Connect to Cloud SQL for SQL Server from SSMS

MySQL (/sql/docs/mysql/quickstart) | PostgreSQL (/sql/docs/postgres/quickstart) | **SQL Server**

This page shows you how to create and connect to a SQL Server instance and perform basic SQL operations by using the Google Cloud console and a client. The resources created in this quickstart typically cost less than a dollar, assuming you complete the steps, including the cleanup, in a timely manner.

Before you begin

Note: The name you use for your project must be between 4 and 30 characters. When you type the name, the form suggests a project ID, which you can edit. The project ID must be between 6 and 30 characters, with a lowercase letter as the first character. You can use a dash, lowercase letter, or digit for the remaining characters, but the last character cannot be a dash.

1. Start by creating a Google Cloud account. With this account, you get $300 in free credits, plus free usage of over 20 products, up to monthly limits.

   Create an account (https://console.cloud.google.com/freetrial)

2. In the Google Cloud console, on the project selector page, select or create a Google Cloud project.

★ **Note**: If you don't plan to keep the resources that you create in this procedure, create a project instead of selecting an existing project. After you finish these steps, you can delete the project, removing all resources associated with the project.

   Go to project selector (https://console.cloud.google.com/projectselector2/home/dashboard)

3. Make sure that billing is enabled for your Google Cloud project (/billing/docs/how-to/verify-billing-enabled#console).

4. Enable the necessary Google Cloud APIs.

Consolegcloud (#gcloud)

In the Google Cloud console, go to the **APIs** page.

Go to APIs (https://console.cloud.google.com/apis)

Enable the Cloud SQL Admin API.

Create a Cloud SQL instance

In this quickstart, you use the Google Cloud console. To use the gcloud CLI (/sdk/gcloud), cURL, or PowerShell, see Create instances (/sql/docs/sqlserver/create-instance).

1. In the Google Cloud console, go to the **Cloud SQL Instances** page.

   Go to Cloud SQL Instances (https://console.cloud.google.com/sql)

2. Click **Create Instance**.
3. Click **Choose SQL Server**.
4. Enter `myinstance` for **Instance ID**.
5. Enter a password for the `sqlserver` user.
6. Click **Create**.

   You're returned to the instances list. You can click the new instance right away to see the details, but it won't be available for other operations until it initializes and starts.

★ **Note:** In this example, the instance is created using default settings, including a public IP address.

Connect to your instance by using SQL Server Management Studio

Note: SQL Server Management Studio (SSMS) is a Windows-based, integrated environment. Review the SSMS documentation (https://docs.microsoft.com/en-us/sql/ssms/sql-server-management-studio-ssms?view=sql-server-2017) if needed, including for Connecting to a SQL Server instance

(https://docs.microsoft.com/en-us/sql/ssms/tutorials/connect-query-sql-server?view=sql-server-2017). Alternatively, you can use other database administration tools.

1. Optional: If you're running a local instance of SQL Server, stop it before connecting to your Cloud SQL instance. Otherwise, you might encounter errors such as `address already in use`.
2. Install the (/sdk/docs)gcloud CLI (/sdk/gcloud). The gcloud CLI (/sdk/gcloud) provides the gcloud CLI to interact with Cloud SQL and other Google Cloud services. The gcloud CLI uses the Admin API to access Cloud SQL, so you must Enable the Admin API (/sql/docs/sqlserver/admin-api#enabling_the_api) before using the gcloud CLI to access Cloud SQL.
3. In a bash shell command prompt or in Windows PowerShell, run the following command to initialize the gcloud CLI:

```
gcloud init
```

4. Run the following command to authenticate the gcloud CLI:

```
gcloud auth login
```

5. Download and install the Cloud SQL Auth Proxy (see Installing the Cloud SQL Auth Proxy (/sql/docs/sqlserver/connect-auth-proxy#install)). Note the location of the Cloud SQL Auth Proxy because you will run the Cloud SQL Auth Proxy in next step.
6. Run the Cloud SQL Auth Proxy by using a bash shell command prompt (or by using Windows PowerShell). Specifically, run the following command, replacing `Instance-connection-name` with the corresponding value from the Google Cloud console's Overview tab (for your instance):

