WHIZLABS

Launch Amazon EC2 instance, Launch Amazon RDS Instance, Connecting RDS from EC2 Instance

Level: Intermediate

Amazon EC2 Amazon RDS Amazon Web Services

0h 52m 38s left

15 MIN

End Lab

Open Console

Validation

Lab Credentials

User Name

Whiz_User_80425.22745005

Password

a093b129-2731-4ab7-a49c-e96dcbe66b75

Access Key

AKIA2ISDNKYNNXAOFYBJ

Secret Key

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

Lab Resources

No Lab Resources Found

Support Documents

1. FAQs and Troubleshooting
2. SSH into EC2 Instance

Need help?

How to use Hands on Lab

Troubleshooting Lab

FAQs

Submit Feedback | Share

Lab Overview | Lab Steps | Lab Validation | Lab FAQs

Cloud Architect, Database Engineer, Cloud Administrator

Storage, Administrator, Database

Lab Steps

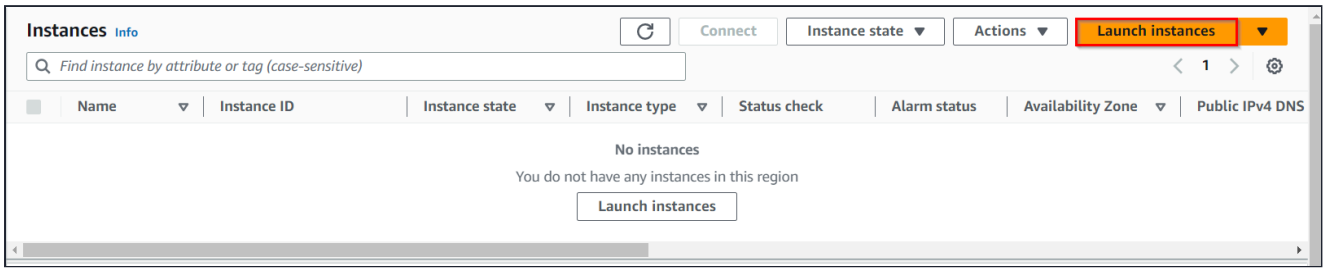
Task 1: Sign in to AWS Management Console

1. Click on the **Open Console** button, and you will get redirected to AWS Console in a new browser tab.
2. On the AWS sign-in page,
    - Leave the Account ID as default. Never edit/remove the 12-digit Account ID present in the AWS Console. Otherwise, you cannot proceed with the lab.
    - Now copy your **Username** and **Password** in the Lab Console to the **IAM Username and Password** in AWS Console and click on the **Sign-in** button.
3. Once Signed In to the AWS Management Console, make the default AWS Region as **US East (N. Virginia) us-east-1.**

Note : If you face any issues, please go through **FAQs and Troubleshooting for Labs**.

