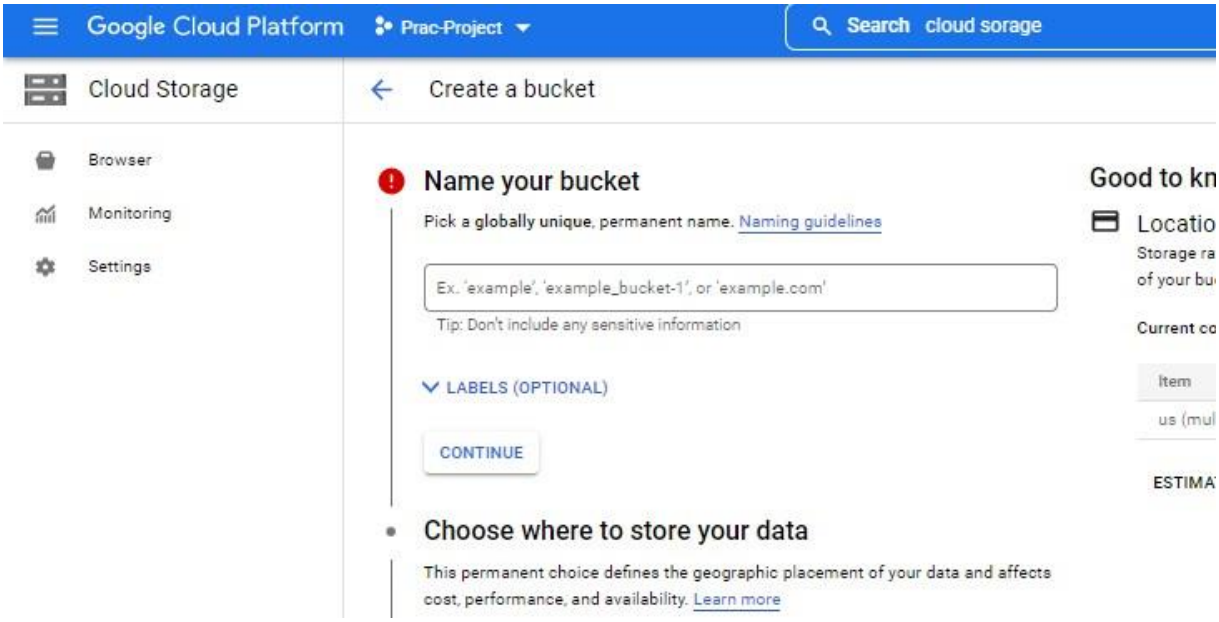
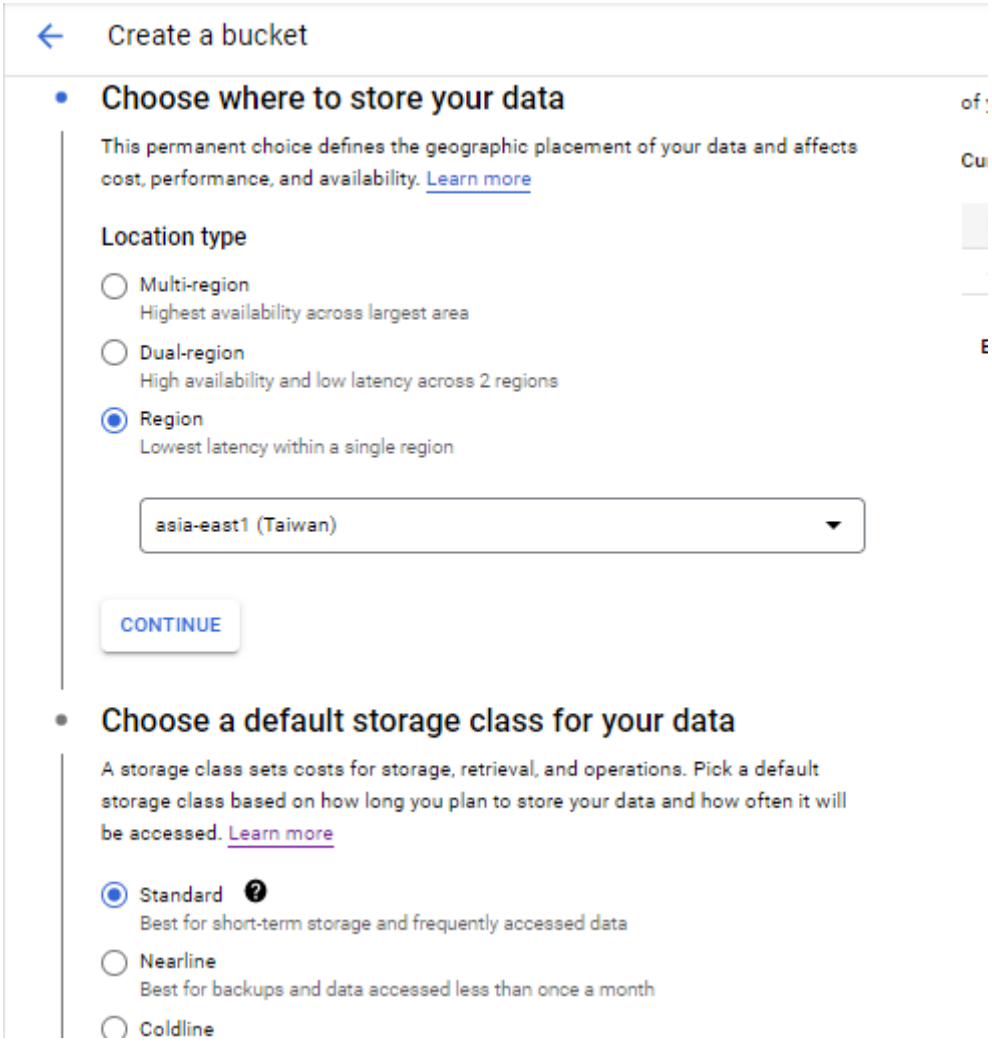
Module 5 ------- Assignment

