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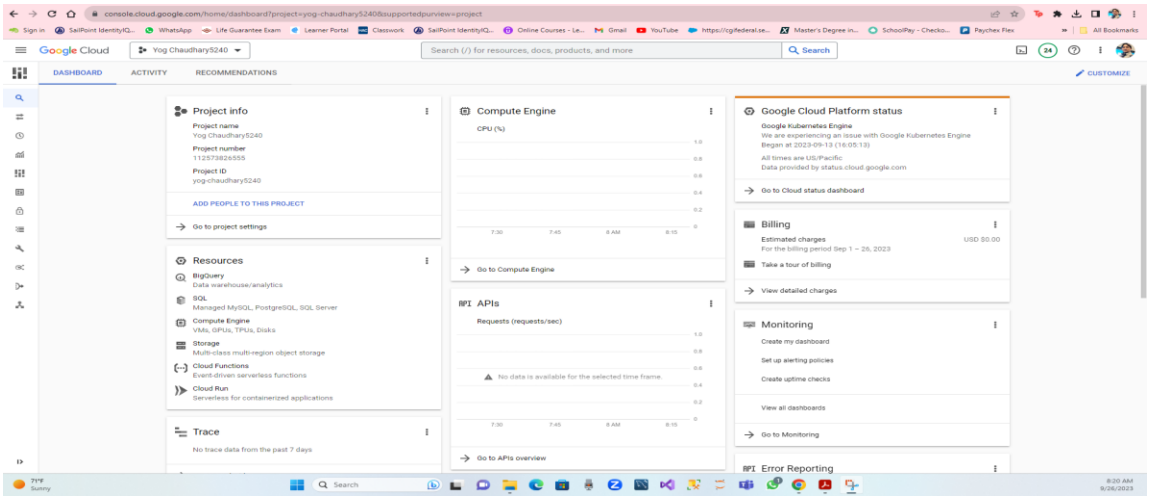
ADTA 5240 Week 6'th (harvesting, Storing, And Retrieving Data)
Professor: Dr. Zeynep Orhan **Sep 27, 2023**
University Of North Texas

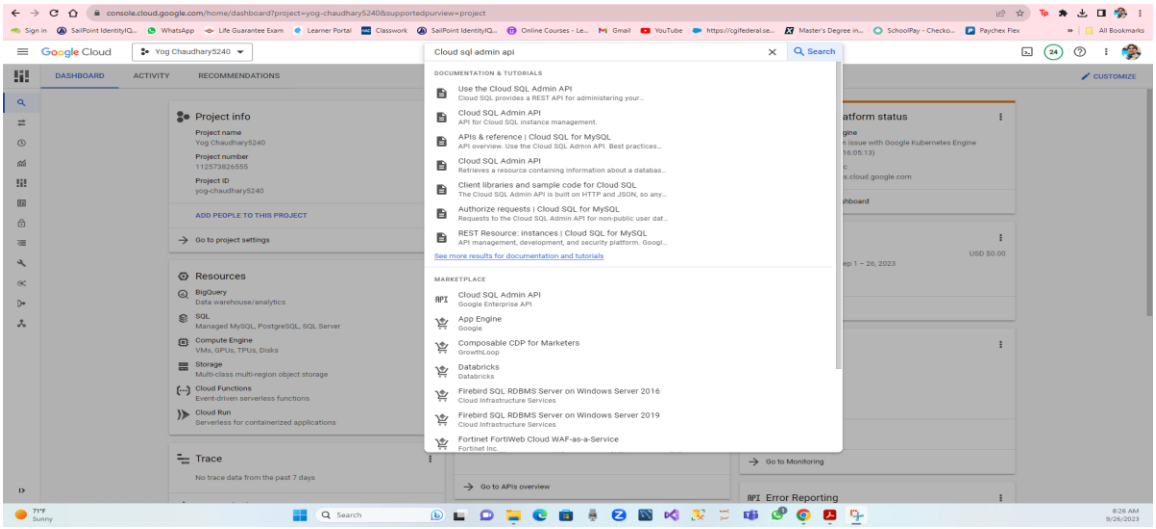
Create a SQL instance, database, and table, and load data in MySQL PDF.

