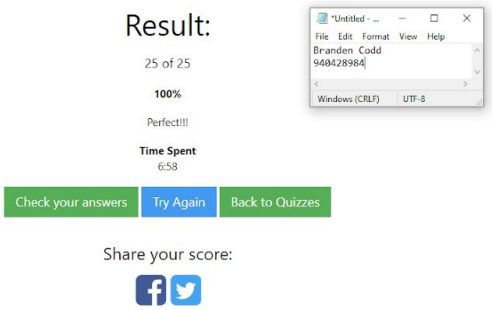
CS356-Lab03:2-Branden-Codd-940428984

1. SQL, Cloud SQL, RDS

- No questions or screenshots

2. SQL quiz

SQL Quiz



3. GCP Cloud SQL

- To begin with, within Cloud Shell, download the database files and change into the lab directory

```
Welcome to Cloud Shell! Type "help" to get started.
Your Cloud Platform project in this session is set to cs356-w21-branden-codd.
Use "gcloud config set project [PROJECT_ID]" to change to a different project.
coddb@cloudshell:~ (cs356-w21-branden-codd)$ git clone https://github.com/GoogleCloudPlatform/training-data-analyst
Cloning into 'training-data-analyst'...
remote: Enumerating objects: 1, done.
remote: Counting objects: 100% (1/1), done.
remote: Total 45046 (delta 0), reused 0 (delta 0), pack-reused 45045
Receiving objects: 100% (45046/45046), 477.89 MiB | 33.49 MiB/s, done.
Resolving deltas: 100% (28294/28294), done.
Checking out files: 100% (9153/9153), done.
coddb@cloudshell:~ (cs356-w21-branden-codd)$ cd training-data-analyst/CPB100/lab3a
coddb@cloudshell:~/training-data-analyst/CPB100/lab3a (cs356-w21-branden-codd)$
```

- Examine the data definition language (DDL) commands in `cloudsql/table_creation.sql` that specifies the schema and answer the following questions:

- **What are the names of the tables that are created?**
  - Accommodation
  - Rating
  - Recommendation
- **What are the primary keys of each table?**
  - Accommodation
    - ID
  - Rating

        - accoId, userId
    - Recommendation
        - userId, accoId
- **What data (e.g. columns) does the Accommodation table hold?**
    - Id
    - Title
    - Location
    - Price
    - Rooms
    - Rating
    - type

- Examine the data that fills in these tables at cloudsql/accommodation.csv and answer the following questions.

    - **Find the accommodations in Dublin.**

```
coddb@cloudshell:~/training-data-analyst/CPB100/lab3a/cloudsql (cs356-w21-branden-codd)$ grep Dublin accommodation.csv
6,Pleasant Quiet Place,Dublin,35,5,4.3,house
77,Great Private Country House,Dublin,1150,10,2.4,mansion
coddb@cloudshell:~/training-data-analyst/CPB100/lab3a/cloudsql (cs356-w21-branden-codd)$
```

    - **Assuming the column data is ordered as in the DDL, list the attributes and their values for each accommodation in Dublin. (listing both starting with the first)**
        - Id
            - 6, 77
        - Title
            - Pleasant Quiet Place, Great Private Country House
        - Location
            - Dublin
        - Price
            - 35, 1150
        - Rooms
            - 5, 10
        - Rating
            - 4.3, 2.4
        - Type
            - House, mansion

