

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

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# Creating read replicas

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**MySQL** | [PostgreSQL](https://cloud.google.com/sql/docs/postgres/replication/create-replica) (<https://cloud.google.com/sql/docs/postgres/replication/create-replica>) | [SQL Server](#)

This page describes how to create a read replica for a Cloud SQL instance.

A read replica is a copy of the master that reflects changes to the master instance in almost real time. You create a replica to offload read requests or analytics traffic from the master. You can create multiple read replicas for a single master instance.

Read replicas are read-only. You cannot write to them.

**Note:** Read replicas do not provide failover capability. To provide failover capability for a Second Generation instance, see [Configuring an Instance for High Availability](https://cloud.google.com/sql/docs/mysql/configure-ha) (<https://cloud.google.com/sql/docs/mysql/configure-ha>).

For more information about how replication works, see [Requirements and Tips for Configuring Replication](https://cloud.google.com/sql/docs/mysql/replication/tips#read-replica) (<https://cloud.google.com/sql/docs/mysql/replication/tips#read-replica>).

**Note:** All references to binary logging in this document apply to the master instance. Cloud SQL does not support binary logging for the replica instance.

## Before you begin

If you are creating the first replica for this instance, ensure that the instance meets the requirements for master instances. [Learn more](https://cloud.google.com/sql/docs/mysql/replication/tips/#read-replica)

(<https://cloud.google.com/sql/docs/mysql/replication/tips/#read-replica>).

## Creating a read replica

The steps for creating a read replica are different for [Second Generation](#) (#create-2nd-gen) and [First Generation](#) (#create-1st-gen) instances.

**Note:** Second Generation is replacing First Generation; support for First Generation instances ends January 30, 2020. To upgrade a First Generation instance to Second Generation, see [Upgrading a First Generation Instance to Second Generation](#) (<https://cloud.google.com/sql/docs/mysql/upgrade-2nd-gen>).

## Read replica for a Second Generation master

To create a read replica for Second Generation master:

### CONSOLE (2ND GEN)

MORE ▾

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

[GO TO THE CLOUD SQL INSTANCES PAGE \(HTTPS://CONSOLE.CLOUD.GOOGLE.COM/SQL/INSTANCES\)](https://console.cloud.google.com/sql/instances)

2. Find the instance you want to create a replica for, and open its more actions menu at the far right of its listing.



3. Select **Create read replica**.

If you do not see that choice, the instance is a replica; you cannot create a replica of a replica.

4. If the instance had backups and binary logging enabled, continue with [step 6](#) (#2ndgen-create-step) . Otherwise, select **Automate backups** and **Enable binary logging**, and click **Continue**.

← Create read replica

A read replica is a read-only replica of a master instance. This read replica will replicate from instance1 (Second Generation master)

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**1 Enable both backups and binary logging for the instance**

Before you can clone your instance, you must first enable daily backups and binary logging.

**Backups and binary logging**  
Both options add small performance and monetary costs. [Learn more](#)

Automate backups

9:00 AM – 1:00 PM ▾

Choose a window for automated backups. May continue outside window until complete. Time is your local time (UTC-7).

Enable binary logging (required for replication and earlier position point-in-time recovery)

[Continue](#)

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**2 Create read replica**

[Go to replicas tab](#)

5. Click **Save and restart** to restart the instance.

Enabling binary logging causes the instance to be restarted.

6. In the **Create read replica** page, update the instance ID, if needed, and any other configuration options, as required.

← Create read replica of instance1

**Instance ID**  
Choice is permanent. Use lowercase letters, numbers, and hyphens. Start with a letter.

**Location** ⓘ  
For better performance, keep your data close to the services that need it.

**Region**

**Zone**

**Database version**  
MySQL 5.7

⌵ Show configuration options

7. Click **Create**.

Cloud SQL creates a backup, if needed, and creates the replica. You are returned to the instance page for the master.

## Read replica for a First Generation master

To create a read replica for First Generation master:

**Note:** Second Generation is replacing First Generation; support for First Generation instances ends January 30, 2020. To upgrade a First Generation instance to Second Generation, see [Upgrading a First Generation Instance to Second Generation](https://cloud.google.com/sql/docs/mysql/upgrade-2nd-gen) (<https://cloud.google.com/sql/docs/mysql/upgrade-2nd-gen>).

