

Quickstart: Use the Copy Data tool to copy data

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APPLIES TO:  Azure Data Factory  Azure Synapse Analytics (Preview)

In this quickstart, you use the Azure portal to create a data factory. Then, you use the Copy Data tool to create a pipeline that copies data from a folder in Azure Blob storage to another folder.

NOTE

If you are new to Azure Data Factory, see [Introduction to Azure Data Factory](#) before doing this quickstart.

Prerequisites

Azure subscription

If you don't have an Azure subscription, create a [free account](#) before you begin.

Azure roles

To create Data Factory instances, the user account that you use to sign in to Azure must be a member of the *contributor* or *owner* role, or an *administrator* of the Azure subscription. To view the permissions that you have in the subscription, go to the [Azure portal](#), select your username in the upper-right corner, select "..." icon for more options, and then select **My permissions**. If you have access to multiple subscriptions, select the appropriate subscription.

To create and manage child resources for Data Factory - including datasets, linked services, pipelines, triggers, and integration runtimes - the following requirements are applicable:

- To create and manage child resources in the Azure portal, you must belong to the **Data Factory Contributor** role at the resource group level or above.
- To create and manage child resources with PowerShell or the SDK, the **contributor** role at the resource level or above is sufficient.

For sample instructions about how to add a user to a role, see the [Add roles](#) article.

For more info, see the following articles:

- [Data Factory Contributor role](#)
- [Roles and permissions for Azure Data Factory](#)

Azure Storage account

You use a general-purpose Azure Storage account (specifically Blob storage) as both *source* and *destination* data stores in this quickstart. If you don't have a general-purpose Azure Storage account, see [Create a storage account](#) to create one.

Get the storage account name

You need the name of your Azure Storage account for this quickstart. The following procedure provides steps to get the name of your storage account:

1. In a web browser, go to the [Azure portal](#) and sign in using your Azure username and password.
2. From the Azure portal menu, select **All services**, then select **Storage > Storage accounts**. You can

also search for and select *Storage accounts* from any page.

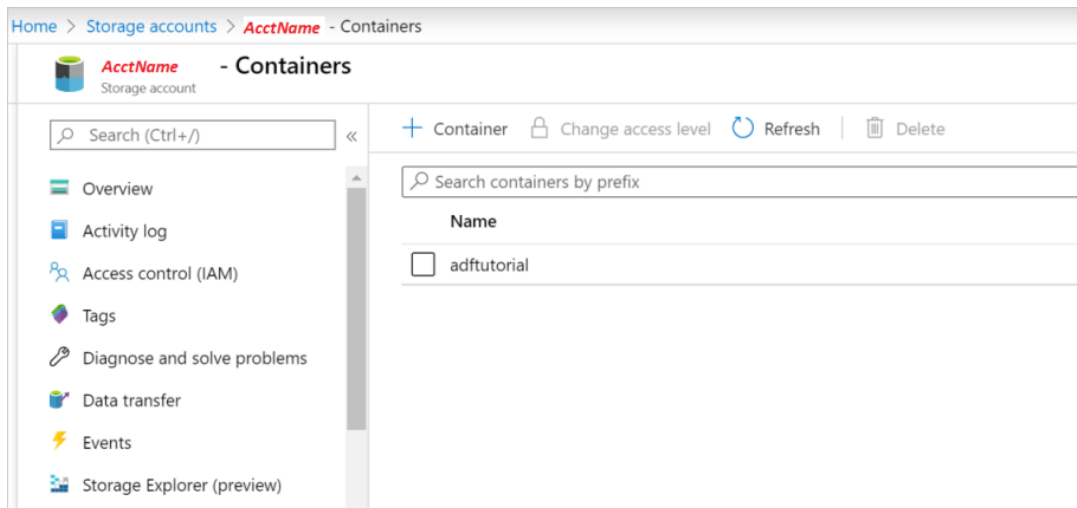
3. In the **Storage accounts** page, filter for your storage account (if needed), and then select your storage account.

You can also search for and select *Storage accounts* from any page.

Create a blob container

In this section, you create a blob container named **adftutorial** in Azure Blob storage.