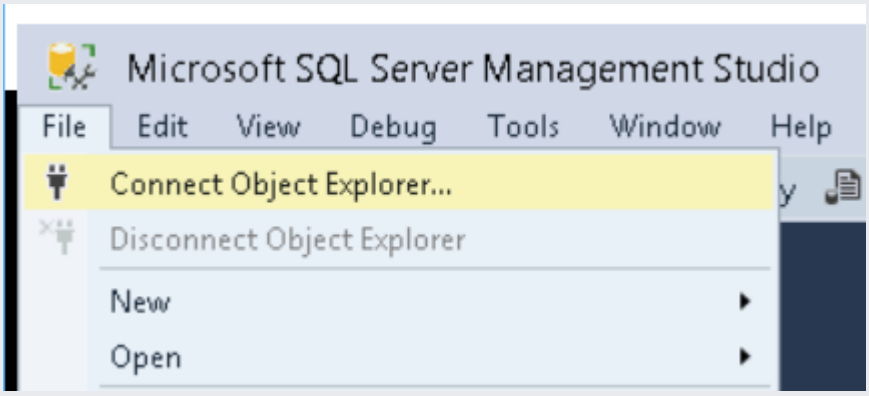
```
./cloud-sql-proxy INSTANCE_CONNECTION_NAME
```

For more information about installing and using the Cloud SQL Auth Proxy, see About the Cloud SQL Auth Proxy (/sql/docs/sqlserver/sql-proxy).

As described in the next section, now you can connect to your SQL Server instance by using SSMS and the localhost IP address.

Connect using the SSMS Object Explorer

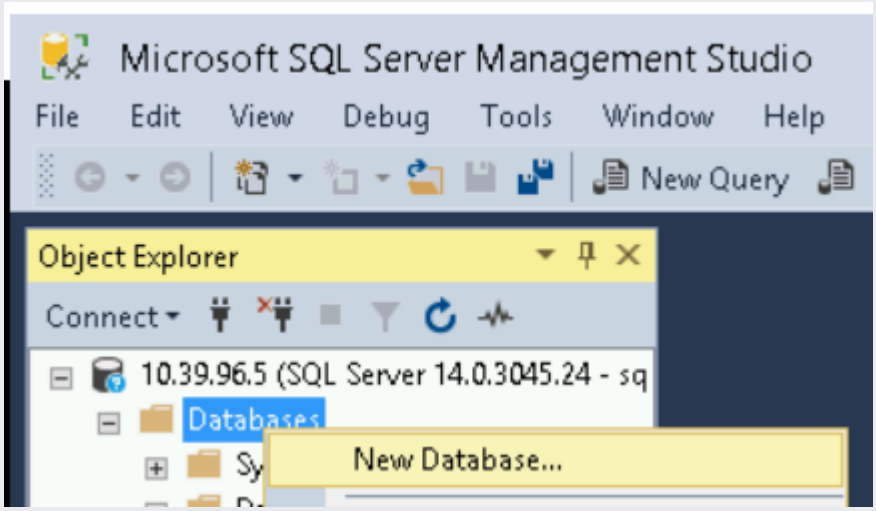
1. In SSMS, select **Connect Object Explorer** from the **File** menu.



