supports for PayPal, see Supported objects.

Also, choose the destination where you want to transfer the data object that you selected. For more information about how to configure your destination, see Supported destinations.

Supported destinations

When you create a flow that uses PayPal as the data source, you can set the destination to any of the following connectors:

- Amazon Lookout for Metrics
- Amazon Redshift
- Amazon RDS for PostgreSQL
- Amazon S3
- HubSpot
- Marketo
- Salesforce
- SAP OData
- Snowflake
- Upsolver
- Zendesk
- Zoho CRM

Supported objects

When you create a flow that uses PayPal as the data source, you can transfer any of the following data objects to supported destinations:

Object	Field	Data type	Supported filters
Transaction	Auction Info	Struct	
	Balance Affecting Records Only	String	EQUAL_TO
	Cart Info	Struct	
	Date Range	DateTime	BETWEEN
	Incentive Info	Struct	

Object	Field	Data type	Supported filters
	Last Refreshed Date Time	String	
	Payer Info	Struct	
	Payment Instrument Type	String	EQUAL_TO
	Shipping Info	Struct	
	Store ID	String	EQUAL_TO
	Store Info	Struct	
	Terminal ID	String	EQUAL_TO
	Transaction Currency	String	EQUAL_TO
	Transaction ID	String	EQUAL_TO
	Transaction Info	Struct	
	Transaction Status	String	EQUAL_TO
	Transaction Type	String	EQUAL_TO

Pendo connector for Amazon AppFlow

Pendo is a product analytics solution that helps teams record, monitor, and analyze data about the user experience in their apps. If you're a Pendo user, your account contains data about your users and their behavior in your product. You can use Amazon AppFlow to transfer data from Pendo to certain AWS services or other supported applications.

Amazon AppFlow support for Pendo

Amazon AppFlow supports Pendo as follows.

Supported as a data source?

Yes. You can use Amazon AppFlow to transfer data from Pendo.

Supported as a data destination?

No. You can't use Amazon AppFlow to transfer data to Pendo.

Before you begin

To use Amazon AppFlow to transfer data from Pendo to supported destinations, you must meet these requirements:

- You have an account with Pendo that contains the data that you want to transfer. For more information about the Pendo data objects that Amazon AppFlow supports, see Supported objects.
- In your Pendo account, you've created an integration key for Amazon AppFlow, and you've configured the key to allow write access. For the steps to create a key, see Authentication in the Pendo Developers documentation.

Note the value of the integration key. You provide this value to Amazon AppFlow when you connect to your Pendo account.

Connecting Amazon AppFlow to your Pendo account

To connect Amazon AppFlow to your Pendo account, provide the value of your integration key so that Amazon AppFlow can access your data. If you haven't yet configured your Pendo account for Amazon AppFlow integration, see Before you begin.

To connect to Pendo

1. Sign in to the AWS Management Console and open the Amazon AppFlow console at https://console.aws.amazon.com/appflow/.
2. In the navigation pane on the left, choose **Connections**.
3. On the **Manage connections** page, for **Connectors**, choose **Pendo**.
4. Choose **Create connection**.
5. In the **Connect to Pendo** window, for **API key**, enter the value of the integration key from your Pendo account.

6. Optionally, under **Data encryption**, choose **Customize encryption settings (advanced)** if you want to encrypt your data with a customer managed key in the AWS Key Management Service (AWS KMS).

   By default, Amazon AppFlow encrypts your data with a KMS key that AWS creates, uses, and manages for you. Choose this option if you want to encrypt your data with your own KMS key instead.

   Amazon AppFlow always encrypts your data during transit and at rest. For more information, see Data protection in Amazon AppFlow.

   If you want to use a KMS key from the current AWS account, select this key under **Choose an AWS KMS key**. If you want to use a KMS key from a different AWS account, enter the Amazon Resource Name (ARN) for that key.
7. For **Connection name**, enter a name for your connection.
8. Choose **Connect**.

On the **Manage connections** page, your new connection appears in the **Connections** table. When you create a flow that uses Pendo as the data source, you can select this connection.

Transferring data from Pendo with a flow

To transfer data from Pendo, create an Amazon AppFlow flow, and choose Pendo as the data source. For the steps to create a flow, see Creating flows in Amazon AppFlow.

When you configure the flow, choose the data object that you want to transfer. For the objects that Amazon AppFlow supports for Pendo, see Supported objects.

Also, choose the destination where you want to transfer the data object that you selected. For more information about how to configure your destination, see Supported destinations.

Supported destinations

When you create a flow that uses Pendo as the data source, you can set the destination to any of the following connectors:

- Amazon Lookout for Metrics
- Amazon Redshift

- Amazon RDS for PostgreSQL
- Amazon S3
- HubSpot
- Marketo
- Salesforce
- SAP OData
- Snowflake
- Upsolver
- Zendesk
- Zoho CRM

Supported objects

When you create a flow that uses Pendo as the data source, you can transfer any of the following data objects to supported destinations:

Object	Field	Data type	Supported filters
Account	Account ID	String	EQUAL_TO, NOT_EQUAL_TO, CONTAINS
	Metadata	Struct	
	Parent Account	Boolean	EQUAL_TO
Event	Account ID	String	EQUAL_TO, NOT_EQUAL_TO, CONTAINS
	App ID	Long	LESS_THAN , GREATER_T HAN, LESS_THAN _OR_EQUAL _TO, GREATER_T HAN_OR_EQ

Object	Field	Data type	Supported filters
			UAL_TO, EQUAL_TO, NOT_EQUAL_TO
	Date Time Range	DateTime	BETWEEN
	Day	Long	EQUAL_TO, NOT_EQUAL_TO
	Num Event	Long	LESS_THAN , GREATER_T HAN, LESS_THAN _OR_EQUAL _TO, GREATER_T HAN_OR_EQ UAL_TO, EQUAL_TO, NOT_EQUAL_TO
	Number Minute	Long	LESS_THAN , GREATER_T HAN, LESS_THAN _OR_EQUAL _TO, GREATER_T HAN_OR_EQ UAL_TO, EQUAL_TO, NOT_EQUAL_TO
	Page ID	String	EQUAL_TO, NOT_EQUAL_TO, CONTAINS
	Parameter	String	
	Remote IP	String	EQUAL_TO, NOT_EQUAL_TO, CONTAINS

Object	Field	Data type	Supported filters
	Server	String	EQUAL_TO, NOT_EQUAL_TO, CONTAINS
	User Agent	String	EQUAL_TO, NOT_EQUAL_TO, CONTAINS
	Visitor ID	String	EQUAL_TO, NOT_EQUAL_TO, CONTAINS
Feature	App ID	Long	
	App Wide	Boolean	
	Color	String	
	Created At	Long	
	Created By User	Struct	
	Created Designer Version	String	
	Daily Merge First	Long	
	Daily Rollup First	Long	
	Dirty	Boolean	
	Element Initial Tag	String	
	Element Path Rule	List	
	Element Selection Type	String	

Object	Field	Data type	Supported filters
	Event Property Configuration	List	
	Group	Struct	
	ID	String	
	Is Core Event	Boolean	
	Kind	String	
	Last Updated At	Long	
	Last Updated By User	Struct	
	Name	String	
	Root Version ID	String	
	Stable Version ID	String	
	Suggested Match	String	
	Valid Through	Long	
Feature Event	Account ID	String	EQUAL_TO, NOT_EQUAL_TO, CONTAINS
	App ID	Long	LESS_THAN , GREATER_T HAN, LESS_THAN _OR_EQUAL _TO, GREATER_T HAN_OR_EQ UAL_TO, EQUAL_TO, NOT_EQUAL_TO

Object	Field	Data type	Supported filters
	Date Time Range	DateTime	BETWEEN
	Day	Long	EQUAL_TO, NOT_EQUAL_TO
	Feature ID	String	EQUAL_TO, NOT_EQUAL_TO, CONTAINS
	Num Event	Long	LESS_THAN , GREATER_T HAN, LESS_THAN _OR_EQUAL _TO, GREATER_T HAN_OR_EQ UAL_TO, EQUAL_TO, NOT_EQUAL_TO
	Number Minute	Long	LESS_THAN , GREATER_T HAN, LESS_THAN _OR_EQUAL _TO, GREATER_T HAN_OR_EQ UAL_TO, EQUAL_TO, NOT_EQUAL_TO
	Parameter	String	
	Remote IP	String	EQUAL_TO, NOT_EQUAL_TO, CONTAINS
	Server	String	EQUAL_TO, NOT_EQUAL_TO, CONTAINS

Object	Field	Data type	Supported filters
	User Agent	String	EQUAL_TO, NOT_EQUAL_TO, CONTAINS
	Visitor ID	String	EQUAL_TO, NOT_EQUAL_TO, CONTAINS
Guide	App ID	Long	
	App IDS	List	
	Attribute	Struct	
	Audience	List	
	Audience UI Hint	Struct	
	Authored Language	String	
	Created At	Long	
	Created By User	Struct	
	Current First Eligible To Be Seen At	Long	
	Editor Type	String	
	Email Configuration	Struct	
	Email State	String	
	ID	String	
	Is Module	Boolean	
	Is Multi Step	Boolean	

Object	Field	Data type	Supported filters
	Is Top Level	Boolean	
	Is Training	Boolean	
	Kind	String	
	Last Updated At	Long	
	Last Updated By User	Struct	
	Launch Method	String	
	Name	String	
	Poll	List	
	Published At	Long	
	Recurrence	Long	
	Recurrence Eligibility Window	Long	
	Reset At	Long	
	Root Version ID	String	
	Shows After	Long	
	Stable Version ID	String	
	State	String	
	Step	List	
Guide Event	Account ID	String	EQUAL_TO, NOT_EQUAL_TO, CONTAINS

Object	Field	Data type	Supported filters
	Account IDS	List	EQUAL_TO, NOT_EQUAL_TO, CONTAINS
	App ID	Long	LESS_THAN , GREATER_T HAN, LESS_THAN _OR_EQUAL _TO, GREATER_T HAN_OR_EQ UAL_TO, EQUAL_TO, NOT_EQUAL_TO
	Browser Time	Long	LESS_THAN , GREATER_T HAN, LESS_THAN _OR_EQUAL _TO, GREATER_T HAN_OR_EQ UAL_TO, EQUAL_TO, NOT_EQUAL_TO
	Country	String	EQUAL_TO, NOT_EQUAL_TO, CONTAINS
	Date Time Range	DateTime	BETWEEN
	Element Path	String	EQUAL_TO, NOT_EQUAL_TO, CONTAINS
	Event ID	String	EQUAL_TO, NOT_EQUAL_TO, CONTAINS

Object	Field	Data type	Supported filters
	Guide ID	String	EQUAL_TO, NOT_EQUAL_TO, CONTAINS
	Guide Seen Reason	String	EQUAL_TO, NOT_EQUAL_TO, CONTAINS
	Guide Step ID	String	EQUAL_TO, NOT_EQUAL_TO, CONTAINS
	Language	String	EQUAL_TO, NOT_EQUAL_TO, CONTAINS
	Latitude	Double	LESS_THAN , GREATER_T HAN, LESS_THAN _OR_EQUAL _TO, GREATER_T HAN_OR_EQ UAL_TO, EQUAL_TO, NOT_EQUAL_TO
	Load Time	Long	LESS_THAN , GREATER_T HAN, LESS_THAN _OR_EQUAL _TO, GREATER_T HAN_OR_EQ UAL_TO, EQUAL_TO, NOT_EQUAL_TO

Object	Field	Data type	Supported filters
	Longitude	Double	LESS_THAN , GREATER_T HAN, LESS_THAN _OR_EQUAL _TO, GREATER_T HAN_OR_EQ UAL_TO, EQUAL_TO, NOT_EQUAL_TO
	Old Visitor ID	String	EQUAL_TO, NOT_EQUAL_TO, CONTAINS
	Region	String	EQUAL_TO, NOT_EQUAL_TO, CONTAINS
	Remote IP	String	EQUAL_TO, NOT_EQUAL_TO, CONTAINS
	ServerName	String	EQUAL_TO, NOT_EQUAL_TO, CONTAINS
	Title	String	EQUAL_TO, NOT_EQUAL_TO, CONTAINS
	Type	String	EQUAL_TO, NOT_EQUAL_TO, CONTAINS
	UI Element Action	String	EQUAL_TO, NOT_EQUAL_TO, CONTAINS

Object	Field	Data type	Supported filters
	UI Element ID	String	EQUAL_TO, NOT_EQUAL_TO, CONTAINS
	UI Element Text	String	EQUAL_TO, NOT_EQUAL_TO, CONTAINS
	UI Element Type	String	EQUAL_TO, NOT_EQUAL_TO, CONTAINS
	URL	String	EQUAL_TO, NOT_EQUAL_TO, CONTAINS
	User Agent	String	EQUAL_TO, NOT_EQUAL_TO, CONTAINS
	Visitor ID	String	EQUAL_TO, NOT_EQUAL_TO, CONTAINS
Page	App ID	Long	
	Color	String	
	Created At	Long	
	Created By User	Struct	
	Daily Merge First	Long	
	Daily Rollup First	Long	
	Dirty	Boolean	

Object	Field	Data type	Supported filters
	Group	Struct	
	ID	String	
	Is Auto Tagged	Boolean	
	Is Core Event	Boolean	
	Kind	String	
	Last Updated At	Long	
	Last Updated By User	Struct	
	Name	String	
	Root Version ID	String	
	Rule	List	
	Rules Json	String	
	Stable Version ID	String	
	Suggested Name	String	
	Valid Through	Long	
Page Event	Account ID	String	EQUAL_TO, NOT_EQUAL_TO, CONTAINS

Object	Field	Data type	Supported filters
	App ID	Long	LESS_THAN , GREATER_T HAN, LESS_THAN _OR_EQUAL _TO, GREATER_T HAN_OR_EQ UAL_TO, EQUAL_TO, NOT_EQUAL_TO
	Date Time Range	DateTime	BETWEEN
	Day	Long	EQUAL_TO, NOT_EQUAL_TO
	Num Event	Long	LESS_THAN , GREATER_T HAN, LESS_THAN _OR_EQUAL _TO, GREATER_T HAN_OR_EQ UAL_TO, EQUAL_TO, NOT_EQUAL_TO
	Number Minute	Long	LESS_THAN , GREATER_T HAN, LESS_THAN _OR_EQUAL _TO, GREATER_T HAN_OR_EQ UAL_TO, EQUAL_TO, NOT_EQUAL_TO
	Page ID	String	EQUAL_TO, NOT_EQUAL_TO, CONTAINS

Object	Field	Data type	Supported filters
	Parameter	String	
	Remote IP	String	EQUAL_TO, NOT_EQUAL_TO, CONTAINS
	Server	String	EQUAL_TO, NOT_EQUAL_TO, CONTAINS
	User Agent	String	EQUAL_TO, NOT_EQUAL_TO, CONTAINS
	Visitor ID	String	EQUAL_TO, NOT_EQUAL_TO, CONTAINS
Poll Event	Account ID	String	EQUAL_TO, NOT_EQUAL_TO, CONTAINS
	Account IDS	Struct	EQUAL_TO, NOT_EQUAL_TO, CONTAINS
	App ID	Long	LESS_THAN , GREATER_T HAN, LESS_THAN _OR_EQUAL _TO, GREATER_T HAN_OR_EQ UAL_TO, EQUAL_TO, NOT_EQUAL_TO

Object	Field	Data type	Supported filters
	Browser Time	Long	LESS_THAN , GREATER_T HAN, LESS_THAN _OR_EQUAL _TO, GREATER_T HAN_OR_EQ UAL_TO, EQUAL_TO, NOT_EQUAL_TO
	Country	String	EQUAL_TO, NOT_EQUAL_TO, CONTAINS
	Date Time Range	DateTime	BETWEEN
	Element Path	String	EQUAL_TO, NOT_EQUAL_TO, CONTAINS
	Event Id	String	EQUAL_TO, NOT_EQUAL_TO, CONTAINS
	Guide ID	String	EQUAL_TO, NOT_EQUAL_TO, CONTAINS
	Guide Step ID	String	EQUAL_TO, NOT_EQUAL_TO, CONTAINS
	Language	String	EQUAL_TO, NOT_EQUAL_TO, CONTAINS

Object	Field	Data type	Supported filters
	Latitude	Double	LESS_THAN , GREATER_T HAN, LESS_THAN _OR_EQUAL _TO, GREATER_T HAN_OR_EQ UAL_TO, EQUAL_TO, NOT_EQUAL_TO
	Load Time	Long	LESS_THAN , GREATER_T HAN, LESS_THAN _OR_EQUAL _TO, GREATER_T HAN_OR_EQ UAL_TO, EQUAL_TO, NOT_EQUAL_TO
	Longitude	Double	LESS_THAN , GREATER_T HAN, LESS_THAN _OR_EQUAL _TO, GREATER_T HAN_OR_EQ UAL_TO, EQUAL_TO, NOT_EQUAL_TO
	Old Visitor ID	String	EQUAL_TO, NOT_EQUAL_TO, CONTAINS
	Poll ID	String	EQUAL_TO, NOT_EQUAL_TO, CONTAINS

Object	Field	Data type	Supported filters
	Poll Response	String	EQUAL_TO, NOT_EQUAL_TO
	Poll Type	String	EQUAL_TO, NOT_EQUAL_TO, CONTAINS
	Region	String	EQUAL_TO, NOT_EQUAL_TO, CONTAINS
	Remote IP	String	EQUAL_TO, NOT_EQUAL_TO, CONTAINS
	ServerName	String	EQUAL_TO, NOT_EQUAL_TO, CONTAINS
	Title	String	EQUAL_TO, NOT_EQUAL_TO, CONTAINS
	Type	String	EQUAL_TO, NOT_EQUAL_TO, CONTAINS
	URL	String	EQUAL_TO, NOT_EQUAL_TO, CONTAINS
	User Agent	String	EQUAL_TO, NOT_EQUAL_TO, CONTAINS

Object	Field	Data type	Supported filters
	Visitor ID	String	EQUAL_TO, NOT_EQUAL_TO, CONTAINS
Report	Aggregation	Struct	
	Created At	Long	
	Created By User	Struct	
	Definition	Struct	
	ID	String	
	Kind	String	
	Last Run At	Long	
	Last Updated At	Long	
	Last Updated By User	Struct	
	Level	String	
	Name	String	
	Owned By User	Struct	
	Root Version ID	String	
	Scope	String	
	Share	String	
	Shared	Boolean	
	Stable Version ID	String	
	Target	String	

Object	Field	Data type	Supported filters
	Type	String	
Report Data			
Track Event	Account ID	String	EQUAL_TO, NOT_EQUAL_TO, CONTAINS
	App ID	Long	LESS_THAN , GREATER_T HAN, LESS_THAN _OR_EQUAL _TO, GREATER_T HAN_OR_EQ UAL_TO, EQUAL_TO, NOT_EQUAL_TO
	Date Time Range	DateTime	BETWEEN
	Day	Long	LESS_THAN , GREATER_T HAN, LESS_THAN _OR_EQUAL _TO, GREATER_T HAN_OR_EQ UAL_TO, EQUAL_TO, NOT_EQUAL_TO
	Num Event	Long	LESS_THAN , GREATER_T HAN, LESS_THAN _OR_EQUAL _TO, GREATER_T HAN_OR_EQ UAL_TO, EQUAL_TO, NOT_EQUAL_TO

Object	Field	Data type	Supported filters
	Number Minute	Long	LESS_THAN , GREATER_T HAN, LESS_THAN _OR_EQUAL _TO, GREATER_T HAN_OR_EQ UAL_TO, EQUAL_TO, NOT_EQUAL_TO
	Parameter	String	
	Property	Struct	
	Remote IP	String	EQUAL_TO, NOT_EQUAL_TO, CONTAINS
	Server	String	EQUAL_TO, NOT_EQUAL_TO, CONTAINS
	Track Type ID	String	EQUAL_TO, NOT_EQUAL_TO, CONTAINS
	User Agent	String	EQUAL_TO, NOT_EQUAL_TO, CONTAINS
	Visitor ID	String	EQUAL_TO, NOT_EQUAL_TO, CONTAINS
Visitor	Identified	Boolean	EQUAL_TO
	Metadata	Struct	

Object	Field	Data type	Supported filters
	Visitor ID	String	EQUAL_TO, NOT_EQUAL_TO, CONTAINS

Pipedrive connector for Amazon AppFlow

Pipedrive is a Customer Relationship Management (CRM) service that helps companies track and carry out projects. If you're a Pipedrive user, your account contains data about connections with your customers and within your organization. This can include deals, contacts, demos, proposals, and more. You can use Amazon AppFlow to transfer data from Pipedrive to certain AWS services or other supported applications.

Amazon AppFlow support for Pipedrive

Amazon AppFlow supports Pipedrive as follows.

Supported as a data source?

Yes. You can use Amazon AppFlow to transfer data from Pipedrive.

Supported as a data destination?

No. You can't use Amazon AppFlow to transfer data to Pipedrive.

Before you begin

To use Amazon AppFlow to transfer data from Pipedrive to supported destinations, you must meet these requirements:

- You have an account with Pipedrive that contains the data that you want to transfer. For more information about the Pipedrive data objects that Amazon AppFlow supports, see Supported objects.
- In your Pipedrive account, you've created an unlisted app in Marketplace Manager. This app provides the credentials that Amazon AppFlow uses to make authenticated calls to your account and securely access your data. For the steps to create an app, see Creating an app in the *Pipedrive Developer Documentation*.

You've configured your app as follows:

- You've specified a redirect URL (also referred to as a *callback URL*) for Amazon AppFlow.

  Redirect URLs have the following format:

  ```
  https://region.console.aws.amazon.com/appflow/oauth
  ```

  In this URL, *region* is the code for the AWS Region where you use Amazon AppFlow to transfer data from Pipedrive. For example, the code for the US East (N. Virginia) Region is `us-east-1`. For that Region, the URL is the following:

  ```
  https://us-east-1.console.aws.amazon.com/appflow/oauth
  ```

  For the AWS Regions that Amazon AppFlow supports, and their codes, see Amazon AppFlow endpoints and quotas in the *AWS General Reference.*
- You've activated the access scopes that provide access to the data that you want to transfer. For more information about Pipedrive scopes, see Scopes and permission explanations in the *Pipedrive Developer Documentation*.

From the settings for your app, note the client ID and client secret. When you connect to your Pipedrive account, you provide these values to Amazon AppFlow.

Connecting Amazon AppFlow to your Pipedrive account

To connect Amazon AppFlow to your Pipedrive account, provide details from your Pipedrive project so that Amazon AppFlow can access your data. If you haven't yet configured your Pipedrive project for Amazon AppFlow integration, see Before you begin.

To connect to Pipedrive

1. Sign in to the AWS Management Console and open the Amazon AppFlow console at https://console.aws.amazon.com/appflow/.
2. In the navigation pane on the left, choose **Connections**.
3. On the **Manage connections** page, for **Connectors**, choose **Pipedrive**.
4. Choose **Create connection**.
5. In the **Connect to Pipedrive** window, enter the following information:

- **Client ID** – The client ID of the OAuth 2.0 client ID in your Pipedrive project.
- **Client secret** – The client secret of the OAuth 2.0 client ID in your Pipedrive project.
- **Instance URL** – The URL of the instance where you want to run the operation, for example, https://awsappflow-domain.pipedrive.com.

6. Optionally, under **Data encryption**, choose **Customize encryption settings (advanced)** if you want to encrypt your data with a customer managed key in the AWS Key Management Service (AWS KMS).

   By default, Amazon AppFlow encrypts your data with a KMS key that AWS creates, uses, and manages for you. Choose this option if you want to encrypt your data with your own KMS key instead.

   Amazon AppFlow always encrypts your data during transit and at rest. For more information, see Data protection in Amazon AppFlow.

   If you want to use a KMS key from the current AWS account, select this key under **Choose an AWS KMS key**. If you want to use a KMS key from a different AWS account, enter the Amazon Resource Name (ARN) for that key.
7. For **Connection name**, enter a name for your connection.
8. Choose **Connect**.
9. In the window that appears, sign in to your Pipedrive account, and grant access to Amazon AppFlow.

On the **Manage connections** page, your new connection appears in the **Connections** table. When you create a flow that uses Pipedrive as the data source, you can select this connection.

Transferring data from Pipedrive with a flow

To transfer data from Pipedrive, create an Amazon AppFlow flow, and choose Pipedrive as the data source. For the steps to create a flow, see Creating flows in Amazon AppFlow.

When you configure the flow, choose the data object that you want to transfer. For the objects that Amazon AppFlow supports for Pipedrive, see Supported objects.

Also, choose the destination where you want to transfer the data object that you selected. For more information about how to configure your destination, see Supported destinations.

Supported destinations

When you create a flow that uses Pipedrive as the data source, you can set the destination to any of the following connectors:

- Amazon Lookout for Metrics
- Amazon Redshift
- Amazon RDS for PostgreSQL
- Amazon S3
- HubSpot
- Marketo
- Salesforce
- SAP OData
- Snowflake
- Upsolver
- Zendesk
- Zoho CRM

Supported objects

When you create a flow that uses Pipedrive as the data source, you can transfer any of the following data objects to supported destinations:

Object	Field	Data type	Supported filters
Activities			
Activity Types	Active	Boolean	
	Add Time	DateTime	
	Color	String	
	Custom Flag	Boolean	
	ID	Long	

Object	Field	Data type	Supported filters
	Icon	String	
	Key	String	
	Name	String	
	Order Number	Long	
	Update Time	DateTime	
CallLogs	Activity Id	Long	
	Company Id	Long	
	Deal Id	Integer	
	Duration	String	
	End Time	DateTime	
	From Phone Number	String	
	Has Recording	Boolean	
	ID	String	
	Note	String	
	Organization Id	Integer	
	Outcome	String	
	Person Id	Integer	
	Start Time	DateTime	
	To Phone Number	String	
	User Id	Long	

Object	Field	Data type	Supported filters
Currencies	Active Flag	Boolean	
	Code	String	
	Decimal Points	Integer	
	ID	Integer	
	Is Custom Flag	Boolean	
	Name	String	
	Symbol	String	
Deals			
Lead Labels	Add Time	DateTime	
	Color	String	
	ID	Integer	
	Name	String	
	Update Time	DateTime	
Lead Sources	Name	String	
Leads	Add Time	DateTime	
	CC Email	String	
	Creator Id	Long	
	Expected Close Date	String	
	ID	String	
	Is Archived	Boolean	

Object	Field	Data type	Supported filters
	Label Ids	String	
	Next Activity Id	Long	
	Organization Id	Integer	
	Owner Id	Long	
	Person Id	Long	
	Source Name	String	
	Title	String	
	Update Time	DateTime	
	Value	Struct	
	Visible To	String	
	Was Seen	Boolean	
Notes			
Organization			
Permission Sets	App	String	
	Assignment Count	Integer	
	Description	String	
	ID	Integer	
	Name	String	
	Type	String	
Persons			

Object	Field	Data type	Supported filters
Pipelines	Active	Boolean	
	Add Time	DateTime	
	Deal Probability	Boolean	
	ID	Integer	
	Name	String	
	Order Number	Integer	
	Selected	Boolean	
	URL Title	String	
	Update Time	DateTime	
Products			
Roles	Active Flag	Boolean	
	Assignment Count	Integer	
	Description	String	
	ID	Integer	
	Level	Integer	
	Name	String	
	Parent Role Id	Integer	
	Sub Role Count	Integer	
Stages	Active Flag	Boolean	
	Add Time	DateTime	

Object	Field	Data type	Supported filters
	Deal Probability	Integer	
	ID	Integer	
	Name	String	
	Order Number	Integer	
	Pipeline Deal Probability	Boolean	
	Pipeline Id	Integer	
	Pipeline Name	String	
	Rotten Days	String	
	Rotten Flag	Boolean	
	Update Time	DateTime	
Users	Access	List	
	Active Flag	Boolean	
	Created	DateTime	
	Default Currency	String	
	Email	String	
	Has Created Company	Boolean	
	ID	String	
	Icon URL	String	
	Is Admin	Integer	

Object	Field	Data type	Supported filters
	Is You	Boolean	
	Language	Integer	
	Last Login	DateTime	
	Locate	String	
	Modified	DateTime	
	Name	String	
	Phone	String	
	Role Id	Integer	
	Signup Flow Variation	String	
	Timezone	String	
	Timezone Offset	String	

Productboard connector for Amazon AppFlow

Productboard is a product management solution. If you're a Productboard user, your account contains data about the projects in your roadmap, such as products, features, and status. You can use Amazon AppFlow to transfer data from Productboard to certain AWS services or other supported applications.

Amazon AppFlow support for Productboard

Amazon AppFlow supports Productboard as follows.

Supported as a data source?

Yes. You can use Amazon AppFlow to transfer data from Productboard.

Supported as a data destination?

No. You can't use Amazon AppFlow to transfer data to Productboard.

Before you begin

To use Amazon AppFlow to transfer data from Productboard to supported destinations, you must have an account with Productboard that contains the data that you want to transfer.

From the Public API settings in your account, note the access token because you provide this value to Amazon AppFlow when you connect to Productboard. For the steps to get the token, see Public API Access Token in the Productboard API Reference.

Connecting Amazon AppFlow to your Productboard account

To connect Amazon AppFlow to your Productboard account, provide the access token from your account settings so that Amazon AppFlow can access your data.

To connect to Productboard

1. Sign in to the AWS Management Console and open the Amazon AppFlow console at https://console.aws.amazon.com/appflow/.
2. In the navigation pane on the left, choose **Connections**.
3. On the **Manage connections** page, for **Connectors**, choose **Productboard**.
4. Choose **Create connection**.
5. In the **Connect to Productboard** window, for **Access Token**, enter your access token.
6. Optionally, under **Data encryption**, choose **Customize encryption settings (advanced)** if you want to encrypt your data with a customer managed key in the AWS Key Management Service (AWS KMS).

   By default, Amazon AppFlow encrypts your data with a KMS key that AWS creates, uses, and manages for you. Choose this option if you want to encrypt your data with your own KMS key instead.

   Amazon AppFlow always encrypts your data during transit and at rest. For more information, see Data protection in Amazon AppFlow.

If you want to use a KMS key from the current AWS account, select this key under **Choose an AWS KMS key**. If you want to use a KMS key from a different AWS account, enter the Amazon Resource Name (ARN) for that key.

7. Choose **Connect**.

On the **Manage connections** page, your new connection appears in the **Connections** table. When you create a flow that uses Productboard as the data source, you can select this connection.

Transferring data from Productboard with a flow

To transfer data from Productboard, create an Amazon AppFlow flow, and choose Productboard as the data source. For the steps to create a flow, see Creating flows in Amazon AppFlow.

When you configure the flow, choose the data object that you want to transfer. For the objects that Amazon AppFlow supports for Productboard, see Supported objects.

Also, choose the destination where you want to transfer the data object that you selected. For more information about how to configure your destination, see Supported destinations.

Supported destinations

When you create a flow that uses Productboard as the data source, you can set the destination to any of the following connectors:

- Amazon Lookout for Metrics
- Amazon Redshift
- Amazon RDS for PostgreSQL
- Amazon S3
- HubSpot
- Marketo
- Salesforce
- SAP OData
- Snowflake
- Upsolver
- Zendesk
- Zoho CRM

Supported objects

When you create a flow that uses Productboard as the data source, you can transfer any of the following data objects to supported destinations:

Object	Field	Data type	Supported filters
Component	CreatedAt	String	
	Description	String	
	Id	String	
	Links	Struct	
	Name	String	
	Owner	Struct	
	Parent	Struct	
	UpdatedAt	String	
Custom Field Definition			
Custom Field Value			
Feature	Archived	Boolean	EQUAL_TO
	CreatedAt	String	
	Description	String	
	Id	String	
	Links	Struct	
	Name	String	
	Owner	Struct	

Object	Field	Data type	Supported filters
	Owner Email	String	EQUAL_TO
	Parent	Struct	
	Parent Id	String	EQUAL_TO
	Status	Struct	
	Status Id	String	EQUAL_TO
	Status Name	String	EQUAL_TO
	Time Frame	Struct	
	Type	String	
	UpdatedAt	String	
Feature status	Completed	Boolean	
	Id	String	
	Name	String	
Product	CreatedAt	String	
	Description	String	
	Id	String	
	Links	Struct	
	Name	String	
	Owner	Struct	
	UpdatedAt	String	

QuickBooks Online connector for Amazon AppFlow

QuickBooks Online is a cloud-based accounting solution for businesses. If you're a QuickBooks Online user, your account contains data about your accounts, customers, invoices, and more. You can use Amazon AppFlow to transfer data from QuickBooks Online to certain AWS services or other supported applications.

Amazon AppFlow support for QuickBooks Online

Amazon AppFlow supports QuickBooks Online as follows.

Supported as a data source?

Yes. You can use Amazon AppFlow to transfer data from QuickBooks Online.

Supported as a data destination?

No. You can't use Amazon AppFlow to transfer data to QuickBooks Online.

Before you begin

To use Amazon AppFlow to transfer data from QuickBooks Online to supported destinations, you must meet these requirements:

- You have an account with QuickBooks Online that contains the data that you want to transfer. For more information about the QuickBooks Online data objects that Amazon AppFlow supports, see Supported objects.
- In your Intuit developer account, you've created an app for Amazon AppFlow. This app provides the client credentials that Amazon AppFlow uses to access your data securely when it makes authenticated calls to your account. For the steps to create an app, see Create and start developing your app in the Intuit Developer documentation.
- You've configured your app to permit the `com.intuit.quickbooks.accounting` scope.

Note the following values because you specify them in the connection settings in Amazon AppFlow.

- The client ID and client secret from your app settings.
- The company ID from your QuickBooks Online account settings.

Connecting Amazon AppFlow to your QuickBooks Online account

To connect Amazon AppFlow to your QuickBooks Online account, provide details from your app so that Amazon AppFlow can access your data. If you haven't yet configured your QuickBooks Online account for Amazon AppFlow integration, see Before you begin.

To connect to QuickBooks Online

1. Sign in to the AWS Management Console and open the Amazon AppFlow console at https://console.aws.amazon.com/appflow/.
2. In the navigation pane on the left, choose **Connections**.
3. On the **Manage connections** page, for **Connectors**, choose **QuickBooks Online**.
4. Choose **Create connection**.
5. In the **Connect to QuickBooks Online** window, enter the following information:

   - **Client ID** – The client ID from your app settings.
   - **Client secret** – The client secret from your app settings.
   - **Instance URL** – The endpoint where Amazon AppFlow sends requests to access your data. Choose one of the following:
     - **https://sandbox-quickbooks.api.intuit.com** – The base URL for the QuickBooks Online development environment. For more information about this environment and the data that it contains, see Create and test with a sandbox company in the Intuit Developer documentation.
     - **https://quickbooks.api.intuit.com** – The base URL for the QuickBooks Online production environment.
   - **QuickBooks CompanyId** – The company ID from your QuickBooks Online account settings.
6. Optionally, under **Data encryption**, choose **Customize encryption settings (advanced)** if you want to encrypt your data with a customer managed key in the AWS Key Management Service (AWS KMS).

   By default, Amazon AppFlow encrypts your data with a KMS key that AWS creates, uses, and manages for you. Choose this option if you want to encrypt your data with your own KMS key instead.

   Amazon AppFlow always encrypts your data during transit and at rest. For more information, see Data protection in Amazon AppFlow.

If you want to use a KMS key from the current AWS account, select this key under **Choose an AWS KMS key**. If you want to use a KMS key from a different AWS account, enter the Amazon Resource Name (ARN) for that key.

7. For **Connection name**, enter a name for your connection.
8. Choose **Continue**.
9. In the window that appears, sign in to your Intuit account, and grant access to Amazon AppFlow.

On the **Manage connections** page, your new connection appears in the **Connections** table. When you create a flow that uses QuickBooks Online as the data source, you can select this connection.

Transferring data from QuickBooks Online with a flow

To transfer data from QuickBooks Online, create an Amazon AppFlow flow, and choose QuickBooks Online as the data source. For the steps to create a flow, see Creating flows in Amazon AppFlow.

When you configure the flow, choose the data object that you want to transfer. For the objects that Amazon AppFlow supports for QuickBooks Online, see Supported objects.

Also, choose the destination where you want to transfer the data object that you selected. For more information about how to configure your destination, see Supported destinations.

Supported destinations

When you create a flow that uses QuickBooks Online as the data source, you can set the destination to any of the following connectors:

- Amazon Lookout for Metrics
- Amazon Redshift
- Amazon RDS for PostgreSQL
- Amazon S3
- HubSpot
- Marketo
- Salesforce

- SAP OData
- Snowflake
- Upsolver
- Zendesk
- Zoho CRM

Supported objects

When you create a flow that uses QuickBooks Online as the data source, you can transfer any of the following data objects to supported destinations:

Object	Field	Data type	Supported filters
Account	AccountAlias	String	
	AccountSubType	String	
	AccountType	Struct	
	AcctNum	String	
	Active	Boolean	EQUAL_TO
	Classification	String	
	CreateTime	DateTime	
	CurrencyRef	Struct	
	CurrentBalance	BigDecimal	
	CurrentBalanceWithSubAccounts	BigDecimal	
	Description	String	
	FullyQualifiedName	String	
	Id	String	

Object	Field	Data type	Supported filters
	LastUpdatedTime	DateTime	
	Name	String	
	ParentRef	Struct	
	SubAccount	Boolean	EQUAL_TO
	SyncToken	String	
	TaxCodeRef	Struct	
	TxnLocationType	String	
Bill	APAccountRef	Struct	
	Balance	BigDecimal	
	CreateTime	DateTime	
	CurrencyRef	Struct	
	DepartmentRef	Struct	
	DocNumber	String	
	DueDate	Date	
	ExchangeRate	BigDecimal	
	GlobalTaxCalculation	Struct	
	HomeBalance	BigDecimal	
	Id	String	
	IncludeInAnnualTPAR	Boolean	
	LastUpdatedTime	DateTime	

Object	Field	Data type	Supported filters
	Line	Struct	
	LinkedTxn	Struct	
	MetaData	Struct	
	PrivateNote	String	
	RecurDataRef	Struct	
	SalesTermRef	Struct	
	SyncToken	String	
	TotalAmt	BigDecimal	
	TransactionLocationType	String	
	TxnDate	Date	
	TxnTaxDetail	Struct	
	VendorRef	Struct	
Company Info	CompanyAddr	Struct	
	CompanyName	String	
	CompanyStartDate	DateTime	
	Country	String	
	CreateTime	DateTime	
	CustomerCommunicationAddr	Struct	
	Email	Struct	

Object	Field	Data type	Supported filters
	FiscalYearStartMonth	Struct	
	Id	String	
	LastUpdatedTime	DateTime	
	LegalAddr	Struct	
	LegalName	String	
	MetaData	Struct	
	NameValue	Struct	
	PrimaryPhone	Struct	
	SupportedLanguages	String	
	SyncToken	String	
	WebAddr	Struct	
Customer	ARAccountRef	Struct	
	Active	Boolean	EQUAL_TO
	AlternatePhone	Struct	
	Balance	BigDecimal	
	BalanceWithJobs	BigDecimal	
	BillAddr	Struct	
	BillWithParent	Boolean	
	BusinessNumber	String	
	CompanyName	String	

Object	Field	Data type	Supported filters
	CreateTime	DateTime	
	CurrencyRef	Struct	
	CustomerTypeRef	String	
	DefaultTaxCodeRef	Struct	
	DisplayName	String	
	FamilyName	String	
	Fax	Struct	
	FullyQualifiedName	String	
	GSTIN	String	
	GSTRegistrationType	String	
	GivenName	String	
	Id	String	
	IsProject	Boolean	
	Job	Boolean	
	LastUpdatedTime	DateTime	
	Level	BigInteger	
	MetaData	Struct	
	MiddleName	String	
	Mobile	Struct	
	Notes	String	

Object	Field	Data type	Supported filters
	OpenBalanceDate	Date	
	ParentRef	Struct	
	PaymentMethodRef	Struct	
	PreferredDeliveryMethod	String	
	PrimaryEmailAddr	Struct	
	PrimaryPhone	Struct	
	PrimaryTaxIdentifier	String	
	PrintOnCheckName	String	
	ResaleNum	String	
	SalesTermRef	Struct	
	SecondaryTaxIdentifier	String	
	ShipAddr	Struct	
	Source	String	
	Suffix	String	
	SyncToken	String	
	TaxExemptionReasonId	BigInteger	
	Taxable	Boolean	
	Title	String	
	WebAddr	Struct	

Object	Field	Data type	Supported filters
Employee	Active	Boolean	EQUAL_TO
	BillRate	BigDecimal	
	BillableTime	Boolean	
	BirthDate	Date	
	CostRate	BigDecimal	
	CreateTime	DateTime	
	DisplayName	String	
	EmployeeNumber	String	
	FamilyName	String	
	Gender	String	
	GivenName	String	
	HiredDate	Date	
	Id	String	
	LastUpdatedTime	DateTime	
	MetaData	Struct	
	MiddleName	String	
	Mobile	Struct	
	Organization	Boolean	
	PrimaryAddr	Struct	
	PrimaryEmailAddr	Struct	

Object	Field	Data type	Supported filters
	PrimaryPhone	Struct	
	PrintOnCheckName	String	
	ReleasedDate	Date	
	SSN	String	
	Suffix	String	
	SyncToken	String	
	Title	String	
	V4IDPseudonym	String	
Estimate	AcceptedBy	String	
	AcceptedDate	Date	
	ApplyTaxAfterDiscount	Boolean	
	BillAddr	Struct	
	BillEmail	Struct	
	ClassRef	Struct	
	CreateTime	DateTime	
	CurrencyRef	Struct	
	CustomField	Struct	
	CustomerMemo	Struct	
	CustomerRef	Struct	
	DepartmentRef	Struct	

Object	Field	Data type	Supported filters
	DocNumber	String	
	DueDate	Date	
	EmailStatus	String	
	ExchangeRate	BigDecimal	
	ExpirationDate	Date	
	FreeFormAddress	Boolean	
	GlobalTaxCalculation	Struct	
	HomeTotalAmt	BigDecimal	
	Id	String	
	LastUpdatedTime	DateTime	
	Line	Struct	
	LinkedTxn	Struct	
	MetaData	Struct	
	PrintStatus	String	
	PrivateNote	String	
	RecurDataRef	Struct	
	SalesTermRef	Struct	
	ShipAddr	Struct	
	ShipDate	Date	
	ShipFromAddr	Struct	

Object	Field	Data type	Supported filters
	ShipMethodRef	Struct	
	SyncToken	String	
	TaxExemptionRef	Struct	
	TotalAmt	BigDecimal	
	TransactionLocationType	String	
	TxnDate	Date	
	TxnStatus	String	
	TxnTaxDetail	Struct	
Invoice	AllowOnlineACHPayment	Boolean	
	AllowOnlineCreditCardPayment	Boolean	
	ApplyTaxAfterDiscount	Boolean	
	Balance	BigDecimal	
	BillAddr	Struct	
	BillEmail	Struct	
	BillEmailBcc	Struct	
	BillEmailCc	Struct	
	ClassRef	Struct	
	CreateTime	DateTime	

Object	Field	Data type	Supported filters
	CurrencyRef	Struct	
	CustomField	Struct	
	CustomerMemo	Struct	
	CustomerRef	Struct	
	DeliveryInfo	Struct	
	DepartmentRef	Struct	
	Deposit	BigDecimal	
	DepositToAccountRef	Struct	
	DocNumber	String	
	DueDate	Date	
	EmailStatus	String	
	ExchangeRate	BigDecimal	
	FreeFormAddress	Boolean	
	GlobalTaxCalculation	Struct	
	HomeBalance	BigDecimal	
	HomeTotalAmt	BigDecimal	
	Id	String	
	InvoiceLink	String	
	LastUpdatedTime	DateTime	
	Line	Struct	

Object	Field	Data type	Supported filters
	LinkedTxn	Struct	
	MetaData	Struct	
	PrintStatus	String	
	PrivateNote	String	
	RecurDataRef	Struct	
	SalesTermRef	Struct	
	ShipAddr	Struct	
	ShipDate	Date	
	ShipFromAddr	Struct	
	ShipMethodRef	Struct	
	SyncToken	String	
	TaxExemptionRef	Struct	
	TotalAmt	BigDecimal	
	TrackingNum	String	
	TransactionLocationType	String	
	TxnDate	Date	
	TxnSource	String	
	TxnTaxDetail	Struct	
Item	AbatementRate	BigDecimal	
	Active	Boolean	EQUAL_TO

Object	Field	Data type	Supported filters
	AssetAccountRef	Struct	
	ClassRef	Struct	
	CreateTime	DateTime	
	Description	String	
	ExpenseAccountRef	Struct	
	FullyQualifiedName	String	
	Id	String	
	IncomeAccountRef	Struct	
	InvStartDate	Date	
	ItemCategoryType	String	
	LastUpdatedTime	DateTime	
	Level	Integer	
	MetaData	Struct	
	Name	String	
	ParentRef	Struct	
	PrefVendorRef	Struct	
	PurchaseCost	BigDecimal	
	PurchaseDesc	String	
	PurchaseTaxCodeRef	Struct	
	PurchaseTaxIncluded	Boolean	

Object	Field	Data type	Supported filters
	QtyOnHand	BigDecimal	
	ReorderPoint	BigDecimal	
	ReverseChargeRate	BigDecimal	
	SalesTaxCodeRef	Struct	
	SalesTaxIncluded	Boolean	
	ServiceType	String	
	Sku	String	
	Source	String	
	SubItem	Boolean	
	SyncToken	String	
	TaxClassificationRef	Struct	
	Taxable	Boolean	
	TrackQtyOnHand	Boolean	
	Type	String	
	UQCDisplayText	String	
	UQCId	String	
	UnitPrice	BigDecimal	
Payment	ARAccountRef	Struct	
	CreateTime	DateTime	
	CreditCardPayment	Struct	

Object	Field	Data type	Supported filters
	CurrencyRef	Struct	
	CustomerRef	Struct	
	DepositToAccountRef	Struct	
	ExchangeRate	BigDecimal	
	Id	String	
	LastUpdatedTime	DateTime	
	Line	Struct	
	MetaData	Struct	
	PaymentMethodRef	Struct	
	PaymentRefNum	String	
	PrivateNote	String	
	SyncToken	String	
	TaxExemptionRef	Struct	
	TotalAmt	BigDecimal	
	TransactionLocationType	String	
	TxnDate	Date	
	TxnSource	String	
	UnappliedAmt	BigDecimal	
Preference	AccountingInfoPrefs	Struct	
	CreateTime	DateTime	

Object	Field	Data type	Supported filters
	CurrencyPrefs	Struct	
	EmailMessagesPrefs	Struct	
	Id	String	
	LastUpdatedTime	DateTime	
	MetaData	Struct	
	OtherPrefs	Struct	
	ProductAndServices Prefs	Struct	
	ReportPrefs	Struct	
	SalesFormsPrefs	Struct	
	SyncToken	String	
	TaxPrefs	Struct	
	TimeTrackingPrefs	Struct	
	VendorAndPurchases Prefs	Struct	
Profit And Loss	Accounting Method	String	EQUAL_TO
	Adjusted Gain Loss	String	EQUAL_TO
	Class	String	EQUAL_TO
	Columns	Struct	
	Customer	String	EQUAL_TO
	Date Macro	String	EQUAL_TO

Object	Field	Data type	Supported filters
	Department	String	EQUAL_TO
	End Date	Date	EQUAL_TO
	Header	Struct	
	Item	String	EQUAL_TO
	Rows	Struct	
	Sort Order	String	EQUAL_TO
	Start Date	Date	EQUAL_TO
	Summarize Column By	String	EQUAL_TO
	Vendor	String	EQUAL_TO
	qzurl	String	EQUAL_TO
Tax Agency	CreateTime	DateTime	
	DisplayName	String	
	Id	String	
	LastFileDate	Date	
	LastUpdatedTime	DateTime	
	MetaData	Struct	
	SyncToken	String	
	TaxAgencyConfig	String	
	TaxRegistrationNumber	String	

Object	Field	Data type	Supported filters
	TaxTrackedOnPurchases	Boolean	
	TaxTrackedOnSales	Boolean	
Vendor	APAccountRef	Struct	
	AcctNum	String	
	Active	Boolean	EQUAL_TO
	AlternatePhone	Struct	
	Balance	BigDecimal	
	BillAddr	Struct	
	BillRate	BigDecimal	
	BusinessNumber	String	
	CompanyName	String	
	CostRate	BigDecimal	
	CreateTime	DateTime	
	CurrencyRef	Struct	
	DisplayName	String	
	FamilyName	String	
	Fax	Struct	
	GSTIN	String	
	GSTRegistrationType	String	
	GivenName	String	

Object	Field	Data type	Supported filters
	HasTPAR	Boolean	
	Id	String	
	LastUpdatedTime	DateTime	
	MetaData	Struct	
	MiddleName	String	
	Mobile	Struct	
	OtherContactInfo	Struct	
	PrimaryEmailAddr	Struct	
	PrimaryPhone	Struct	
	PrintOnCheckName	String	
	Source	String	
	Suffix	String	
	SyncToken	String	
	T4AEligible	Boolean	
	T5018Eligible	Boolean	
	TaxIdentifier	String	
	TaxReportingBasis	String	
	TermRef	Struct	
	Title	String	
	Vendor1099	Boolean	

Object	Field	Data type	Supported filters
	VendorPay mentBankDetail	Struct	
	WebAddr	Struct	

Recharge connector for Amazon AppFlow

Recharge is a subscription payment solution designed for merchants to set up and manage dynamic, recurring billing across web and mobile applications. If you're a Recharge user, your account contains data about your customers, transactions, subscriptions, and more. You can use Amazon AppFlow to transfer data from Recharge to certain AWS services or other supported applications.

Amazon AppFlow support for Recharge

Amazon AppFlow supports Recharge as follows.

Supported as a data source?

Yes. You can use Amazon AppFlow to transfer data from Recharge.

Supported as a data destination?

No. You can't use Amazon AppFlow to transfer data to Recharge.

Before you begin

To use Amazon AppFlow to transfer data from Recharge to supported destinations, you must meet these requirements:

- You have an account with Recharge that contains the data that you want to transfer. For more information about the Recharge data objects that Amazon AppFlow supports, see Supported objects.
- In your Recharge account, you've created an API token. For the steps to create this token, see Recharge API key in the Recharge documentation.

- You've configured the API token with read permissions that allow Amazon AppFlow to access the data that you want to transfer.

From your account settings, note your API token key because you provide this value to Amazon AppFlow when you connect to your Recharge account.

Connecting Amazon AppFlow to your Recharge account

To connect Amazon AppFlow to your Recharge account, provide the API token from your account settings.

To connect to Recharge

1. Sign in to the AWS Management Console and open the Amazon AppFlow console at https://console.aws.amazon.com/appflow/.
2. In the navigation pane on the left, choose **Connections**.
3. On the **Manage connections** page, for **Connectors**, choose **Recharge**.
4. Choose **Create connection**.
5. In the **Connect to Recharge** window, for **API Token**, enter your API token key.
6. Optionally, under **Data encryption**, choose **Customize encryption settings (advanced)** if you want to encrypt your data with a customer managed key in the AWS Key Management Service (AWS KMS).

   By default, Amazon AppFlow encrypts your data with a KMS key that AWS creates, uses, and manages for you. Choose this option if you want to encrypt your data with your own KMS key instead.

   Amazon AppFlow always encrypts your data during transit and at rest. For more information, see Data protection in Amazon AppFlow.

   If you want to use a KMS key from the current AWS account, select this key under **Choose an AWS KMS key**. If you want to use a KMS key from a different AWS account, enter the Amazon Resource Name (ARN) for that key.
7. For **Connection name**, enter a name for your connection.
8. Choose **Connect**.

On the **Manage connections** page, your new connection appears in the **Connections** table. When you create a flow that uses Recharge as the data source, you can select this connection.

Transferring data from Recharge with a flow

To transfer data from Recharge, create an Amazon AppFlow flow, and choose Recharge as the data source. For the steps to create a flow, see Creating flows in Amazon AppFlow.

When you configure the flow, choose the data object that you want to transfer. For the objects that Amazon AppFlow supports for Recharge, see Supported objects.

Also, choose the destination where you want to transfer the data object that you selected. For more information about how to configure your destination, see Supported destinations.

