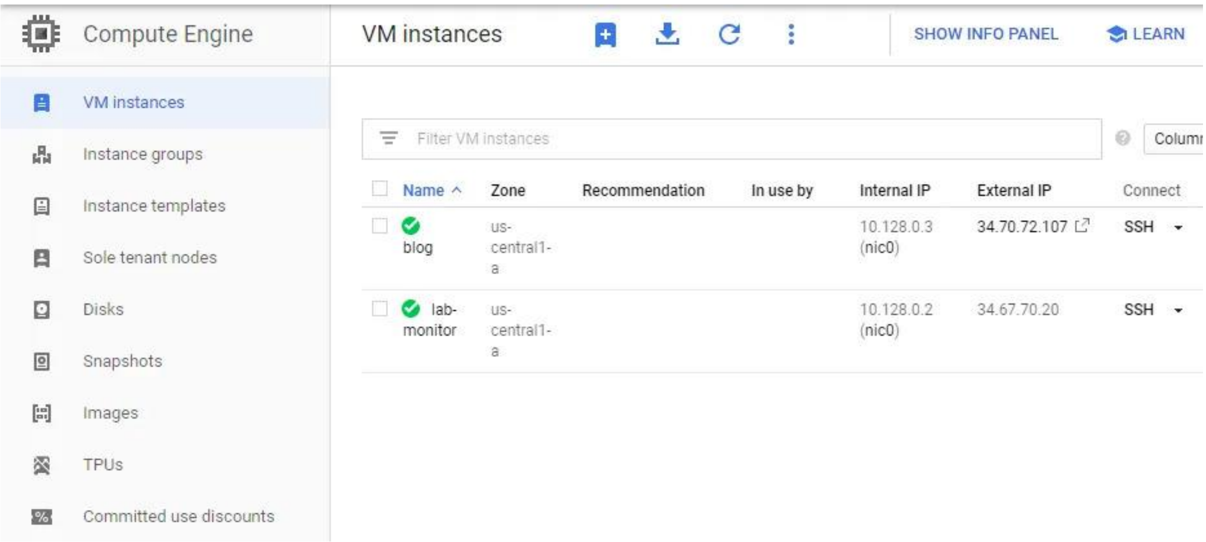
Case_Study_6

Yogeshwaran S

Migrate MySQL to cloud SQL challenge from qwiklabs

Step – 1 After I launch the student account, I navigated to VM



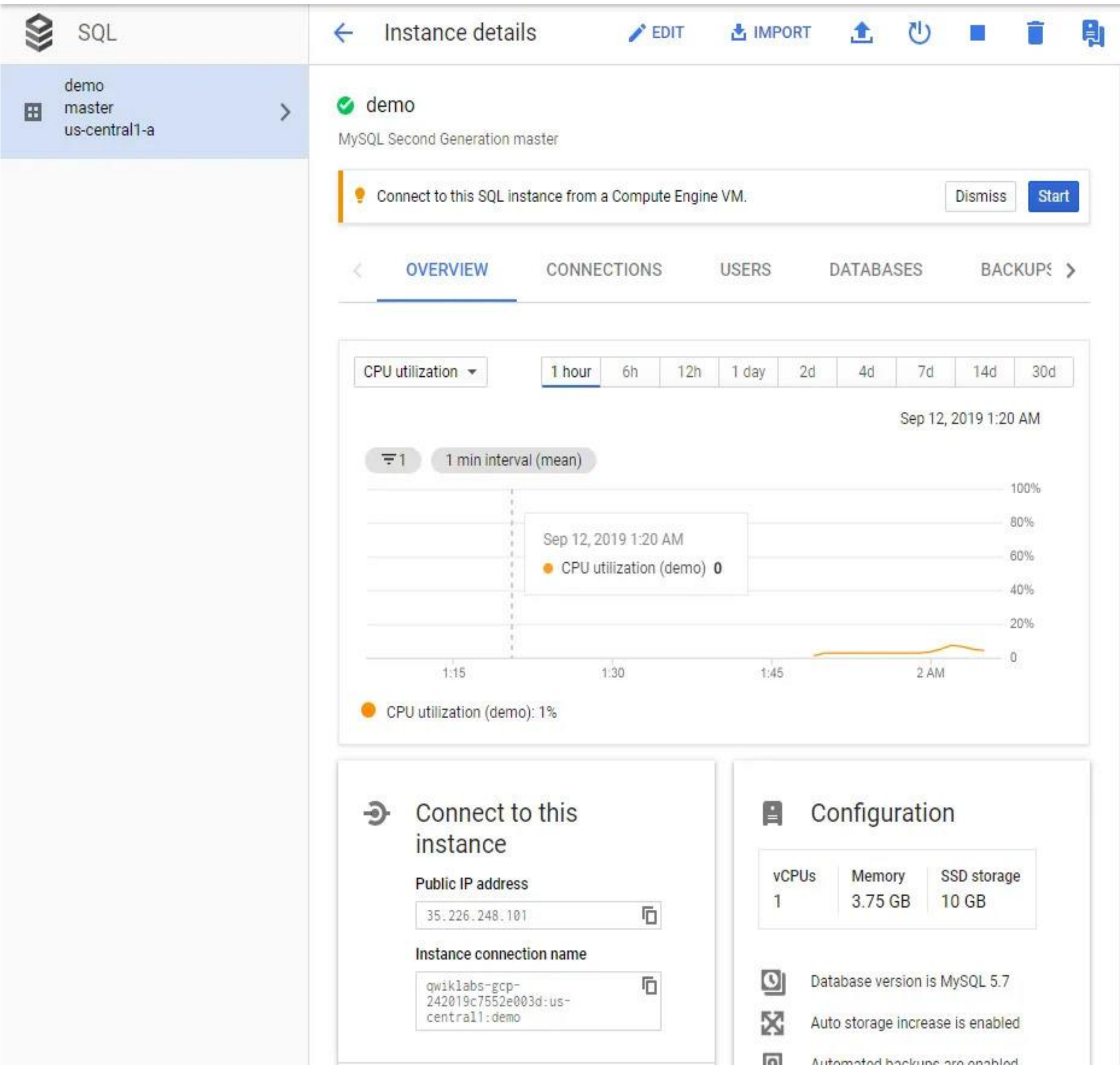
Name	Zone	Recommendation	In use by	Internal IP	External IP	Connect
blog	us-central1-a			10.128.0.3 (nic0)	34.70.72.107	SSH
lab-monitor	us-central1-a			10.128.0.2 (nic0)	34.67.70.20	SSH