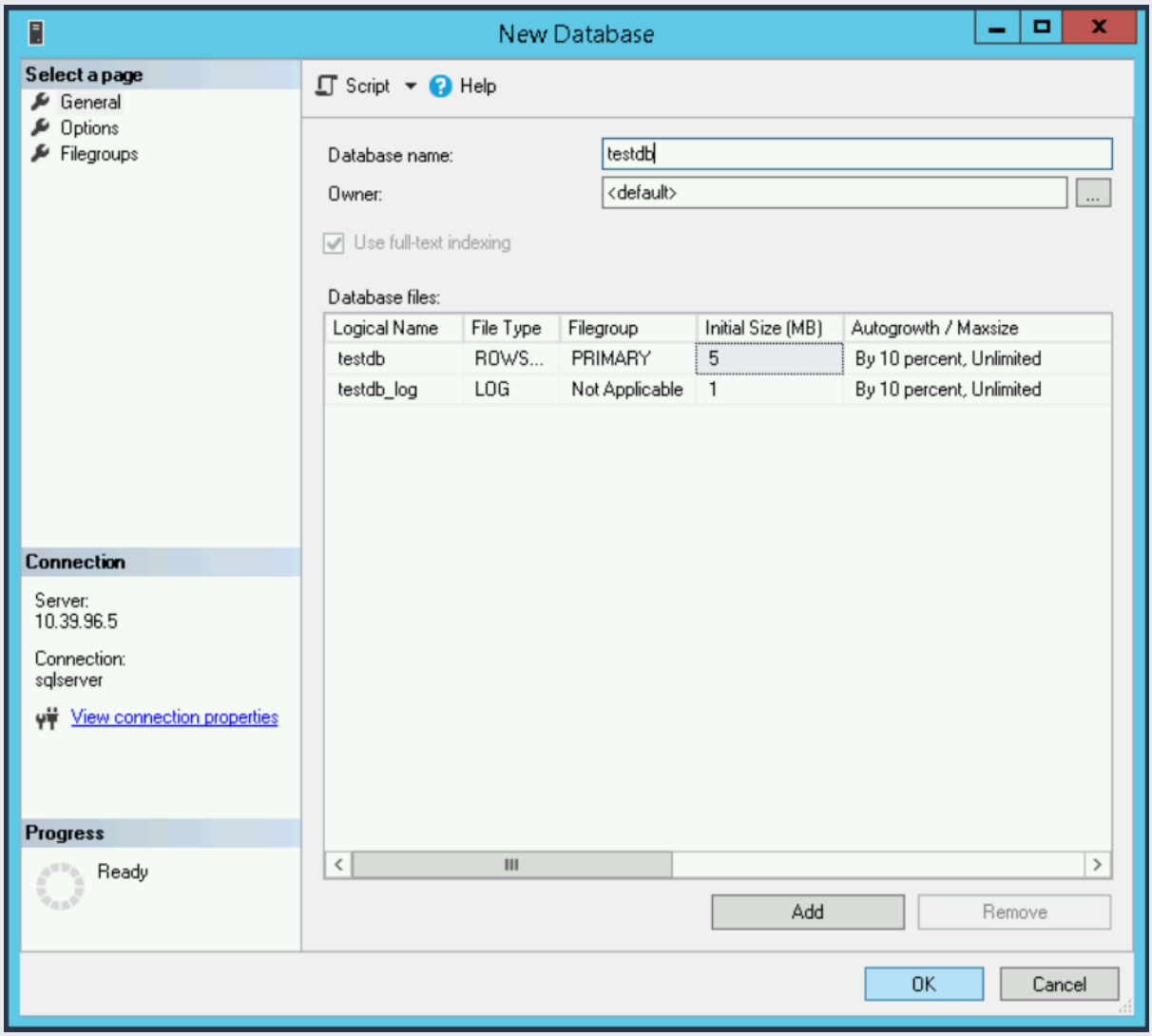
2. Enter the following values in the **Connection** dialog:
    a. For Server Type, enter **Database Engine**.
    b. For Server Name, enter 127.0.0.1 as the IP address of your SQL Server instance.
    c. For Authentication, enter **SQL Server Authentication**.
    d. For Login, enter **sqlserver**.
    e. For Password, enter the password used when the instance was created.
3. Click the **Connect** button.