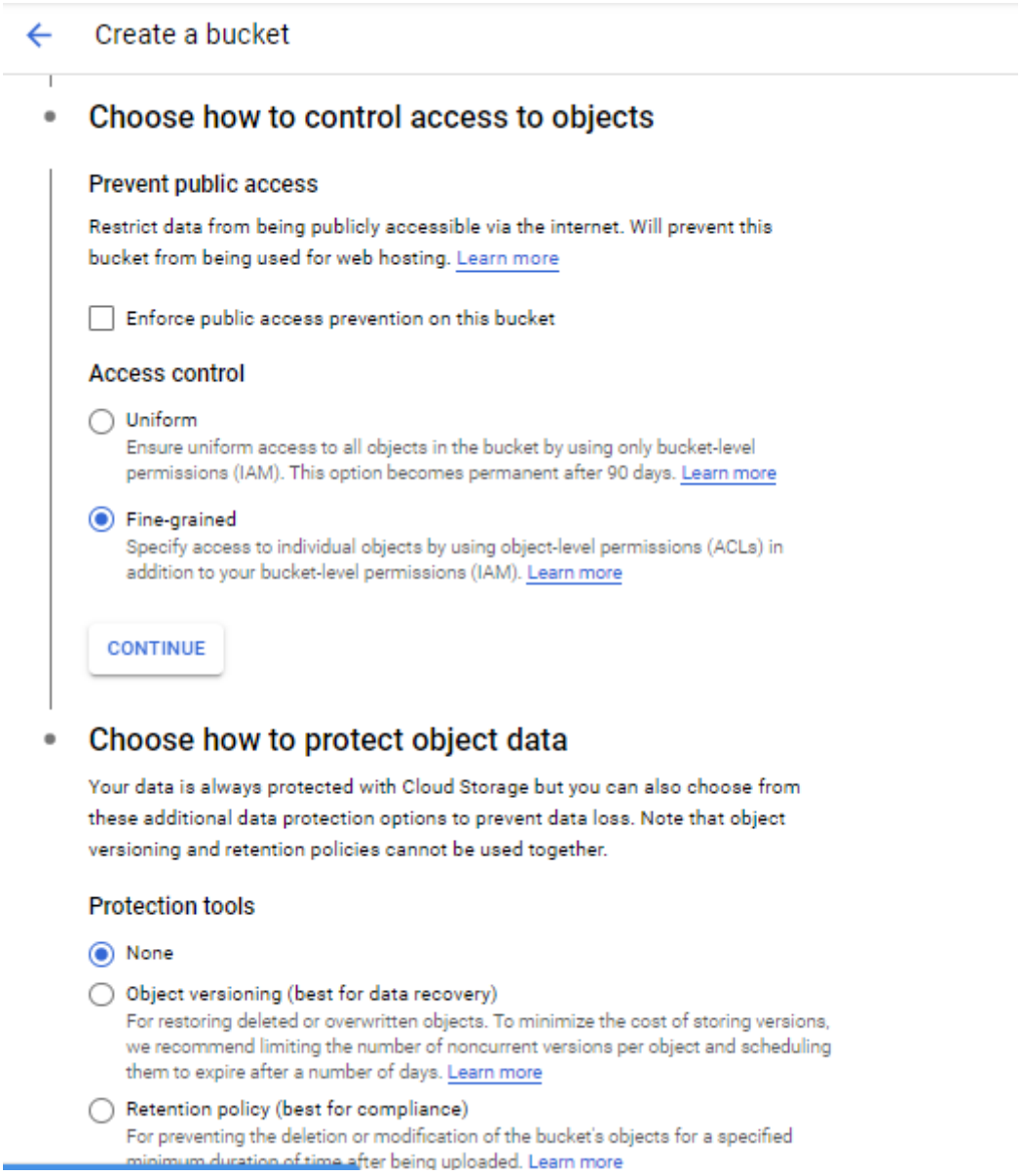
Go to cloud storage and create a new bucket.



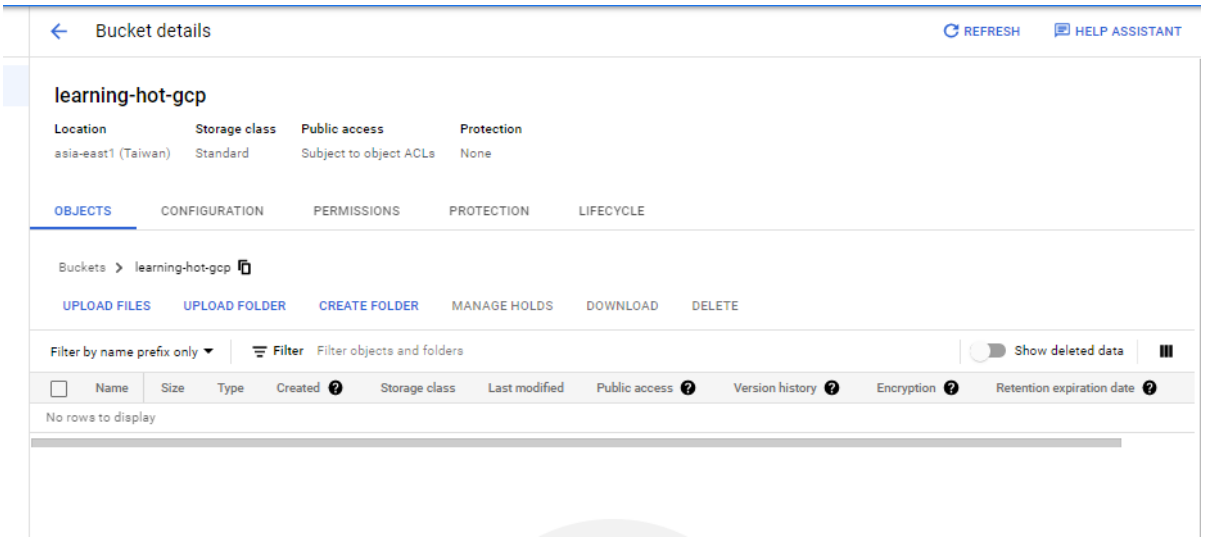
Choose region and default storage class.



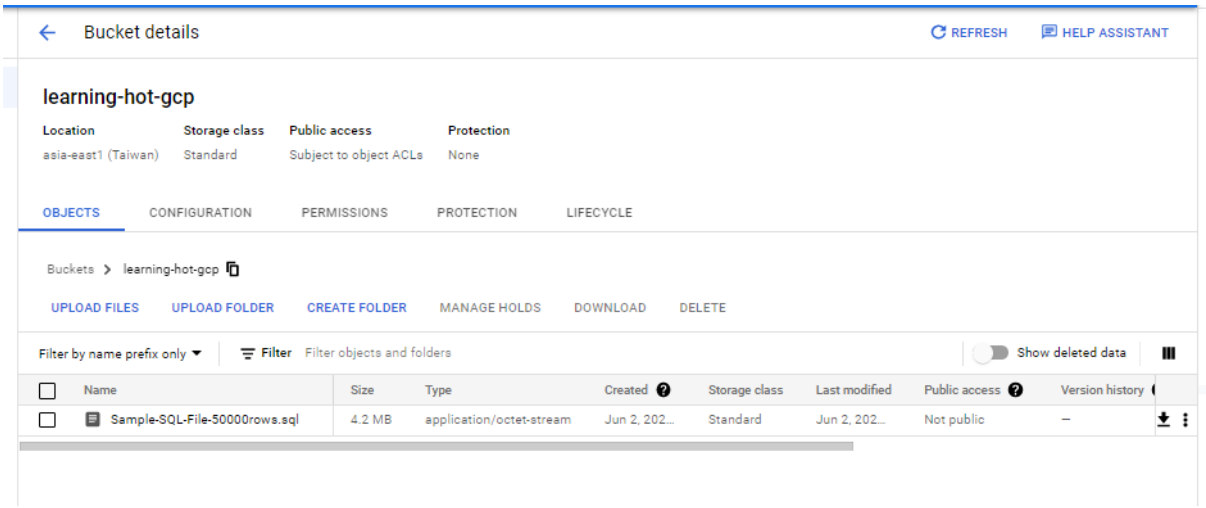
Choose access control.