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

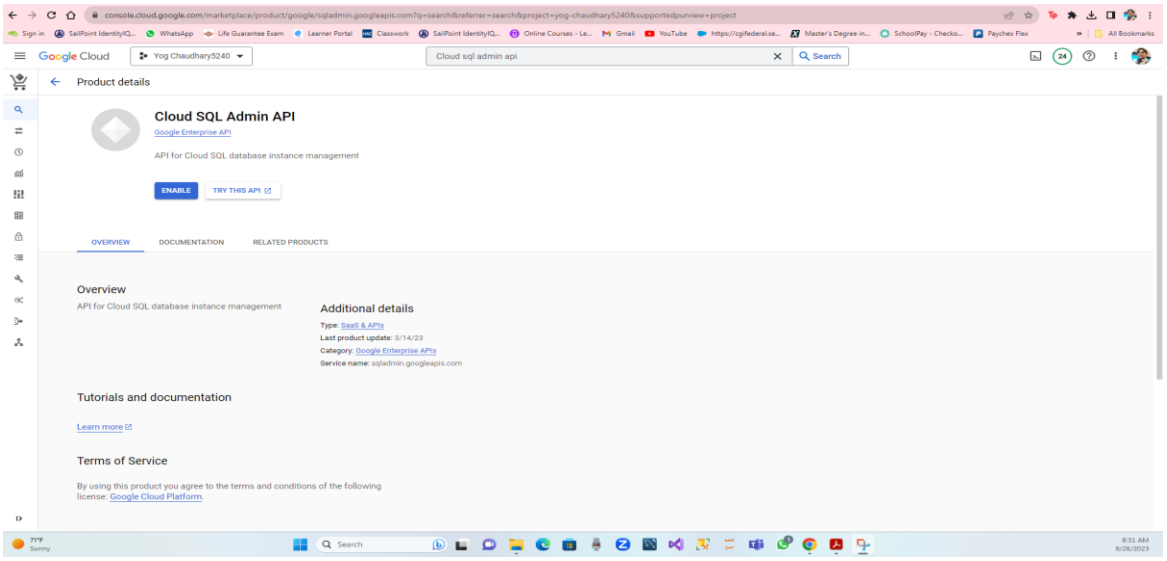


2. **I have enabled Cloud SQL Admin API.**

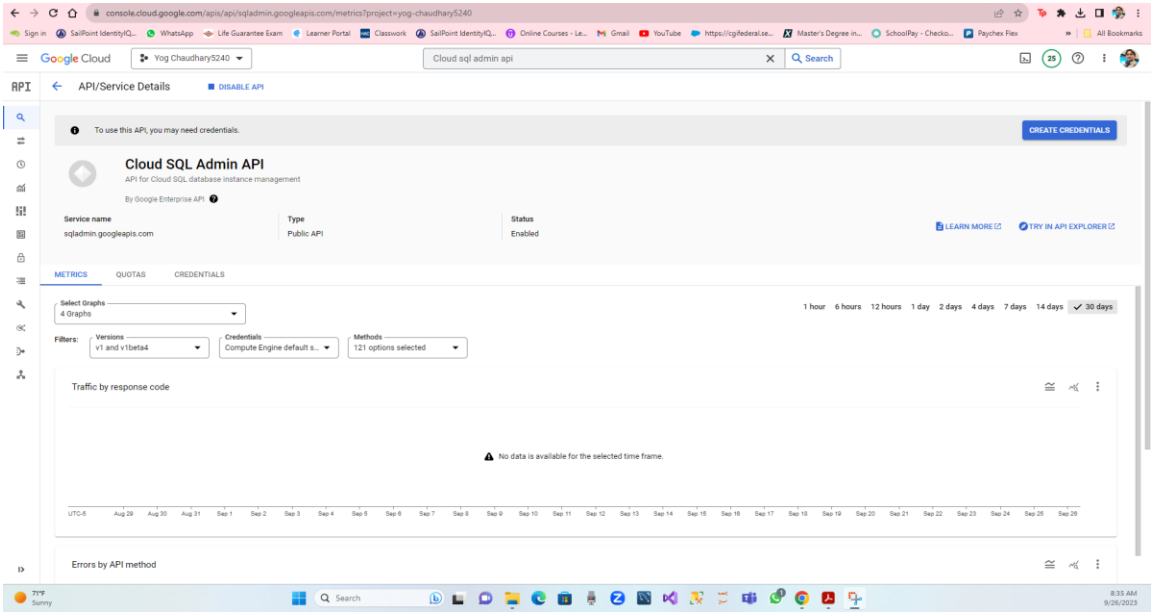
- For enabling this I have searched for Cloud SQL Admin API
- Then I clicked on Cloud SQL Admin API.