Supported destinations

When you create a flow that uses Recharge as the data source, you can set the destination to any of the following connectors:

- Amazon Lookout for Metrics
- Amazon Redshift
- Amazon RDS for PostgreSQL
- Amazon S3
- HubSpot
- Marketo
- Salesforce
- SAP OData
- Snowflake
- Upsolver
- Zendesk
- Zoho CRM

Supported objects

When you create a flow that uses Recharge as the data source, you can transfer any of the following data objects to supported destinations:

Object	Field	Data type	Supported filters
Address	Address1	String	
	Address2	String	
	City	String	
	Company	String	
	Country Code	String	
	Created At	DateTime	
	Created At Max	DateTime	EQUAL_TO
	Created At Min	DateTime	EQUAL_TO
	Customer ID	Integer	EQUAL_TO
	Discount Code	String	EQUAL_TO
	Discount Id	String	EQUAL_TO
	Discounts	List	
	First Name	String	
	Id	Integer	
	Is Active	Boolean	EQUAL_TO
	Last Name	String	
	Order Note	String	
	Payment Method ID	Integer	
	Phone	String	
	Presentment Currency	String	

Object	Field	Data type	Supported filters
	Province	String	
	Shipping Lines Conserved	List	
	Shipping Lines Override	List	
	Updated At	DateTime	
	Updated At Max	DateTime	EQUAL_TO
	Updated At Min	DateTime	EQUAL_TO
	Zip	String	
Charge	Address ID	Integer	EQUAL_TO
	Analytics Data	Struct	
	Billing Address	Struct	
	Charge Attempts	Integer	
	Client Details	Struct	
	Created At	DateTime	
	Created At Max	DateTime	EQUAL_TO
	Created At Min	DateTime	EQUAL_TO
	Currency	String	
	Customer	Struct	
	Customer Id	String	EQUAL_TO
	Discount Code	String	EQUAL_TO

Object	Field	Data type	Supported filters
	Discount Id	String	EQUAL_TO
	Discounts	List	
	Error	String	
	Error Type	String	
	External Order ID	Struct	
	External Order ID E-Commerce	String	EQUAL_TO
	External Transaction ID	Struct	
	External Variant Id not found	Boolean	
	Has Uncommitted Changes	Boolean	
	Id	Integer	
	Include	Struct	
	Line Items	List	
	Note	String	
	Order Attributes	List	
	Orders Count	Integer	
	Payment Processor	String	
	Processed At	DateTime	
	Processed At Max	DateTime	EQUAL_TO

Object	Field	Data type	Supported filters
	Processed At Min	DateTime	EQUAL_TO
	Purchase Item Id	String	EQUAL_TO
	Retry Date	Date	
	Scheduled At	Date	EQUAL_TO
	Scheduled At Max	DateTime	EQUAL_TO
	Scheduled At Min	DateTime	EQUAL_TO
	Shipping Address	Struct	
	Shipping Lines	List	
	Sort By	String	EQUAL_TO
	Status	String	EQUAL_TO
	Subtotal Price	String	
	Tags	String	
	Tax Lines	List	
	Taxable	Boolean	
	Total Discounts	String	
	Total Duties	String	
	Total Line Items Price	String	
	Total Price	String	
	Total Refunds	String	
	Total Tax	String	

Object	Field	Data type	Supported filters
	Total Weight Grams	Integer	
	Type	String	
	Updated At	DateTime	
	Updated At Max	DateTime	EQUAL_TO
	Updated At Min	DateTime	EQUAL_TO
Collection	Created At	DateTime	
	Description	String	
	Id	Integer	
	Sort Order	String	
	Title	String	EQUAL_TO
	Type	String	EQUAL_TO
	Updated At	DateTime	
Customer	Analytics Data	Struct	
	Created At	DateTime	
	Created At Max	DateTime	EQUAL_TO
	Created At Min	DateTime	EQUAL_TO
	Email	String	EQUAL_TO
	External Customer Id	Struct	
	External Customer Id E-Commerce	String	EQUAL_TO

Object	Field	Data type	Supported filters
	First Charge Processed At	DateTime	
	First Name	String	
	Has Payment Method In Dunning	Boolean	
	Has Valid Payment Method	Boolean	
	Hash	String	EQUAL_TO
	Id	Integer	
	Include	Struct	
	Last Name	String	
	Phone	String	
	Subscriptions Active Count	Integer	
	Subscriptions Total Count	Integer	
	Tax Exempt	Boolean	
	Updated At	DateTime	
	Updated At Max	DateTime	EQUAL_TO
	Updated At Min	DateTime	EQUAL_TO
Discount	Applies To	Struct	
	Channel Settings	Struct	

Object	Field	Data type	Supported filters
	Code	String	
	Created At	DateTime	
	Created At Max	DateTime	EQUAL_TO
	Created At Min	DateTime	EQUAL_TO
	Discount Code	String	EQUAL_TO
	Discount Type	String	EQUAL_TO
	Ends At	DateTime	
	External Discount Id	Struct	
	External Discount Source	String	
	Id	Integer	
	Prerequisite Subtotal Min	Integer	
	Starts At	DateTime	
	Status	String	EQUAL_TO
	Updated At	DateTime	
	Updated At Max	DateTime	EQUAL_TO
	Updated At Min	DateTime	EQUAL_TO
	Usage Limits	Struct	
	Value	String	
	Value Type	String	

Object	Field	Data type	Supported filters
Metafield	Created At	DateTime	
	Description	String	
	Id	Integer	
	Key	String	
	Namespace	String	EQUAL_TO
	Owner Id	Integer	EQUAL_TO
	Owner Resource	String	EQUAL_TO
	Updated At	DateTime	
	Value	String	
	Value Type	String	
Onetime	Address Id	Integer	EQUAL_TO
	Created At	DateTime	
	Created At Max	DateTime	EQUAL_TO
	Created At Min	DateTime	EQUAL_TO
	Customer Id	Integer	EQUAL_TO
	External Product Id	Struct	
	External Variant ID	Struct	
	External Variant ID E-Commerce	String	EQUAL_TO
	Id	Integer	
	Include Cancelled	Boolean	EQUAL_TO

Object	Field	Data type	Supported filters
	Is Cancelled	Boolean	
	Next Charge Scheduled At	DateTime	
	Presentment Currency	String	
	Price	Integer	
	Product Title	String	
	Properties	List	
	Quantity	Integer	
	SKU	String	
	SKU Override	Boolean	
	Updated At	DateTime	
	Updated At Max	DateTime	EQUAL_TO
	Updated At Min	DateTime	EQUAL_TO
	Variant Title	String	
Order	Address ID	Integer	EQUAL_TO
	Billing Address	Struct	
	Charge	Struct	
	Charge Id	String	EQUAL_TO
	Client Details	Struct	
	Created At	DateTime	

Object	Field	Data type	Supported filters
	Created At Max	DateTime	EQUAL_TO
	Created At Min	DateTime	EQUAL_TO
	Currency	String	
	Customer	Struct	
	Customer Id	String	EQUAL_TO
	Discounts	List	
	Error	String	
	External Cart Token	String	
	External Customer Id	String	EQUAL_TO
	External Order ID	Struct	
	External Order ID E-Commerce	String	EQUAL_TO
	External Order Name	Struct	
	External Order Number	Struct	
	Has External Order	Boolean	EQUAL_TO
	Id	Integer	
	Include	Struct	
	Is Prepaid	Boolean	
	Line Items	List	
	Note	String	

Object	Field	Data type	Supported filters
	Order Attributes	List	
	Processed At	DateTime	
	Purchase Item Id	String	EQUAL_TO
	Scheduled At	DateTime	
	Scheduled At Max	DateTime	EQUAL_TO
	Scheduled At Min	DateTime	EQUAL_TO
	Shipping Address	Struct	
	Shipping Lines	List	
	Status	String	EQUAL_TO
	Subtotal Price	String	
	Tags	String	
	Tax Lines	List	
	Taxable	Boolean	
	Total Discounts	String	
	Total Duties	String	
	Total Line Items Price	String	
	Total Price	String	
	Total Refunds	String	
	Total Tax	String	
	Total Weight Grams	Integer	

Object	Field	Data type	Supported filters
	Type	String	EQUAL_TO
	Updated At	DateTime	
	Updated At Max	DateTime	EQUAL_TO
	Updated At Min	DateTime	EQUAL_TO
Store	Checkout Logo Url	String	
	Checkout Platform	String	
	Created At	DateTime	
	Currency	String	
	Customer Portal Base Url	String	
	Default Api Version	String	
	Email	String	
	External Platform	String	
	Id	Integer	
	Identifier	String	
	Merchant Portal Base Url	String	
	Name	String	
	Phone	String	
	Timezone	Struct	
	Updated At	DateTime	

Object	Field	Data type	Supported filters
	Weight Unit	String	
Subscription	Address Id	Integer	EQUAL_TO
	Analytics Data	Struct	
	Cancellation Reason	String	
	Cancellation Reason Comments	String	
	Cancelled At	DateTime	
	Charge Interval Frequency	Integer	
	Created At	DateTime	
	Created At Max	DateTime	EQUAL_TO
	Created At Min	DateTime	EQUAL_TO
	Customer Id	Integer	EQUAL_TO
	Expire After Specific Number Of Charges	Integer	
	External Product Id	Struct	
	External Variant ID E-Commerce	String	EQUAL_TO
	External Variant Id	Struct	
	Has Queued Charges	Boolean	
	Id	Integer	
	Include	Struct	

Object	Field	Data type	Supported filters
	Is Prepaid	Boolean	
	Is Skippable	Boolean	
	Is Swappable	Boolean	
	Max Retries Reached	Boolean	
	Next Charge Scheduled At	Date	
	Order Day Of Month	Integer	
	Order Day Of Week	Integer	
	Order Interval Frequency	Integer	
	Order Interval Unit	String	
	Presentment Currency	String	
	Price	String	
	Product Title	String	
	Properties	List	
	Quantity	Integer	
	SKU	String	
	SKU Override	Boolean	
	Status	String	EQUAL_TO
	Updated At	DateTime	
	Updated At Max	DateTime	EQUAL_TO

Object	Field	Data type	Supported filters
	Updated At Min	DateTime	EQUAL_TO
	Variant Title	String	

Salesforce connector for Amazon AppFlow

Salesforce provides customer relationship management (CRM) software that help you with sales, customer service, e-commerce, and more. If you're a Salesforce user, you can connect Amazon AppFlow to your Salesforce account. Then, you can use Salesforce as a data source or destination in your flows. Run these flows to transfer data between Salesforce and AWS services or other supported applications.

Amazon AppFlow support for Salesforce

Amazon AppFlow supports Salesforce as follows.

Supported as a data source?

Yes. You can use Amazon AppFlow to transfer data from Salesforce.

Supported as a data destination?

Yes. You can use Amazon AppFlow to transfer data to Salesforce.

Supported API version

Amazon AppFlow transfers data with version 58.0 of the Salesforce Platform API.

Amazon AppFlow began supporting this version on June 30, 2023. If you have a Salesforce connection that you created before this date, the connection uses a prior API version. The version depends on when you created the connection. For more information, see History of supported Salesforce Platform API versions.

Before you begin

Before you can use Amazon AppFlow to transfer data to or from Salesforce, you must meet these requirements.

Minimum requirements

- You have a Salesforce account.
- Your Salesforce account is enabled for API access. API access is enabled by default for the Enterprise, Unlimited, Developer, and Performance editions.
- Your Salesforce account allows you to install connected apps. If you lack access to this functionality, contact your Salesforce administrator. For more information, see Connected Apps in the Salesforce help.

Optional requirements

- If you want to use event-driven flow triggers, you must enable change data capture in Salesforce. For more information on how to enable this, see Select Objects for Change Notifications in the User Interface in the Salesforce documentation.
- If you want to create private connections using AWS PrivateLink, you must enable both `Manage Metadata` and `Manage External Connections` user permissions in your Salesforce account. Private connections are currently available in the us-east-1, us-west-2, ap-northeast-1, ap-south-1, ap-southeast-2, ca-central-1, and eu-central-1 AWS Regions.

If you meet those requirements, you're ready to connect Amazon AppFlow to your Salesforce account. For typical connections, you don't need do anything else in Salesforce. Amazon AppFlow handles the remaining requirements with the AWS managed connected app.

The AWS managed connected app for Salesforce

The AWS managed connected app helps you create Salesforce connections in fewer steps. Amazon AppFlow creates this connected app for you in your Salesforce account. In Salesforce, a connected app is a framework that authorizes external applications, like Amazon AppFlow, to access your Salesforce data. Amazon AppFlow configures the connected app with the required settings and names it *Amazon AppFlow Embedded Login App*.

Amazon AppFlow creates the connected app only when you do both of the following:

- Create a Salesforce connection by using the Amazon AppFlow console.
- When you configure the connection, set **OAuth grant type** to **Authorization code**.

Requirements for the OAuth grant types for Salesforce

When you use the Amazon AppFlow console to configure a Salesforce connection, you choose the *OAuth grant type*. The grant type determines how Amazon AppFlow communicates with Salesforce to request access to your data. Your choice affects the requirements that you must meet before you create the connection. You can choose either of these types:

Authorization code

If you choose this grant type, the Amazon AppFlow console shows a window that prompts you for authorization. In the window, you sign in to your Salesforce account if you haven't signed in already. Then, you choose **Allow** to allow Amazon AppFlow to access your data. After you authorize Amazon AppFlow, it creates the AWS managed connected app in your Salesforce account.

If you want to use this grant type, you don't need to meet any additional requirements in your Salesforce account.

JSON Web Token (JWT)

If you choose this grant type, you provide a JWT that authorizes Amazon AppFlow to access your Salesforce data. Then, when Amazon AppFlow attempts to access your data, it passes the JWT to Salesforce, and Salesforce grants the access.

If you want to use this grant type, you must create a JWT ahead of time, but you won't need to sign in to Salesforce when Amazon AppFlow connects to your account.

For more information about the JWT authorization flow, and for the steps to create a JWT, see OAuth 2.0 JWT Bearer Flow for Server-to-Server Integration in the Salesforce help.

Before you can create a JWT, you must create your own connected app in your Salesforce account. Also, you must configure this connected app to meet the requirements for Amazon AppFlow integration.

Requirements for using your own connected app

Unless you use the AWS managed connected app that Amazon AppFlow creates for you, you must meet these requirements:

- In your Salesforce account, you've created a connected app for Amazon AppFlow. For more information about connected apps, and for the steps to create one, see Create a Connected App in the Salesforce help.
- You've configured the connected app as follows:
  - You've activated the **Enable OAuth Settings** check box.
  - In the **Callback URL** text field, you've entered one or more redirect URLs for Amazon AppFlow.

    Redirect URLs have the following format:

    ```
    https://region.console.aws.amazon.com/appflow/oauth
    ```

    In this URL, *region* is the code for the AWS Region where you use Amazon AppFlow to transfer data from Salesforce. For example, the code for the US East (N. Virginia) Region is `us-east-1`. For that Region, the URL is the following:

    ```
    https://us-east-1.console.aws.amazon.com/appflow/oauth
    ```

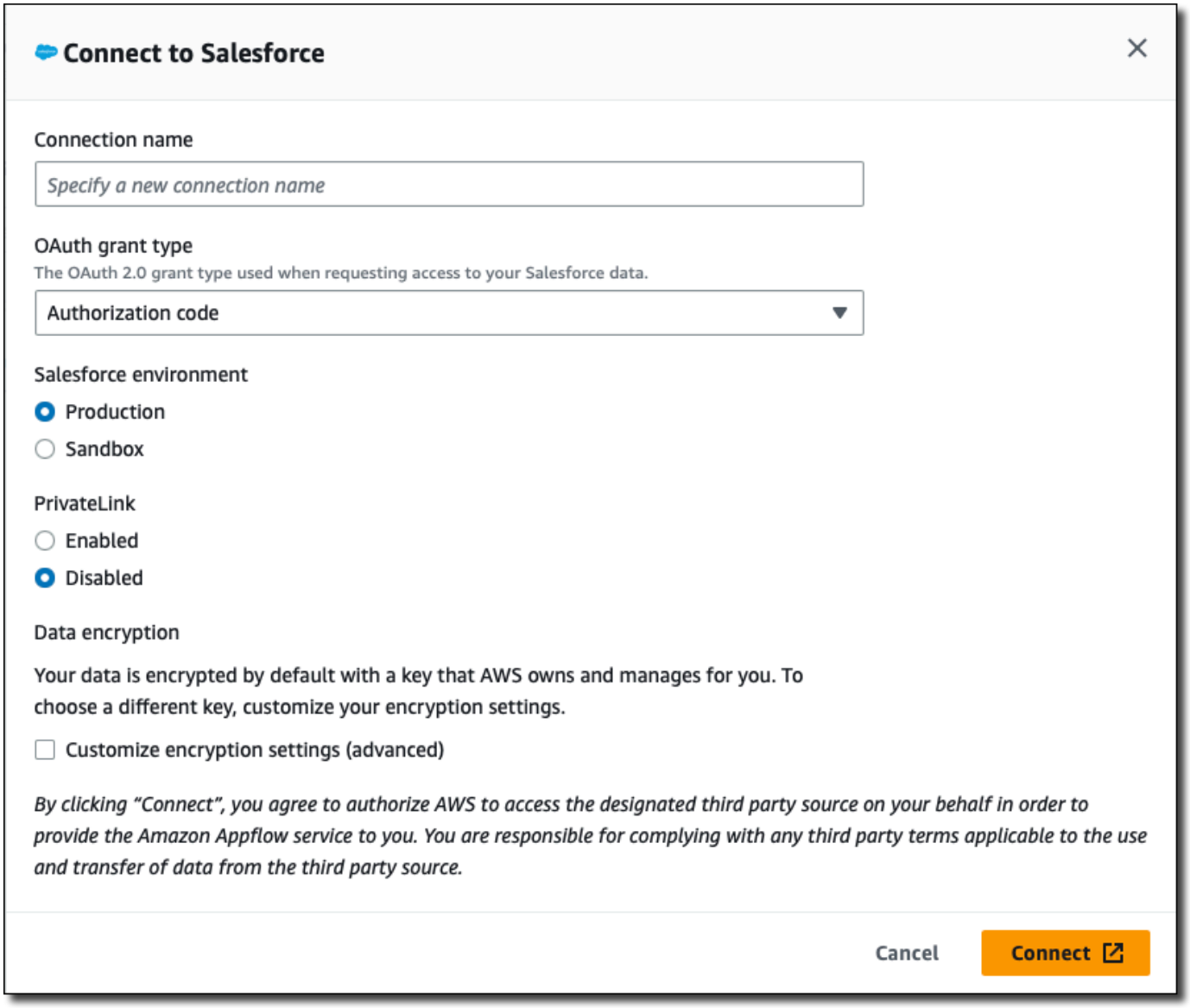
    For the AWS Regions that Amazon AppFlow supports, and their codes, see Amazon AppFlow endpoints and quotas in the *AWS General Reference.*
  - You've activated the **Require Secret for Web Server Flow** check box.
  - In the **Available OAuth Scopes** list, you've added the following scopes:
    - Manage user data via APIs (api)
    - Access custom permissions (custom_permissions)
    - Access the identity URL service (id, profile, email, address, phone)
    - Access unique user identifiers (openid)
    - Perform requests at any time (refresh_token, offline_access)
  - You've set the refresh token policy for the connected app to **Refresh token is valid until revoked**. Otherwise, your flows will fail when your refresh token expires. For more information on how to check and edit the refresh token policy, see Manage OAuth Access Policies for a Connected App in the Salesforce documentation.
  - If you configured your connected app to enforce IP address restrictions, you must grant access to the addresses used by Amazon AppFlow. For more information, see AWS IP address ranges in the *Amazon Web Services General Reference*.

Connecting Amazon AppFlow to your Salesforce account

To grant Amazon AppFlow access to your Salesforce data, create a Salesforce connection in the Amazon AppFlow console. If you haven't yet configured your Salesforce account for Amazon AppFlow integration, see Before you begin.

To connect to Salesforce

1. Sign in to the AWS Management Console and open the Amazon AppFlow console at https://console.aws.amazon.com/appflow/.
2. In the navigation pane on the left, choose **Connections**.
3. On the **Manage connections** page, for **Connectors**, choose **Salesforce**.
4. Choose **Create connection**. The console shows the **Connect to Salesforce** window.



5. For **Connection name**, enter a custom name that will help you recognize the connection later.
6. For **OAuth grant type**, choose how to authorize Amazon AppFlow to access your Salesforce data:
   - **Authorization code** — Authorize Amazon AppFlow in a window that the console shows after you finish configuring the connection.
   - **JSON Web Token (JWT)** — Authorize Amazon AppFlow by providing a JWT.
7. For **Salesforce environment**, choose one of the following:
   - **Production** — Connects Amazon AppFlow to your Salesforce production org.
   - **Sandbox** — Connects Amazon AppFlow to a Salesforce sandbox.

8. For **PrivateLink**, choose **Enabled** if you want to connect to your Salesforce account privately through an AWS PrivateLink connection. Otherwise, leave this open set to **Disabled**.
9. Optionally, under **Data encryption**, choose **Customize encryption settings (advanced)** if you want to encrypt your data with a customer managed key in the AWS Key Management Service (AWS KMS).

   By default, Amazon AppFlow encrypts your data with a KMS key that AWS creates, uses, and manages for you. Choose this option if you want to encrypt your data with your own KMS key instead.

   Amazon AppFlow always encrypts your data during transit and at rest. For more information, see Data protection in Amazon AppFlow.

   If you want to use a KMS key from the current AWS account, select this key under **Choose an AWS KMS key**. If you want to use a KMS key from a different AWS account, enter the Amazon Resource Name (ARN) for that key.
10. Choose **Connect**.
11. If you chose **Authorization code** for **OAuth grant type**, the console shows a window. In the window, sign in to your Salesforce account if needed. Then, choose **Allow** to allow Amazon AppFlow to access your Salesforce data.

On the **Manage connections** page, your new connection appears in the **Connections** table. When you create a flow that uses Salesforce as the data source, you can select this connection.

AWS PrivateLink connections

If you enabled the option to connect to Salesforce through AWS PrivateLink, wait for Amazon AppFlow to set up the private connection before you create a flow. To set up the connection, Amazon AppFlow provisions an interface VPC endpoint and attempts to connect to your VPC endpoint service. This can take several minutes. Until the process completes, you can't transfer your Salesforce objects with a flow.
For more information about AWS PrivateLink, see the AWS PrivateLink Guide.

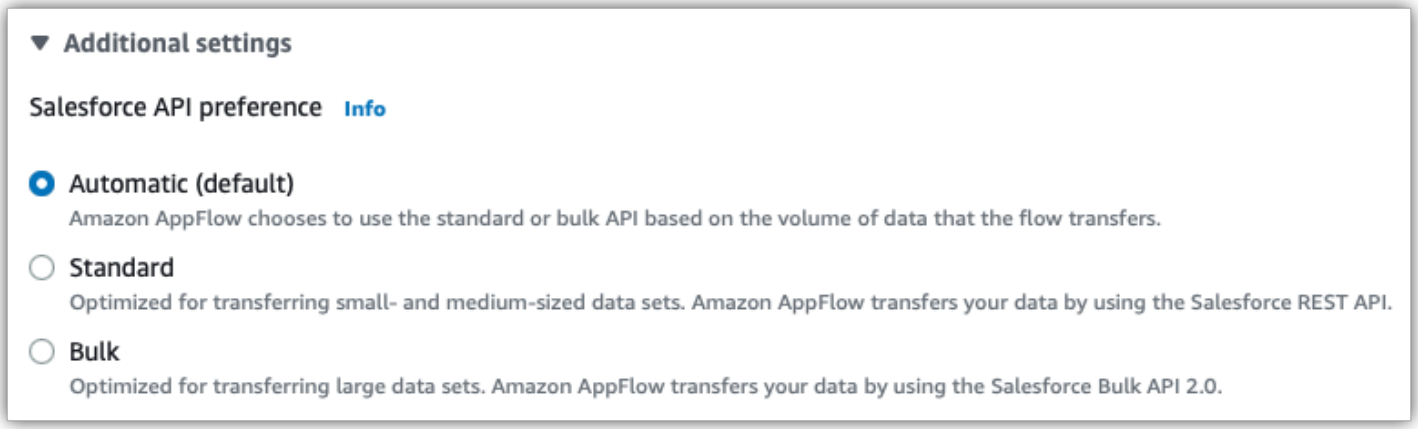
Additional flow settings for Salesforce

When you configure a flow that uses a Salesforce connection, the Amazon AppFlow console shows some unique settings that aren't available for other types of flows.

Salesforce API preference

When you use Salesforce as the source or destination, you can configure the **Salesforce API preference** setting. Use this setting to specify what Salesforce API Amazon AppFlow uses when your flow transfers data to or from Salesforce. Your choice optimizes your flow for small to medium-sized data transfers, large data transfers, or both.

The Amazon AppFlow console provides this setting on the **Configure flow** page under **Source details** or **Destination details**. To view it, expand the **Additional settings** section.



You can choose one of these options:

- **Automatic (default)** — For each flow run, Amazon AppFlow selects the API to use based on the number of records that the run transfers. The threshold of records that determines the API varies based on whether Salesforce is the source or the destination, as shown in the following table:

Is Salesforce the source or destination?	Number of records transferred	API used to transfer records
Source	Fewer than 1,000,000	Salesforce REST API
	1,000,000 or more	Salesforce Bulk API 2.0
Destination	Fewer than 1,000	Salesforce REST API

Is Salesforce the source or destination?	Number of records transferred	API used to transfer records
	1,000 or more	Salesforce Bulk API 2.0

Notes

- If you choose this option, be aware that each of the potential Salesforce APIs structures data differently. For recurring flows, the data output might vary from one flow run to the next. For example, if a flow runs daily, it might use REST API on one day to transfer 900 records, and it might use Bulk API 2.0 on the next day to transfer 1,100 records. For each of these runs, the respective Salesforce API formats the data differently. Some of the differences include how dates are formatted and how null values are represented.
- Flow runs that use Bulk API 2.0 can't transfer Salesforce compound fields.

If you choose this option, you optimize flow performance for all data transfer sizes, but the tradeoff is inconsistent formatting in the output.

- **Standard** — Amazon AppFlow uses only Salesforce REST API. This option optimizes your flow for small to medium-sized data transfers. By choosing this option, you ensure that your flow writes consistent output, but you decrease performance for large data transfers that are better suited for Bulk API 2.0.

  Note

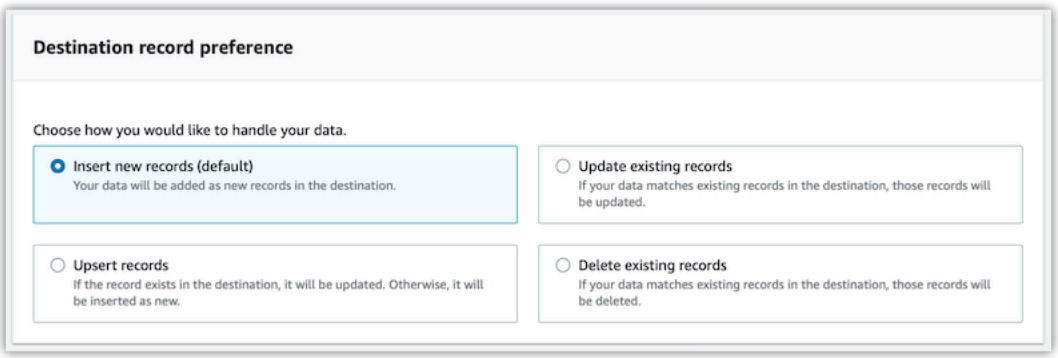
  If you choose this option and your flow attempts to transfer a very large dataset, it might fail with a timeout error.

- **Bulk** — Amazon AppFlow uses only Salesforce Bulk API 2.0. This API runs asynchronous data transfers, and it's optimal for large datasets. If you choose this option, you ensure that your flow writes consistent output, but you optimize performance only for large data transfers.

> **Note**
>
> If you choose this option, your flow can't transfer Salesforce compound fields because Bulk API 2.0 doesn't support them.

Salesforce destination record preference

When you use Salesforce as a destination, the Amazon AppFlow console shows additional settings on the **Map data fields** page under **Destination record preference**.



You can choose one of these options:

Insert new records

This is the default data transfer option. When you choose this setting, Amazon AppFlow inserts your source data into the chosen Salesforce object as a new record.

Update existing records

When you choose this setting, Amazon AppFlow uses your source data to update existing records in Salesforce. For every source record, Amazon AppFlow looks for a matching record in Salesforce based on your criteria. You can specify matching criteria on the **Map data fields** page. To do so, select a field in the source application and map it to a Salesforce record ID field with the dropdown list.

When a matching record is found, Amazon AppFlow updates the record in Salesforce. If no matching record is found, Amazon AppFlow ignores the record or fails the flow per your chosen error handling option. You can specify your error handling preferences on the **Configure flow** page.

Note that you must use the upsert operation in order to update existing records using an external id field. The standard update operation does not support use of an external id field.

Upsert records

When you choose this setting, Amazon AppFlow performs an upsert operation in Salesforce. For every source record, Amazon AppFlow looks for a matching record in Salesforce based on your criteria. You can specify matching criteria on the Map data fields page. To do so, select a field in the source application and map it to a Salesforce external field using the dropdown list.

When Amazon AppFlow finds a matching record, it updates the record in Salesforce. If Amazon AppFlow finds no matching record, it inserts the data as a new record. Any errors in performing the operation are handled according to your chosen error handling option. You can specify your error handling preferences on the **Configure flow** page.

Delete existing records

When you choose this setting, Amazon AppFlow deletes Salesforce records that you specify. To specify the records, create a file that contains the IDs that Salesforce assigned to them. Provide that file as the source data for your flow.

For example, the following CSV file lists the IDs of two Salesforce records to delete.

```
salesforce_id
A1B2C3D4E5F6G7H8I9
J1K2L3M4N5O6P7Q9R0
```

In this example, the IDs appear under the one source field in the file, `salesforce_id`.

In your flow definition, you must specify the source field that contains the IDs of the objects to delete. You do this when you map data fields. At that point, you map the source field to the corresponding destination field in Salesforce. For example, if you assigned the Salesforce object **Opportunity** to your flow, then the destination field name is **Opportunity ID**.

You can provide a source data file that has other fields besides the one with the IDs, but Amazon AppFlow ignores them.

Each flow can delete only one type of object, which is the Salesforce object that you choose when you configure the destination details.

After your flow runs, you can view the records that it deleted in your Salesforce recycle bin. You can recover your files from the recycle bin if needed. However, you must do so before its retention period elapses or before the files are manually purged.

If any errors occur when you run the flow, Amazon AppFlow handles them according to the error handling option that you chose when you configured the flow.

Notes

- Amazon AppFlow only supports the automatic import of newly created Salesforce fields into Amazon S3 without requiring the user to update their flow configurations.
- When you use Salesforce as a source, you can import 15 GB of data as part of a single flow run. To transfer over 15 GB of data, you can split your workload into multiple flows by applying the appropriate filters to each flow. Salesforce records are typically 2 KB in size, but can be up to 4 KB. Therefore, 15 GB would be approximately 7.5 million Salesforce records.
- When you use Salesforce as a source, you can run schedule-triggered flows at a maximum frequency of one flow run per minute.
- Amazon AppFlow supports Change Data Capture Events and Platform events from Salesforce.

Supported destinations

When you create a flow that uses Salesforce as the data source, you can set the destination to any of the following connectors:

- Amazon Connect
- Amazon EventBridge
- Amazon Honeycode
- Lookout for Metrics
- Amazon Redshift
- Amazon S3
- Marketo
- Salesforce
- Snowflake
- Upsolver

- Zendesk

You can also set the destination to any custom connectors that you create with the Amazon AppFlow Custom Connector SDKs for Python or Java. You can download these SDKs from GitHub.

Related resources

- Building Salesforce integrations with EventBridge and Amazon AppFlow in the *AWS Compute* blog
- Building Secure and Private Data Flows Between AWS and Salesforce Using Amazon AppFlow in the *AWS Partner Network (APN)* blog
- Using Amazon AppFlow to Achieve Bi-Directional Sync Between Salesforce and Amazon RDS for PostgreSQL in the *AWS Partner Network (APN)* blog
- Salesforce Private Connect Demo in the Salesforce documentation
- Manage OAuth Access Policies for a Connected App in the Salesforce documentation
- Select Objects for Change Notifications in the User Interface in the Salesforce documentation
- Video: How to insert new Salesforce records with data in Amazon S3 using Amazon AppFlow

Using a connected app with the Amazon AppFlow API

You can use your own connected app for Salesforce with Amazon AppFlow API.

To use your own connected app, you need to pass on the clientId, clientSecret, and Secrets Manager secret ARN to Amazon AppFlow.

You must attach a resource policy to the Secrets Manager secret and the KMS key which is used to encrypt the secret. This resource policy allows Amazon AppFlow to read the secret and use it.

The following is the policy to be attached for the KMS key. Replace the *placeholder* with your own information.

```
{
  "Version": "2012-10-17",
  "Statement": [
    {
      "Effect": "Allow",
```

```
      "Principal": {
        "Service": "appflow.amazonaws.com"
      },
      "Action": [
        "kms:Encrypt",
        "kms:GenerateDataKey",
        "kms:Decrypt"
      ],
      "Resource": "<KMS key ARN>"
    }
  ]
}
```

Additionally, you can add confused deputy protection to this KMS key policy. To learn about the confused deputy problem and mitigations, refer to our Amazon S3 documentation. The following example shows how you can use the `aws:SourceArn` and `aws:SourceAccount` global condition context keys in your AWS KMS key to prevent the confused deputy problem. Replace *Account ID* with your AWS account ID and *Resource ARNs* with a list of ARNs for any connector profiles created with the client credentials secret. Additionally you may use wildcards in the aws:SourceAccount key (*). For example, you can replace *Resource ARNs* with `arn:aws:appflow:`*region*`:`*accountId*`:*` to give access to all Amazon AppFlow resources created on your behalf.

```
{
"Version": "2012-10-17",
    "Statement": [
        {
            "Effect": "Allow",
            "Principal":    {
                "Service": "appflow.amazonaws.com"
                },
            "Action": [
            "kms:Encrypt",
            "kms:GenerateDataKey",
            "kms:Decrypt"
            ],
            "Resource": "<KMS key ARN>",
            "Condition": {
                "StringEquals": {
                       "aws:SourceAccount":"<Account ID>"
                },
                "ArnLike": {
```

```
                "aws:SourceArn":"<Resource ARNs>"
                }
            }
        }
    ]
}
```

The following is the policy to be attached for the secret. Replace the *placeholder* with your own information.

```
{
  "Version": "2012-10-17",
  "Statement": [
    {
      "Effect": "Allow",
      "Principal": {
        "Service": "appflow.amazonaws.com"
      },
      "Action": "secretsmanager:GetSecretValue",
      "Resource": "<Secret ARN>"
    }
  ]
}
```

History of supported Salesforce Platform API versions

When you run a flow with Salesforce as the source or destination, Amazon AppFlow transfers data by using a version of the Salesforce Platform API. The version depends on when you created the Salesforce connection that you assigned to the flow.

Date when connection created	API version used
June 30, 2023 to present	58.0
August 30, 2022 to June 29, 2023	55.0
January 19th, 2021 to August 29, 2022	50.0
Before January 19th, 2021	47.0

Salesforce Marketing Cloud connector for Amazon AppFlow

Marketing Cloud is a Salesforce platform for digital marketing that helps its customers manage campaigns across multiple channels, including email, mobile, and social. If you use Marketing Cloud, you can also use Amazon AppFlow to transfer your data to certain AWS services or other supported applications.

Topics

Salesforce Marketing Cloud support

Amazon AppFlow supports Salesforce Marketing Cloud as follows.

Supported as a data source?

Yes. You can use Amazon AppFlow to transfer data from your Marketing Cloud account.

Supported as a data destination?

No. You can't use Amazon AppFlow to transfer data to your Marketing Cloud account.

Before you begin

Before you can use Amazon AppFlow to transfer data from Marketing Cloud, you need the following:

- A Salesforce Marketing Cloud account that contains the data that you want to transfer. For more information about the Marketing Cloud data objects that Amazon AppFlow supports, see Supported objects.

- A Marketing Cloud *package* so that Amazon AppFlow can access your data. In Marketing Cloud, you create packages to add custom functionality to your account. For the steps to create a package, see Create and Install Packages in the Marketing Cloud documentation.

When you create a package for Amazon AppFlow integration, do the following:

1. Add an API integration component to the package.
2. Set the integration type of the component to server-to-server.
3. Grant read access to every data object that you want to transfer with Amazon AppFlow.
4. The Salesforce Marketing Cloud connector now supports fetching records from the data extension. If you want to fetch data extension records, you need to add the read and write scopes to your package.
5. After you create the package, note the following properties. You need them to create a connection in Amazon AppFlow:
   - Client ID
   - Client secret
   - Authentication base URI
   - REST base URI or SOAP base URI (You can use either one; it doesn't matter which one you use)

Connecting Amazon AppFlow to your Salesforce Marketing Cloud account

To connect Amazon AppFlow to your Marketing Cloud account, provide details about the package so that Amazon AppFlow can access your data. To learn how to create a package, see Before you begin.

To connect to Salesforce Marketing Cloud

1. Sign in to the AWS Management Console and open the Amazon AppFlow console at https://console.aws.amazon.com/appflow/.
2. In the navigation pane on the left, choose **Connections**.
3. On the **Manage connections** page, for **Connectors**, choose **Salesforce Marketing Cloud**.
4. Choose **Create connection**.
5. In the **Connect to Salesforce Marketing Cloud** window, provide the following details:

- **Custom authorization tokens URL** – The authentication base URI that's assigned to your Marketing Cloud package. Provide the subdomain to complete the URI shown in the console: `https://subdomain.auth.marketingcloudapis.com/v2/token`.
- **Client ID** – The client ID that is assigned to your Marketing Cloud package.
- **Client secret** – The client secret that is assigned to your Marketing Cloud package.
- **Salesforce Marketing Cloud Subdomain Endpoint** – The REST base URI or SOAP base URI that is assigned to your Marketing Cloud package. These URIs looks similar to the following examples:
  - `https://subdomain.rest.marketingcloudapis.com/`
  - `https://subdomain.soap.marketingcloudapis.com/`

  In these examples, *subdomain* is the same value that you provide for the custom authorization tokens URL.

  You must provide either the REST or SOAP URI, but the one that you use doesn't matter. With either one, Amazon AppFlow connects to your Marketing Cloud package, and it transfers data by using the REST or SOAP endpoint as needed.

For more information about the authentication, REST, and SOAP URIs for Marketing Cloud packages, see Your Subdomain and Your Tenant's Endpoints in the Marketing Cloud documentation.

6. Optionally, under **Data encryption**, choose **Customize encryption settings (advanced)** if you want to encrypt your data with a customer managed key in the AWS Key Management Service (AWS KMS).

   By default, Amazon AppFlow encrypts your data with a KMS key that AWS creates, uses, and manages for you. Choose this option if you want to encrypt your data with your own KMS key instead.

   Amazon AppFlow always encrypts your data during transit and at rest. For more information, see Data protection in Amazon AppFlow.

   If you want to use a KMS key from the current AWS account, select this key under **Choose an AWS KMS key**. If you want to use a KMS key from a different AWS account, enter the Amazon Resource Name (ARN) for that key.

7. For **Connection name**, enter a name for your connection.

8. Choose **Connect**.

On the **Manage connections** page, your new connection appears in the **Connections** table. When you create a flow that uses Salesforce Marketing Cloud as the data source, you can select this connection.

Transferring data from Salesforce Marketing Cloud with a flow

To transfer data from Marketing Cloud, create an Amazon AppFlow flow, and choose Salesforce Marketing Cloud as the data source. To learn how to create a flow, see Creating flows in Amazon AppFlow.

When you configure the flow, choose the data object that you want to transfer. For more information about the objects that Amazon AppFlow supports for Marketing Cloud, see Supported objects.

Also choose the destination where you want to transfer the data object that you selected. For more information on how to configure your destination, see the section called "Supported destinations".

Supported objects

When you create a flow that uses Salesforce Marketing Cloud as the data source, you can transfer the following data objects from your Marketing Cloud account:

- Activity
- Bounce Event
- Click Event
- Content Area
- Data Extension
- Email
- Forwarded Email Event
- Forwarded Email OptInEvent
- Link
- Link Send
- List

- List Subscriber
- Not Sent Event
- Open Event
- Send
- Sent Event
- Subscriber
- Survey Event
- Unsub Event
- Audit Events
- Campaigns
- Interactions
- Content Assets

Supported destinations

When you create a flow that uses Salesforce Marketing Cloud as the data source, you can set the destination to any of the following connectors:

- Amazon Lookout for Metrics
- Amazon Redshift
- Amazon RDS for PostgreSQL
- Amazon S3
- HubSpot
- Marketo
- Salesforce
- SAP OData
- Snowflake
- Upsolver
- Zendesk
- Zoho CRM

Salesforce Pardot

The following are the requirements and connection instructions for using Pardot with Amazon AppFlow.

> **Note**
>
> You can use Pardot as a source only.

Topics

Requirements

- Your Salesforce account must be enabled for API access. API access is enabled by default for Enterprise, Unlimited, Developer, and Performance editions.
- Your Salesforce account must allow you to install connected apps. If this option is disabled, contact your Salesforce administrator.
- After you create a Pardot connection in Amazon AppFlow, verify that the connected app named *Amazon AppFlow Pardot Embedded Login App* is installed in your Salesforce account. For instructions on how to create a connected app in Salesforce, see Requirements for using your own connected app. For more information about connected apps in Salesforce, see Connected Apps in the Salesforce documentation.
- The refresh token policy for the **Amazon AppFlow Pardot Embedded Login App** must be set to **Refresh token is valid until revoked**. Otherwise, your flows will fail when your refresh token expires.
- If your Pardot app enforces IP address restrictions, you must grant access to the addresses used by Amazon AppFlow. For more information, see AWS IP address ranges in the *Amazon Web Services General Reference*.

Pardot version support

Amazon AppFlow supports Pardot version 4 only. If you are still using version 3, you must upgrade to version 4 to use Amazon AppFlow. For more information, see Transitioning from version 3 to version 4 in the Pardot documentation.

Authentication and Pardot business ID

- Amazon AppFlow supports authentication via OAuth2 with Pardot. For more information, see Authentication Via Salesforce OAuth in the Pardot documentation.
- You must have the Pardot Business Unit ID that you are trying to authenticate with. To find the Pardot Business Unit ID in Salesforce, go to **Setup** and enter **`Pardot Account Setup`** in the **Quick Find** box. Your Pardot Business Unit ID begins with *0Uv* and is 18 characters long. If you cannot access the Pardot account setup information, ask your Salesforce administrator to provide you with the Pardot Business Unit ID.

Setup instructions

To connect to Pardot while creating a flow

1. Sign in to the AWS Management Console and open the Amazon AppFlow console at https://console.aws.amazon.com/appflow/.
2. Choose **Create flow**.
3. For **Flow details**, enter a name and description for the flow.
4. (Optional) To use a customer managed CMK instead of the default AWS managed CMK, choose **Data encryption**, **Customize encryption settings** and then choose an existing CMK or create a new one.
5. (Optional) To add a tag, choose **Tags**, **Add tag** and then enter the key name and value.
6. Choose **Next**.
7. Choose **Pardot** from the **Source name** dropdown list.
8. Choose **Connect** to open the **Connect to Pardot** dialog box. If you are connecting to Pardot for the first time, follow the instructions to complete the OAuth workflow and create a connection profile.
9. You will be redirected to the Pardot login page. When prompted, grant Amazon AppFlow permissions to access your Pardot account.

Now that you are connected to your Pardot account, you can continue with the flow creation steps as described in Creating flows in Amazon AppFlow.

> **Tip**
>
> If you aren't connected successfully, ensure that you have followed the instructions in the Requirements section.

Notes

- When you use Pardot as a source, you can run schedule-triggered flows at a maximum frequency of one flow run per minute.
- You can connect Amazon AppFlow to your Pardot sandbox account in addition to your Pardot production account.

- Amazon AppFlow inherits quotas from Pardot. Quotas are enforced on daily requests and concurrent requests at the customer level.*Pardot Pro* customers are allocated 25,000 API requests a day.*Pardot Ultimate* customers can make up to 100,000 API requests a day. These limits reset at the beginning of the day based on your account time zone settings. Any request that exceeds these quotas results in an error code 122. Amazon AppFlow handles these error codes transparently.

Supported destinations

When you create a flow that uses Salesforce Pardot as the data source, you can set the destination to any of the following connectors:

- Amazon Connect
- Amazon EventBridge
- Amazon Honeycode
- Lookout for Metrics
- Amazon Redshift
- Amazon S3
- Marketo

- Salesforce
- Snowflake
- Upsolver
- Zendesk

You can also set the destination to any custom connectors that you create with the Amazon AppFlow Custom Connector SDKs for Python or Java. You can download these SDKs from GitHub.

Related resources

- Transitioning from version 3 to version 4 in the Pardot documentation
- Connected Apps in the Salesforce documentation
- Authentication Via Salesforce OAuth in the Pardot documentation

SAP OData connector for Amazon AppFlow

The Amazon AppFlow SAP OData connector provides the ability to fetch, create, and update records exposed by SAP S/4HANA and SAP on premises systems through OData APIs.

With this connector, you can connect Amazon AppFlow to your OData services, including those that extract data from SAP applications that use the Operational Data Provisioning (ODP) framework. These applications are called ODP providers. For more information about how OData services can extract ODP data in SAP, see ODP-Based Data Extraction via OData in the SAP BW/4HANA documentation.

When you connect Amazon AppFlow to ODP providers, you can create flows that run full data transfers or incremental updates. Incremental updates for ODP data are efficient because they transfer only those records that changed since the prior flow run.

Amazon AppFlow support for SAP OData

With the SAP OData connector, Amazon AppFlow supports SAP as follows.

Supported as a data source?

Yes. You can use Amazon AppFlow to transfer data from SAP.

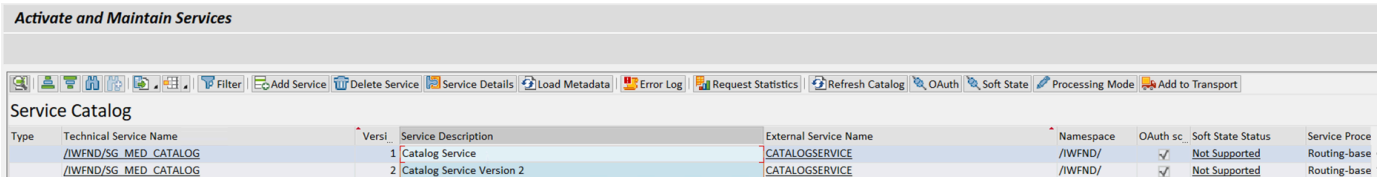
Supported as a data destination?

Amazon AppFlow supports SAP OData as a destination, but not for ODP data. You can use Amazon AppFlow to transfer data to an OData service, but you can't transfer data to an ODP provider.

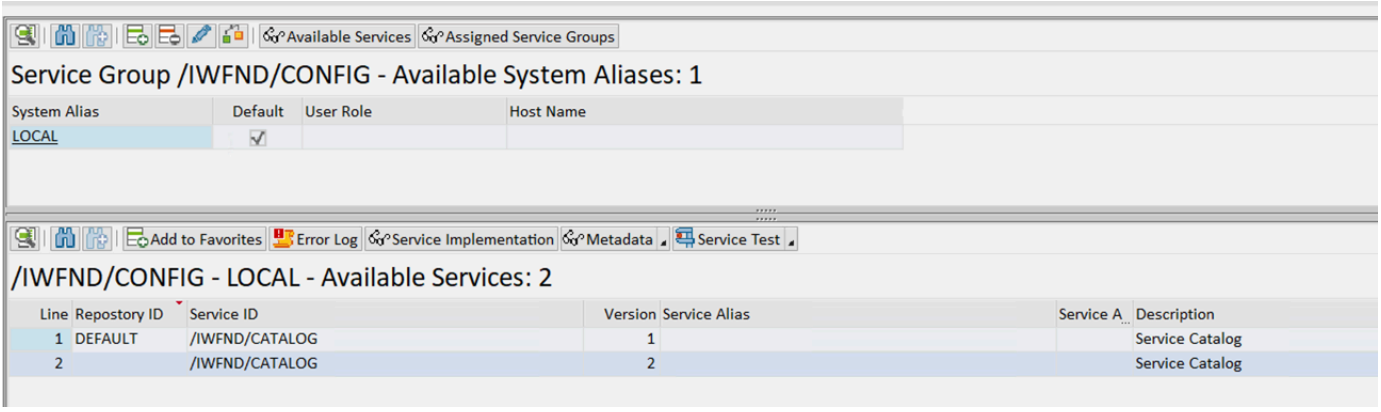
Before you begin

To use Amazon AppFlow to transfer data from SAP OData to supported destinations, you must meet these requirements:

- Your SAP NetWeaver stack version must be 7.40 SP02 or above.
- You must enable catalog service for service discovery.
  - **OData V2.0:** The OData V2.0 catalog service(s) can be enabled in your SAP Gateway via transaction **/IWFND/MAINT_SERVICE** .



  - **OData V4.0:** The OData V4.0 catalog services can be enabled in your SAP Gateway environment by publishing the service groups **/IWFND/CONFIG** or as described in the SAP documentation relevant to your gateway version.



- You must enable OData V2.0/V4.0 services in your SAP Gateway. The OData V2.0 services can be enabled via transaction **/IWFND/MAINT_SERVICE** and V4.0 services can be published via transaction **/IWFND/V4_ADMIN**.
- Your SAP OData service must support client side pagination/query options such as **$top** and **$skip**. It must also support system query option **$count**.

- Amazon AppFlow supports following authentication mechanisms:
  - **Basic** - Supported for OData V2.0 and OData V4.0
  - **OAuth 2.0** - Supported for only OData V2.0. You must enable OAuth 2.0 for the OData service and register the OAuth client per SAP documentation and set the authorized redirect URL as follows:
    - https://console.aws.amazon.com/appflow/oauth for the us-east-1 Region
    - https://region.console.aws.amazon.com/appflow/oauth for all other Regions
- You must enable secure setup for connecting over HTTPS.
- You must provide required authorization for the user in SAP to discover the services and extract data using SAP OData services. Please refer to the security documentation provided by SAP.

ODP Requirements

Before you can transfer data from an ODP provider, you need to meet the following requirements:

- You have an SAP NetWeaver AS ABAP instance.
- Your SAP NetWeaver instance contains an ODP provider that you want to transfer data from. ODP providers include:
  - SAP DataSources (Transaction code RSO2)
  - SAP Core Data Services ABAP CDS Views
  - SAP BW or SAP BW/4HANA systems (InfoObject, DataStore Object)
  - Real-time replication of Tables and DB-Views from SAP Source System via SAP Landscape Replication Server (SAP SLT)
  - SAP HANA Information Views in SAP ABAP based Sources
- Your SAP NetWeaver instance has the SAP Gateway Foundation component.
- You have created an OData service that extracts data from your ODP provider. To create the OData service, you use the SAP Gateway Service Builder. To access your ODP data, Amazon AppFlow calls this service by using the OData API. For more information, see Generating a Service for Extracting ODP Data via OData in the SAP BW/4HANA documentation.
- To generate an OData service based on ODP data sources, SAP Gateway Foundation must be installed locally in your ERP/BW stack or in a hub configuration.
  - For your ERP/BW applications, the SAP NetWeaver AS ABAP stack must be at 7.50 SP02 or above.

- For the hub system (SAP Gateway), the SAP NetWeaver AS ABAP of the hub system must be 7.50 SP01 or above for remote hub setup.

Private Connection Requirements

Before you can create a private connection to SAP, you need to meet the following requirements:

- You need to create VPC Endpoint Service for your SAP OData instance running in a VPC. This VPC endpoint service must have Amazon AppFlow service principal **appflow.amazonaws.com** as allowed principal and must be available in **at least more than 50% AZs in a region**.
- When creating connection using OAuth, your **Authorization Code URL** must be reachable by the network from where the connection is being setup. This is because OAuth connection involves browser interaction with SAP Login Page which cannot happen over AWS PrivateLink. The network from where the connection is being setup must be connected to SAP OData instance running in a VPC so that hostname of authorization code url can be resolved. Alternately, you can choose to make your Authorization Code URL available over public internet so that console user interaction can happen from any network.
- For OAuth, in addition to **Application Host URL**, your **Authorization Tokens URL** must also be available behind VPC Endpoint Service to fetch Access/Refresh tokens over private network.
- For OAuth, you must set your OAuthCode expiry to at least 5 minutes.

Connecting Amazon AppFlow to your SAP account

To connect Amazon AppFlow to your SAP account, provide details about your SAP OData service so that Amazon AppFlow can access your data. If you haven't yet configured your SAP OData service for Amazon AppFlow integration, see Before you begin.

To create an SAP OData connection

1. Sign in to the AWS Management Console and open the Amazon AppFlow console at https://console.aws.amazon.com/appflow/.
2. In the navigation pane on the left, choose **Connections**.
3. On the **Manage connections** page, for **Connectors**, choose **SAP OData**.
4. Choose **Create connection**.
5. In the **Connect to SAP OData** window, enter the following information:

a. Under **Application Host URL**, enter your Application host url. This application host url must be accessible over public internet for non PrivateLink connection.

b. Under **Application Service Path**, enter your catalog service path. e.g.**/sap/opu/odata/iwfnd/catalogservice;v=2**. Amazon AppFlow doesn't accept specific object path.

c. Under **Port Number**, enter your port number.

d. Under **Client Number**, enter your 3 digit client number. Acceptable values are [001-999]. e.g.**010**

e. Under **Logon Language**, enter your two character logon language. e.g. **EN**.

f. (Optional) To use private connection for data transfer, under **AWS PrivateLink service name**, enter your VPC Endpoint (PrivateLink) service name. e.g. **com.amazonaws.vpce.us-east-1.vpce-svc-xxxxxxxxxxxxx**

g. Select your preferred Authentication Mode.