Bucket created for Hot.

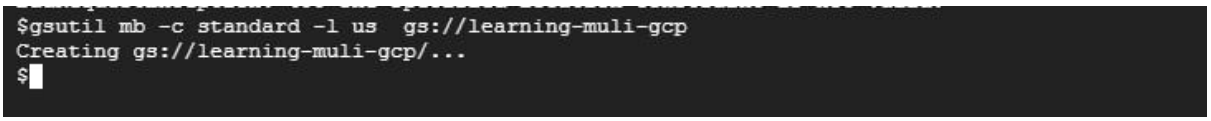


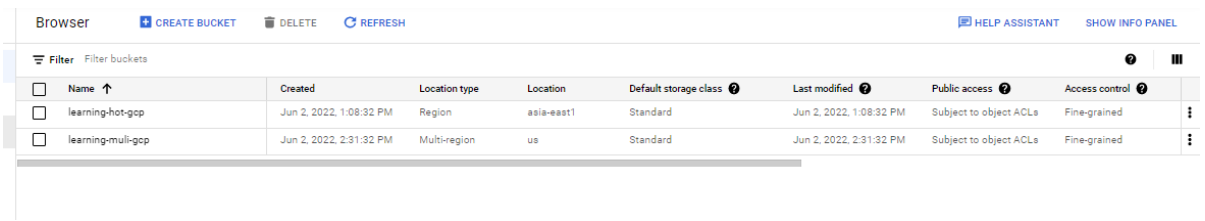
Upload the given SQL file in the bucket.



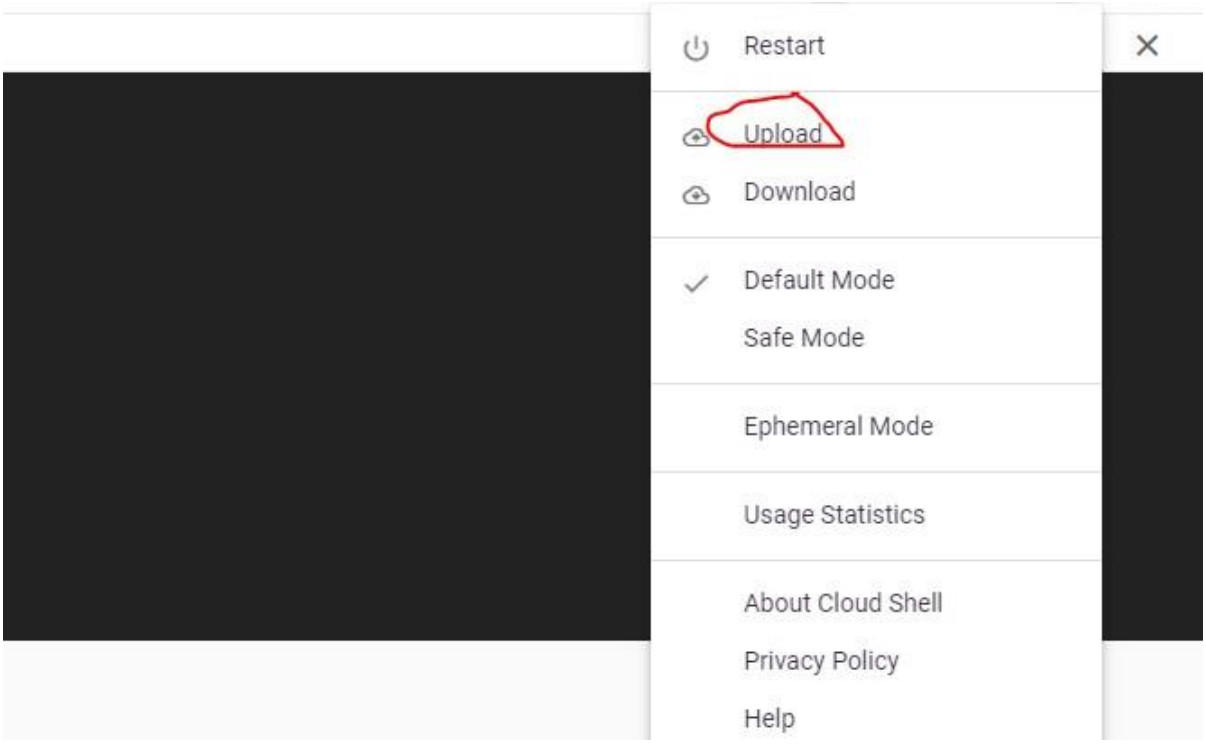
Create two more buckets- cold and multi region.

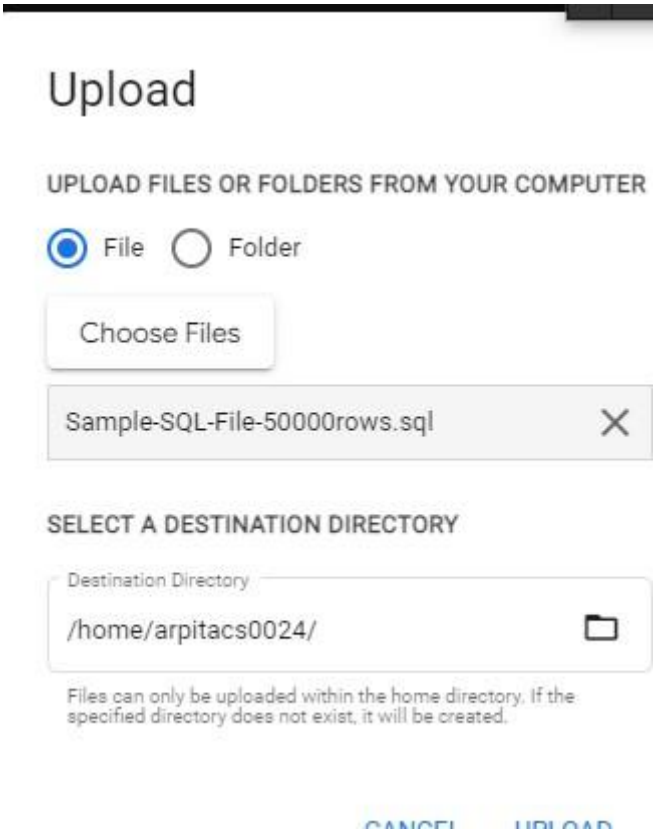
Bucket created in Multi-region.