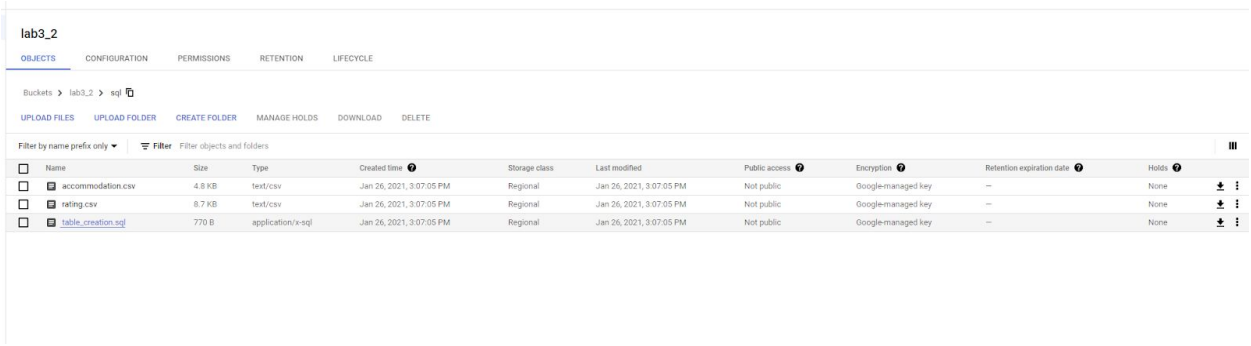
- To begin with, create a regional storage bucket in us-west1 with a unique name:
- Then, copy the files from the cloudsql directory over to it.

```
coddb@cloudshell:~/training-data-analyst/CPB100/lab3a (cs356-w21-branden-codd)$ gsutil cp cloudsql/* gs://lab3_2/sql/
Copying file://cloudsql/accommodation.csv [Content-Type=text/csv]...
Copying file://cloudsql/rating.csv [Content-Type=text/csv]...
Copying file://cloudsql/table_creation.sql [Content-Type=application/x-sql]...
/ [3 files][ 14.2 KiB/ 14.2 KiB]
Operation completed over 3 objects/14.2 KiB.
coddb@cloudshell:~/training-data-analyst/CPB100/lab3a (cs356-w21-branden-codd)$
```

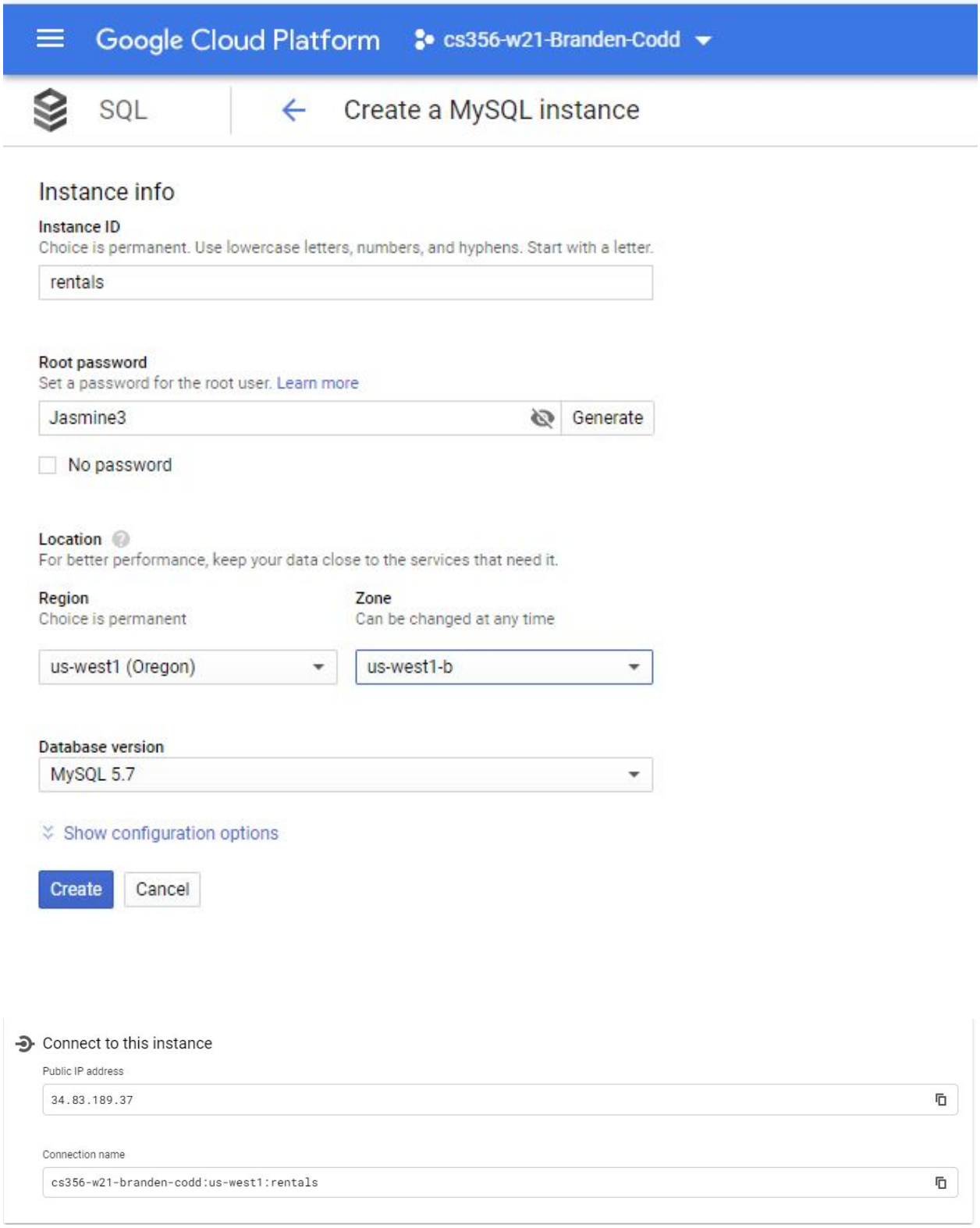
- find the external IP address of the Cloud Shell session.

```
coddb@cloudshell:~/training-data-analyst/CPB100/lab3a (cs356-w21-branden-codd)$ curl http://ipecho.net/plain ; echo
35.233.156.216
```