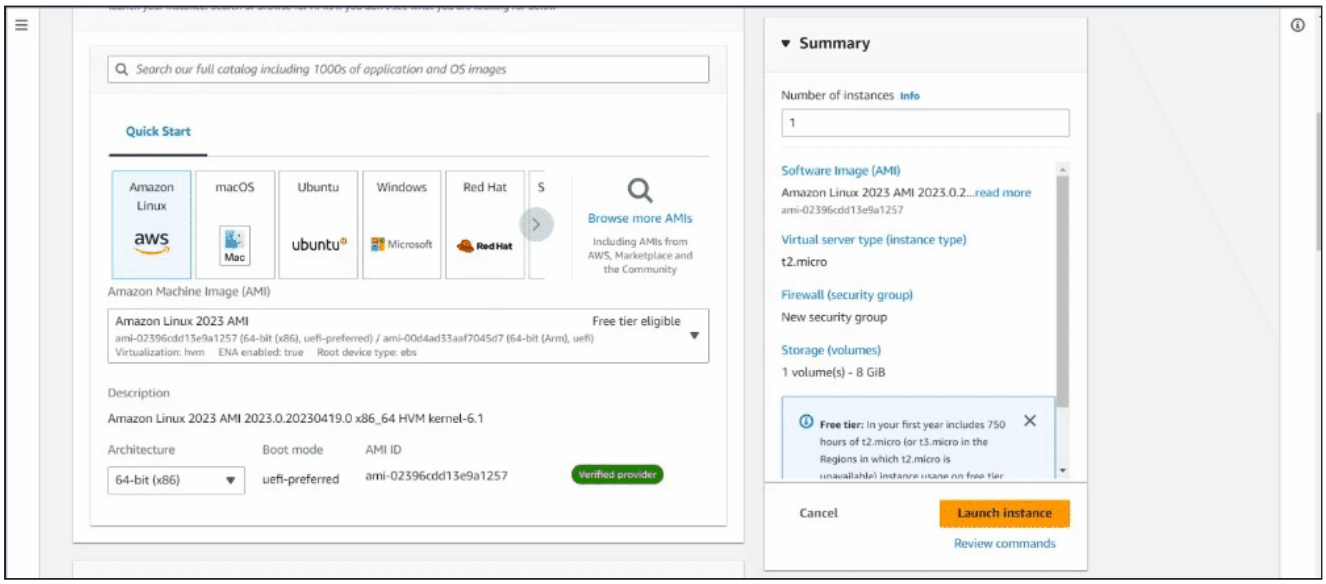
Task 2: Launch EC2 Instance

1. Make sure you are in **US East (N.Virginia) us-east-1** Region.
2. Navigate to EC2 by clicking on the **Services** menu in the top, then click on the **EC2** in the **Compute** section.
3. Navigate to **Instances** on the left panel and click on **Launch instances.**



4. Name : Enter **MyPublicServer**

5. **For Amazon Machine Image (AMI):** Search for **Amazon Linux 2 AMI** in Quick Start menu.
6. For Instance Type: select **t2.micro**



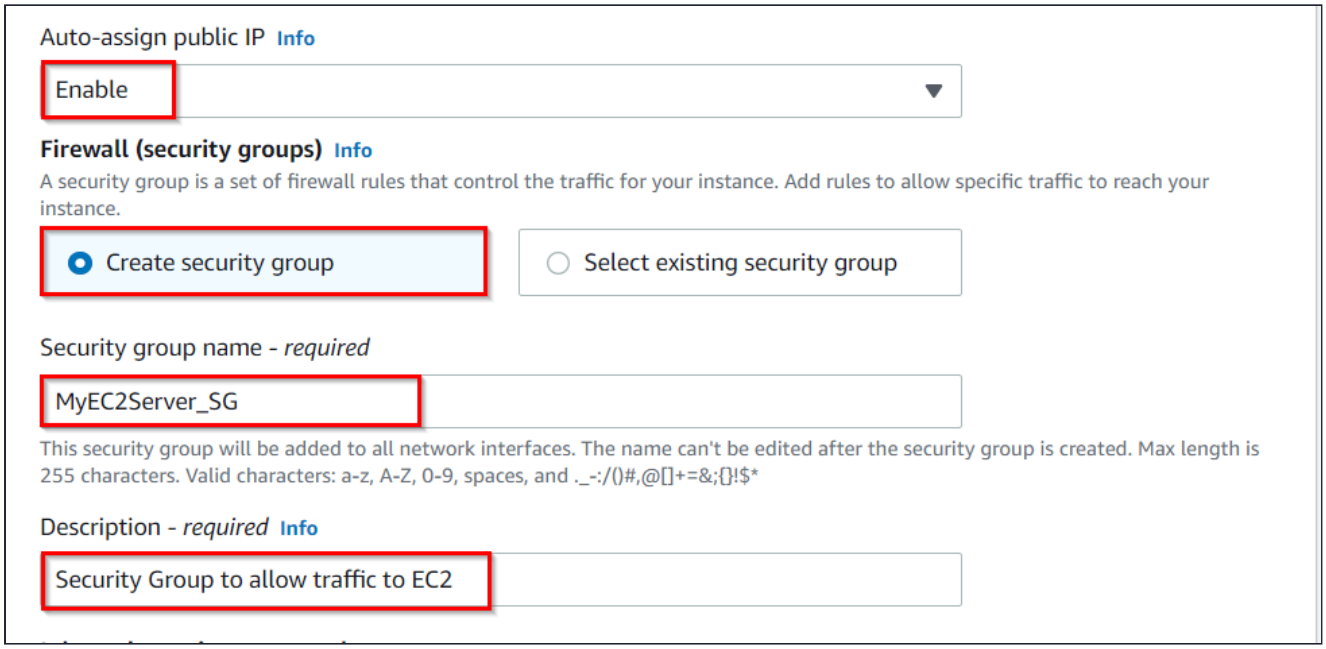
7. **For Key pair:** Select **Create a new key pair** Button

- Key pair name: Enter **WhizKey**
- Key pair type: Select **RSA**
- Private key file format: Select **.pem**

8. Select **Create key pair** Button.

9. In Network Settings, Click on **Edit**:

- Auto-assign public IP: **Enable**
- Select **Create new Security group**
- Security group name : Enter **MyEC2Server_SG**
- Description : Enter **Security Group to allow traffic to EC2**