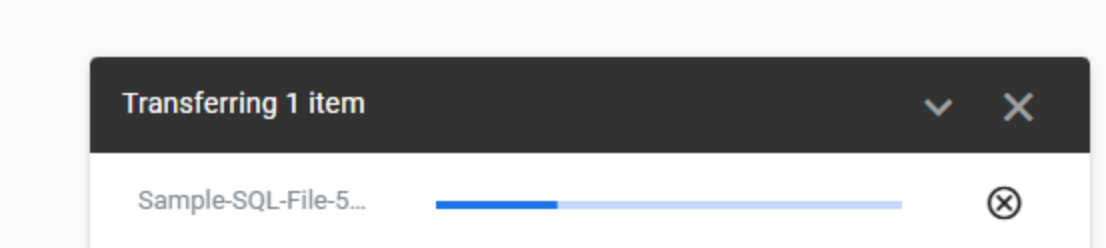




Upload the SQL file in multi-region bucket from cloud shell upload option.


Restart
Upload
Download
Default Mode
Safe Mode
Ephemeral Mode
Usage Statistics
About Cloud Shell
Privacy Policy
Help

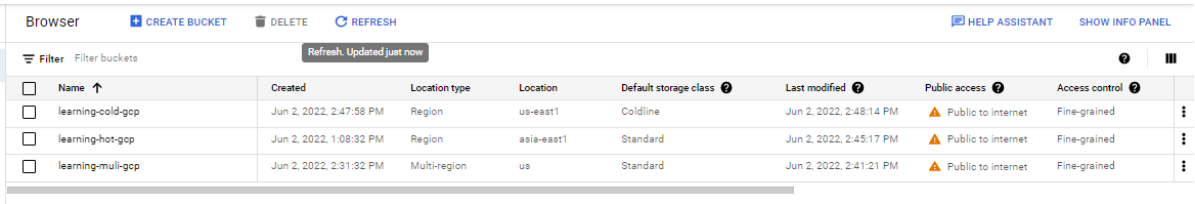

Upload
UPLOAD FILES OR FOLDERS FROM YOUR COMPUTER
File
Folder
Choose Files
Sample-SQL-File-50000rows.sql
SELECT A DESTINATION DIRECTORY
Destination Directory
/home/arpitacs0024/
Files can only be uploaded within the home directory. If the specified directory does not exist, it will be created.



Update ACL to access by all users i.e. Public access.

```
$gsutil acl ch -u Allusers:R gs://learning-muli-gcp
Updated ACL on gs://learning-muli-gcp/
$
```

Now , We need to create cold storage.



Upload SQL file in buckets.

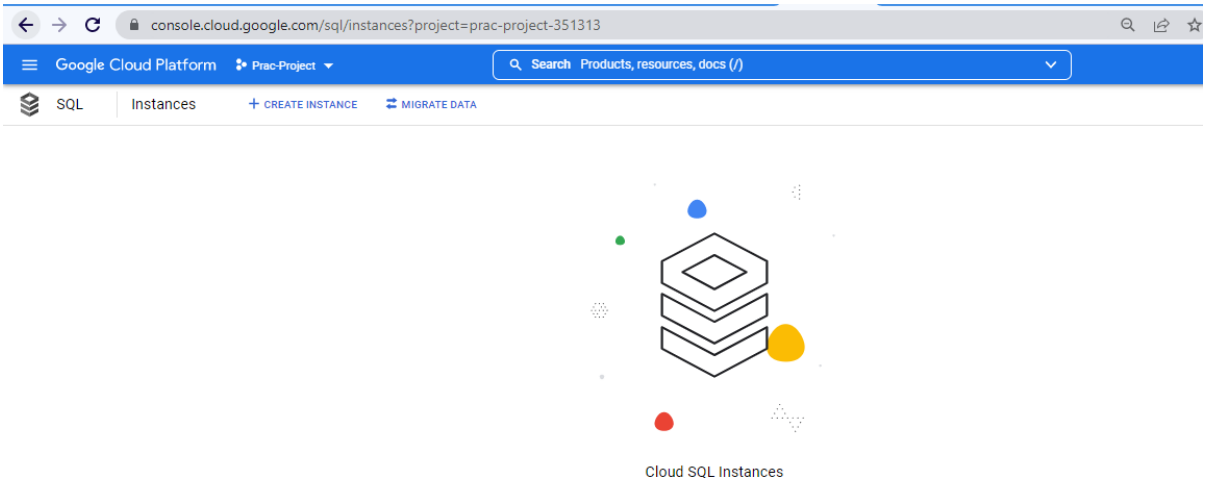
```
$gsutil cp Sample-SQL-File-50000rows.sql gs://learning-muli-gcp
Copying file://Sample-SQL-File-50000rows.sql [Content-Type=application/sql]...
- [1 files][  4.2 MiB/  4.2 MiB]
Operation completed over 1 objects/4.2 MiB.
$gsutil cp Sample-SQL-File-50000rows.sql gs://learning-cold-gcp
Copying file://Sample-SQL-File-50000rows.sql [Content-Type=application/sql]...
- [1 files][  4.2 MiB/  4.2 MiB]
Operation completed over 1 objects/4.2 MiB.
$
```

Now, Let's compare the access time from all buckets.