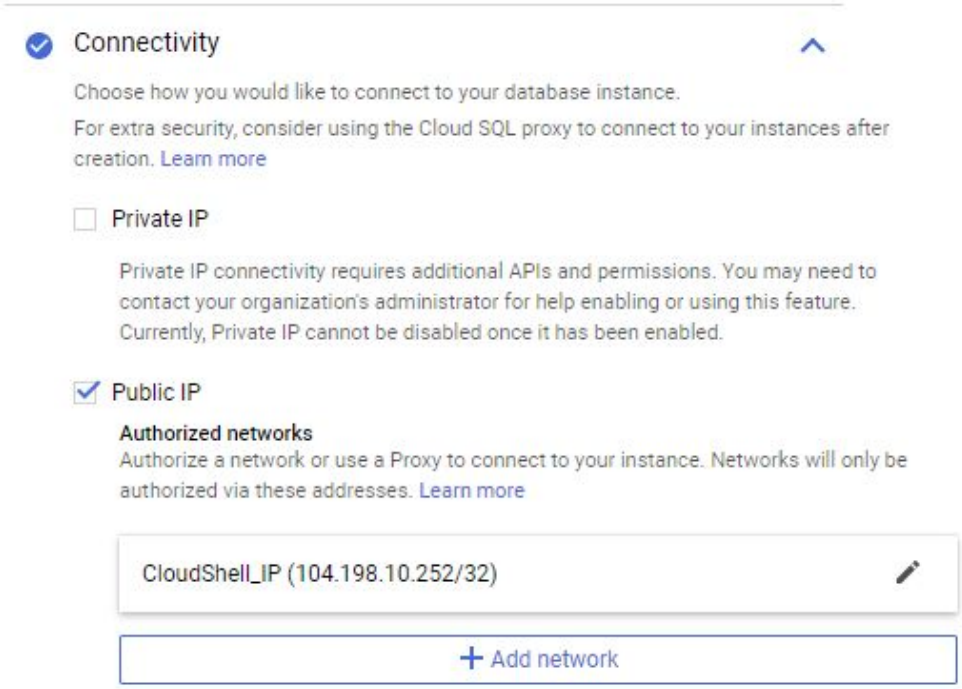
- Finally, visit the Cloud Storage service from the web console to verify that your files have been copied over.