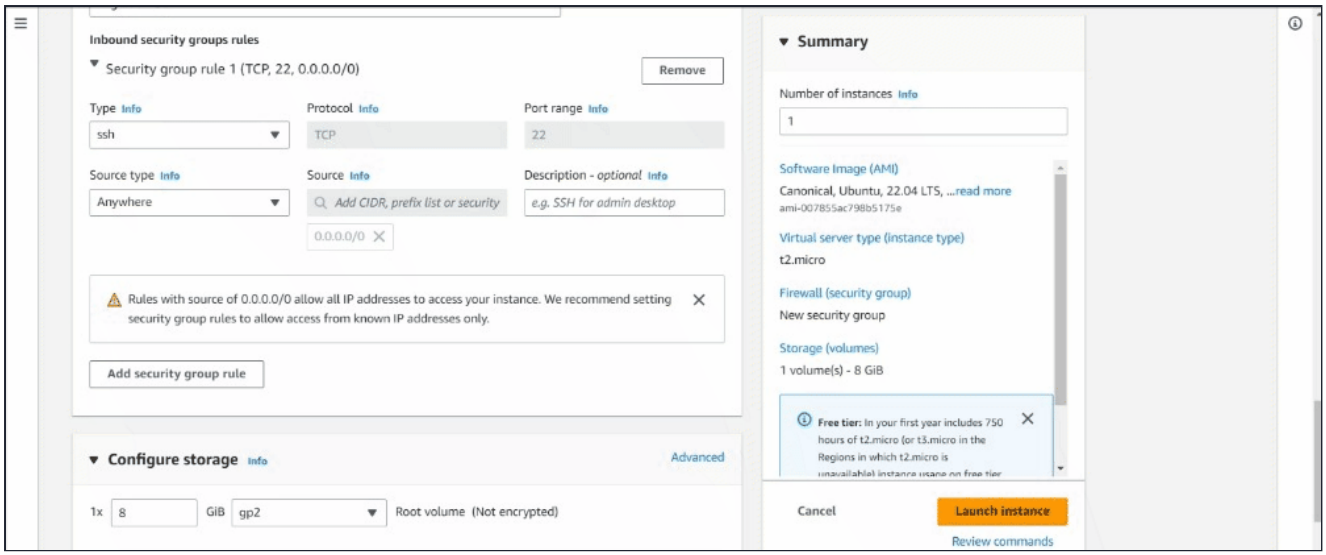


10. To add **SSH:**

- Choose Type: **SSH**
- Source: **Anywhere**

11. For **RDS:**

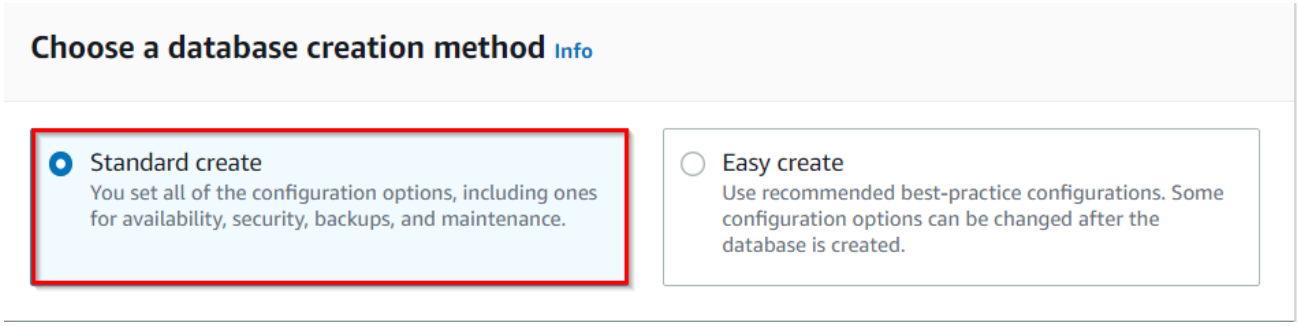
- Click on **Add security group role**
- Choose Type: **MySQL/Aurora**
- Source: **Anywhere**