### CONSOLE (1ST GEN)

MORE ▾

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

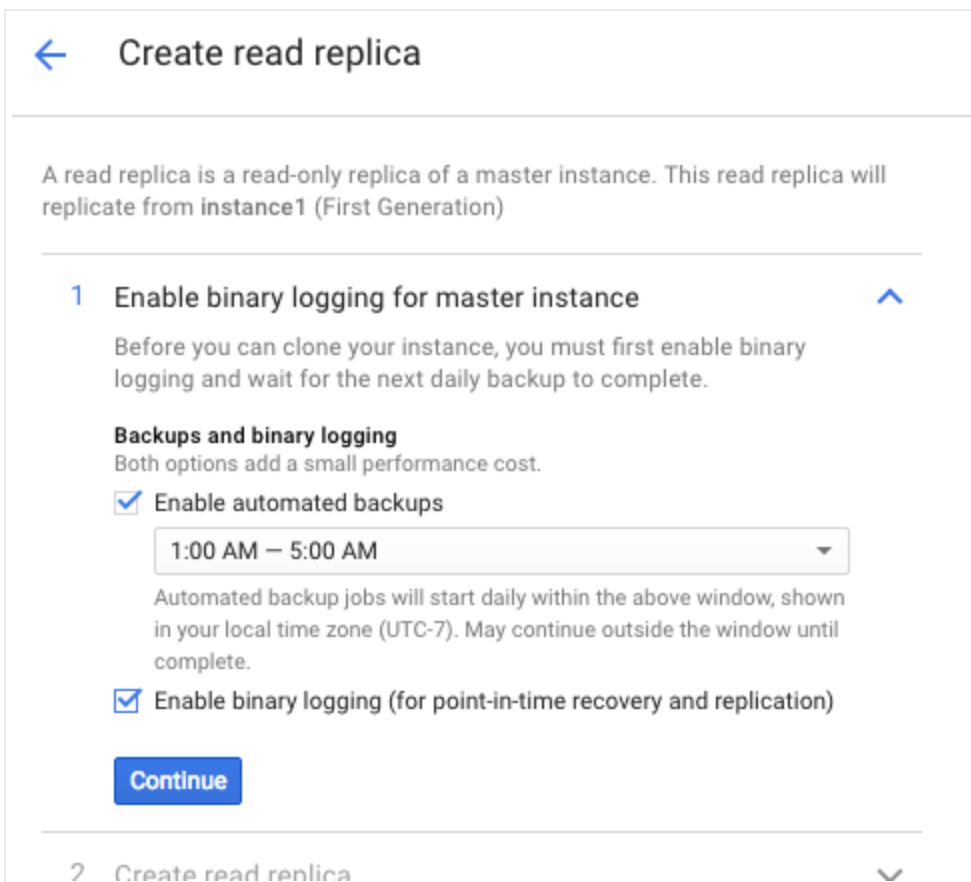
**[GO TO THE CLOUD SQL INSTANCES PAGE](https://console.cloud.google.com/sql/instances)** ([HTTPS://CONSOLE.CLOUD.GOOGLE.COM/SQL/INSTANC](https://console.cloud.google.com/sql/instances)

2. Find the instance you want to create a replica for, and open its more actions menu at the far right of its listing.



3. Select **Create read replica**.

4. If the instance had backups and binary logging enabled, continue with [step 7](#) (#1stgen-create-step). Otherwise, select **Automate backups** and **Enable binary logging**, and click **Continue**.



5. Click **Save and restart** to enable binary logging and restart the instance.

Enabling binary logging causes the instance to be restarted.

6. If the instance did not have any backups, you must now wait for a backup to be created.

It could take up to 24 hours for the backup to be created, depending on the backup window of the instance.

7. In the **Create read replica** page, update the instance ID, if needed, and any other settings as required.

## 8. Click **Create**.

Cloud SQL creates the replica, and you are returned to the instance page for the master.

## What's next

- Learn about [requirements and best practices for replication](https://cloud.google.com/sql/docs/mysql/replication/tips) (<https://cloud.google.com/sql/docs/mysql/replication/tips>).
- Learn how to [manage replicas](https://cloud.google.com/sql/docs/mysql/replication/manage-replicas) (<https://cloud.google.com/sql/docs/mysql/replication/manage-replicas>).

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