I can see two VM, blog and lab-monitor

Step-2 Create Cloud SQL Instance

Because I want to host the migrated database

In the web console, and I create SQL instances. Choose MySQL, give a name to the SQL instance, e.g. demo and generate a root password and then click Create.



demo
master
us-central1-a

demo
MySQL Second Generation master

Connect to this SQL instance from a Compute Engine VM.

Sep 12, 2019 1:20 AM

Sep 12, 2019 1:20 AM
CPU utilization (demo) 0

CPU utilization (demo): 1%

Connect to this instance

Public IP address
35.226.248.101

Instance connection name
qwiklabs-gcp-242019c7552e003d:us-central1:demo

Configuration

vCPUs	Memory	SSD storage
1	3.75 GB	10 GB

Database version is MySQL 5.7

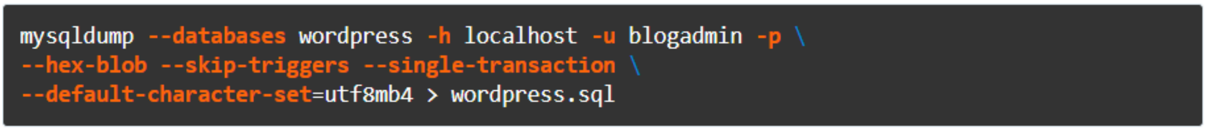
Auto storage increase is enabled

Automated backups are enabled

Step – 3 Navigate to blog VM ssh

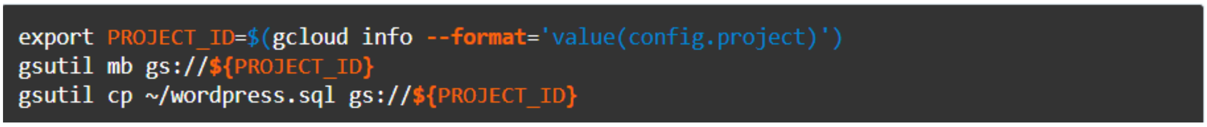
Both WordPress and its MySQL database are running in this VM instance. The existing MySQL database is called WordPress and the user called blogadmin with password Password1*

In the SSH session, I use mysqldump to export the MySQL database to a dump file:



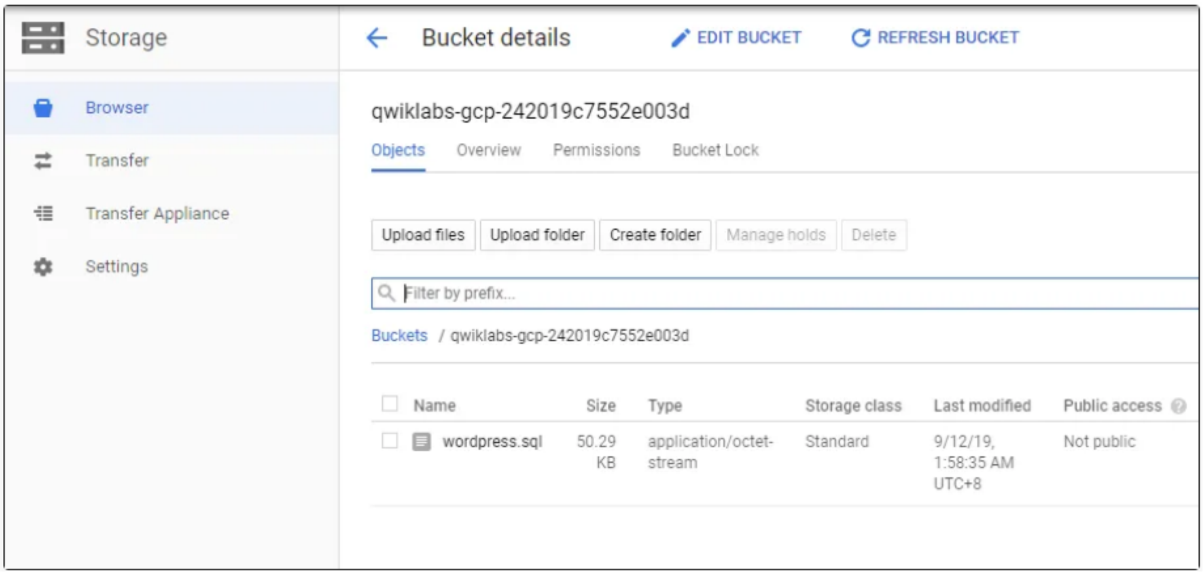
```
mysqldump --databases wordpress -h localhost -u blogadmin -p \
--hex-blob --skip-triggers --single-transaction \
--default-character-set=utf8mb4 > wordpress.sql
```

Now I need to copy the dump file to Cloud Storage. So I use the following commands to create a bucket and upload the file to it.



```
export PROJECT_ID=$(gcloud info --format='value(config.project)')
gsutil mb gs://${PROJECT_ID}
gsutil cp ~/wordpress.sql gs://${PROJECT_ID}
```

Step – 4 Upload Storage file



qwiklabs-gcp-242019c7552e003d

Buckets / qwiklabs-gcp-242019c7552e003d

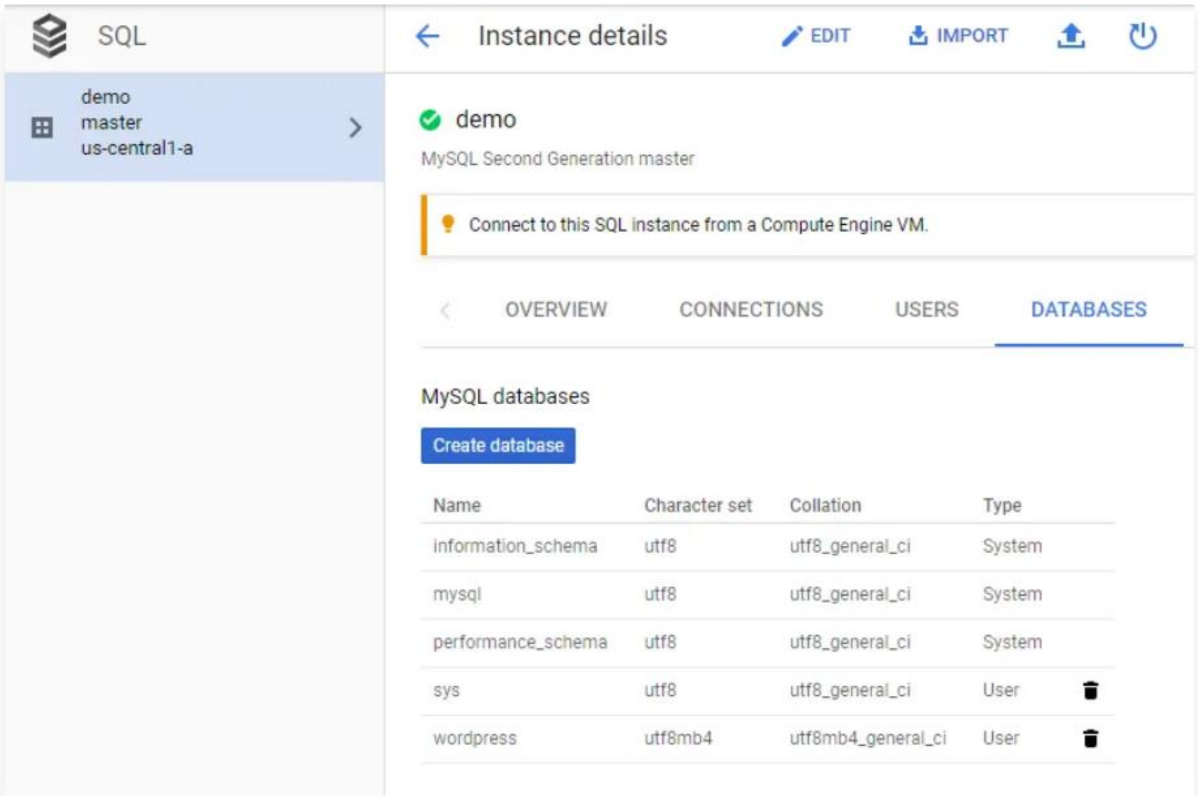
☐	Name	Size	Type	Storage class	Last modified	Public access
☐	wordpress.sql	50.29 KB	application/octet-stream	Standard	9/12/19, 1:58:35 AM UTC+8	Not public

Step – 5 Import to Cloud SQL

Navigate to SQL to check whether the cloud SQL instance is ready. Once the instance is online, click the instance name to view the details.