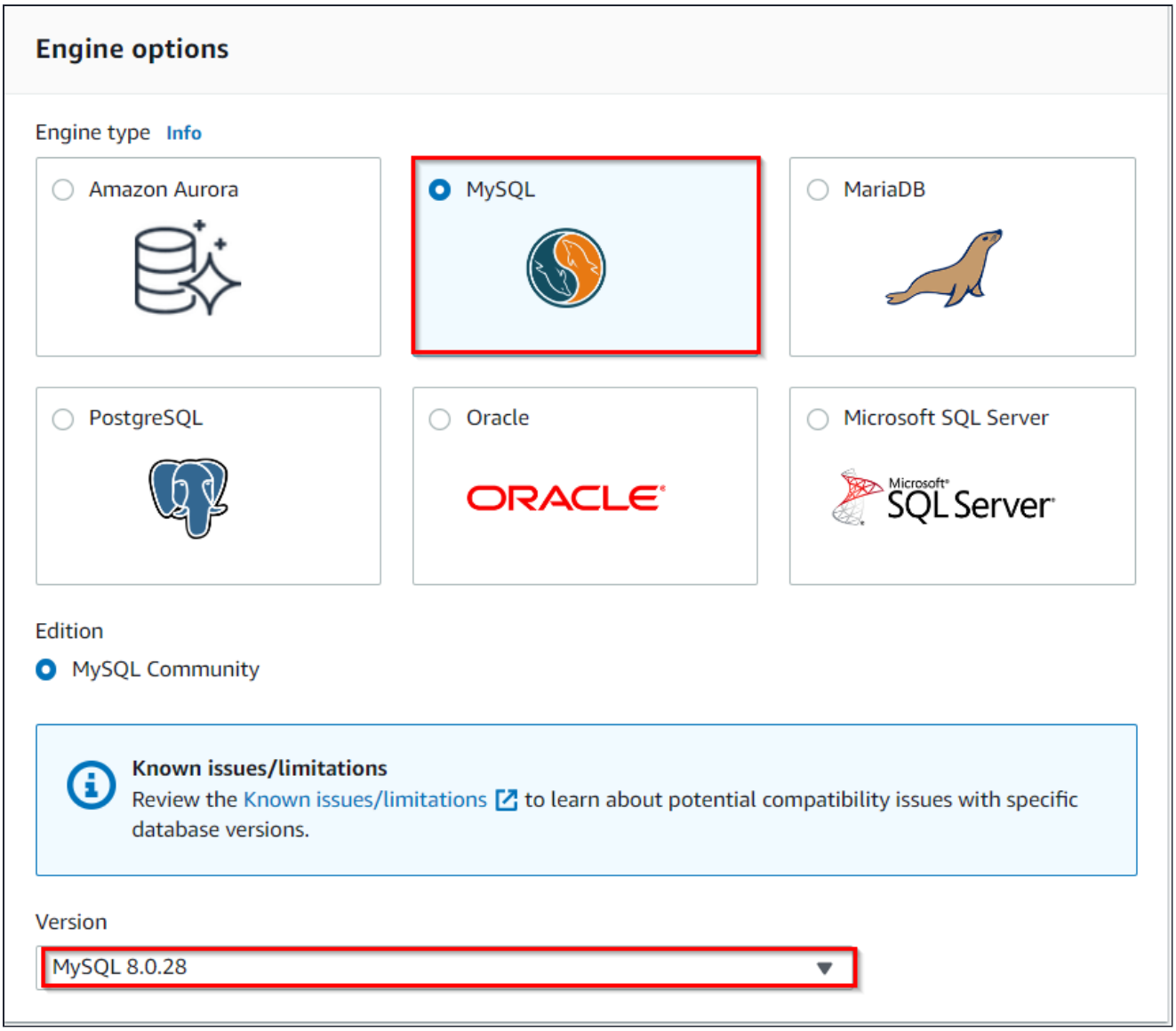
12. Keep rest thing Default and Click on **Launch Instance** Button.
13. Select **View all Instances** to View the Instance you Created
14. **Launch Status:** Your instance is now launching. Click on the instance ID and wait for complete initialization of the instance (until the status changes to running).

Task 3: Create an Amazon RDS Database

1. Navigate to **RDS** under **Database.**
2. Click on **Create Database** button
3. **Specify DB Details**:
    - Database creation method : Select **Standard create**



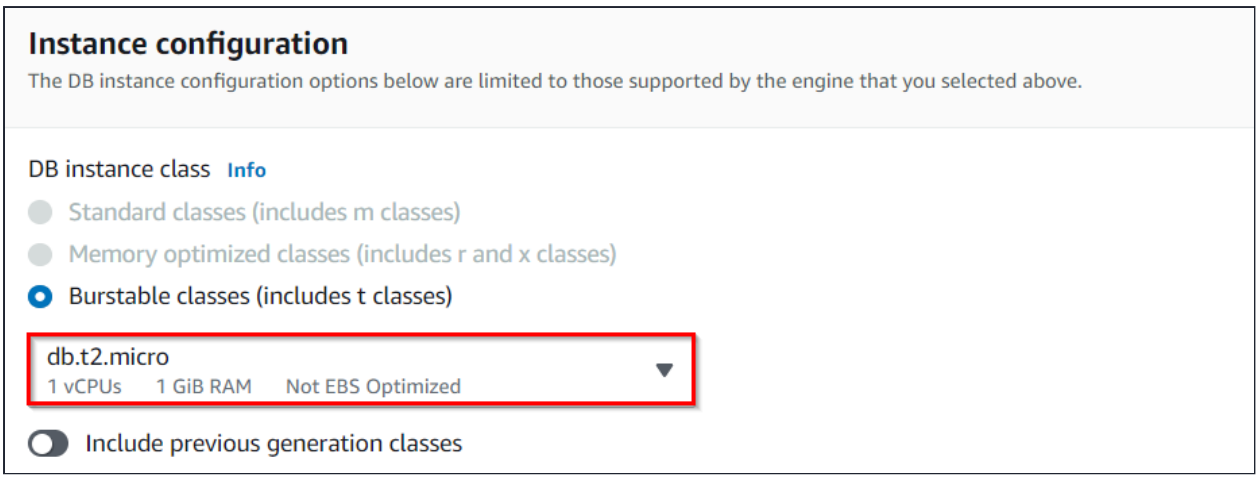
    - Engine options : Select **MySQL**
    - Version : **Default**