Create a database and upload data

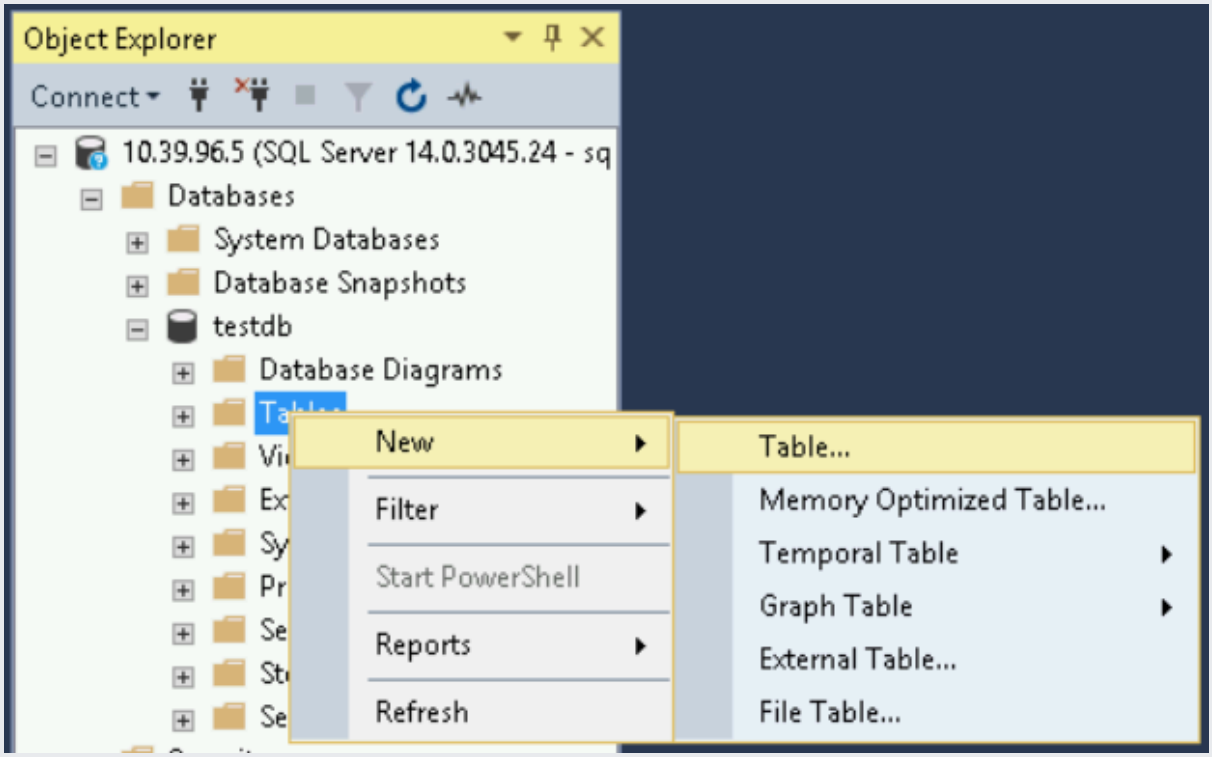
1. In the SSMS Object Explorer window, right-click the **Databases** node under your instance and select **New Database**.



2. Enter **testdb** for the **Database name** and click the **OK** button.



3. Under the newly created **testdb** database, right-click the **Tables** node and select **New > Table**.



4. Enter the following values in the **Create table** dialog:

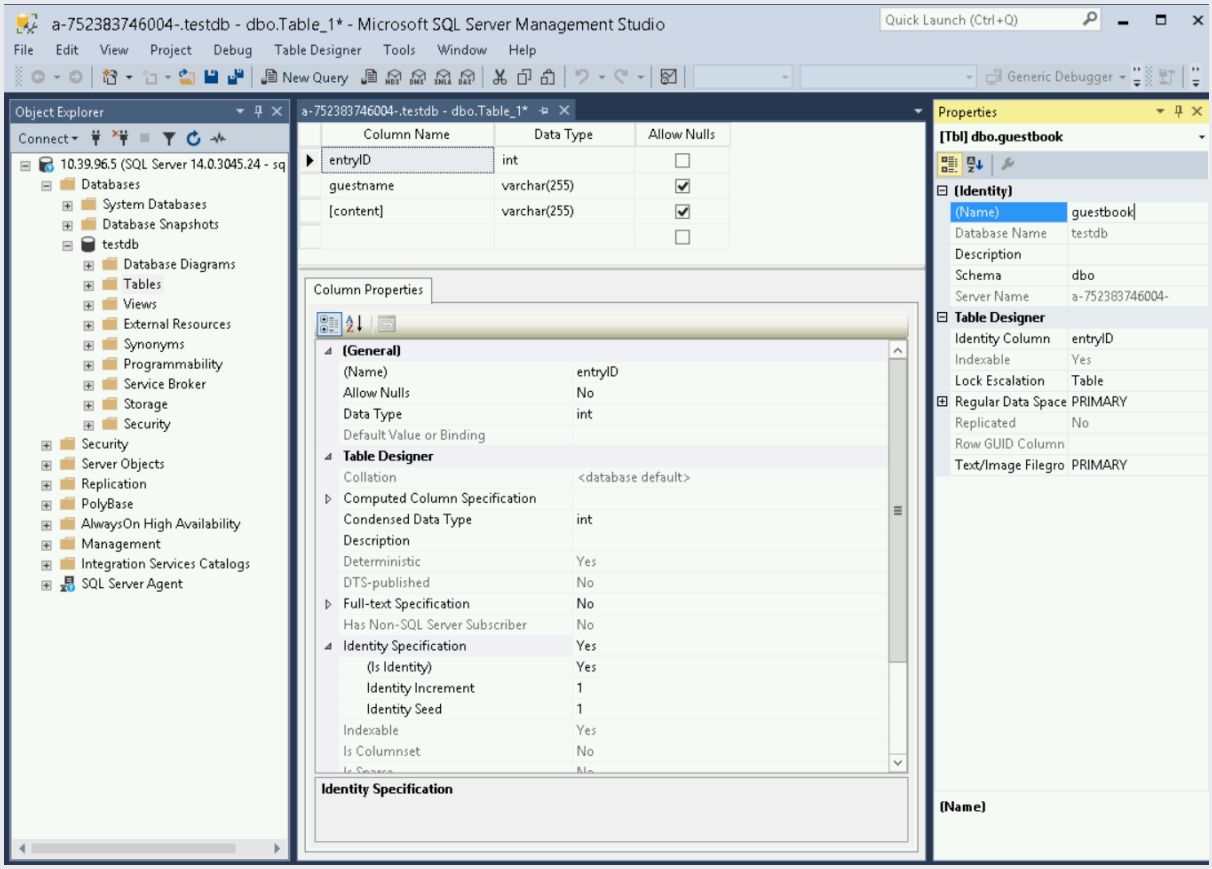
    a. In the **Properties** window, for **Identity > Name**, enter **guestbook**.