Choose the DATABASES tab, and click Create database.

In the dialogue, I enter **wordpress** as the name and select **utf8mb4** as the character set.



demo

MySQL Second Generation master

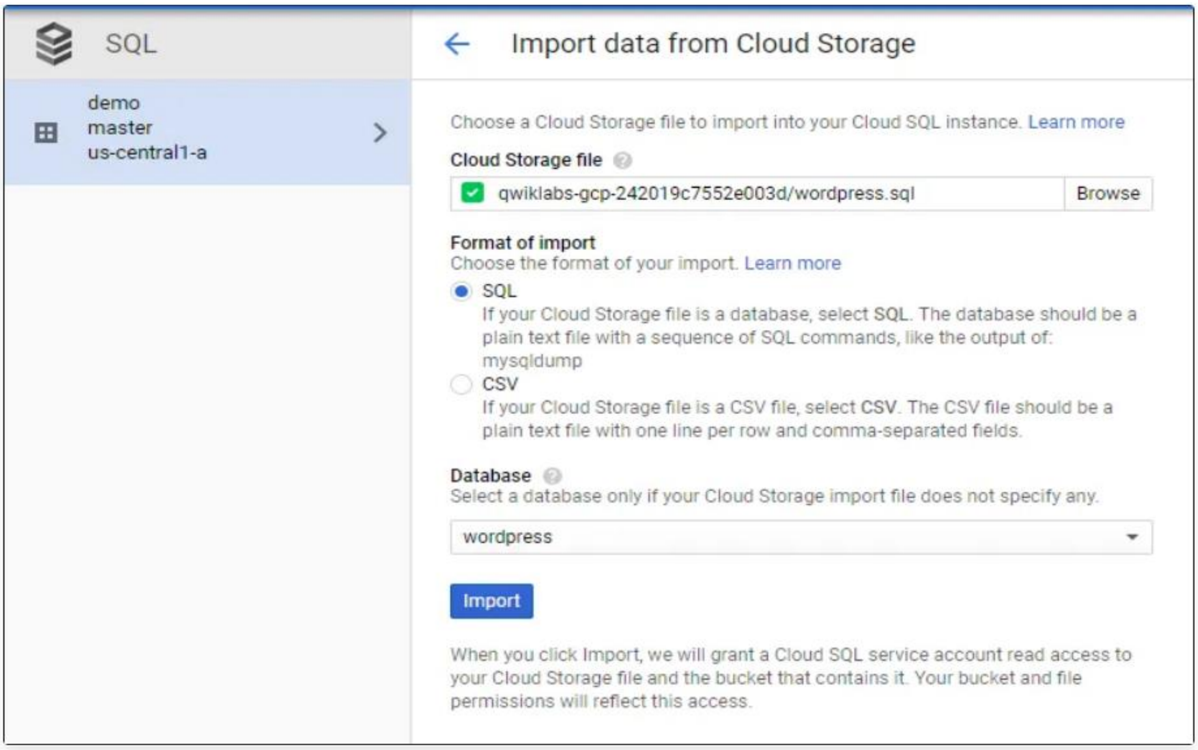
Connect to this SQL instance from a Compute Engine VM.

MySQL databases

Name	Character set	Collation	Type
information_schema	utf8	utf8_general_ci	System
mysql	utf8	utf8_general_ci	System
performance_schema	utf8	utf8_general_ci	System
sys	utf8	utf8_general_ci	User
wordpress	utf8mb4	utf8mb4_general_ci	User

Now I prepared an empty database called **wordpress** in the Cloud SQL. Click IMPORT button at the top of the page.

In the dialog, click **Browse** to select the dump file in the Cloud Storage and select **wordpress** in the Database field.



Import data from Cloud Storage

Choose a Cloud Storage file to import into your Cloud SQL instance. Learn more

Cloud Storage file

qwiklabs-gcp-242019c7552e003d/wordpress.sql

Format of import

Choose the format of your import. Learn more

● SQL

If your Cloud Storage file is a database, select **SQL**. The database should be a plain text file with a sequence of SQL commands, like the output of: mysqldump

○ CSV

If your Cloud Storage file is a CSV file, select **CSV**. The CSV file should be a plain text file with one line per row and comma-separated fields.

Database

Select a database only if your Cloud Storage import file does not specify any.