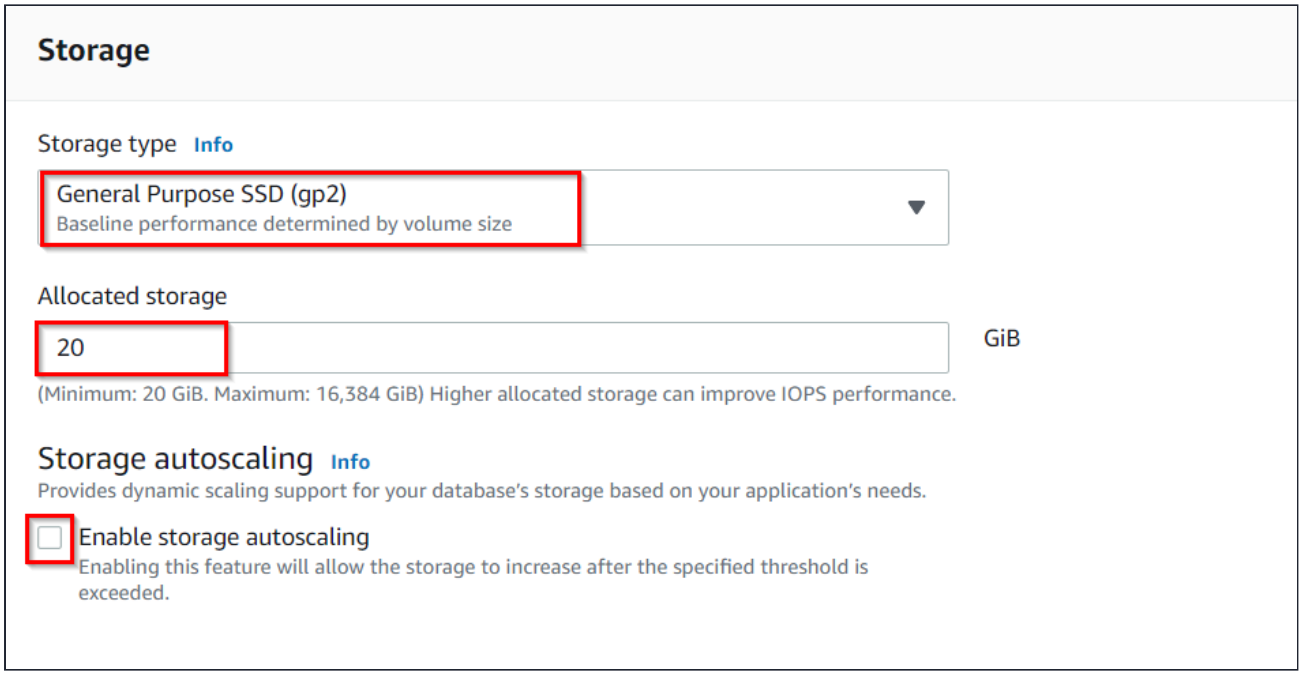
- Templates : Select **Free tier**

- DB instance identifier : Enter **mydbinstance**
- Master username : Enter **rdsuser**
- Master password and Confirm password: Enter **whizlabs123**
- **Note:** This is the username/password combo used to log onto your database. Please make note of them somewhere safe.