    b. For the first **Column Name**, enter **entryID**, set its Data Type to **int**, and clear the **Allow Nulls** checkbox.

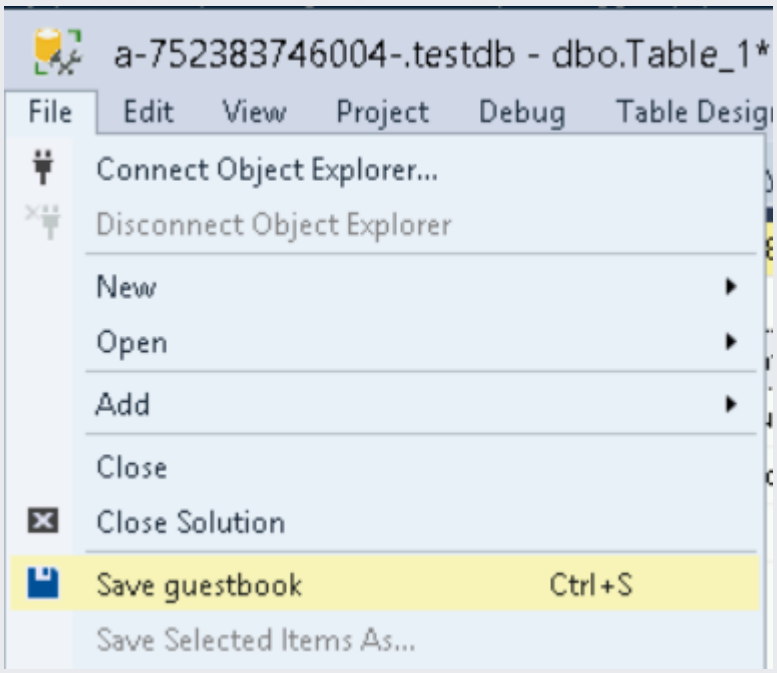
        i. In the **Column Properties** window, expand the **Identity Specification** item and set **(Is Identity)** to **Yes**.

    c. For the second **Column Name**, enter **guestname** and set its Data Type to varchar(255).

