

Yog Chaudhary

11727095

ADTA 5240 Week 6'th (harvesting, Storing, And Retrieving Data)

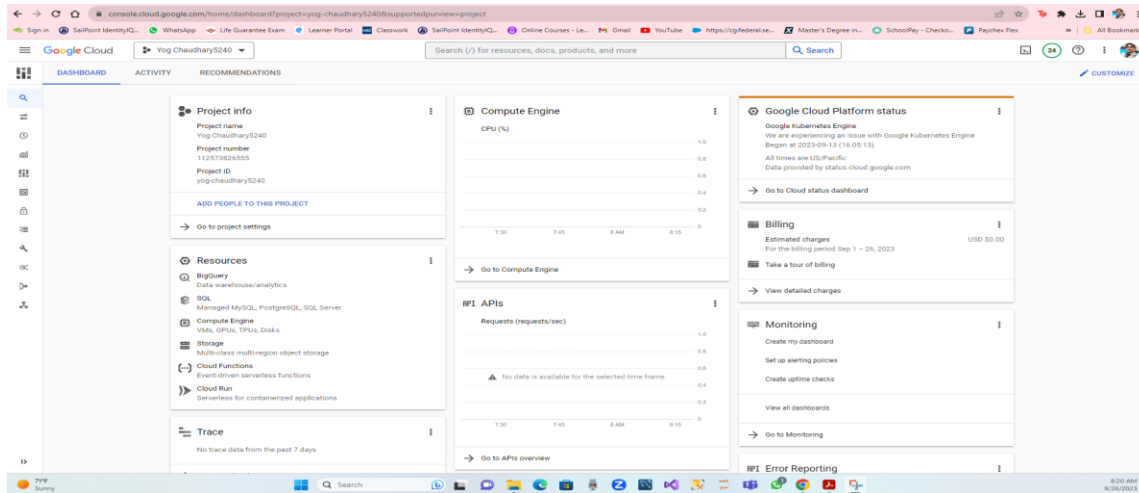
Professor: Dr. Zeynep Orhan

University Of North Texas

Sep 27, 2023

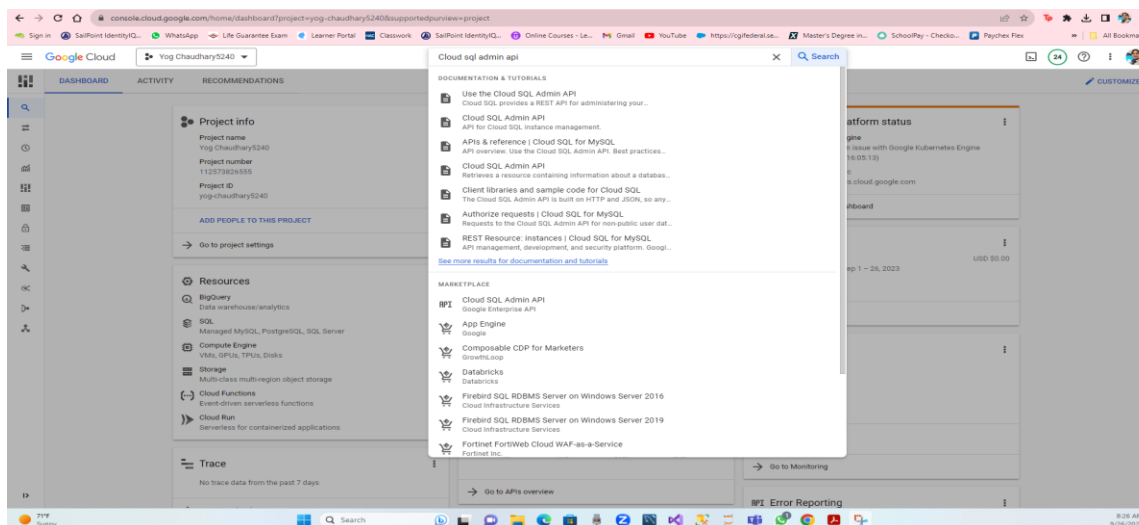
Create a SQL instance, database, and table, and load data in MySQL PDF.