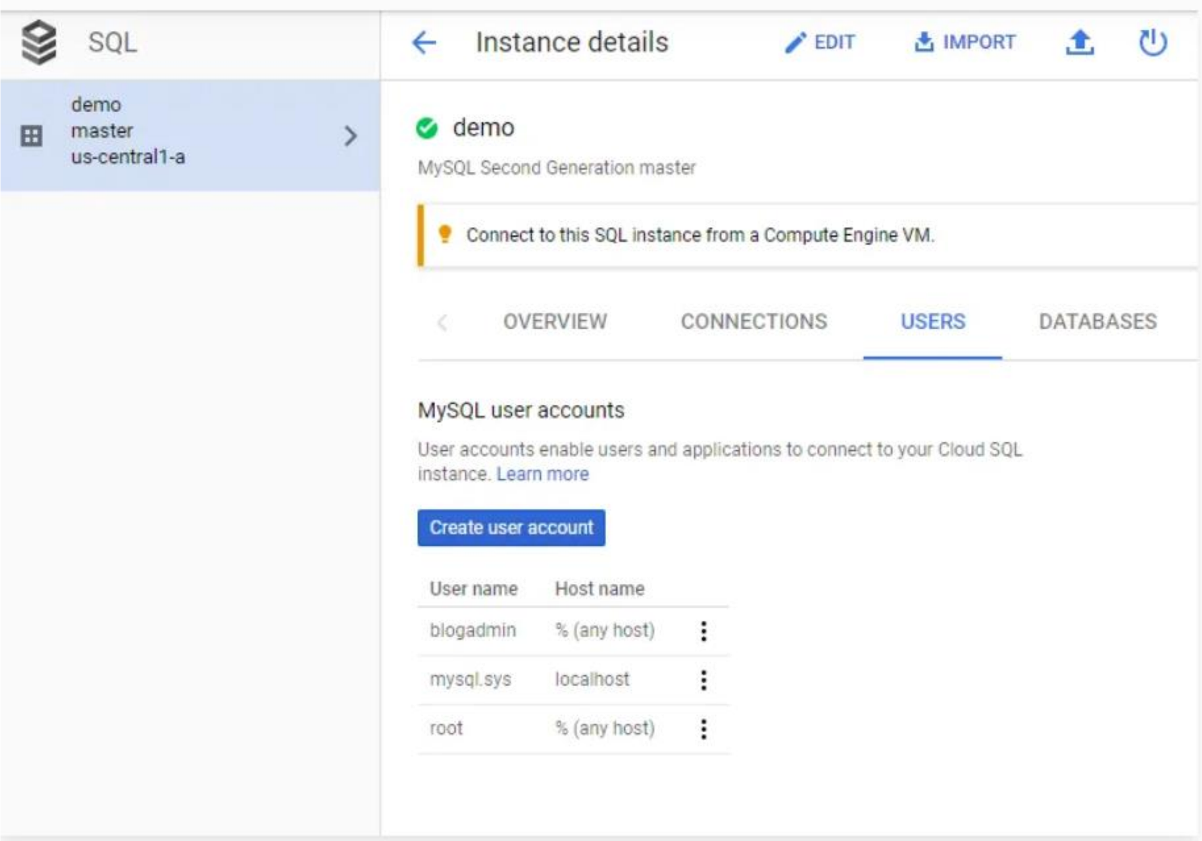
wordpress

When you click Import, we will grant a Cloud SQL service account read access to your Cloud Storage file and the bucket that contains it. Your bucket and file permissions will reflect this access.

Step – 6 Authorized Blog Instance to Access Cloud SQL

While the database is importing to the cloud SQL, I choose **USERS** tab and click **Create user account**.

In the dialog, enter **blogadmin** as the user name and **Password1*** as the password.



demo

MySQL Second Generation master

Connect to this SQL instance from a Compute Engine VM.