- If Basic,

  i. Under **User name**, enter your useraname.

  ii. Under **Password**, enter your password.

- If OAuth2,

  i. Under **Authorization Code URL**, enter your authorization code URL.

  ii. Under **Authorization Tokens URL**, enter your authorization token URL.

  iii. Under **OAuth Scopes**, enter your OAuth scopes separated by space. e.g.**/IWFND/SG_MED_CATALOG_0002 ZAPI_SALES_ORDER_SRV_0001**

  iv. Under **Client ID**, enter your client id .

  v. Under **Client Secret**, enter your client secret .

h. Optionally, under **Data encryption**, choose **Customize encryption settings (advanced)** if you want to encrypt your data with a customer managed key in the AWS Key Management Service (AWS KMS).

   By default, Amazon AppFlow encrypts your data with a KMS key that AWS creates, uses, and manages for you. Choose this option if you want to encrypt your data with your own KMS key instead.

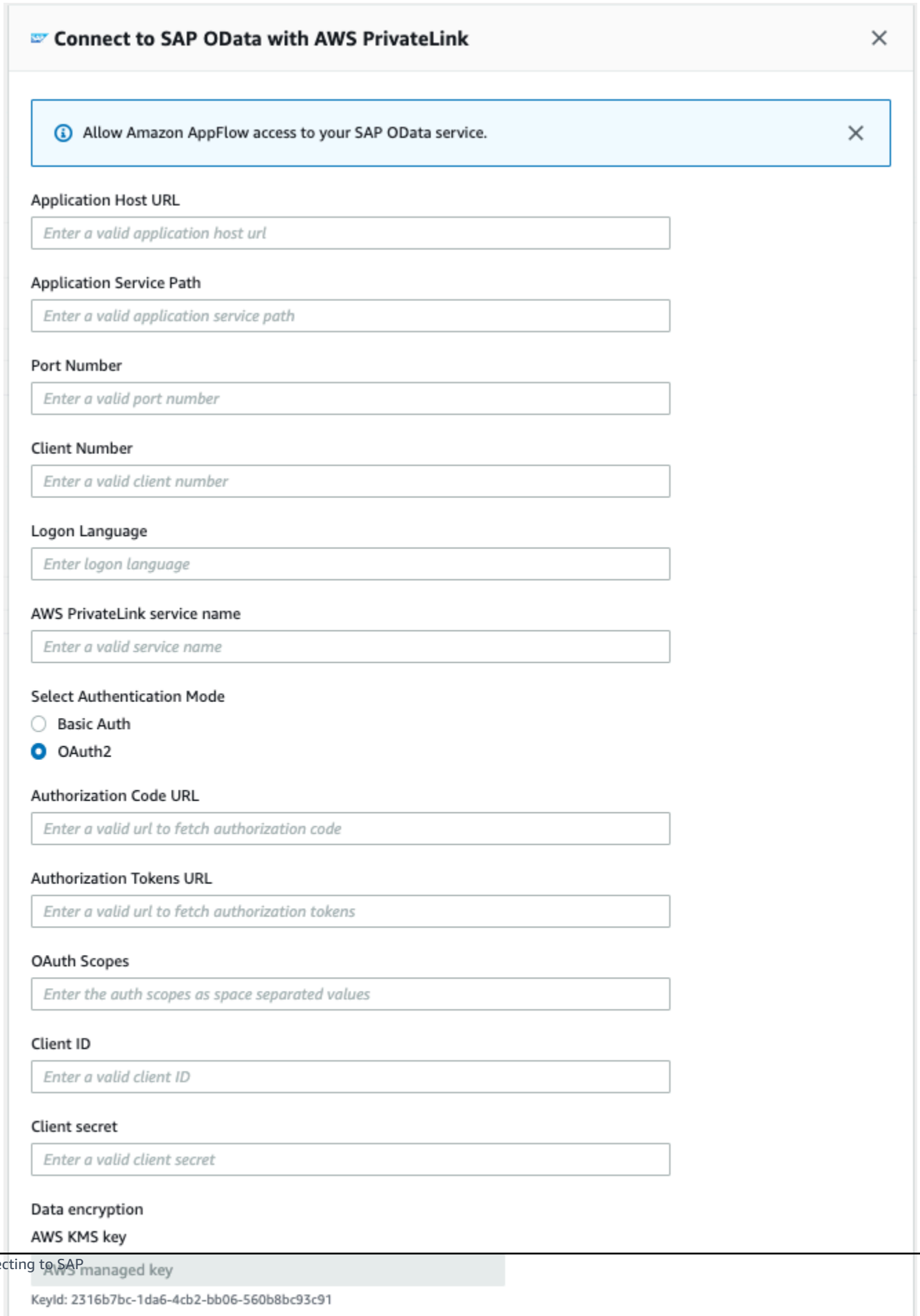
   Amazon AppFlow always encrypts your data during transit and at rest. For more information, see Data protection in Amazon AppFlow.

If you want to use a KMS key from the current AWS account, select this key under **Choose an AWS KMS key**. If you want to use a KMS key from a different AWS account, enter the Amazon Resource Name (ARN) for that key.

i. Under **Connection name**, specify a name for your connection.

j. Choose **Continue**.

k. If using OAuth, you will be redirected to the SAP login page. When prompted, grant Amazon AppFlow permissions to access your SAP account.


Connect to SAP OData with AWS PrivateLink
Allow Amazon AppFlow access to your SAP OData service.
Application Host URL
Enter a valid application host url
Application Service Path
Enter a valid application service path
Port Number
Enter a valid port number
Client Number
Enter a valid client number
Logon Language
Enter logon language
AWS PrivateLink service name
Enter a valid service name
Select Authentication Mode
Basic Auth
OAuth2
Authorization Code URL
Enter a valid url to fetch authorization code
Authorization Tokens URL
Enter a valid url to fetch authorization tokens
OAuth Scopes
Enter the auth scopes as space separated values
Client ID
Enter a valid client ID
Client secret
Enter a valid client secret
Data encryption
AWS KMS key
AWS managed key
KeyId: 2316b7bc-1da6-4cb2-bb06-560b8bc93c91
Connection name

On the **Manage connections** page, your new connection appears in the **Connections** table. When you create a flow that uses SAP OData as the data source, you can select this connection.

If you chose to enable PrivateLink, note the following:

- Amazon AppFlow creates AWS PrivateLink Endpoint (if not already present) connection to your VPC Endpoint Service before any metadata/data transfer calls can be made to your SAP OData instance over private network. AWS PrivateLink Endpoint creation can take 3-5 minutes, and until its created, profile status would be PENDING. While the connection status is PENDING, you are unable to transfer SAP OData objects with a flow.
- If your VPC Endpoint Service has **Acceptance Required** setting set to true, you will need to accept the connection in the AWS account which has VPC Endpoint service for AWS PrivateLink endpoint provisioning to start.
- Once the AWS PrivateLink Endpoint connection is established, Amazon AppFlow fetches (only for OAuth) access/refresh tokens using the authCode, makes a test connection call over private network, and finally changes connection status from PENDING to CREATED.
- If for any reason private connection creation fails, connection status would change to FAILED.

Transferring data from SAP OData with a flow

To transfer data from SAP OData, create an Amazon AppFlow flow, and choose SAP OData as the data source. For the steps to create a flow, see Creating flows in Amazon AppFlow.

When you configure the flow, choose which data object you want to transfer. If the data object originates from an ODP provider, you can configure the flow so that it runs efficient incremental updates that transfer changed records only.

Transferring ODP data

When you create a flow that transfers an ODP data object, you can configure the flow to run *incremental* or *full* data transfers.

Incremental ODP data transfers

When you create a flow that transfers ODP data incrementally, it does the following:

- It subscribes to the *operational delta queue* of your ODP provider. This queue provides Amazon AppFlow with delta tokens, which indicate changes made to the provider's records in SAP.

- For the initial flow run, it performs a full data transfer. It obtains all available records from your ODP provider, except for any that you omit by adding filters to your flow configuration.
- For subsequent flow runs, it performs incremental data transfers. By using the information provided by the delta tokens, it transfers only those records that changed after the last flow run.

When you create an SAP OData flow in the Amazon AppFlow console, you can configure it to transfer data incrementally in the **Flow trigger** section, where you do the following:

1. Choose **Run flow on schedule**.
2. Use the scheduling fields to specify when the flow begins, how often it repeats, and when it ends.
3. Under **Transfer mode**, choose **Incremental transfer**.

   For ODP data objects specifically, the console requires no additional input. This behavior differs from SAP data objects that don't come from an ODP provider. For those objects, you must specify a source timestamp field that Amazon AppFlow uses to identify new or changed records. For ODP data, no such timestamp is necessary because Amazon AppFlow uses the information that's provided by the delta token that it receives from the operational delta queue.

Important

When you create an incremental flow for an ODP data object, the flow creates a subscription to the operational delta queue for that object. Although Amazon AppFlow creates these subscriptions, it doesn't administer them on your behalf. Keep the following subscription behaviors in mind to prevent unwanted effects:

- When a flow subscribes to a queue, it also removes all prior subscriptions to that queue. If you previously created any scheduled flows that transfer the same object, delete those flows. They no longer receive delta tokens, and they stop performing incremental data transfers. For any individual ODP object, maintain only one scheduled flow at a time.
- When you delete a flow that subscribes to an operational delta queue, that operation does not delete the subscription itself. You can only delete the subscription by using the SAP system to do so.

Full ODP data transfers

You can create flows that run full data transfers of your ODP data. For these flows, Amazon AppFlow does not create subscriptions to operational delta queues like it does for incremental flows.

When you create an SAP OData flow in the Amazon AppFlow console, you can configure it to run full data transfers in the **Flow trigger** section, where you do the following:

- Under **Choose how to trigger the flow**, do either of the following:
  - Choose **Run on demand**. After you create an on-demand flow, you run it manually by choosing **Run flow** on its details page in the Amazon AppFlow console.
  - Choose **Run flow on schedule** and define your schedule:.
    a. Use the scheduling fields to specify when the flow begins, how often it repeats, and when it ends.
    b. For **Transfer mode**, choose **Full transfer.**

> **Note**
>
> To create a flow that runs full data transfers, the frequency that you choose must be no more frequent than **Daily**. If it is more frequent, then you won't be able to choose **Full transfer**.

Advanced capabilities for the SAP OData connector

For the SAP OData connector, Amazon AppFlow supports a couple unique capabilities that are unavailable with other destination-enabled connectors. With it, you can:

- Capture the SAP success response when you create a new record.
- Create deep entities with the SAP OData deep insert feature. For more information about this feature, see Deep Insert in the SAP Gateway Foundation documentation.

You can use these capabilities individually or in combination. For example, you can capture SAP's success response when you insert a deep entity.

To enable these capabilities, complete the following steps.

To capture the SAP success response for new records

1. Create an Amazon S3 bucket. The bucket must be in the same AWS Region as the flow that you create for your SAP OData connector. For the steps to create a bucket, see Creating a bucket in the *Amazon S3 User Guide*.
2. Configure the flow by following the steps in Creating flows in Amazon AppFlow, but do one additional step:
   - On the **Configure flow** page, under **Response handling**, select the bucket that you created. The SAP success response payload is delivered to this bucket when finish creating your flow.

To create SAP deep entities

1. Generate a JSON Lines input file that defines one deep entity per line, as shown by the following example.

   JSON Lines (required format)

   The following input file defines two deep entities in JSON Lines format (also called newline-delimited JSON). In this format, each line is a complete JSON object that defines an individual deep entity.

   Each deep entity can include multiple levels of hierarchical data. This example creates two Sales Orders, and each contains two associated Sales Order Items.

```
{"SalesOrderType": "OR","SalesOrganization": "1710","DistributionChannel":
 "10","OrganizationDivision": "00","SoldToParty":
 "USCU_S13","TransactionCurrency": "USD","PurchaseOrderByCustomer":
 "TEST-PO2021","to_Item": [{"Material": "MZ-FG-C990","RequestedQuantity":
 "10","RequestedQuantityUnit": "PC"},{"Material": "MZ-FG-
M500","RequestedQuantity": "10","RequestedQuantityUnit": "PC"}]}
{"SalesOrderType": "OR","SalesOrganization": "1710","DistributionChannel":
 "10","OrganizationDivision": "00","SoldToParty":
 "USCU_S13","TransactionCurrency": "USD","PurchaseOrderByCustomer":
 "TEST-PO2021","to_Item": [{"Material": "MZ-FG-C990","RequestedQuantity":
 "10","RequestedQuantityUnit": "PC"},{"Material": "MZ-FG-
M500","RequestedQuantity": "10","RequestedQuantityUnit": "PC"}]}
```

Formatted JSON (for readability)

The following example shows one of the deep entities from the JSON Lines input file. This example is formatted for readability so that you can more easily see the nested JSON values.

```
{
  "SalesOrderType": "OR",
  "SalesOrganization": "1710",
  "DistributionChannel": "10",
  "OrganizationDivision": "00",
  "SoldToParty": "USCU_S13",
  "TransactionCurrency": "USD",
  "PurchaseOrderByCustomer": "TEST-PO2021",
  "to_Item":
  [
    {
      "Material": "MZ-FG-C990",
      "RequestedQuantity": "10",
      "RequestedQuantityUnit": "PC"
    },
    {
      "Material": "MZ-FG-M500",
      "RequestedQuantity": "10",
      "RequestedQuantityUnit": "PC"
    }
  ]
}
```

Remember that Amazon AppFlow requires JSON Lines format, so this example would be an invalid input file.

2. Create an Amazon S3 bucket. The bucket must be in the same AWS Region as the flow that you create for your SAP OData connector. For the steps to create a bucket, see Creating a bucket in the *Amazon S3 User Guide*.
3. Upload your deep entities input file to the bucket that you created. For the steps to upload a file, see Uploading objects in the *Amazon S3 User Guide*.
4. Configure the flow by following the steps in Creating flows in Amazon AppFlow, but do one alternate step:

- On the **Map data fields** page, under **Mapping method**, choose **Passthrough fields without modification**.

> **Note**
>
> When you choose this option, the console disables the options under **Source to destination field mapping**. With this option, you don't define mappings in the console. Instead, the fields in your input file must match the fields that you use in SAP.

Transferring data with concurrent processes

When you configure a flow that transfers OData records from an SAP instance, you can speed up the transfer by setting multiple *concurrent processes*. Each concurrent process is a query that retrieves a batch of records from your SAP instance. When the flow transfers your data, it runs these processes at the same time. As a result, the flow uses multiple parallel threads that can transfer large datasets more quickly.

> **Note**
>
> Amazon AppFlow supports concurrent processes only for flows that do the following:
>
> - Transfer OData records.
> - Transfer from SAP as the data source.
>
> Amazon AppFlow doesn't support this feature for ODP records or for flows that transfer to SAP as the data destination.

To transfer your data with concurrent processes

Configure the flow by following the steps in Creating flows in Amazon AppFlow, and do these additional steps:

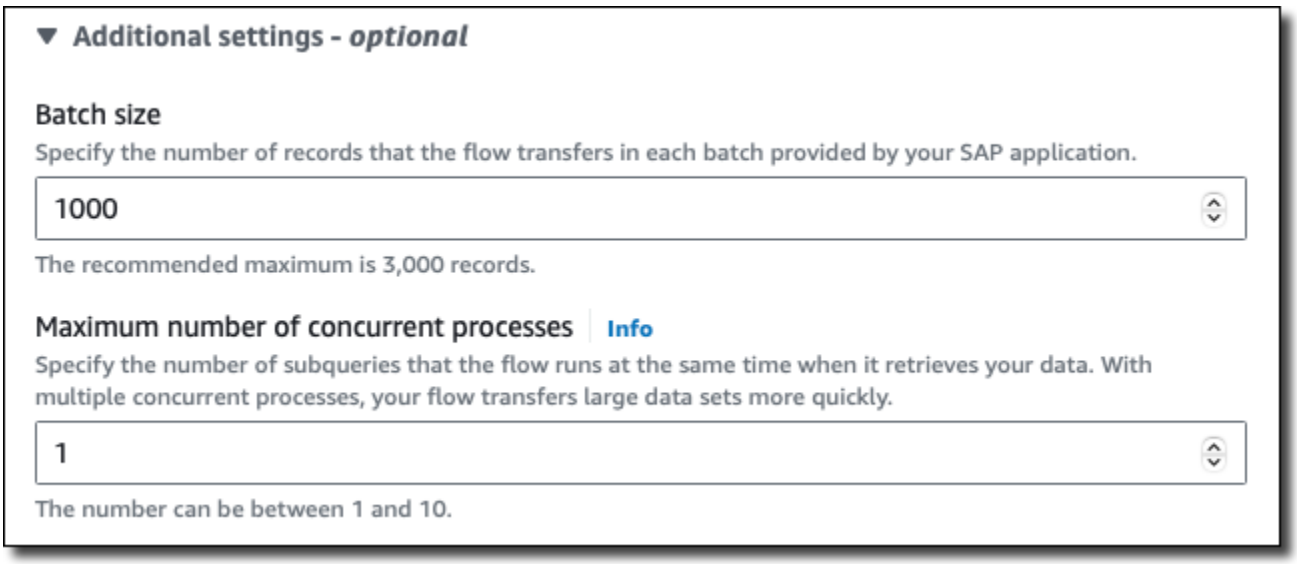
1. On the **Configure flow** page, choose your SAP OData connector under **Source details**.
2. In the **Source details** section, under **Additional settings**, set the following options:

Batch size

The maximum number of records that Amazon AppFlow receives in each page of the response from your SAP application. For transfers of OData records, the maximum page size is 3,000. For transfers of data that comes from an ODP provider, the maximum page size is 10,000.

Maximum number of concurrent processes

The maximum number of processes that Amazon AppFlow runs at the same time when it retrieves your data. The default value is one. You can specify up to 10.



When the flow runs, Amazon AppFlow calculates how many processes it needs by dividing the number of records in your instance with the batch size. If the number is less than the maximum, the flow runs the processes only once, and it runs only as many processes as it needs. If the number exceeds the maximum, the flow runs the processes multiple times, and it doesn't exceed the maximum at any one time.

Notes

- When you use SAP OData as a source, you can run schedule-triggered flows at a maximum frequency of one flow runs per minute.
- If you have a private ConnectorProfile for a VPC endpoint service, and you try to create another private ConnectorProfile for the same VPC endpoint service, Amazon AppFlow will re-use the

already created private connection, and thus you would not need to wait for private connection provisioning to complete to list and choose SAP OData object.

- Amazon AppFlow allows at max 1000 flow executions at a time per AWS account. If you choose to run multiple flows against the same SAP OData instance, you need to accordingly scale your instance.

Supported destinations

When you create a flow that uses SAP OData as the data source, you can set the destination to any of the following connectors:

- Amazon Connect
- Amazon Redshift
- Amazon S3
- SAP OData

You can also set the destination to any custom connectors that you create with the Amazon AppFlow Custom Connector SDKs for Python or Java . You can download these SDKs from GitHub.

Related resources

- Setting up SAP Gateway in *SAP* documentation.

SendGrid connector for Amazon AppFlow

SendGrid is a marketing automation platform and email marketing service. If you're a SendGrid user, your account contains data about your SendGrid activity, such as your lists, segments, and campaigns. You can use Amazon AppFlow to transfer data from SendGrid to certain AWS services or other supported applications.

Amazon AppFlow support for SendGrid

Amazon AppFlow supports SendGrid as follows.

Supported as a data source?

Yes. You can use Amazon AppFlow to transfer data from SendGrid.

Supported as a data destination?

No. You can't use Amazon AppFlow to transfer data to SendGrid.

Before you begin

To use Amazon AppFlow to transfer data from SendGrid to supported destinations, you must meet these requirements:

- You have an account with SendGrid that contains the data that you want to transfer. For more information about the SendGrid data objects that Amazon AppFlow supports, see Supported objects.
- You've configured your account with the following settings:
  - You've enabled two-factor authentication. For the steps to enable it, see Two-Factor Authentication in the SendGrid documentation.
  - You've created an API key that grants full access to your account. For the steps to create one, see API Keys in the SendGrid documentation.

Note the API key from your account settings. You provide it to Amazon AppFlow when you connect to your SendGrid account.

Connecting Amazon AppFlow to your SendGrid account

To connect Amazon AppFlow to your SendGrid account, provide your API key so that Amazon AppFlow can access your data. If you haven't yet configured your SendGrid account for Amazon AppFlow integration, see Before you begin.

To connect to SendGrid

1. Sign in to the AWS Management Console and open the Amazon AppFlow console at https://console.aws.amazon.com/appflow/.
2. In the navigation pane on the left, choose **Connections**.
3. On the **Manage connections** page, for **Connectors**, choose **SendGrid**.
4. Choose **Create connection**.
5. In the **Connect to SendGrid** window, for **API Key**, enter the API key from your SendGrid account settings.

6. Optionally, under **Data encryption**, choose **Customize encryption settings (advanced)** if you want to encrypt your data with a customer managed key in the AWS Key Management Service (AWS KMS).

   By default, Amazon AppFlow encrypts your data with a KMS key that AWS creates, uses, and manages for you. Choose this option if you want to encrypt your data with your own KMS key instead.

   Amazon AppFlow always encrypts your data during transit and at rest. For more information, see Data protection in Amazon AppFlow.

   If you want to use a KMS key from the current AWS account, select this key under **Choose an AWS KMS key**. If you want to use a KMS key from a different AWS account, enter the Amazon Resource Name (ARN) for that key.
7. For **Connection name**, enter a name for your connection.
8. Choose **Connect**.

On the **Manage connections** page, your new connection appears in the **Connections** table. When you create a flow that uses SendGrid as the data source, you can select this connection.

Transferring data from SendGrid with a flow

To transfer data from SendGrid, create an Amazon AppFlow flow, and choose SendGrid as the data source. For the steps to create a flow, see Creating flows in Amazon AppFlow.

When you configure the flow, choose the data object that you want to transfer. For the objects that Amazon AppFlow supports for SendGrid, see Supported objects.

Also, choose the destination where you want to transfer the data object that you selected. For more information about how to configure your destination, see Supported destinations.

Supported destinations

When you create a flow that uses SendGrid as the data source, you can set the destination to any of the following connectors:

- Amazon Lookout for Metrics
- Amazon Redshift

- Amazon RDS for PostgreSQL
- Amazon S3
- HubSpot
- Marketo
- Salesforce
- SAP OData
- Snowflake
- Upsolver
- Zendesk
- Zoho CRM

Supported objects

When you create a flow that uses SendGrid as the data source, you can transfer any of the following data objects to supported destinations:

Object	Field	Data type	Supported filters
Category	Category	String	
Contact	Address Line 1	String	
	Address Line 2	String	
	Alternate Email	List	
	City	String	
	Country	String	
	Created At	String	
	Custom Field	Struct	
	Email	String	
	Event Timestamp	DateTime	BETWEEN

Object	Field	Data type	Supported filters
	Facebook	String	
	First Name	String	
	ID	String	
	Last Name	String	
	Line	String	
	List Id	List	
	Metadata	Struct	
	Phone Number	String	
	Postal Code	String	
	Segment Id	List	
	State Province Region	String	
	Unique Name	String	
	Updated At	String	
	Whatsapp	String	
List	Contact Count	Integer	
	ID	String	
	Metadata	Struct	
	Name	String	
Marketing Campaign Stats Automation	Aggregation	String	
	Automation ID	List	EQUAL_TO

Object	Field	Data type	Supported filters
	ID	String	
	Stats	Struct	
	Step ID	String	
Marketing Campaign Stats Single Send	Ab Phase	String	
	Ab Variation	String	
	Aggregation	String	
	ID	String	
	Single Send ID	List	EQUAL_TO
	Stats	Struct	
Segment	Contact Count	Integer	
	Created At	String	
	ID	String	
	Name	String	
	Next Sample Update	String	
	No Parent List ID	Boolean	EQUAL_TO
	Parent List ID	String	
	Parent List ID	String	EQUAL_TO
	Query Version	String	
	Sample Updated At	String	
	Status	Struct	

Object	Field	Data type	Supported filters
	Updated At	String	
Single Send	Abtest	Struct	
	Category	List	EQUAL_TO
	Created At	String	
	ID	String	
	Is Abtest	Boolean	
	Name	String	EQUAL_TO
	Send At	String	
	Status	String	EQUAL_TO
	Updated At	String	
Stats	Aggregated By	String	EQUAL_TO
	Date	String	
	StartDate	DateTime	BETWEEN, EQUAL_TO
	Stats	List	
Unsubscribe Group	Description	String	
	ID	Integer	EQUAL_TO
	Is Default	Boolean	
	Last Email Sent At	Integer	
	Name	String	
	Unsubscribe	Integer	

ServiceNow

The following are the requirements and connection instructions for using ServiceNow with Amazon AppFlow.

> **Note**
>
> You can use ServiceNow as a source only.

Topics

Requirements

Before you can use Amazon AppFlow to import data from ServiceNow, you need the following:

- A ServiceNow account so that you can provide Amazon AppFlow with your user name, password, and instance name.
- Access to your ServiceNow instance through a role. This can be an admin role or one that allows the read operation for the following:
  - `sys_db_object`
  - `sys_db_object.*`
  - `sys_dictionary`
  - `sys_dictionary.*`
  - `sys_glide_object`
  - Any table that you want to access with Amazon AppFlow. For example, if you want to import data from a table named `incidents`, you need read access to `incidents` and `incidents.*`.

  For more information about ServiceNow roles, see Roles in the ServiceNow documentation.

Connection instructions

To connect to ServiceNow while creating a flow

The ServiceNow connector for Amazon Appflow now has the option to create connections using either Basic Auth or OAuth2 authentication. You make this choice in the console when you create your connection. If you choose Basic Auth, you'll need to provide your username, password, and Instance URL. If you choose OAuth2, you'll need to provide your Client ID, Client secret, and Instance URL.

1. Sign in to the AWS Management Console and open the Amazon AppFlow console at https://console.aws.amazon.com/appflow/.
2. Choose **Create flow**.
3. For **Flow details**, enter a name and description for the flow.
4. (Optional) To use a customer managed CMK instead of the default AWS managed CMK, choose **Data encryption**, **Customize encryption settings** and then choose an existing CMK or create a new one.
5. (Optional) To add a tag, choose **Tags**, **Add tag** and then enter the key name and value.
6. Choose **Next**.
7. Choose **ServiceNow** from the **Source name** dropdown list.
8. Choose **Connect** to open the **Connect to ServiceNow** dialog box.
9. a. Under **Connection name**, enter a name for your connection.
   b. In the **Select authentication mode** dropdown menu, select either **Basic Auth** or **OAuth2**.
   c. (For Basic Auth only) Under **User name**, enter your ServiceNow user name.
   d. (For Basic Auth only) Under **Password**, enter the password for that account.
   e. (For OAuth2 only) Under **Client ID**, enter the Client ID from your app.
   f. (For OAuth2 only) Under **Client secret**, specify the Client secret from your app.
   g. Under **Instance URL**, specify the instance of ServiceNow you want to connect to.
   h. Choose **Connect**.
10. Once connected, you can choose the ServiceNow object.

Now that you are connected to your ServiceNow account, you can continue with the flow creation steps as described in Creating flows in Amazon AppFlow.

Tip

If you aren't connected successfully, ensure that you have followed the instructions in the Requirements section.

Notes

- Once you are connected to your ServiceNow instance, you can select the relevant objects from ServiceNow by using the dropdown list. Given the amount of data being available via ServiceNow, the dropdown list may take some time to fully populate. Amazon AppFlow will list all tables available (including custom ones) and you can map the source fields to the destination fields during flow setup.
- You can run your flows either on demand, or on schedule, which enables you to integrate your ServiceNow data with AWS services.
- When you use ServiceNow as a source, you can run schedule-triggered flows at a maximum frequency of one flow run per minute.
- When you use ServiceNow as a source for incremental flows that run on a schedule, Amazon AppFlow uses the `sys_updated_on` field to identify the updated record set.
- ServiceNow can process up to 100,000 records as part of a single flow run.

Supported destinations

When you create a flow that uses ServiceNow as the data source, you can set the destination to any of the following connectors:

- Amazon Connect
- Amazon Honeycode
- Lookout for Metrics
- Amazon Redshift
- Amazon S3
- Marketo
- Salesforce
- Snowflake

- Upsolver
- Zendesk

You can also set the destination to any custom connectors that you create with the Amazon AppFlow Custom Connector SDKs for Python or Java. You can download these SDKs from GitHub.

Related resources

- Roles in the *ServiceNow* documentation

Singular

The following are the requirements and connection instructions for using Singular with Amazon AppFlow.

> **Note**
>
> You can use Singular as a source only.

Topics

- Requirements
- Connection instructions
- Notes
- Supported destinations
- Related resources

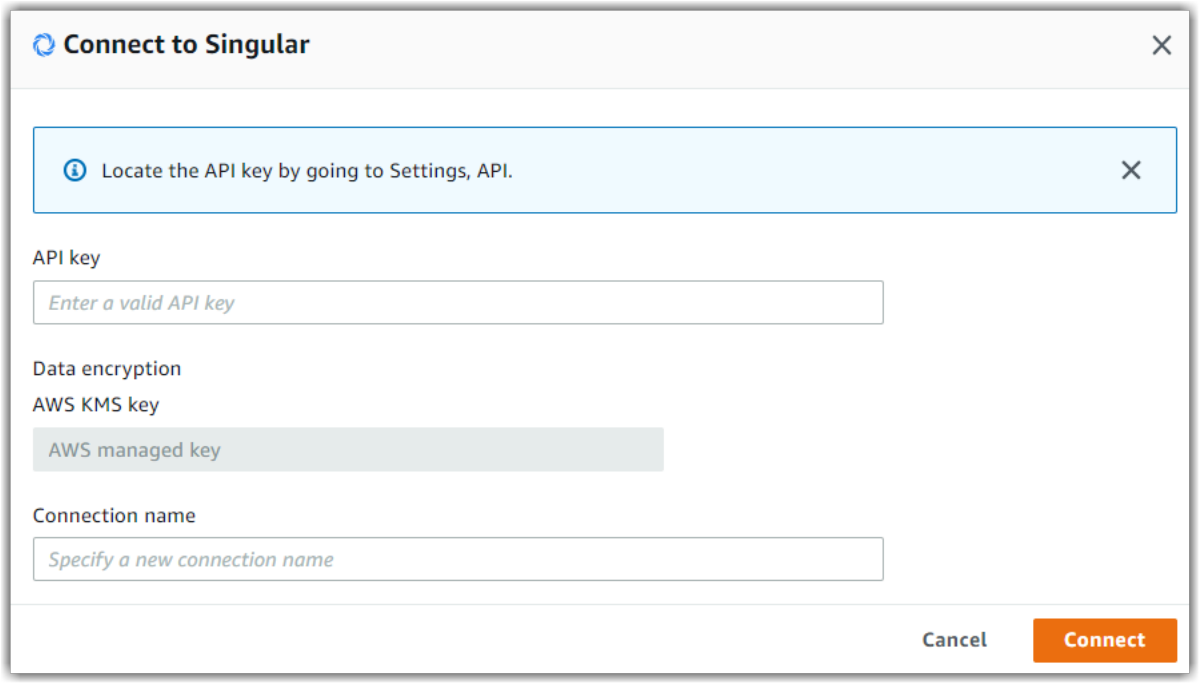
Requirements

- You must provide Amazon AppFlow with an API key. For more information about retrieving your client ID and client secret, see Authentication in the Singular documentation.
- The date range for the flow cannot exceed 30 days.
- The flow cannot return more than 100,000 records.

Connection instructions

To connect to Singular while creating a flow

1. Sign in to the AWS Management Console and open the Amazon AppFlow console at https://console.aws.amazon.com/appflow/.
2. Choose **Create flow**.
3. For **Flow details**, enter a name and description for the flow.
4. (Optional) To use a customer managed CMK instead of the default AWS managed CMK, choose **Data encryption**, **Customize encryption settings** and then choose an existing CMK or create a new one.
5. (Optional) To add a tag, choose **Tags**, **Add tag** and then enter the key name and value.
6. Choose **Next**.
7. Choose **Singular** from the **Source name** dropdown list.
8. Choose **Connect** to open the **Connect to Singular** dialog box.
    a. Under **API key**, enter your API key.
    b. Under **Data encryption**, enter your AWS KMS key.
    c. Under **Connection name**, specify a name for your connection.
    d. Choose **Connect**.



9. You will be redirected to the Singular login page. When prompted, grant Amazon AppFlow permissions to access your Singular account.

Now that you are connected to your Singular account, you can continue with the flow creation steps as described in Creating flows in Amazon AppFlow.

Tip

If you aren't connected successfully, ensure that you have followed the instructions in the Requirements section.

Notes

- When you use Singular as a source, you can run schedule-triggered flows at a maximum frequency of one flow run per hour.

Supported destinations

When you create a flow that uses Singular as the data source, you can set the destination to any of the following connectors:

- Amazon Connect
- Amazon Honeycode
- Lookout for Metrics
- Amazon Redshift
- Amazon S3
- Marketo
- Salesforce
- Snowflake
- Upsolver
- Zendesk

You can also set the destination to any custom connectors that you create with the Amazon AppFlow Custom Connector SDKs for Python or Java. You can download these SDKs from GitHub.

Related resources

- Authentication in the Singular documentation
- Load all your paid marketing with Amazon AppFlow. No code required. from Singular

Slack

The following are the requirements and connection instructions for using Slack with Amazon AppFlow.

> **Note**
>
> You can use Slack as a source only.

Topics

Requirements

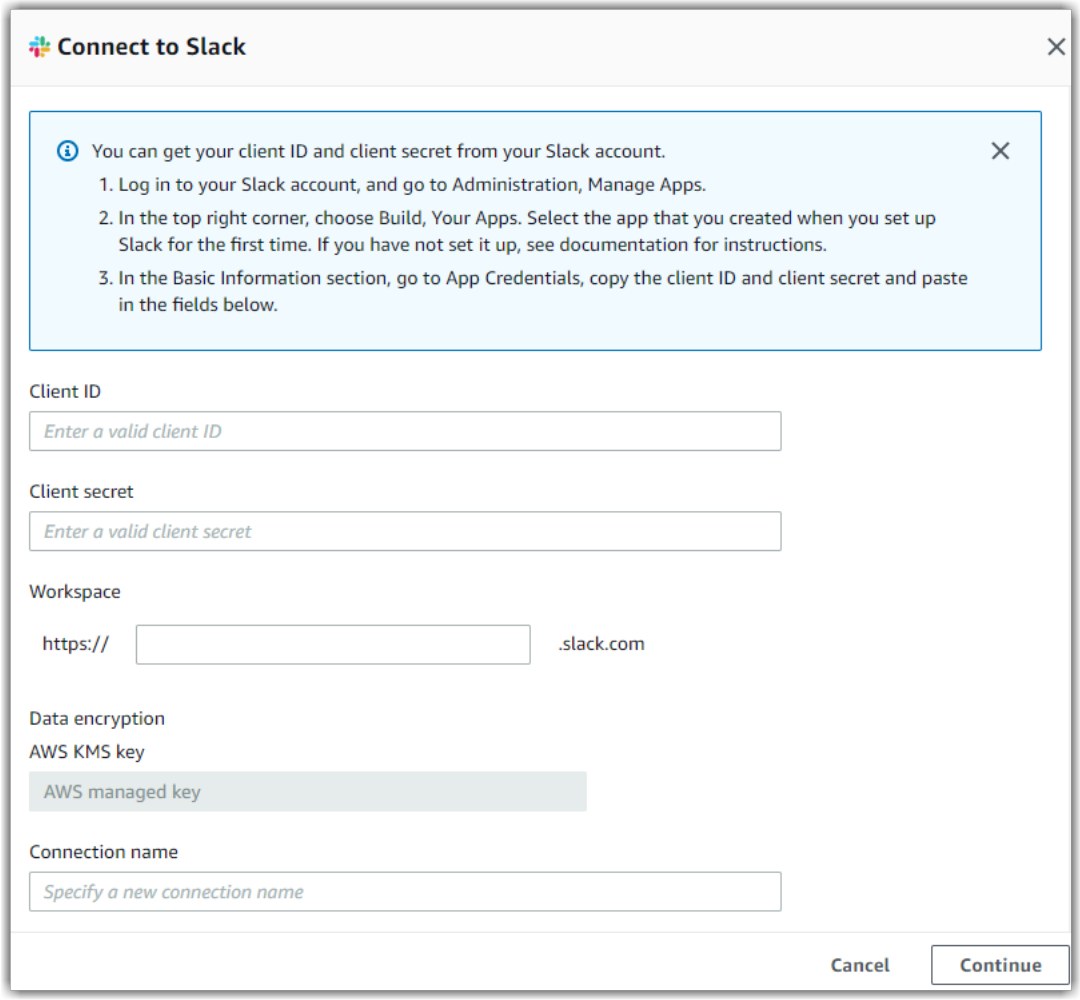
- To create a Slack connection in Amazon AppFlow, you must note your client ID, client secret, and Slack instance name. To retrieve your client ID and secret from Slack, you first must create a Slack App if you haven't already. For more information about how to create an App and then retrieve your client ID and secret, see the Slack documentation.
- Set the redirect URL as follows:
  - https://console.aws.amazon.com/appflow/oauth for the us-east-1 Region
  - https://*region*.console.aws.amazon.com/appflow/oauth for all other Regions
- Set the following user token scopes:
  - `channels:history`
  - `channels:read`
  - `groups:history`
  - `groups:read`
  - `im:history`
  - `im:read`
  - `mpim:history`
  - `mpim:read`

Connection instructions

To connect to Slack while creating a flow

1. Sign in to the AWS Management Console and open the Amazon AppFlow console at https://console.aws.amazon.com/appflow/.
2. Choose **Create flow**.

3. For **Flow details**, enter a name and description for the flow.
4. (Optional) To use a customer managed CMK instead of the default AWS managed CMK, choose **Data encryption**, **Customize encryption settings** and then choose an existing CMK or create a new one.
5. (Optional) To add a tag, choose **Tags**, **Add tag** and then enter the key name and value.
6. Choose **Next**.
7. Choose **Slack** from the **Source name** dropdown list.
8. Choose **Connect** to open the **Connect to Slack** dialog box.
    a. Under **Client ID**, enter your Slack client ID.
    b. Under **Client secret**, enter your Slack client secret.
    c. Under **Workspace**, enter the name of your Slack instance.
    d. Under **Data encryption**, enter your AWS KMS key.
    e. Under **Connection name**, specify a name for your connection.
    f. Choose **Continue**.



9. You will be redirected to the Slack login page. When prompted, grant Amazon AppFlow permissions to access your Slack account.

Now that you are connected to your Slack account, you can continue with the flow creation steps as described in Creating flows in Amazon AppFlow.

Tip

If you aren't connected successfully, ensure that you have followed the instructions in the Requirements section.

Notes

- When you use Slack as a source, you can run schedule-triggered flows at a maximum frequency of one flow run per minute.

Supported destinations

When you create a flow that uses Slack as the data source, you can set the destination to any of the following connectors:

- Amazon Connect
- Amazon Honeycode
- Amazon Redshift
- Amazon S3
- Marketo
- Salesforce
- Snowflake
- Upsolver
- Zendesk

You can also set the destination to any custom connectors that you create with the Amazon AppFlow Custom Connector SDKs for Python or Java. You can download these SDKs from GitHub.

Related resources

- Retrieve your client ID and secret in the Slack documentation
- New – Announcing Amazon AppFlow (dataflow: Slack, S3, Athena, QuickSight) in the *AWS News* blog
- Video: How to transfer data from Slack to Amazon S3 using Amazon AppFlow

Smartsheet connector for Amazon AppFlow

Smartsheet is a spreadsheet-based online collaboration service that helps teams plan and track their projects and initiatives. If you're a Smartsheet user, your account contains data about your

sheets, such as their dates when created, dates when modified, owners, access levels, and more. You can use Amazon AppFlow to transfer data from Smartsheet to certain AWS services or other supported applications.

Amazon AppFlow support for Smartsheet

Amazon AppFlow supports Smartsheet as follows.

Supported as a data source?

Yes. You can use Amazon AppFlow to transfer data from Smartsheet.

Supported as a data destination?

No. You can't use Amazon AppFlow to transfer data to Smartsheet.

Before you begin

To use Amazon AppFlow to transfer data from Smartsheet to supported destinations, you must meet these requirements:

- You have an account with Smartsheet that contains the data that you want to transfer. For more information about the Smartsheet data objects that Amazon AppFlow supports, see Supported objects.
- In your Smartsheet account, you've created an app for Amazon AppFlow. The app provides the client credentials that Amazon AppFlow uses to access your data securely when it makes authenticated calls to your account. For the steps to create an app, see OAuth Walkthrough in the *Smartsheet API Reference (2.0.0)*.
- You've configured the app with one or more redirect URLs for Amazon AppFlow.

  Redirect URLs have the following format:

  ```
  https://region.console.aws.amazon.com/appflow/oauth
  ```

  In this URL, *region* is the code for the AWS Region where you use Amazon AppFlow to transfer data from Smartsheet. For example, the code for the US East (N. Virginia) Region is `us-east-1`. For that Region, the URL is the following:

  ```
  https://us-east-1.console.aws.amazon.com/appflow/oauth
  ```

For the AWS Regions that Amazon AppFlow supports, and their codes, see Amazon AppFlow endpoints and quotas in the *AWS General Reference.*

Note the client ID and secret from the settings for your app. You provide these values to Amazon AppFlow when you connect to your Smartsheet account.

Connecting Amazon AppFlow to your Smartsheet account

To connect Amazon AppFlow to your Smartsheet account, provide the client credentials from your app so that Amazon AppFlow can access your data. If you haven't yet configured your Smartsheet account for Amazon AppFlow integration, see Before you begin.

To connect to Smartsheet

1. Sign in to the AWS Management Console and open the Amazon AppFlow console at https://console.aws.amazon.com/appflow/.
2. In the navigation pane on the left, choose **Connections**.
3. On the **Manage connections** page, for **Connectors**, choose **Smartsheet**.
4. Choose **Create connection**.
5. In the **Connect to Smartsheet** window, enter the following information:
   - **Authorization tokens URL** – Do one of the following:
     - To connect to the Smartsheet US region, choose **https://api.smartsheet.com/2.0/token**.
     - To connect to the Smartsheet EU region, choose **https://api.smartsheet.eu/2.0/token**.
   - **Authorization code URL** – Do one of the following:
     - To connect to the Smartsheet US region, choose **https://api.smartsheet.com/b/authorize**.
     - To connect to the Smartsheet EU region, choose **https://api.smartsheet.eu/b/authorize**.
   - **Client ID** – The client ID from app in your Smartsheet account.
   - **Client secret** – The client secret from the app in your Smartsheet account.
   - **Instance URL** – Do one of the following:
     - To connect to the Smartsheet US region, choose **https://api.smartsheet.com**.
     - To connect to the Smartsheet EU region, choose **https://api.smartsheet.eu**.

6. Optionally, under **Data encryption**, choose **Customize encryption settings (advanced)** if you want to encrypt your data with a customer managed key in the AWS Key Management Service (AWS KMS).

   By default, Amazon AppFlow encrypts your data with a KMS key that AWS creates, uses, and manages for you. Choose this option if you want to encrypt your data with your own KMS key instead.

   Amazon AppFlow always encrypts your data during transit and at rest. For more information, see Data protection in Amazon AppFlow.

   If you want to use a KMS key from the current AWS account, select this key under **Choose an AWS KMS key**. If you want to use a KMS key from a different AWS account, enter the Amazon Resource Name (ARN) for that key.
7. For **Connection name**, enter a name for your connection.
8. Choose **Connect**.
9. In the window that appears, sign in to your Smartsheet account, and grant access to Amazon AppFlow.

On the **Manage connections** page, your new connection appears in the **Connections** table. When you create a flow that uses Smartsheet as the data source, you can select this connection.

Transferring data from Smartsheet with a flow

To transfer data from Smartsheet, create an Amazon AppFlow flow, and choose Smartsheet as the data source. For the steps to create a flow, see Creating flows in Amazon AppFlow.

When you configure the flow, choose the data object that you want to transfer. For the objects that Amazon AppFlow supports for Smartsheet, see Supported objects.

Also, choose the destination where you want to transfer the data object that you selected. For more information about how to configure your destination, see Supported destinations.

Supported destinations

When you create a flow that uses Smartsheet as the data source, you can set the destination to any of the following connectors:

- Amazon Lookout for Metrics

- Amazon Redshift
- Amazon RDS for PostgreSQL
- Amazon S3
- HubSpot
- Marketo
- Salesforce
- SAP OData
- Snowflake
- Upsolver
- Zendesk
- Zoho CRM

Supported objects

When you create a flow that uses SmartSheet as the data source, you can transfer any of the following data objects to supported destinations:

Object	Field	Data type	Supported filters
Event	Access Token Name	Integer	
	Action	String	
	Additional Details	Struct	
	Event Id	String	
	Event Timestamp	DateTime	
	Object Id	String	
	Object Type	String	
	Request User Id	Integer	
	Since	DateTime	GREATER_THAN_OR_EQUAL_TO

Object	Field	Data type	Supported filters
	Source	String	
	User Id	Integer	
List Sheet	Access Level	String	
	Created At	DateTime	
	Id	Integer	
	Modified At	DateTime	
	Modified Since	DateTime	GREATER_THAN_OR_EQUAL_TO
	Name	String	
	Permalink	String	
	Source	Struct	
	Version	Integer	
Row Metadata	Access Level	String	
	Attachment	List	
	Column	List	
	Conditional Format	String	
	Created At	DateTime	
	Created By	Struct	
	Discussion	List	
	Expanded	Boolean	
	Filter Id	String	EQUAL_TO

Object	Field	Data type	Supported filters
	Filtered Out	Boolean	
	Format	String	
	Id	Integer	
	In Critical Path	Boolean	
	Locked	Boolean	
	Locked For User	Boolean	
	Modified At	DateTime	
	Modified By	Struct	
	Permalink	String	
	Proofs	Struct	
	Row Number	Integer	
	Rows Modified Since	DateTime	GREATER_THAN
	Sheet Id	Integer	
	Sibling Id	Integer	
	Total Row Count	Integer	
	Version	Integer	
Sheet Data			
Sheet Metadata	Access Level	String	
	Attachment	List	
	Cell Image Upload Enabled	Boolean	

Object	Field	Data type	Supported filters
	Column	List	
	Created At	DateTime	
	Cross Sheet Reference	List	
	Dependencies Enabled	Boolean	
	Discussion	List	
	Effective Attachment Option	List	
	Favorite	Boolean	
	Filter	List	
	From Id	Integer	
	Gantt Config	Struct	
	Gantt Enabled	Boolean	
	Has Summary Field	Boolean	
	Id	Integer	
	Is Multi Picklist Enabled	Boolean	
	Modified At	DateTime	
	Name	String	
	Owner	String	
	Owner Id	Integer	

Object	Field	Data type	Supported filters
	Permalink	String	
	Project Setting	Struct	
	Read Only	Boolean	
	Resource Management Enabled	Boolean	
	Resource Management Type	String	
	Show Parent Rows For Filter	Boolean	
	Source	Struct	
	Summary	Struct	
	Total Row Count	Integer	
	User Permission	Struct	
	User Setting	Struct	
	Version	Integer	
	Workspace	Struct	

Snapchat Ads connector for Amazon AppFlow

You can use the Snapchat Ads connector in Amazon AppFlow to transfer data about the ads that you run on Snapchat. After you connect Amazon AppFlow to your ad account with Snapchat business, you can transfer data about your ads, campaigns, customer segments, and more. You can transfer this data to certain AWS services or other supported applications.

Amazon AppFlow support for Snapchat Ads

Amazon AppFlow supports Snapchat Ads as follows.

Supported as a data source?

Yes. You can use Amazon AppFlow to transfer data from Snapchat Ads.

Supported as a data destination?

No. You can't use Amazon AppFlow to transfer data to Snapchat Ads.

Before you begin

To use Amazon AppFlow to transfer data from Snapchat Ads to supported destinations, you must meet these requirements:

- You have a Snapchat business account, and you've used it to create an ad account. The ad account contains the data that you want to transfer with Amazon AppFlow. For more information about ad accounts, see Create an Ad Account in the Snapchat Business Help Center.
- In your Snapchat account, you've created an OAuth app for Amazon AppFlow. The app provides the credentials that Amazon AppFlow uses to access your data securely when it makes authenticated calls to your account. For the steps to create an app, see Activate Access to the Snapchat Marketing API in the Snapchat Business Help Center.
- You've configured the OAuth app with one or more redirect URLs for Amazon AppFlow.

  Redirect URLs have the following format:

  ```
  https://region.console.aws.amazon.com/appflow/oauth
  ```

  In this URL, *region* is the code for the AWS Region where you use Amazon AppFlow to transfer data from Snapchat Ads. For example, the code for the US East (N. Virginia) Region is `us-east-1`. For that Region, the URL is the following:

  ```
  https://us-east-1.console.aws.amazon.com/appflow/oauth
  ```

  For the AWS Regions that Amazon AppFlow supports, and their codes, see Amazon AppFlow endpoints and quotas in the *AWS General Reference.*

From the OAuth app settings, note the values for Snap client ID and Snap client secret key. You provide these values to Amazon AppFlow when you connect to your Snapchat account.

Connecting Amazon AppFlow to your Snapchat Ads account

To connect Amazon AppFlow to Snapchat Ads, provide the credentials from the OAuth app in your Snapchat account so that Amazon AppFlow can access your data. If you haven't yet configured your Snapchat account for Amazon AppFlow integration, see Before you begin.

To connect to Snapchat Ads

1. Sign in to the AWS Management Console and open the Amazon AppFlow console at https://console.aws.amazon.com/appflow/.
2. In the navigation pane on the left, choose **Connections**.
3. On the **Manage connections** page, for **Connectors**, choose **Snapchat Ads**.
4. Choose **Create connection**.
5. In the **Connect to Snapchat Ads** window, enter the following information:
   - **Client ID** — The Snap client ID from your OAuth app.
   - **Client secret** — The Snap client secret key from your OAuth app.
6. Optionally, under **Data encryption**, choose **Customize encryption settings (advanced)** if you want to encrypt your data with a customer managed key in the AWS Key Management Service (AWS KMS).

   By default, Amazon AppFlow encrypts your data with a KMS key that AWS creates, uses, and manages for you. Choose this option if you want to encrypt your data with your own KMS key instead.

   Amazon AppFlow always encrypts your data during transit and at rest. For more information, see Data protection in Amazon AppFlow.

   If you want to use a KMS key from the current AWS account, select this key under **Choose an AWS KMS key**. If you want to use a KMS key from a different AWS account, enter the Amazon Resource Name (ARN) for that key.
7. For **Connection name**, enter a name for your connection.
8. Choose **Connect**.

9. In the window that appears, sign in to your Snapchat account, and grant access to Amazon AppFlow.

On the **Manage connections** page, your new connection appears in the **Connections** table. When you create a flow that uses Snapchat Ads as the data source, you can select this connection.

Transferring data from Snapchat Ads with a flow

To transfer data from Snapchat Ads, create an Amazon AppFlow flow, and choose Snapchat Ads as the data source. For the steps to create a flow, see Creating flows in Amazon AppFlow.

When you configure the flow, choose the data object that you want to transfer. For the objects that Amazon AppFlow supports for Snapchat Ads, see Supported objects.

Also, choose the destination where you want to transfer the data object that you selected. For more information about how to configure your destination, see Supported destinations.