1. In GCP, I have selected a project which I have already created.

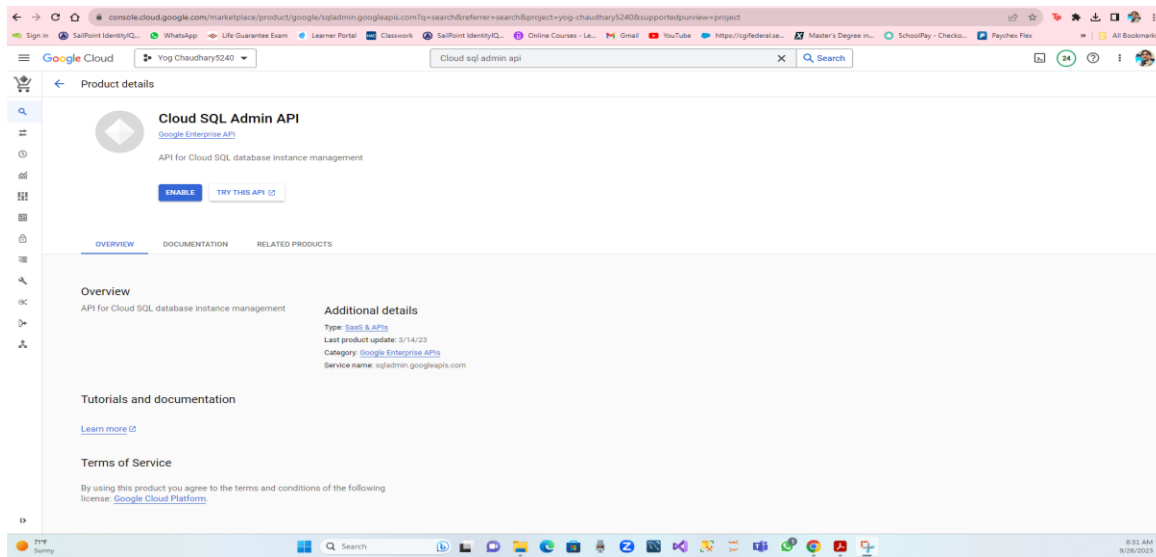


2. I have enabled Cloud SQL Admin API.

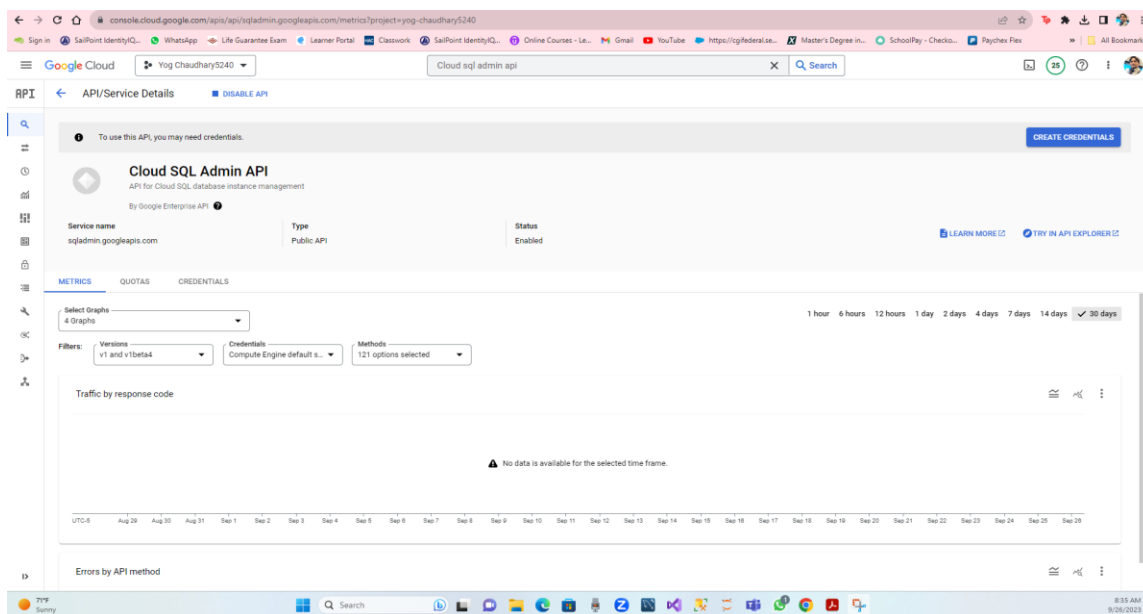
- For enabling this I have searched for Cloud SQL Admin API
- Then I clicked on Cloud SQL Admin API.