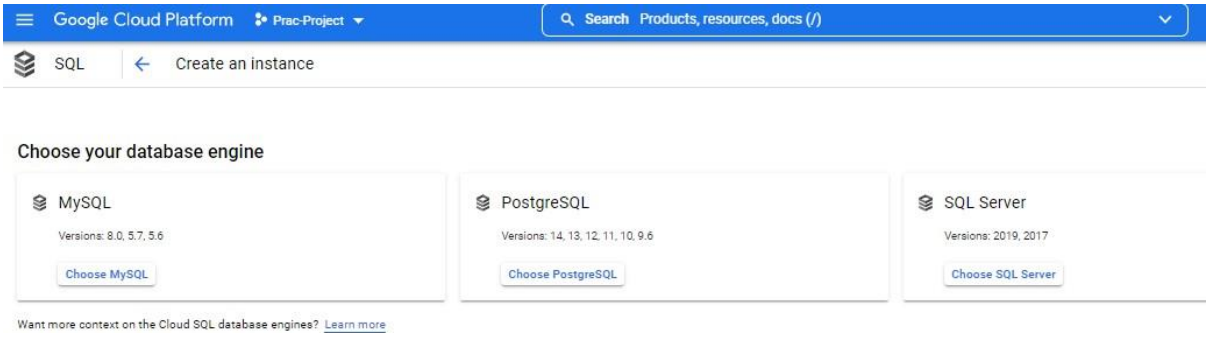
```
$time curl -s -O https://storage.googleapis.com/learning-cold-gcp/Sample-SQL-File-50000rows.sql

real    0m0.338s
user    0m0.017s
sys     0m0.006s
$time curl -s -O https://storage.googleapis.com/learning-hot-gcp/Sample-SQL-File-50000rows.sql

real    0m0.247s
user    0m0.013s
sys     0m0.005s
$time curl -s -O https://storage.googleapis.com/learning-muli-gcp/Sample-SQL-File-50000rows.sql

real    0m0.252s
user    0m0.016s
sys     0m0.007s
$
```

Multi-region bucket has lower latency hence we used this bucket to import this database to Cloud SQL.

Go to SQL and create a instance.



Select MySQL.



Provide the details.

Navigation menu

a MySQL instance

Instance info

Instance ID *
demo1

Use lowercase letters, numbers, and hyphens. Start with a letter.

Password *
••••••• GENERATE

Set a password for the root user. Learn more

No password

Database version *
MySQL 8.0

Choose a configuration to start with

These suggested configurations will pre-fill this form as a starting point for creating an instance. You can customize as needed later.

- Production
  Optimized for the most critical workloads. Highly available, performant, and durable.
- Development
  Performant but not highly available, while reducing cost by provisioning less compute and storage.

CONFIGURATION DETAILS

Choose region and zonal availability

For better performance, keep your data close to the services that need it. Region is permanent, while zone can be changed any time.

Region

$540.91 per month (estimated)

That's about $0.74 an hour.

Feature usage and traffic costs aren't included in estimate

SHOW COST BREAKDOWN

Estimated performance

Network throughput (MB/s)	1,000 of 2,000
Disk throughput (MB/s)	Read: 48.0 of 240.0 Write: 48.0 of 240.0
IOPS	Read: 3,000 of 15,000 Write: 3,000 of 15,000

Choose region and zonal availability

For better performance, keep your data close to the services that need it. Region is permanent, while zone can be changed any time.

Region

us-central1 (Iowa)

Zonal availability

- ○ Single zone
  In case of outage, no failover. Not recommended for production.
- ◉ Multiple zones (Highly available)
  Automatic failover to another zone within your selected region. Recommended for production instances. Increases cost.