Supported destinations

When you create a flow that uses Snapchat Ads as the data source, you can set the destination to any of the following connectors:

- Amazon Lookout for Metrics
- Amazon Redshift
- Amazon RDS for PostgreSQL
- Amazon S3
- HubSpot
- Marketo
- Salesforce
- SAP OData
- Snowflake
- Upsolver
- Zendesk
- Zoho CRM

Supported objects

When you create a flow that uses Snapchat Ads as the data source, you can transfer any of the following data objects to supported destinations:

Object	Field	Data type	Supported filters
Ad Account	Advertiser	String	
	Advertiser Organization Id	String	
	Agency Representing Client	Boolean	
	Billing Center Id	String	
	Billing Type	String	
	Client Paying Invoices	Boolean	
	Created At	DateTime	
	Currency	String	
	Funding Source Ids	List	
	Id	String	
	Lifetime Spend Cap Micro	Long	
	Name	String	
	Organization Id	String	
	Status	String	
	Timezone	String	
	Type	String	

Object	Field	Data type	Supported filters
	Update At	DateTime	
Ad Squad	Auto Bid	Boolean	
	Bid Micro	Long	
	Bid Strategy	String	
	Billing Event	String	
	Campaign Id	String	
	Created At	DateTime	
	Creation State	String	
	Daily Budget Micro	Long	
	Deleted	Boolean	
	Delivery Constraint	String	
	Delivery Status	List	
	Id	String	
	Name	String	
	Optimization Goal	String	
	Pacing Type	String	
	Placement V2	Struct	
	Read Deleted Entities	Boolean	EQUAL_TO
	Skadnetwork Properties	Struct	
	Start Time	DateTime	

Object	Field	Data type	Supported filters
	Status	String	
	Target Bid	Boolean	
	Targeting	Struct	
	Targeting Reach Status	String	
	Type	String	
	Update At	DateTime	
Ad Under Ad Account	Ad Squad Id	String	
	Created At	DateTime	
	Creative Id	String	
	Deleted	Boolean	
	Delivery Status	List	
	Id	String	
	Name	String	
	Read Deleted Entities	Boolean	EQUAL_TO
	Render Type	String	
	Review Status	String	
	Review Status Reasons	List	
	Status	String	
	Type	String	

Object	Field	Data type	Supported filters
	Update At	DateTime	
Ad Under Campaign	Ad Squad Id	String	
	Approval Type	String	
	Created At	DateTime	
	Creative Id	String	
	Delivery Status	List	
	Id	String	
	Name	String	
	Render Type	String	
	Review Status	String	
	Review Status Reasons	List	
	Status	String	
	Type	String	
	Update At	DateTime	
Campaign	Ad Account Id	String	
	Created At	DateTime	
	Daily Budget Micro	Long	
	Deleted	Boolean	
	Delivery Status	List	
	End Time	DateTime	

Object	Field	Data type	Supported filters
	Id	String	
	Name	String	
	Objective	String	
	Read Deleted Entities	Boolean	EQUAL_TO
	Start Time	DateTime	
	Status	String	
	Update At	DateTime	
Creative	Ad Account Id	String	
	Ad Product	String	
	Brand Name	String	
	Call To Action	String	
	Created At	DateTime	
	Headline	String	
	Id	String	
	Longform Video Properties	Struct	
	Name	String	
	Packaging Status	String	
	Render Type	String	
	Review Status	String	
	Shareable	Boolean	

Object	Field	Data type	Supported filters
	Top Snap Crop Position	String	
	Top Snap Media Id	String	
	Type	String	
	Update At	DateTime	
Media	Ad Account Id	String	
	Created At	DateTime	
	File Name	String	
	Id	String	
	Is Demo Media	Boolean	
	Media Status	String	
	Name	String	
	Type	String	
	Update At	DateTime	
	Visibility	String	
Organization	Accepted Term Version	String	
	Ad Accounts	List	
	Address Line 1	String	
	Administrative District Level 1	String	
	Business Type	String	

Object	Field	Data type	Supported filters
	Configuration Settings	Struct	
	Contact Email	String	
	Contact Name	String	
	Contact Phone	String	
	Contact Phone Optin	Boolean	
	Country	String	
	Created At	DateTime	
	Id	String	
	Is Agency	Boolean	
	Locality	String	
	Marketing Optin	Boolean	
	My Display Name	String	
	My Invited Email	String	
	My Member Id	String	
	Name	String	
	Postal Code	String	
	Roles	List	
	State	String	
	Tax Type	String	
	Type	String	

Object	Field	Data type	Supported filters
	Update At	DateTime	
	created By Caller	Boolean	
Segment	Ad Account Id	String	
	Approximate Number Users	Integer	
	Created At	DateTime	
	Description	String	
	Id	String	
	Name	String	
	Retention In Days	Integer	
	Source Type	String	
	Status	String	
	Targetable Status	String	
	Update At	DateTime	
	Upload Status	String	
	Visible To	List	
	organization Id	String	

Snowflake

The following are the requirements and connection instructions for using Snowflake with Amazon AppFlow.

> **Note**
>
> You can use Snowflake as a destination only.

Topics

Requirements

- Amazon AppFlow uses the Snowflake COPY command to move data using an S3 bucket. To configure the integration, see Configuring Secure Access to Amazon S3 in the Snowflake documentation.
- You must also add access to the `kms:Decrypt` action so that Snowflake can access the encrypted data that Amazon AppFlow stored in the Amazon S3 bucket.

```
{
    "Effect": "Allow",
    "Action": "kms:Decrypt",
    "Resource": "*"
}
```

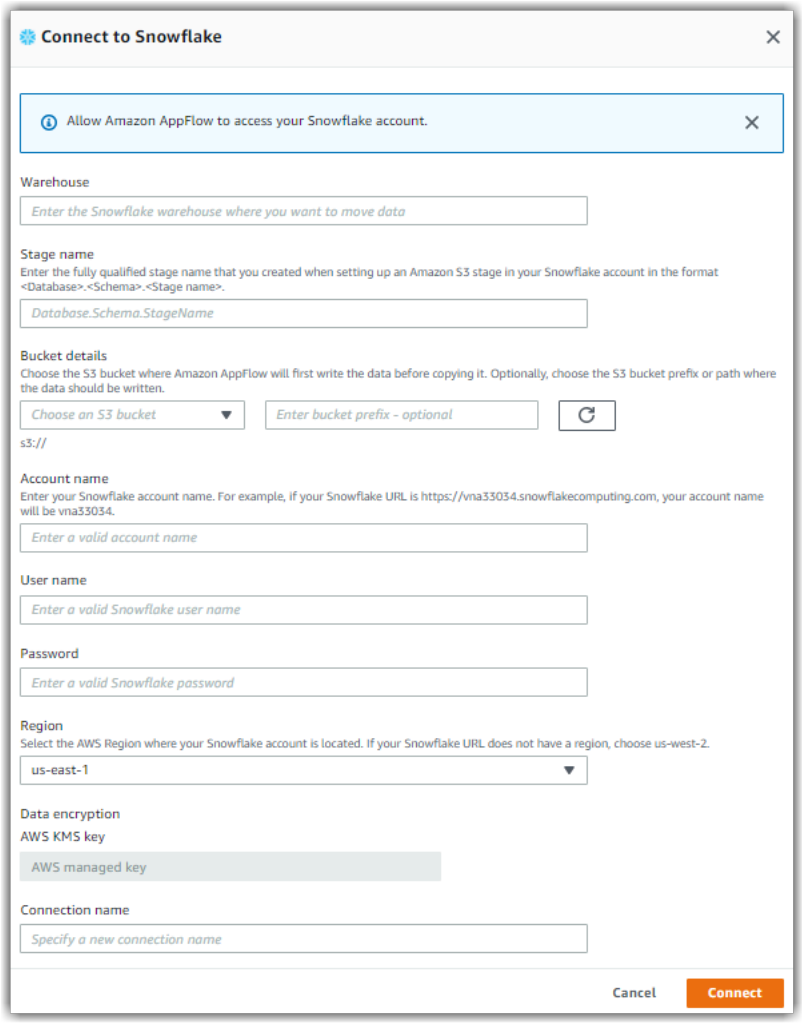
- You must provide Amazon AppFlow with the following information:
  - the name of the stage and the S3 bucket for the stage
  - the user name and password for your Snowflake account
  - the S3 bucket prefix
  - the warehouse that you want to use to move the data

Connection instructions

To connect to Snowflake while creating a flow

1. Sign in to the AWS Management Console and open the Amazon AppFlow console at https://console.aws.amazon.com/appflow/.

2. Choose **Create flow**.
3. For **Flow details**, enter a name and description for the flow.
4. (Optional) To use a customer managed CMK instead of the default AWS managed CMK, choose **Data encryption**, **Customize encryption settings** and then choose an existing CMK or create a new one.
5. (Optional) To add a tag, choose **Tags**, **Add tag** and then enter the key name and value.
6. Choose **Next**.
7. Choose **Snowflake** from the **Destination name** dropdown list.
8. Choose **Connect** or **Connect with PrivateLink** to open the **Connect to Snowflake** dialog box.
    a. Under **Warehouse**, enter the Snowflake warehouse that you want to use to move the data.
    b. Under **Stage name**, enter the Amazon S3 stage name in the following format: <Database> <Schema> <Stage name>
    c. Under **Bucket details**, select the S3 bucket where Amazon AppFlow will write data prior to copying it.
    d. Under **Account name**, enter your Snowflake account name. You can find your account name in the URL of your Snowflake instance. For example, if your Snowflake URL is https://vna33034.snowflakecomputing.com, your account name is vna33034.
    e. Under **User name**, enter the user name you use to log into Snowflake.
    f. Under **Data encryption**, enter your AWS KMS key.
    g. Under **Connection name**, specify a name for your connection.
    h. Choose **Connect**.



Now that you are connected to your Snowflake account, you can continue with the flow creation steps as described in Creating flows in Amazon AppFlow.

> **Tip**
>
> If you aren't connected successfully, ensure that you have followed the instructions in the Requirements section.

Related resources

- Configuring Secure Access to Amazon S3 in the Snowflake documentation

Stripe connector for Amazon AppFlow

Stripe powers ecommerce with payment processing and other commerce solutions for businesses. If you're a Stripe user, your account contains data about your transactions, such as your balance, charges, and payouts. You can use Amazon AppFlow to transfer data from Stripe to certain AWS services or other supported applications.

Amazon AppFlow support for Stripe

Amazon AppFlow supports Stripe as follows.

Supported as a data source?

Yes. You can use Amazon AppFlow to transfer data from Stripe.

Supported as a data destination?

No. You can't use Amazon AppFlow to transfer data to Stripe.

Before you begin

Before you can use Amazon AppFlow to transfer data from Stripe, you must have a Stripe account that contains the data to transfer. For more information about the Stripe data objects that Amazon AppFlow supports, see Supported objects.

From your Stripe account, you must obtain a test or live API key. You provide this key to Amazon AppFlow when you connect to your Stripe account. For the steps to obtain these keys, see Manage API keys in the Stripe Docs.

Connecting Amazon AppFlow to your Stripe account

To connect Amazon AppFlow to your Stripe account, provide your API key so that Amazon AppFlow can access your data. If you haven't yet configured your Stripe account for Amazon AppFlow integration, see Before you begin.

To connect to Stripe

1. Sign in to the AWS Management Console and open the Amazon AppFlow console at https://console.aws.amazon.com/appflow/.

2. In the navigation pane on the left, choose **Connections**.
3. On the **Manage connections** page, for **Connectors**, choose **Stripe**.
4. Choose **Create connection**.
5. In the **Connect to Stripe** window, for **API Key**, enter a test or live API key from your Stripe account settings.
6. Optionally, under **Data encryption**, choose **Customize encryption settings (advanced)** if you want to encrypt your data with a customer managed key in the AWS Key Management Service (AWS KMS).

   By default, Amazon AppFlow encrypts your data with a KMS key that AWS creates, uses, and manages for you. Choose this option if you want to encrypt your data with your own KMS key instead.

   Amazon AppFlow always encrypts your data during transit and at rest. For more information, see Data protection in Amazon AppFlow.

   If you want to use a KMS key from the current AWS account, select this key under **Choose an AWS KMS key**. If you want to use a KMS key from a different AWS account, enter the Amazon Resource Name (ARN) for that key.
7. For **Connection name**, enter a name for your connection.
8. Choose **Connect**.

On the **Manage connections** page, your new connection appears in the **Connections** table. When you create a flow that uses Stripe as the data source, you can select this connection.

Transferring data from Stripe with a flow

To transfer data from Stripe, create an Amazon AppFlow flow, and choose Stripe as the data source. For the steps to create a flow, see Creating flows in Amazon AppFlow.

When you configure the flow, choose the data object that you want to transfer. For the objects that Amazon AppFlow supports for Stripe, see Supported objects.

Also, choose the destination where you want to transfer the data object that you selected. For more information about how to configure your destination, see Supported destinations.

Supported destinations

When you create a flow that uses Stripe as the data source, you can set the destination to any of the following connectors:

- Amazon Lookout for Metrics
- Amazon Redshift
- Amazon RDS for PostgreSQL
- Amazon S3
- HubSpot
- Marketo
- Salesforce
- SAP OData
- Snowflake
- Upsolver
- Zendesk
- Zoho CRM

Supported objects

When you create a flow that uses Stripe as the data source, you can transfer any of the following data objects to supported destinations:

Object	Field	Data type	Supported filters
Account	business_profile	Struct	
	capabilities	Struct	
	charges_enabled	Boolean	
	controller	Struct	
	country	String	

Object	Field	Data type	Supported filters
	created	DateTime	EQUAL_TO, GREATER_THAN_OR_EQUAL_TO, LESS_THAN_OR_EQUAL_TO
	default_currency	String	
	details_submitted	Boolean	
	email	String	
	external_account	Struct	
	future_requirements	Struct	
	id	Integer	
	metadata	Struct	
	object	String	
	payouts_enabled	Boolean	
	requirements	Struct	
	settings	Struct	
	type	String	
Application Fee	account	String	
	amount	Integer	EQUAL_TO
	amount_refunded	Integer	EQUAL_TO
	application	String	
	balance_transaction	String	

Object	Field	Data type	Supported filters
	charge	String	EQUAL_TO
	created	DateTime	EQUAL_TO, GREATER_THAN_OR_EQUAL_TO, LESS_THAN_OR_EQUAL_TO
	currency	String	
	id	String	
	livemode	Boolean	
	object	String	
	originating_transaction	String	
	refunded	Boolean	EQUAL_TO
	refunds	List	
Balance	amount	Integer	
	currency	String	
	source_types	Struct	
Balance Transaction	amount	Integer	
	available_on	DateTime	EQUAL_TO, GREATER_THAN_OR_EQUAL_TO, LESS_THAN_OR_EQUAL_TO

Object	Field	Data type	Supported filters
	created	DateTime	EQUAL_TO, GREATER_THAN_OR_EQUAL_TO, LESS_THAN_OR_EQUAL_TO
	currency	String	
	description	String	
	exchange_rate	Double	
	fee	Integer	
	fee_details	List	
	id	String	
	net	Integer	
	object	String	
	reporting_category	String	
	source	String	EQUAL_TO
	status	String	
	type	String	EQUAL_TO
Charge	amount	Integer	EQUAL_TO
	amount_captured	Integer	
	amount_refunded	Integer	
	application	String	
	application_fee	String	

Object	Field	Data type	Supported filters
	application_fee_amount	Integer	
	balance_transaction	String	
	billing_details	Struct	
	calculated_statement_descriptor	String	
	captured	Boolean	
	created	DateTime	EQUAL_TO, GREATER_THAN_OR_EQUAL_TO, LESS_THAN_OR_EQUAL_TO
	currency	String	
	customer	String	EQUAL_TO
	description	String	
	destination	String	
	dispute	String	
	disputed	Boolean	EQUAL_TO
	failure_balance_transaction	String	
	failure_code	String	
	failure_message	String	
	fraud_details	Struct	

Object	Field	Data type	Supported filters
	id	String	
	invoice	String	
	livemode	Boolean	
	metadata	Struct	
	object	String	
	on_behalf_of	String	
	order	String	
	outcome	Struct	
	paid	Boolean	
	payment_intent	String	EQUAL_TO
	payment_method	String	
	payment_m ethod_details	Struct	
	receipt_email	String	
	receipt_number	String	
	receipt_url	String	
	refunded	Boolean	EQUAL_TO
	refunds	Struct	
	review	String	
	shipping	Struct	
	source	String	

Object	Field	Data type	Supported filters
	source_transfer	String	
	statement_descriptor	String	
	statement_descriptor_suffix	String	
	status	String	
	transfer_data	Struct	
	transfer_group	String	EQUAL_TO
Country Spec	default_currency	String	
	id	String	
	object	String	
	supported_bank_account_currencies	Struct	
	supported_payment_currencies	List	
	supported_payment_methods	List	
	supported_transfer_countries	List	
	verification_fields	Struct	
Coupon	amount_off	Integer	

Object	Field	Data type	Supported filters
	created	DateTime	EQUAL_TO, GREATER_THAN_OR_EQUAL_TO, LESS_THAN_OR_EQUAL_TO
	currency	String	EQUAL_TO
	duration	String	EQUAL_TO
	duration_in_months	Integer	EQUAL_TO
	id	String	
	livemode	Boolean	
	max_redemptions	Integer	EQUAL_TO
	metadata	Struct	
	name	String	
	object	String	
	percent_off	Double	EQUAL_TO
	redeem_by	DateTime	EQUAL_TO, GREATER_THAN_OR_EQUAL_TO, LESS_THAN_OR_EQUAL_TO
	times_redeemed	Integer	
	valid	Boolean	
Credit Note	amount	Integer	
	created	DateTime	

Object	Field	Data type	Supported filters
	currency	String	
	customer	String	EQUAL_TO
	customer_balance_transaction	String	
	discount_amount	Integer	
	discount_amounts	List	
	id	String	
	invoice	String	EQUAL_TO
	lines	List	
	livemode	Boolean	
	memo	String	
	metadata	Struct	
	number	String	
	object	String	
	out_of_band_amount	Integer	
	pdf	String	
	reason	String	
	refund	String	
	status	String	
	subtotal	Integer	
	tax_amounts	List	

Object	Field	Data type	Supported filters
	total	Integer	
	type	String	
	voided_at	DateTime	
Customer	address	Struct	
	balance	Integer	
	created	DateTime	EQUAL_TO, GREATER_THAN_OR_EQUAL_TO, LESS_THAN_OR_EQUAL_TO
	currency	String	
	default_source	String	
	delinquent	Boolean	EQUAL_TO
	description	String	
	discount	Struct	
	email	String	EQUAL_TO
	id	String	
	invoice_prefix	String	
	invoice_settings	Struct	
	livemode	Boolean	
	metadata	Struct	
	name	String	

Object	Field	Data type	Supported filters
	next_invoice_sequence	Integer	
	object	String	
	phone	String	
	preferred_locales	List	
	shipping	Struct	
	tax_exempt	String	
	test_clock	String	
Dispute	amount	Integer	EQUAL_TO
	balance_transaction	String	
	balance_transactions	List	
	charge	String	EQUAL_TO
	created	DateTime	EQUAL_TO, GREATER_THAN_OR_EQUAL_TO, LESS_THAN_OR_EQUAL_TO
	currency	String	
	evidence	Struct	
	evidence_details	Struct	
	id	String	
	is_charge_refundable	Boolean	

Object	Field	Data type	Supported filters
	livemode	Boolean	
	metadata	Struct	
	object	String	
	payment_intent	String	EQUAL_TO
	reason	String	EQUAL_TO
	status	String	EQUAL_TO
Early Fraud Warning	actionable	Boolean	
	charge	String	EQUAL_TO
	created	DateTime	
	fraud_type	String	
	id	String	
	livemode	Boolean	
	object	String	
	payment_intent	String	EQUAL_TO
File Link	created	DateTime	EQUAL_TO, GREATER_THAN_OR_EQUAL_TO, LESS_THAN_OR_EQUAL_TO
	expired	Boolean	EQUAL_TO
	expires_at	DateTime	
	file	String	EQUAL_TO

Object	Field	Data type	Supported filters
	id	String	
	livemode	Boolean	
	metadata	Struct	
	object	String	
	url	String	
Invoice	account_country	String	
	account_name	String	
	account_tax_ids	List	
	amount_due	Integer	
	amount_paid	Integer	
	amount_remaining	Integer	
	application	String	
	application_fee_amount	Integer	
	attempt_count	Integer	
	attempted	Boolean	EQUAL_TO
	auto_advance	Boolean	EQUAL_TO
	automatic_tax	Struct	
	billing_reason	String	EQUAL_TO
	charge	String	
	collection_method	String	EQUAL_TO

Object	Field	Data type	Supported filters
	created	DateTime	EQUAL_TO, GREATER_THAN_OR_EQUAL_TO, LESS_THAN_OR_EQUAL_TO
	currency	String	
	custom_fields	List	
	customer	String	EQUAL_TO
	customer_address	Struct	
	customer_email	String	
	customer_name	String	
	customer_phone	String	
	customer_shipping	Struct	
	customer_tax_exempt	String	
	customer_tax_ids	List	
	default_payment_method	String	
	default_source	String	
	default_tax_rates	List	
	description	String	
	discount	Struct	
	discounts	List	

Object	Field	Data type	Supported filters
	due_date	DateTime	EQUAL_TO, GREATER_THAN_OR_EQUAL_TO, LESS_THAN_OR_EQUAL_TO
	ending_balance	Integer	
	footer	String	
	hosted_invoice_url	String	
	id	String	
	invoice_pdf	String	
	last_finalization_error	Struct	
	lines	List	
	livemode	Boolean	
	metadata	Struct	
	next_payment_attempt	DateTime	
	number	String	
	object	String	
	on_behalf_of	String	
	paid	Boolean	EQUAL_TO
	paid_out_of_band	Boolean	
	payment_intent	String	

Object	Field	Data type	Supported filters
	payment_settings	Struct	
	period_end	DateTime	EQUAL_TO, GREATER_THAN_OR_EQUAL_TO, LESS_THAN_OR_EQUAL_TO
	period_start	DateTime	EQUAL_TO, GREATER_THAN_OR_EQUAL_TO, LESS_THAN_OR_EQUAL_TO
	post_payment_credit_notes_amount	Integer	
	pre_payment_credit_notes_amount	Integer	
	quote	String	
	receipt_number	String	
	starting_balance	Integer	
	statement_descriptor	String	
	status	String	EQUAL_TO
	status_transitions	Struct	
	subscription	Integer	
	subtotal	Integer	EQUAL_TO
	tax	Integer	

Object	Field	Data type	Supported filters
	test_clock	String	
	total	Integer	EQUAL_TO
	total_discount_amounts	List	
	total_tax_amounts	List	
	transfer_data	Struct	
	webhooks_delivered_at	DateTime	
Invoice Item	amount	Integer	EQUAL_TO
	currency	String	
	customer	String	EQUAL_TO
	date	DateTime	
	description	String	
	discountable	Boolean	
	discounts	List	
	id	String	
	invoice	String	EQUAL_TO
	livemode	Boolean	
	metadata	Struct	
	object	String	
	period	Struct	

Object	Field	Data type	Supported filters
	plan	String	
	price	Struct	
	proration	Boolean	EQUAL_TO
	quantity	Integer	
	subscription	String	
	subscription_item	String	
	tax_rates	List	
	test_clock	String	
	unit_amount	Integer	
	unit_amount_decimal	String	
Payment Intent	amount	Integer	
	amount_capturable	Integer	
	amount_details	Struct	
	amount_received	Integer	
	application	String	
	application_fee_amount	Integer	
	automatic_payment_methods	Struct	
	canceled_at	DateTime	
	cancellation_reason	String	

Object	Field	Data type	Supported filters
	capture_method	String	
	charges	List	
	client_secret	String	
	confirmation_method	String	
	created	DateTime	EQUAL_TO, GREATER_THAN_OR_EQUAL_TO, LESS_THAN_OR_EQUAL_TO
	currency	String	
	customer	String	EQUAL_TO
	description	String	
	id	String	
	invoice	String	
	last_payment_error	Struct	
	livemode	Boolean	
	metadata	Struct	
	next_action	Struct	
	object	String	
	on_behalf_of	String	
	payment_method	String	

Object	Field	Data type	Supported filters
	payment_method_options	Struct	
	payment_method_types	List	
	processing	Struct	
	receipt_email	String	
	review	String	
	setup_future_usage	String	
	shipping	Struct	
	source	String	
	statement_descriptor	String	
	statement_descriptor_suffix	String	
	status	String	
	transfer_data	Struct	
	transfer_group	String	
Payout	amount	Integer	EQUAL_TO
	arrival_date	DateTime	EQUAL_TO, GREATER_THAN_OR_EQUAL_TO, LESS_THAN_OR_EQUAL_TO
	automatic	Boolean	

Object	Field	Data type	Supported filters
	balance_transaction	String	
	created	DateTime	EQUAL_TO, GREATER_THAN_OR_EQUAL_TO, LESS_THAN_OR_EQUAL_TO
	currency	String	
	description	String	
	destination	String	EQUAL_TO
	failure_balance_transaction	String	
	failure_code	String	
	failure_message	String	
	id	String	
	livemode	Boolean	
	metadata	Struct	
	method	String	
	object	String	
	original_payout	String	
	reversed_by	String	
	source_type	String	
	statement_descriptor	String	

Object	Field	Data type	Supported filters
	status	String	
	type	String	
Plan	active	Boolean	EQUAL_TO
	aggregate_usage	String	
	amount	Integer	
	amount_decimal	String	
	billing_scheme	String	
	created	DateTime	EQUAL_TO, GREATER_THAN_OR_EQUAL_TO, LESS_THAN_OR_EQUAL_TO
	currency	String	EQUAL_TO
	id	String	
	interval	String	EQUAL_TO
	interval_count	Integer	
	livemode	Boolean	
	metadata	Struct	
	nickname	String	
	object	String	
	product	String	EQUAL_TO
	tiers_mode	String	

Object	Field	Data type	Supported filters
	transform_usage	Struct	
	trial_period_days	Integer	EQUAL_TO
	usage_type	String	
Price	active	Boolean	EQUAL_TO
	billing_scheme	String	
	created	DateTime	EQUAL_TO, GREATER_THAN_OR_EQUAL_TO, LESS_THAN_OR_EQUAL_TO
	currency	String	EQUAL_TO
	id	String	
	livemode	Boolean	
	lookup_key	String	
	metadata	Struct	
	nickname	String	
	object	String	
	product	String	EQUAL_TO
	recurring	Struct	
	tax_behaviour	String	
	tiers_mode	String	
	transform_quantity	Struct	

Object	Field	Data type	Supported filters
	type	String	EQUAL_TO
	unit_amount	Integer	
	unit_amount_decimal	String	
Product	active	Boolean	EQUAL_TO
	attributes	List	
	created	DateTime	EQUAL_TO, GREATER_THAN_OR_EQUAL_TO, LESS_THAN_OR_EQUAL_TO
	default_price	String	
	description	String	
	id	String	
	images	List	
	livemode	Boolean	
	metadata	Struct	
	name	String	
	object	String	
	package_dimensions	Struct	
	shippable	Boolean	
	statement_descriptor	String	
	tax_code	String	

Object	Field	Data type	Supported filters
	type	String	EQUAL_TO
	unit_label	String	
	updated	DateTime	
	url	String	
Promotion Code	active	Boolean	EQUAL_TO
	code	String	EQUAL_TO
	coupon	Struct	
	created	DateTime	EQUAL_TO, GREATER_THAN_OR_EQUAL_TO, LESS_THAN_OR_EQUAL_TO
	customer	String	
	expires_at	DateTime	
	id	String	
	livemode	Boolean	
	max_redemptions	Integer	
	metadata	Struct	
	object	String	
	restrictions	Struct	
	times_redeemed	Integer	
Quote	amount_subtotal	Integer	

Object	Field	Data type	Supported filters
	amount_total	Integer	
	application	String	
	application_fee_amount	Integer	
	application_fee_percent	Double	
	automatic_tax	Struct	
	collection_method	String	
	computed	Struct	
	created	DateTime	
	currency	String	
	customer	String	EQUAL_TO
	default_tax_rates	List	
	description	String	
	discounts	List	
	expires_at	DateTime	
	footer	String	
	from_quote	Struct	
	header	String	
	id	String	
	invoice	String	

Object	Field	Data type	Supported filters
	invoice_settings	Struct	
	livemode	Boolean	
	metadata	Struct	
	number	String	
	object	String	
	on_behalf_of	String	
	status	String	EQUAL_TO
	status_transitions	Struct	
	subscription	String	
	subscription_data	Struct	
	subscription_schedule	String	
	test_clock	String	
	total_details	Struct	
	transfer_data	Struct	
Refund	amount	Integer	
	balance_transaction	String	
	charge	String	EQUAL_TO

Object	Field	Data type	Supported filters
	created	DateTime	EQUAL_TO, GREATER_THAN_OR_EQUAL_TO, LESS_THAN_OR_EQUAL_TO
	currency	String	
	id	String	
	metadata	Struct	
	object	String	
	payment_intent	String	EQUAL_TO
	reason	String	
	receipt_number	String	
	source_transfer_reversal	String	
	status	String	
	transfer_reversal	String	
Report Type	data_available_end	DateTime	
	data_available_start	DateTime	
	default_columns	List	
	id	String	
	livemode	Boolean	
	name	String	

Object	Field	Data type	Supported filters
	object	String	
	updated	DateTime	
	version	Integer	
Session	after_expiration	Struct	
	allow_promotion_codes	Boolean	
	amount_subtotal	Integer	
	amount_total	Integer	
	automatic_tax	Struct	
	billing_address_collection	String	
	cancel_url	String	
	client_reference_id	String	
	consent	Struct	
	consent_collection	Struct	
	currency	String	
	customer	String	
	customer_creation	String	
	customer_details	Struct	
	customer_email	String	
	expires_at	DateTime	

Object	Field	Data type	Supported filters
	id	String	
	livemode	Boolean	
	locale	String	
	metadata	Struct	
	mode	String	
	object	String	
	payment_intent	String	EQUAL_TO
	payment_link	String	
	payment_method_options	Struct	
	payment_method_types	List	
	payment_status	String	
	phone_number_collection	Struct	
	recovered_from	String	
	setup_intent	String	
	shipping	Struct	
	shipping_address_collection	Struct	
	shipping_options	Struct	
	shipping_rate	String	

Object	Field	Data type	Supported filters
	status	String	
	submit_type	String	
	subscription	String	
	success_url	String	
	total_details	Struct	
	url	String	
Setup Intent	application	String	
	cancellation_reason	String	
	client_secret	String	
	created	DateTime	EQUAL_TO, GREATER_THAN_OR_EQUAL_TO, LESS_THAN_OR_EQUAL_TO
	customer	String	EQUAL_TO
	description	String	
	id	String	
	last_setup_error	Struct	
	latest_attempt	String	
	livemode	Boolean	
	mandate	String	
	metadata	Struct	

Object	Field	Data type	Supported filters
	next_action	Struct	
	object	String	
	on_behalf_of	String	
	payment_method	String	
	payment_method_options	Struct	
	payment_method_types	List	
	single_use_mandate	String	
	status	String	
	usage	String	
Shipping Rate	active	Boolean	EQUAL_TO
	created	DateTime	EQUAL_TO, GREATER_THAN_OR_EQUAL_TO, LESS_THAN_OR_EQUAL_TO
	delivery_estimate	Struct	
	display_name	String	
	fixed_amount	Struct	
	id	String	
	livemode	Boolean	
	metadata	Struct	

Object	Field	Data type	Supported filters
	object	String	
	tax_behavior	String	
	tax_code	String	
	type	String	
Subscription	application	String	
	application_fee_percent	Double	
	automatic_tax	Struct	
	billing_cycle_anchor	DateTime	
	billing_thresholds	Struct	
	cancel_at	DateTime	
	cancel_at_period_end	Boolean	
	canceled_at	DateTime	
	collection_method	String	EQUAL_TO
	created	DateTime	EQUAL_TO, GREATER_THAN_OR_EQUAL_TO, LESS_THAN_OR_EQUAL_TO
	current_period_end	DateTime	EQUAL_TO, GREATER_THAN_OR_EQUAL_TO, LESS_THAN_OR_EQUAL_TO

Object	Field	Data type	Supported filters
	current_period_start	DateTime	EQUAL_TO, GREATER_THAN_OR_EQUAL_TO, LESS_THAN_OR_EQUAL_TO
	customer	String	EQUAL_TO
	days_until_due	Integer	
	default_payment_method	String	
	default_source	String	
	default_tax_rates	List	
	description	String	
	discount	Struct	
	ended_at	DateTime	
	id	String	
	items	List	
	latest_invoice	String	
	livemode	Boolean	
	metadata	Struct	
	next_pending_invoice_item_invoice	DateTime	
	object	String	
	pause_collection	Struct	

Object	Field	Data type	Supported filters
	payment_settings	Struct	
	pending_invoice_item_interval	Struct	
	pending_setup_intent	String	
	pending_update	Struct	
	plan	Struct	
	quantity	Integer	
	schedule	String	
	start_date	DateTime	
	status	String	EQUAL_TO
	test_clock	String	
	transfer_data	Struct	
	trial_end	DateTime	
	trial_start	DateTime	
Subscription Item	billing_thresholds	Struct	
	created	DateTime	
	id	String	
	metadata	Struct	
	object	String	
	plan	Struct	

Object	Field	Data type	Supported filters
	price	Struct	
	subscription	String	
	tax_rates	List	
Subscription Schedule	application	String	
	canceled_at	DateTime	
	completed_at	DateTime	
	created	DateTime	EQUAL_TO, GREATER_THAN_OR_EQUAL_TO, LESS_THAN_OR_EQUAL_TO
	current_phase	Struct	
	customer	String	EQUAL_TO
	default_settings	Struct	
	end_behavior	String	
	id	String	
	livemode	Boolean	
	metadata	Struct	
	object	String	
	phases	List	
	released_at	DateTime	
	released_subscription	String	

Object	Field	Data type	Supported filters
	renewal_interval	String	
	status	String	
	subscription	String	
	test_clock	String	
Tax Code	description	String	
	id	String	
	name	String	
	object	String	
Tax Rate	active	Boolean	EQUAL_TO
	country	String	
	created	DateTime	EQUAL_TO, GREATER_THAN_OR_EQUAL_TO, LESS_THAN_OR_EQUAL_TO
	description	String	
	display_name	String	
	id	String	
	inclusive	Boolean	EQUAL_TO
	jurisdiction	String	
	livemode	Boolean	
	metadata	Struct	

Object	Field	Data type	Supported filters
	object	String	
	percentage	Double	
	state	String	
	tax_type	String	
Transfer	amount	Integer	EQUAL_TO
	amount_reversed	Integer	
	balance_transaction	String	
	created	DateTime	EQUAL_TO, GREATER_THAN_OR_EQUAL_TO, LESS_THAN_OR_EQUAL_TO
	currency	String	EQUAL_TO
	description	String	
	destination	String	EQUAL_TO
	destination_payment	String	
	id	String	
	livemode	Boolean	
	metadata	Struct	
	object	String	
	reversals	List	
	reversed	Boolean	

Object	Field	Data type	Supported filters
	source_transaction	String	
	source_type	String	
	transfer_group	String	EQUAL_TO

Trend Micro

The following are the requirements and connection instructions for using Trend Micro with Amazon AppFlow.

> **Note**
>
> You can use Trend Micro as a source only.

Topics

Requirements

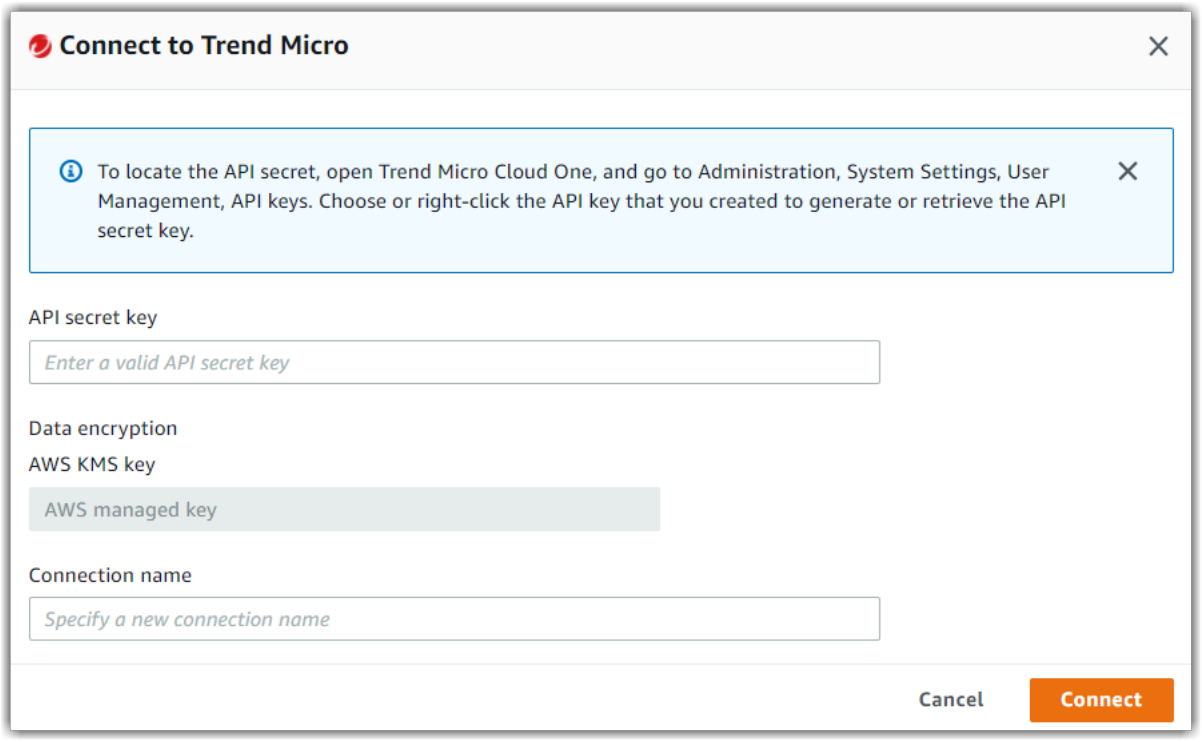
You must provide Amazon AppFlow with an API secret. For more information about how to generate or retrieve an API secret from Trend Micro, see Create and Manage API Keys in the *Trend Micro* documentation.

Connection instructions

To connect to Trend Micro while creating a flow:

1. Sign in to the AWS Management Console and open the Amazon AppFlow console at https://console.aws.amazon.com/appflow/.

2. Choose **Create flow**.
3. For **Flow details**, enter a name and description for the flow.
4. (Optional) To use a customer managed CMK instead of the default AWS managed CMK, choose **Data encryption**, **Customize encryption settings** and then choose an existing CMK or create a new one.
5. (Optional) To add a tag, choose **Tags**, **Add tag** and then enter the key name and value.
6. Choose **Next**.
7. Choose **Trend Micro** from the **Source name** drop-down list.
8. Choose **Connect** or **Connect with PrivateLink** to open the **Connect to Trend Micro** dialog box.
    a. Under **API secret key**, enter your API secret key.
    b. Under **Data encryption**, enter your AWS KMS key.
    c. Under **Connection name**, specify a name for your connection.
    d. Choose **Connect**.



Now that you are connected to your Trend Micro account, you can continue with the flow creation steps as described in Creating flows in Amazon AppFlow.

> **Tip**
>
> If you aren't connected successfully, ensure that you have followed the instructions in the Requirements section.

Notes

- When you use Trend Micro as a source, you can run schedule-triggered flows at a maximum frequency of one flow run per hour.

Supported destinations

When you create a flow that uses Trend Micro as the data source, you can set the destination to any of the following connectors:

- Amazon Connect
- Amazon Honeycode
- Lookout for Metrics
- Amazon Redshift
- Amazon S3
- Marketo
- Salesforce
- Snowflake
- Upsolver
- Zendesk

You can also set the destination to any custom connectors that you create with the Amazon AppFlow Custom Connector SDKs for Python or Java . You can download these SDKs from GitHub.

Related resources

- Create and Manage API Keys in the Trend Micro documentation

Typeform connector for Amazon AppFlow

Typeform is an online survey tool. If you're a Typeform user, your account contains data about your survey forms and responses. You can use Amazon AppFlow to transfer data from Typeform to certain AWS services or other supported applications.

Amazon AppFlow support for Typeform

Amazon AppFlow supports Typeform as follows.

Supported as a data source?

Yes. You can use Amazon AppFlow to transfer data from Typeform.

Supported as a data destination?

No. You can't use Amazon AppFlow to transfer data to Typeform.

Before you begin

To use Amazon AppFlow to transfer data from Typeform to supported destinations, you must meet these requirements:

- You have an account with Typeform that contains the data that you want to transfer. For more information about the Typeform data objects that Amazon AppFlow supports, see Supported objects.
- In the settings of your account, you've created either of the following resources for Amazon AppFlow. These resources provide credentials that Amazon AppFlow uses to access your data securely when it makes authenticated calls to your account.
  - A developer app to provide OAuth 2.0 authentication. For the steps to create a developer app, see Create an application in the Typeform admin panel in the documentation for Typeform Developers Platform.
  - A personal token. For the steps to create one, see Personal access token for Typeform's APIs in the documentation for Typeform Developers Platform.
- If you created a developer app, you've configured it with a redirect URL for Amazon AppFlow.

  Redirect URLs have the following format:

```
https://region.console.aws.amazon.com/appflow/oauth
```

In this URL, *region* is the code for the AWS Region where you use Amazon AppFlow to transfer data from Typeform. For example, the code for the US East (N. Virginia) Region is `us-east-1`. For that Region, the URL is the following:

```
https://us-east-1.console.aws.amazon.com/appflow/oauth
```

For the AWS Regions that Amazon AppFlow supports, and their codes, see Amazon AppFlow endpoints and quotas in the *AWS General Reference.*

- If you created a personal token, you've included the scopes that provide access to the data objects that you want to transfer. For information about Typeform scopes, see OAuth scopes for your applications in the documentation for Typeform Developers Platform.

If you created a developer app, note the client ID and client secret. If you created a personal token, note the token value. You provide these values to Amazon AppFlow when you connect to your Typeform account.

Connecting Amazon AppFlow to your Typeform account

To connect Amazon AppFlow to your Typeform account, provide details from your Typeform project so that Amazon AppFlow can access your data. If you haven't yet configured your Typeform project for Amazon AppFlow integration, see Before you begin.

To connect to Typeform

1. Sign in to the AWS Management Console and open the Amazon AppFlow console at https://console.aws.amazon.com/appflow/.
2. In the navigation pane on the left, choose **Connections**.
3. On the **Manage connections** page, for **Connectors**, choose **Typeform**.
4. Choose **Create connection**.
5. In the **Connect to Typeform** window, for **Select authentication type**, choose how to authenticate Amazon AppFlow with your Typeform account when it requests to access your data:

- Choose **OAuth2** to authenticate Amazon AppFlow with the credentials from a developer app. Then, enter values for **Client ID** and **Client secret**.
- Choose **PAT** to authenticate Amazon AppFlow with a personal access token. Then, enter the token value for **Personal access token**.

6. Optionally, under **Data encryption**, choose **Customize encryption settings (advanced)** if you want to encrypt your data with a customer managed key in the AWS Key Management Service (AWS KMS).

   By default, Amazon AppFlow encrypts your data with a KMS key that AWS creates, uses, and manages for you. Choose this option if you want to encrypt your data with your own KMS key instead.

   Amazon AppFlow always encrypts your data during transit and at rest. For more information, see Data protection in Amazon AppFlow.

   If you want to use a KMS key from the current AWS account, select this key under **Choose an AWS KMS key**. If you want to use a KMS key from a different AWS account, enter the Amazon Resource Name (ARN) for that key.
7. For **Connection name**, enter a name for your connection.
8. Depending on the authentication type that you chose, do one of the following:
   - If you chose **OAuth2**, choose **Continue**. Then, in the window that appears, sign in to your Typeform account, and grant access to Amazon AppFlow.
   - If you chose **PAT**, choose **Connect**.

On the **Manage connections** page, your new connection appears in the **Connections** table. When you create a flow that uses Typeform as the data source, you can select this connection.

Transferring data from Typeform with a flow

To transfer data from Typeform, create an Amazon AppFlow flow, and choose Typeform as the data source. For the steps to create a flow, see Creating flows in Amazon AppFlow.

When you configure the flow, choose the data object that you want to transfer. For the objects that Amazon AppFlow supports for Typeform, see Supported objects.

Also, choose the destination where you want to transfer the data object that you selected. For more information about how to configure your destination, see Supported destinations.

Supported destinations

When you create a flow that uses Typeform as the data source, you can set the destination to any of the following connectors:

- Amazon Lookout for Metrics
- Amazon Redshift
- Amazon RDS for PostgreSQL
- Amazon S3
- HubSpot
- Marketo
- Salesforce
- SAP OData
- Snowflake
- Upsolver
- Zendesk
- Zoho CRM

Supported objects

When you create a flow that uses Typeform as the data source, you can transfer any of the following data objects to supported destinations:

Object	Field	Data type	Supported filters
Form	_links	Struct	
	created_at	String	
	id	String	
	last_updated_at	String	
	search	String	EQUAL_TO, CONTAINS

Object	Field	Data type	Supported filters
	self	Struct	
	settings	Struct	
	theme	Struct	
	title	String	
	type	String	
	workspace_id	String	EQUAL_TO
Form Insight	fields	List	
	form	Struct	
Response	answers	List	
	calculated	Struct	
	completed	Boolean	EQUAL_TO
	hidden	Struct	
	landed_at	String	
	landing_id	String	
	metadata	Struct	
	query	String	EQUAL_TO, CONTAINS
	response_id	String	
	since	DateTime	EQUAL_TO
	submitted_at	String	
	token	String	

Object	Field	Data type	Supported filters
	until	DateTime	EQUAL_TO

Upsolver

The following are the requirements and connection instructions for using Upsolver with Amazon AppFlow.

> **Note**
>
> You can use Upsolver as a destination only.

Topics

Requirements

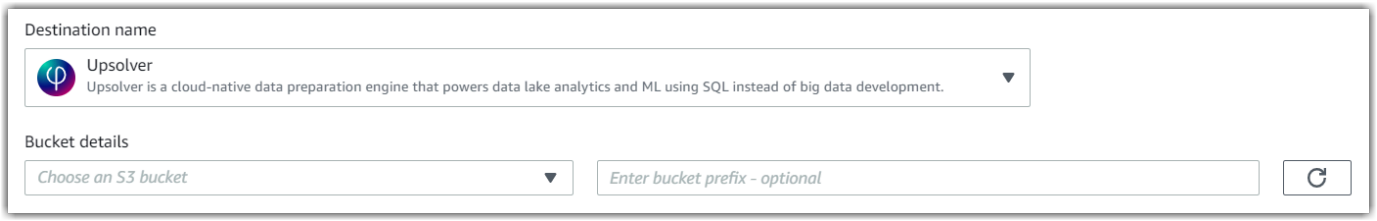
- You must create an Amazon AppFlow data source in the Upsolver user interface. This will create an S3 bucket in your AWS account where Amazon AppFlow will send data.
- Alternatively, you can create an Amazon S3 bucket through the Amazon S3 console. The bucket name must begin with `upsolver-appflow`.

Setup instructions

To connect to Upsolver while creating a flow

1. Sign in to the AWS Management Console and open the Amazon AppFlow console at https://console.aws.amazon.com/appflow/.
2. Choose **Create flow**.

3. For **Flow details**, enter a name and description for the flow.
4. (Optional) To use a customer managed CMK instead of the default AWS managed CMK, choose **Data encryption**, **Customize encryption settings** and then choose an existing CMK or create a new one.
5. (Optional) To add a tag, choose **Tags**, **Add tag** and then enter the key name and value.
6. Choose **Next**.
7. Choose **Upsolver** from the **Destination name** dropdown list.
8. Under **Bucket details**, select the S3 bucket in which you will place your data. You can specify a prefix, which is equivalent to specifying a folder within the S3 bucket where your source files are located or records are to be written to the destination.



Now that you are connected to your Amazon S3 bucket, you can continue with the flow creation steps as described in Creating flows in Amazon AppFlow.

> **Tip**
>
> If you aren't connected successfully, ensure that you have followed the instructions in the Requirements.

Notes

- You can configure Amazon AppFlow flows with Upsolver as the destination, and send data from any supported source to the integrated Upsolver Amazon S3 bucket. The data is then available for downstream processing in Upsolver.

Related resources

- Amazon AppFlow data source from the Upsolver documentation

Veeva

The following are the requirements and connection instructions for using Veeva with Amazon AppFlow.

> **Note**
>
> You can use Veeva as a source only.

Topics

Requirements

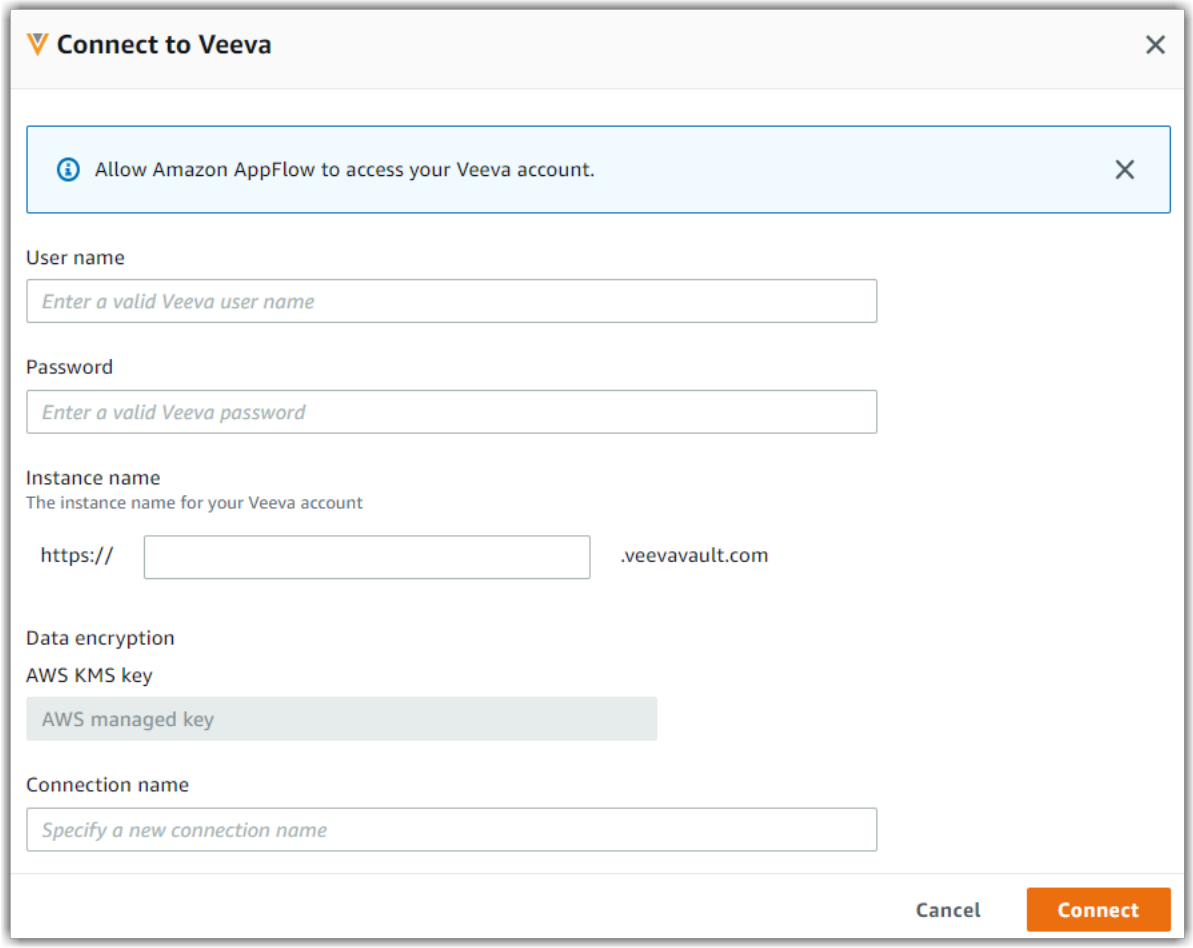
- You must provide Amazon AppFlow with your user name, password, and Veeva instance name.
- Your user account must have API access. For more information, see API access permissions in the Veeva documentation.

Connection instructions

To connect to Veeva while creating a flow

1. Sign in to the AWS Management Console and open the Amazon AppFlow console at https://console.aws.amazon.com/appflow/.
2. Choose **Create flow**.
3. For **Flow details**, enter a name and description for the flow.
4. (Optional) To use a customer managed CMK instead of the default AWS managed CMK, choose **Data encryption**, **Customize encryption settings** and then choose an existing CMK or create a new one.

5. (Optional) To add a tag, choose **Tags**, **Add tag** and then enter the key name and value.
6. Choose **Next**.
7. Choose **Veeva** from the **Source name** dropdown list.
8. Choose **Connect** to open the **Connect to Veeva** dialog box.
    a. Under **User name**, enter the user name you use to log into Veeva.
    b. Under **Password**, enter your secret key.
    c. Under **Instance name**, enter the name of your Veeva instance.
    d. Under **Data encryption**, enter your AWS KMS key.
    e. Under **Connection name**, specify a name for your connection.
    f. Choose **Connect**.



Now that you are connected to your Veeva account, you can continue with the flow creation steps as described in Creating flows in Amazon AppFlow.

> **Tip**
>
> If you aren't connected successfully, ensure that you have followed the instructions in the Requirements section above.

Extract Veeva VAULT documents with Amazon AppFlow

You can use Amazon AppFlow to extract documents from Veeva VAULT. Follow the steps below to configure a flow to extract documents.

