

[Cloud SQL](https://cloud.google.com/sql/) (<https://cloud.google.com/sql/>)

[Documentation](https://cloud.google.com/sql/docs/) (<https://cloud.google.com/sql/docs/>)

[SQL Server](https://cloud.google.com/sql/docs/sqlserver/) (<https://cloud.google.com/sql/docs/sqlserver/>) [Guides](#)

# Connecting a client using public IP

---

[MySQL](https://cloud.google.com/sql/docs/mysql/connect-admin-ip) (<https://cloud.google.com/sql/docs/mysql/connect-admin-ip>) | [PostgreSQL](https://cloud.google.com/sql/docs/postgres/connect-admin-ip) (<https://cloud.google.com/sql/docs/postgres/connect-admin-ip>) | **SQL Server**

## Beta

This feature is in a pre-release state and might change or have limited support. For more information, see the [product launch stages](https://cloud.google.com/products/#product-launch-stages) (<https://cloud.google.com/products/#product-launch-stages>).

This page describes how to connect a SQL Server client, either running locally on your client machine or in the Cloud Shell, to your Cloud SQL instance.

Need help? For help troubleshooting the proxy, see [Troubleshooting Cloud SQL Proxy connections](https://cloud.google.com/sql/docs/sqlserver/sql-proxy#troubleshooting) (<https://cloud.google.com/sql/docs/sqlserver/sql-proxy#troubleshooting>). Or, see our [Cloud SQL Support page](https://cloud.google.com/sql/docs/sqlserver/support) (<https://cloud.google.com/sql/docs/sqlserver/support>).

**Note:** For information about connecting a client to a Cloud SQL instance using the Cloud SQL Proxy, see [Connecting a client using the Cloud SQL Proxy](https://cloud.google.com/sql/docs/sqlserver/connect-admin-proxy) (<https://cloud.google.com/sql/docs/sqlserver/connect-admin-proxy>). For information about connecting using private IP, see [Configuring private IP connectivity](https://cloud.google.com/sql/docs/sqlserver/configure-private-ip) (<https://cloud.google.com/sql/docs/sqlserver/configure-private-ip>).

## Before you begin

Before you can start using a client, you must have:

- Created a Cloud SQL instance, including configuring the default user.  
See [Creating Instances](https://cloud.google.com/sql/docs/sqlserver/create-instance) (<https://cloud.google.com/sql/docs/sqlserver/create-instance>) and [Configuring the default user account](https://cloud.google.com/sql/docs/sqlserver/create-manage-users#user-root) (<https://cloud.google.com/sql/docs/sqlserver/create-manage-users#user-root>).
- Determined how you will connect to your instance.

- Installed the [SQL Server command-line tools](#) (<https://docs.microsoft.com/en-us/sql/linux/sql-server-linux-setup-tools?view=sql-server-2017>).

## Using a local client

Using a local client to connect to your Cloud SQL instance involves three high-level tasks:

1. [Install the client](#) (#install-mysql-client).
2. [Configure access to your Cloud SQL instance](#) (#configure-instance-mysql).
3. [Connect to your Cloud SQL instance](#) (#connect).

### Install the client

To install the client:

<a href="#">DEBIAN/UBUNTU</a>	<a href="#">CENTOS/RHEL</a>	<a href="#">MORE</a> ▾
For Debian/Ubuntu, install the applicable SQL Server command-line tools using <a href="#">these instructions</a> ( <a href="https://docs.microsoft.com/en-us/sql/linux/sql-server-linux-setup-tools?view=sql-server-2017#ubuntu">https://docs.microsoft.com/en-us/sql/linux/sql-server-linux-setup-tools?view=sql-server-2017#ubuntu</a> ).		

### Configure access to your Cloud SQL instance

To configure access to your instance:

1. From the client machine, use [What's my IP](http://ipv4.whatismyv6.com) (<http://ipv4.whatismyv6.com>) to see the IP address of the client machine.
2. Copy that IP address.
3. 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/instances) ([HTTPS://CONSOLE.CLOUD.GOOGLE.COM/SQL/INSTANCES](https://console.cloud.google.com/sql/instances))

4. Click the instance to open its **Overview** page, and record its IP address.
5. Select the **Connections** tab.
6. Under **Authorized networks**, click **Add network** and enter the IP address of the machine where the client is installed.