SPECIFY ZONES

Customize your instance

You can also customize instance configurations later

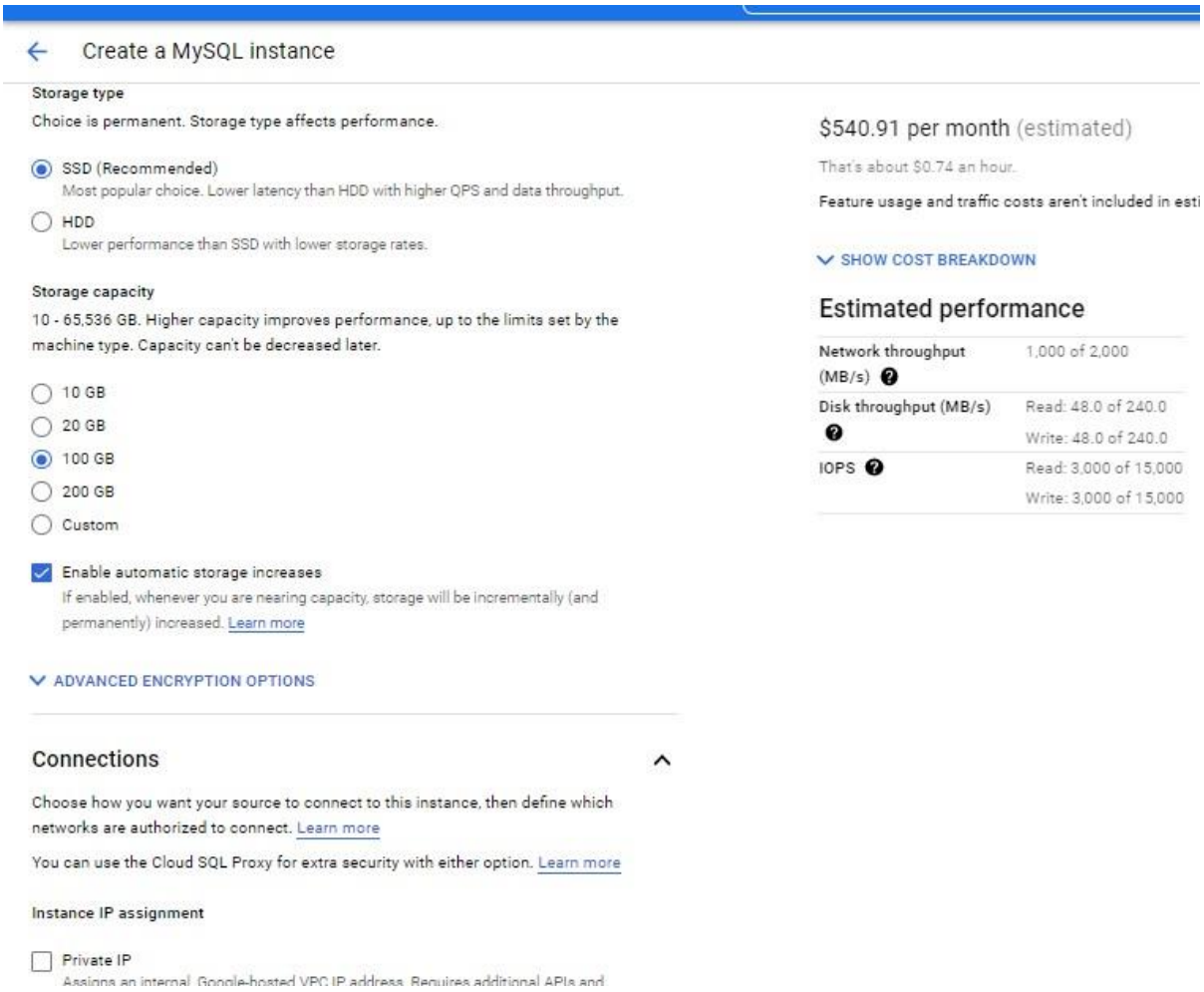
Machine type

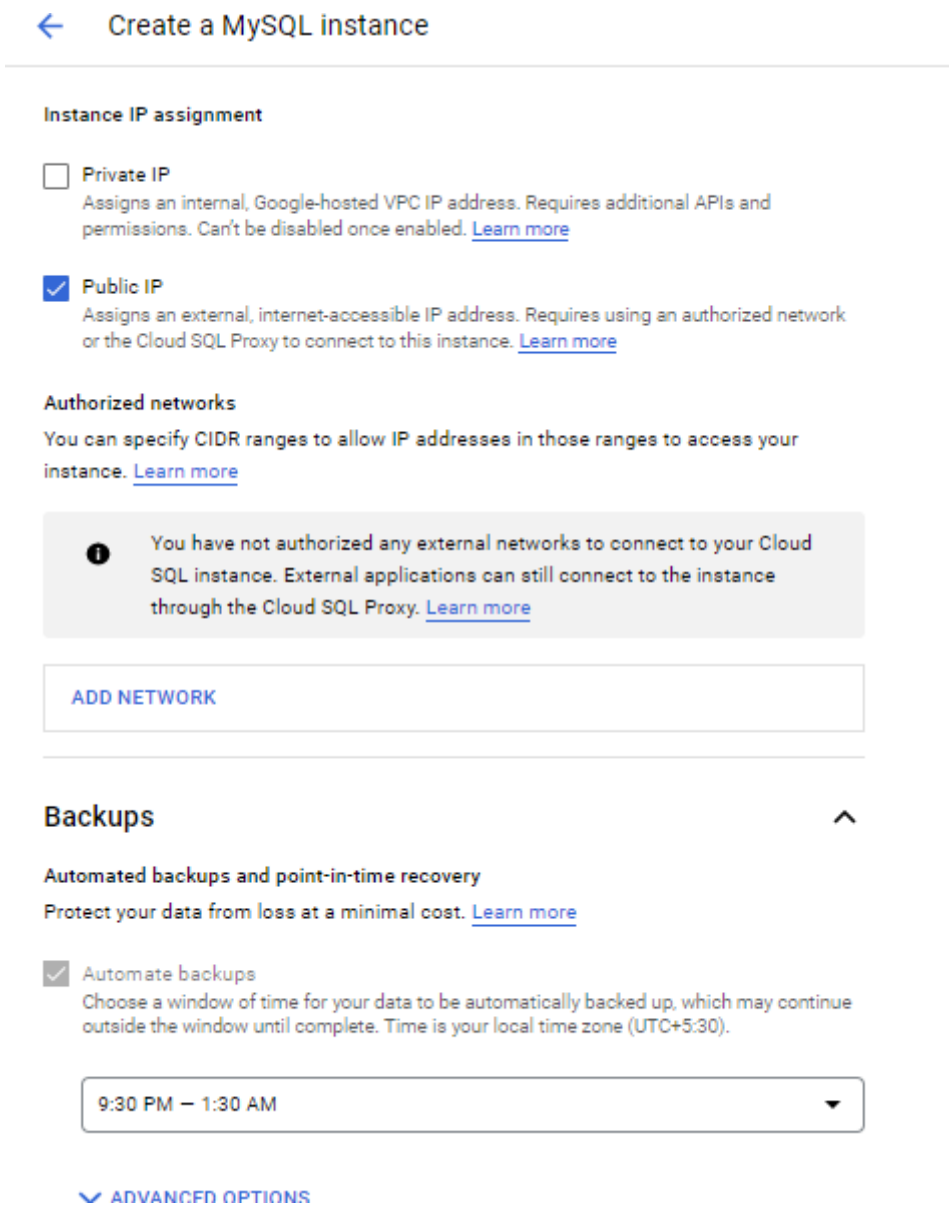
Machine Type

Choose a preset or customize your own. For better performance, choose a machine type with enough memory to hold your largest table.