- DB instance class : **db.t2.micro — 1 vCPU, 1 GiB RAM**



- Storage type : **General Purpose SSD (gp2)**
- Allocated storage : **20**
- Enable storage autoscaling : Uncheck



- Public access : Select **No**
- VPC Security groups : Select **Choose existing**
- Existing VPC security groups : **Remove the default one and Select MyEC2Server_SG**
- Go to Additional Configuration options
  - Initial database name: Enter **mydbinstance**
  - DB parameter group: **default**
  - Option group: **default**

- Enable automated backups: **uncheck**
- Log Exports: **Not needed for the purpose of this lab.**
- **Note: Leave all the other settings as default**

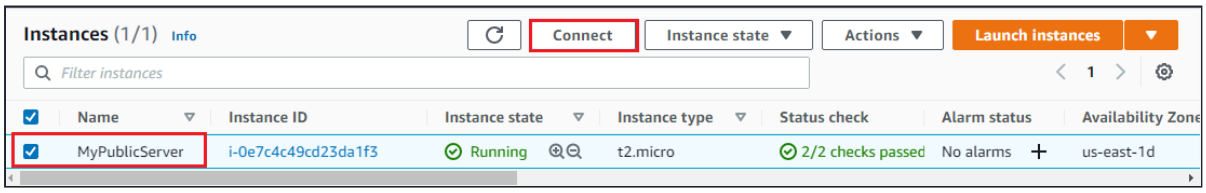
- Click on **Create database**

4. Navigate to **databases.**
5. On the RDS console, the details for the new DB instance appear. The DB instance has a status of creating until the DB instance is ready to use. When the state changes to **Available**, you can connect to the DB instance. It can take up to 20 minutes before the new instance status becomes **Available**.
6. Once the database becomes **Available**, click on the database name and copy the **Endpoint** under **Connectivity & security** tab.

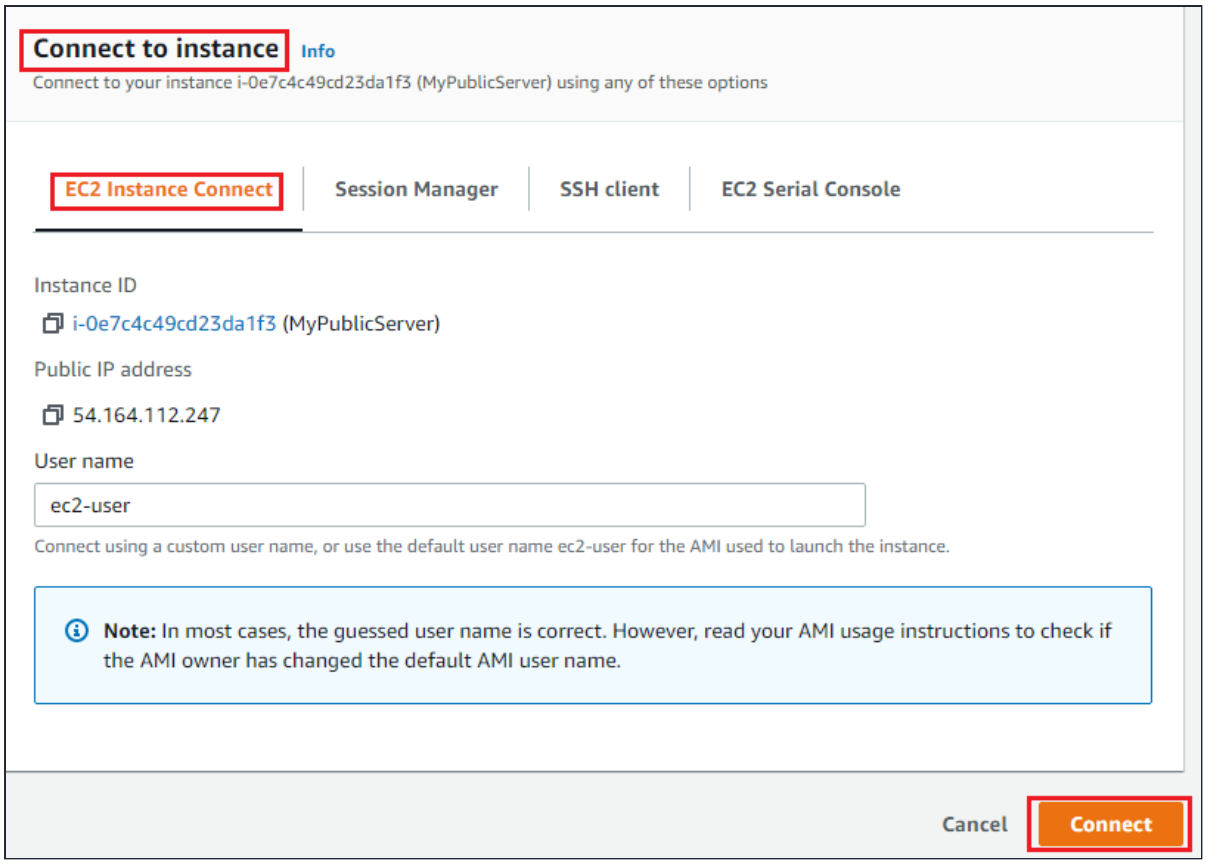
Task 4: Create a connection to the Amazon RDS database from the EC2 instance

In this task, we are going to establish a connection between the EC2 instance and the RDS database.