3. After clicking on this I was taken to this page, here I clicked on enable.

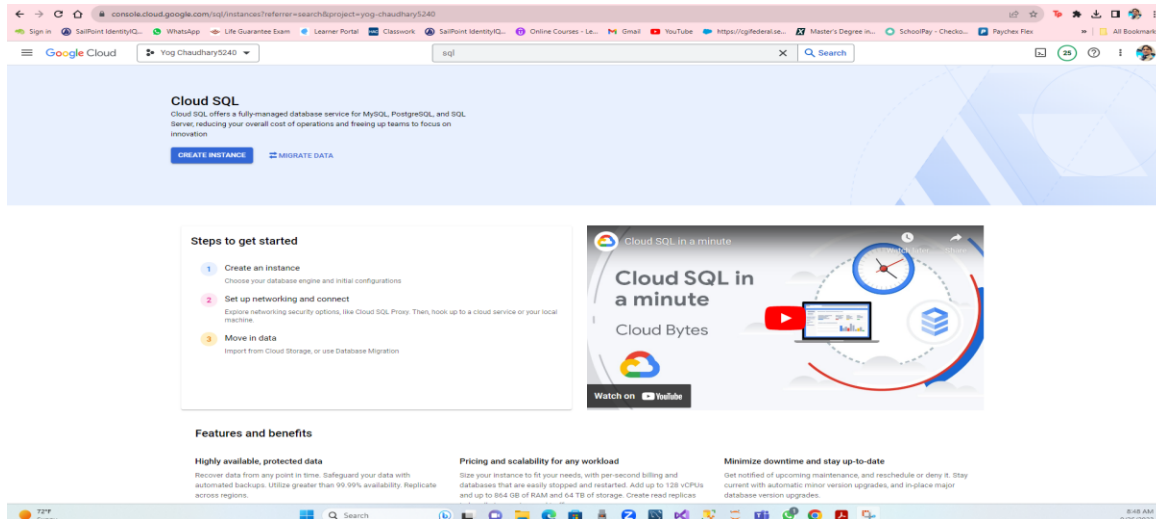


- Here, I have enabled cloud SQL Admin API.
- Here is the screenshot of that

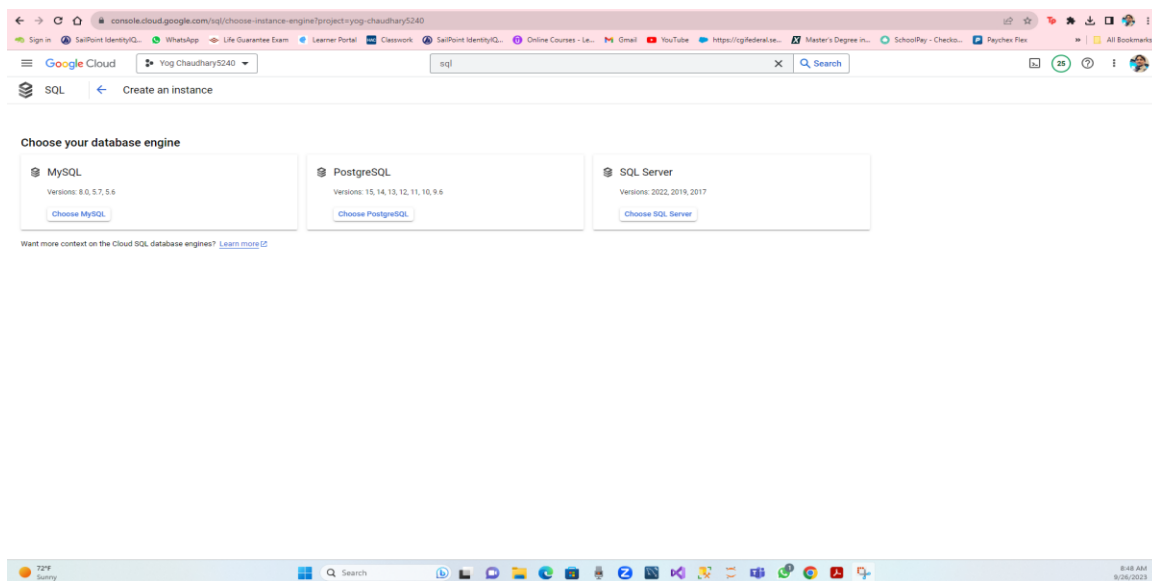


4. Create a Cloud SQL Instance.

- In the Google Cloud Console, I searched for SQL and Clicked on it., After that, I Clicked on the Cloud SQL instance.



B) After Clicking on Create Instance, I was taken this page that below shows.



5. Click on choose MYSQL.

- By selecting MySQL, I have gone through this page.
- Here, I have given instance ID as myinstance.
- I have given the password (unt@123).
- All other as default.
- Click on create instance.

console.cloud.google.com/sql/instances/createengine=MySQL?project=yog-chaudhary5240

Sign in

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Google Cloud

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sql

Create a MySQL instance

Instance info

Instance ID *
myinstance
Use lowercase letters, numbers, and hyphens. Start with a letter.

Password *
unt@123
Set a password for the root user. [Learn more](#) [G](#)

☐ No password

PASSWORD POLICY

Database version *
MySQL 8.0

SHOW MINOR VERSIONS

Choose a Cloud SQL edition

A Cloud SQL edition determines foundational characteristics of your instance and cannot be changed later. Choose based on your price and performance needs. [Learn more](#) [G](#)

Enterprise Plus

99.99% availability SLA for eligible instances
High-performance machines, up to 128 vCPUs
Up to 35 days point-in-time recovery
Data cache (optional)

Enterprise

99.95% availability SLA for eligible instances
General purpose machines, up to 64 vCPUs
Up to 7 days point-in-time recovery

Choose a preset for this edition. Presets can be customized later as needed.