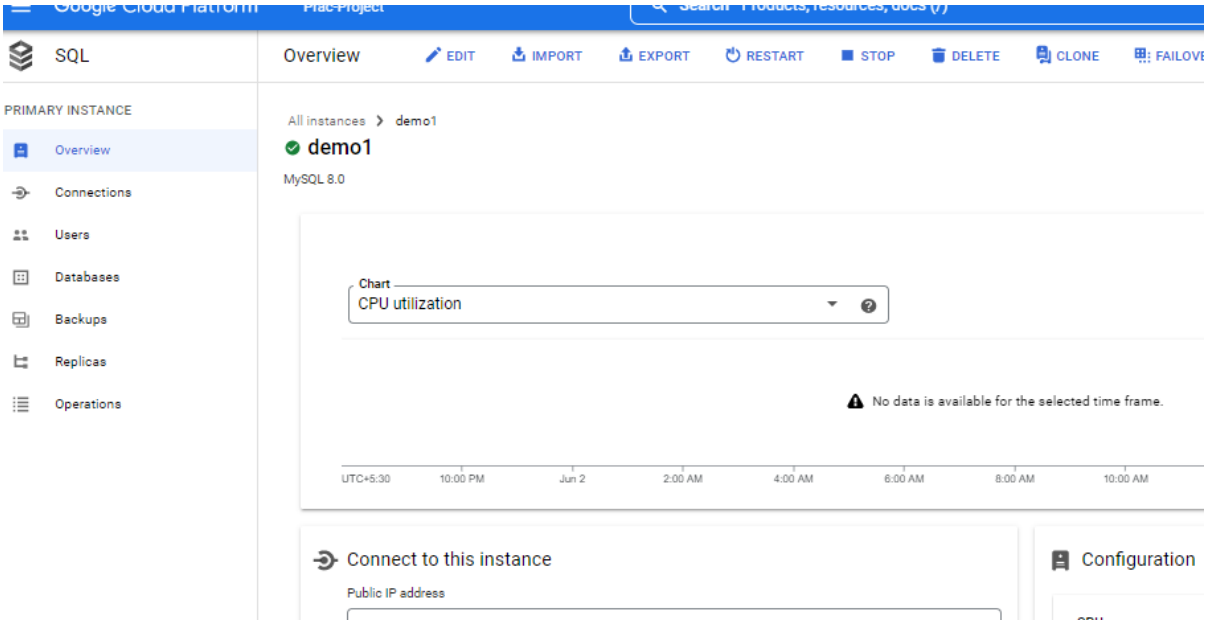
High memory

- ◉ 4 vCPU, 26 GB
- ○ 8 vCPU, 52 GB
- ○ 16 vCPU, 104 GB

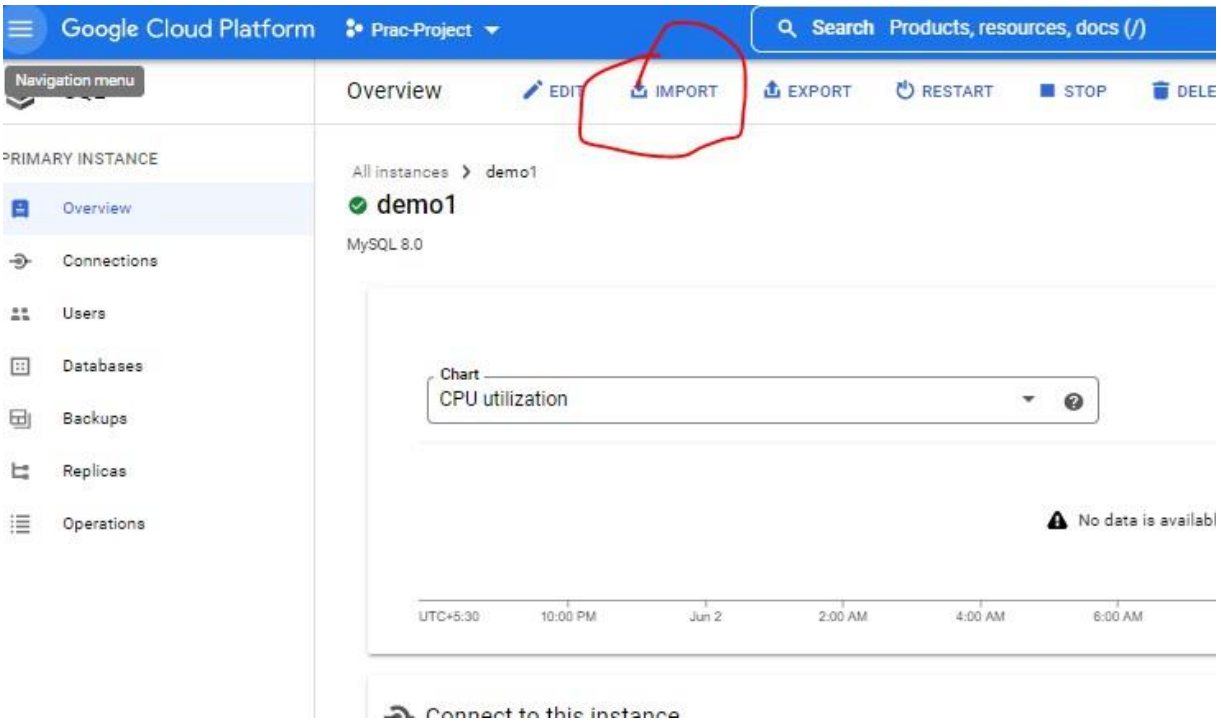

Create a MySQL instance
Storage type
Choice is permanent. Storage type affects performance.
SSD (Recommended)
Most popular choice. Lower latency than HDD with higher QPS and data throughput.
HDD
Lower performance than SSD with lower storage rates.
Storage capacity
10 - 65,536 GB. Higher capacity improves performance, up to the limits set by the machine type. Capacity can't be decreased later.
10 GB
20 GB
100 GB
200 GB
Custom
Enable automatic storage increases
If enabled, whenever you are nearing capacity, storage will be incrementally (and permanently) increased. Learn more
ADVANCED ENCRYPTION OPTIONS
Connections
Choose how you want your source to connect to this instance, then define which networks are authorized to connect. Learn more
You can use the Cloud SQL Proxy for extra security with either option. Learn more
Instance IP assignment
Private IP
$540.91 per month (estimated)
That's about $0.74 an hour.
Feature usage and traffic costs aren't included in esti
SHOW COST BREAKDOWN
Estimated performance
Network throughput (MB/s) 1,000 of 2,000
Disk throughput (MB/s) Read: 48.0 of 240.0
Write: 48.0 of 240.0
IOPS Read: 3,000 of 15,000
Write: 3,000 of 15,000



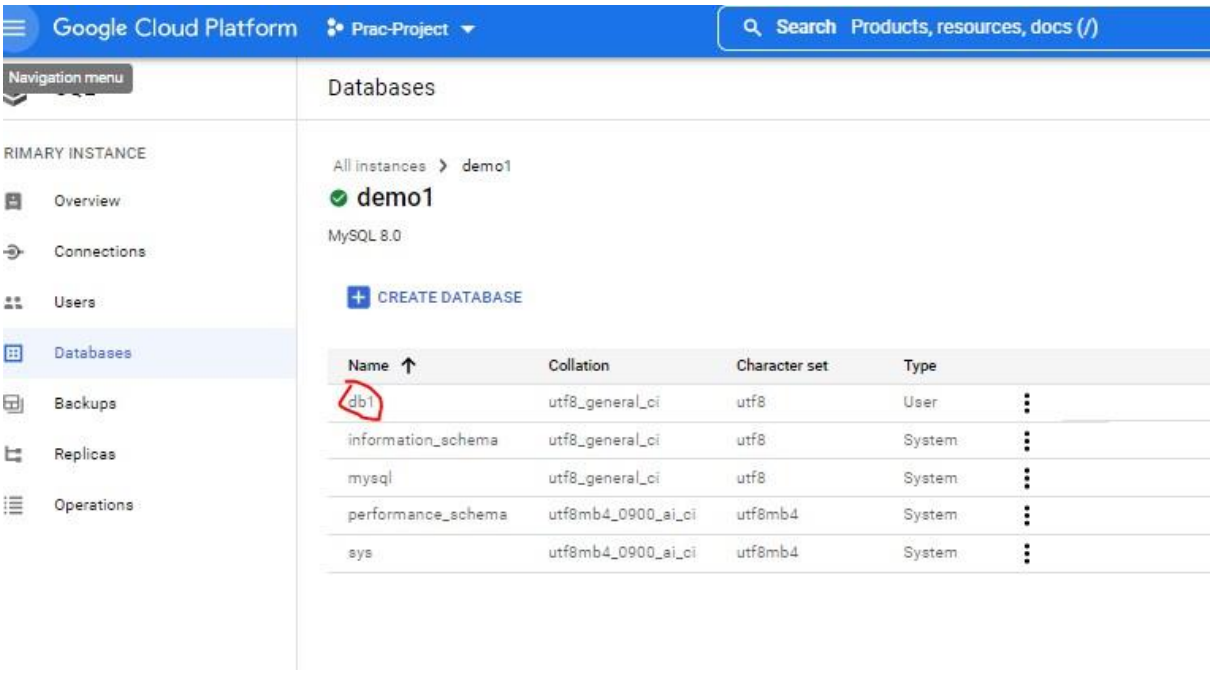
Instance created.