1. Now navigate to EC2 by clicking on the **Services** menu in the top, then click on the **EC2** in the **Compute** section.
2. Navigate to **Instances** on the left panel and select your EC2 instance(**MyPublicServer**) and click on the **Connect** button.



3. Select **EC2 Instance Connect** option and click on **Connect** button.(Keep everything else as default)



4. A new tab will open in the browser where you can execute the CLI Commands.

5. Once connected to the server:

- Change to root user: Enter

```
sudo su
```

- Download some packages for Linux

```
sudo amazon-linux-extras install epel -y
```

- Install the MySQL repository package. Enter **y** wherever asked.

```
sudo yum install https://dev.mysql.com/get/mysql80-
community-release-el7-5.noarch.rpm
```

- Install the MySQL community server. Enter **y** wherever asked.

```
sudo yum install mysql-community-server
```

- Verify the version for MySQL.

```
mysql --version
```

6. Connect to the MySQL RDS Instance with the following command:

    - Syntax: **mysql -h** <mysql-instance-dns> **-u** <username> **-p**
    - In our case: **mysql -h** mydbinstance.c1sh5a4j91dp.us-east-1.rds.amazonaws.com **-u** rdsuser **-p**
    - Password : Enter **whizlabs123**

7. You will enter the MYSQL command line.

```
[root@ip-172-31-85-112 ec2-user]# mysql -h mydbinstance.ch5lfkqdms8y.us-east-1.rds.amazonaws.com -u rdsuser -p
Enter password:
Welcome to the MySQL monitor.  Commands end with ; or \g.
Your MySQL connection id is 17
Server version: 8.0.32 Source distribution

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owners.

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

mysql>
```

Task 5: Create a Database, Table and insert data for testing

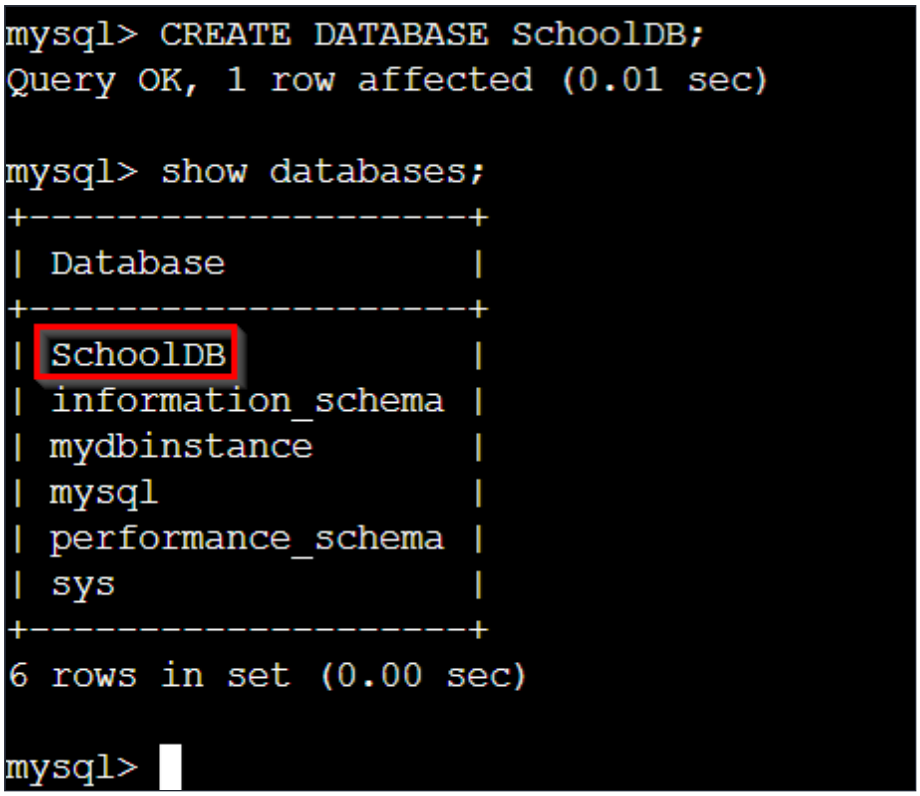
Lets create a simple database and table to see if it's working.

