

Creating datasets

This document describes how to create datasets in BigQuery.

You can create datasets by:

- Using the Cloud Console or the classic BigQuery web UI
- Using the `bq mk` command in the `bq` command-line tool
- Calling the `datasets.insert` (</bigquery/docs/reference/rest/v2/datasets/insert>) API method
- Using the client libraries
- Copying an existing dataset.

To see steps for copying a dataset, including across regions, see [Copying datasets](/bigquery/docs/copying-datasets) (</bigquery/docs/copying-datasets>).

g datasets is currently in [beta](/products#product-launch-stages) (</products#product-launch-stages>).

Dataset limitations

BigQuery datasets are subject to the following limitations:

- You can set the geographic location at creation time only. After a dataset has been created, the location becomes immutable and can't be changed in the Cloud Console, the classic BigQuery web UI, the command-line tool, or by calling the `patch` or `update` API methods.
- All tables referenced in a query must be stored in datasets in the same location.
- When [copying a table](/bigquery/docs/managing-tables#copy-table) (</bigquery/docs/managing-tables#copy-table>), the datasets containing the source table and destination table must reside in the same location.
- Dataset names must be unique per project.
- As you approach thousands of datasets in a project, classic UI performance begins to degrade, and listing datasets becomes slower.

Naming datasets

When you create a dataset in BigQuery, the dataset name must be unique per project. The dataset name:

- May contain up to 1,024 characters
- Can contain letters (upper or lower case), numbers, and underscores

★ **Note:** Datasets that begin with an underscore are hidden from the navigation pane in the BigQuery web UI and the classic web UI. You can still query tables and views in these datasets even though they are not visible.

- Is case-sensitive: `mydataset` and `MyDataset` can co-exist in the same project

Dataset names cannot:

- Contain spaces or special characters such as -, &, @, or %

Required permissions

At a minimum, to create a dataset, you must be granted `bigquery.datasets.create` permissions. The following predefined IAM roles include `bigquery.datasets.create` permissions:

- `bigquery.dataEditor`
- `bigquery.dataOwner`
- `bigquery.user`
- `bigquery.admin`

For more information on IAM roles and permissions in BigQuery, see [Predefined roles and permissions \(/bigquery/docs/access-control\)](/bigquery/docs/access-control).

Creating a dataset

To create a dataset:

[Console Classic UI](#) (#classic-ui) [bq_](#) (#bq) [API](#) (#api) [C#](#) (#c) [Go](#) (#go) [Java](#) (#java) [Node.js](#) (#node.js) [PHP](#)

1. Open the BigQuery web UI in the Cloud Console.

[Go to the Cloud Console](https://console.cloud.google.com/bigquery) (https://console.cloud.google.com/bigquery)

2. In the navigation panel, in the **Resources** section, select your project.
3. On the right side of the window, in the details panel, click **Create dataset**.
4. On the **Create dataset** page:

- For **Dataset ID**, enter a unique dataset name (#dataset-naming).
- (Optional) For **Data location**, choose a geographic location (/bigquery/docs/locations) for the dataset. If you leave the value set to **Default**, the location is set to **US**. After a dataset is created, the location can't be changed.

★ **Note:** If you choose **EU** or an EU-based region for the dataset location, your Core BigQuery Customer Data resides in the EU. Core BigQuery Customer Data is defined in the [Service Specific Terms](/terms/service-terms#13-google-bigquery-service) (/terms/service-terms#13-google-bigquery-service).

- For **Default table expiration**, choose one of the following options:
 - **Never:** (Default) Tables created in the dataset are never automatically deleted. You must delete them manually.
 - **Number of days after table creation:** This value determines when a newly created table in the dataset is deleted. This value is applied if you do not set a table expiration when the table is created (/bigquery/docs/tables#create-table).
- Click **Create dataset**.

Next steps

- For more information on assigning access controls to datasets, see [Controlling access to datasets](/bigquery/docs/dataset-access-controls) (/bigquery/docs/dataset-access-controls).
- For more information on listing datasets in a project, see [Listing datasets](/bigquery/docs/listing-datasets) (/bigquery/docs/listing-datasets).

- For more information on dataset metadata, see [Getting information about datasets](/bigquery/docs/dataset-metadata) (/bigquery/docs/dataset-metadata).
- For more information on changing dataset properties, see [Updating datasets](/bigquery/docs/updating-datasets) (/bigquery/docs/updating-datasets).
- For more information on creating and managing labels, see [Creating and managing labels](/bigquery/docs/labels) (/bigquery/docs/labels).

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Last updated 2020-08-10 UTC.