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

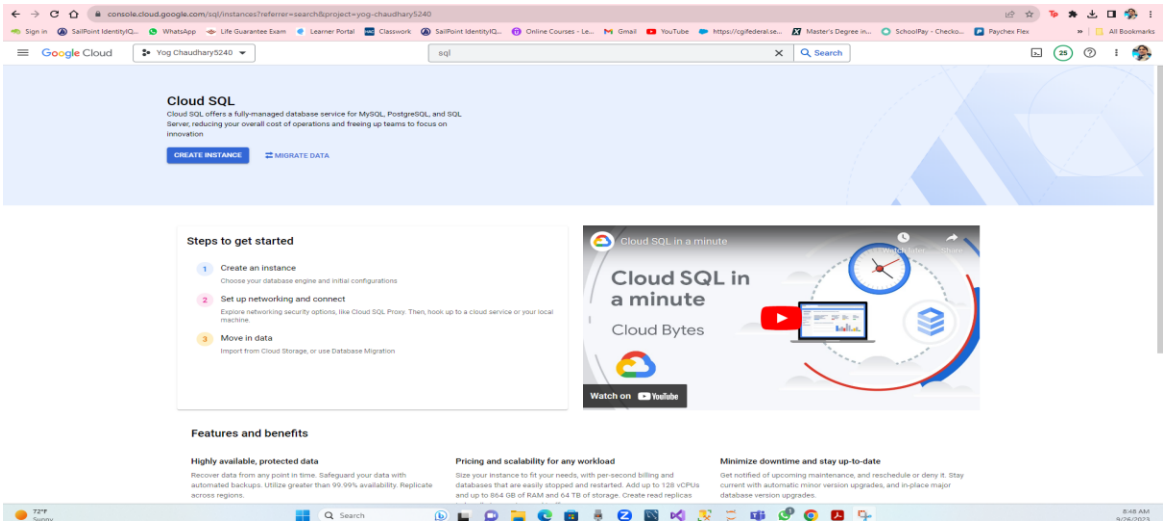


- Hare, I have enabled cloud SQL Admin API.
- Here is the screenshot of that

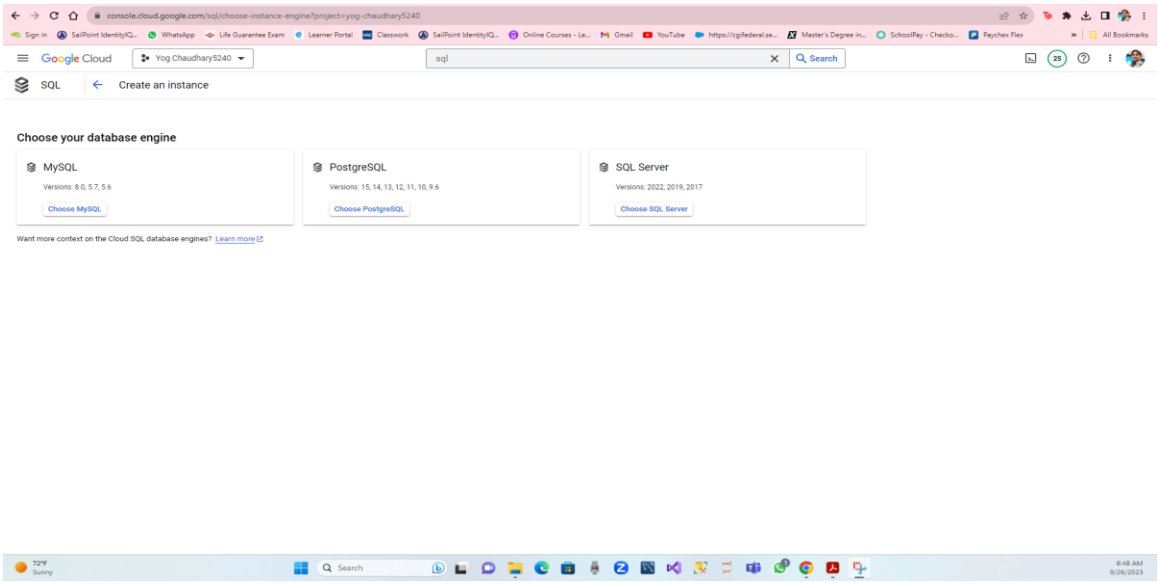