Production

Pricing estimate

\$2.30 per hour (estimated, without discounts)
That's about \$55.32 per day.

Feature usage and traffic costs aren't included in estimate

SHOW COST BREAKDOWN

Summary

Cloud SQL Edition	Enterprise Plus
Region	us-central1 (Iowa)
DB Version	MySQL 8.0
vCPUs	8 vCPU
Memory	64 GB
Data Cache	Enabled (375 GB)
Storage	250 GB
Connections	Public IP
Backup	Automated
Availability	Multiple zones (Highly available)
Point-in-time recovery	Enabled
Network throughput (MB/s)	2,000 of 2,000
Disk throughput (MB/s)	Read: 120.0 of 800.0 Write: 120.0 of 800.0
IOPS	Read: 7,500 of 15,000 Write: 7,500 of 15,000

Yog events

Event brief

9:00 AM
8/26/2023

console.cloud.google.com/sql/instances/createengine=MySQL?project=yog-chaudhary5240

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Google Cloud

Yog Chaudhary5240

sql

Create a MySQL instance

Up to 35 days point-in-time recovery
Data cache (optional)

Up to 7 days point-in-time recovery

Choose a preset for this edition. Presets can be customized later as needed.

Production

COMPARE EDITION PRESETS

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

Enterprise Plus is not yet available in all regions

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

SHOW CONFIGURATION OPTIONS

CREATE INSTANCE

CANCEL

Pricing estimate

\$2.30 per hour (estimated, without discounts)
That's about \$55.32 per day.

Feature usage and traffic costs aren't included in estimate

SHOW COST BREAKDOWN

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Availability	Multiple zones (Highly available)
Point-in-time recovery	Enabled
Network throughput (MB/s)	2,000 of 2,000
Disk throughput (MB/s)	Read: 120.0 of 800.0 Write: 120.0 of 800.0
IOPS	Read: 7,500 of 15,000 Write: 7,500 of 15,000

TFF

Summary

9:02 AM
8/26/2023

console.cloud.google.com/sql/instances/createengine=MySQL?project=yog-chaudhary5240

Sign in

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Google Cloud

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sql

Create a MySQL instance

Storage

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

☒ 250 GB

☐ Custom

Enable automatic storage increases

If enabled, whenever you are nearing capacity, storage will be incrementally (and permanently) increased. [Learn more](#) [G](#)

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](#) [G](#)

You can use the Cloud SQL Proxy for extra security with either option. [Learn more](#) [G](#)

Instance IP assignment

☐ Private IP
Assigns an internal, Google-hosted VPC IP address. Requires additional APIs and permissions. Can't be disabled once enabled. [Learn more](#) [G](#)

☒ Public IP

Pricing estimate

\$1.29 per hour (estimated, without discounts)
That's about \$31.03 per day.

Feature usage and traffic costs aren't included in estimate

SHOW COST BREAKDOWN

Summary

Cloud SQL Edition	Enterprise Plus
Region	us-central1 (Iowa)
DB Version	MySQL 8.0
vCPUs	4 vCPU
Memory	32 GB
Data Cache	Enabled (375 GB)
Storage	250 GB
Connections	Public IP
Backup	Automated
Availability	Multiple zones (Highly available)
Point-in-time recovery	Enabled
Network throughput (MB/s)	1,000 of 1,000
Disk throughput (MB/s)	Read: 120.0 of 240.0 Write: 120.0 of 240.0
IOPS	Read: 7,500 of 15,000 Write: 7,500 of 15,000

TFF

Summary

9:10 AM
8/26/2023

- By clicking on Create instance I was taken to this page.

ADVANCED OPTIONS

- ☒ **Enable point-in-time recovery**
Allows you to recover data from a specific point in time, down to a fraction of a second. Enables binary logs (required for replication).
- Days of logs**
1-35 for Enterprise Plus edition
- ☒ **Enable deletion protection**
You can't disable these settings because they're required for replication and high availability.
- Instance deletion protection**
Safeguard against accidental deletion and data loss. [Learn more](#)
- ☒ **Enable deletion protection**
If enabled, this instance won't be able to be deleted until this feature is disabled.
- Maintenance**
Updates may occur any day of the week. Maintenance timing set to 'Later'.
- Flags**
No flags set.
- Query insights**
Query insights disabled.
- Labels**
No labels set.

Pricing estimate
\$1.29 per hour (estimated, without discounts)
That's about \$31.09 per day.
Feature usage and traffic costs aren't included in estimate.