1. From the storage account page, select **Overview > Containers**.
2. On the *<Account name> - Containers* page's toolbar, select **Container**.
3. In the **New container** dialog box, enter **adftutorial** for the name, and then select **OK**. The *<Account name> - Containers* page is updated to include **adftutorial** in the list of containers.



Add an input folder and file for the blob container

In this section, you create a folder named **input** in the container you created, and then upload a sample file to the input folder. Before you begin, open a text editor such as **Notepad**, and create a file named **emp.txt** with the following content:


```
John, Doe  
Jane, Doe
```

Save the file in the **C:\ADFv2QuickStartPSH** folder. (If the folder doesn't already exist, create it.) Then return to the Azure portal and follow these steps:

1. In the *<Account name> - Containers* page where you left off, select **adftutorial** from the updated list of containers.
 - a. If you closed the window or went to another page, sign in to the [Azure portal](#) again.
 - b. From the Azure portal menu, select **All services**, then select **Storage > Storage accounts**.
You can also search for and select *Storage accounts* from any page.
 - c. Select your storage account, and then select **Containers > adftutorial**.
2. On the **adftutorial** container page's toolbar, select **Upload**.
3. In the **Upload blob** page, select the **Files** box, and then browse to and select the **emp.txt** file.
4. Expand the **Advanced** heading. The page now displays as shown:

Upload blob
adftutorial/

Files ⓘ

"emp.txt" 


☐ Overwrite if files already exist

^ **Advanced**

Authentication type ⓘ


Azure AD user account **Account key**

Blob type ⓘ


Block blob 

☒ Upload .vhd files as page blobs (recommended)

Block size ⓘ

4 MB 

Access tier ⓘ

Hot (Inferred) 