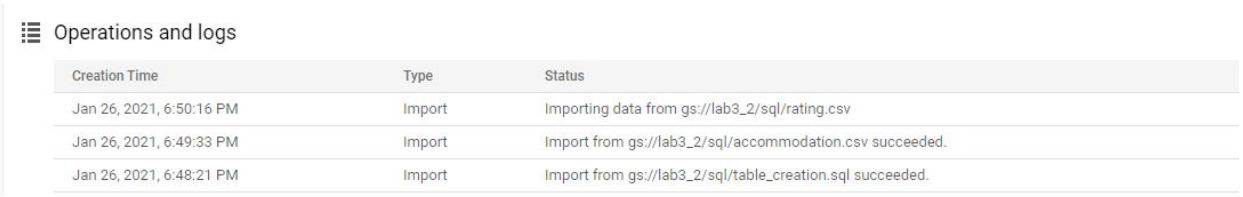
4. Cloud SQL instance creation



5. Cloud SQL network access



6. Cloud SQL importing data



7. Cloud SQL from Cloud Shell

- Run queries for accommodations at two price levels of your choice and two types of your choice. Show screenshots of the query output for your lab notebook.
    - prices

```
mysql> select * from Accommodation where price = 40;
+----+----------------------+---------------+-------+-------+--------+---------+
| id | title                | location      | price | rooms | rating | type    |
+----+----------------------+---------------+-------+-------+--------+---------+
| 24 | Nice Private Cottage | San Francisco |    40 |     2 |    1.1 | cottage |
| 53 | Comfy Private Shanty | Buenos Aires  |    40 |     2 |    4.6 | cottage |
| 58 | Nice Calm Cottage    | Berlin        |    40 |     3 |    3.9 | cottage |
| 80 | Big Quiet Cabin      | San Francisco |    40 |     3 |    4.3 | cottage |
| 83 | Comfy Calm Shack     | San Francisco |    40 |     3 |    3.4 | cottage |
+----+----------------------+---------------+-------+-------+--------+---------+
5 rows in set (0.01 sec)

mysql> select * from Accommodation where price = 100;
+----+-------------------+----------+-------+-------+--------+-------+
| id | title             | location | price | rooms | rating | type  |
+----+-------------------+----------+-------+-------+--------+-------+
| 86 | Large Quiet House | London   |   100 |     4 |      4 | house |
+----+-------------------+----------+-------+-------+--------+-------+
1 row in set (0.00 sec)
```