Step 1: Create a flow

1. Sign in to the AWS Management Console and open the Amazon AppFlow console at https://console.aws.amazon.com/appflow/.
2. Choose **Create flow**.
3. For **Flow details**, enter a name and description for the flow.
4. (Optional) To use a customer managed CMK instead of the default AWS managed CMK, choose **Data encryption**, **Customize encryption settings** and then choose an existing CMK or create a new one.
5. (Optional) To add a tag, choose **Tags**, **Add tag** and then enter the key name and value.
6. Choose **Next**.

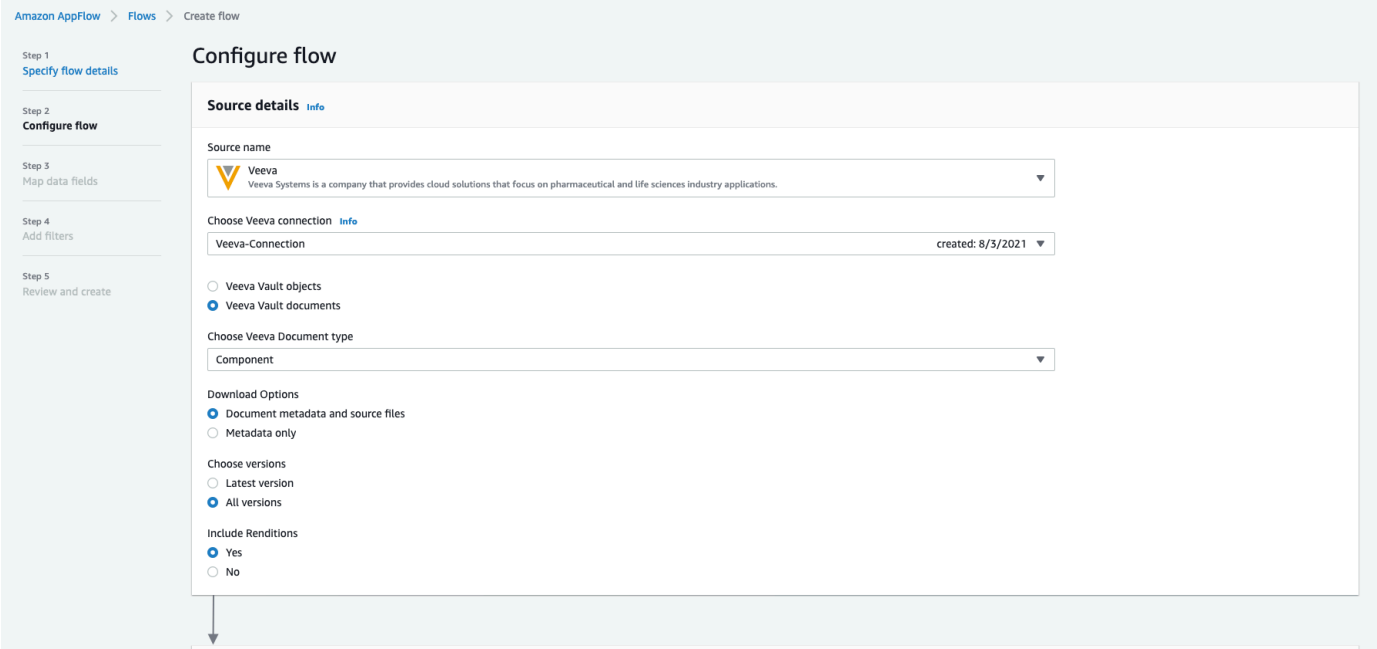
Step 2: Configure the flow

1. Choose **Veeva VAULT** from the **Source name** dropdown list.
2. Choose a Veeva VAULT connection from already existing connections or create a new connection.
3. Choose **Veeva VAULT documents** from the radio options.
4. Choose a **Veeva VAULT document type** from the dropdown.
5. Choose **Document metadata and source files** option to extract source files along with associated metadata. Choose **Metadata only** option to only download Metadata. By default Metadata only is selected.

6. If you select **Document metadata and source files.**

   a. Choose **versions** of the document you want to extract, By default only latest version of document is extracted, You can select all versions to be extracted.

   b. Choose **Renditions** options if required, By default Renditions are not included.



7. Choose a destination from drop down menu.

> **Note**
>
> Currently Amazon AppFlow only supports Amazon S3 as a destination for document extraction.

8. Choose a **Bucket Name** and **Bucket Prefix**.

9. Select a trigger to run flow. You can select **Run on demand** or **Run on Schedule**to run the flow. If you choose a scheduled trigger,you can run flows at a maximum frequency of one flow run **per hour**.

10. Choose **Next**.

Step 3: Map data fields

1. You can choose a mapping method either to **Manually map the fields** or **Upload .csv file with mapped fields** to map fields from source to destination.
2. If you choose to **Manually map the fields** choose the fields from drop down list.
3. Options like **Add formula**, **Modify Values** and **Validations** are not supported for Veeva VAULT document extraction.
4. Choose **Next**.

Step 4 (Optional): Add filters

Specify a filter to determine which records to transfer. Amazon AppFlow enables you to filter data fields by adding multiple filters and by adding criteria to a filter. If you want to filter the documents by **Document subtype** or **Document Classification** you can add the appropriate filters here.

1. Based on the selected field names choose appropriate filter condition.
2. Choose **Next**.

Step 5: Review and create

- Review the information for your flow. To change the information for a step, choose **Edit**. When you are finished, choose **Create flow**.

Notes

- When you use Veeva as a source, you can run schedule-triggered flows at a maximum frequency of one flow run per minute.

Supported destinations

When you create a flow that uses Veeva as the data source, you can set the destination to any of the following connectors:

- Amazon Connect
- Amazon Honeycode

- Lookout for Metrics
- Amazon Redshift
- Amazon S3
- Marketo
- Salesforce
- Snowflake
- Upsolver
- Zendesk

You can also set the destination to any custom connectors that you create with the Amazon AppFlow Custom Connector SDKs for Python or Java. You can download these SDKs from GitHub.

Related resources

- API access permissions in the Veeva Product Support Portal

WooCommerce connector for Amazon AppFlow

WooCommerce helps online merchants build commercial websites with a plugin for WordPress. If you're a WooCommerce user, then your account contains data about your site and your transactions, such as your orders, products, reviews, shipments, and more. You can use Amazon AppFlow to transfer data from WooCommerce to certain AWS services or other supported applications.

Amazon AppFlow support for WooCommerce

Amazon AppFlow supports WooCommerce as follows.

Supported as a data source?

Yes. You can use Amazon AppFlow to transfer data from WooCommerce.

Supported as a data destination?

No. You can't use Amazon AppFlow to transfer data to WooCommerce.

Before you begin

To use Amazon AppFlow to transfer data from WooCommerce to supported destinations, you must meet these requirements:

- You have an account with WooCommerce that contains the data that you want to transfer. For more information about the WooCommerce data objects that Amazon AppFlow supports, see Supported objects.
- In your WooCommerce account, you've created a REST API key for Amazon AppFlow. For information about how create a key, see Authentication in the WooCommerce documentation.

From the REST API key details, note the consumer key and consumer secret. You provide these values to Amazon AppFlow when you connect to your WooCommerce account.

Connecting Amazon AppFlow to your WooCommerce account

To connect Amazon AppFlow to your WooCommerce account, provide the credentials from the REST API key in your WooCommerce account so that Amazon AppFlow can access your data. If you haven't yet configured your WooCommerce account for Amazon AppFlow integration, see Before you begin.

To connect to WooCommerce

1. Sign in to the AWS Management Console and open the Amazon AppFlow console at https://console.aws.amazon.com/appflow/.
2. In the navigation pane on the left, choose **Connections**.
3. On the **Manage connections** page, for **Connectors**, choose **WooCommerce**.
4. Choose **Create connection**.
5. In the **Connect to WooCommerce** window, enter the following information:
   - **Consumer Key** — The consumer key from your REST API key.
   - **Consumer Secret** — The consumer secret from your REST API key.
   - **Instance URL** — The site name that you assigned when you created your site in WooCommerce.
6. Optionally, under **Data encryption**, choose **Customize encryption settings (advanced)** if you want to encrypt your data with a customer managed key in the AWS Key Management Service (AWS KMS).

By default, Amazon AppFlow encrypts your data with a KMS key that AWS creates, uses, and manages for you. Choose this option if you want to encrypt your data with your own KMS key instead.

Amazon AppFlow always encrypts your data during transit and at rest. For more information, see Data protection in Amazon AppFlow.

If you want to use a KMS key from the current AWS account, select this key under **Choose an AWS KMS key**. If you want to use a KMS key from a different AWS account, enter the Amazon Resource Name (ARN) for that key.

7. For **Connection name**, enter a name for your connection.
8. Choose **Connect**.
9. In the window that appears, sign in to your WooCommerce account, and grant access to Amazon AppFlow.

On the **Manage connections** page, your new connection appears in the **Connections** table. When you create a flow that uses WooCommerce as the data source, you can select this connection.

Transferring data from WooCommerce with a flow

To transfer data from WooCommerce, create an Amazon AppFlow flow, and choose WooCommerce as the data source. For the steps to create a flow, see Creating flows in Amazon AppFlow.

When you configure the flow, choose the data object that you want to transfer. For the objects that Amazon AppFlow supports for WooCommerce, see Supported objects.

Also, choose the destination where you want to transfer the data object that you selected. For more information about how to configure your destination, see Supported destinations.

Supported destinations

When you create a flow that uses WooCommerce as the data source, you can set the destination to any of the following connectors:

- Amazon Lookout for Metrics
- Amazon Redshift
- Amazon RDS for PostgreSQL

- Amazon S3
- HubSpot
- Marketo
- Salesforce
- SAP OData
- Snowflake
- Upsolver
- Zendesk
- Zoho CRM

Supported objects

When you create a flow that uses WooCommerce as the data source, you can transfer any of the following data objects to supported destinations:

Object	Field	Data type	Supported filters
Coupon	After	DateTime	EQUAL_TO
	Amount	String	
	Before	DateTime	EQUAL_TO
	Code	String	EQUAL_TO
	Context	String	EQUAL_TO
	Date Created	DateTime	
	Date Created GMT	DateTime	
	Date Expires GMT	String	
	Date Expiry	String	
	Date Modified	DateTime	
	Date Modified GMT	DateTime	

Object	Field	Data type	Supported filters
	Description	String	
	Discount Type	String	
	Email Restriction	List	
	Exclude Sale Item	Boolean	
	Excluded Product Category List	List	
	Excluded Product ID	List	
	Free Shipping	Boolean	
	ID	Integer	
	Individual Use	Boolean	
	Limit Usage To X Item	Integer	
	Maximum Amount	String	
	Meta Data	List	
	Minimum Amount	String	
	Order	String	EQUAL_TO
	Order By	String	EQUAL_TO
	Product Category List	List	
	Product ID	List	
	Search	String	EQUAL_TO
	Status	String	
	Usage Count	Integer	

Object	Field	Data type	Supported filters
	Usage Limit	Integer	
	Usage Limit Per User	Integer	
	Used By	List	
Coupon Total	Name	String	
	Slug	String	
	Total	String	
Customer Total	Name	String	
	Slug	String	
	Total	String	
Order	After	DateTime	EQUAL_TO
	Before	DateTime	EQUAL_TO
	Billing	Struct	
	Cart Hash	String	
	Cart Tax	String	
	Context	String	EQUAL_TO
	Coupon Line	List	
	Created Via	String	
	Currency	String	
	Currency Symbol	String	
	Customer	Integer	EQUAL_TO

Object	Field	Data type	Supported filters
	Customer IP Address	String	
	Customer Id	Integer	
	Customer Note	String	
	Customer User Agent	String	
	DP	Integer	EQUAL_TO
	Date Completed	DateTime	
	Date Completed GMT	DateTime	
	Date Created	DateTime	
	Date Created GMT	DateTime	
	Date Modified	DateTime	
	Date Modified GMT	DateTime	
	Date Paid	DateTime	
	Date Paid GMT	DateTime	
	Discount Tax	String	
	Discount Total	String	
	Fee Line	List	
	ID	Integer	
	Is Editable	Boolean	
	Line Item	List	
	Meta Data	List	

Object	Field	Data type	Supported filters
	Needs Payment	Boolean	
	Needs Processing	Boolean	
	Number	String	
	Order	String	EQUAL_TO
	Order By	String	EQUAL_TO
	Order Key	String	
	Parent ID	Integer	
	Payment Method	String	
	Payment Method Title	String	
	Payment Url	String	
	Prices Include Tax	Boolean	
	Product	Integer	EQUAL_TO
	Refund	List	
	Search	String	EQUAL_TO
	Set Paid	Boolean	
	Shipping	Struct	
	Shipping Line	List	
	Shipping Tax	String	
	Shipping Total	String	
	Status	String	

Object	Field	Data type	Supported filters
	Tax Line	List	
	Total	String	
	Total Tax	String	
	Transaction ID	String	
	Version	String	
Order Total	Name	String	
	Slug	String	
	Total	String	
Payment Gateway	Connection Url	String	
	Description	String	
	Enabled	Boolean	
	ID	String	
	Method Description	String	
	Method Support	List	
	Method Title	String	
	Needs Setup	Boolean	
	Order	Integer	
	Post Install Script	List	
	Required Settings Key	List	
	Setting	Struct	

Object	Field	Data type	Supported filters
	Settings Url	String	
	Setup Help Text	String	
	Title	String	
Product	After	DateTime	EQUAL_TO
	Attribute List	List	
	Average Rating	String	
	Backorder	String	
	Backordered	Boolean	
	Backorders Allowed	Boolean	
	Before	DateTime	EQUAL_TO
	Button Text	String	
	Catalog Visibility	String	
	Category List	List	
	Context	String	EQUAL_TO
	Date Created	DateTime	
	Date Created GMT	DateTime	
	Date Modified	DateTime	
	Date Modified GMT	DateTime	
	Date On Sale From	DateTime	
	Date On Sale From GMT	DateTime	

Object	Field	Data type	Supported filters
	Date On Sale To	DateTime	
	Date On Sale To GMT	DateTime	
	Default Attribute List	List	
	Description	String	
	Dimension	Struct	
	Download	List	
	Download Expiry	Integer	
	Download Limit	Integer	
	Downloadable	Boolean	
	External Url	String	
	Featured	Boolean	EQUAL_TO
	Grouped Product List	List	
	Has Option	Boolean	
	ID	Integer	
	Image List	List	
	Jetpack Likes Enabled	Boolean	
	Jetpack Publicize Connection	List	
	Jetpack Sharing Enabled	Boolean	
	List of Cross Sell ID	List	

Object	Field	Data type	Supported filters
	List of Jetpack Related Post	List	
	List of Upsell ID	List	
	Low Stock Amount	Integer	
	Manage Stock	Boolean	
	Menu Order	Integer	
	Meta Data	List	
	Name	String	
	On Sale	Boolean	EQUAL_TO
	Order	String	EQUAL_TO
	Order By	String	EQUAL_TO
	Parent ID	Integer	
	Permalink	String	
	Price	String	
	Price Html	String	
	Purchasable	Boolean	
	Purchase Note	String	
	Rating Count	Integer	
	Regular Price	String	
	Related ID	List	
	Reviews Allowed	Boolean	

Object	Field	Data type	Supported filters
	Sale Price	String	
	Search	String	EQUAL_TO
	Shipping Class	String	EQUAL_TO
	Shipping Class ID	Integer	
	Shipping Required	Boolean	
	Shipping Taxable	Boolean	
	Short Description	String	
	Sku	String	EQUAL_TO
	Slug	String	EQUAL_TO
	Sold Individually	Boolean	
	Status	String	EQUAL_TO
	Stock Quantity	Integer	
	Stock Status	String	EQUAL_TO
	Tag	List	
	Tag	String	EQUAL_TO
	Tax Class	String	EQUAL_TO
	Tax Status	String	
	Total Sale	Integer	
	Type	String	EQUAL_TO
	Variation List	List	

Object	Field	Data type	Supported filters
	Virtual	Boolean	
	Weight	String	
Product Attribute	Context	String	EQUAL_TO
	Has Archive	Boolean	
	ID	Integer	
	Name	String	
	Order By	String	
	Slug	String	
	Type	String	
Product Attribute Term	Context	String	EQUAL_TO
	Count	Integer	
	Description	String	
	Hide Empty	Boolean	EQUAL_TO
	ID	Integer	
	Menu Order	Integer	
	Name	String	
	Order	String	EQUAL_TO
	Order By	String	EQUAL_TO
	Parent	Integer	EQUAL_TO
	Product	Integer	EQUAL_TO

Object	Field	Data type	Supported filters
	Search	String	EQUAL_TO
	Slug	String	EQUAL_TO
Product Category	Context	String	EQUAL_TO
	Count	Integer	
	Description	String	
	Display	String	
	Hide Empty	Boolean	EQUAL_TO
	ID	Integer	
	Image	Struct	
	Menu Order	Integer	
	Name	String	
	Order	String	EQUAL_TO
	Order By	String	EQUAL_TO
	Parent	Integer	EQUAL_TO
	Product	Integer	EQUAL_TO
	Search	String	EQUAL_TO
	Slug	String	EQUAL_TO
Product Review	After	DateTime	EQUAL_TO
	Before	DateTime	EQUAL_TO
	Context	String	EQUAL_TO

Object	Field	Data type	Supported filters
	Date Created	DateTime	
	Date Created GMT	DateTime	
	ID	Integer	
	Order	String	EQUAL_TO
	Order By	String	EQUAL_TO
	Product ID	Integer	
	Product Name	String	
	Product Permalink	String	
	Rating	Integer	
	Review	String	
	Reviewer	String	
	Reviewer Avatar URL	Struct	
	Reviewer Email	String	
	Search	String	EQUAL_TO
	Status	String	EQUAL_TO
	Verified	Boolean	
Product Shipping Class	Context	String	EQUAL_TO
	Count	Integer	
	Description	String	
	Hide Empty	Boolean	EQUAL_TO

Object	Field	Data type	Supported filters
	ID	Integer	
	Name	String	
	Order	String	EQUAL_TO
	Order By	String	EQUAL_TO
	Product	Integer	EQUAL_TO
	Search	String	EQUAL_TO
	Slug	String	EQUAL_TO
Product Tag	Context	String	EQUAL_TO
	Count	Integer	
	Description	String	
	Hide Empty	Boolean	EQUAL_TO
	ID	Integer	
	Name	String	
	Order	String	EQUAL_TO
	Order By	String	EQUAL_TO
	Product	Integer	EQUAL_TO
	Search	String	EQUAL_TO
	Slug	String	EQUAL_TO
Product Total	Name	String	
	Slug	String	

Object	Field	Data type	Supported filters
	Total	String	
Product Variation	After	DateTime	EQUAL_TO
	Backorder	String	
	Backordered	Boolean	
	Backorders Allowed	Boolean	
	Before	DateTime	EQUAL_TO
	Context	String	EQUAL_TO
	Date Created	DateTime	
	Date Created GMT	DateTime	
	Date Modified	DateTime	
	Date Modified GMT	DateTime	
	Date On Sale From	DateTime	
	Date On Sale From GMT	DateTime	
	Date On Sale To	DateTime	
	Date On Sale To GMT	DateTime	
	Description	String	
	Dimension	Struct	
	Download	List	
	Download Expiry	Integer	
	Download Limit	Integer	

Object	Field	Data type	Supported filters
	Downloadable	Boolean	
	ID	Integer	
	Image	Struct	
	List of attribute	List	
	Low Stock Amount	Integer	
	MAX Price	String	EQUAL_TO
	MIN Price	String	EQUAL_TO
	Manage Stock	Boolean	
	Menu Order	Integer	
	Meta Data	List	
	On Sale	Boolean	EQUAL_TO
	Order	String	EQUAL_TO
	Order By	String	EQUAL_TO
	Permalink	String	
	Price	String	
	Purchasable	Boolean	
	Regular Price	String	
	Sale Price	String	
	Search	String	EQUAL_TO
	Shipping Class	String	

Object	Field	Data type	Supported filters
	Shipping Class ID	Integer	
	Sku	String	EQUAL_TO
	Slug	String	EQUAL_TO
	Status	String	EQUAL_TO
	Stock Quantity	Integer	
	Stock Status	String	EQUAL_TO
	Tax Class	String	EQUAL_TO
	Tax Status	String	
	Virtual	Boolean	
	Weight	String	
Report	Description	String	
	Slug	String	
Review Total	Name	String	
	Slug	String	
	Total	String	
Sale Report	Average Sale	String	
	Context	String	EQUAL_TO
	Date Max	Date	EQUAL_TO
	Date Min	Date	EQUAL_TO
	Net Sale	String	

Object	Field	Data type	Supported filters
	Period	String	EQUAL_TO
	Total	Struct	
	Total Customer	Integer	
	Total Discount	Integer	
	Total Item	Integer	
	Total Order	Integer	
	Total Refund	Integer	
	Total Sale	String	
	Total Shipping	String	
	Total Tax	String	
	Totals Grouped By	String	
Shipping Method	Description	String	
	ID	String	
	Title	String	
Shipping Zone	ID	Integer	EQUAL_TO
	Name	String	
	Order	Integer	
Shipping Zone Location	Code	String	
	Type	String	
Shipping Zone Method	Enabled	Boolean	

Object	Field	Data type	Supported filters
	ID	Integer	EQUAL_TO
	Instance ID	Integer	
	Method Description	String	
	Method ID	String	
	Method Title	String	
	Order	Integer	
	Setting	Struct	
	Title	String	
Tax Class	Name	String	
	Slug	String	
Tax Rate	Cities	List	
	City	String	
	Class	String	EQUAL_TO
	Compound	Boolean	
	Context	String	EQUAL_TO
	Country	String	
	ID	Integer	
	Name	String	
	Order	Integer	EQUAL_TO
	Order By	String	EQUAL_TO

Object	Field	Data type	Supported filters
	Postcode	List	
	Postcode	String	
	Priority	Integer	
	Rate	String	
	Shipping	Boolean	
	State	String	
Top Seller Report	Context	String	EQUAL_TO
	Date Max	Date	EQUAL_TO
	Date Min	Date	EQUAL_TO
	Name	String	
	Period	String	EQUAL_TO
	Product ID	Integer	
	Quantity	Integer	

Zendesk

The following are the requirements and connection instructions for using Zendesk with Amazon AppFlow.

> **Note**
>
> You can use Zendesk as a source or a destination.

Topics

- Requirements

Requirements

- To use Amazon AppFlow, you need to register the application to generate OAuth credentials that your application can use to authenticate API calls to Zendesk. This is done in Zendesk Support.
- In Zendesk, you must create an OAuth client with the following settings:
  - Unique identifier: aws_integration_to_Zendesk
  - Redirect URL: https://console.aws.amazon.com/appflow/oauth (us-east-1) or https://*region*.console.aws.amazon.com/appflow/oauth (all other Regions)

For more information, see Setting up the Amazon AppFlow integration with Zendesk in the Zendesk documentation.

Connection instructions

To connect to Zendesk while creating a flow

1. Sign in to the AWS Management Console and open the Amazon AppFlow console at https://console.aws.amazon.com/appflow/.
2. Choose **Create flow**.
3. For **Flow details**, enter a name and description for the flow.
4. (Optional) To use a customer managed CMK instead of the default AWS managed CMK, choose **Data encryption**, **Customize encryption settings** and then choose an existing CMK or create a new one.
5. (Optional) To add a tag, choose **Tags**, **Add tag** and then enter the key name and value.
6. Choose **Next**.
7. Choose **Zendesk** from the **Source name** or **Destination name** dropdown list.
8. Choose **Connect** to open the **Connect to Zendesk** dialog box.

    a. Under **Client ID**, enter your Zendesk client ID.

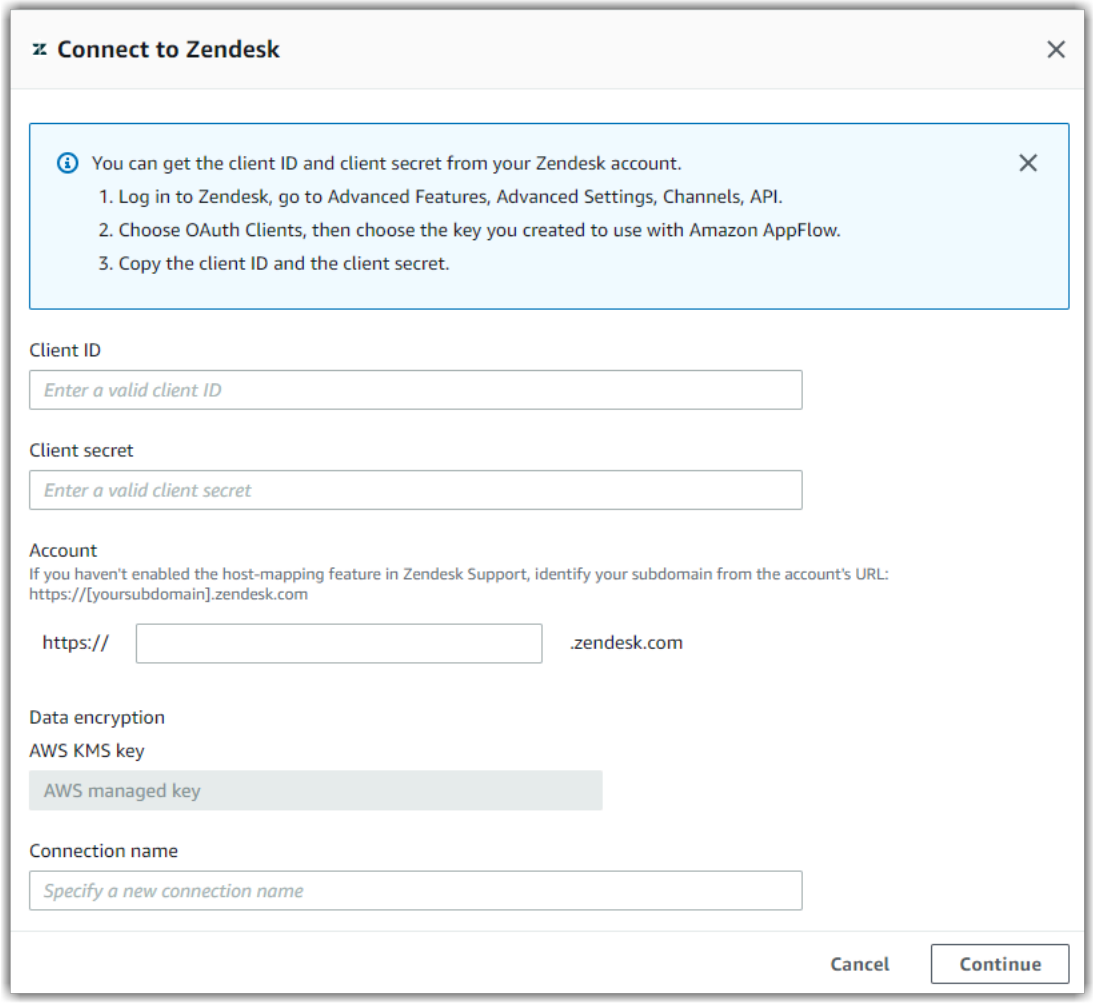
b. Under **Client secret**, enter your Zendesk client secret.

c. Under **Account**, enter the name of your instance of Zendesk.

d. Under **Data encryption**, enter your AWS KMS key.

e. Under **Connection name**, specify a name for your connection.

f. Choose **Continue**.



Now that you are connected to your Zendesk account, you can continue with the flow creation steps as described in Creating flows in Amazon AppFlow.

> **Tip**
>
> If you aren't connected successfully, ensure that you have followed the instructions in the Requirements.

Notes

- When you use Zendesk as a source, you can run schedule-triggered flows at a maximum frequency of one flow run per minute.
- When you use Zendesk as a destination, the following additional settings are available:

Setting name	Description
Insert new records	• This is the default data transfer option. • When you choose this setting, Amazon AppFlow inserts your source data into the chosen Zendesk object as a new record.
Update existing records	• When you choose this setting, Amazon AppFlow uses your source data to update existing records in Zendesk. For every source record, Amazon AppFlow looks for a matching record in Zendesk based on your criteria. You can specify matching criteria on the Map data fields page. To do so, select a field in the source application and map it to a Zendesk record ID or external field using the dropdown list. • When a matching record is found, Amazon AppFlow updates the record in Zendesk. If no matching record is found, Amazon AppFlow ignores the record or fails the flow per your chosen error handling option. You can specify your error handling preferences on the Configure flow page.
Upsert records	• When you choose this setting, Amazon AppFlow performs an upsert operation in Zendesk. For every source record, Amazon AppFlow looks for a matching record in Zendesk based on your criteria. You can specify matching criteria on the Map data fields

Setting name	Description
	page. To do so, select a field in the source application and map it to a Zendesk external field using the dropdown list. • When a matching record is found, Amazon AppFlow updates the record in Zendesk. If no matching record is found, Amazon AppFlow inserts the data as a new record. Any errors in performin g the operation are handled per your chosen error handling option. You can specify your error handling preferences on the Configure flow page.

Supported destinations

When you create a flow that uses Zendesk as the data source, you can set the destination to any of the following connectors:

- Amazon Connect
- Amazon Honeycode
- Lookout for Metrics
- Amazon Redshift
- Amazon S3
- Marketo
- Salesforce
- Snowflake
- Upsolver
- Zendesk

You can also set the destination to any custom connectors that you create with the Amazon AppFlow Custom Connector SDKs for Python or Java . You can download these SDKs from GitHub.

Related resources

- Setting up the Amazon AppFlow integration with Zendesk in the Zendesk documentation
- Building great customer experiences with Zendesk and AWS from Zendesk

- Video: How to transfer data from Zendesk Support to Amazon S3 using Amazon AppFlow

Zendesk Chat connector for Amazon AppFlow

Zendesk Chat is a live chat service that Zendesk offers as part of its platform. Zendesk Chat helps businesses automate and enhance customer support interactions across web, mobile, and social channels. In a Zendesk Chat account, you store data related to customer conversations. If you use Zendesk Chat, you can also use Amazon AppFlow to transfer this data to certain AWS services or other supported applications.

Amazon AppFlow support for Zendesk Chat

Amazon AppFlow supports Zendesk Chat as follows.

Supported as a data source?

Yes. You can use Amazon AppFlow to transfer data from Zendesk Chat.

Supported as a data destination?

No. You can't use Amazon AppFlow to transfer data to Zendesk Chat.

Before you begin

To use Amazon AppFlow to transfer data from Zendesk Chat to supported destinations, you must meet these requirements:

- You have a Zendesk Chat account.
- In the Zendesk Chat account settings, you've registered Amazon AppFlow with an *API client*. The API client provides the client credentials that Amazon AppFlow uses to access your data securely with authenticated calls to your account.
- You've configured your API client with one or more redirect URLs for Amazon AppFlow.

  Redirect URLs have the following format:

```
https://region.console.aws.amazon.com/appflow/oauth
```

In this URL, *region* is the code for the AWS Region where you use Amazon AppFlow to transfer data from Zendesk Chat. For example, the code for the US East (N. Virginia) Region is `us-east-1`. For that Region, the URL is the following:

```
https://us-east-1.console.aws.amazon.com/appflow/oauth
```

For the AWS Regions that Amazon AppFlow supports, and their codes, see Amazon AppFlow endpoints and quotas in the *AWS General Reference*.

In the settings for your API client, note the client ID and client secret because you will need them to create a connection in Amazon AppFlow.

Connecting Amazon AppFlow to your Zendesk Chat account

To connect Amazon AppFlow to your Zendesk Chat account, provide your Zendesk subdomain and the client credentials that authorize Amazon AppFlow to access your data. If you haven't yet configured your Zendesk Chat account to integrate with Amazon AppFlow, see Before you begin.

To connect to Zendesk Chat

1. Sign in to the AWS Management Console and open the Amazon AppFlow console at https://console.aws.amazon.com/appflow/.
2. In the navigation pane on the left, choose **Connections**.
3. On the **Manage connections** page, for **Connectors**, choose **Zendesk Chat**.
4. Choose **Create connection**.
5. In the **Connect to Zendesk Chat** window, enter the following information:
   - **Custom authorization code URL** – Your Zendesk subdomain. You can find this value in the URL that you visit when you sign in to Zendesk Chat. For example, in the account URL `https://my-account.zendesk.com`, the subdomain is `my-account`.
   - **Client ID** and **Client secret** – The client credentials that Zendesk assigned to your API client.
6. Optionally, under **Data encryption**, choose **Customize encryption settings (advanced)** if you want to encrypt your data with a customer managed key in the AWS Key Management Service (AWS KMS).

By default, Amazon AppFlow encrypts your data with a KMS key that AWS creates, uses, and manages for you. Choose this option if you want to encrypt your data with your own KMS key instead.

Amazon AppFlow always encrypts your data during transit and at rest. For more information, see Data protection in Amazon AppFlow.

If you want to use a KMS key from the current AWS account, select this key under **Choose an AWS KMS key**. If you want to use a KMS key from a different AWS account, enter the Amazon Resource Name (ARN) for that key.

7. For **Connection name**, enter a name for your connection.
8. Choose **Continue**. A window appears that asks if you want to allow Amazon AppFlow to access your Zendesk Chat account.
9. Choose **Allow**.

On the **Manage connections** page, your new connection appears in the **Connections** table. When you create a flow that uses Zendesk Chat as the data source, you can select this connection.

Transferring data from Zendesk Chat with a flow

To transfer data from Zendesk Chat, create an Amazon AppFlow flow, and choose Zendesk Chat as the data source. For the steps to create a flow, see Creating flows in Amazon AppFlow.

When you configure the flow, choose the data object that you want to transfer. For the objects that Amazon AppFlow supports for Zendesk Chat, see Supported objects.

Also, choose the destination where you want to transfer the data object that you selected. For more information about how to configure your destination, see Supported destinations.

Supported objects

When you create a flow that uses Zendesk Chat as the data source, you can transfer any of the following data objects to supported destinations:

- Chat Offline Message
- Chat Support Chat
- Agent

- Agent Event
- Account
- Department
- Trigger
- Shortcut
- Ban
- Goal
- Skill
- Role
- Route Setting Account
- Route Setting Agent

Supported destinations

When you create a flow that uses Zendesk Chat as the data source, you can set the destination to any of the following connectors:

- Amazon Lookout for Metrics
- Amazon Redshift
- Amazon RDS for PostgreSQL
- Amazon S3
- HubSpot
- Marketo
- Salesforce
- SAP OData
- Snowflake
- Upsolver
- Zendesk
- Zoho CRM

Zendesk Sell connector for Amazon AppFlow

Zendesk Sell is a customer relationship management (CRM) service that Zendesk offers as part of its platform. Zendesk Sell automates sales workflows to help its users engage leads and close deals. In a Zendesk Sell account, you store data related to sales opportunities, such as contacts, deals, and leads. If you use Zendesk Sell, you can also use Amazon AppFlow to transfer this data to certain AWS services or other supported applications.

Amazon AppFlow support for Zendesk Sell

Amazon AppFlow supports Zendesk Sell as follows.

Supported as a data source?

Yes. You can use Amazon AppFlow to transfer data from Zendesk Sell.

Supported as a data destination?

No. You can't use Amazon AppFlow to transfer data to Zendesk Sell.

Before you begin

To use Amazon AppFlow to transfer data from Zendesk Sell to supported destinations, you must meet these requirements:

- You have a Zendesk Sell account.
- In the OAuth settings for your Zendesk Sell account, you've registered Amazon AppFlow with a *developer app*. The developer app provides the client credentials that Amazon AppFlow uses to access your data securely with authenticated calls to the Zendesk Sell API.
- You've configured the developer app with a redirect URL for Amazon AppFlow.

  Redirect URLs have the following format:

  ```
  https://region.console.aws.amazon.com/appflow/oauth
  ```

  In this URL, *region* is the code for the AWS Region where you use Amazon AppFlow to transfer data from Zendesk Sell. For example, the code for the US East (N. Virginia) Region is `us-east-1`. For that Region, the URL is the following:

```
https://us-east-1.console.aws.amazon.com/appflow/oauth
```

For the AWS Regions that Amazon AppFlow supports, and their codes, see Amazon AppFlow endpoints and quotas in the *AWS General Reference.*

In the settings for your developer app, note the client ID and client secret because you will need them to create a connection in Amazon AppFlow.

Connecting Amazon AppFlow to your Zendesk Sell account

To connect Amazon AppFlow to your Zendesk Sell account, provide the client credentials from the developer app that authorizes Amazon AppFlow to access your data. If you haven't yet configured your Zendesk Sell account to integrate with Amazon AppFlow, see Before you begin.

To connect to Zendesk Sell

1. Sign in to the AWS Management Console and open the Amazon AppFlow console at https://console.aws.amazon.com/appflow/.
2. In the navigation pane on the left, choose **Connections**.
3. On the **Manage connections** page, for **Connectors**, choose **Zendesk Sell**.
4. Choose **Create connection**.
5. In the **Connect to Zendesk Sell** window, enter values for **Client ID** and **Client secret**. Zendesk assigns these client credentials to the developer app in your Zendesk Sell account.
6. Optionally, under **Data encryption**, choose **Customize encryption settings (advanced)** if you want to encrypt your data with a customer managed key in the AWS Key Management Service (AWS KMS).

   By default, Amazon AppFlow encrypts your data with a KMS key that AWS creates, uses, and manages for you. Choose this option if you want to encrypt your data with your own KMS key instead.

   Amazon AppFlow always encrypts your data during transit and at rest. For more information, see Data protection in Amazon AppFlow.

If you want to use a KMS key from the current AWS account, select this key under **Choose an AWS KMS key**. If you want to use a KMS key from a different AWS account, enter the Amazon Resource Name (ARN) for that key.

7. For **Connection name**, enter a name for your connection.
8. Choose **Continue**. An **Authorize Application** window opens. The window prompts you to give Amazon AppFlow read-only access to your data.
9. Choose **Authorize**.

On the **Manage connections** page, your new connection appears in the **Connections** table. When you create a flow that uses Zendesk Sell as the data source, you can select this connection.

Transferring data from Zendesk Sell with a flow

To transfer data from Zendesk Sell, create an Amazon AppFlow flow, and choose Zendesk Sell as the data source. For the steps to create a flow, see Creating flows in Amazon AppFlow.

When you configure the flow, choose the data object that you want to transfer. For the objects that Amazon AppFlow supports for Zendesk Sell, see Supported objects.

Also, choose the destination where you want to transfer the data object that you selected. For more information about how to configure your destination, see Supported destinations.

Supported objects

When you create a flow that uses Zendesk Sell as the data source, you can transfer any of the following data objects to supported destinations:

- Contact
- Deal
- Lead
- Note
- Task

Supported destinations

When you create a flow that uses Zendesk Sell as the data source, you can set the destination to any of the following connectors:

- Amazon Lookout for Metrics
- Amazon Redshift
- Amazon RDS for PostgreSQL
- Amazon S3
- HubSpot
- Marketo
- Salesforce
- SAP OData
- Snowflake
- Upsolver
- Zendesk
- Zoho CRM

Zendesk Sunshine connector for Amazon AppFlow

Zendesk Sunshine is an application that helps builders create custom experiences on the Zendesk platform for ticketing and customer service. If you're a Zendesk Sunshine user, your account contains data about your Zendesk objects and their relationships. You can use Amazon AppFlow to transfer data from Zendesk Sunshine to certain AWS services or other supported applications.

Amazon AppFlow support for Zendesk Sunshine

Amazon AppFlow supports Zendesk Sunshine as follows.

Supported as a data source?

Yes. You can use Amazon AppFlow to transfer data from Zendesk Sunshine.

Supported as a data destination?

No. You can't use Amazon AppFlow to transfer data to Zendesk Sunshine.

Before you begin

To use Amazon AppFlow to transfer data from Zendesk Sunshine to supported destinations, you must meet these requirements:

- You have an account with Zendesk that contains the data that you want to transfer. For more information about the Zendesk Sunshine data objects that Amazon AppFlow supports, see Supported objects.
- In your account, you've activated custom objects. For the steps to activate, see Enabling custom objects in the Zendesk Developers documentation.
- In your account settings, you've created an OAuth client for Amazon AppFlow. The OAuth client provides the client credentials that Amazon AppFlow uses to access your data securely with authenticated calls to your account.
- You've configured your OAuth client with one or more redirect URLs for Amazon AppFlow.

  Redirect URLs have the following format:

  ```
  https://region.console.aws.amazon.com/appflow/oauth
  ```

  In this URL, *region* is the code for the AWS Region where you use Amazon AppFlow to transfer data from Zendesk Sunshine. For example, the code for the US East (N. Virginia) Region is `us-east-1`. For that Region, the URL is the following:

  ```
  https://us-east-1.console.aws.amazon.com/appflow/oauth
  ```

  For the AWS Regions that Amazon AppFlow supports, and their codes, see Amazon AppFlow endpoints and quotas in the *AWS General Reference*.

In the settings for your OAuth client, note the client ID and client secret. You provide these values to Amazon AppFlow when you connect to your Zendesk account.

Connecting Amazon AppFlow to Zendesk Sunshine

To connect Amazon AppFlow to Zendesk Sunshine, provide the client credentials from your OAuth client so that Amazon AppFlow can access your data. If you haven't yet configured your Zendesk Sunshine project for Amazon AppFlow integration, see Before you begin.

To connect to Zendesk Sunshine

1. Sign in to the AWS Management Console and open the Amazon AppFlow console at https://console.aws.amazon.com/appflow/.
2. In the navigation pane on the left, choose **Connections**.
3. On the **Manage connections** page, for **Connectors**, choose **Zendesk Sunshine**.
4. Choose **Create connection**.
5. In the **Connect to Zendesk Sunshine** window, enter the following information:

   - **Custom authorization tokens URL** and **Custom authorization code URL** – For each of these fields, enter your Zendesk subdomain. You can find the subdomain in the URL that you visit when you sign in to Zendesk. For example, in the account URL `https://my-account.zendesk.com`, the subdomain is `my-account`.
   - **Client ID** and **Client secret** – The client credentials that Zendesk assigned to your OAuth client.
6. Optionally, under **Data encryption**, choose **Customize encryption settings (advanced)** if you want to encrypt your data with a customer managed key in the AWS Key Management Service (AWS KMS).

   By default, Amazon AppFlow encrypts your data with a KMS key that AWS creates, uses, and manages for you. Choose this option if you want to encrypt your data with your own KMS key instead.

   Amazon AppFlow always encrypts your data during transit and at rest. For more information, see Data protection in Amazon AppFlow.

   If you want to use a KMS key from the current AWS account, select this key under **Choose an AWS KMS key**. If you want to use a KMS key from a different AWS account, enter the Amazon Resource Name (ARN) for that key.
7. For **Connection name**, enter a name for your connection.
8. Choose **Continue**.
9. In the window that appears, sign in to your Zendesk account, and grant access to Amazon AppFlow.

On the **Manage connections** page, your new connection appears in the **Connections** table. When you create a flow that uses Zendesk Sunshine as the data source, you can select this connection.

Transferring data from Zendesk Sunshine with a flow

To transfer data from Zendesk Sunshine, create an Amazon AppFlow flow, and choose Zendesk Sunshine as the data source. For the steps to create a flow, see Creating flows in Amazon AppFlow.

When you configure the flow, choose the data object that you want to transfer. For the objects that Amazon AppFlow supports for Zendesk Sunshine, see Supported objects.

Also, choose the destination where you want to transfer the data object that you selected. For more information about how to configure your destination, see Supported destinations.

Supported destinations

When you create a flow that uses Zendesk Sunshine as the data source, you can set the destination to any of the following connectors:

- Amazon Lookout for Metrics
- Amazon Redshift
- Amazon RDS for PostgreSQL
- Amazon S3
- HubSpot
- Marketo
- Salesforce
- SAP OData
- Snowflake
- Upsolver
- Zendesk
- Zoho CRM

Supported objects

When you create a flow that uses Zendesk Sunshine as the data source, you can transfer any of the following data objects to supported destinations:

Object	Field	Data type	Supported filters
Custom Object Type Permission	Data	Struct	
Custom Relationship Type Permission	Data	Struct	
Object Record	Attributes	Struct	
	Created At	DateTime	GREATER_THAN_OR_EQUAL_TO, BETWEEN, LESS_THAN
	External Id	String	
	Id	String	
	Type	String	
	Updated At	DateTime	GREATER_THAN_OR_EQUAL_TO, BETWEEN, LESS_THAN
Object Type	Created At	String	
	Key	String	
	Schema	Struct	
	Updated At	String	
Relationship Type	Created At	String	
	Key	String	
	Source	String	

Object	Field	Data type	Supported filters
	Target	Struct	
	Updated At	String	
Relationship Type Record	Created At	String	
	Id	String	
	Relationship Type	String	
	Source	String	
	Target	String	

Zoho CRM connector for Amazon AppFlow

Zoho CRM is a customer relationship management (CRM) system that helps its users conduct sales, marketing, and customer support. If you're a Zoho CRM user, your account contains data about your campaigns, deals, leads, and more. After you connect Amazon AppFlow your Zoho CRM account, you can use Zoho CRM as a data source or destination in your flows. Run these flows to transfer data between Zoho CRM and AWS services or other supported applications.

Amazon AppFlow support for Zoho CRM

Amazon AppFlow supports Zoho CRM as follows.

Supported as a data source?

Yes. You can use Amazon AppFlow to transfer data from Zoho CRM.

Supported as a data destination?

Yes. You can use Amazon AppFlow to transfer data to Zoho CRM.

Supported API version

Amazon AppFlow transfers your data by sending requests to version 2.1 of the Zoho CRM API.

Before you begin

To use Amazon AppFlow to transfer data to or from Zoho CRM, you must meet these requirements:

- You have a Zoho account, which you use to sign in to Zoho CRM. Your Zoho CRM account contains the data that you want to transfer.
- In the Zoho Developer Console, you've created a server-based application for Amazon AppFlow. This application provides the credentials that Amazon AppFlow uses to access your data securely when it makes authenticated calls to your account. For the steps to create an application, see Register your Application in the Zoho CRM documentation.
- You've configured the application with one or more redirect URLs for Amazon AppFlow.

  Redirect URLs have the following format:

  ```
  https://region.console.aws.amazon.com/appflow/oauth
  ```

  In this URL, *region* is the code for the AWS Region where you use Amazon AppFlow to transfer data from Zoho CRM. For example, the code for the US East (N. Virginia) Region is `us-east-1`. For that Region, the URL is the following:

  ```
  https://us-east-1.console.aws.amazon.com/appflow/oauth
  ```

  For the AWS Regions that Amazon AppFlow supports, and their codes, see Amazon AppFlow endpoints and quotas in the *AWS General Reference.*
- (Optional) If you want to use your application credentials for all Zoho CRM data centers, you've activated Multi-DC in the application settings, and you've activated all applicable domains.
- If you want to transfer data to Zoho CRM as the destination, you've stored the data in an Amazon S3 bucket. If you're new to Amazon S3, see Getting started with Amazon S3 in the *Amazon Simple Storage Service User Guide*.

From your application settings, note the values for client ID and client secret. You provide these values to Amazon AppFlow when you connect to your Zoho CRM account.

Connecting Amazon AppFlow to your Zoho CRM account

To connect Amazon AppFlow to your Zoho CRM account, provide details from your Zoho CRM application so that Amazon AppFlow can access your data. If you haven't yet configured your Zoho CRM account for Amazon AppFlow integration, see Before you begin.

To connect to Zoho CRM

1. Sign in to the AWS Management Console and open the Amazon AppFlow console at https://console.aws.amazon.com/appflow/.
2. In the navigation pane on the left, choose **Connections**.
3. On the **Manage connections** page, for **Connectors**, choose **Zoho CRM**.
4. Choose **Create connection**.
5. In the **Connect to Zoho CRM** window, enter the following information:
   - **Authorization tokens URL** – The URL for the supported data hosting region (Europe, US, Australia, India, or Japan).
   - **Authorization code URL** – The URL for authorization code based on the selected data hosting region.
   - **Client ID** – The client ID of the application in your Zoho CRM account.
   - **Client secret** – The client secret of the application in your Zoho CRM account.
   - **Instance URL** – The instance URL based on the selected data hosting region.
6. Optionally, under **Data encryption**, choose **Customize encryption settings (advanced)** if you want to encrypt your data with a customer managed key in the AWS Key Management Service (AWS KMS).

   By default, Amazon AppFlow encrypts your data with a KMS key that AWS creates, uses, and manages for you. Choose this option if you want to encrypt your data with your own KMS key instead.

   Amazon AppFlow always encrypts your data during transit and at rest. For more information, see Data protection in Amazon AppFlow.

   If you want to use a KMS key from the current AWS account, select this key under **Choose an AWS KMS key**. If you want to use a KMS key from a different AWS account, enter the Amazon Resource Name (ARN) for that key.
7. For **Connection name**, enter a name for your connection.

8. Choose **Continue**.
9. In the window that appears, sign in to your Zoho CRM account, and grant access to Amazon AppFlow.

On the **Manage connections** page, your new connection appears in the **Connections** table. When you create a flow that uses Zoho CRM as the data source, you can select this connection.

Transferring data to or from Zoho CRM with a flow

To transfer data to or from Zoho CRM, create an Amazon AppFlow flow, and choose Zoho CRM as the data source or destination. For the steps to create a flow, see Creating flows in Amazon AppFlow.

Supported destinations

When you create a flow that uses Zoho CRM as the data source, you can set the destination to any of the following connectors:

- Amazon Lookout for Metrics
- Amazon Redshift
- Amazon RDS for PostgreSQL
- Amazon S3
- HubSpot
- Marketo
- Salesforce
- SAP OData
- Snowflake
- Upsolver
- Zendesk
- Zoho CRM

Zoom connector for Amazon AppFlow

Zoom is an online video conferencing solution for individuals and teams. If you're a Zoom user, your account contains data about your resources, such as users, groups, and rooms. You can

use Amazon AppFlow to transfer data from Zoom to certain AWS services or other supported applications.

Amazon AppFlow support for Zoom

Amazon AppFlow supports Zoom as follows.

Supported as a data source?

Yes. You can use Amazon AppFlow to transfer data from Zoom.

Supported as a data destination?

No. You can't use Amazon AppFlow to transfer data to Zoom.

Supported Zoom plans

Amazon AppFlow supports only paid plans for Zoom, such as Pro, Business, or Enterprise. You can’t use Amazon AppFlow to transfer data from a Zoom account that subscribes to the free Basic plan. For more information about Zoom plans, see Plans & Pricing on the Zoom website.

Before you begin

To use Amazon AppFlow to transfer data from Zoom to supported destinations, you must meet these requirements:

- You have an account with Zoom that contains the data that you want to transfer. For more information about the Zoom data objects that Amazon AppFlow supports, see Supported objects.
- In the Zoom App Marketplace, you've created an OAuth app for Amazon AppFlow. This app provides the client credentials that Amazon AppFlow uses to access your data securely when it makes authenticated calls to your account. For more information, see Build an App in the Zoom Developers Docs.
- You've configured If the app with the following settings:
  - You've disabled the option to publish to the Zoom App Marketplace.
  - You've added the recommended scopes below.
  - You've added one or more redirect URLs for Amazon AppFlow.

    Redirect URLs have the following format:

```
https://region.console.aws.amazon.com/appflow/oauth
```

In this URL, *region* is the code for the AWS Region where you use Amazon AppFlow to transfer data from Zoom. For example, the code for the US East (N. Virginia) Region is `us-east-1`. For that Region, the URL is the following:

```
https://us-east-1.console.aws.amazon.com/appflow/oauth
```

For the AWS Regions that Amazon AppFlow supports, and their codes, see Amazon AppFlow endpoints and quotas in the *AWS General Reference.*

Note the values for client ID and client secret from your OAuth app settings. You provide these values to Amazon AppFlow when you connect to your Zoom account.

Recommended scopes

Your OAuth app must allow the necessary scopes for the Zoom APIs. These scopes permit Amazon AppFlow to securely access your data in Zoom. We recommend that you enable the scopes below so that Amazon AppFlow can access all supported data objects.

If you want to allow fewer scopes, you can omit any scopes that apply to objects that you don't want to transfer.

You can add scopes by managing your app in the Zoom App Marketplace.

- `group:master`
- `group:read:admin`
- `group:write:admin`
- `report:master`
- `report:read:admin`
- `report_chat:read:admin`
- `role:master`
- `role:read:admin`
- `role:write:admin`
- `room:master`

- `room:read:admin`
- `room:write:admin`
- `user:master`
- `user:read:admin`
- `user:write:admin`

For more information about these scopes, see OAuth Scopes in the Zoom Developers Docs.

Connecting Amazon AppFlow to your Zoom account

To connect Amazon AppFlow to your Zoom account, provide the client credentials from your OAuth app. Amazon AppFlow uses these credentials to access your data. If you haven't yet configured your Zoom account for Amazon AppFlow integration, see Before you begin.