4. Create a Cloud SQL Instance.

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

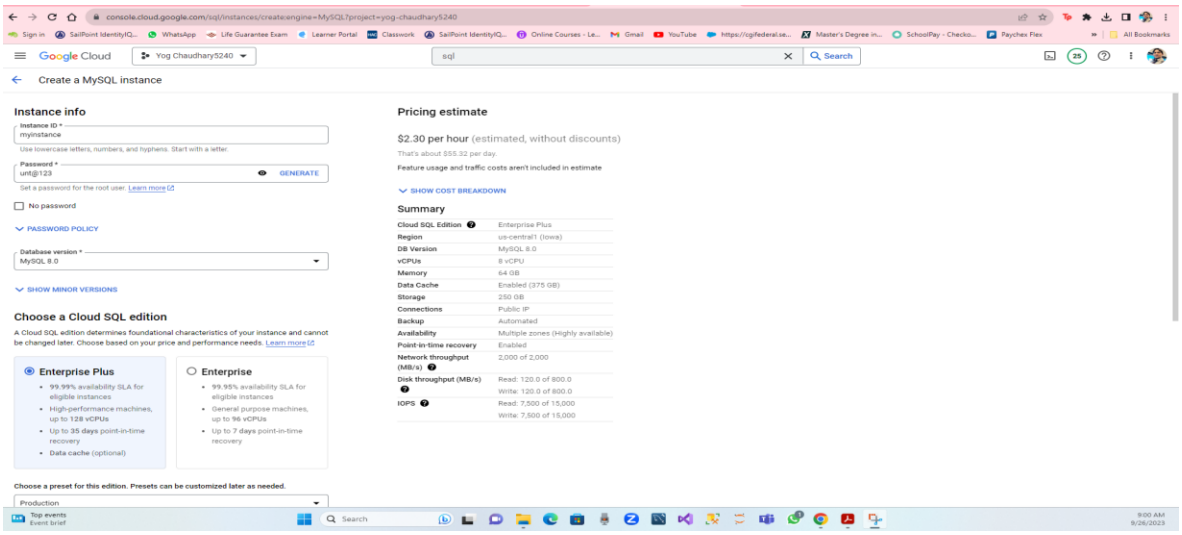


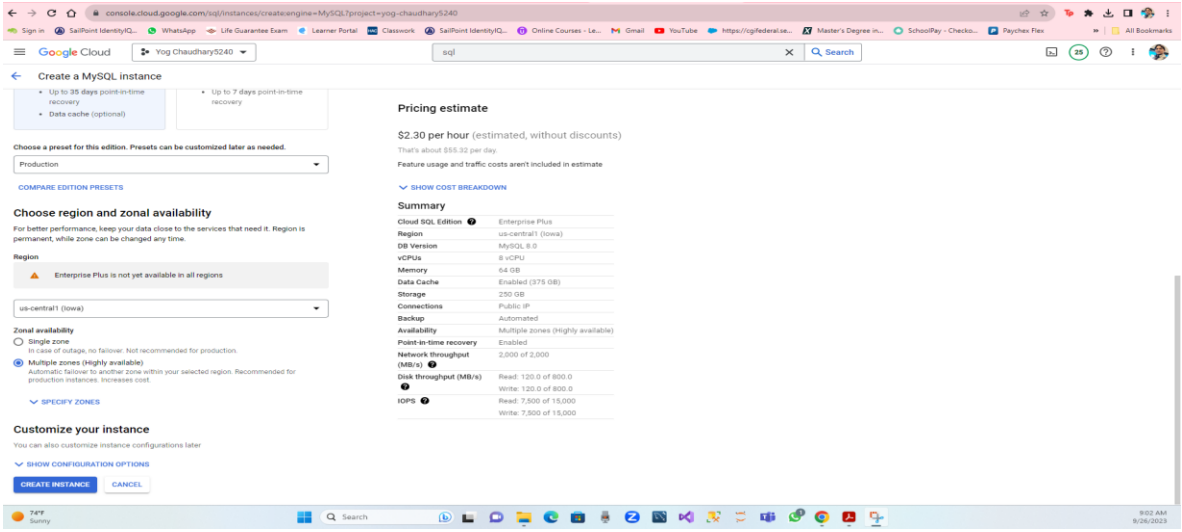
B) After Clicking on Create Instance, I was taken this page that below shows.