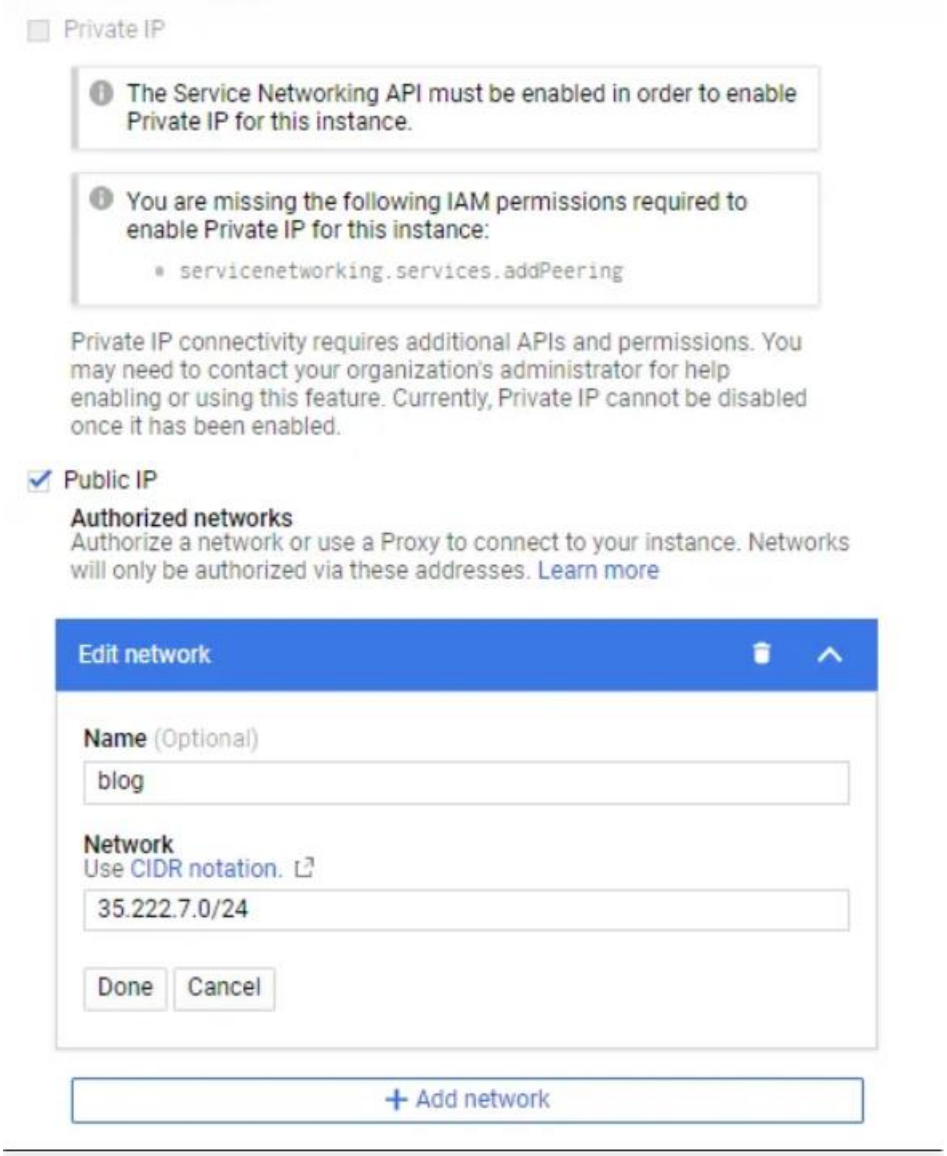
MySQL user accounts

User accounts enable users and applications to connect to your Cloud SQL instance. Learn more

User name	Host name
blogadmin	% (any host)
mysql.sys	localhost
root	% (any host)

In the CONNECTIONS tab, under the Public IP, click Add network.

Copy the Demo Blog site's IP site to the Network field and format the number in the form of a CIDR notation X.X.X.0/24.



□ Private IP

The Service Networking API must be enabled in order to enable Private IP for this instance.

You are missing the following IAM permissions required to enable Private IP for this instance:

- `servicenetworking.services.addPeering`

Private IP connectivity requires additional APIs and permissions. You may need to contact your organization's administrator for help enabling or using this feature. Currently, Private IP cannot be disabled once it has been enabled.

☑ Public IP

Authorized networks

Authorize a network or use a Proxy to connect to your instance. Networks will only be authorized via these addresses. Learn more

Edit network

Name (Optional)

blog

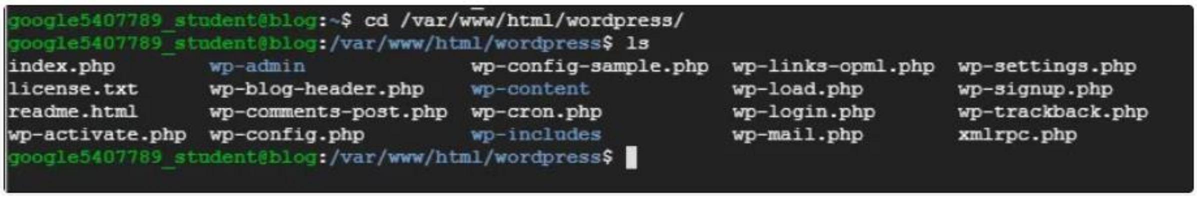
Network

Use CIDR notation.

35.222.7.0/24

Step -7 Reconfigure WordPress to connect the Cloud SQL instance

For this lab, the WordPress site configuration file is located in the **/var/www/html/wordpress/** directory.