To connect to Zoom

1. Sign in to the AWS Management Console and open the Amazon AppFlow console at https://console.aws.amazon.com/appflow/.
2. In the navigation pane on the left, choose **Connections**.
3. On the **Manage connections** page, for **Connectors**, choose **Zoom**.
4. Choose **Create connection**.
5. In the **Connect to Zoom** window, for **Client ID** and **Client secret**, enter the client credentials from your OAuth app.
6. Optionally, under **Data encryption**, choose **Customize encryption settings (advanced)** if you want to encrypt your data with a customer managed key in the AWS Key Management Service (AWS KMS).

   By default, Amazon AppFlow encrypts your data with a KMS key that AWS creates, uses, and manages for you. Choose this option if you want to encrypt your data with your own KMS key instead.

   Amazon AppFlow always encrypts your data during transit and at rest. For more information, see Data protection in Amazon AppFlow.

   If you want to use a KMS key from the current AWS account, select this key under **Choose an AWS KMS key**. If you want to use a KMS key from a different AWS account, enter the Amazon Resource Name (ARN) for that key.

7. For **Connection name**, enter a name for your connection.
8. Choose **Continue**. A **Sign in** window opens.
9. Enter your user name and password to sign in to your Zoom account.
10. When prompted, verify your sign-in attempt with a one-time passcode.
11. Authorize Amazon AppFlow to access your Zoom account.

On the **Manage connections** page, your new connection appears in the **Connections** table. When you create a flow that uses Zoom as the data source, you can select this connection.

Transferring data from Zoom with a flow

To transfer data from Zoom, create an Amazon AppFlow flow, and choose Zoom as the data source. For the steps to create a flow, see Creating flows in Amazon AppFlow.

When you configure the flow, choose the data object that you want to transfer. For the objects that Amazon AppFlow supports for Zoom, see Supported objects.

Also, choose the destination where you want to transfer the data object that you selected. For more information about how to configure your destination, see Supported destinations.

Supported destinations

When you create a flow that uses Zoom as the data source, you can set the destination to any of the following connectors:

- Amazon Lookout for Metrics
- Amazon Redshift
- Amazon RDS for PostgreSQL
- Amazon S3
- HubSpot
- Marketo
- Salesforce
- SAP OData
- Snowflake

- Upsolver
- Zendesk
- Zoho CRM

Supported objects

When you create a flow that uses Zoom as the data source, you can transfer any of the following data objects to supported destinations:

Object	Field	Data type	Supported filters
Daily Report	Date	String	
	Meeting Minutes	Integer	
	Meetings	Integer	
	Month Year	Date	EQUAL_TO
	New Users	Integer	
	Participants	Integer	
Group	Id	String	
	Name	String	
	Total Members	Integer	
Group Admin	Email	String	
	Name	String	
Group Member	Email	String	
	First Name	String	
	Id	String	
	Last Name	String	

Object	Field	Data type	Supported filters
	Type	Integer	
Role	Description	String	
	Id	String	
	Name	String	
	Total Members	Integer	
User	Created At	String	
	Custom Attributes	List	
	Department	String	
	Email	String	
	Employee Unique Id	String	
	First Name	String	
	Group Ids	ByteArray	
	Host Key	String	
	IM Group Ids	ByteArray	
	Id	String	
	Last Client Version	String	
	Last Login Time	String	
	Last Name	String	
	Personal Meeting ID	Integer	
	Plan United Type	String	

Object	Field	Data type	Supported filters
	Role Id	String	EQUAL_TO
	Status	String	EQUAL_TO
	Timezone	String	
	Type	Integer	
	Verified	Integer	
Zoom Room	Activation Code	String	
	Id	String	
	Location Id	String	EQUAL_TO
	Name	String	
	Room Id	String	
	Status	String	EQUAL_TO
	Type	String	EQUAL_TO
	Unassigned Rooms	Boolean	EQUAL_TO

Managing Amazon AppFlow connections

To enable data flows in Amazon AppFlow, you provide access to your source and destination applications by creating *connections*. Connections store the configuration details and credentials that Amazon AppFlow requires to transfer data with applications on your behalf. For example, these details include your user names, passwords, secret keys, and API access tokens. After you create a connection, you can assign it to new or existing flows without manually entering the configuration details anew.

Use the following sections to work with your connections by using the Amazon AppFlow console, AWS CLI, or the Amazon AppFlow API. Connections are also called *connector profiles* in the AWS CLI and Amazon AppFlow API.

Amazon AppFlow console

Complete the following steps to manage your connections by using the Amazon AppFlow console.

1. Sign in to the AWS Management Console and open the Amazon AppFlow console at https://console.aws.amazon.com/appflow/.
2. In the navigation pane, select **Connections**.
3. On the **Manage connections** page, for **Connectors**, choose the application that your connection accesses. For example, if your connection enables data to flow to Amazon Redshift, you would choose **Amazon Redshift**.
4. After you choose a connector, you can do any of the following:
   - To create a connection, choose **Create connection**, and provide the required details. These details vary for each type of connector application. For application-specific instructions, find your application under Supported source and destination applications.
   - To view the details for a connection, choose its name in the **Connection name** column.
   - To edit a connection, select it and choose **Edit**.
   - To copy a connection, select it and choose **Copy to new connection**. The console shows a window where you configure a new connection, and it copies the initial settings from the connection that you selected. You can modify these settings before you create the new connection.

     Amazon AppFlow doesn't copy OAuth credentials, such as client secret and client ID. For connections that require those credentials, you must provide them anew.

- To delete a connection, select it and choose **Delete**.

AWS CLI

You can manage your connections in Amazon AppFlow by running commands with the AWS CLI.

To create a connection

- Run the `create-connector-profile` command. In this command, you provide configuration details and credentials for the `--connector-profile-config` parameter. The required details vary for each type of connector application.

  The following example creates a connection for SAP OData, and it provides the configuration details in a JSON file:

```
$ aws appflow create-connector-profile \
> --connector-profile-name sap-odata-connection \
> --connector-type SAPOData \
> --connection-mode Public \
> --connector-profile-config file://sap-odata-connector-profile-config.json
```

  The `sap-odata-connector-profile-config.json` file contains the following configuration details:

```
{
  "connectorProfileProperties":
  {
    "SAPOData":
    {
      "applicationHostUrl": "https://example.connection.url",
      "applicationServicePath": "/sap/opu/odata/example/path;v=2",
      "portNumber": 443,
      "clientNumber": "100",
      "logonLanguage": "EN"
    }
  },
  "connectorProfileCredentials":
  {
    "SAPOData":
    {
```

```
      "basicAuthCredentials":
      {
        "username": "username",
        "password": "password"
      }
    }
  }
}
```

The command response provides the Amazon Resource Name (ARN) of the new connection:

```
{
    "connectorProfileArn": "arn:aws:appflow:us-
east-1:111122223333:connectorprofile/sap-odata-connection"
}
```

To view the details for all of your connections

- Run the describe-connector-profiles command:

```
$ aws appflow describe-connector-profiles
```

The command response is a JSON body with details for each of your connections. The following example response shows the details for an SAP OData connection:

```
{
    "connectorProfileDetails": [
        {
            "connectorProfileArn": "arn:aws:appflow:regionus-
east-1:111122223333:connectorprofile/sap-odata-connection",
            "connectorProfileName": "sap-odata-connection",
            "connectorType": "SAPOData",
            "connectionMode": "Public",
            "credentialsArn": "arn:aws:secretsmanager:us-
east-1:111122223333:secret:appflow!111122223333-sap-odata-connection",
            "connectorProfileProperties": {
                "SAPOData": {
                    "applicationHostUrl": "https://example.connection.url",
                    "applicationServicePath": "/sap/opu/odata/example/path;v=2",
                    "portNumber": 443,
                    "clientNumber": "100",
```

```
                    "logonLanguage": "EN"
                }
            },
            "createdAt": "2022-02-22T15:31:41.467000-08:00",
            "lastUpdatedAt": "2022-02-22T15:31:41.467000-08:00"
        }
    ]
}
```

To view the details for specific connections

- Run the `describe-connector-profiles` command, and filter the results by using the `--connector-profile-names` or `--connector-type` parameters. The following example gets the details for a single connection:

```
$ aws appflow describe-connector-profiles --connector-profile-names sap-odata-connection
```

To edit a connection

- Run the `update-connector-profile` command. For this command, you provide the updated configuration details for the `--connector-profile-config` parameter. The following example provides the updated configuration in a JSON file:

```
$ aws appflow update-connector-profile \
> --connector-profile-name sap-odata-connection \
> --connection-mode Public \
> --connector-profile-config file://sap-odata-connector-profile-config.json
```

To delete a connection

- Run the `delete-connector-profile` command.

```
$ aws appflow delete-connector-profile --connector-profile-name sap-odata-connection
```

Amazon AppFlow API

You can manage your connections by using the following actions in the Amazon AppFlow API:

- CreateConnectorProfile – Creates a connection.
- DescribeConnectorProfiles – Provides details about your connections.
- UpdateConnectorProfile – Edits a connection.
- DeleteConnectorProfile – Deletes a connection.

Amazon AppFlow flows

With Amazon AppFlow, a *flow* transfers data between a source and a destination. Amazon AppFlow supports a variety of AWS services and SaaS applications as sources or destinations.

A *data mapping* determines how data from the source is placed in the destination. You can map the fields in each source object to fields in the destination. You can concatenate multiple fields in a source object to a single field in the destination. You can mask the values of sensitive fields so that the destination field contains only an asterisk (*). You can also truncate fields to a fixed length.

A *filter* controls which data records are transferred to the destination. Amazon AppFlow transfers only the records that meet the filter criteria.

A *trigger* determines how a flow runs. The following are the supported flow trigger types:

- **Run on demand** — Users manually run the flow as needed.
- **Run on event** — Amazon AppFlow runs the flow in response to an event from a SaaS application.
- **Run on schedule** — Amazon AppFlow runs the flow on a recurring schedule.

When a flow is run, Amazon AppFlow verifies that the data is available in the source, processes the data according to the flow configuration, and transfers the processed data to the destination.

To work with a flow

- Creating flows in Amazon AppFlow
- Managing Amazon AppFlow flows
- Cataloging the data output from an Amazon AppFlow flow
- Partitioning and aggregating data output from an Amazon AppFlow flow
- Flow triggers
- Private Amazon AppFlow flows
- Flow notifications
- General information for Amazon AppFlow flows

Creating flows in Amazon AppFlow

There are several ways to create flows in Amazon AppFlow. You can use the AWS Management Console, AWS CLI commands, the Amazon AppFlow API, or AWS CloudFormation.

Topics

Create a flow using the AWS console

There are several ways to gets started with creating your first flow by using the AWS console user interface, AWS CLI commands, APIs, or by specifying CloudFormation resources. The console enables you to input basic information for your flow and connect as a user of the associated SaaS application.

To create a flow using the console

The following procedure provides the steps to create and configure a flow using the Amazon AppFlow console user interface.

1. Sign in to the AWS Management Console and open the Amazon AppFlow console at https://console.aws.amazon.com/appflow/.
2. Choose **Create flow**.
3. For **Flow details**, enter a name and description for the flow. A valid flow name is a combination of alphanumeric characters and the following special characters: !@#.-_.
4. (Optional) To use a customer managed CMK instead of the default AWS managed CMK, choose **Data encryption**, **Customize encryption settings** and then select an existing CMK or create a new one.
5. (Optional) To add a tag, choose **Tags**, **Add tag** and then enter the key name and value. The following basic restrictions apply to tags:

    - Maximum number of tags per resource – 50
    - For each resource, each tag key must be unique, and each tag key can have only one value.

- Maximum key length – 128
- Unicode characters in UTF-8
- Use letters, numbers, and spaces representable in UTF-8, and the following characters: + - = . _ : / @.
- Tag keys and values are case-sensitive.
- The `aws:` prefix is reserved for AWS use. If a tag has a tag key with this prefix, then you can't edit or delete the tag's key or value. Tags with the `aws:` prefix do not count against your tags per resource limit.

6. Choose **Next**.

To configure the flow

1. For **Source details**, select the source and provide the requested information. For example, provide connection information and select objects or events. For more information, look up your source application on the Supported source and destination applications page where you can find application-specific connection instructions.

   > **Note**
   >
   > To successfully configure a connection for a flow, the user or role you use to create the flow must have permission to use the `UseConnectorProfile` permission-only action for the connection (connectorprofile) that you choose for the flow. This permission is included in the AmazonAppFlowFullAccess managed policy. If you are using a custom policy, you must add the permission to the policy and specify the connectorprofile resource in the policy.

2. For **Destination details**, select the destination and provide the requested information about the location. For more information, look up your destination application on the Supported source and destination applications page where you can find application-specific connection instructions.
3. For **Flow trigger**, choose how to trigger the flow. The following are the flow trigger options:

   - **Run on demand** - Run the flow manually.
   - **Run on event** - Run the flow based on the specified change event.

- This option is available only for SaaS applications that provide change events. You must choose the event when you choose the source.

- **Run on schedule** - Run the flow on the specified schedule and transfer the specified data.
  - You can choose either full or incremental transfer for schedule-triggered flows.
  - When you select full transfer, Amazon AppFlow transfers a snapshot of all records at the time of the flow run from the source to the destination.
  - When you select incremental transfer, Amazon AppFlow transfers only the records that have been added or changed since the last successful flow run. You can also select a timestamp field to specify how Amazon AppFlow identifies new or changed records. For example, if you have a **Created Date** timestamp field, choose this to instruct Amazon AppFlow to transfer only newly-created records (and not changed records) since the last successful flow run. The first flow in a schedule-triggered flow will pull 30 days of past records at the time of the first flow run.
  - The scheduling frequency depends on the frequency supported by the source application.

4. Choose **Next**.

> **Tip**
>
> Attempting a connection with an expired user login can return a 'status code 400' error. If you encounter this error, we recommend creating a new connection and deleting the old one, or using an existing connection with valid credentials. For more information on setting up a connection, look up your source application on the Supported source and destination applications page.

To map data fields

1. For **Mapping method**, choose how to map the fields and complete the field mapping. The following are the field mapping options:

   - **Manually map fields** - Use the Amazon AppFlow user interface to specify the field mapping. To map all fields, choose **Source field name**, **Bulk actions**, **Map all fields directly**. Otherwise, select one or more fields from **Source field name**, **Source fields**, and then choose **Map fields directly**.

- **Upload a .csv file with mapped fields** - Use a comma-separated values (CSV) file to specify the field mappings. Each line in the CSV file contains the source field name, followed by a comma, which is followed by the destination field name. For more information on how to create the CSV file for upload, see the note that follows this procedure.

2. (Optional) To add a formula that concatenates fields, select two fields from **Mapped fields** and then choose **Add formula**.
3. (Optional) To mask or truncate field values, select one or more fields from **Mapped fields** and then choose **Modify values**.
4. (Optional) For **Validations**, add validations to check whether a field has bad data. For each field, choose the condition that indicates bad data and what action Amazon AppFlow should take when a field in a record is bad.
5. Choose **Next**.

> **Tip**
>
> When manually mapping between a source and destination, you must select compatible fields and be sure not to exceed the number of records supported by the destination. For more information on supported record quotas, see Quotas for Amazon AppFlow in the *Amazon AppFlow User Guide*.

> **Note**
>
> When creating a CSV file to upload to Amazon AppFlow, you must specify each source field and destination field pair in a single line separated by a comma. For example, if you want to map source fields SF1, SF2, and SF3 to destination fields DFa, DFb, and DFc respectively, the CSV file should contain three lines as follows:
> SF1, DFa
> SF2, DFb
> SF3, DFc
> Save your file with a .csv extension and then upload this file to import the mapping into Amazon AppFlow.

To add filters

Specify a filter to determine which records to transfer. Amazon AppFlow enables you to filter data fields by adding multiple filters and by adding criteria to a filter.

> **Note**
>
> When you select field names with string values, OR logic allows you to combine two or more criteria into a broader condition. When you add multiple filters, AND logic allows you to combine your filters into a narrower condition.

1. To add a filter, choose **Add filter**, select the field name, select a condition, and then specify the criteria.
2. (Optional) To add further criteria to your filter, choose **Add criteria**. Depending on the field and the condition, you can add up to 10 criteria per filter.
3. (Optional) To add another filter, choose **Add filter** again. You can create up to 10 filters to specify which data fields you want to use in your flow. Amazon AppFlow will implement each filter in the order in which you specify them, and transfer only the records that meet all filter criteria.
4. To remove a filter, choose **Remove** next to the filter.
5. When you are finished adding filters, choose **Next**.

   Review the information for your flow. To change the information for a step, choose **Edit**. When you are finished, choose **Create flow**.

   > **Tip**
   >
   > If the flow creation fails, review the error message and confirm that all required fields have been entered, and that the user or role you are using has permission to the `UseConnectorProfile` action for the connection selected for the flow.

Create a flow using the AWS CLI

You may also use the CLI to create a connector profile and configure a flow using the AWS CLI commands for **create-connector-profile** and **create-flow**. Due to the varying methods of

authentication across each target application, the specific information provided for connection creation will vary. Two examples are provided here as a comparison — Salesforce and ServiceNow.

Run the **create-connector-profile** command to create the connector profile for your flow. The following example creates a new Amazon AppFlow connection to Salesforce. Note that this leverages a Salesforce Connected App, which itself requires several steps to configure across AWS and Salesforce. See Salesforce global connected app for details.

Create Salesforce connection:

```
aws appflow create-connector-profile \
    --connector-profile-name MySalesforceConnection \
    --connector-type Salesforce \
    --connection-mode Public \
    --connector-profile-config ' {
                "connectorProfileProperties": {
                    "Salesforce": {
                        "instanceUrl": "https://<instance-name>.my.salesforce.com",
                        "isSandboxEnvironment": false
                    }
                },
                "connectorProfileCredentials": {
                    "Salesforce": {
                        "accessToken": "<access-token-value>",
                        "refreshToken": "<refresh-token-value>",
                        "oAuthRequest": {
                            "authCode": "<auth-code-value>",
                            "redirectUri": "https://login.salesforce.com/"
                        },
                        "clientCredentialsArn": "<secret-arn-value>"
                    }
                }
            }'
```

Run the **create-connector-profile** command to begin creating your flow. The following example creates a new Amazon AppFlow connection to ServiceNow. Note that, unlike Salesforce, there is no prerequisite configuration for either AWS or ServiceNow.

Create ServiceNow connection:

```
aws appflow create-connector-profile \
    --connector-profile-name MyServiceNowConnection \
    --connector-type Servicenow \
    --connection-mode Public \
    --connector-profile-config ' {
                "connectorProfileProperties": {
                    "ServiceNow": {
                        "instanceUrl": "https://<instance-name>.service-now.com"
                    }
                },
                "connectorProfileCredentials": {
                    "ServiceNow": {
                        "username": "<username-value>",
                        "password": "<password-value>"
                    }
                }
            }'
```

Run the **create-flow** command to begin creating your flow. The following implements a flow from Salesforce to S3 using a previously created Salesforce connection and S3 bucket, delivering the data in CSV format with all Salesforce source fields mapped directly.

Create Salesforce to S3 flow:

```
aws appflow create-flow \
    --flow-name MySalesforceToS3Flow \
    --trigger-config '{
                "triggerType": "OnDemand"
            }' \
    --source-flow-config '{
                  "connectorType": "Salesforce",
                  "connectorProfileName": "MySalesforceConnection",
                  "sourceConnectorProperties": {
                      "Salesforce": {
                          "object": "Account"
                  }
                }
            }' \
    --destination-flow-config '[{
                "connectorType": "S3",
                "destinationConnectorProperties": {
                    "S3": {
                        "bucketName": "<s3-bucket-name>",
```

```
                    "s3OutputFormatConfig": {
                        "fileType": "CSV"
                    }
                }
            }
        }]' \
    --tasks '[
            {
                "sourceFields": [],
                "taskType": "Map_all",
                "taskProperties": {}
            }
        ]'
```

Run the **start-flow** command to start your flow. For on-demand flows, this operation runs the flow immediately. For schedule and event-triggered flows, this operation activates the flow. The following starts the flow `MySalesforceToS3Flow` which was created in the previous step.

```
aws appflow start-flow --flow-name MySalesforceToS3Flow
```

The describe-flow command is helpful for understanding how previously created flows, including flows created through the Console, are structured.

Describe a flow:

```
aws appflow describe-flow --flow-name MySalesforceToS3Flow
```

Refer to the AWS CLI Command Reference for Amazon AppFlow for additional details about the complete list of commands available for Amazon AppFlow.

Create a flow using the Amazon AppFlow APIs

You may also use the APIs to create a connector profile and configure a flow using the `CreateConnectorProfile` and `CreateFlow` APIs. Due to the varying methods of authentication across each target application, the specific information provided for connection creation will vary. Two examples are provided below as a comparison — Salesforce and ServiceNow.

Program the `CreateConnectorProfile` API to create a connector profile associated with your AWS account. There is a soft quota of 100 connector profiles per AWS account. If you need more

connector profiles than this quota allows, you can submit a request to the Amazon AppFlow team through the Amazon AppFlow support channel. The following examples creates a new Amazon AppFlow connection to Salesforce. Note that this leverages a Salesforce Connected App, which itself requires several steps to configure across AWS and Salesforce. See Salesforce global connected app for details.

Create Salesforce connection:

```
POST /create-connector-profile HTTP/1.1
Content-type: application/json

{
    "connectorProfileName": "MySalesforceConnection",
    "connectorType": "Salesforce",
    "connectionMode": "Public",
    "connectorProfileConfig": {
        "connectorProfileProperties": {
            "Salesforce": {
                "instanceUrl": "https://<instance-name>.my.salesforce.com",
                "isSandboxEnvironment": false
            }
        },
        "connectorProfileCredentials": {
            "Salesforce": {
                "accessToken": "<access-token-value>",
                "refreshToken": "<refresh-token-value>",
                "oAuthRequest": {
                    "authCode": "<auth-code-value>",
                    "redirectUri": "https://login.salesforce.com/"
                },
                "clientCredentialsArn": "<secret-arn-value>"
            }
        }
    }
}
```

The following examples creates a new Amazon AppFlow connection to ServiceNow. Note that, unlike Salesforce, there is no pre-requisite configuration for either AWS or ServiceNow.

Create ServiceNow connection

```
POST /create-connector-profile HTTP/1.1
Content-type: application/json

{
    "connectorProfileName": "MyServiceNowConnection",
    "connectorType": "Servicenow",
    "connectionMode": "Public",
    "connectorProfileConfig": {
        "connectorProfileProperties": {
            "ServiceNow": {
                "instanceUrl": "https://<instance-name>.service-now.com",
                "isSandboxEnvironment": false
            }
        },
        "connectorProfileCredentials": {
            "ServiceNow": {
                "username": "<username-value>",
                "password": "<password-value>"
            }
        }
    }
}
```

The following implements a flow from Salesforce to S3 using a previously created Salesforce connection and S3 bucket, delivering the data in CSV format with all Salesforce source fields mapped directly.

Create Salesforce to S3 flow

```
POST /create-flow HTTP/1.1
Content-type: application/json

{
    "flowName": "MySalesforceToS3Flow",
    "triggerConfig": {
        "triggerType": "OnDemand"
    },
    "sourceFlowConfig": {
          "connectorType": "Salesforce",
          "connectorProfileName": "MySalesforceConnection",
          "sourceConnectorProperties": {
              "Salesforce": {
                  "object": "Account"
```

```
            }
        }
    },
    "destinationFlowConfigList": [{
        "connectorType": "S3",
        "destinationConnectorProperties": {
            "S3": {
                "bucketName": "appflow-demo-destination",
                "s3OutputFormatConfig": {
                    "fileType": "CSV"
                }
            }
        }
    }],
    "tasks": [
        {
            "sourceFields": [],
            "taskType": "Map_all",
            "taskProperties": {}
        }
    ]
}
```

The following starts the flow `MySalesforceToS3Flow` which was created in the previous step.

Start a flow:

```
POST /start-flow HTTP/1.1
Content-type: application/json

{
   "flowName": "MySalesforceToS3Flow"
}
```

Refer to the Amazon AppFlow API Reference for details about the complete set of Amazon AppFlow APIs.

Create a flow using CloudFormation resources

You may also use CloudFormation to create a connector profile and configure a flow using the `AWS::AppFlow::ConnectorProfile` and `AWS::AppFlow::Flow` resources. The following example creates a new Amazon AppFlow connection to Salesforce. Note that this leverages a Salesforce Connected App, which itself requires several steps to configure across AWS and Salesforce. See Salesforce global connected app for details.

Declare the `AWS::AppFlow::ConnectorProfile` entity in your CloudFormation template with the following JSON syntax:

```
{
  "AWSTemplateFormatVersion":"2010-09-09",
  "Resources": {
    "MySalesforceConnection": {
      "Type" : "AWS::AppFlow::ConnectorProfile",
      "Properties": {
        "ConnectorProfileName": "MySalesforceConnection",
        "ConnectorType": "Salesforce",
        "ConnectionMode": "Public",
        "ConnectorProfileConfig": {
          "ConnectorProfileProperties": {
            "Salesforce": {
              "InstanceUrl": "https://<instance-name>.my.salesforce.com",
              "IsSandboxEnvironment": false
            }
          },
          "ConnectorProfileCredentials": {
            "Salesforce": {
              "AccessToken": "<access-token-value>",
              "RefreshToken": "<refresh-token-value>",
              "ConnectorOAuthRequest": {
                "AuthCode": "<auth-code-value>",
                "RedirectUri": "https://login.salesforce.com/"
              },
              "ClientCredentialsArn": "<secret-arn-value>"
            }
          }
        }
      }
    }
  }
```

```
}
```

Following is an example of YAML syntax:

```
AWSTemplateFormatVersion: '2010-09-09'
Resources:
  MySalesforceConnection:
    Type: AWS::AppFlow::ConnectorProfile
    Properties:
      ConnectorProfileName: MySalesforceConnection
      ConnectorType: Salesforce
      ConnectionMode: Public
      ConnectorProfileConfig:
        ConnectorProfileProperties:
          Salesforce:
            InstanceUrl: https://<instance-name>.my.salesforce.com
            IsSandboxEnvironment: false
        ConnectorProfileCredentials:
          Salesforce:
            AccessToken: <access-token-value>
            RefreshToken: <refresh-token-value>
            ConnectorOAuthRequest:
              AuthCode: <auth-code-value>
              RedirectUri: https://login.salesforce.com/
            ClientCredentialsArn: <secret-arn-value>
```

The following examples creates a new Amazon AppFlow connection to ServiceNow.

Create ServiceNow connection - JSON

```
{
  "AWSTemplateFormatVersion":"2010-09-09",
  "Resources": {
    "MyServiceNowConnection": {
      "Type" : "AWS::AppFlow::ConnectorProfile",
      "Properties": {
        "ConnectorProfileName": "MyServiceNowConnection",
        "ConnectorType": "Servicenow",
        "ConnectionMode": "Public",
```

```
        "ConnectorProfileConfig": {
          "ConnectorProfileProperties": {
            "ServiceNow": {
              "InstanceUrl": "https://<instance-name>.service-now.com",
            }
          },
          "ConnectorProfileCredentials": {
            "ServiceNow": {
              "Username": "<username-value>",
              "Password": "<password-value>"
            }
          }
        }
      }
    }
  }
}
```

The following is an example of YAML syntax that creates a new Amazon AppFlow connection to ServiceNow.

Create ServiceNow connection - YAML:

```
AWSTemplateFormatVersion: '2010-09-09'
Resources:
  MyServiceNowConnection:
    Type: AWS::AppFlow::ConnectorProfile
    Properties:
      ConnectorProfileName: MyServiceNowConnection
      ConnectorType: Servicenow
      ConnectionMode: Public
      ConnectorProfileConfig:
        ConnectorProfileProperties:
          ServiceNow:
            InstanceUrl: https://<instance-name>.service-now.com
        ConnectorProfileCredentials:
          ServiceNow:
            Username: <username-value>
            Password: <password-value>
```

The following implements a flow from Salesforce to S3 using a previously created Salesforce connection and S3 bucket, delivering the data in CSV format with all Salesforce source fields mapped directly.

Create Salesforce to S3 flow - JSON:

```
{
  "AWSTemplateFormatVersion":"2010-09-09",
  "Resources": {
    "MySalesforceToS3Flow": {
      "Type" : "AWS::AppFlow::Flow",
      "Properties": {
        "FlowName": "MySalesforceToS3Flow",
        "TriggerConfig": {
          "TriggerType": "OnDemand"
        },
        "SourceFlowConfig": {
          "ConnectorType": "Salesforce",
          "ConnectorProfileName": "MySalesforceConnection",
          "SourceConnectorProperties": {
            "Salesforce": {
                "Object": "Account"
            }
          }
        },
        "DestinationFlowConfigList" : [{
          "ConnectorType": "S3",
          "DestinationConnectorProperties": {
            "S3": {
              "BucketName": "<s3-bucket-name>",
              "S3OutputFormatConfig": {
                "FileType": "CSV"
              }
            }
          }
        }],
        "Tasks": [
          {
            "TaskType": "Map_all",
            "SourceFields": [],
            "TaskProperties": [{
              "Key": "EXCLUDE_SOURCE_FIELDS_LIST",
              "Value": "[]"
```

```
            }],
            "ConnectorOperator": {
              "Salesforce": "NO_OP"
            }
          }
        ]
      }
    }
  }
}
```

The following implements a flow from Salesforce to S3 using a previously created Salesforce connection and S3 bucket, delivering the data in CSV format with all Salesforce source fields mapped directly.

Create Salesforce to S3 flow - YAML:

```
AWSTemplateFormatVersion: '2010-09-09'
Resources:
  MySalesforceToS3Flow:
    Type: AWS::AppFlow::Flow
    Properties:
      FlowName: MySalesforceToS3Flow
      TriggerConfig:
        TriggerType: OnDemand
      SourceFlowConfig:
        ConnectorType: Salesforce
        ConnectorProfileName: MySalesforceConnection
        SourceConnectorProperties:
          Salesforce:
            Object: Account
      DestinationFlowConfigList:
        - ConnectorType: S3
          DestinationConnectorProperties:
            S3:
              BucketName: <s3-bucket-name>
              S3OutputFormatConfig:
                FileType: CSV
      Tasks:
        - TaskType: Map_all
          SourceFields: []
          TaskProperties:
          - Key: EXCLUDE_SOURCE_FIELDS_LIST
```

```
            Value: '[]'
          ConnectorOperator:
            Salesforce: NO_OP
```

Refer to the AWS CloudFormation User Guide Amazon AppFlow chapter for details about the complete set of resource options for all sources and destinations.

Managing Amazon AppFlow flows

After you create one or more flows, you can use the **Flows** page in the Amazon AppFlow console to manage them.

To go to the Flows page

1. Sign in to the AWS Management Console and open the Amazon AppFlow console at https://console.aws.amazon.com/appflow/.
2. In the navigation pane on the left, choose **Flows**. The console shows the **Flows** page. This page contains a table that summarizes the flows that you've created.

To view the details for flow

- Select a flow, and choose **View details**. The console shows the flow details page.

  The **Flow details** section shows details about the flow, its data source, and its destination. To view additional information, choose any of the following tabs:

  Data field settings

  Details about how data is mapped between the source and destination.

  Partition and aggregation settings

  Details about how the flow organizes output data into partitions and aggregates it into files.

  Filters

  Details about the filters that control which data the flow sends to the destination.

  Tags

  The tag keys and values that you've applied to the flow.

Run history

Details about each run that has occurred for the flow, such as the date, transfer size, and status.

To initiate a flow

To initiate a flow, you *activate* or *run* it. The action that you take depends on whether you configured the flow to run on a schedule, based on an event, or on demand.

- Select a flow, and choose **View details**. Then, do one of the following:
  - If the flow runs on a schedule or based on an event, choose **Activate** to activate the flow. To deactivate the flow, choose **Deactivate flow**.
  - If the flow runs on demand, choose **Run flow** whenever you want to transfer the data.

To update a flow

- Select a flow, and choose **Edit**. The console shows the flow creation process, and you can navigate the pages to revise settings such as field mappings, trigger type, and filters. You can't change the flow name, source, or destination. The changes apply only to flow runs that occur after you save your changes.

To copy a flow

- Select a flow, and choose **Copy to new flow**. The console shows the flow creation process, and it copies the initial settings from the flow that you copied. You can modify these settings before you create the new flow.

To cancel a flow

You can cancel any flow that's currently running.

- Select a flow, and choose **View details**. Then, do either of the following:
  - If the page shows a banner about your active flow run, choose **Cancel this flow run** in the banner. If multiple runs are active at the same time, you can cancel all of them.
  - Choose the **Run history** tab and do the following:

a. Select the checkbox for the flow run that you want to cancel. You can select multiple runs.

b. Choose **Cancel selected flow run**.

You cannot resume a run after you cancel it.

> **Note**
>
> When you cancel a run, you still incur charges for any data that the run already processed before the cancellation. If the run had already written some data to the flow destination, then that data remains in the destination. If you configured the flow to use a batch API (such as the Salesforce Bulk API 2.0), then the run will finish reading or writing its entire batch of data after the cancellation. For these operations, the data processing charges for Amazon AppFlow apply. For the pricing information, see Amazon AppFlow pricing.

To delete a flow

- Select a flow, and choose **Delete**. When the console prompts you to confirm the operation, type **`delete`**, and then choose **Delete**.

Cataloging the data output from an Amazon AppFlow flow

When you use Amazon AppFlow to transfer data with a flow that meets certain requirements, you get the option to register the data with a *data catalog*. A data catalog is a metadata repository. The metadata represents aspects of your data, such as the schema, format, and data types. The metadata also includes *business metadata*, which consists of labels and descriptions that data users write to provide helpful context for themselves and other data users. A data catalog provides a unified view of your data, even if the data belongs to multiple datasets that reside in multiple locations. When you query the consolidated metadata in a data catalog, you can more quickly search and discover your data assets.

To catalog your data, you create flows that transfer to Amazon S3, and you configure these flows with the required settings. When the flows run, Amazon AppFlow creates metadata tables in the AWS Glue Data Catalog.

The AWS Glue Data Catalog is a component of the AWS Glue service. You can use the Data Catalog to discover and search your data assets across various locations, including S3 buckets. When you register your data with the Data Catalog, you can more quickly access it with many AWS analytics, AI, and ML services. These services include AWS Glue, Amazon Athena, Amazon SageMaker Data Wrangler, and more.

It's convenient to catalog your data with Amazon AppFlow for the following reasons:

- You can transfer and catalog your data in the same operation.
- You don't have to use crawlers to populate the Data Catalog.

When you run a flow that catalogs your data, Amazon AppFlow does the following in your AWS account:

- Prepares the metadata that represents the data output of the flow
- Writes the metadata to a Data Catalog table
- Stores the table in a Data Catalog database

The Data Catalog table also includes any partition keys that organize your data in Amazon S3. For any flow that transfers data to Amazon S3, you can activate several types of partition keys in the flow settings. For more information, see Partitioning and aggregating data output from an Amazon AppFlow flow.

For more information about the Data Catalog, see AWS Glue Data Catalog in the *AWS Glue Developer Guide*.

Before you begin

Before you can catalog the data that you transfer with Amazon AppFlow, you must have a user role that you create with the AWS Identity and Access Management (IAM) service. This role grants Amazon AppFlow the permissions that it needs to create Data Catalog tables, databases, and partitions.

For an example IAM policy that has the required permissions, see Identity-based policy examples for Amazon AppFlow.

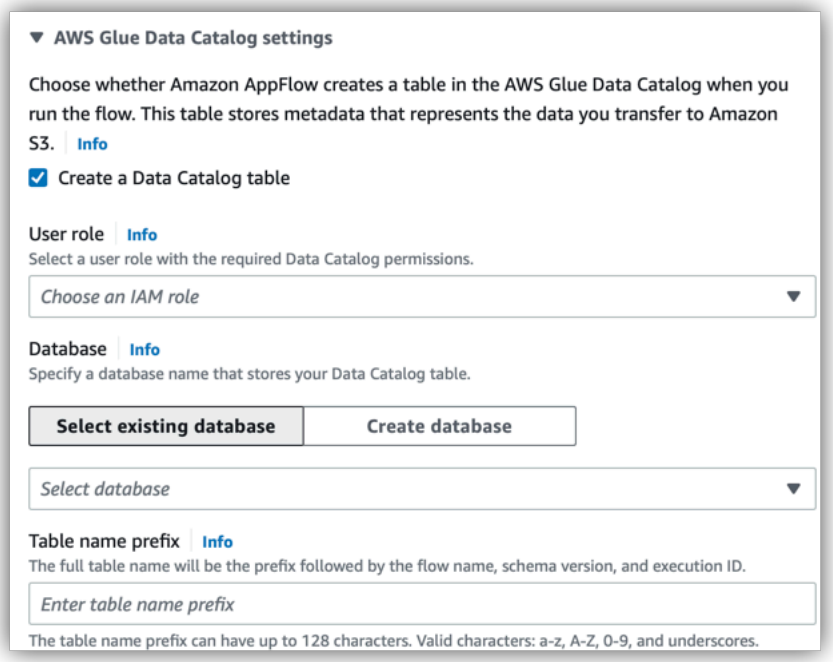
Cataloging flow output (Amazon AppFlow console)

To create a flow that catalogs data, complete the following steps in the Amazon AppFlow console.

1. Sign in to the AWS Management Console and open the Amazon AppFlow console at https://console.aws.amazon.com/appflow/.
2. To view the Data Catalog settings, configure a flow that transfers data to Amazon S3. Do one of the following:
   - If you want to catalog the data from a new flow, choose **Create flow** and step through the flow creation process.

     When you get to the **Configure flow** page, under **Destination details**, set **Destination name** to **Amazon S3**.
   - If you want to catalog the data from an existing flow, choose **Flows** in the navigation pane to view your flows. Then, select the flow and choose **Edit**.

     On the **Edit flow configuration** page, under **Destination details**, ensure that **Destination name** is set to **Amazon S3**.
3. To view the Data Catalog settings, expand the **AWS Glue Data Catalog settings** section, and select the **Create a Data Catalog table** check box.



4. Configure the following settings:

- **User role** – The required IAM user role. If you haven't created this role yet, see Before you begin.
- **Database** – A Data Catalog database where Amazon AppFlow stores the Data Catalog tables that it creates when your flow runs.

  If you already have a database that you want to use, choose the **Select existing database** tab, and select the database.

  Otherwise, choose the **Create database** tab and enter a name. Then, choose the **Create database** button, and Amazon AppFlow creates the database for you. Amazon AppFlow creates the database in AWS Glue in your AWS account in the selected AWS Region.
- **Table name prefix** – A prefix that Amazon AppFlow prepends to the name of each Data Catalog table that Amazon AppFlow creates for the flow.

5. When you've configured the Data Catalog settings, do either of the following:
   - If you are creating a flow, work through the remaining flow creation steps in the console. For all of the steps to create a flow, see Create a flow using the AWS console.
   - If you are editing a flow, choose **Save**.

   With this Data Catalog configuration, Amazon AppFlow stores metadata about the flow output each time that the flow runs. To view this metadata, open the AWS Glue console at https://console.aws.amazon.com/glue/. In the AWS Glue console, you can choose **Databases** and **Tables** in the navigation pane to view the Data Catalog databases and tables that Amazon AppFlow creates.

Data Catalog table names

Amazon AppFlow creates metadata tables in the Data Catalog in several different naming formats.

To query the latest data output from your flow, use the table with the name that appears in the following format:

- *prefix*_appflow_*flow-name*_*timestamp*_latest

  Amazon AppFlow updates this table continuously with the metadata from the most recent flow run.

In this name, `timestamp` is the time when Amazon AppFlow created the table. The timestamp is formatted as a Unix epoch. For example, the timestamp for November 14, 2022 at 12:00:00 PM UTC is 1668456000.

To query historical versions of your data output, use the tables with names that appear in the following formats:

- *`prefix`*`_appflow_`*`flow-name_schema-version`*

  These tables contain metadata for each schema version.

- *`prefix`*`_appflow_`*`flow-name_schema-version_execution-id`*

  These tables contain metadata from individual flow runs. Amazon AppFlow creates these tables only when you set **Execution ID** as a partition key in the flow settings.

The variable elements in these names are as follows:

- `prefix` – The prefix that you specify in the flow settings.
- `flow-name` – The flow name. Amazon AppFlow modifies this name, if needed, to comply with table naming restrictions in the Data Catalog.
- `schema-version` – The version number of your data schema. Amazon AppFlow assigns this version number and increases it by one when you change any of the following settings for your flow:
  - Field mappings
  - Field data types
  - Partition settings
- `execution-id` — The ID that Amazon AppFlow assigns to a flow run. You can see these IDs in the run history for the flow.

Example Data Catalog output from a flow run

The following examples show how Amazon AppFlow creates metadata tables in the Data Catalog to catalog a dataset.

Example dataset

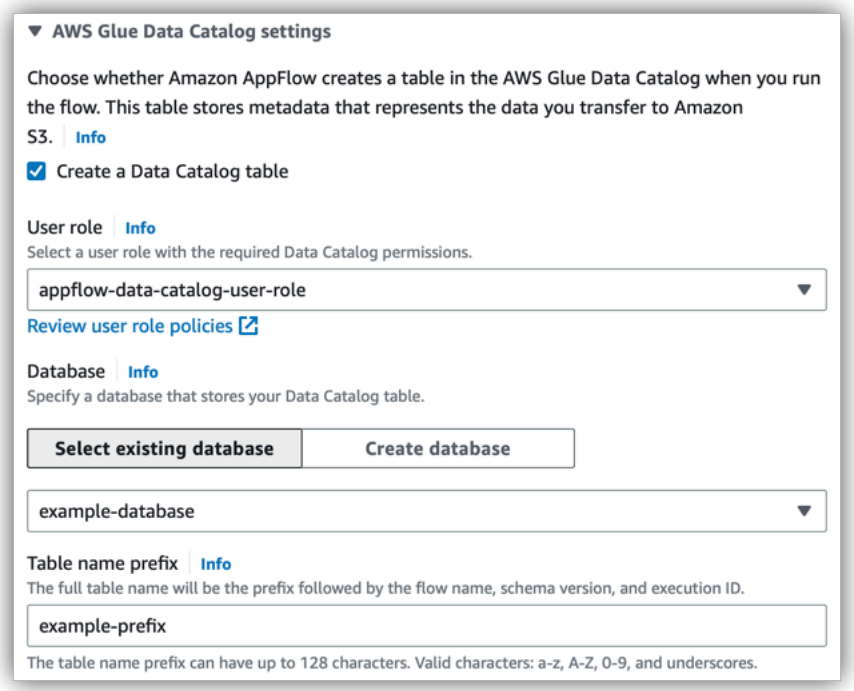
The following table represents an example dataset of account records from a Salesforce database. The dataset is the source data for a flow that transfers from Salesforce to Amazon S3.

Account Name	Account Type	Billing State/Province	Account Rating	Industry
Example1	Customer - Direct	Anywhere	Hot	Apparel
Example2	Customer - Channel	Anywhere	Warm	Biotechnology
Example3		Anywhere	Cold	Construction
Example4	Customer - Direct	Anywhere		Consulting
Example5	Customer - Channel	Anywhere	Hot	Education
Example6	Customer- Channel	Anywhere	Warm	Electronics
Example7		Anywhere	Cold	Energy
Example8		Anywhere		Hospitality
Example9	Customer - Direct	Anywhere	Hot	Transportation

Example flow configuration

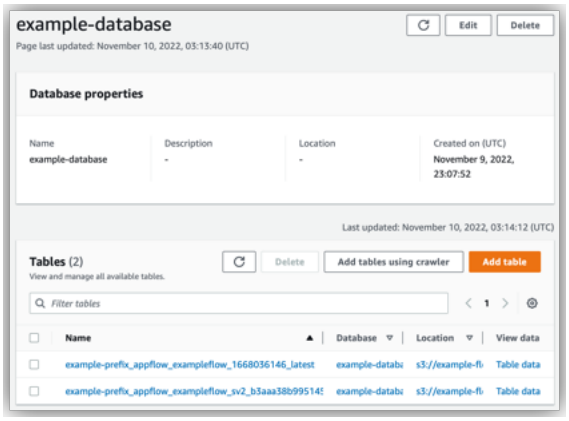
The flow that transfers the example dataset has the following configuration under **AWS Glue Data Catalog settings** in the console:

- **User role** is set to **`appflow-data-catalog-user-role`**. This is an example name for a role that grants the required permissions to Amazon AppFlow.
- **Database** is set to **`example-database`**.
- **Table name prefix** is set to **`example-prefix`**.

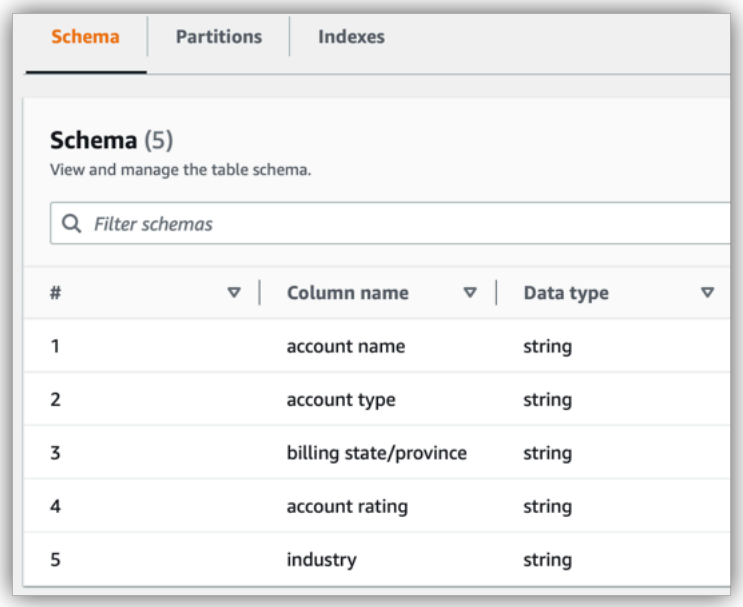


Example Data Catalog table

When the flow runs, Amazon AppFlow creates tables in the database named example-database. One of these tables is named example-prefix_appflow_exampleflow_1668036146_latest.Amazon AppFlow updates this table every time the flow runs. You can view the tables that Amazon AppFlow creates for your flows in the Data Catalog console.



The Data Catalog console provides details pages for each table. Each page shows the metadata that a table stores, such as the columns and data types in the data schema. For more information, see Working with tables on the AWS Glue console in the *AWS Glue Developer Guide*.



While you're on a table details page, you can also view any business metadata that Amazon AppFlow discovered in your source data. To view this data, open the table properties by choosing **Actions** and then **View properties**. The table properties JSON gives the business metadata as the values of the `AppFlowLabel` and `AppFlowDescription` attributes.

Example Data Catalog table properties with business metadata from Amazon AppFlow

```
. . .
  "StorageDescriptor": {
    "Columns": [
      {
        "Name": "id",
        "Type": "string",
        "Parameters": {
          "AppFlowLabel": "Account ID",
          "AppFlowDescription": "A unique identifier for the customer account."
        }
      },
. . .
```

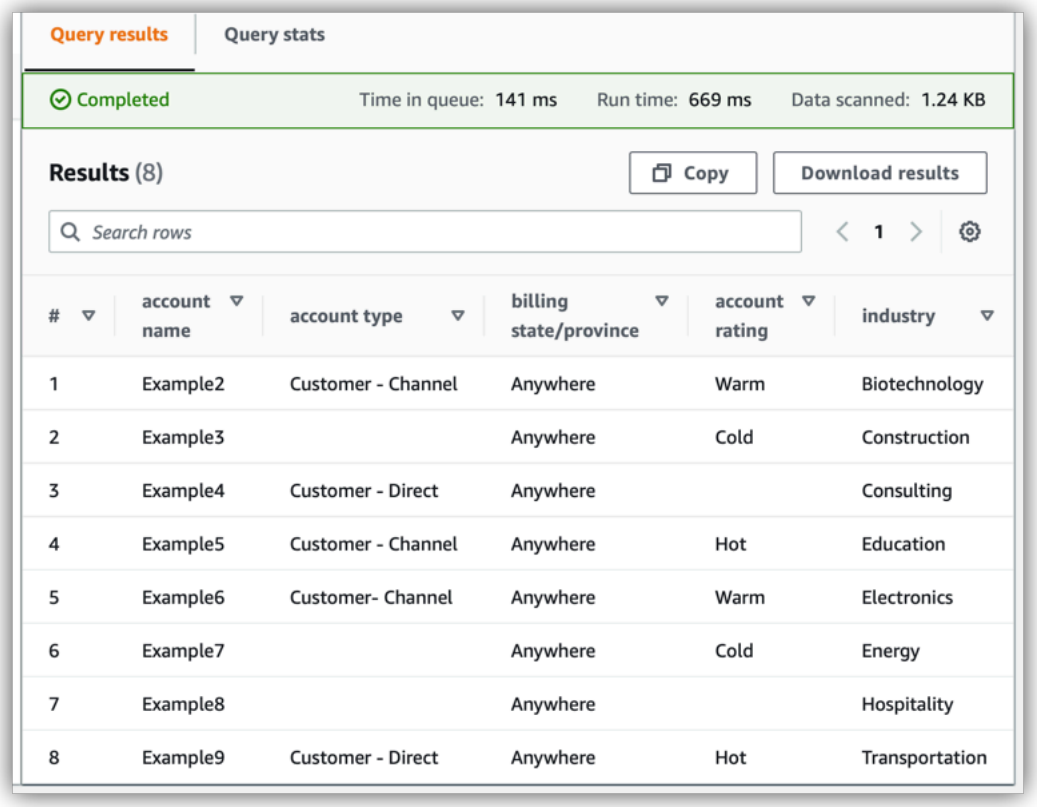
You can search the cataloged dataset with data query tools and many AWS services. One way that you can query the data is to choose the **Table data** link on the database page in the Data Catalog

console. That link opens Amazon Athena. This is an AWS service that runs SQL queries to help you analyze data in Amazon S3.

In Amazon Athena, the following SQL query retrieves the data that Amazon AppFlow catalogs in the example table:

```
SELECT * FROM "AwsDataCatalog"."example-database"
    ."example-prefix_appflow_exampleflow_1668036146_latest" limit 10;
```

The Amazon Athena console shows the data that the query retrieves.



#	account name	account type	billing state/province	account rating	industry
1	Example2	Customer - Channel	Anywhere	Warm	Biotechnology
2	Example3		Anywhere	Cold	Construction
3	Example4	Customer - Direct	Anywhere		Consulting
4	Example5	Customer - Channel	Anywhere	Hot	Education
5	Example6	Customer- Channel	Anywhere	Warm	Electronics
6	Example7		Anywhere	Cold	Energy
7	Example8		Anywhere		Hospitality
8	Example9	Customer - Direct	Anywhere	Hot	Transportation

Partitioning and aggregating data output from an Amazon AppFlow flow

When you use Amazon AppFlow to transfer data to Amazon S3 with a flow, you get the options to do the following:

- Organize the output data into partitions
- Aggregate the output records into files of a specified size

You can use these options to optimize query performance for applications that access the data.

Partitioning and aggregating flow output in Amazon AppFlow

To configure the partition and aggregation settings in the Amazon AppFlow console, perform the following steps.

1. Sign in to the AWS Management Console and open the Amazon AppFlow console at https://console.aws.amazon.com/appflow/.
2. To view the partition and aggregation settings, configure a flow that transfers data to Amazon S3. Do one of the following:
   - If you want to configure the output from a new flow, choose **Create flow** and step through the flow creation process.

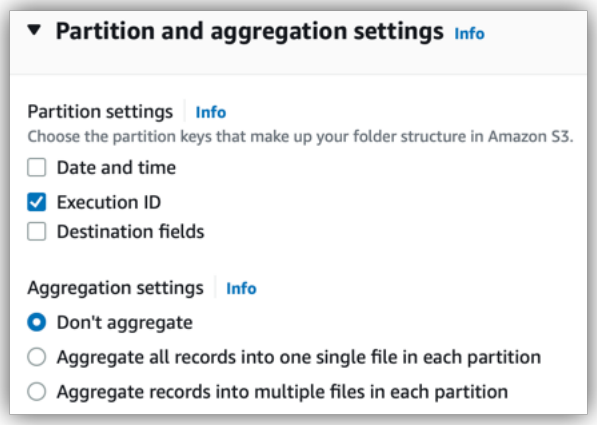
     When you get to the **Configure flow** page, under **Destination details**, set **Destination name** to Amazon S3.

     Continue the flow creation process. You configure the partition and aggregation settings when you get to the **Map data fields** page.
   - If you want to configure the output from an existing flow, choose **Flows** in the navigation pane to view your flows. Then, select the flow and choose **Edit**.

     On the **Edit flow configuration** page, under **Destination details**, ensure that **Destination name** is set to Amazon S3.

     To configure the partition and aggregation settings, go to the **Edit data fields** page.

   The console shows the settings under **Partition and aggregation settings**.



3. For **Partition settings,** choose any of the following partition keys:

   - **Date and time** – Represents the dates and times when your flow runs. You choose the precision (yearly, monthly, daily, and so on). The dates and times are shown in Coordinated Universal Time (UTC).