SHOW COST BREAKDOWN

Summary

Cloud SQL Edition	Enterprise Plus
Region	us-central1 (Iowa)
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IOPS (MB/s)	Read: 120.0 of 240.0
IOPS (MB/s)	Write: 120.0 of 240.0
IOPS (MB/s)	Read: 7,300 of 15,000
IOPS (MB/s)	Write: 7,300 of 15,000

CREATE INSTANCE **CANCEL**

6. Click Create.

Overview

All instances > myinstance

myinstance
MySQL 8.0

Instance is being created. This may take a few minutes. While this operation is running, you may continue to view information about the instance.

Chart
CPU utilization

1 hour 6 hours 1 day 7 days 30 days Custom

No data is available for the selected time frame.

Connect to this instance

Connection name: yog-chaudhary5248-us-central1-myinstance

Need help connecting?
Review the documentation to learn about the many ways to connect to your instance. [Learn more](#)

To connect using gcloud, [OPEN CLOUD SHELL](#)

To learn about connecting with a Compute Engine VM, [START TUTORIAL](#)

Configuration

vCPUs	4
Memory	32 GB
SSD storage	250 GB

Enterprise Plus edition
Data Cache is enabled (375 GB)
Database version is MySQL 8.0.31
Auto storage increase is enabled
Automated backups are enabled
Point-in-time recovery is enabled
Instance deletion protection is enabled
Located in us-central1-c
Highly available (regional)
No database flags set
No labels set
[Edit configuration](#)

Service account
p112573826555-darxibgcp-sa-c1oud-sql-1an.gserviceaccount.com

Operations and logs

Creation Time	Completion Time	Type	Status
Sep 26, 2023, 9:15:29 AM		Create	Instance is being created

Instance is being created

Overview

All instances > myinstance

myinstance
MySQL 8.0

Instance is being created. This may take a few minutes. While this operation is running, you may continue to view information about the instance.

Connect to this instance

Public IP address: 184.197.88.159

Connection name: yog-chaudhary5248-us-central1-myinstance

Need help connecting?
Review the documentation to learn about the many ways to connect to your instance. [Learn more](#)

To connect using gcloud, [OPEN CLOUD SHELL](#)

To learn about connecting with a Compute Engine VM, [START TUTORIAL](#)

Configuration

vCPUs	4
Memory	32 GB
SSD storage	250 GB

Enterprise Plus edition
Data Cache is enabled (375 GB)
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Located in us-central1-c
Highly available (regional)
No database flags set
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[Edit configuration](#)

Service account
p112573826555-darxibgcp-sa-c1oud-sql-1an.gserviceaccount.com

Operations and logs

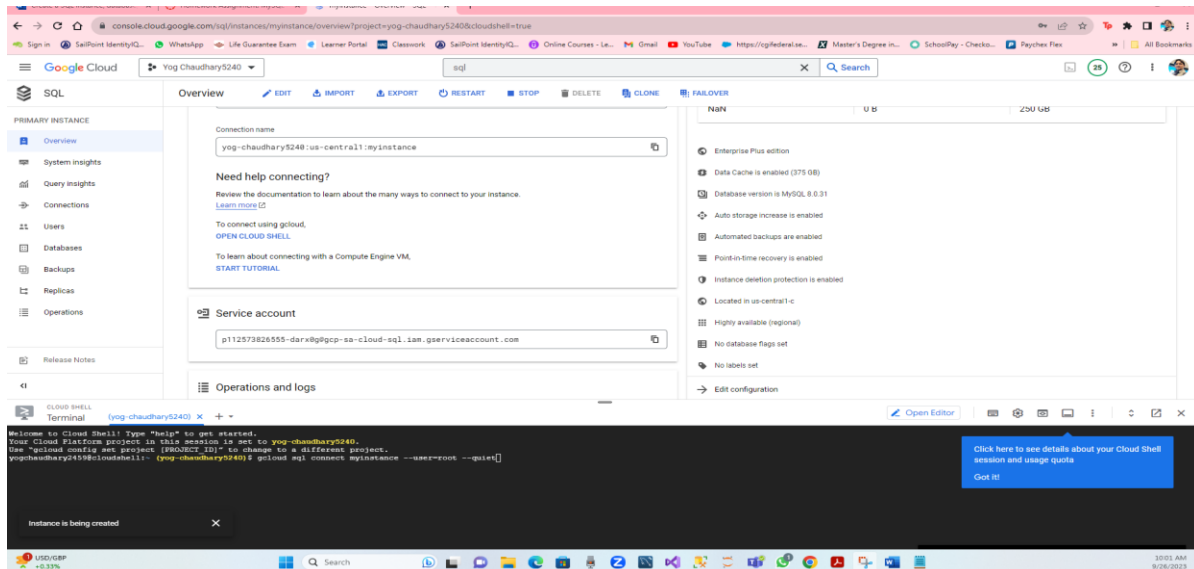
Creation Time	Completion Time	Type	Status
Sep 26, 2023, 9:15:29 AM		Create	Instance is being created