- type

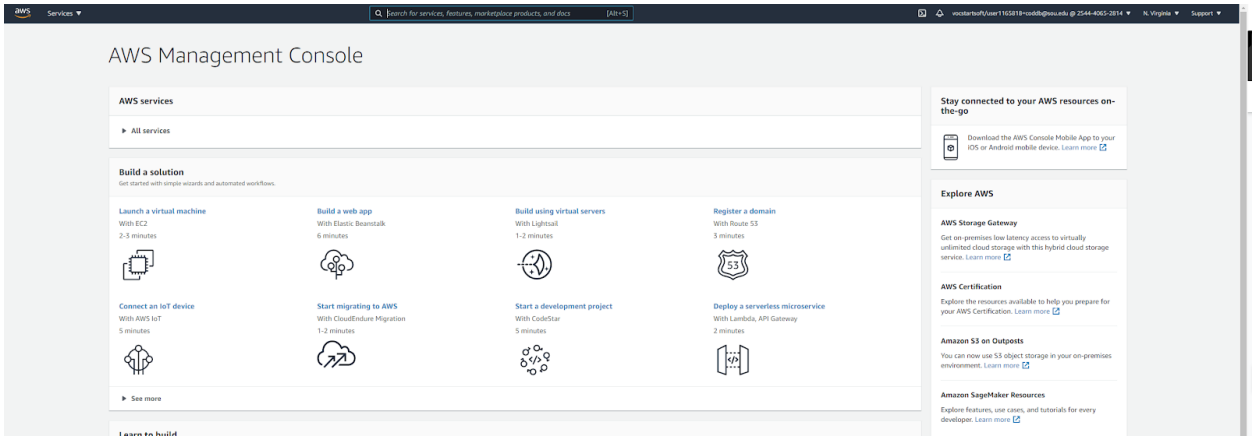
```
mysql> select * from Accommodation where type = "cottage";
+----+----------------------+---------------+-------+-------+--------+---------+
| id | title                | location      | price | rooms | rating | type    |
+----+----------------------+---------------+-------+-------+--------+---------+
| 1  | Comfy Quiet Chalet   | Vancouver     |    50 |     3 |    3.1 | cottage |
| 11 | Homy Quiet Shanty    | Melbourne     |    50 |     1 |    2.8 | cottage |
| 18 | Big Peaceful Hut     | Melbourne     |    60 |     2 |    2.4 | cottage |
| 2  | Cozy Calm Hut        | London        |    65 |     2 |    4.1 | cottage |
| 21 | Big Peaceful Cabin   | Seattle       |    80 |     2 |    4.9 | cottage |
| 23 | Homy Calm House      | Paris         |    70 |     2 |      2 | cottage |
| 24 | Nice Private Cottage | San Francisco |    40 |     2 |    1.1 | cottage |
| 25 | Nice Calm Chalet     | Seattle       |    55 |     2 |    4.5 | cottage |
| 36 | Comfy Private Shanty | NYC           |    80 |     1 |    3.7 | cottage |
| 43 | Nice Private Hut     | Melbourne     |    60 |     3 |    2.8 | cottage |
| 5  | Homy Quiet Shack     | Paris         |    50 |     1 |    1.1 | cottage |
| 51 | Nice Quiet Hut       | Auckland      |    70 |     3 |    1.4 | cottage |
| 53 | Comfy Private Shanty | Buenos Aires  |    40 |     2 |    4.6 | cottage |
| 55 | Cozy Peaceful Hut    | London        |    75 |     2 |    1.7 | cottage |
| 58 | Nice Calm Cottage    | Berlin        |    40 |     3 |    3.9 | cottage |
| 62 | Comfy Calm Cabin     | Buenos Aires  |    65 |     2 |    4.3 | cottage |
| 65 | Comfy Private Chalet | NYC           |    45 |     2 |      1 | cottage |
| 69 | Homy Quiet House     | NYC           |    65 |     1 |    3.1 | cottage |
| 71 | Cozy Calm Hut        | San Francisco |    55 |     2 |    3.8 | cottage |
| 73 | Nice Peaceful Cabin  | London        |    60 |     1 |    3.4 | cottage |
| 80 | Big Quiet Cabin      | San Francisco |    40 |     3 |    4.3 | cottage |
| 81 | Homy Quiet Shack     | Seattle       |    70 |     3 |    2.2 | cottage |
| 82 | Cozy Peaceful Cabin  | San Francisco |    75 |     1 |    1.6 | cottage |
| 83 | Comfy Calm Shack     | San Francisco |    40 |     3 |    3.4 | cottage |
| 85 | Nice Private Shack   | Auckland      |    55 |     1 |    4.9 | cottage |