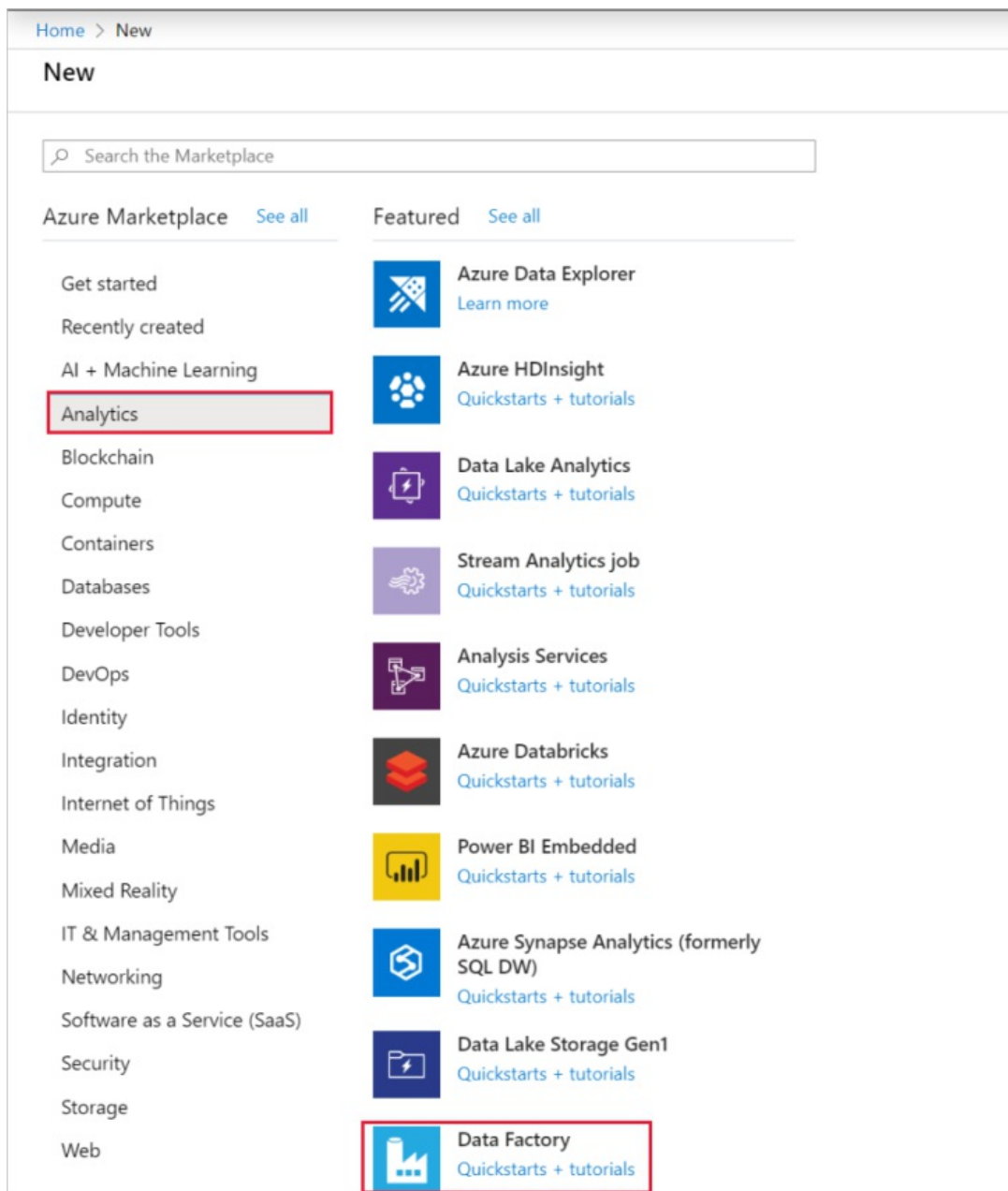
Upload to folder

Upload

5. In the **Upload to folder** box, enter **input**.
 6. Select the **Upload** button. You should see the **emp.txt** file and the status of the upload in the list.
 7. Select the **Close** icon (an **X**) to close the **Upload blob** page.
- Keep the **adftutorial** container page open. You use it to verify the output at the end of this quickstart.

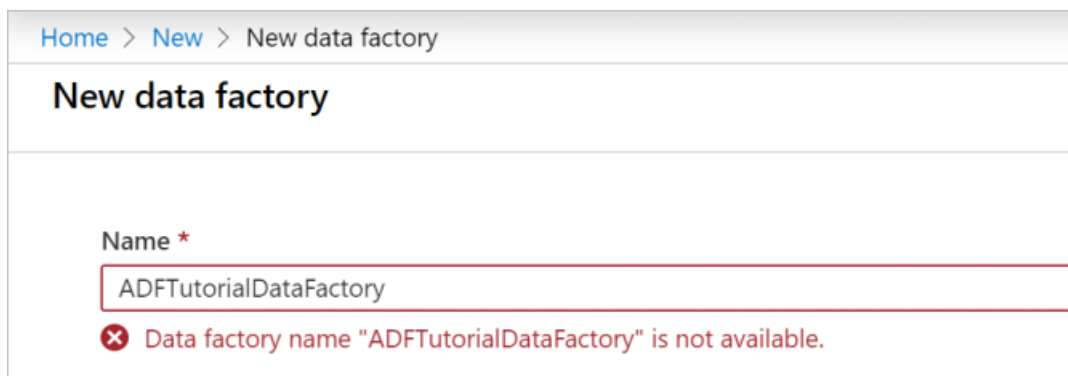
Create a data factory

1. Launch **Microsoft Edge** or **Google Chrome** web browser. Currently, Data Factory UI is supported only in Microsoft Edge and Google Chrome web browsers.
2. Go to the [Azure portal](#).
3. From the Azure portal menu, select **Create a resource** > **Analytics** > **Data Factory**:



- On the **New data factory** page, enter **ADFTutorialDataFactory** for **Name**.

The name of the Azure data factory must be *globally unique*. If you see the following error, change the name of the data factory (for example, **<yourname>ADFTutorialDataFactory**) and try creating again. For naming rules for Data Factory artifacts, see the [Data Factory - naming rules](#) article.