Instance is being created

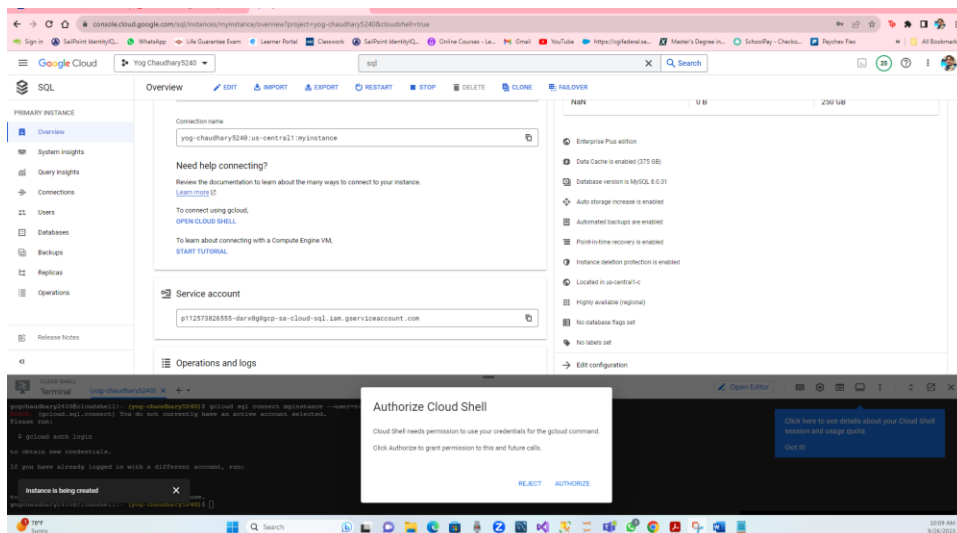
- Hence the above screenshot shows the instance that has been successfully created.

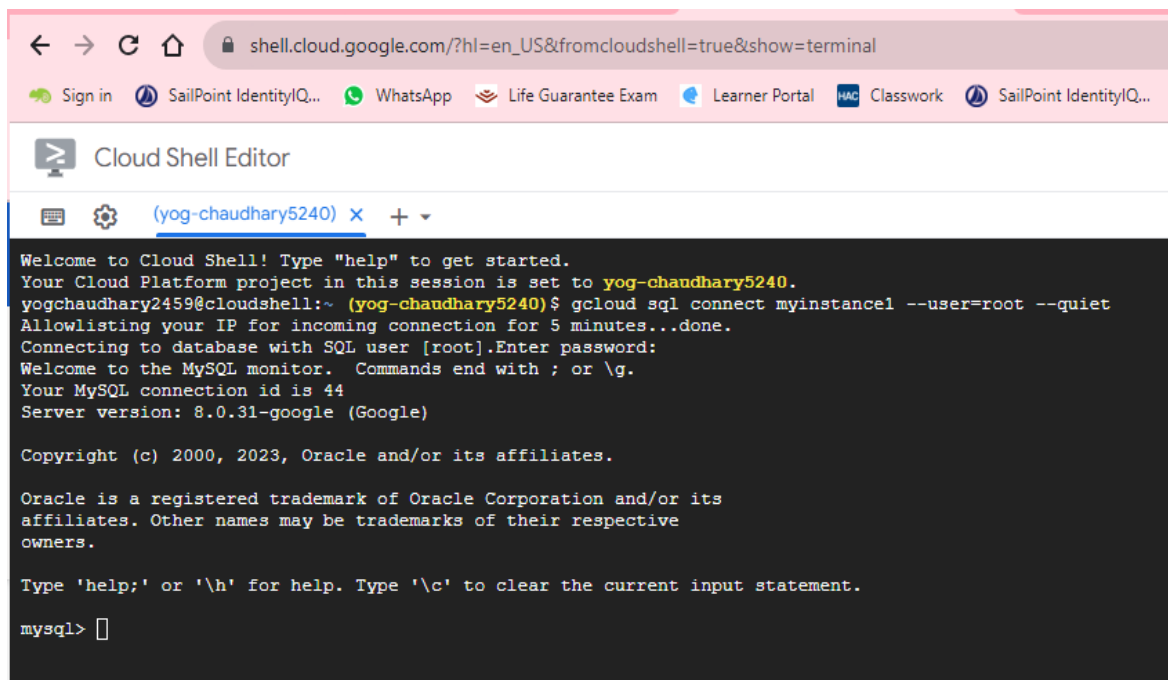
7. Create a database and Upload data.