     Each unit of time (such as the year, month, or day) becomes a folder in your output file path. This way, when you set the precision to daily, your path has folders for the years, months, and days when your flow runs. Those folders are nested in the path *`year`*`/`*`month`*`/`*`day`*, as in `2022/11/28`.

     If you choose the **Date and time** key, the **Execution ID** key is required and is selected automatically.

   - **Execution ID** – The ID that Amazon AppFlow assigns to the flow run. Your output file path in Amazon S3 includes a folder for the execution ID.

     If you configured your flow to catalog the output, then the Data Catalog tables also include the execution ID in their names. For more information about cataloging flow output, see Cataloging the data output from an Amazon AppFlow flow.

   - **Destination fields** – The destination fields that you defined under **Source to destination field mapping** in the flow settings.

     If you choose this option, you can then specify up to 10 fields as partition keys. For each field that you choose, output records that have matching field-value pairs (for example, `"BillingState" = "WA"`) are grouped together in the corresponding Amazon S3 folder.

In your output file path, the destination field folders are nested in the order that you specify the partition keys. The folders have the path *partition key one*=*value*/*partition key two*=*value*/*partition key three*=*value*, and so on.

> **Tip**
>
> When you choose your partition keys, consider how they affect query performance for applications that access the data. For example, if you choose a granular partition key, such as `Account ID`, you might create many folders, where each folder contains one or just a few records. In that case, you might experience processing delays that offset the benefit of partitioning.

4. For **Aggregation settings**, choose how to aggregate your records into output files in each partition.

   - **Don't aggregate** – Don't aggregate records into files of a specified size. The size of each output file is determined by one of the following:
     - The size of each input file
     - The page size of each API response in the data transfer operation
   - **Aggregate all records into one file in each partition** – Write your records to a single file.
   - **Aggregate records into multiple files in each partition** – Write your records to multiple files. For each file, Amazon AppFlow tries to achieve the target file size that you specify. The actual file sizes might differ from the target based on the number and size of the records that each file contains.

Example file paths for partitioned datasets

The following examples show how Amazon AppFlow imports source datasets and transfers them into partitioned datasets in Amazon S3.

Example file paths

In this example, Amazon AppFlow creates file paths in an S3 bucket when it runs a flow that you configure with partition settings. The partitions in the following paths include schema versions, a date, execution IDs, and the destination fields `Account Rating` and `Industry`.

```
example-flow/
  schemaVersion_1/
    520225fa-0ffb-4c95-b5d1-a2a862081d27/
      Account Rating=Warm/
      Account Rating=null/
      Account Rating=Hot/
      Account Rating=Cold/
  schemaVersion_2/
    2022/
      11/
        10/
          267c0ad0-228f-4d25-96fe-0f975005fec6/
            Industry=Apparel/
            Industry=Biotechnology/
            Industry=Construction/
            Industry=Consulting/
            Industry=Education/
            Industry=Electronics/
            Industry=Energy/
            Industry=Hospitality/
            Industry=Transportation/
```

Example dataset

Amazon AppFlow creates the example file paths when a flow transfers a source dataset that resembles the following example. The dataset contains customer account records from a Salesforce database. Each record has fields called `Account Rating` and `Industry`.

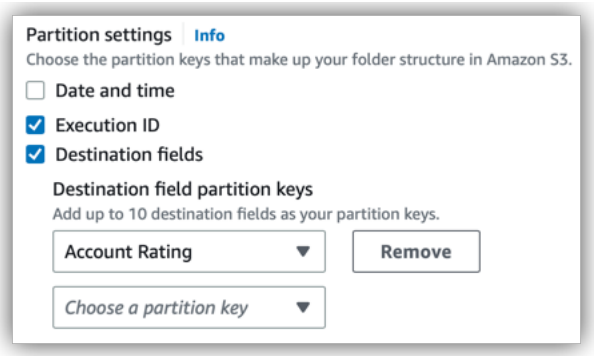
Account Name	Account Rating	Industry
Example1	Hot	Apparel

Account Name	Account Rating	Industry
Example2	Warm	Biotechnology
Example3	Cold	Construction
Example4		Consulting
Example5	Hot	Education
Example6	Warm	Electronics
Example7	Cold	Energy
Example8		Hospitality
Example9	Hot	Transportation

Example flow configurations

The example file paths include two folders for schema version. After the flow is initially defined and run, Amazon AppFlow creates the folder `schemaVersion_1/`. The initial flow configuration includes the following partition settings:

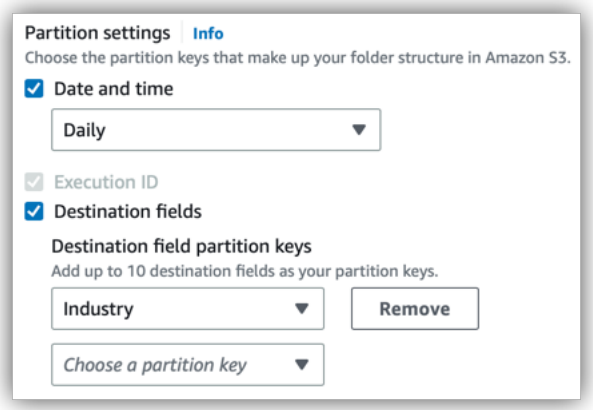
- The **Execution ID** partition key is turned on.
- The **Destination fields** partition key is turned on, and the field **Account Rating** is used as a key.



With this configuration, Amazon AppFlow organizes the output into datasets that contain records with matching field-value pairs for the `Account Rating` field. Amazon AppFlow stores each of these datasets in the corresponding folders, such as the folder `Account Rating=Warm/`.

After the partition settings in the flow are edited and the flow is run again, Amazon AppFlow creates the folder `schemaVersion_2/`. That revision set the following partition settings:

- The **Date and time** partition key is turned on, and the granularity is set to **Daily**.
- The **Destination fields** partition key is turned on, and the field **Industry** is used as a key.



With this configuration, Amazon AppFlow organizes the output into filepaths for the year, month, and day that the flow runs: `2022/11/10`. Within that path, Amazon AppFlow organizes the output into datasets that contain records with matching field-value pairs for the `Industry` field. Amazon AppFlow stores each of these datasets in the corresponding folders, such as the folder `Industry=Apparel/`.

Flow triggers

A *trigger* determines how a flow runs. The following are the supported flow trigger types:

- **Run on demand** — Users manually run the flow as needed.
- **Run on event** — Amazon AppFlow runs the flow in response to an event from an SaaS application.
- **Run on schedule** — Amazon AppFlow runs the flow on a recurring schedule.

On demand flows

You can manually run on-demand flows as needed. You must run this type of flow each time you want to transfer the data. For more information, see Managing Amazon AppFlow flows.

Event-triggered flows

Amazon AppFlow runs event-triggered flows based on a specified change event in the source application.

This option is available only for SaaS applications that provide change events. You must choose the event when you choose the source.

Schedule-triggered flows

Amazon AppFlow runs schedule-triggered flows based on the schedule that you specify during flow setup. The scheduling frequency depends on the frequency supported by the source application.

You can choose either full or incremental data transfer for schedule-triggered flows.

Full transfer

When you select full transfer, Amazon AppFlow transfers a snapshot of all records at the time of the flow run from the source to the destination.

Incremental transfer

When you select incremental transfer, Amazon AppFlow transfers only the records that have been added or changed since the last successful flow run. You can also select a source timestamp field to specify how Amazon AppFlow identifies new or changed records. For example, if you have a *Created Date* timestamp field, choose this to instruct Amazon AppFlow to transfer only newly-created records (and not changed records) since the last successful flow run. The first schedule-triggered flow will pull 30 days of past records at the time of the first flow run.

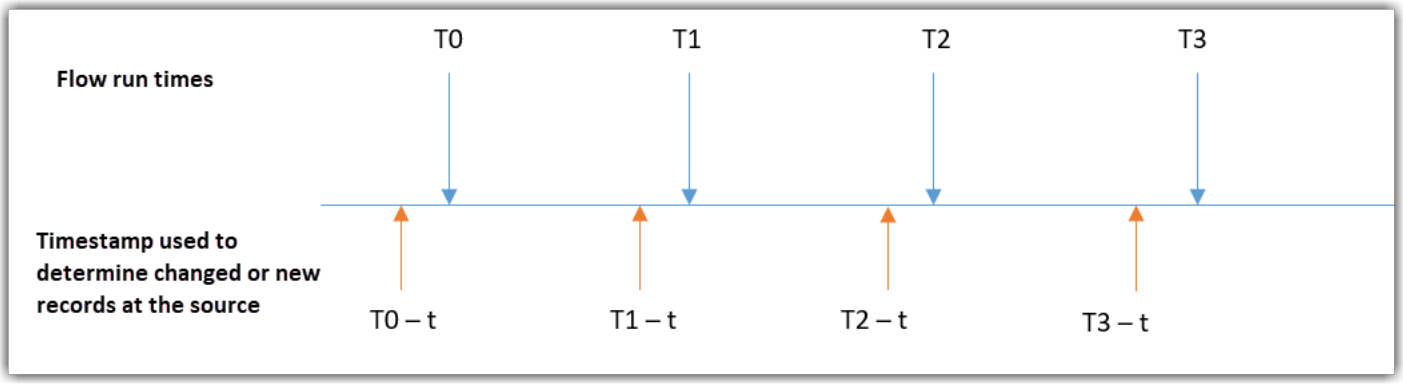
> **Tip**
>
> To transfer records created or modified over a different time range other than the past 30 days at the time of the first flow run, set up the flow to be triggered on demand. You can then use the filter option to pull records over the desired time range. After the on-demand flow runs and pulls the initial set of records, edit the flow to be triggered on schedule so that subsequent flow runs transfer incremental data.

Offset option

Optionally, you can add a time offset (*t*) to the time range for the incremental transfer. The flow run will import records that were created or changed between the previous flow run and the specified offset prior to the current flow run. This feature can be used to accommodate any latencies in the source systems in timestamping changes to records. By choosing a sufficiently large offset, you can avoid missing records that changed in the source application close to the run time of the scheduled flow.

If a schedule-triggered flow runs at time instances *T0*, *T1*, *T2*, and so on, then records that are new or have changed between *T0 minus t* and *T1 minus t* will be imported from the source at *T1*, and those that have changed between *T1 minus t* and *T2 minus t* will be imported from the source at *T2*.

The total offset value can be longer than the schedule interval (for example, *t* can be longer than *T1 minus T0*), but it must be less than 10 hours. The default value is 0.



- The flow run at *T0* transfers records that changed between *T0 minus 30 days* and *T0 minus t* in the source application.
- The flow run at *T1* transfers records that changed between *T0 minus t* and *T1 minus t* in the source application.
- The flow run at *T2* transfers records that changed between *T1 minus t* and *T2 minus t* in the source application.
- The flow run at *T3* transfers records that changed between *T2 minus t* and *T3 minus t* in the source application.

Private Amazon AppFlow flows

With Amazon AppFlow, you can create private flows between AWS services and supported software as a service (SaaS) applications. Private flows use AWS PrivateLink to route data over AWS infrastructure without exposing it to the public internet.

The following SaaS applications are integrated with AWS PrivateLink:

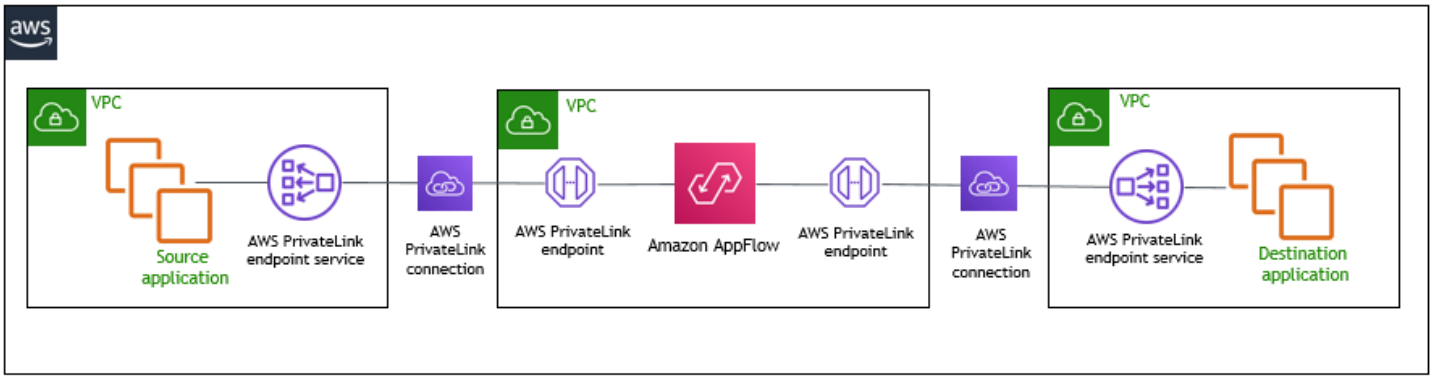
- Salesforce
- Singular
- Snowflake
- Trend Micro

> **Note**
>
> Your SaaS account must be enabled for AWS PrivateLink access. Please check with the administrator for the SaaS application.

When you create a connection using AWS PrivateLink, Amazon AppFlow creates the VPC endpoint service configuration for you. When you no longer need the endpoint service configuration, Amazon AppFlow deletes it.

> **Note**
>
> Amazon AppFlow makes metadata API calls to populate a list of objects and fields in the console over the public endpoints. However, the actual data transfer during the flow run happens over Amazon VPC endpoints powered by AWS PrivateLink.

The following diagram illustrates the components of a private flow.



Flow notifications

Amazon AppFlow is integrated with Amazon EventBridge to publish events related to the status of a flow. The following flow events are published to your default event bus.

- **AppFlow Start Flow Run Report**: This event is published at the start of a flow run.
- **AppFlow End Flow Run Report**: This event is published when a flow run is complete.
- **AppFlow Event Flow Report**: This event is generated every five minutes for an event-triggered flow, and provides a count of event triggers over the five minute interval.
- **AppFlow Event Flow Deactivated**: This event is generated when Amazon AppFlow deactivates an event-triggered flow due to a failure. The deactivation reason is specified in the event payload.
- **AppFlow Scheduled Flow Deactivated**: This event is generated when Amazon AppFlow deactivates a schedule-triggered flow due to a failure. The deactivation field is specified in the event payload.

You can access these events in the EventBridge console by creating an appropriate rule. For the steps to create a rule, see Creating Amazon EventBridge rules that react to events.

Common fields

All event payloads include the following common fields:

account

The 12 digit number identifying the AWS account.

detail-type

The name of the event. See the preceding list of flow events for more information.

id

The unique value generated for every event.

region

The AWS region where the event originated.

resources

The ARNs (AWS Resource Numbers) that identify the resources involved in the event.

source

"aws.appflow".

time

The event timestamp.

version

The flow version. By default, this is set to 0 (zero) in all events.

Flow event detail fields

The following fields are available as part of the flow event details:

created-by

The ARN of the user who created the flow.

destination

The details of the destination connector for the flow.

destination-object

The destination object chosen in the flow.

flow-arn

The ARN of the flow.

flow-name

The name of the flow selected at the time of the flow creation.

source

The details of the source connector for the flow.

source-object

The source object chosen in the flow.

trigger-type

The flow trigger.

The following table shows the additional event field details.

Name of the flow event	Field	Description
AppFlow Start Flow Run Report	start-time	The timestamp of the start of the flow run.
AppFlow Start Flow Run Report, **AppFlow End Flow Run Report**	incremental-transfer-time-range	The start and end timestamps that Amazon AppFlow sent to the source application, indicating the time range for the incremental record transfer. This is available only for schedule-triggered flows.
AppFlow Event Flow Deactivated, **AppFlow Scheduled Flow Deactivated**	deactivation-reason	The reason for deactivation.
AppFlow Event Flow Deactivated, **AppFlow Scheduled Flow Deactivated**	deactivation-time	The time at which the flow was deactivated.

Name of the flow event	Field	Description
AppFlow Event Flow Report	status-report	The count of event triggers received from the source, and the timestamp of the five minute interval over which this count was calculate d. This is available only for event-triggered flows.
AppFlow End Flow Run Report	end-time	The timestamp of the flow run completion.
AppFlow End Flow Run Report	num-of-records-processed	The number of records from the source that were processed by Amazon AppFlow.
AppFlow End Flow Run Report	num-of-record-failures	The number of records that could not be inserted into the destination.
AppFlow End Flow Run Report	data-processed	The volume of data (in bytes) that was processed.
AppFlow End Flow Run Report	status	The status that indicates if the flow run failed or was successful.
AppFlow End Flow Run Report	error	The reason for flow run failure in the event of a failed flow.

General information for Amazon AppFlow flows

The following general information applies to all Amazon AppFlow flows.

Source and destination API limits

The API calls that Amazon AppFlow makes to data sources and destinations count against any API limits for that application. For example, if you set up an hourly flow that pulls 5 pages of data from Salesforce, Amazon AppFlow will make a total of 120 daily API calls (24x5=120). This will count against your 24-hour Salesforce API limit. Exact API limits can vary depending on your licensing with the SaaS application.

IP address ranges

Amazon AppFlow operates from the AWS IP address ranges shown in the *Amazon Web Services General Reference Guide*. Configuring a flow connection with an incorrect URL, URI, or IP address range can return a bad gateway error. If you encounter this error, we recommend deleting your connection and creating a new one with the correct URL, URI, or IP address range. For instructions on how to create a new connection for your SaaS application, see Supported source and destination applications.

> **Note**
>
> You can't use IP allow listing in your S3 bucket policy to deny access to any other IP addresses besides Amazon AppFlow IP addresses. This is because Amazon AppFlow uses a VPC endpoint when placing data in your Amazon S3 buckets. For more information about Amazon AppFlow Regions and endpoints, see Amazon AppFlow Regions and Endpoints in the *AWS General Reference*.

Schema changes

Amazon AppFlow only supports the automatic import of newly created Salesforce fields into Amazon S3 without requiring the user to update their flow configurations. For other source applications, Amazon AppFlow does not currently support schema changes, but you can edit your flow to reload the fields and update your mapping. For more information on how to edit a flow, see Managing Amazon AppFlow flows.

> **Note**
>
> If the source or destination fields in a flow's configuration are deleted from the source or destination application (including Salesforce), then the flow run will fail. To prevent failed flows, we recommend that you edit your flows to remove deleted fields from the mapping.

Security in Amazon AppFlow

Amazon AppFlow provides a secure platform that enables you to move data bi-directionally between AWS services and software as a service (SaaS) applications, with availability in multiple Regions and built-in redundancy.

Cloud security at AWS is the highest priority. As an AWS customer, you benefit from a data center and network architecture that is built to meet the requirements of the most security-sensitive organizations.

Security is a shared responsibility between AWS and you. The shared responsibility model describes this as security of the cloud and security in the cloud:

- **Security of the cloud** – AWS is responsible for protecting the infrastructure that runs AWS services in the AWS Cloud. AWS also provides you with services that you can use securely. Third-party auditors regularly test and verify the effectiveness of our security as part of the AWS Compliance Programs.To learn about the compliance programs that apply to Amazon AppFlow, see AWS Services in Scope by Compliance Program.
- **Security in the cloud** – Your responsibility is determined by the AWS service that you use. You are also responsible for other factors including the sensitivity of your data, your company's requirements, and applicable laws and regulations

This documentation helps you understand how to apply the shared responsibility model when using Amazon AppFlow. It shows you how to configure Amazon AppFlow to meet your security and compliance objectives. You also learn how to use other AWS services that help you to monitor and secure your Amazon AppFlow resources.

Contents

Data protection in Amazon AppFlow

The AWS shared responsibility model applies to data protection in Amazon AppFlow. As described in this model, AWS is responsible for protecting the global infrastructure that runs all of the AWS Cloud. You are responsible for maintaining control over your content that is hosted on this infrastructure. You are also responsible for the security configuration and management tasks for the AWS services that you use. For more information about data privacy, see the Data Privacy FAQ. For information about data protection in Europe, see the AWS Shared Responsibility Model and GDPR blog post on the *AWS Security Blog*.

For data protection purposes, we recommend that you protect AWS account credentials and set up individual users with AWS IAM Identity Center or AWS Identity and Access Management (IAM). That way, each user is given only the permissions necessary to fulfill their job duties. We also recommend that you secure your data in the following ways:

- Use multi-factor authentication (MFA) with each account.
- Use SSL/TLS to communicate with AWS resources. We require TLS 1.2 and recommend TLS 1.3.
- Set up API and user activity logging with AWS CloudTrail.
- Use AWS encryption solutions, along with all default security controls within AWS services.
- Use advanced managed security services such as Amazon Macie, which assists in discovering and securing sensitive data that is stored in Amazon S3.
- If you require FIPS 140-2 validated cryptographic modules when accessing AWS through a command line interface or an API, use a FIPS endpoint. For more information about the available FIPS endpoints, see Federal Information Processing Standard (FIPS) 140-2.

We strongly recommend that you never put confidential or sensitive information, such as your customers' email addresses, into tags or free-form text fields such as a **Name** field. This includes when you work with Amazon AppFlow or other AWS services using the console, API, AWS CLI, or AWS SDKs. Any data that you enter into tags or free-form text fields used for names may be used for billing or diagnostic logs. If you provide a URL to an external server, we strongly recommend that you do not include credentials information in the URL to validate your request to that server.

Encryption at Rest

When you configure an SaaS application as a source or destination, you create a connection. This includes information required for connecting to the SaaS applications, such as authentication

tokens, user names, and passwords. Amazon AppFlow securely stores your connection data, encrypting it using AWS Key Management Service (AWS KMS) customer master keys (CMK) and then storing it in AWS Secrets Manager.

When you delete a connection, all its metadata is permanently deleted.

When you use Amazon S3 as a destination, you can choose either an AWS managed CMK or a customer managed CMK for encrypting the data in the S3 bucket using Amazon S3 SSE-KMS.

Encryption in Transit

When you configure a flow, you can choose either an AWS managed CMK or a customer managed CMK. When executing a flow, Amazon AppFlow stores data temporarily in an intermediate S3 bucket and encrypts it using this key. This intermediate bucket is deleted after 7 days, using a bucket lifecycle policy.

Amazon AppFlow secures all data in transit using Transport Layer Security (TLS) 1.2.

With some of the SaaS applications that are a supported source or destination, you can create a connection that does not send traffic over the public internet. For more information, see Private Amazon AppFlow flows.

Key Management

Amazon AppFlow provides both AWS managed and customer managed CMKs for encrypting connection data and data stored in Amazon S3 when it is a destination. We recommend that you use a customer managed CMK, as it puts you in full control over your encrypted data. When you choose a customer managed CMK, Amazon AppFlow attaches a resource policy to the CMK that grants it access to the CMK.

Connection credentials

Amazon AppFlow stores the encrypted credentials that are used to connect to flow source and destination applications in your AWS Secrets Manager account. These credentials include OAuth tokens, Application and API keys, and passwords. To create a new connection, grant the following permissions to any custom IAM policies.

> **Note**
>
> The `AmazonAppFlowFullAccess` policy includes these permissions.

```
{
          "Sid": "SecretsManagerCreateSecretAccess",
          "Effect": "Allow",
          "Action": "secretsmanager:CreateSecret",
          "Resource": "*",
          "Condition": {
               "StringLike": { "secretsmanager:Name": "appflow!*"
            },
            "ForAnyValue:StringEquals": {
                  "aws:CalledVia": [
                        "appflow.amazonaws.com"
                    ]
               }
          }
},
{
          "Sid": "SecretsManagerPutResourcePolicyAccess",
          "Effect": "Allow",
          "Action": [
               "secretsmanager:PutResourcePolicy"
          ],
          "Resource": "*",
          "Condition": {
               "ForAnyValue:StringEquals": {
                    "aws:CalledVia": [
                         "appflow.amazonaws.com"
                    ]
          },
          "StringEqualsIgnoreCase": {
               "secretsmanager:ResourceTag/aws:secretsmanager:owningService":
 "appflow"
          }
     }
}
```

Identity and access management for Amazon AppFlow

AWS Identity and Access Management (IAM) is an AWS service that helps an administrator securely control access to AWS resources. IAM administrators control who can be *authenticated* (signed in)

and *authorized* (have permissions) to use Amazon AppFlow resources. IAM is an AWS service that you can use with no additional charge.

Topics

Audience

How you use AWS Identity and Access Management (IAM) differs, depending on the work that you do in Amazon AppFlow.

Service user – If you use the Amazon AppFlow service to do your job, then your administrator provides you with the credentials and permissions that you need. As you use more Amazon AppFlow features to do your work, you might need additional permissions. Understanding how access is managed can help you request the right permissions from your administrator. If you cannot access a feature in Amazon AppFlow, see Troubleshooting Amazon AppFlow identity and access.

Service administrator – If you're in charge of Amazon AppFlow resources at your company, you probably have full access to Amazon AppFlow. It's your job to determine which Amazon AppFlow features and resources your service users should access. You must then submit requests to your IAM administrator to change the permissions of your service users. Review the information on this page to understand the basic concepts of IAM. To learn more about how your company can use IAM with Amazon AppFlow, see How Amazon AppFlow works with IAM.

IAM administrator – If you're an IAM administrator, you might want to learn details about how you can write policies to manage access to Amazon AppFlow. To view example Amazon AppFlow

identity-based policies that you can use in IAM, see Identity-based policy examples for Amazon AppFlow.

Authenticating with identities

Authentication is how you sign in to AWS using your identity credentials. You must be *authenticated* (signed in to AWS) as the AWS account root user, as an IAM user, or by assuming an IAM role.

You can sign in to AWS as a federated identity by using credentials provided through an identity source. AWS IAM Identity Center (IAM Identity Center) users, your company's single sign-on authentication, and your Google or Facebook credentials are examples of federated identities. When you sign in as a federated identity, your administrator previously set up identity federation using IAM roles. When you access AWS by using federation, you are indirectly assuming a role.

Depending on the type of user you are, you can sign in to the AWS Management Console or the AWS access portal. For more information about signing in to AWS, see How to sign in to your AWS account in the *AWS Sign-In User Guide*.

If you access AWS programmatically, AWS provides a software development kit (SDK) and a command line interface (CLI) to cryptographically sign your requests by using your credentials. If you don't use AWS tools, you must sign requests yourself. For more information about using the recommended method to sign requests yourself, see Signing AWS API requests in the *IAM User Guide*.

Regardless of the authentication method that you use, you might be required to provide additional security information. For example, AWS recommends that you use multi-factor authentication (MFA) to increase the security of your account. To learn more, see Multi-factor authentication in the *AWS IAM Identity Center User Guide* and Using multi-factor authentication (MFA) in AWS in the *IAM User Guide*.

AWS account root user

When you create an AWS account, you begin with one sign-in identity that has complete access to all AWS services and resources in the account. This identity is called the AWS account *root user* and is accessed by signing in with the email address and password that you used to create the account. We strongly recommend that you don't use the root user for your everyday tasks. Safeguard your root user credentials and use them to perform the tasks that only the root user can perform. For the complete list of tasks that require you to sign in as the root user, see Tasks that require root user credentials in the *IAM User Guide*.

Federated identity

As a best practice, require human users, including users that require administrator access, to use federation with an identity provider to access AWS services by using temporary credentials.

A *federated identity* is a user from your enterprise user directory, a web identity provider, the AWS Directory Service, the Identity Center directory, or any user that accesses AWS services by using credentials provided through an identity source. When federated identities access AWS accounts, they assume roles, and the roles provide temporary credentials.

For centralized access management, we recommend that you use AWS IAM Identity Center. You can create users and groups in IAM Identity Center, or you can connect and synchronize to a set of users and groups in your own identity source for use across all your AWS accounts and applications. For information about IAM Identity Center, see What is IAM Identity Center? in the *AWS IAM Identity Center User Guide*.

IAM users and groups

An *IAM user* is an identity within your AWS account that has specific permissions for a single person or application. Where possible, we recommend relying on temporary credentials instead of creating IAM users who have long-term credentials such as passwords and access keys. However, if you have specific use cases that require long-term credentials with IAM users, we recommend that you rotate access keys. For more information, see Rotate access keys regularly for use cases that require long-term credentials in the *IAM User Guide*.

An *IAM group* is an identity that specifies a collection of IAM users. You can't sign in as a group. You can use groups to specify permissions for multiple users at a time. Groups make permissions easier to manage for large sets of users. For example, you could have a group named *IAMAdmins* and give that group permissions to administer IAM resources.

Users are different from roles. A user is uniquely associated with one person or application, but a role is intended to be assumable by anyone who needs it. Users have permanent long-term credentials, but roles provide temporary credentials. To learn more, see When to create an IAM user (instead of a role) in the *IAM User Guide*.

IAM roles

An *IAM role* is an identity within your AWS account that has specific permissions. It is similar to an IAM user, but is not associated with a specific person. You can temporarily assume an IAM role in

the AWS Management Console by switching roles. You can assume a role by calling an AWS CLI or AWS API operation or by using a custom URL. For more information about methods for using roles, see Using IAM roles in the *IAM User Guide*.

IAM roles with temporary credentials are useful in the following situations:

- **Federated user access** – To assign permissions to a federated identity, you create a role and define permissions for the role. When a federated identity authenticates, the identity is associated with the role and is granted the permissions that are defined by the role. For information about roles for federation, see Creating a role for a third-party Identity Provider in the *IAM User Guide*. If you use IAM Identity Center, you configure a permission set. To control what your identities can access after they authenticate, IAM Identity Center correlates the permission set to a role in IAM. For information about permissions sets, see Permission sets in the *AWS IAM Identity Center User Guide*.
- **Temporary IAM user permissions** – An IAM user or role can assume an IAM role to temporarily take on different permissions for a specific task.
- **Cross-account access** – You can use an IAM role to allow someone (a trusted principal) in a different account to access resources in your account. Roles are the primary way to grant cross-account access. However, with some AWS services, you can attach a policy directly to a resource (instead of using a role as a proxy). To learn the difference between roles and resource-based policies for cross-account access, see How IAM roles differ from resource-based policies in the *IAM User Guide*.
- **Cross-service access** – Some AWS services use features in other AWS services. For example, when you make a call in a service, it's common for that service to run applications in Amazon EC2 or store objects in Amazon S3. A service might do this using the calling principal's permissions, using a service role, or using a service-linked role.
  - **Forward access sessions (FAS)** – When you use an IAM user or role to perform actions in AWS, you are considered a principal. When you use some services, you might perform an action that then initiates another action in a different service. FAS uses the permissions of the principal calling an AWS service, combined with the requesting AWS service to make requests to downstream services. FAS requests are only made when a service receives a request that requires interactions with other AWS services or resources to complete. In this case, you must have permissions to perform both actions. For policy details when making FAS requests, see Forward access sessions.
  - **Service role** – A service role is an IAM role that a service assumes to perform actions on your behalf. An IAM administrator can create, modify, and delete a service role from within IAM. For

more information, see Creating a role to delegate permissions to an AWS service in the *IAM User Guide*.

- **Service-linked role** – A service-linked role is a type of service role that is linked to an AWS service. The service can assume the role to perform an action on your behalf. Service-linked roles appear in your AWS account and are owned by the service. An IAM administrator can view, but not edit the permissions for service-linked roles.

- **Applications running on Amazon EC2** – You can use an IAM role to manage temporary credentials for applications that are running on an EC2 instance and making AWS CLI or AWS API requests. This is preferable to storing access keys within the EC2 instance. To assign an AWS role to an EC2 instance and make it available to all of its applications, you create an instance profile that is attached to the instance. An instance profile contains the role and enables programs that are running on the EC2 instance to get temporary credentials. For more information, see Using an IAM role to grant permissions to applications running on Amazon EC2 instances in the *IAM User Guide*.

To learn whether to use IAM roles or IAM users, see When to create an IAM role (instead of a user) in the *IAM User Guide*.

Managing access using policies

You control access in AWS by creating policies and attaching them to AWS identities or resources. A policy is an object in AWS that, when associated with an identity or resource, defines their permissions. AWS evaluates these policies when a principal (user, root user, or role session) makes a request. Permissions in the policies determine whether the request is allowed or denied. Most policies are stored in AWS as JSON documents. For more information about the structure and contents of JSON policy documents, see Overview of JSON policies in the *IAM User Guide*.

Administrators can use AWS JSON policies to specify who has access to what. That is, which **principal** can perform **actions** on what **resources**, and under what **conditions**.

By default, users and roles have no permissions. To grant users permission to perform actions on the resources that they need, an IAM administrator can create IAM policies. The administrator can then add the IAM policies to roles, and users can assume the roles.

IAM policies define permissions for an action regardless of the method that you use to perform the operation. For example, suppose that you have a policy that allows the `iam:GetRole` action. A user with that policy can get role information from the AWS Management Console, the AWS CLI, or the AWS API.

Identity-based policies

Identity-based policies are JSON permissions policy documents that you can attach to an identity, such as an IAM user, group of users, or role. These policies control what actions users and roles can perform, on which resources, and under what conditions. To learn how to create an identity-based policy, see Creating IAM policies in the *IAM User Guide*.

Identity-based policies can be further categorized as *inline policies* or *managed policies*. Inline policies are embedded directly into a single user, group, or role. Managed policies are standalone policies that you can attach to multiple users, groups, and roles in your AWS account. Managed policies include AWS managed policies and customer managed policies. To learn how to choose between a managed policy or an inline policy, see Choosing between managed policies and inline policies in the *IAM User Guide*.

Resource-based policies

Resource-based policies are JSON policy documents that you attach to a resource. Examples of resource-based policies are IAM *role trust policies* and Amazon S3 *bucket policies*. In services that support resource-based policies, service administrators can use them to control access to a specific resource. For the resource where the policy is attached, the policy defines what actions a specified principal can perform on that resource and under what conditions. You must specify a principal in a resource-based policy. Principals can include accounts, users, roles, federated users, or AWS services.

Resource-based policies are inline policies that are located in that service. You can't use AWS managed policies from IAM in a resource-based policy.

Access control lists (ACLs)

Access control lists (ACLs) control which principals (account members, users, or roles) have permissions to access a resource. ACLs are similar to resource-based policies, although they do not use the JSON policy document format.

Amazon S3, AWS WAF, and Amazon VPC are examples of services that support ACLs. To learn more about ACLs, see Access control list (ACL) overview in the *Amazon Simple Storage Service Developer Guide*.

Other policy types

AWS supports additional, less-common policy types. These policy types can set the maximum permissions granted to you by the more common policy types.

- **Permissions boundaries** – A permissions boundary is an advanced feature in which you set the maximum permissions that an identity-based policy can grant to an IAM entity (IAM user or role). You can set a permissions boundary for an entity. The resulting permissions are the intersection of an entity's identity-based policies and its permissions boundaries. Resource-based policies that specify the user or role in the `Principal` field are not limited by the permissions boundary. An explicit deny in any of these policies overrides the allow. For more information about permissions boundaries, see Permissions boundaries for IAM entities in the *IAM User Guide*.
- **Service control policies (SCPs)** – SCPs are JSON policies that specify the maximum permissions for an organization or organizational unit (OU) in AWS Organizations. AWS Organizations is a service for grouping and centrally managing multiple AWS accounts that your business owns. If you enable all features in an organization, then you can apply service control policies (SCPs) to any or all of your accounts. The SCP limits permissions for entities in member accounts, including each AWS account root user. For more information about Organizations and SCPs, see How SCPs work in the *AWS Organizations User Guide*.
- **Session policies** – Session policies are advanced policies that you pass as a parameter when you programmatically create a temporary session for a role or federated user. The resulting session's permissions are the intersection of the user or role's identity-based policies and the session policies. Permissions can also come from a resource-based policy. An explicit deny in any of these policies overrides the allow. For more information, see Session policies in the *IAM User Guide*.

Multiple policy types

When multiple types of policies apply to a request, the resulting permissions are more complicated to understand. To learn how AWS determines whether to allow a request when multiple policy types are involved, see Policy evaluation logic in the *IAM User Guide*.

How Amazon AppFlow works with IAM

Before you use IAM to manage access to Amazon AppFlow, learn what IAM features are available to use with Amazon AppFlow.

IAM features you can use with Amazon AppFlow

IAM feature	Amazon AppFlow support
Identity-based policies	Yes
Resource-based policies	No
Policy actions	Yes
Policy resources	Yes
Policy condition keys	Partial
ACLs	No
ABAC (tags in policies)	Yes
Temporary credentials	Yes
Principal permissions	Yes
Service roles	No
Service-linked roles	No

To get a high-level view of how Amazon AppFlow and other AWS services work with most IAM features, see AWS services that work with IAM in the *IAM User Guide*.

Identity-based policies for Amazon AppFlow

Supports identity-based policies	Yes

Identity-based policies are JSON permissions policy documents that you can attach to an identity, such as an IAM user, group of users, or role. These policies control what actions users and roles can perform, on which resources, and under what conditions. To learn how to create an identity-based policy, see Creating IAM policies in the *IAM User Guide*.

With IAM identity-based policies, you can specify allowed or denied actions and resources as well as the conditions under which actions are allowed or denied. You can't specify the principal in an identity-based policy because it applies to the user or role to which it is attached. To learn about all of the elements that you can use in a JSON policy, see IAM JSON policy elements reference in the *IAM User Guide*.

Other required permissions in identity-based policies for Amazon AppFlow

Because Amazon AppFlow always encrypts data at rest and in motion, ensure that the user that is creating and running a flow has the following AWS KMS permissions in your identity-based policies.

Required AWS KMS permission	Description
kms:ListKeys	Controls permission to view the key ID and Amazon Resource Name (ARN) of all customer master keys (CMKs) in the account.
kms:DescribeKey	Controls permission to view detailed information about a CMK.
kms:ListAliases	Controls permission to view the aliases that are defined in the account. Aliases are optional friendly names that you can associate with CMKs.
kms:CreateGrant	Controls permission to add a grant to a CMK. You can use grants to add permissions without changing the key policy or IAM policy.
kms:ListGrants	Controls permission to view all grants for a CMK.

For more information about AWS Key Management Service (AWS KMS), see What is AWS KMS in the *AWS Key Management Service Developer Guide*.

For the complete list of AWS services that are integrated with AWS KMS, see AWS Service Integration.

Identity-based policy examples for Amazon AppFlow

To view examples of Amazon AppFlow identity-based policies, see Identity-based policy examples for Amazon AppFlow.

Resource-based policies within Amazon AppFlow

Supports resource-based policies	No

Resource-based policies are JSON policy documents that you attach to a resource. Examples of resource-based policies are IAM *role trust policies* and Amazon S3 *bucket policies*. In services that support resource-based policies, service administrators can use them to control access to a specific resource. For the resource where the policy is attached, the policy defines what actions a specified principal can perform on that resource and under what conditions. You must specify a principal in a resource-based policy. Principals can include accounts, users, roles, federated users, or AWS services.

To enable cross-account access, you can specify an entire account or IAM entities in another account as the principal in a resource-based policy. Adding a cross-account principal to a resource-based policy is only half of establishing the trust relationship. When the principal and the resource are in different AWS accounts, an IAM administrator in the trusted account must also grant the principal entity (user or role) permission to access the resource. They grant permission by attaching an identity-based policy to the entity. However, if a resource-based policy grants access to a principal in the same account, no additional identity-based policy is required. For more information, see How IAM roles differ from resource-based policies in the *IAM User Guide*.

Policy actions for Amazon AppFlow

Supports policy actions	Yes

Administrators can use AWS JSON policies to specify who has access to what. That is, which **principal** can perform **actions** on what **resources**, and under what **conditions**.

The `Action` element of a JSON policy describes the actions that you can use to allow or deny access in a policy. Policy actions usually have the same name as the associated AWS API operation. There are some exceptions, such as *permission-only actions* that don't have a matching API operation. There are also some operations that require multiple actions in a policy. These additional actions are called *dependent actions*.

Include actions in a policy to grant permissions to perform the associated operation.

To see a list of Amazon AppFlow actions, see Actions defined by Amazon AppFlow in the *Service Authorization Reference*.

Policy actions in Amazon AppFlow use the following prefix before the action.

```
appflow
```

To specify multiple actions in a single statement, separate them with commas.

```
"Action": [
      "appflow:CreateConnectorProfile",
      "appflow:CreateFlow"
         ]
```

You can specify multiple actions using wildcards (*). For example, to specify all actions that begin with the word `Describe`, include the following action.

```
"Action": "appflow:Describe*"
```

To view examples of Amazon AppFlow identity-based policies, see Identity-based policy examples for Amazon AppFlow.

Policy resources for Amazon AppFlow

Supports policy resources	Yes

Administrators can use AWS JSON policies to specify who has access to what. That is, which **principal** can perform **actions** on what **resources**, and under what **conditions**.

The `Resource` JSON policy element specifies the object or objects to which the action applies. Statements must include either a `Resource` or a `NotResource` element. As a best practice, specify a resource using its Amazon Resource Name (ARN). You can do this for actions that support a specific resource type, known as *resource-level permissions*.

For actions that don't support resource-level permissions, such as listing operations, use a wildcard (*) to indicate that the statement applies to all resources.

```
"Resource": "*"
```

To see a list of Amazon AppFlow resource types and their ARNs, see Resources defined by Amazon AppFlow in the *Service Authorization Reference*. To learn with which actions you can specify the ARN of each resource, see Actions defined by Amazon AppFlow.

An Amazon AppFlow connector profile has the following Amazon Resource Name (ARN) format.

```
arn:${Partition}:appflow:${Region}:${Account}:connectorprofile/${connector-profile-name}
```

An Amazon AppFlow flow has the following ARN format.

```
arn:${Partition}:appflow:${Region}:${Account}:flow/${flow-name}
```

For more information about the format of ARNs, see Amazon Resource Names (ARNs).

For example, to specify the `test-flow` flow in your statement, use the following ARN.

```
"Resource": "arn:aws:appflow:us-east-1:123456789012:flow/test-flow"
```

To specify all flows that belong to a specific account, use the wildcard (*).

```
"Resource": "arn:aws:appflow:us-east-1:123456789012:flow/*"
```

Some Amazon AppFlow actions, such as those for creating resources, cannot be performed on a specific resource. In those cases, you must use the wildcard (*).

```
"Resource": "*"
```

Many Amazon AppFlow API actions involve multiple resources. For example, `DescribeConnectorProfiles` returns a list of details for specified connector profiles that are accessible by the currently logged in AWS account. So an user must have permissions to view those connector profiles. To specify multiple resources in a single statement, separate the ARNs with commas.

```
"Resource": [
      "resource1",
      "resource2"
```

To see a list of Amazon AppFlow resource types and their ARNs, see Resources defined by Amazon AppFlow in the *IAM User Guide*. To learn about actions with which you can specify the ARN of each resource, see Actions defined by Amazon AppFlow.

Policy condition keys for Amazon AppFlow

Supports service-specific policy condition keys	Partial

Administrators can use AWS JSON policies to specify who has access to what. That is, which **principal** can perform **actions** on what **resources**, and under what **conditions**.

The `Condition` element (or `Condition` *block*) lets you specify conditions in which a statement is in effect. The `Condition` element is optional. You can create conditional expressions that use condition operators, such as equals or less than, to match the condition in the policy with values in the request.

If you specify multiple `Condition` elements in a statement, or multiple keys in a single `Condition` element, AWS evaluates them using a logical `AND` operation. If you specify multiple values for a single condition key, AWS evaluates the condition using a logical `OR` operation. All of the conditions must be met before the statement's permissions are granted.

You can also use placeholder variables when you specify conditions. For example, you can grant a user permission to access a resource only if it is tagged with their user name. For more information, see IAM policy elements: variables and tags in the *IAM User Guide*.

Amazon AppFlow does not provide any service-specific condition keys, but it does support using some global condition keys. To see all AWS global condition keys, see AWS global condition context keys in the *IAM User Guide*.

Access control lists (ACLs) in Amazon AppFlow

Supports ACLs	No

Access control lists (ACLs) control which principals (account members, users, or roles) have permissions to access a resource. ACLs are similar to resource-based policies, although they do not use the JSON policy document format.

Attribute-based access control (ABAC) with Amazon AppFlow

Supports ABAC (tags in policies)	Yes

Attribute-based access control (ABAC) is an authorization strategy that defines permissions based on attributes. In AWS, these attributes are called *tags*. You can attach tags to IAM entities (users or roles) and to many AWS resources. Tagging entities and resources is the first step of ABAC. Then you design ABAC policies to allow operations when the principal's tag matches the tag on the resource that they are trying to access.

ABAC is helpful in environments that are growing rapidly and helps with situations where policy management becomes cumbersome.

To control access based on tags, you provide tag information in the condition element of a policy using the `aws:ResourceTag/key-name`, `aws:RequestTag/key-name`, or `aws:TagKeys` condition keys.

If a service supports all three condition keys for every resource type, then the value is **Yes** for the service. If a service supports all three condition keys for only some resource types, then the value is **Partial**.

For more information about ABAC, see What is ABAC? in the *IAM User Guide*. To view a tutorial with steps for setting up ABAC, see Use attribute-based access control (ABAC) in the *IAM User Guide*.

Using temporary credentials with Amazon AppFlow

Supports temporary credentials	Yes

Some AWS services don't work when you sign in using temporary credentials. For additional information, including which AWS services work with temporary credentials, see AWS services that work with IAM in the *IAM User Guide*.

You are using temporary credentials if you sign in to the AWS Management Console using any method except a user name and password. For example, when you access AWS using your company's single sign-on (SSO) link, that process automatically creates temporary credentials. You also automatically create temporary credentials when you sign in to the console as a user and then

switch roles. For more information about switching roles, see Switching to a role (console) in the *IAM User Guide*.

You can manually create temporary credentials using the AWS CLI or AWS API. You can then use those temporary credentials to access AWS. AWS recommends that you dynamically generate temporary credentials instead of using long-term access keys. For more information, see Temporary security credentials in IAM.

Cross-service principal permissions for Amazon AppFlow

Supports forward access sessions (FAS)	Yes

When you use an IAM user or role to perform actions in AWS, you are considered a principal. When you use some services, you might perform an action that then initiates another action in a different service. FAS uses the permissions of the principal calling an AWS service, combined with the requesting AWS service to make requests to downstream services. FAS requests are only made when a service receives a request that requires interactions with other AWS services or resources to complete. In this case, you must have permissions to perform both actions. For policy details when making FAS requests, see Forward access sessions.

Service roles for Amazon AppFlow

Supports service roles	No

A service role is an IAM role that a service assumes to perform actions on your behalf. An IAM administrator can create, modify, and delete a service role from within IAM. For more information, see Creating a role to delegate permissions to an AWS service in the *IAM User Guide*.

Service-linked roles for Amazon AppFlow

Supports service-linked roles	No

A service-linked role is a type of service role that is linked to an AWS service. The service can assume the role to perform an action on your behalf. Service-linked roles appear in your AWS

account and are owned by the service. An IAM administrator can view, but not edit the permissions for service-linked roles.

Identity-based policy examples for Amazon AppFlow

By default, users and roles don't have permission to create or modify Amazon AppFlow resources. They also can't perform tasks by using the AWS Management Console, AWS Command Line Interface (AWS CLI), or AWS API. To grant users permission to perform actions on the resources that they need, an IAM administrator can create IAM policies. The administrator can then add the IAM policies to roles, and users can assume the roles.

To learn how to create an IAM identity-based policy by using these example JSON policy documents, see Creating IAM policies in the *IAM User Guide*.

For details about actions and resource types defined by Amazon AppFlow, including the format of the ARNs for each of the resource types, see Actions, resources, and condition keys for Amazon AppFlow in the *Service Authorization Reference*.

Topics

Policy best practices

Identity-based policies determine whether someone can create, access, or delete Amazon AppFlow resources in your account. These actions can incur costs for your AWS account. When you create or edit identity-based policies, follow these guidelines and recommendations:

- **Get started with AWS managed policies and move toward least-privilege permissions** – To get started granting permissions to your users and workloads, use the *AWS managed policies* that grant permissions for many common use cases. They are available in your AWS account. We recommend that you reduce permissions further by defining AWS customer managed policies

that are specific to your use cases. For more information, see AWS managed policies or AWS managed policies for job functions in the *IAM User Guide*.

- **Apply least-privilege permissions** – When you set permissions with IAM policies, grant only the permissions required to perform a task. You do this by defining the actions that can be taken on specific resources under specific conditions, also known as *least-privilege permissions*. For more information about using IAM to apply permissions, see Policies and permissions in IAM in the *IAM User Guide*.
- **Use conditions in IAM policies to further restrict access** – You can add a condition to your policies to limit access to actions and resources. For example, you can write a policy condition to specify that all requests must be sent using SSL. You can also use conditions to grant access to service actions if they are used through a specific AWS service, such as AWS CloudFormation. For more information, see IAM JSON policy elements: Condition in the *IAM User Guide*.
- **Use IAM Access Analyzer to validate your IAM policies to ensure secure and functional permissions** – IAM Access Analyzer validates new and existing policies so that the policies adhere to the IAM policy language (JSON) and IAM best practices. IAM Access Analyzer provides more than 100 policy checks and actionable recommendations to help you author secure and functional policies. For more information, see IAM Access Analyzer policy validation in the *IAM User Guide*.
- **Require multi-factor authentication (MFA)** – If you have a scenario that requires IAM users or a root user in your AWS account, turn on MFA for additional security. To require MFA when API operations are called, add MFA conditions to your policies. For more information, see Configuring MFA-protected API access in the *IAM User Guide*.

For more information about best practices in IAM, see Security best practices in IAM in the *IAM User Guide*.

Example 1: Allow IAM users full administrator access to Amazon AppFlow

This policy example provides full access to Amazon AppFlow, to all AWS services that are available as flow sources or destinations, and to AWS Key Management Service (AWS KMS).

```
{
    "Version": "2012-10-17",
    "Statement": [
        {
            "Effect": "Allow",
            "Action": "appflow:*",
```

```
            "Resource": "*"
        },
        {
            "Sid": "ListRolesForRedshift",
            "Effect": "Allow",
            "Action": "iam:ListRoles",
            "Resource": "*"
        },
        {
            "Sid": "KMSListAccess",
            "Action": [
                "kms:ListKeys",
                "kms:DescribeKey",
                "kms:ListAliases"
            ],
            "Effect": "Allow",
            "Resource": "*"
        },
        {
            "Sid": "KMSGrantAccess",
            "Effect": "Allow",
            "Action": [
                "kms:CreateGrant"
            ],
            "Resource": "*",
            "Condition": {
                "StringLike": {
                    "kms:ViaService": "appflow.*.amazonaws.com"
                },
                "Bool": {
                    "kms:GrantIsForAWSResource": "true"
                }
            }
        },
        {
            "Sid": "KMSListGrantAccess",
            "Effect": "Allow",
            "Action": [
                "kms:ListGrants"
            ],
            "Resource": "*",
            "Condition": {
                "StringLike": {
                    "kms:ViaService": "appflow.*.amazonaws.com"
```

```
                }
            }
        },
        {
            "Sid": "S3ReadAccess",
            "Effect": "Allow",
            "Action": [
                "s3:ListAllMyBuckets",
                "s3:ListBucket",
                "s3:GetBucketLocation",
                "s3:GetBucketPolicy"
            ],
            "Resource": "*"
        },
        {
            "Sid": "S3PutBucketPolicyAccess",
            "Effect": "Allow",
            "Action": [
                "s3:PutBucketPolicy"
            ],
            "Resource": "arn:aws:s3:::appflow-*"
        },
        {
            "Sid": "SecretsManagerCreateSecretAccess",
            "Effect": "Allow",
            "Action": "secretsmanager:CreateSecret",
            "Resource": "*",
            "Condition": {
                "StringLike": {
                    "secretsmanager:Name": "appflow!*"
                },
                "ForAnyValue:StringEquals": {
                    "aws:CalledVia": [
                        "appflow.amazonaws.com"
                    ]
                }
            }
        },
        {
            "Sid": "SecretsManagerPutResourcePolicyAccess",
            "Effect": "Allow",
            "Action": [
                "secretsmanager:PutResourcePolicy"
            ],
```

```
            "Resource": "*",
            "Condition": {
                "ForAnyValue:StringEquals": {
                    "aws:CalledVia": [
                        "appflow.amazonaws.com"
                    ]
                },
                "StringEqualsIgnoreCase": {
                    "secretsmanager:ResourceTag/aws:secretsmanager:owningService":
 "appflow"
                }
            }
        }
    ]
}
```

Example 2: Allow IAM users read-only access to Amazon AppFlow

This policy example provides read-only access to Amazon AppFlow.