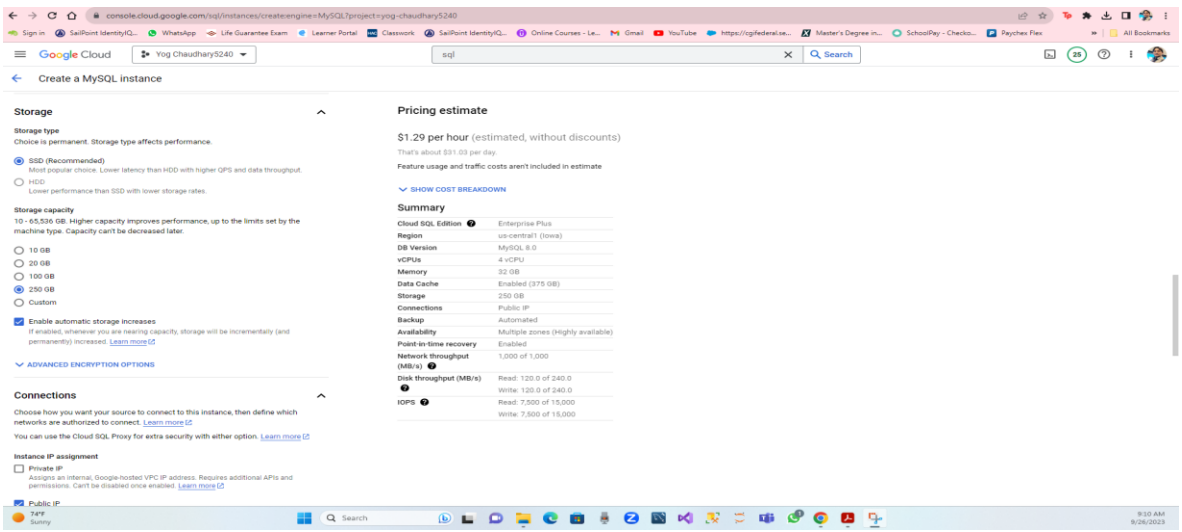


5. Click on choose MYSQL.

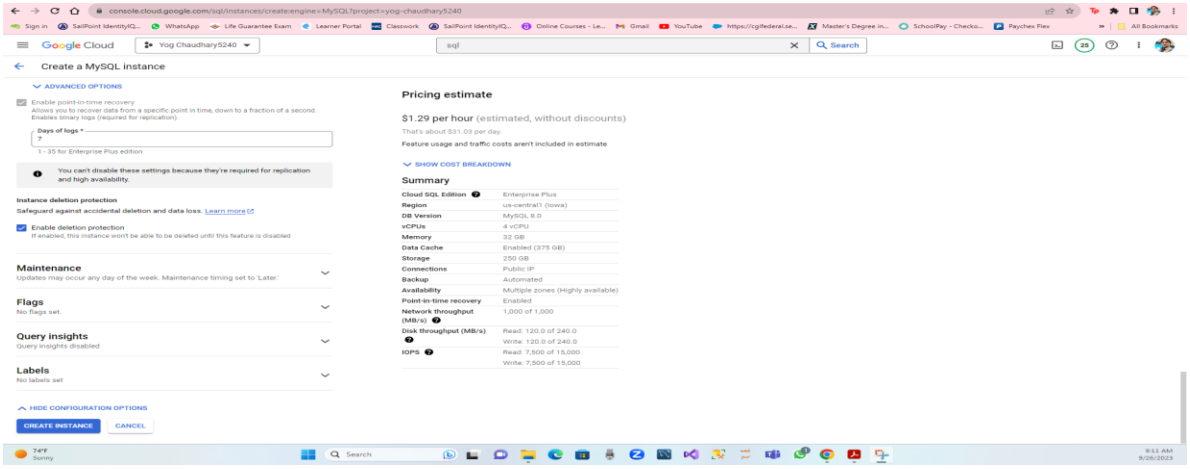
- By selecting MySQL, I have gone through this page.
- Hare, I have given instance ID as myinstance.
- I have given the password (unt@123).
- All other as default.
- Click on create instance.


Google Cloud
Yog Chaudhary5240
sql
Search
Create a MySQL instance
Instance info
Instance ID *
myinstance
Use lowercase letters, numbers, and hyphens. Start with a letter.
Password *
unt@123
GENERATE
Set a password for the root user. Learn more
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
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 96 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

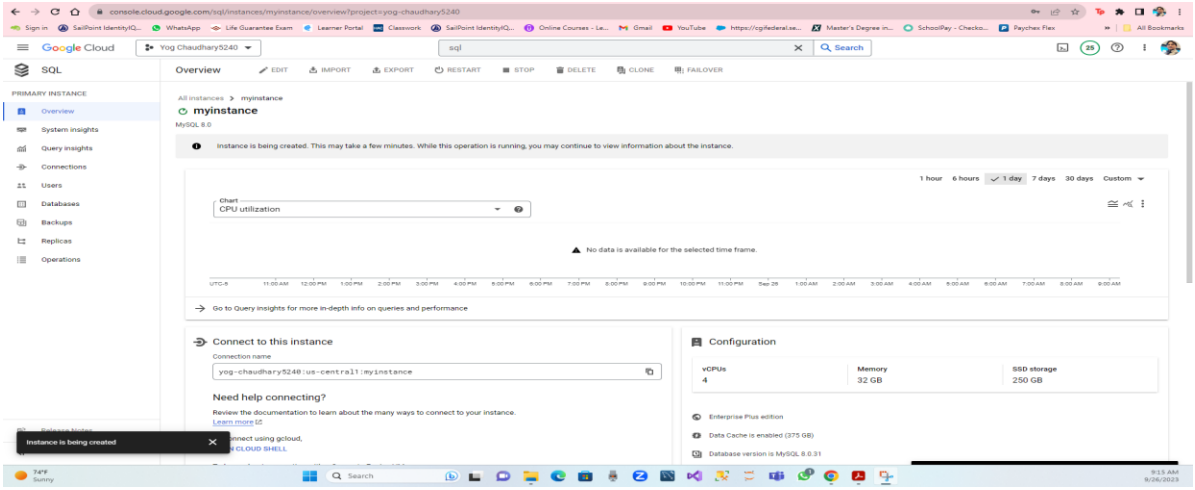

Google Cloud
Yog Chaudhary5240
sql
Search
Create a MySQL instance
Up to 35 days point-in-time recovery
Data cache (optional)
Up to 7 days point-in-time recovery
Choose a preset for this edition. Presets can be customized later as needed.
Production
COMPARE EDITION PRESETS
Choose region and zonal availability
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
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