- Here In instance overview screen, I have selected open cloud shell which was under the connect to this instance.
- After selecting open cloud shell, I was taken to the page below.



- After the could shell had been activated, I saw a screen like the above screen with a command (`gcloud sql connect myinstance --user=root --quiet`).
- Click enter.
- By clicking I was taken to this page below.
- I entered the password from the instance that I had created in the console.





The screenshot shows a web browser window with the address bar displaying `shell.cloud.google.com/?hl=en_US&fromcloudshell=true&show=terminal`. Below the address bar, there are several navigation icons and links: Sign in, SailPoint IdentityIQ..., WhatsApp, Life Guarantee Exam, Learner Portal, Classwork, and another SailPoint IdentityIQ... link. The main content area is titled "Cloud Shell Editor" and shows a terminal session for a user named `yog-chaudhary5240`. The terminal output includes a welcome message, project information, and the execution of the `gcloud sql connect` command to connect to a MySQL instance. The connection is successful, and the user is prompted to enter a password. The terminal then displays the MySQL monitor interface, showing the connection ID as 44 and the server version as 8.0.31-google (Google). The prompt `mysql>` is visible at the bottom of the terminal.

```
Welcome to Cloud Shell! Type "help" to get started.
Your Cloud Platform project in this session is set to yog-chaudhary5240.
yogchaudhary2459@cloudshell:~ (yog-chaudhary5240)$ gcloud sql connect myinstancel --user=root --quiet
Allowlisting your IP for incoming connection for 5 minutes...done.
Connecting to database with SQL user [root].Enter password:
Welcome to the MySQL monitor.  Commands end with ; or \g.
Your MySQL connection id is 44
Server version: 8.0.31-google (Google)

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owners.

Type 'help;' or '\h' for help. Type '\c' to clear the current input statement.

mysql>
```

8. Now, I am Creating a database of “customers” and table “entries”

- CREATE DATABASE customers,
- Then pressed enter.
- USE customers.
- Then pressed enter.
- CREATE TABLE customers
- (fName VARCHAR (255),
- lName VARCHAR (255),
- Phone varchar (255),
- Address VARCHAR (255),
- City VARCHAR (255),
- State VARCHAR (255),
- Model VARCHAR (255),
- Comments VARCHAR (255));
- Then clicked enter.

```

yogchaudhary2459@cloudshell:~ (yog-chaudhary5240)$ YES
yogchaudhary2459@cloudshell:~ (yog-chaudhary5240)$ gcloud sql connect myinstance1 --user=root --quiet
Allowlisting your IP for incoming connection for 5 minutes...done.
Connecting to database with SQL user [root].Enter password:
Welcome to the MySQL monitor.  Commands end with ; or \g.
Your MySQL connection id is 707
Server version: 8.0.31-google (Google)

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owners.

Type 'help;' or '\h' for help. Type '\c' to clear the current input statement.

mysql> CREATE DATABASE customers;
Query OK, 1 row affected (0.00 sec)

mysql> USE customers;
Database changed
mysql> CREATE TABLE customers
-> ( fName VARCHAR (255),
-> lName VARCHAR (255),
-> phone VARCHAR (255),
-> address VARCHAR (255),
-> city VARCHAR (255),
-> state VARCHAR (255),
-> model VARCHAR (255),
-> comments VARCHAR (255));
Query OK, 0 rows affected (0.02 sec)

mysql> 

```

9. Entering the data:

A) Now I entered the data into the table by using the following commands:

- INSERT INTO customers (fName, lName, phone, address, city, state, model, comments) VALUES ('Tony', 'Barone', '555-676-7778', '1018 State Street', 'Houston', 'TX', 'A-1237', 'This is the best product I have ever purchased.');
- INSERT INTO customers (fName, lName, phone, address, city, state, model, comments) VALUES ('Helen', 'Smith', '777-878-0098', '889 Elm Road', 'St. Louis', 'MO', 'H-435', 'I would never buy this product again!');
- INSERT INTO customers (fName, lName, phone, address, city, state, model, comments) VALUES ('Susan', 'Heller', '876-888-6795', '879 Main Street', 'Los Angeles', 'CA', 'K-8887', 'All good');
- INSERT INTO customers (fName, lName, phone, address, city, state, model, comments) VALUES ('Betsy', 'Clark', '555-887-1098', '45 West 54th Ave', 'Topeka', 'KS', 'Z-2', 'No Issues');

```

mysql> INSERT INTO customers VALUES
-> ('Tony', 'Barone', '555-676-7778', '1018 State Street', 'Houston', 'TX', 'A-1237', 'This is the best product I have ever purchased')
-> ;
Query OK, 1 row affected (0.04 sec)

mysql> INSERT INTO customers VALUES
-> ('Helen', 'Smith', '777-878-0098', '889 Elm Road', 'St. Louis', 'MO', 'H-435', 'I would never buy this product again')
-> ;
Query OK, 1 row affected (0.03 sec)

mysql> INSERT INTO customers VALUES
-> ('Susan', 'Heller', '876-888-6795', '879 Main Street', 'Los Angeles', 'CA', 'K-8887', 'All good');
Query OK, 1 row affected (0.03 sec)

mysql> INSERT INTO customers VALUES
-> ('Betsy', 'Clark', '555-887-1098', '45 West 54th Ave', 'Topeka', 'KS', 'Z-2', 'No Issues' );
Query OK, 1 row affected (0.04 sec)