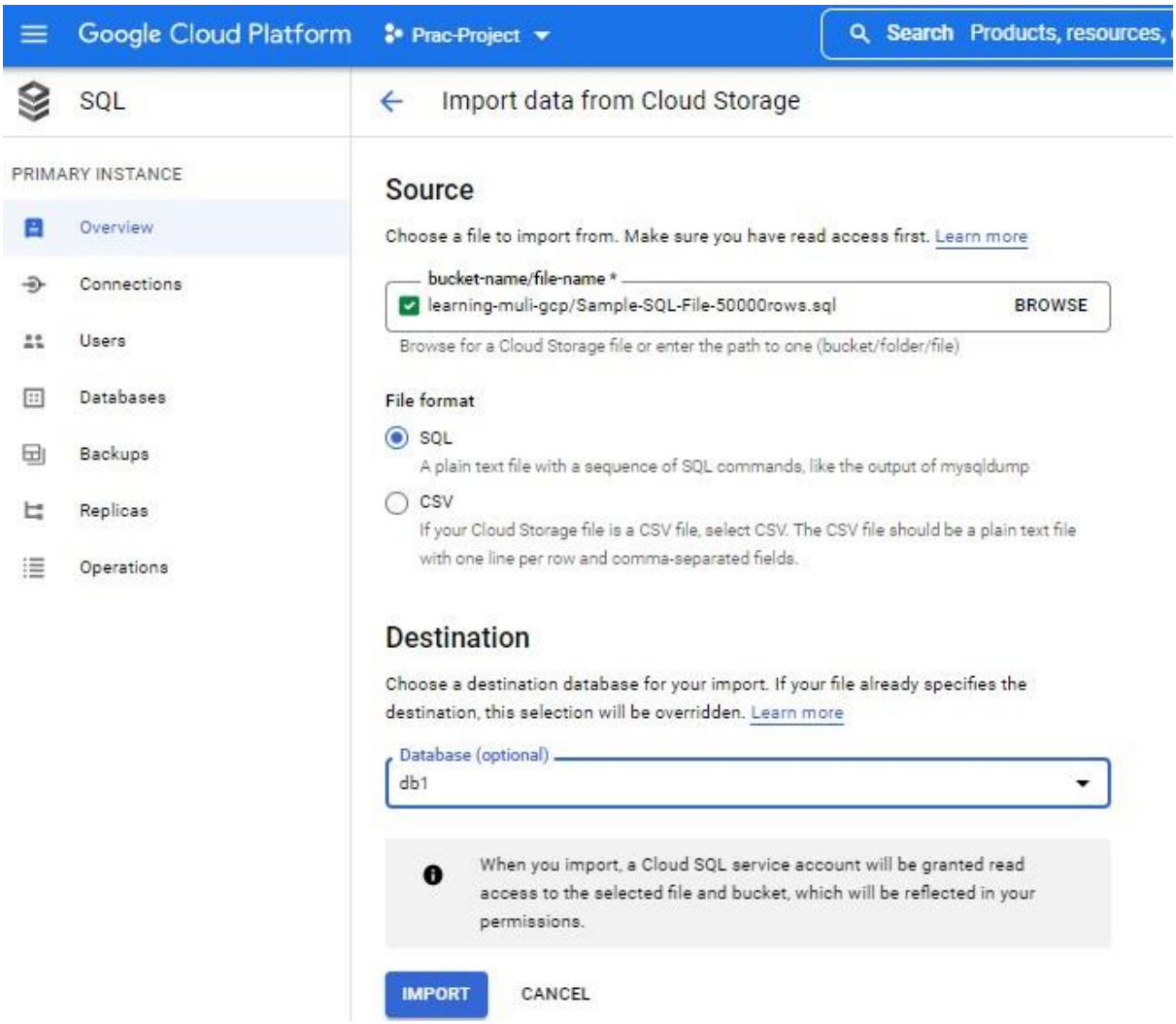
Import the sql file that we have uploaded in bucket.



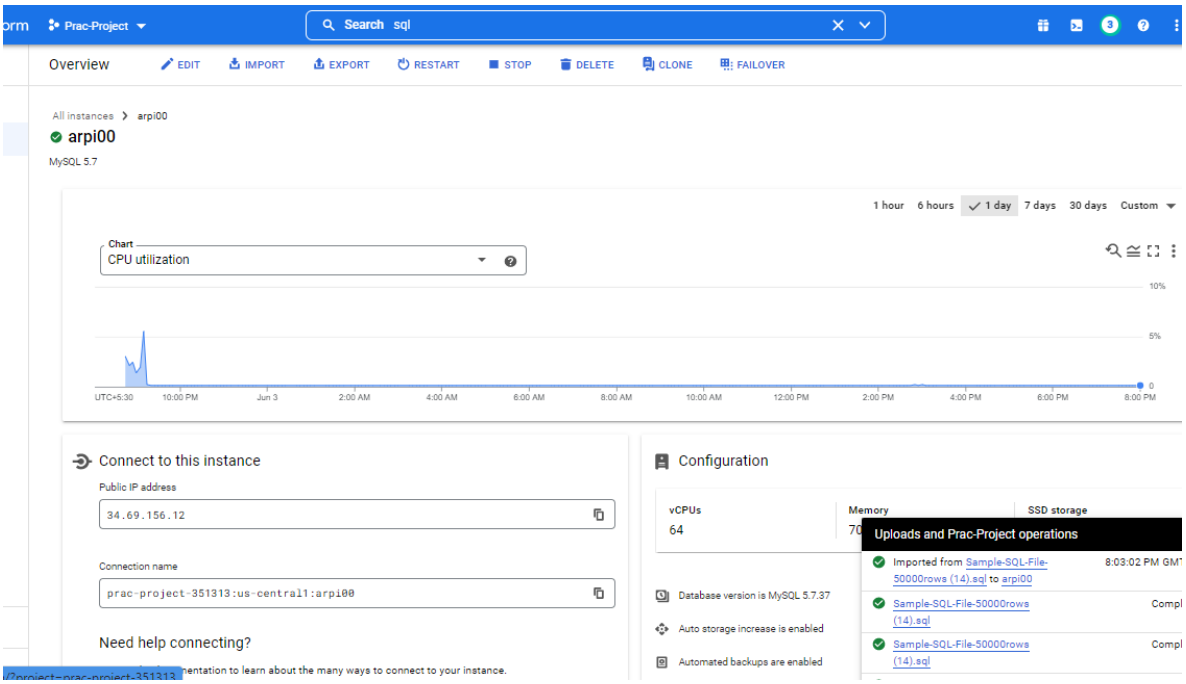
Create a database.



Import the sql file in the instance.



Import the sql file successfully.



Connecting sql using cloud shell.