

# Getting information about views

This document describes how to get information or metadata about views in BigQuery.

You can get view metadata by:

- Using the Cloud Console or the classic BigQuery web UI
- Using the `bq show` CLI command
- Calling the `tables.get` (/bigquery/docs/reference/v2/tables/get) API method
- Using the client libraries
- Querying the `INFORMATION_SCHEMA` views ([beta](#) (/terms/launch-stages))

## Required permissions

At a minimum, to get information about views, you must be granted `bigquery.tables.get` permissions. The following predefined IAM roles include `bigquery.tables.get` permissions:

- `bigquery.metadataViewer`
- `bigquery.dataViewer`
- `bigquery.dataOwner`
- `bigquery.dataEditor`
- `bigquery.admin`

In addition, if a user has `bigquery.datasets.create` permissions, when that user creates a dataset, they are granted `bigquery.dataOwner` access to it. `bigquery.dataOwner` access gives the user the ability to get information about views in the dataset.

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

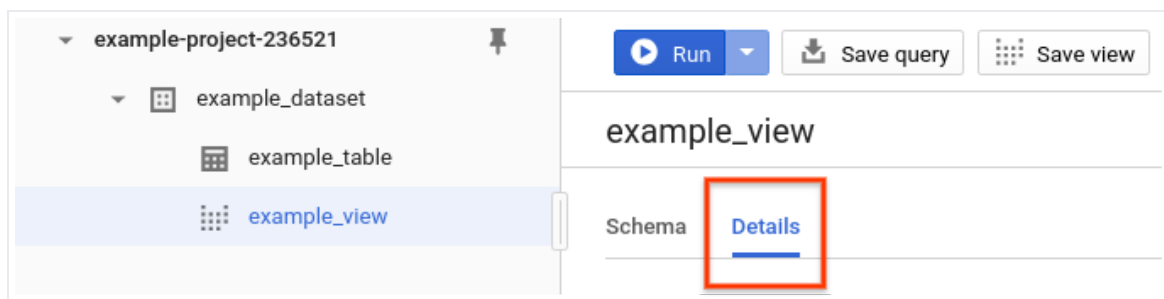
## Getting view information

Getting information about views is identical to the process for getting information about tables.

To get information about views:

[Console Classic UI](#) (#classic-ui) [bq\\_](#) (#bq) [API](#) (#api) [Go](#) (#go) [Java](#) (#java) [Node.js](#) (#node.js) [Python](#) (#pyt

1. Expand your dataset.
2. Click the view name.
3. Click **Details**. The **Details** tab displays the view's description, view information, and the SQL query that defines the view.



## INFORMATION\_SCHEMA ([beta](/terms/launch-stages))

INFORMATION\_SCHEMA is a series of views that provide access to metadata about datasets, routines, tables, views, jobs, reservations, and streaming data.

### VIEWS view

When you query the `INFORMATION_SCHEMA.VIEWS` view, the query results contain one row for each view in a dataset.

The `INFORMATION_SCHEMA.VIEWS` view has the following schema:

Column name	Data type	Value
TABLE_CATALOG	STRING	The name of the project that contains the dataset
TABLE_SCHEMA	STRING	The name of the dataset that contains the view also referred to as the dataset id

<b>TABLE_NAME</b>	<b>STRING</b> The name of the view also referred to as the table <code>id</code>
<b>VIEW_DEFINITION</b>	<b>STRING</b> The SQL query that defines the view
<b>CHECK_OPTION</b>	<b>STRING</b> The value returned is always <code>NULL</code>
<b>USE_STANDARD_SQL</b>	<b>STRING</b> YES if the view was created by using a standard SQL query; <b>NO</b> if <code>useLegacySql</code> is set to <code>true</code>

## Examples

### Example 1:

The following example retrieves all columns from the `INFORMATION_SCHEMA.VIEWS` view except for `check_option` which is reserved for future use. The metadata returned is for all views in `mydataset` in your default project – `myproject`.

To run the query against a project other than your default project, add the project ID to the dataset in the following format: ``project_id`.dataset.INFORMATION_SCHEMA.view`; for example, ``myproject`.mydataset.INFORMATION_SCHEMA.VIEWS`.

To run the query:

### Consolebq. (#bq)

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. Enter the following standard SQL query in the **Query editor** box. `INFORMATION_SCHEMA` requires standard SQL syntax. Standard SQL is the default syntax in the Cloud Console.

```
SELECT
  * EXCEPT(check_option)
FROM
  mydataset.INFORMATION_SCHEMA.VIEWS
```

★ **Note:** `INFORMATION_SCHEMA` view names are case-sensitive.

### 3. Click **Run**.

The results should look like the following:

```
-----+-----+-----+-----
able_catalog | table_schema | table_name | view_definiti
-----+-----+-----+-----
myproject    | mydataset    | myview     | SELECT column1, column2 FROM [myproj
```

Note that the results show that this view was created by using a legacy SQL query.

#### Example 2:

The following example retrieves the SQL query and query syntax used to define `myview` in `mydataset` in your default project – `myproject`.

To run the query against a project other than your default project, add the project ID to the dataset in the following format: ``project_id`.dataset.INFORMATION_SCHEMA.view`, for example, ``myproject`.mydataset.INFORMATION_SCHEMA.VIEWS`.

To run the query:

#### Consolebq. (#bq)

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. Enter the following standard SQL query in the **Query editor** box. `INFORMATION_SCHEMA` requires standard SQL syntax. Standard SQL is the default syntax in the Cloud Console.

```
SELECT
  table_name, view_definition, use_standard_sql
FROM
  mydataset.INFORMATION_SCHEMA.VIEWS
WHERE
  table_name="myview"
```

★ **Note:** `INFORMATION_SCHEMA` view names are case-sensitive.

3. Click **Run**.

The results should look like the following:

table_name	view_definition	use_s
yview	SELECT column1, column2, column3 FROM mydataset.mytable	YES

Note that the results show that this view was created by using a standard SQL query.

## Next steps

- For information on creating views, see [Creating views](/bigquery/docs/views) (/bigquery/docs/views).
- For information on creating an authorized view, see [Creating authorized views](/bigquery/docs/authorized-views) (/bigquery/docs/authorized-views).
- For information on listing views, see [Listing views](/bigquery/docs/listing-views) (/bigquery/docs/listing-views).
- For information on updating views, see [Updating views](/bigquery/docs/updating-views) (/bigquery/docs/updating-views).
- For more information on managing views, see [Managing views](/bigquery/docs/managing-views) (/bigquery/docs/managing-views).
- To see an overview of `INFORMATION_SCHEMA`, go to [Introduction to BigQuery INFORMATION\\_SCHEMA](/bigquery/docs/information-schema-intro) (/bigquery/docs/information-schema-intro).

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