| 89 | Nice Private House   | Seattle       |    45 |     2 |    3.2 | cottage |
| 92 | Cozy Quiet Bungalow  | San Francisco |    85 |     3 |    3.5 | cottage |
| 97 | Cozy Quiet Chalet    | Auckland      |    75 |     1 |    2.3 | cottage |
+----+----------------------+---------------+-------+-------+--------+---------+
28 rows in set (0.00 sec)

mysql> select * from Accommodation where type = "house";
+----+--------------------------+---------------+-------+-------+--------+-------+
| id | title                    | location      | price | rooms | rating | type  |
+----+--------------------------+---------------+-------+-------+--------+-------+
| 12 | Beautiful Peaceful Villa | Seattle       |    90 |     2 |    2.1 | house |
| 16 | Large Calm House         | Melbourne     |    45 |     3 |    4.1 | house |
| 22 | Pleasant Peaceful House  | Auckland      |    50 |     5 |    3.5 | house |
| 28 | Beautiful Calm Villa     | Tokyo         |   110 |     2 |    4.2 | house |
| 3  | Agreable Calm Place      | London        |    65 |     4 |    4.8 | house |
| 30 | Large Peaceful House     | Berlin        |   110 |     5 |    2.3 | house |
| 33 | Pleasant Calm Place      | Tokyo         |    30 |     2 |    4.8 | house |
| 38 | Big Private House        | San Francisco |    70 |     4 |    2.9 | house |
| 39 | Beautiful Calm Villa     | Vancouver     |    50 |     3 |    3.5 | house |
| 49 | Big Private Villa        | NYC           |    90 |     2 |    4.8 | house |
| 59 | Large Peaceful Place     | Tokyo         |    55 |     5 |    1.2 | house |
| 6  | Pleasant Quiet Place     | Dublin        |    35 |     5 |    4.3 | house |
| 61 | Large Calm Place         | NYC           |    60 |     2 |    1.3 | house |
| 66 | Beautiful Private Villa  | London        |    80 |     2 |    2.4 | house |
| 72 | Beautiful Calm Place     | Paris         |    80 |     4 |    2.1 | house |
| 75 | Large Private Place      | Berlin        |    50 |     4 |    3.6 | house |
| 76 | Pleasant Calm Villa      | Berlin        |    30 |     2 |    2.4 | house |
| 86 | Large Quiet House        | London        |   100 |     4 |      4 | house |
| 90 | Big Quiet House          | Seattle       |    35 |     5 |    3.2 | house |
| 99 | Pleasant Quiet Place     | NYC           |    80 |     4 |    3.2 | house |
+----+--------------------------+---------------+-------+-------+--------+-------+
20 rows in set (0.00 sec)
```