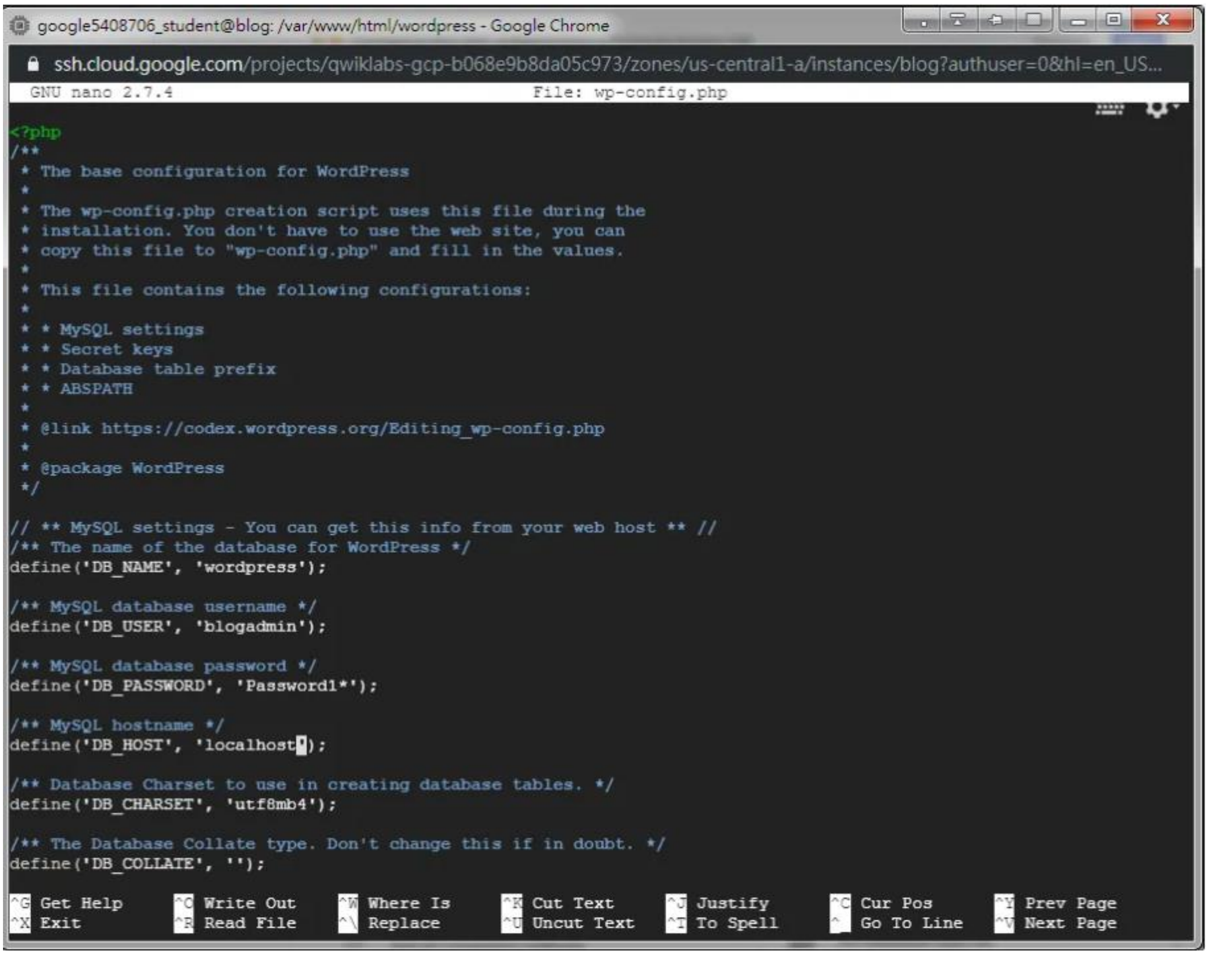
```
google5407789_student@blog:~$ cd /var/www/html/wordpress/
google5407789_student@blog:/var/www/html/wordpress$ ls
index.php        wp-admin             wp-config-sample.php  wp-links-opml.php  wp-settings.php
license.txt      wp-blog-header.php   wp-content            wp-load.php        wp-signup.php
readme.html      wp-comments-post.php wp-cron.php           wp-login.php       wp-trackback.php
wp-activate.php  wp-config.php        wp-includes           wp-mail.php        xmlrpc.php
google5407789_student@blog:/var/www/html/wordpress$ 
```

should find a file called **wp-config.php**

Refresh the Demo Blog Site, the website becomes fail to render.

Then, Now I edit the WordPress configuration such that it points to the Cloud SQL instance.