For definitions of each action, see Actions defined by Amazon AppFlow.

```
{
    "Version": "2012-10-17",
    "Statement": [
        {
            "Effect": "Allow",
            "Action": [
            "appflow:DescribeConnectors",
            "appflow:DescribeConnectorProfiles",
            "appflow:DescribeFlows",
            "appflow:DescribeFlowExecution",
            "appflow:DescribeConnectorFields",
            "appflow:ListConnectorFields",
            "appflow:ListTagsForResource"
            ],
            "Resource": "*"
        }
    ]
}
```

Example 3: Grant access to permission-only actions

If you use a custom policy to grant users permission to use Amazon AppFlow instead of the managed policies provided, you must include specific permissions for the user or role to perform specific actions. For example, if the user or role needs to add or update a flow, the policy attached to the user or role must include permission to use the `UseConnectorProfile` permission-only action so that the user has permission to use the connection specified for the flow. You can specify that the user is allowed to use all connector profiles, or only a specific connector profile. The following example policy statement demonstrates how to grant access only to a specific connector profile by specifying the ARN to the connector profile named *test-profile* in the account 123456789012. You can modify this policy statement and include it in a custom policy for your environment, but this statement grants permission only to use the connector profile. The user or role needs additional permissions to perform other Amazon AppFlow actions.

```
{
    "Version": "2012-10-17",
    "Statement": [
        {
            "Sid": "AllowConnectionProfile",
            "Effect": "Allow",
            "Action": "appflow:UseConnectorProfile",
            "Resource": "arn:aws:appflow:us-east-1:123456789012:connectorprofile/test-
profile"
        }
    ]
}
```

Example 4: Allow users to view their own permissions

This example shows how you might create a policy that allows IAM users to view the inline and managed policies that are attached to their user identity. This policy includes permissions to complete this action on the console or programmatically using the AWS CLI or AWS API.

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

```
                "iam:GetUserPolicy",
                "iam:ListGroupsForUser",
                "iam:ListAttachedUserPolicies",
                "iam:ListUserPolicies",
                "iam:GetUser"
            ],
            "Resource": ["arn:aws:iam::*:user/${aws:username}"]
        },
        {
            "Sid": "NavigateInConsole",
            "Effect": "Allow",
            "Action": [
                "iam:GetGroupPolicy",
                "iam:GetPolicyVersion",
                "iam:GetPolicy",
                "iam:ListAttachedGroupPolicies",
                "iam:ListGroupPolicies",
                "iam:ListPolicyVersions",
                "iam:ListPolicies",
                "iam:ListUsers"
            ],
            "Resource": "*"
        }
    ]
}
```

Example 5: Allow Amazon AppFlow to access the AWS Glue Data Catalog

Before you can create a flow that catalogs its output data in the AWS Glue Data Catalog, you must grant Amazon AppFlow the required permissions. Amazon AppFlow requires permissions to create Data Catalog tables, databases, and partitions. To grant those permissions, create an IAM role that contains the following permissions policy and trust policy. Provide this role to Amazon AppFlow in the settings for your flows.

Example permissions policy

```
{
    "Version": "2012-10-17",
    "Statement": [
        {
            "Sid": "VisualEditor0",
            "Effect": "Allow",
            "Action": [
```

```
                "glue:BatchCreatePartition",
                "glue:CreatePartitionIndex",
                "glue:DeleteDatabase",
                "glue:GetTableVersions",
                "glue:GetPartitions",
                "glue:BatchDeletePartition",
                "glue:DeleteTableVersion",
                "glue:UpdateTable",
                "glue:DeleteTable",
                "glue:DeletePartitionIndex",
                "glue:GetTableVersion",
                "glue:CreatePartition",
                "glue:UntagResource",
                "glue:UpdatePartition",
                "glue:TagResource",
                "glue:UpdateDatabase",
                "glue:CreateTable",
                "glue:BatchUpdatePartition",
                "glue:GetTables",
                "glue:BatchGetPartition",
                "glue:GetDatabases",
                "glue:GetPartitionIndexes",
                "glue:GetTable",
                "glue:GetDatabase",
                "glue:GetPartition",
                "glue:CreateDatabase",
                "glue:BatchDeleteTableVersion",
                "glue:BatchDeleteTable",
                "glue:DeletePartition"
            ],
            "Resource": "*"
        }
    ]
}
```

Example trust policy

```
{
    "Version": "2012-10-17",
    "Statement": [
        {
            "Effect": "Allow",
            "Principal": {
```

```
                "Service": "appflow.amazonaws.com"
            },
            "Action": "sts:AssumeRole"
        }
    ]
}
```

Service role policies for Amazon AppFlow

A service role is an IAM role that a service assumes to perform actions on your behalf. An IAM administrator can create, modify, and delete a service role from within IAM. For more information, see Creating a role to delegate permissions to an AWS service in the *IAM User Guide*.

> **Warning**
>
> Changing the permissions for a service role might break Amazon AppFlow functionality. Edit service roles only when Amazon AppFlow provides guidance to do so.

Topics

- Allow Amazon AppFlow to access the AWS Glue Data Catalog
- Allow Amazon AppFlow to access Amazon Redshift databases with the Data API
- Allow Amazon Redshift to access your Amazon AppFlow data in Amazon S3

Allow Amazon AppFlow to access the AWS Glue Data Catalog

Before you can create a flow that catalogs its output data in the AWS Glue Data Catalog, you must grant Amazon AppFlow the required permissions. Amazon AppFlow requires permissions to create Data Catalog tables, databases, and partitions. To grant the required permissions, you provide an IAM role that contains the following permissions policy and trust policy. You provide this role to Amazon AppFlow in the settings for your flows.

Example permissions policy

```
{
  "Version": "2012-10-17",
  "Statement": [
    {
```

```
      "Sid": "VisualEditor0",
      "Effect": "Allow",
      "Action": [
        "glue:BatchCreatePartition",
        "glue:CreatePartitionIndex",
        "glue:DeleteDatabase",
        "glue:GetTableVersions",
        "glue:GetPartitions",
        "glue:BatchDeletePartition",
        "glue:DeleteTableVersion",
        "glue:UpdateTable",
        "glue:DeleteTable",
        "glue:DeletePartitionIndex",
        "glue:GetTableVersion",
        "glue:CreatePartition",
        "glue:UntagResource",
        "glue:UpdatePartition",
        "glue:TagResource",
        "glue:UpdateDatabase",
        "glue:CreateTable",
        "glue:BatchUpdatePartition",
        "glue:GetTables",
        "glue:BatchGetPartition",
        "glue:GetDatabases",
        "glue:GetPartitionIndexes",
        "glue:GetTable",
        "glue:GetDatabase",
        "glue:GetPartition",
        "glue:CreateDatabase",
        "glue:BatchDeleteTableVersion",
        "glue:BatchDeleteTable",
        "glue:DeletePartition"
      ],
      "Resource": "*"
    }
  ]
}
```

Example trust policy

```
{
  "Version": "2012-10-17",
  "Statement": [
```

```
    {
      "Effect": "Allow",
      "Principal":
      {
        "Service": "appflow.amazonaws.com"
      },
      "Action": "sts:AssumeRole"
    }
  ]
}
```

Allow Amazon AppFlow to access Amazon Redshift databases with the Data API

Before you can create a flow that transfers data to an Amazon Redshift database by using the Amazon Redshift Data API, you must grant Amazon AppFlow the required permissions. Amazon AppFlow requires permissions to do the following with your Amazon Redshift database:

- Gain access through temporary credentials
- Run SQL statements

To grant those permissions, you create an IAM role that contains the permissions policy and trust policy below. You provide this role to Amazon AppFlow in the settings for your Amazon Redshift connections.

Example permissions policy

```
{
  "Version": "2012-10-17",
  "Statement": [
    {
      "Sid": "DataAPIPermissions",
      "Effect": "Allow",
      "Action": [
        "redshift-data:ExecuteStatement",
        "redshift-data:GetStatementResult",
        "redshift-data:DescribeStatement"
      ],
      "Resource": "*"
    },
    {
      "Sid": "GetCredentialsForAPIUser",
```

```
      "Effect": "Allow",
      "Action": "redshift:GetClusterCredentials",
      "Resource": [
        "arn:aws:redshift:*:*:dbname:*/*",
        "arn:aws:redshift:*:*:dbuser:*/*"
      ]
    },
    {
      "Sid": "GetCredentialsForServerless",
      "Effect": "Allow",
      "Action": "redshift-serverless:GetCredentials",
      "Resource": "*",
      "Condition":
      {
        "StringLike":
        {
          "aws:ResourceTag/RedshiftDataFullAccess": "*"
        }
      }
    },
    {
      "Sid": "DenyCreateAPIUser",
      "Effect": "Deny",
      "Action": "redshift:CreateClusterUser",
      "Resource": [
        "arn:aws:redshift:*:*:dbuser:*/*"
      ]
    },
    {
      "Sid": "ServiceLinkedRole",
      "Effect": "Allow",
      "Action": "iam:CreateServiceLinkedRole",
      "Resource": "arn:aws:iam::*:role/aws-service-role/redshift-data.amazonaws.com/
AWSServiceRoleForRedshift",
      "Condition":
      {
        "StringLike":
        {
          "iam:AWSServiceName": "redshift-data.amazonaws.com"
        }
      }
    }
  ]
```

```
}
```

Tag condition for Amazon Redshift Serverless resources

In the example permissions policy, the statement that grants the `redshift-serverless:GetCredentials` action has the following condition block:

```
"Condition":
{
  "StringLike":
  {
    "aws:ResourceTag/RedshiftDataFullAccess": "*"
  }
}
```

In IAM policies, `condition` is an optional element that specifies conditions for when a policy is in effect. With this condition block, the policy allows Amazon AppFlow to get temporary credentials for only those Amazon Redshift Serverless resources that meet the condition. To meet the condition, the resources must be tagged with the key `RedshiftDataFullAccess`. Therefore, to use this policy, you must apply that tag to the appropriate workgroup.

For more information about tagging resources in Amazon Redshift Serverless, see Tagging resources overview in the *Amazon Redshift Management Guide*.

Example trust policy

```
{
  "Version": "2012-10-17",
  "Statement": [
    {
      "Effect": "Allow",
      "Principal":
      {
        "Service": "appflow.amazonaws.com"
      },
      "Action": "sts:AssumeRole"
    }
  ]
}
```

For more information about authorizing access to the Data API, see Authorizing access to the Amazon Redshift Data API in the *Amazon Redshift Management Guide*.

Allow Amazon Redshift to access your Amazon AppFlow data in Amazon S3

When you run a flow that transfers data to an Amazon Redshift database, Amazon AppFlow first stores the data in an S3 bucket that you provide. Then, Amazon Redshift gets the data from the S3 bucket. For the flow to run successfully, you must authorize Amazon Redshift to get and decrypt the data. To grant those permission, you create an IAM role that contains the permissions policies and trust policy below.

You provide the IAM role in the settings when you create an Amazon Redshift connection in Amazon AppFlow.

You must also associate the role with the Amazon Redshift cluster that receives the data that you transfer with Amazon AppFlow. For the steps to associate the role, see Associating IAM roles with clusters in the *Amazon Redshift Management Guide*.

Example permissions policies

To provide the required permissions to Amazon Redshift, you can attach the following permissions policies to the IAM role:

- The AWS managed policy AmazonS3ReadOnlyAccess. This policy is owned and maintained by AWS. It grants read-only access to Amazon S3. To view the permissions for this policy, see AmazonS3ReadOnlyAccess in the AWS Management Console.
- A policy that permits Amazon Redshift to decrypt the encrypted data that Amazon AppFlow stores in Amazon S3, such as the following example:

```
{
  "Version": "2012-10-17",
  "Statement": [
    {
      "Effect": "Allow",
      "Action": "kms:Decrypt",
      "Resource": "*"
    }
  ]
}
```

Example trust policy

```
{
  "Version": "2012-10-17",
  "Statement": [
    {
      "Effect": "Allow",
      "Principal":
      {
        "Service": "redshift.amazonaws.com"
      },
      "Action": "sts:AssumeRole"
    }
  ]
}
```

Amazon S3 Bucket Policies for Amazon AppFlow

By default, all Amazon S3 buckets and objects are private. Only the resource owner, the AWS account that created the bucket, can access the bucket and any objects that it contains. However, the resource owner can choose to grant access permissions to other resources and users by writing an access policy.

If you want to create or modify an Amazon S3 bucket to be used as a source or destination in a flow, you must further modify the bucket policy. To read from or write to an Amazon S3 bucket, Amazon AppFlow must have the the following permissions. Amazon AppFlow automatically attaches the required permissions to a bucket when you select an Amazon S3 bucket as either the source or destination in a flow in the Amazon AppFlow console. If using the Amazon AppFlow SDK these policies must be added manually.

Amazon AppFlow Required Amazon S3 Policies

Amazon AppFlow requires a permission policy with the following attributes:

- The statement SID
- The bucket name
- The service principal name for Amazon AppFlow.
- The resources required for Amazon AppFlow: the bucket and all of its contents
- The required actions that Amazon AppFlow needs to take, which varies depending on if the bucket is used as a source or destination

The following policy allows Amazon AppFlow to access an Amazon S3 bucket used as the source in a flow. It contains all of the necessary actions Amazon AppFlow needs to read objects from the specified bucket.

Amazon S3 bucket policy

```
{
    "Statement": [
        {
            "Effect": "Allow",
            "Sid": "AllowAppFlowSourceActions",
            "Principal": {
                "Service": "appflow.amazonaws.com"
            },
            "Action": [
                "s3:ListBucket",
                "s3:GetObject"
            ],
            "Resource": [
                "arn:aws:s3:::myBucketName",
                "arn:aws:s3:::myBucketName/*"
            ]
        }
    ]
}
```

The following policy allows Amazon AppFlow to access an Amazon S3 bucket used as the destination in a flow. It contains all of the necessary actions Amazon AppFlow needs to put objects into an Amazon S3 bucket.

```
{
    "Statement": [
        {
            "Effect": "Allow",
            "Sid": "AllowAppFlowDestinationActions",
            "Principal": {
                "Service": "appflow.amazonaws.com"
            },
            "Action": [
```

```
                "s3:PutObject",
                "s3:AbortMultipartUpload",
                "s3:ListMultipartUploadParts",
                "s3:ListBucketMultipartUploads",
                "s3:GetBucketAcl",
                "s3:PutObjectAcl"
            ],
            "Resource": [
                "arn:aws:s3:::myBucketName",
                "arn:aws:s3:::myBucketName/*"
            ]
        }
    ]
}
```

Cross-service confused deputy prevention

The Confused Deputy problem is a security issue where an entity that doesn't have permission to perform an action can coerce a more-privileged entity to perform that action in AWS. Cross-service impersonation is one means of creating a confused deputy problem. Cross-service impersonation can occur when one service (the *calling service*) calls another service (the *called service*). The called service can be manipulated to use its permissions to act on another customer's resources in a way it should not otherwise have permission to do. To prevent this, AWS provides tools that help you protect your data for all services with service principals that have been given access to resources in your account.

We recommend using the `aws:SourceArn` and `aws:SourceAccount` global condition context keys in resource policies to limit the permissions that Amazon AppFlow gives another service to the resource. If you use both global condition context keys, the `aws:SourceAccount` value and the account in the `aws:SourceArn` value must use the same account ID when used in the same policy statement.

The value of `aws:SourceArn` must be the resource that is accessing the Amazon S3 bucket. The most effective way to protect against the confused deputy problem is to use the `aws:SourceArn` global condition context key with the full ARN of the resource. For Amazon AppFlow, these will be the ARNs of the flows created with Amazon S3 as a source or destination. If you would like to specify multiple different flows, you may use a list of different ARNs for the `aws:SourceArn` context key. Additionally, you may use the `aws:SourceArn` global context condition key with wildcards (*). For example, `arn:aws:servicename::123456789012:*`. The following example

shows how you can use the `aws:SourceArn` and `aws:SourceAccount` global condition context keys in Amazon S3 to prevent the confused deputy problem when Amazon S3 is the destination. (Note that, when Amazon AppFlow creates the policy for you during flow creation, it automatically populates the `aws:SourceAccount` condition key.)

```
{
    "Statement": [
        {
            "Effect": "Allow",
            "Sid": "AllowAppFlowDestinationActions",
            "Principal": {
                "Service": "appflow.amazonaws.com"
            },
            "Action": [
                "s3:PutObject",
                "s3:AbortMultipartUpload",
                "s3:ListMultipartUploadParts",
                "s3:ListBucketMultipartUploads",
                "s3:GetBucketAcl",
                "s3:PutObjectAcl"
            ],
            "Resource": [
                "arn:aws:s3:::myBucketName",
                "arn:aws:s3:::myBucketName/*"
            ],
            "Condition" : {
                "StringEquals" : {
                    "aws:SourceAccount" : "myAccountId"
                },
                "ArnLike" : {
                    "aws:SourceArn": ["arn:aws:appflow::myAccountId:flow/flow-name-1",
                                      "arn:aws:appflow::myAccountId:flow/flow-name-2"]
                }
            }
        }
    ]
}
```

Cross-service confused deputy prevention for DescribeConnectorEntity

As part of its DescribeConnectorEntity API, Amazon AppFlow will make calls to Amazon S3 in order to get information about specific objects in a customer's Amazon S3 bucket. The DescribeConnectorEntity API is invoked either through the direct usage of the Amazon AppFlow SDK, or via the Amazon AppFlow console when using an Amazon S3 bucket as the source during flow creation. This API requires the following permissions:

- `S3:GetObject`
- `S3:ListBucket`

These calls are not associated with a particular resource. As such, when using `aws:SourceArn` in a bucket policy granting these permissions to Amazon AppFlow, one should use the global context condition key with wildcard if planning to use Amazon AppFlow's console or DescribeConnectorEntity API with the Amazon S3 bucket the policy is attached to.

AWS managed policies for Amazon AppFlow

An AWS managed policy is a standalone policy that is created and administered by AWS. AWS managed policies are designed to provide permissions for many common use cases so that you can start assigning permissions to users, groups, and roles.

Keep in mind that AWS managed policies might not grant least-privilege permissions for your specific use cases because they're available for all AWS customers to use. We recommend that you reduce permissions further by defining customer managed policies that are specific to your use cases.

You cannot change the permissions defined in AWS managed policies. If AWS updates the permissions defined in an AWS managed policy, the update affects all principal identities (users, groups, and roles) that the policy is attached to. AWS is most likely to update an AWS managed policy when a new AWS service is launched or new API operations become available for existing services.

For more information, see AWS managed policies in the *IAM User Guide*.

AWS managed policy: AmazonAppFlowFullAccess

You can attach the `AmazonAppFlowFullAccess` policy to your IAM identities.

This policy grants administrative permissions that allow you to view, create, update, run, and delete flows, and also to list, create, and delete connections. In addition, this policy grants access to the API actions that are required to configure other AWS services as a source or destinations. This policy also provides access to AWS Key Management Service to allow use of customer managed CMKs for encryption. It does not grant the ability to add other users.

> **Note**
>
> This policy automatically grants read and write permissions to S3 buckets with an `appflow-` prefix only. You will not have access rights to any other S3 buckets without this prefix.

Permissions details

This policy includes the following permissions.

- `appflow` – Allows principals to have full access to Amazon AppFlow. This is required so that you can view, create, update, run, and delete flows, in addition to list, create, and delete connections.
- `iam` – Allows principals to list IAM roles from Amazon Redshift. This is required so that you can use Amazon Redshift as a flow destination.
- `s3` – Allows principals to access buckets, bucket locations, and bucket policies for Amazon Simple Storage Service (Amazon S3). This is required so that you can use Amazon S3 as a flow source or destination (or use it to support the use of another source or destination).
- `kms` – Allows principals to view the key ID and Amazon Resource Name (ARN) of all the customer master keys (CMKs) in the account, view detailed information about a CMK, view the aliases that are defined in the account, and add a grant to a CMK. This is required so that you can use customer managed CMKs for encryption.
- `secretsmanager` – Allows principals to create secrets in Secrets Manager. This is required so that Amazon AppFlow can store the encrypted credentials that you use to connect to flow source and destination applications in your Secrets Manager account.
- `lambda` – Allows principals to list all the functions in customer account. This is required so that you can register new connectors

```
{
    "Version": "2012-10-17",
```

```
    "Statement": [
        {
            "Effect": "Allow",
            "Action": "appflow:*",
            "Resource": "*"
        },
        {
            "Sid": "ListRolesForRedshift",
            "Effect": "Allow",
            "Action": "iam:ListRoles",
            "Resource": "*"
        },
        {
            "Sid": "KMSListAccess",
            "Action": [
                "kms:ListKeys",
                "kms:DescribeKey",
                "kms:ListAliases"
            ],
            "Effect": "Allow",
            "Resource": "*"
        },
        {
            "Sid": "KMSGrantAccess",
            "Effect": "Allow",
            "Action": [
                "kms:CreateGrant"
            ],
            "Resource": "*",
            "Condition": {
                "StringLike": {
                    "kms:ViaService": "appflow.*.amazonaws.com"
                },
                "Bool": {
                    "kms:GrantIsForAWSResource": "true"
                }
            }
        },
        {
            "Sid": "KMSListGrantAccess",
            "Effect": "Allow",
            "Action": [
                "kms:ListGrants"
            ],
```

```
            "Resource": "*",
            "Condition": {
                "StringLike": {
                    "kms:ViaService": "appflow.*.amazonaws.com"
                }
            }
        },
        {
            "Sid": "S3ReadAccess",
            "Effect": "Allow",
            "Action": [
                "s3:ListAllMyBuckets",
                "s3:ListBucket",
                "s3:GetBucketLocation",
                "s3:GetBucketPolicy"
            ],
            "Resource": "*"
        },
        {
            "Sid": "S3PutBucketPolicyAccess",
            "Effect": "Allow",
            "Action": [
                "s3:PutBucketPolicy"
            ],
            "Resource": "arn:aws:s3:::appflow-*"
        },
        {
            "Sid": "SecretsManagerCreateSecretAccess",
            "Effect": "Allow",
            "Action": "secretsmanager:CreateSecret",
            "Resource": "*",
            "Condition": {
                "StringLike": {
                    "secretsmanager:Name": "appflow!*"
                },
                "ForAnyValue:StringEquals": {
                    "aws:CalledVia": [
                        "appflow.amazonaws.com"
                    ]
                }
            }
        },
        {
            "Sid": "SecretsManagerPutResourcePolicyAccess",
```

```
            "Effect": "Allow",
            "Action": [
                "secretsmanager:PutResourcePolicy"
            ],
            "Resource": "*",
            "Condition": {
                "ForAnyValue:StringEquals": {
                    "aws:CalledVia": [
                        "appflow.amazonaws.com"
                    ]
                },
                "StringEqualsIgnoreCase": {
                    "secretsmanager:ResourceTag/aws:secretsmanager:owningService":
 "appflow"
                }
            }
        },
        {
            "Sid": "LambdaListFunctions",
            "Effect": "Allow",
            "Action": [
                "lambda:ListFunctions"
            ],
            "Resource": "*"
        }
    ]
}
```

AWS managed policy: AmazonAppFlowReadOnlyAccess

You can attach the `AmazonAppFlowReadOnlyAccess` policy to your IAM identities.

This policy grants read-only permissions that allow you to view flows and connections in an AWS account. This policy doesn't allow you to create or delete flows or connections, and it doesn't grant the ability to add other users or grant access to other AWS services.

Permissions details

This policy includes the following permissions.

- `appflow` – Allows principals to describe and list resources from Amazon AppFlow. This is required so that Amazon AppFlow users can view connectors, connector profiles, flows, and their associated metadata.

```
{
  "Version": "2012-10-17",
  "Statement":
  [
    {
      "Effect": "Allow",
      "Action":
      [
        "appflow:DescribeConnector",
        "appflow:DescribeConnectors",
        "appflow:DescribeConnectorProfiles",
        "appflow:DescribeFlows",
        "appflow:DescribeFlowExecution",
        "appflow:DescribeConnectorFields",
        "appflow:ListConnectors",
        "appflow:ListConnectorFields",
        "appflow:ListTagsForResource"
      ],
      "Resource": "*"
    }
  ]
}
```

Amazon AppFlow updates to AWS managed policies

View details about updates to AWS managed policies for Amazon AppFlow since this service began tracking these changes. For automatic alerts about changes to this page, subscribe to the RSS feed on the Amazon AppFlow Document history page.

Change	Description	Date
AmazonAppFlowFullAccess – Update to an existing policy	Amazon AppFlow now allows the `lambda:ListFunctions` action in the AmazonAppFlowFullAccess policy.	03/01/2022
AmazonAppFlowReadOnlyAccess – Update to an existing policy	Amazon AppFlow now allows the `appflow:DescribeConnector` and `appflow:ListConnectors` actions in the AmazonAppFlowReadOnlyAccess policy.	03/01/2022

Change	Description	Date
Amazon AppFlow started tracking changes	Amazon AppFlow started tracking changes for its AWS managed policies.	03/26/2021

Troubleshooting Amazon AppFlow identity and access

Use the following information to help you diagnose and fix common issues that you might encounter when working with Amazon AppFlow and IAM.

Topics

- I am not authorized to perform an action in Amazon AppFlow
- I am not authorized to perform iam:PassRole
- I'm an administrator and want to allow others to access Amazon AppFlow
- I want to allow people outside of my AWS account to access my Amazon AppFlow resources

I am not authorized to perform an action in Amazon AppFlow

If you receive an error that you're not authorized to perform an action, your policies must be updated to allow you to perform the action.

The following example error occurs when the `mateojackson` IAM user tries to use the console to view details about a fictional *`my-example-widget`* resource but doesn't have the fictional `appflow:`*`GetWidget`* permissions.

```
User: arn:aws:iam::123456789012:user/mateojackson is not authorized to perform:
 appflow:GetWidget on resource: my-example-widget
```

In this case, the policy for the `mateojackson` user must be updated to allow access to the *`my-example-widget`* resource by using the `appflow:`*`GetWidget`* action.

If you need help, contact your AWS administrator. Your administrator is the person who provided you with your sign-in credentials.

I am not authorized to perform iam:PassRole

If you receive an error that you're not authorized to perform the `iam:PassRole` action, your policies must be updated to allow you to pass a role to Amazon AppFlow.

Some AWS services allow you to pass an existing role to that service instead of creating a new service role or service-linked role. To do this, you must have permissions to pass the role to the service.

The following example error occurs when an IAM user named `marymajor` tries to use the console to perform an action in Amazon AppFlow. However, the action requires the service to have permissions that are granted by a service role. Mary does not have permissions to pass the role to the service.

```
User: arn:aws:iam::123456789012:user/marymajor is not authorized to perform:
 iam:PassRole
```

In this case, Mary's policies must be updated to allow her to perform the `iam:PassRole` action.

If you need help, contact your AWS administrator. Your administrator is the person who provided you with your sign-in credentials.

I'm an administrator and want to allow others to access Amazon AppFlow

To allow others to access Amazon AppFlow, you must create an IAM entity (user or role) for the person or application that needs access. They will use the credentials for that entity to access AWS. You must then attach a policy to the entity that grants them the correct permissions in Amazon AppFlow.

To get started right away, see Creating your first IAM delegated user and group in the *IAM User Guide*.

I want to allow people outside of my AWS account to access my Amazon AppFlow resources

You can create a role that users in other accounts or people outside of your organization can use to access your resources. You can specify who is trusted to assume the role. For services that support resource-based policies or access control lists (ACLs), you can use those policies to grant people access to your resources.

To learn more, consult the following:

- To learn whether Amazon AppFlow supports these features, see How Amazon AppFlow works with IAM.
- To learn how to provide access to your resources across AWS accounts that you own, see Providing access to an IAM user in another AWS account that you own in the *IAM User Guide*.
- To learn how to provide access to your resources to third-party AWS accounts, see Providing access to AWS accounts owned by third parties in the *IAM User Guide*.
- To learn how to provide access through identity federation, see Providing access to externally authenticated users (identity federation) in the *IAM User Guide*.
- To learn the difference between using roles and resource-based policies for cross-account access, see How IAM roles differ from resource-based policies in the *IAM User Guide*.

Compliance validation for Amazon AppFlow

To learn whether an AWS service is within the scope of specific compliance programs, see AWS services in Scope by Compliance Program and choose the compliance program that you are interested in. For general information, see AWS Compliance Programs.

You can download third-party audit reports using AWS Artifact. For more information, see Downloading Reports in AWS Artifact.

Your compliance responsibility when using AWS services is determined by the sensitivity of your data, your company's compliance objectives, and applicable laws and regulations. AWS provides the following resources to help with compliance:

- Security and Compliance Quick Start Guides – These deployment guides discuss architectural considerations and provide steps for deploying baseline environments on AWS that are security and compliance focused.
- Architecting for HIPAA Security and Compliance on Amazon Web Services – This whitepaper describes how companies can use AWS to create HIPAA-eligible applications.

  > **Note**
  >
  > Not all AWS services are HIPAA eligible. For more information, see the HIPAA Eligible Services Reference.

- AWS Compliance Resources – This collection of workbooks and guides might apply to your industry and location.

- AWS Customer Compliance Guides – Understand the shared responsibility model through the lens of compliance. The guides summarize the best practices for securing AWS services and map the guidance to security controls across multiple frameworks (including National Institute of Standards and Technology (NIST), Payment Card Industry Security Standards Council (PCI), and International Organization for Standardization (ISO)).
- Evaluating Resources with Rules in the *AWS Config Developer Guide* – The AWS Config service assesses how well your resource configurations comply with internal practices, industry guidelines, and regulations.
- AWS Security Hub – This AWS service provides a comprehensive view of your security state within AWS. Security Hub uses security controls to evaluate your AWS resources and to check your compliance against security industry standards and best practices. For a list of supported services and controls, see Security Hub controls reference.
- Amazon GuardDuty – This AWS service detects potential threats to your AWS accounts, workloads, containers, and data by monitoring your environment for suspicious and malicious activities. GuardDuty can help you address various compliance requirements, like PCI DSS, by meeting intrusion detection requirements mandated by certain compliance frameworks.
- AWS Audit Manager – This AWS service helps you continuously audit your AWS usage to simplify how you manage risk and compliance with regulations and industry standards.

Resilience in Amazon AppFlow

The AWS global infrastructure is built around AWS Regions and Availability Zones. Regions provide multiple physically separated and isolated Availability Zones, which are connected through low-latency, high-throughput, and highly redundant networking. With Availability Zones, you can design and operate applications and databases that automatically fail over between zones without interruption. Availability Zones are more highly available, fault tolerant, and scalable than traditional single or multiple data center infrastructures.

For more information about AWS Regions and Availability Zones, see AWS Global Infrastructure.

Infrastructure security in Amazon AppFlow

As a managed service, Amazon AppFlow is protected by the AWS global network security procedures that are described in the Amazon Web Services: Overview of Security Processes whitepaper.

You use AWS published API calls to access Amazon AppFlow through the network. Clients must support Transport Layer Security (TLS) 1.0 or later. We recommend TLS 1.2 or later. Clients must also support cipher suites with perfect forward secrecy (PFS) such as Ephemeral Diffie-Hellman (DHE) or Elliptic Curve Ephemeral Diffie-Hellman (ECDHE). Most modern systems such as Java 7 and later support these modes.

Additionally, requests must be signed using an access key ID and a secret access key that is associated with an IAM principal. Or you can use the AWS Security Token Service (AWS STS) to generate temporary security credentials to sign requests.

Quotas for Amazon AppFlow

Your AWS account has default quotas, formerly referred to as limits, for each AWS service. Unless otherwise noted, each quota is Region-specific. You can request increases for some quotas, and other quotas cannot be increased.

Flows

Your AWS account has the following quotas related to Amazon AppFlow.

- Number of flows per account: 1,000
- Number of flow runs per month: 10 million
- Number of concurrent flow runs at any time: 1000

Flow runs

The maximum time that a flow can run is 48 hours.

The following source applications place quotas on the amount of data they can process:

- Amplitude: 25 MB of data per flow run.
- Marketo:
  - Data import from Marketo: 1 GB per flow run. To transfer over 1 GB of data, you can split your workload into multiple flows by applying the appropriate filters for each flow.
  - Data export to Marketo: You can insert up to 500 MB of records into Marketo in a single flow run. If your source is Amazon S3, each CSV file cannot exceed 125 MB in size. However, you can drop multiple CSV files (each less than 125 MB) into the source bucket or folder, and Amazon AppFlow will transfer all the data to Marketo in a single flow run.
- Salesforce:
  - Events from Salesforce: Amazon AppFlow currently uses a third-party library, which is allocated a fixed buffer size of 10 MB. If a surge of events on a single event channel (such as `AccountChangeEvent`) exceeds the buffer size, then events might be dropped. You can request a larger buffer by filing a support case in the AWS Management Console. When you create the case, choose the **Technical support** case type. For **Description**, provide the ARN of your flow and the buffer size that you request. For more information, see Creating a support case.

To determine a suitable buffer size, calculate the maximum volume of burst data that you anticipate. To do that, multiply the average event size with the maximum number of burst events that can occur in a 5-second window.

- Data export to Salesforce: You can insert, update, or upsert up to 500 MB of records into Salesforce in a single flow run. If your source is Amazon S3, each CSV file cannot exceed 125 MB in size. However, you can drop multiple CSV files (each less than 125 MB) into the source bucket or folder, and Amazon AppFlow will transfer all the data to Salesforce in a single flow run.

- ServiceNow: 100,000 records per flow run.
- Google Analytics: 9 dimensions and 10 metrics per flow run
- Amazon EventBridge: Events are limited to 256 KB. If your event exceeds this size, Amazon AppFlow publishes a summary event with a pointer to the S3 bucket where you can get the full event.

Flow frequency

Amazon AppFlow can run schedule-triggered flows up to once per minute. However, the following source applications place quotas on how frequently you can run a schedule-triggered flow:

- Amazon S3: Maximum frequency of one flow run per minute
- Amplitude: Maximum frequency of one flow run per day
- Datadog: Maximum frequency of one flow run per minute
- Dynatrace: Maximum frequency of one flow run per minute
- Google Analytics: Maximum frequency of one flow run per day
- Infor Nexus: Maximum frequency of one flow run per minute
- Marketo: Maximum frequency of one flow run per hour
- Salesforce: Maximum frequency of one flow run per minute
- Salesforce Pardot: Maximum frequency of one flow run per minute
- ServiceNow: Maximum frequency of one flow run per minute
- Singular: Maximum frequency of one flow run per hour
- Slack: Maximum frequency of one flow run per minute
- Trend Micro: Maximum frequency of one flow run per hour
- Veeva: Maximum frequency of one flow run per minute

- Zendesk: Maximum frequency of one flow run per minute

Source and destination API limits

The API calls that Amazon AppFlow makes to data sources and destinations count against any API limits for that application. For example, if you set up an hourly flow that pulls five pages of data from Salesforce, Amazon AppFlow will make a total of 120 daily API calls (24x5=120). This will count against your 24-hour Salesforce API limit. The exact SalesForce API limit in this example would vary depending on your edition and number of licenses.

Amazon AppFlow API limits

There is a soft quota of 100 connector profiles per AWS account. If you need more connector profiles than this quota allows, you can submit a request to the Amazon AppFlow team through the Amazon AppFlow support channel.

Logging Amazon AppFlow API calls with AWS CloudTrail

Amazon AppFlow is integrated with AWS CloudTrail, a service that provides a record of actions taken by a user, role, or an AWS service in Amazon AppFlow. CloudTrail captures all API calls for Amazon AppFlow as events. The calls captured include calls from the Amazon AppFlow console and code calls to the Amazon AppFlow API operations. If you create a trail, you can enable continuous delivery of CloudTrail events to an Amazon S3 bucket, including events for Amazon AppFlow. If you don't configure a trail, you can still view the most recent events in the CloudTrail console in **Event history**. Using the information collected by CloudTrail, you can determine the request that was made to Amazon AppFlow, the IP address from which the request was made, who made the request, when it was made, and additional details.

To learn more about CloudTrail, see the AWS CloudTrail User Guide.

Amazon AppFlow information in CloudTrail

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

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

- Overview for Creating a Trail
- CloudTrail Supported Services and Integrations
- Configuring Amazon SNS Notifications for CloudTrail
- Receiving CloudTrail Log Files from Multiple Regions
- Receiving CloudTrail Log Files from Multiple Accounts

All actions are logged by CloudTrail and are documented in the Amazon AppFlow API Reference. For example, calls to the `CreateFlow`, `CreateConnectorProfile` and `TagResource` API actions generate entries in the CloudTrail log files.

Every event or log entry contains information about who generated the request. The identity information helps you determine the following:

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

For more information, see the CloudTrail userIdentity Element.

Understanding Amazon AppFlow log file entries

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

The following is an example of a CloudTrail log entry generated when you view the details of a flow using the Amazon AppFlow console. Amazon AppFlow does not log the response elements, as they could contain sensitive data.


```
{
    "eventVersion": "1.05",
    "userIdentity": {
        "type": "IAMUser",
        "principalId": "123456789012",
        "arn": "arn:aws:iam::123456789012:user/Alice",
        "accountId": "123456789012",
        "accessKeyId": "AKIAIOSFODNN7EXAMPLE",
        "userName": "Richard"
    },
    "eventTime": "2020-04-23T17:08:09Z",
    "eventSource": "appflow.amazonaws.com",
    "eventName": "DescribeFlows",
```

```
    "awsRegion": "us-west-2",
    "sourceIPAddress": "198.51.100.1",
    "userAgent": "console.amazonaws.com",
    "requestParameters": {
        "flowNames": ["my-flow"]
    },
    "responseElements": {
    },
    "requestID": "ba96f0cf-4c4a-4e42-95b5-d6c69EXAMPLE",
    "eventID": "cce710cd-d1f8-44b3-8bd1-75184EXAMPLE",
    "eventType": "AwsApiCall",
    "recipientAccountId": "123456789012"
}
```

Monitoring Amazon AppFlow with Amazon CloudWatch

You can monitor your Amazon AppFlow flows by using CloudWatch, which collects raw data and processes it into readable, near real-time metrics. These statistics are kept for 15 months, so that you can access historical information and gain a better perspective on how your flows are performing. You can also set alarms that watch for certain thresholds, and send notifications or take actions when those thresholds are met. For more information, see the Amazon CloudWatch User Guide.

The Amazon AppFlow service reports the following metrics in the `AWS/AppFlow` namespace.

Metric	Description
`FlowExecutionsStarted`	The number of flow runs started.
`FlowExecutionsFailed`	The number of failed flow runs.
`FlowExecutionsSucceeded`	The number of successful flow runs.
`FlowExecutionTime`	The interval, in milliseconds, between the time the flow starts and the time it finishes.
`FlowExecutionRecordsProcessed`	The number of records that Amazon AppFlow attempted to transfer for the flow run. This metric counts all records that Amazon AppFlow processed internally. The processed records include those that transferred successfully and those that failed to transfer because the flow run failed.

The following dimensions are supported for the Amazon AppFlow metrics.

Dimension	Description
`FlowName`	The name that you assigned to the flow.

Document history for user guide

The following table describes the important changes in each release of the *Amazon AppFlow User Guide* from April 22nd, 2020, onward.

Change	Description	Date
Removed HoneyCode documentation following service discontinuation	Amazon HoneyCode has been discontinued, and the documentation detailing how to use HoneyCode with Amazon AppFlow has been removed.	May 2, 2024
Parallel transfers for SAP OData	When you configure a flow that transfers OData records from an SAP instance, you can now transfer the data more quickly by using multiple parallel threads. For more information, see Transferring data with concurrent processes.	September 5, 2023
New Salesforce API version supported	Amazon AppFlow now supports version 58.0 of the Salesforce Platform API. For more information, see History of supported Salesforce Platform API versions.	June 30, 2023
New connectors	Amazon AppFlow now supports new connectors that you can use to transfer data to AWS services and other supported applications. For	June 15, 2023

	more information, see the following: • Adobe Analytics connector for Amazon AppFlow • Blackbaud Raiser's Edge NXT connector for Amazon AppFlow • Coupa connector for Amazon AppFlow • Google BigQuery connector for Amazon AppFlow	
Business metadata in the Data Catalog	Now when you use a flow to catalog your data in the AWS Glue Data Catalog, Amazon AppFlow also catalogs any business metadata that it discovered in your source data. Amazon AppFlow writes the business metadata to the table properties in the Data Catalog. For more informati on, see Cataloging the data output from an Amazon AppFlow flow.	June 15, 2023

JWT support for Salesforce	When you create a Salesforce connection, you can now provide a JSON Web Token (JWT) to authorize Amazon AppFlow to access your Salesforce data. When you authorize Amazon AppFlow with a JWT, you don't need to sign in to Salesforce when Amazon AppFlow attempts to access your data. For more information, see Requirements for the OAuth grant types for Salesforce.	May 5, 2023
Flow cancellation	Amazon AppFlow now supports flow cancellation. You can cancel any flow while it's running. For more information, see Managing Amazon AppFlow flows.	April 27, 2023

AWS managed client app for Sharepoint	This update adds information about the AWS managed client app for the Microsoft SharePoint Online connector. The AWS managed client app makes it easier for you to connect Amazon AppFlow to your Sharepoint account. With it, you don't need to provide OAuth 2.0 credentials to Amazon AppFlow, which means you don't need to register an app in Microsoft Azure. For more information, see The AWS managed client app for Sharepoint.	April 25, 2023

New connectors	Amazon AppFlow now supports new connectors that you can use to transfer data to AWS services and other supported applications. For more information, see the following: • AfterShip connector for Amazon AppFlow • BambooHR connector for Amazon AppFlow • Freshsales connector for Amazon AppFlow • Google Sheets connector for Amazon AppFlow • Kustomer connector for Amazon AppFlow • Pipedrive connector for Amazon AppFlow	April 11, 2023

New connectors	Amazon AppFlow now supports new connectors that you can use to transfer data to AWS services and other supported applications. For more information, see the following: • Braintree connector for Amazon AppFlow • Microsoft Dynamics 365 connector for Amazon AppFlow • Oracle HCM connector for Amazon AppFlow • Zoho CRM connector for Amazon AppFlow	January 30, 2023

New connectors	Amazon AppFlow now supports new connectors that you can use to transfer data to AWS services and other supported applications. For more information, see the following: • Asana connector for Amazon AppFlow • Delighted connector for Amazon AppFlow • Google Calendar connector for Amazon AppFlow • Intercom connector for Amazon AppFlow • JDBC connector for Amazon AppFlow • PayPal connector for Amazon AppFlow • Pendo connector for Amazon AppFlow • Smartsheet connector for Amazon AppFlow • Snapchat Ads connector for Amazon AppFlow • WooCommerce connector for Amazon AppFlow	January 18, 2023

New connectors	Amazon AppFlow now supports new connectors that you can use to transfer data to AWS services and other supported applications. For more information, see the following: • HubSpot connector for Amazon AppFlow • LinkedIn Pages connector for Amazon AppFlow • Productboard connector for Amazon AppFlow • Recharge connector for Amazon AppFlow • Microsoft SharePoint Online connector for Amazon AppFlow	December 15, 2022

New connectors	Amazon AppFlow now supports new connectors that you can use to transfer data to AWS services and other supported applications. For more information, see the following: • Amazon RDS for PostgreSQL connector for Amazon AppFlow • CircleCI connector for Amazon AppFlow • DocuSign Monitor connector for Amazon AppFlow • Domo connector for Amazon AppFlow • Facebook Page Insights connector for Amazon AppFlow • Freshdesk connector for Amazon AppFlow • GitHub connector for Amazon AppFlow • GitLab connector for Amazon AppFlow • Google Analytics 4 connector for Amazon AppFlow • Google Search Console connector for Amazon AppFlow	November 30, 2022

- Instagram Ads connector for Amazon AppFlow
- LinkedIn Ads connector for Amazon AppFlow
- Mailchimp connector for Amazon AppFlow
- Microsoft Teams connector for Amazon AppFlow
- Okta connector for Amazon AppFlow
- QuickBooks Online connector for Amazon AppFlow
- SendGrid connector for Amazon AppFlow
- Stripe connector for Amazon AppFlow
- Typeform connector for Amazon AppFlow
- Zendesk Sunshine connector for Amazon AppFlow
- Zoom connector for Amazon AppFlow

Amazon Redshift connector update	The Amazon Redshift connector in Amazon AppFlow is updated with new options to connect to your databases. Now you can connect to Amazon Redshift Serverless, and you can connect to public and private Amazon Redshift clusters. For more information, see Amazon Redshift connector for Amazon AppFlow.	November 21, 2022
CloudWatch metrics	Amazon AppFlow now reports metrics to Amazon CloudWatch. You can monitor these metrics to learn how your flows are performing. For more information, see Monitoring Amazon AppFlow with Amazon CloudWatch.	November 17, 2022

Cataloging and organizing flow output	You can now use Amazon AppFlow to do the following with any flow that transfers data to Amazon S3: • Catalog the data so that you can discover and access it from AWS analytics and machine learning services. For more information see, Cataloging the data output from an Amazon AppFlow flow. • Organize the data into partitions and files. By organizing flow output, you improve query performan ce for applications that access the data. For more information see, Partition ing and aggregating data output from an Amazon AppFlow flow.	November 15, 2022
Salesforce API preference	For flows that transfer data to or from Salesforce, you can now specify which Salesforc e API that Amazon AppFlow uses to transfer the data. Your choice optimizes your flow for small to medium-si zed data transfers, large data transfers, or both. For more information, see Salesforce API preference.	November 4, 2022

Copy connection feature	You can now use the Amazon AppFlow console to create a new connection by copying an existing one. For more information, see Managing Amazon AppFlow connections.	September 15, 2022
Record deletion for Salesforce	For flows that transfer data to Salesforce, Amazon AppFlow now provides the option to delete records that you specify in a source data file. For more information, see the Notes section for the Salesforce connector.	September 14, 2022
New connector for Amazon Connect	This update adds information about the Amazon AppFlow connector for Amazon Connect. You can use Amazon AppFlow to transfer data from supported data sources to Amazon Connect Customer Profiles. For more information, see the section called "Amazon Connect".	September 14, 2022
New connector for Jira Cloud	Amazon AppFlow now provides a connector that you can use to transfer data from Jira Cloud. For more information, see the section called "Jira Cloud".	August 29, 2022

New tutorial for data transfers	The *Amazon AppFlow User Guide* now includes a tutorial that you can use to transfer data from Amazon S3 to Salesforce, and from Salesforce to Amazon S3. For more information, see Tutorial: Transfer data between applications with Amazon AppFlow.	August 23, 2022
SAP OData connector now supports ODP	With the SAP OData connector, you can now connect Amazon AppFlow to SAP applications that use the Operational Data Provisioning (ODP) framework. When you connect to ODP providers, you can create flows that run full or incremental data transfers. Incremental flows subscribe to delta updates from the operational delta queue of your ODP provider. For more information, see SAP OData connector for Amazon AppFlow.	August 11, 2022
New connector for Zendesk Sell	Amazon AppFlow now provides a connector that you can use to transfer data from Zendesk Sell. For more information, see Zendesk Sell connector for Amazon AppFlow.	August 11, 2022

New connector for Zendesk Chat	Amazon AppFlow now provides a connector that you can use to transfer data from Zendesk Chat. For more information, see Zendesk Chat connector for Amazon AppFlow.	August 11, 2022
New connector for Mixpanel	Amazon AppFlow now provides a connector that you can use to transfer data from Mixpanel. For more informati on, see Mixpanel connector for Amazon AppFlow.	June 16, 2022
New connector for Google Ads	Amazon AppFlow now provides a connector that you can use to transfer data from Google Ads. For more information, see Google Ads connector for Amazon AppFlow.	June 16, 2022
New connector for Facebook Ads	Amazon AppFlow now provides a connector that you can use to transfer data about your Facebook ads. For more information, see Facebook Ads connector for Amazon AppFlow.	June 16, 2022

New connector for Salesforce Marketing Cloud	Amazon AppFlow now provides a connector you can use to transfer data from Salesforce Marketing Cloud. For more informati on, see Salesforce Marketing Cloud connector for Amazon AppFlow.	June 9, 2022
Support for managing connections	This update documents how to manage connectio ns to provide the configura tion details and credentia ls that Amazon AppFlow uses to transfer data with your applications. For more information see Managing Amazon AppFlow connectio ns.	March 8, 2022
Updated IAM policies	This update adds new permissions to the AWS managed policies `AmazonApp FlowFullAccess` and `AmazonAppFlowRead0 nlyAccess` . For more information, see AWS managed policies for Amazon AppFlow.	March 1, 2022

New documentation	This update adds the following procedures to help you get started with Amazon AppFlow: Create a flow using the AWS console, Create a flow using the AWS CLI, Create a flow using the Amazon AppFlow APIs, and Create a flow using CloudFormation resources. This update also adds a compatibility matrix for Amazon AppFlow connecters under Supported Amazon AppFlow Connectors.	January 31, 2022
Support for SAP OData as a destination	You can now use SAP OData as a destination. For more information, see SAP OData.	January 26, 2022
Support for Marketo as a destination	You can now use Marketo as a destination. For more information, see Marketo.	May 25, 2021
Updated IAM documentation	The *Amazon AppFlow User Guide* now includes an enhanced IAM documentation chapter, and has started tracking changes for its AWS managed policies.	March 26, 2021
Support for Zendesk as a destination	You can now use Zendesk as a destination. For more information, see Zendesk.	March 22, 2021

API support for Amazon Lookout for Metrics	The *Amazon AppFlow API Reference* now includes the following data type for Amazon Lookout for Metrics: LookoutMetricsDestinationProperties.	February 24, 2021
API support for Amazon Honeycode	The *Amazon AppFlow API Reference* now includes the following data types for Amazon Honeycode : HoneycodeConnectorProfileCredentials, HoneycodeConnectorProfileProperties, HoneycodeDestinationProperties, and HoneycodeMetadata.	February 24, 2021
API support for Amazon Connect Customer Profiles	The *Amazon AppFlow API Reference* now includes the following data types for Amazon Connect Customer Profiles: CustomerProfilesDestinationProperties and CustomerProfilesMetadata.	February 24, 2021
Application-specific User Guide pages	The *Amazon AppFlow User Guide* now includes application-specific pages with requirements, instructions, notes, and related resources for each supported source and destination. For more information, see SaaS applications supported by Amazon AppFlow.	January 6, 2021

Support for Salesforce Pardot as a source	You can now use Salesforce Pardot as a source. For more information, see Salesforce Pardot.	December 18, 2020
Support for Amazon Lookout for Metrics as a destination	You can now use Amazon Lookout for Metrics as a destination. For more information, see Amazon Lookout for Metrics.	December 8, 2020
Schedule-triggered flow settings	You can now specify a time offset when configuring incremental data transfer for schedule-triggered flows. For more information, see Incremental transfer.	December 4, 2020
Support for Amazon Honeycode as a destination	You can now use Amazon Honeycode as a destination. For more information, see Amazon Honeycode.	December 1, 2020
Support for Upsolver as a destination	You can now use Upsolver as a destination. For more information, see Upsolver.	November 20, 2020
Support for Salesforce global connected apps	You can use your own global connected app for Salesforce with Amazon AppFlow APIs. For more information, see Use a global connected app with Amazon AppFlow.	November 10, 2020

Support for updating records in Salesforce	You can now update existing records when you use Salesforce as a destination. For more information, see Salesforce, Notes.	October 21, 2020
Support for Google Analytics custom dimensions and metrics	You can now import custom dimensions and metrics from Google Analytics into Amazon S3. For more information, see Google Analytics, Notes.	October 21, 2020
Support for upserting and inserting records in Salesforce	You can now insert new records or upsert records when you use Salesforce as a destination. For more information, see Salesforce, Notes.	October 5, 2020
Schedule-triggered flow settings	You can now choose from additional settings when you set up a schedule-triggered flow. For more informati on, see Getting started with Amazon AppFlow, Step 2: Configure flow.	October 5, 2020
AWS CloudFormation support	Amazon AppFlow now supports AWS CloudForm ation. For more information, see Related AWS services, AWS CloudFormation.	September 17, 2020

Support for Amazon EventBridge as a destination	Amazon AppFlow now supports Amazon EventBridge as a flow destination. For more information, see Amazon EventBridge.	August 26, 2020
Amazon AppFlow API Reference	You can now reference the API operations used with Amazon AppFlow. For more information, see the Amazon AppFlow API Reference.	August 26, 2020
Support for new data formats (CSV, Parquet)	You can now specify your preferred file format for transferred records when using Amazon S3 as a destination. For more information, see Amazon S3, Notes.	August 14, 2020
Improved filter support	You can now add criteria to your filters and apply multiple filters to a flow. For more information, see Add filters.	August 10, 2020
Connect over PrivateLink to Salesforce	Amazon AppFlow now supports connections over PrivateLink. For more information, see Private Amazon AppFlow flows.	July 22, 2020
CloudWatch integration documentation	Amazon AppFlow now supports CloudWatch Event integration. For more information, see Flow notifications.	July 17, 2020

Additional Amazon S3 destination settings	When you use Amazon S3 as a destination, you can now add timestamps to file names or place files in a timestamped folder. For more information, see Amazon S3, Notes.	July 10, 2020
IAM managed policies	Amazon AppFlow now supports IAM managed policies. For more informati on, see Identity and access management for Amazon AppFlow.	July 3, 2020
Google Analytics service quota	When you use Google Analytics as a source, you can include up to 9 dimensions and 10 metrics per flow run. For more information, see Quotas for Amazon AppFlow.	June 23, 2020
Initial release	Initial release of the Amazon AppFlow User Guide.	April 22, 2020