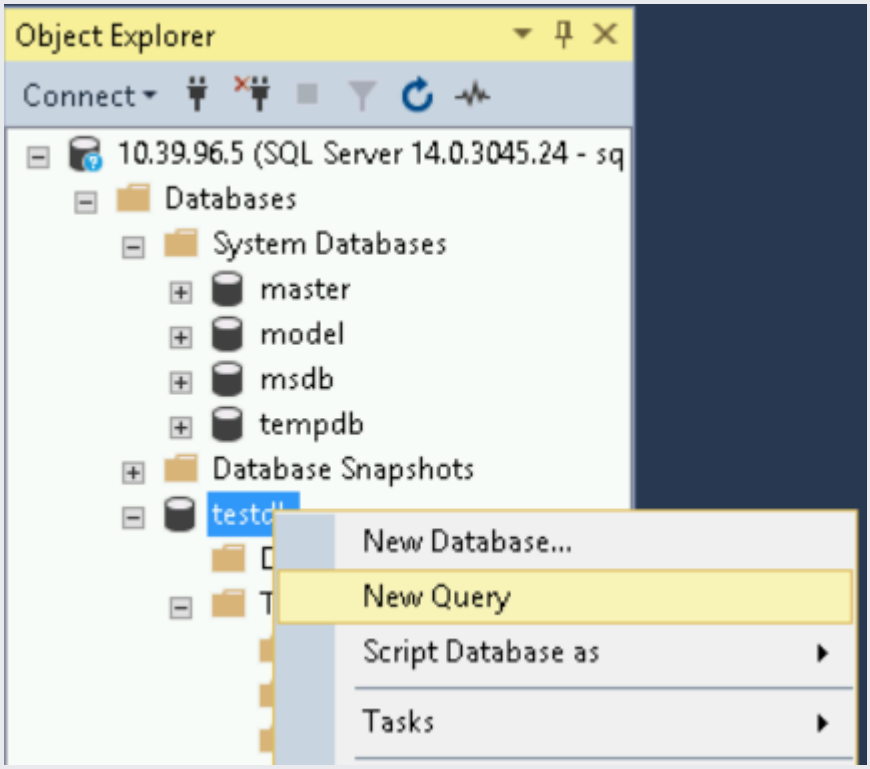
    d. For the third **Column Name**, enter **content** and set its Data Type to varchar(255).