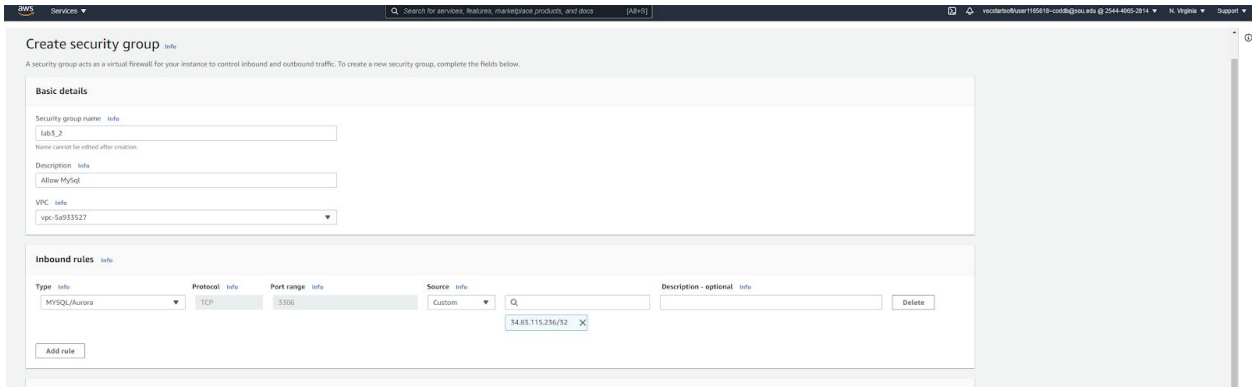
8. Cloud SQL cleanup

- No screenshots or overservations

9. Amazon RDS



10. RDS security group



11. RDS instance creation

RDS > Create database

Create database

Choose a database creation method Info

- (•) **Standard create**
  You set all of the configuration options, including ones for availability, security, backups, and maintenance.
- ( ) **Easy create**
  Use recommended best-practice configurations. Some configuration options can be changed after the database is created.

Engine options

Engine type Info

- ( ) Amazon Aurora
- (•) MySQL
- ( ) MariaDB
- ( ) PostgreSQL
- ( ) Oracle
- ( ) Microsoft SQL Server

Edition

(•) MySQL Community

Known Issues/Limitations
Review the Known Issues/Limitations to learn about potential compatibility issues with specific database versions.

