Exporting data from Cloud SQL

MySQL | PostgreSQL (https://cloud.google.com/sql/docs/postgres/import-export/exporting) | SQL Server (https://cloud.google.com/sql/docs/sqlserver/import-export/exporting)

This page describes how to export data from Cloud SQL instances, or from a database server not managed by Cloud SQL.

You can export data from Cloud SQL to Cloud Storage. You can download your data from Cloud Storage to your local environment if you want to access it locally.

To export data to Cloud Storage, the instance's service account needs to have the `Bucket Writer` ACL permission set in the project. For more information see Cloud Identity and Access Management for Cloud Storage (https://cloud.google.com/storage/docs/access-control/iam/).

For best practices for exporting data, see Best Practices for Importing and Exporting Data (https://cloud.google.com/sql/docs/mysql/import-export/).

Before you begin

Decide the file type to export.

You can export a CSV file for use with other databases or tools. You also can export a SQL dump file, e.g., to export to another SQL database.

Use the same SQL Mode for import and export

The SQL Mode setting affects how Cloud SQL interprets SQL queries. For example, if you export from a database without Strict SQL enabled, then try to import to Cloud SQL (which enables Strict SQL by default), the import might fail. The best practice is to use the same SQL Mode on import that you used for export.

Review the SQL Mode on both the source and target databases for compatibility. Pay particular attention to the flags that enable Strict SQL mode. If Strict SQL is NOT set on your database, you will likely want to remove it in Cloud SQL. If you remove Strict SQL, you must set another flag.

To verify that your Cloud SQL instance has the desired mode set, run `SELECT @@GLOBAL.sql_mode;`.

Exporting data to a SQL dump file

Exporting from Cloud SQL uses the **`mysqldump`** (https://dev.mysql.com/doc/refman/5.7/en/mysqldump.html) utility with the `--single-transaction`, `--skip-triggers` and `--hex-blob` options, and excludes the mysql database. This means that the export does not include any triggers, stored procedures, or functions. If your database requires any of these elements, you must recreate them manually after you import your data.

If this export does not meet your requirements, you can also run the `mysqldump` utility directly against your Cloud SQL database, using whatever options you require.

Note: If you are exporting your data for use in a Cloud SQL instance, you must exclude views. You can either use **`mysqldump`** or specify the tables to be exported explicitly (and exclude all views). For more information, see Exporting data for Import into Cloud SQL (https://cloud.google.com/sql/docs/mysql/import-export/creating-sqldump-csv#sqldump). For more information about this restriction, see Known Issues (https://cloud.google.com/sql/docs/mysql/known-issues#import-export).

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Note: if your data contains large objects (blobs), the export can consume a large amount of memory, impacting instance performance. For more information, see Known Issues (https://cloud.google.com/sql/docs/postgres/known-issues/#import-export).

CONSOLE GCLOUD (2ND GEN) MORE

1. Go to the Cloud SQL Instances page in the Google Cloud Console.

GO TO THE CLOUD SQL INSTANCES PAGE (HTTPS://CONSOLE.CLOUD.GOOGLE.COM/SQL/INSTANC

2. Click the instance you want to export data from to open its Instance details page.
3. Click **Export** in the button bar.
4. Under **Cloud Storage export location**, select a Cloud Storage bucket or folder for your export.
5. In the **Name** field, provide a name for your export file and click **Select**.
6. For **Format**, select **SQL**.
7. Click **Show advanced options** and enter a comma-separated list of all the databases that you want to export. Do not include system databases.
8. Click **Export** to start the export.

Exporting data to a CSV file

You can export your data in CSV format, which is usable by other tools and environments.

Note: You cannot import a CSV file that was created from a MySQL instance into a PostgreSQL or SQL Server instance, or vice versa.

Note: You cannot export to a CSV file from a read replica instance. The export operation creates an export user and grants that user select permissions on the database the user wants to export. Since read replica instances run in read only mode, these operations fail.

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   GO TO THE CLOUD SQL INSTANCES PAGE (HTTPS://CONSOLE.CLOUD.GOOGLE.COM/SQL/INSTANC
2. Click the instance to open its **Instance overview** page.
3. Click **Export**.
4. Under **Cloud Storage export location**, select a Cloud Storage bucket or folder for your export.
5. In the **Name** field, provide a name for your export file and click **Select**.

   You can use a file extension of `.gz` to compress your export file.
6. Set **Format** to **CSV**.

7. Enter a SQL query to specify the data to export.

   For example, to export the entire contents of the `entries` table in the `guestbook` database, you would enter `SELECT * FROM guestbook.entries;`. Your query must specify a table; you cannot export an entire database in CSV format.

8. Click **Export** to start the export.

Exporting in CSV format is equivalent to running the following SQL statement:

```
SELECT <query> INTO OUTFILE ... CHARACTER SET 'utf8mb4'
      FIELDS TERMINATED BY ',' OPTIONALLY ENCLOSED BY '\"'
      ESCAPED BY '\\' LINES TERMINATED BY '\n'
```

What's next

- Learn how to check the status of import and export operations (https://cloud.google.com/sql/docs/mysql/import-export/checking-status-import-export).
- Learn more about importing and exporting data (https://cloud.google.com/sql/docs/mysql/import-export/).
- Learn more about Cloud Storage (https://cloud.google.com/storage/docs/).

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