Open the **wp-config.php**, such as using **nano** editor



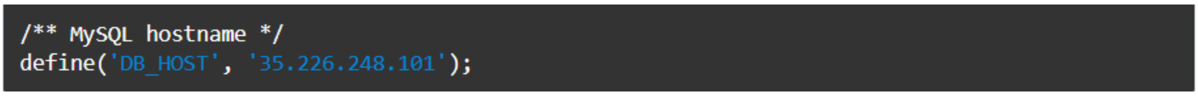
google5408706_student@blog: /var/www/html/wordpress - Google Chrome
ssh.cloud.google.com/projects/qwiklabs-gcp-b068e9b8da05c973/zones/us-central1-a/instances/blog?authuser=0&hl=en_US...

```
  GNU nano 2.7.4                                  File: wp-config.php

<?php
/**
 * The base configuration for WordPress
 *
 * The wp-config.php creation script uses this file during the
 * installation. You don't have to use the web site, you can
 * copy this file to "wp-config.php" and fill in the values.
 *
 * This file contains the following configurations:
 *
 * * MySQL settings
 * * Secret keys
 * * Database table prefix
 * * ABSPATH
 *
 * @link https://codex.wordpress.org/Editing_wp-config.php
 *
 * @package WordPress
 */

// ** MySQL settings - You can get this info from your web host ** //
/** The name of the database for WordPress */
define('DB_NAME', 'wordpress');

/** MySQL database username */
define('DB_USER', 'blogadmin');

/** MySQL database password */
define('DB_PASSWORD', 'Password1*');

/** MySQL hostname */
define('DB_HOST', 'localhost');

/** Database Charset to use in creating database tables. */
define('DB_CHARSET', 'utf8mb4');

/** The Database Collate type. Don't change this if in doubt. */
define('DB_COLLATE', '');

^G Get Help    ^O Write Out   ^W Where Is    ^K Cut Text    ^J Justify     ^C Cur Pos     ^Y Prev Page
^X Exit        ^R Read File   ^\ Replace     ^U Uncut Text  ^T To Spell    ^_ Go To Line  ^V Next Page
```

Find the following lines in the file,

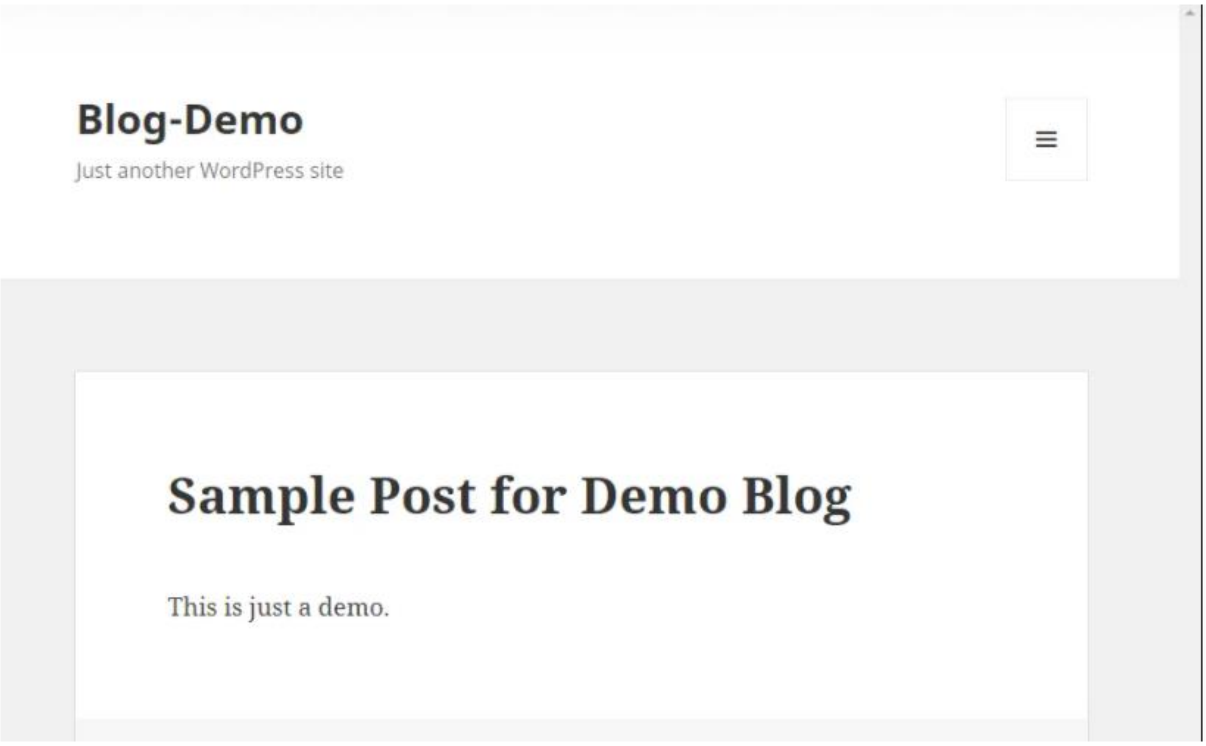
```
/** MySQL hostname */
define('DB_HOST', 'localhost');
```

Replace with the Public IP of the Cloud SQL instance, e.g,



```
/** MySQL hostname */
define('DB_HOST', '35.226.248.101');
```

If I refresh the website in my web browser, it should be restored. That means the WordPress site is connected to Cloud SQL.



Blog-Demo

Just another WordPress site

Sample Post for Demo Blog

This is just a demo.