★ **Note:** The IP addresses must be IPv4. That is, the IP addresses of the instance, and of the client machine that you authorize, both must be IPv4.

7. Click **Done**. Then click **Save** at the bottom of the page to save your changes.
8. Connect to your instance, either with SSL (#connect-ssl) or without SSL (#connect).

## Connect to your Cloud SQL instance without encryption

**Note:** This procedure configures an unencrypted connection to your database. If your database contains sensitive data, you should [connect to your instance using SSL](#) (#connect-ssl).

To connect to your instance:

1. Confirm that you have installed the client (#install-mysql-client) and configured access to your instance (#configure-instance-mysql).
2. Use the `sqlcmd` command to connect, by following steps similar to those in the examples on the [SQL Server quickstart](#) (<https://docs.microsoft.com/en-us/sql/linux/quickstart-install-connect-ubuntu?view=sql-server-2017#connect-locally>) and [Use the utility](#) (<https://docs.microsoft.com/en-us/sql/ssms/scripting/sqlcmd-use-the-utility?view=sql-server-2017>) pages.

## Connect to your Cloud SQL instance using SSL

To connect using SSL, you need:

- A Certificate Authority (CA) certificate in a **server-ca.pem** file.
- A client public key certificate in a **client-cert.pem** file.
- A client private key in a **client-key.pem** file.

If you lack a client certificate and a corresponding private key, [create a new client certificate](#) (<https://cloud.google.com/sql/docs/sqlserver/configure-ssl-instance#new-client>).

Before you begin, confirm that you have installed the client (#install-mysql-client) and configured access to your instance (#configure-instance-mysql).

To connect to your instance using SSL:

Use the instructions in the [Client Initiated Encryption](https://docs.microsoft.com/en-us/sql/linux/sql-server-linux-encrypted-connections?view=sql-server-2017#client-initiated-encryption)

(<https://docs.microsoft.com/en-us/sql/linux/sql-server-linux-encrypted-connections?view=sql-server-2017#client-initiated-encryption>)

section, and related sections, of the [Encrypting Connections to SQL Server on Linux](https://docs.microsoft.com/en-us/sql/linux/sql-server-linux-encrypted-connections?view=sql-server-2017)

(<https://docs.microsoft.com/en-us/sql/linux/sql-server-linux-encrypted-connections?view=sql-server-2017>) page.

## What's next

- Learn about the [two levels of access control](https://cloud.google.com/sql/docs/sqlserver/instance-access-control) (<https://cloud.google.com/sql/docs/sqlserver/instance-access-control>) for Cloud SQL instances.
- Create [users](https://cloud.google.com/sql/docs/sqlserver/create-manage-users) (<https://cloud.google.com/sql/docs/sqlserver/create-manage-users>) and [databases](https://cloud.google.com/sql/docs/sqlserver/create-manage-databases) (<https://cloud.google.com/sql/docs/sqlserver/create-manage-databases>).
- Learn about [options for connecting to your instance from your application](https://cloud.google.com/sql/docs/sqlserver/external-connection-methods) (<https://cloud.google.com/sql/docs/sqlserver/external-connection-methods>).
- Learn [more about SQL Server](https://docs.microsoft.com/sql/sql-server/sql-server-technical-documentation) (<https://docs.microsoft.com/sql/sql-server/sql-server-technical-documentation>).
- Learn about [options for support](https://cloud.google.com/sql/docs/support) (<https://cloud.google.com/sql/docs/support>).

---

*Except as otherwise noted, the content of this page is licensed under the [Creative Commons Attribution 4.0 License](https://creativecommons.org/licenses/by/4.0/) (<https://creativecommons.org/licenses/by/4.0/>), and code samples are licensed under the [Apache 2.0 License](https://www.apache.org/licenses/LICENSE-2.0) (<https://www.apache.org/licenses/LICENSE-2.0>). For details, see our [Site Policies](https://developers.google.com/terms/site-policies) (<https://developers.google.com/terms/site-policies>). Java is a registered trademark of Oracle and/or its affiliates.*

*Last updated December 10, 2019.*