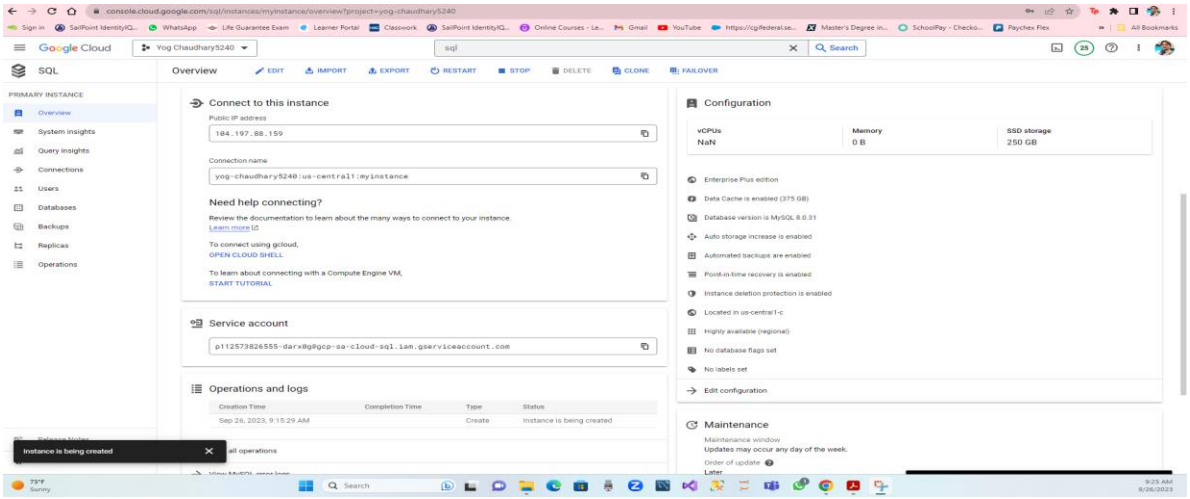

Google Cloud
Yog Chaudhary5240
sql
Search
Create a MySQL instance
Storage
Storage type
Choice is permanent. Storage type affects performance.
SSD (Recommended)
Most popular choice. Lower latency than HDD with higher QPS and data throughput.
HDD
Lower performance than SSD with lower storage rates.
Storage 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
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
Assigns an internal, Google-hosted VPC IP address. Requires additional APIs and permissions. Can't be disabled once enabled. Learn more
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