- For **Subscription**, select your Azure subscription in which you want to create the data factory.
- For **Resource Group**, use one of the following steps:

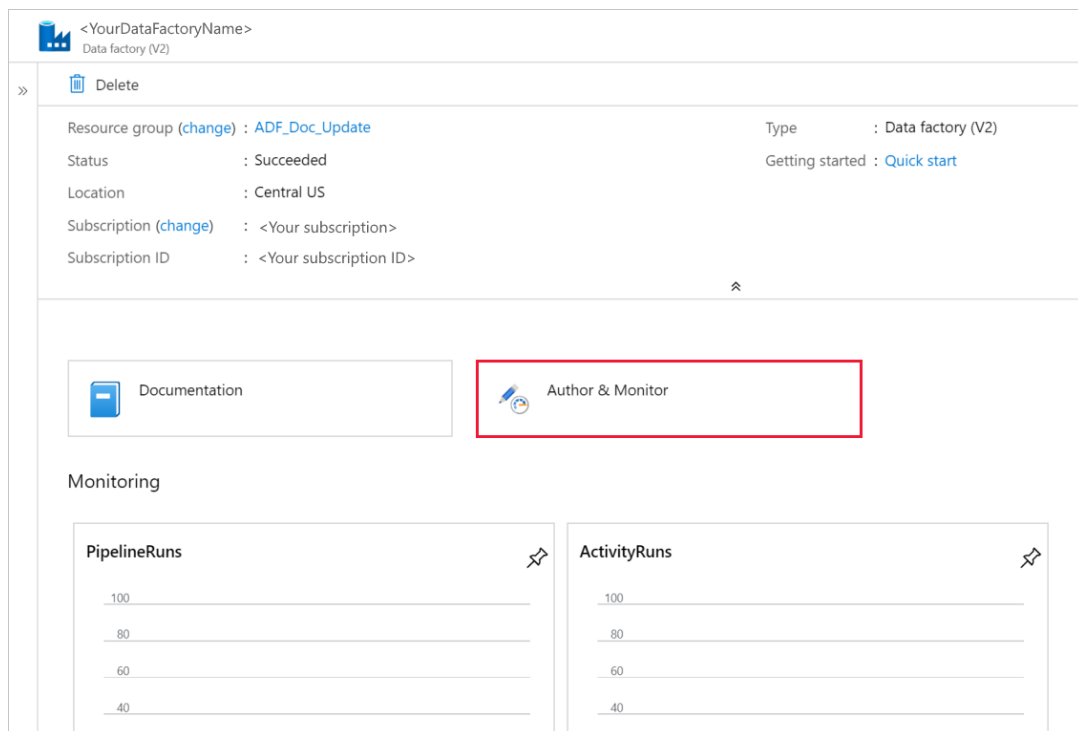
- Select **Use existing**, and select an existing resource group from the list.
- Select **Create new**, and enter the name of a resource group.

To learn about resource groups, see [Using resource groups to manage your Azure resources](#).

7. For **Version**, select **V2**.
8. For **Location**, select the location for the data factory.

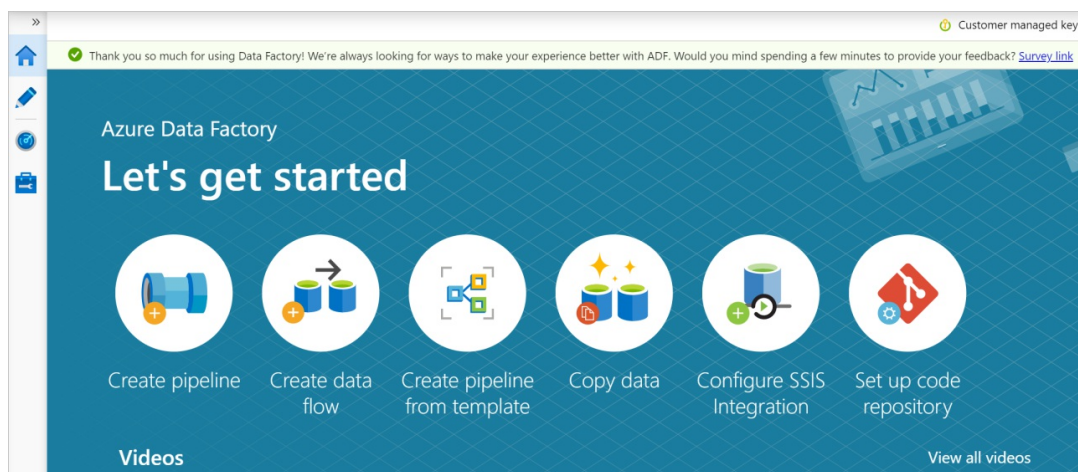
The list shows only locations that Data Factory supports, and where your Azure Data Factory meta data will be stored. The associated data stores (like Azure Storage and Azure SQL Database) and computes (like Azure HDInsight) that Data Factory uses can run in other regions.