Version

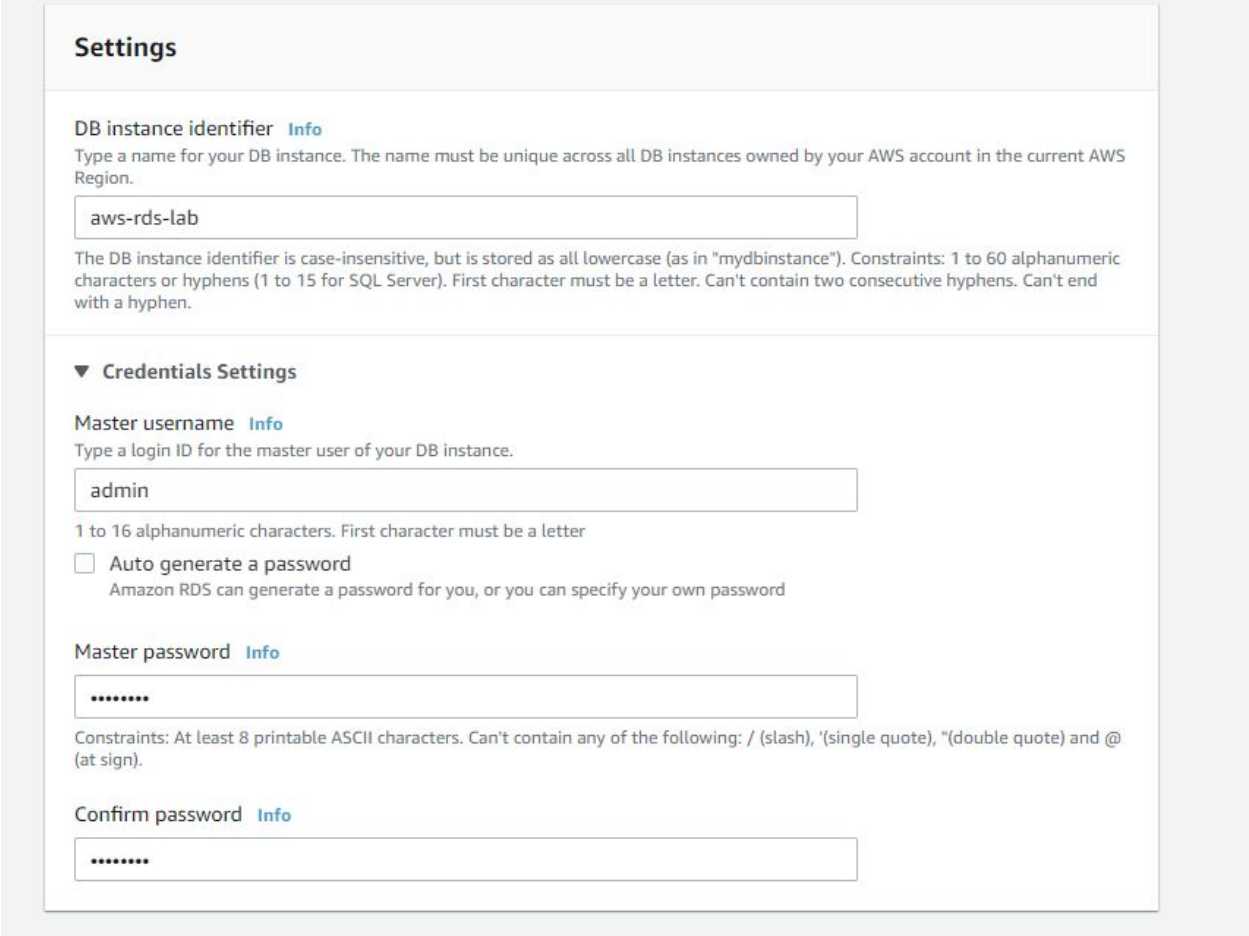
MySQL 8.0.17

Templates

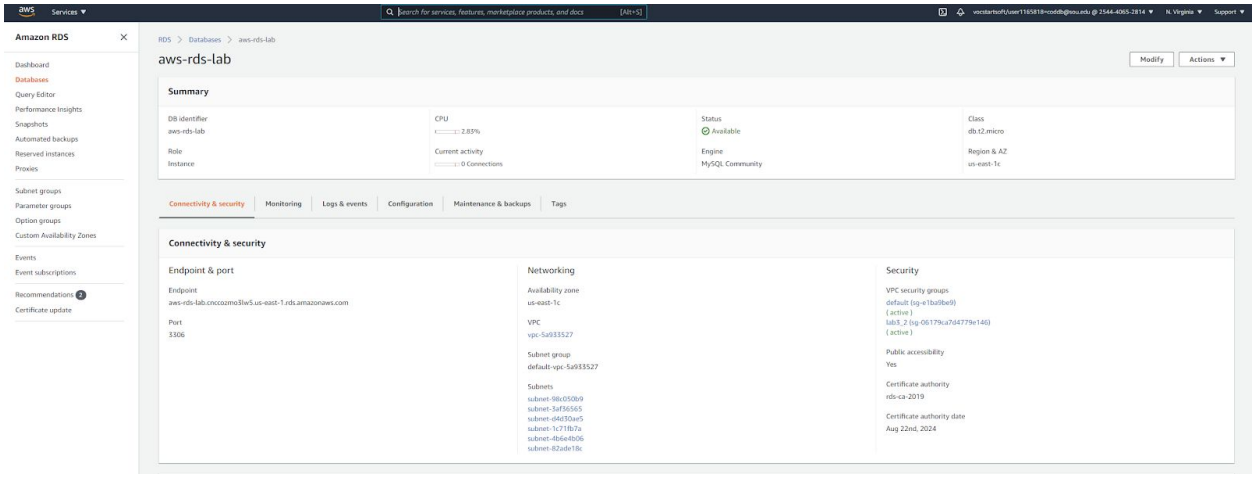
Choose a sample template to meet your use case.

- ( ) **Production**
  Use defaults for high availability and fast, consistent performance.
- ( ) **Dev/Test**
  This instance is intended for development use outside of a production environment.
- (•) **Free tier**
  Use RDS Free Tier to develop new applications, test existing applications, or gain hands-on experience with Amazon RDS. Info

12. RDS database creation



13. RDS network access



14. RDS test instance

```
coddb@cloudshell:~ (cs356-w21-branden-codd)$ mysql -h aws-rds-lab.cnccozmo3lw5.us-east-1.rds.amazonaws.com -P 3306 -u admin -p
Enter password:
Welcome to the MySQL monitor.  Commands end with ; or \g.
Your MySQL connection id is 13
Server version: 8.0.17 Source distribution

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owners.

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

mysql>
```

15. RDS cleanup