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



6. Click Create.

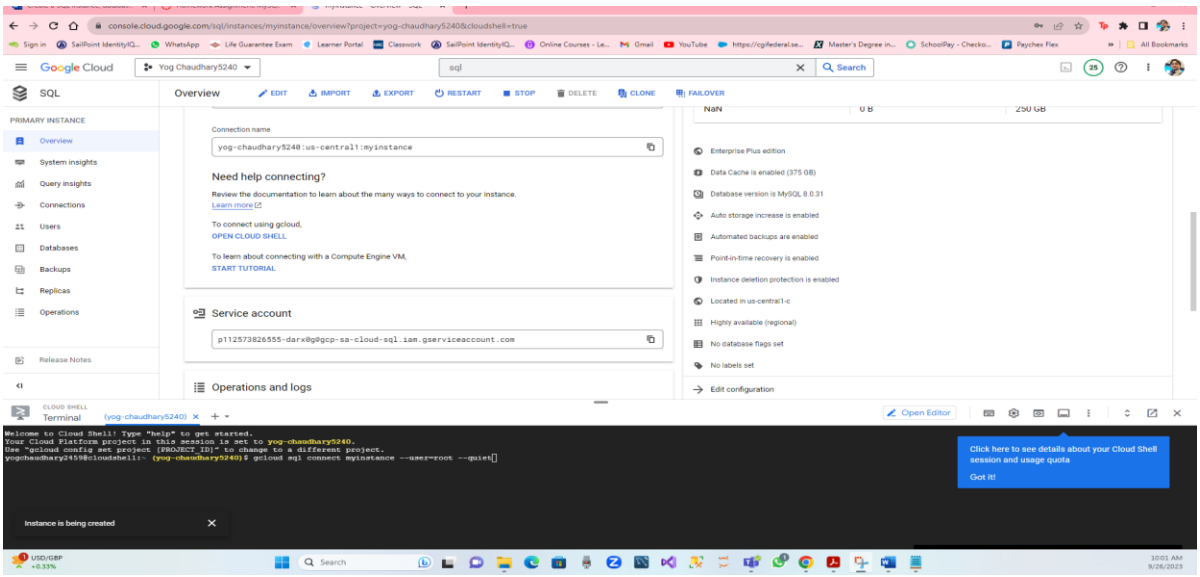




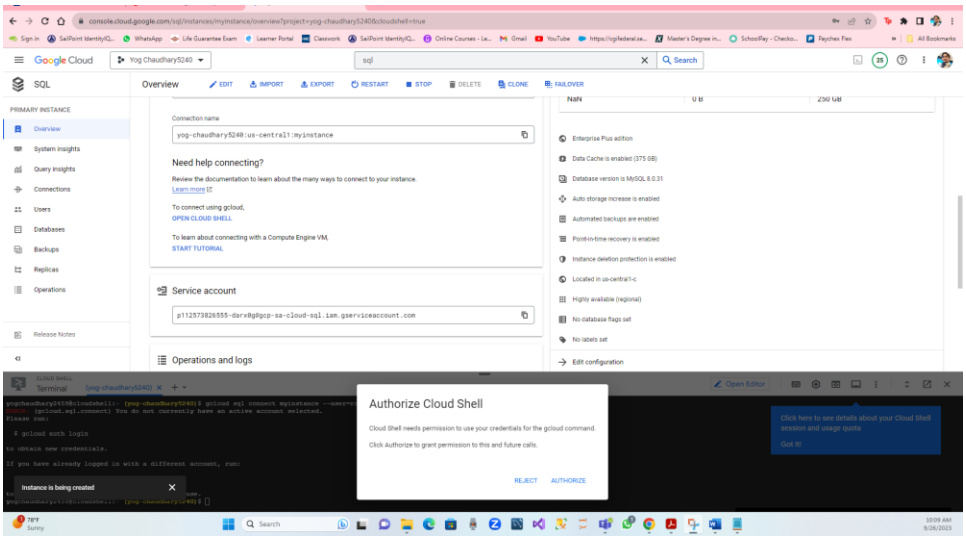
- Hence the above screenshot shows the instance that has been successfully created.

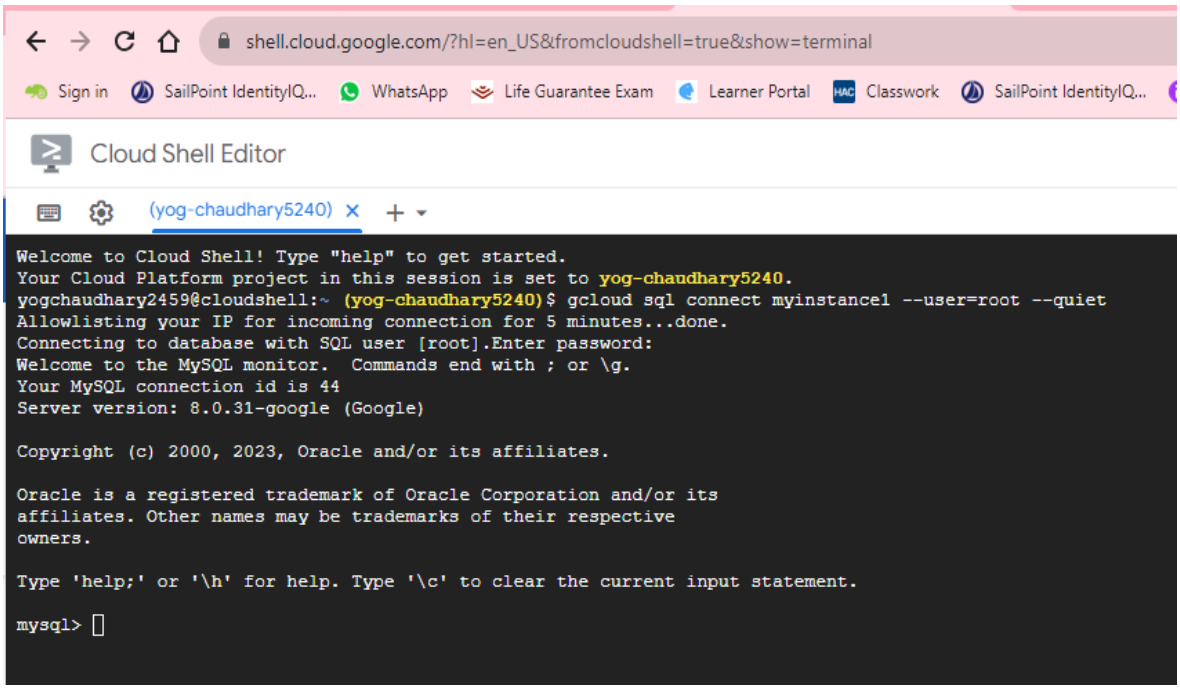
7. **Create a database and Upload data.**

- Hare 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.