9. Select **Create**.
10. After the creation is complete, you see the **Data Factory** page. Select the **Author & Monitor** tile to start the Azure Data Factory user interface (UI) application on a separate tab.



Start the Copy Data tool

1. On the **Let's get started** page, select the **Copy Data** tile to start the Copy Data tool.



2. On the **Properties** page of the Copy Data tool, you can specify a name for the pipeline and its description, then select **Next**.

Copy Data

1 Properties
2 Source
3 Destination
4 Settings
5 Summary
6 Deployment

Connection
Dataset

Connection
Dataset

Properties

Enter name and description for the copy data task.

Task name *

ADFQuickStart

Task description

Task cadence or Task schedule

☒ Run once now
☐ Run regularly on schedule

Previous

Next

3. On the **Source data store** page, complete the following steps:

- Click **+ Create new connection** to add a connection.
- Select the linked service type that you want to create for the source connection. In this tutorial, we use **Azure Blob Storage**. Select it from the gallery, and then select **Continue**.

New linked service

Search

All

Azure

Database

File

Generic protocol

NoSQL

Services and apps

Amazon Marketplace Web Service

Amazon Redshift

Amazon S3

Apache Impala

Azure Blob Storage

Azure Cosmos DB (MongoDB API)

Azure Cosmos DB (SQL)

Azure Data Explorer

Azure Data Lake Storage

Continue

Cancel

c. On the **New Linked Service (Azure Blob Storage)** page, specify a name for your linked service. Select your storage account from the **Storage account name** list, test connection, and then select **Create**.

New linked service (Azure Blob Storage)

Name *

AzureBlobStorage

Description

Connect via integration runtime *

AutoResolveIntegrationRuntime

Authentication method

Account key

Connection string

Azure Key Vault

Account selection method

☒ From Azure subscription ☐ Enter manually

Azure subscription

Storage account name *

Additional connection properties

+ New

Test connection

Connection successful

CreateBackTest connectionCancel

d. Select the newly created linked service as source, and then click **Next**.

4. On the **Choose the input file or folder** page, complete the following steps:

a. Click **Browse** to navigate to the **adftutorial/input** folder, select the **emp.txt** file, and then click **Choose**.

d. Select the **Binary copy** checkbox to copy file as-is, and then select **Next**.

Choose the input file or folder

Select a source file or folder to be copied to the destination data store.

File or folder * ⓘ Browse ▼

Binary copy ☒ ⓘ

Compression type None ▼

Recursively ☒ ⓘ

Max concurrent connections ⓘ

Filter by last modified Start time (UTC) End time (UTC) ⓘ

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- On the **Destination data store** page, select the **Azure Blob Storage** linked service you created, and then select **Next**.
- On the **Choose the output file or folder** page, enter **adftutorial/output** for the folder path, and then select **Next**.

Choose the output file or folder

Specify a folder that will contain output files or a specific output file in the destination data store.