5. Click the **File** menu and select **Save guestbook**.



6. Right-click the **testdb** table under **Databases** and select **New Query**.

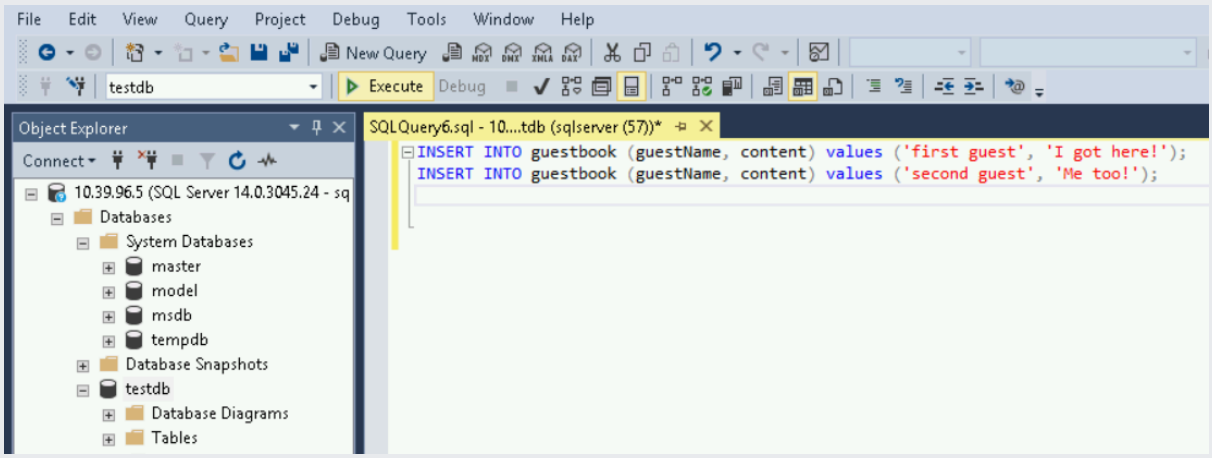


7. Enter the following two INSERT statements into the **SQL query** text window and click the **Execute** button.

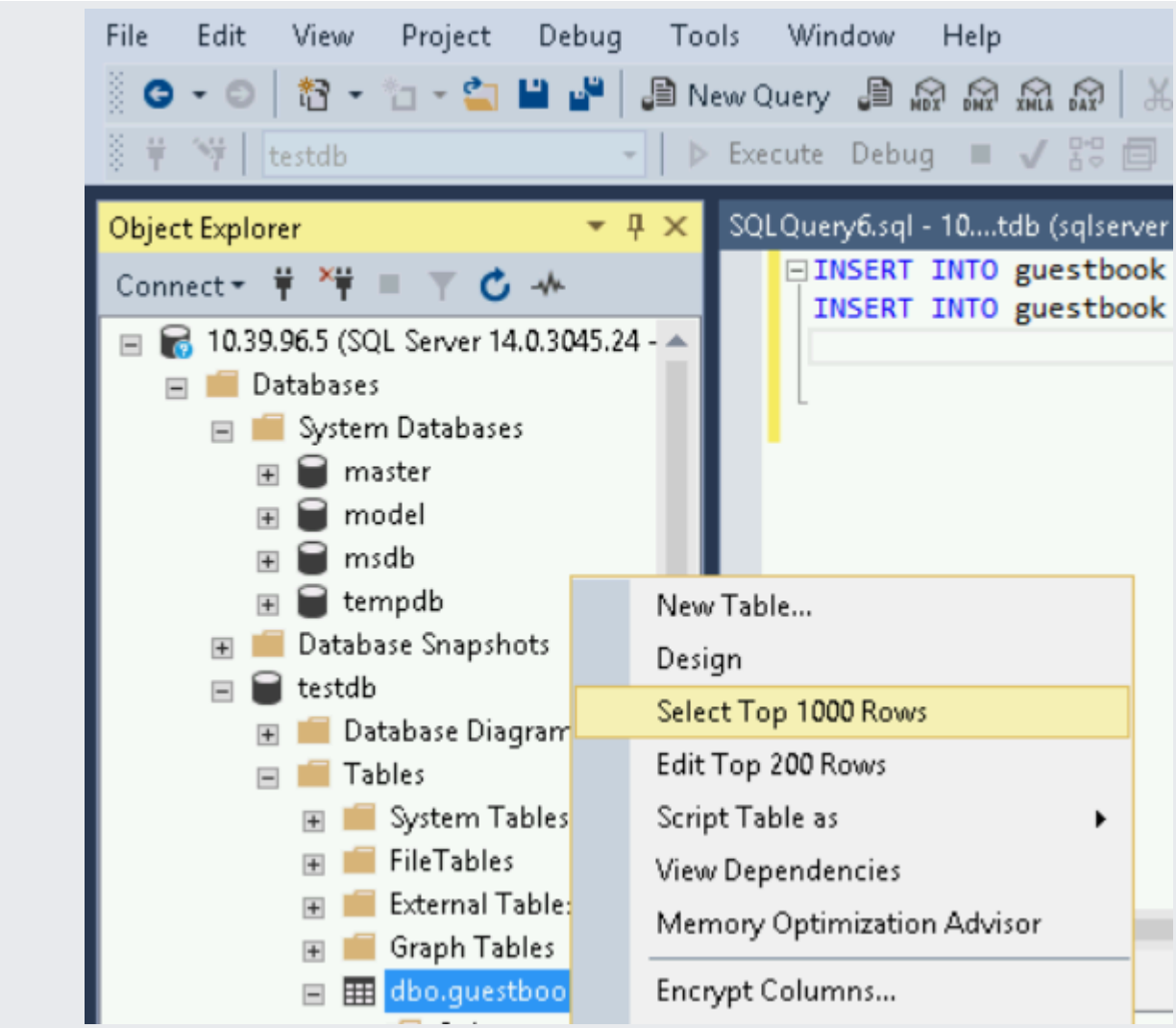
```
INSERT INTO guestbook (guestName, content) values ('first guest', 'I got

INSERT INTO guestbook (guestName, content) values ('second guest', 'Me to
```