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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affiliates. Other names may be trademarks of their respective
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:

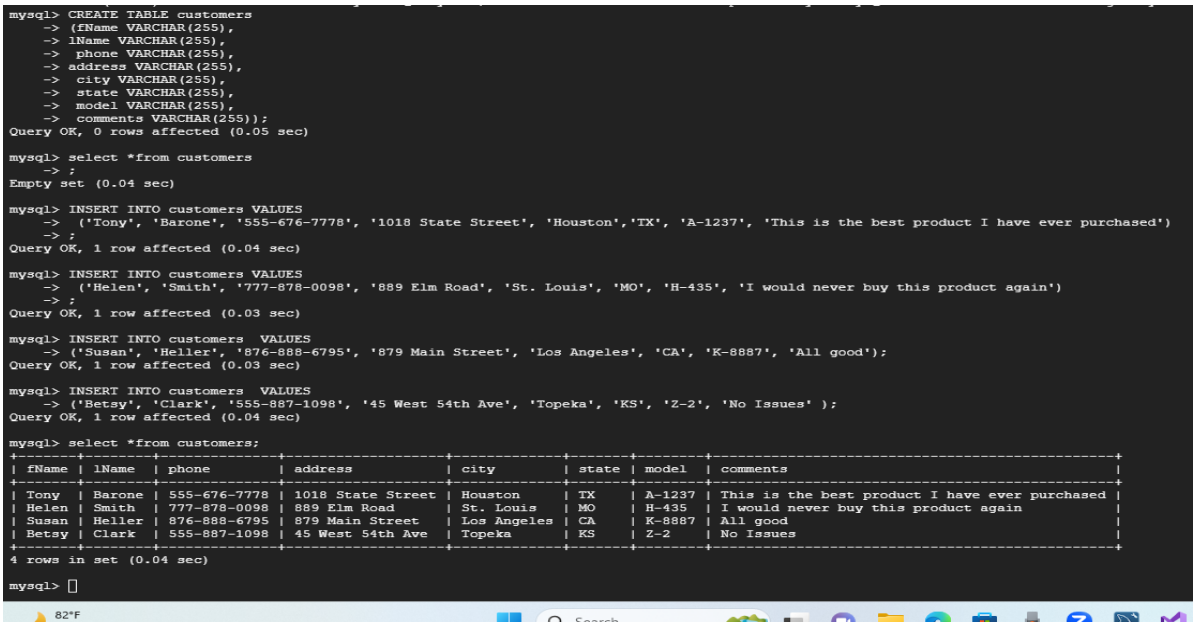
A) Now I entered the data into the table by using the following commands:

- → 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:

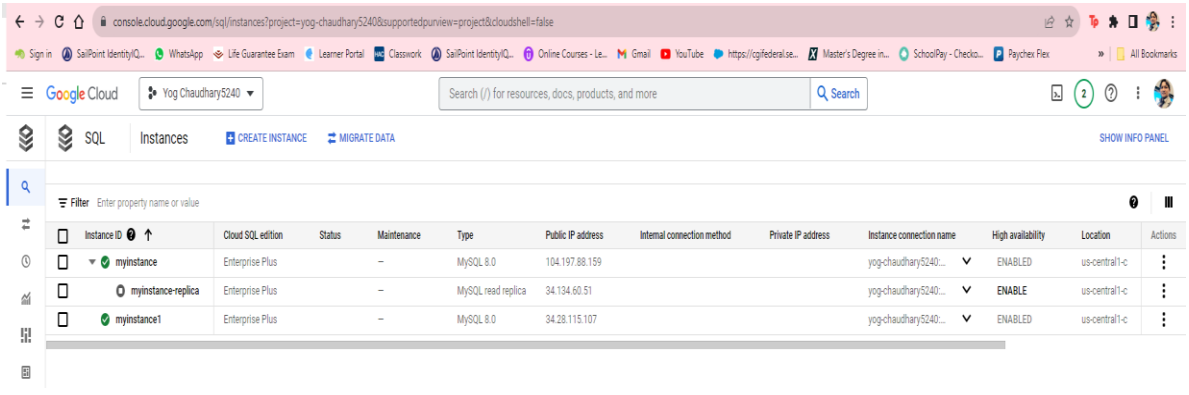
- SELECT * FROM customers;
- The output is here.



```
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