Folder path * ⓘ Browse ▼

File name

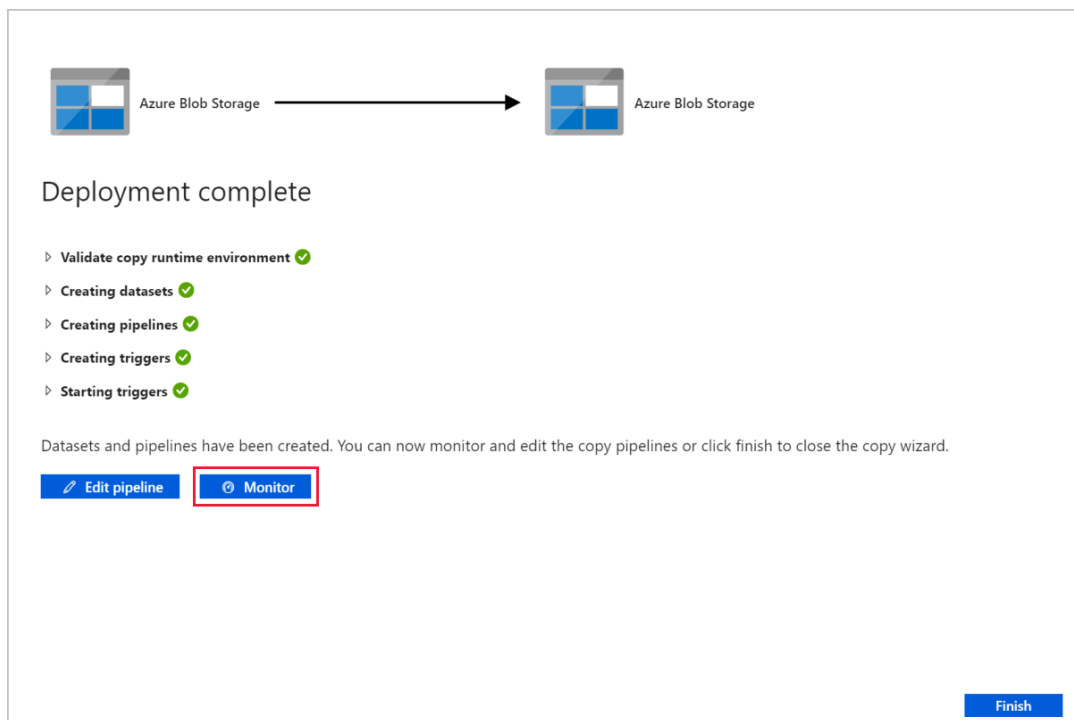
Compression type None ▼

Copy behavior Preserve hierarchy ▼ ⓘ

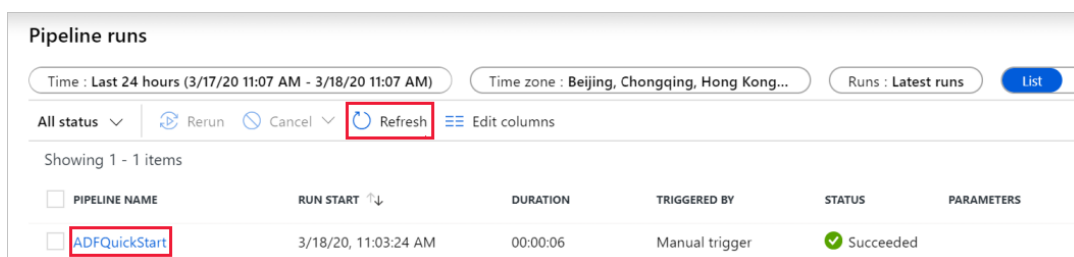
Max concurrent connections ⓘ

Previous **Next**

- On the **Settings** page, select **Next** to use the default configurations.
- On the **Summary** page, review all settings, and select **Next**.
- On the **Deployment complete** page, select **Monitor** to monitor the pipeline that you created.



- The application switches to the **Monitor** tab. You see the status of the pipeline on this tab. Select **Refresh** to refresh the list. Click the link under **PIPELINE NAME** to view activity run details or rerun the pipeline.



- On the Activity runs page, select the **Details** link (eyeglasses icon) under the **ACTIVITY NAME** column for more details about copy operation. For details about the properties, see [Copy Activity overview](#).
- To go back to the Pipeline Runs view, select the **ALL pipeline runs** link in the breadcrumb menu. To refresh the view, select **Refresh**.
- Verify that the **emp.txt** file is created in the **output** folder of the **adftutorial** container. If the output folder doesn't exist, the Data Factory service automatically creates it.
- Switch to the **Author** tab above the **Monitor** tab on the left panel so that you can edit linked services, datasets, and pipelines. To learn about editing them in the Data Factory UI, see [Create a data factory by using the Azure portal](#).