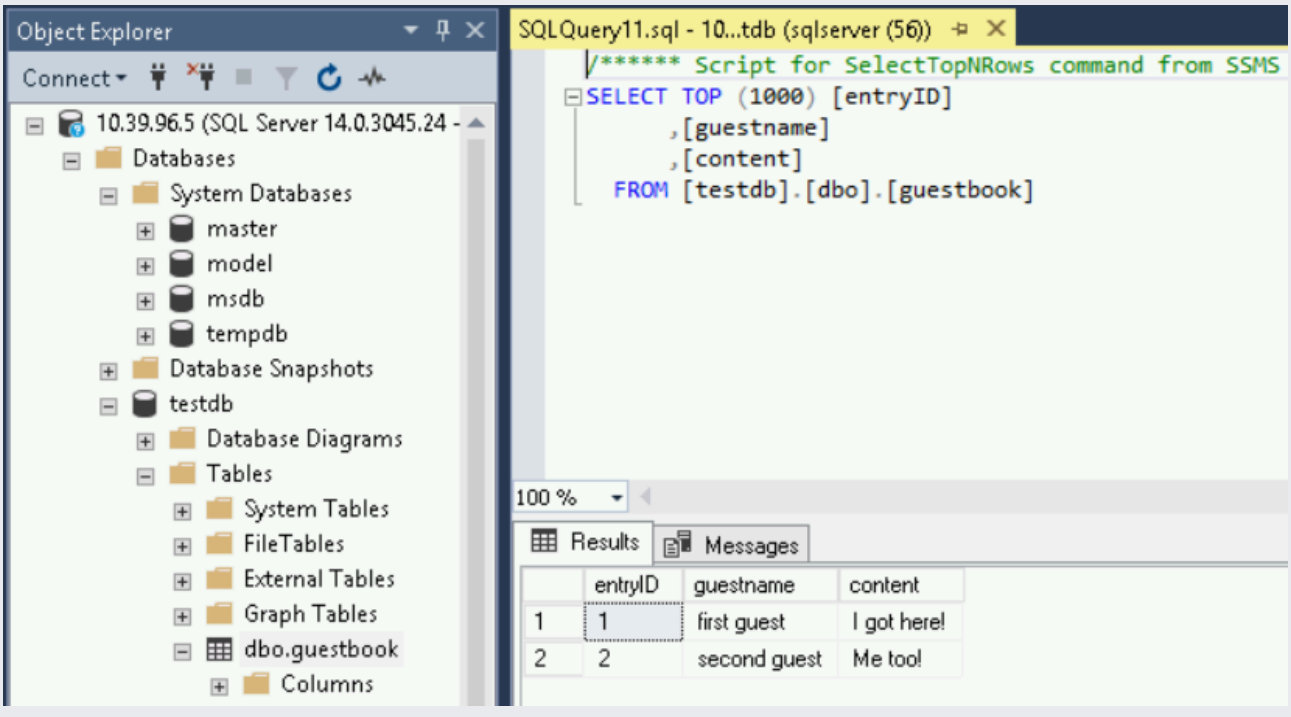
As an example:



8. Expand the **Tables** item under the **Databases > testdb** item in the **Object Explorer** window. Right-click the **dbo.guestbook** table and choose **Select Top 1000 Rows**.



The two records you inserted are displayed as **Results**, along with the SQL `SELECT` statement used to query the records.



Clean up

To avoid incurring charges to your Google Cloud account for the resources used on this page, follow these steps.

1. In the Google Cloud console, go to the **Cloud SQL Instances** page.

   Go to Cloud SQL Instances (https://console.cloud.google.com/sql)

2. Select the `myinstance` instance to open the **Instance details** page.
3. In the icon bar at the top of the page, click **Delete**.
4. In the **Delete instance** window, type your instance's name and then click **Delete**.

Optional cleanup steps

If you're not using the APIs that were enabled as part of this quickstart, you can disable them.

- APIs that were enabled within this quickstart:
  - Cloud SQL Admin API

1. In the Google Cloud console, go to the **APIs** page.

   Go to APIs (https://console.cloud.google.com/apis)

2. Select the Cloud SQL Admin API and then click the **Disable API** button.

What's next

- Learn about creating Cloud SQL instances (/sql/docs/sqlserver/create-instance).
- Learn about creating SQL Server users (/sql/docs/sqlserver/create-manage-users) and databases (/sql/docs/sqlserver/create-manage-databases) for your Cloud SQL instance.
- See the Cloud SQL pricing information (/sql/docs/sqlserver/pricing).
- In this quickstart you connected to the instance by using Cloud Shell. Learn about all of the connectivity options (/sql/docs/sqlserver/connect-overview#connection_options) in Cloud SQL. How you connect depends on your networking configuration, such as if your Cloud SQL instance has a public or private IP address. See how to configure your

Cloud SQL instance with a public IP (/sql/docs/sqlserver/configure-ip) and a private IP (/sql/docs/sqlserver/configure-private-ip) address.

- Learn about connecting to a Cloud SQL instance from other Google Cloud applications:
    - From an application running on the App Engine standard environment (/sql/docs/sqlserver/connect-app-engine)
    - From an application running on Compute Engine (/sql/docs/sqlserver/connect-compute-engine)
    - From an application running on GKE (/sql/docs/sqlserver/connect-kubernetes-engine)
    - From Cloud Run functions (/sql/docs/sqlserver/connect-functions)
    - From Cloud Run (/sql/docs/sqlserver/connect-run)

Last updated 2024-09-19 UTC.