```


10. Retrieving the data:

- `SELECT * FROM customers;`
- The output is here.

```
mysql> CREATE TABLE customers
-> (fName VARCHAR(255),
-> lName VARCHAR(255),
-> phone VARCHAR(255),
-> address VARCHAR(255),
-> city VARCHAR(255),
-> state VARCHAR(255),
-> model VARCHAR(255),
-> comments VARCHAR(255));
Query OK, 0 rows affected (0.05 sec)

mysql> select *from customers
-> ;
Empty set (0.04 sec)

mysql> INSERT INTO customers VALUES
-> ('Tony', 'Barone', '555-676-7778', '1018 State Street', 'Houston', 'TX', 'A-1237', 'This is the best product I have ever purchased')
-> ;
Query OK, 1 row affected (0.04 sec)

mysql> INSERT INTO customers VALUES
-> ('Helen', 'Smith', '777-878-0098', '889 Elm Road', 'St. Louis', 'MO', 'H-435', 'I would never buy this product again')
-> ;
Query OK, 1 row affected (0.03 sec)

mysql> INSERT INTO customers VALUES
-> ('Susan', 'Heller', '876-888-6795', '879 Main Street', 'Los Angeles', 'CA', 'K-8887', 'All good');
Query OK, 1 row affected (0.03 sec)

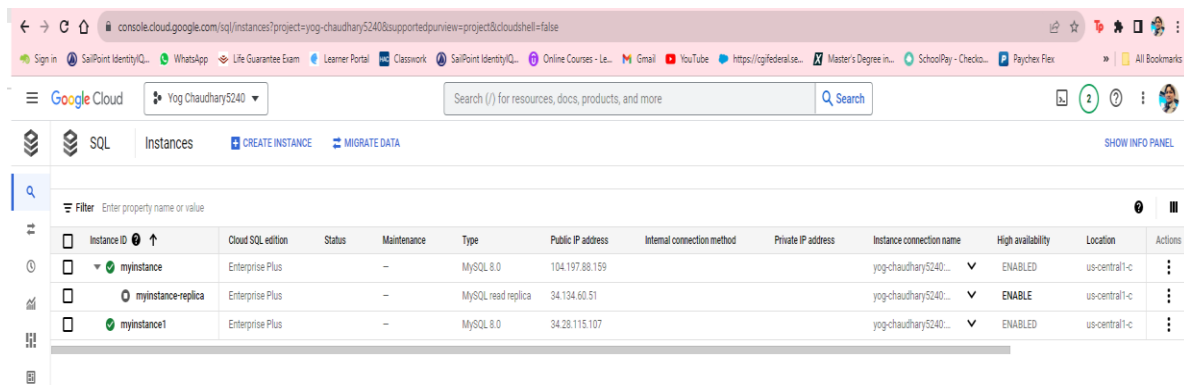
mysql> INSERT INTO customers VALUES
-> ('Betsy', 'Clark', '555-887-1098', '45 West 54th Ave', 'Topeka', 'KS', 'Z-2', 'No Issues' );
Query OK, 1 row affected (0.04 sec)

mysql> select *from customers;
+-----+-----+-----+-----+-----+-----+-----+-----+
| fName | lName | phone | address | city | state | model | comments |
+-----+-----+-----+-----+-----+-----+-----+-----+
| Tony | Barone | 555-676-7778 | 1018 State Street | Houston | TX | A-1237 | This is the best product I have ever purchased |
| Helen | Smith | 777-878-0098 | 889 Elm Road | St. Louis | MO | H-435 | I would never buy this product again |
| Susan | Heller | 876-888-6795 | 879 Main Street | Los Angeles | CA | K-8887 | All good |
| Betsy | Clark | 555-887-1098 | 45 West 54th Ave | Topeka | KS | Z-2 | No Issues |
+-----+-----+-----+-----+-----+-----+-----+-----+
4 rows in set (0.04 sec)

mysql> 
```

11. Cleanup

- For this in the google cloud console, search for SQL and click on it.
- Then I clicked on the delete option for deleting the instance.
- I entered myinstance in and clicked on delete.



You cannot reuse an instance name for about 7 days after the instance deleted