- Create a database:

```
CREATE DATABASE SchoolDB;
```

- You can see the created database with following command:

```
show databases;
```



- Switch to the database named **SchoolDB.**

```
use SchoolDB;
```

- Create a sample table consisting of **Subjects.**

```
CREATE TABLE IF NOT EXISTS subjects (subject_id INT
AUTO_INCREMENT,subject_name VARCHAR(255) NOT NULL,teacher
VARCHAR(255),start_date DATE,lesson TEXT,PRIMARY KEY
(subject_id)) ENGINE=INNODB;
```

- Insert some details into the table:

```
INSERT INTO subjects(subject_name, teacher) VALUES ('English',
'John Taylor');

INSERT INTO subjects(subject_name, teacher) VALUES ('Science',
'Mary Smith');

INSERT INTO subjects(subject_name, teacher) VALUES ('Maths',
'Ted Miller');

INSERT INTO subjects(subject_name, teacher) VALUES ('Arts',
'Suzan Carpenter');
```

- Let's check the items we added into the table:

```
select * from subjects;
```

```
MySQL [SchoolDB]> select * from subjects;
+------------+--------------+-----------------+------------+--------+
| subject_id | subject_name | teacher         | start_date | lesson |
+------------+--------------+-----------------+------------+--------+
|          1 | English      | John Taylor     | NULL       | NULL   |
|          2 | Science      | Mary Smith      | NULL       | NULL   |
|          3 | Maths        | Ted Miller      | NULL       | NULL   |
|          4 | Arts         | Suzan Carpenter | NULL       | NULL   |
+------------+--------------+-----------------+------------+--------+
4 rows in set (0.01 sec)
```

- Try out some more SQL commands and play around with the table to strengthen your understanding.
- Run below command to exit the mysql command

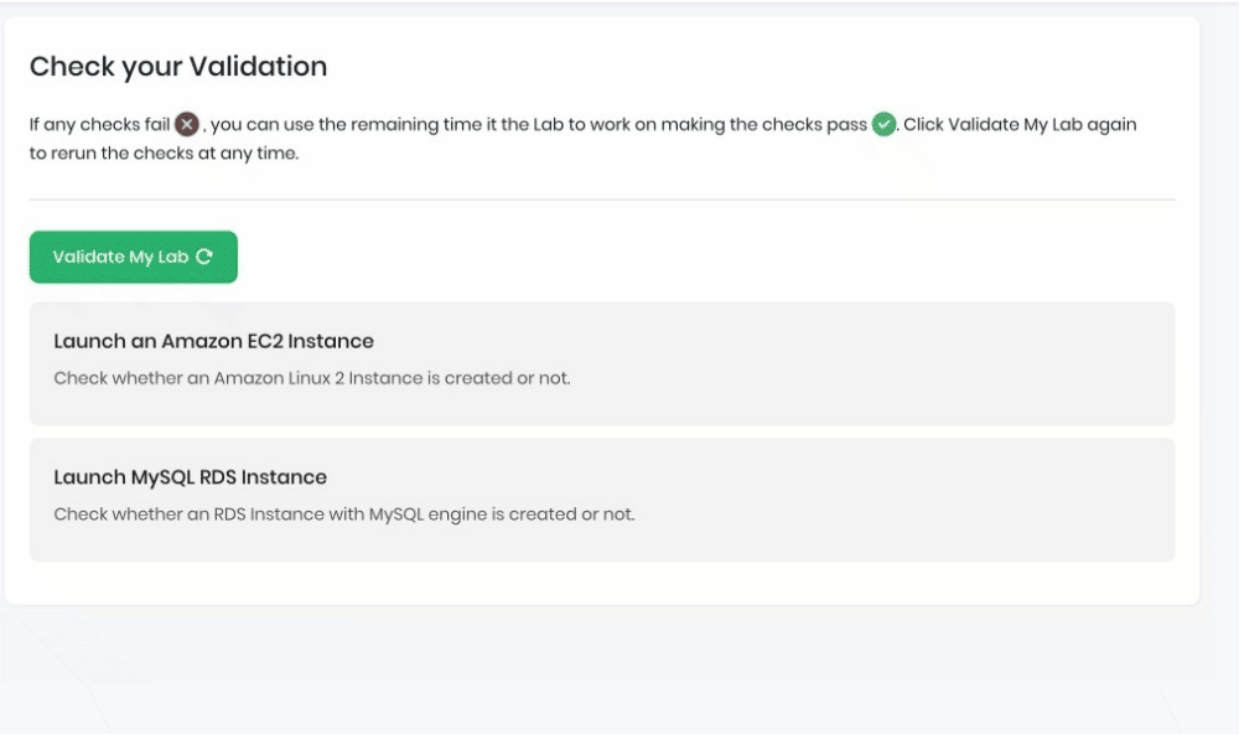
```
exit;
```

Do You Know?

The combination of Amazon RDS and Amazon EC2 provides a powerful and scalable infrastructure for building robust and high-performing applications.

Task 6: Validation Test

1. Once the lab steps are completed, please click on the **Validation** button on the left side panel.
2. This will validate the resources in the AWS account and shows you whether you have completed this lab successfully or not.
3. Sample output :



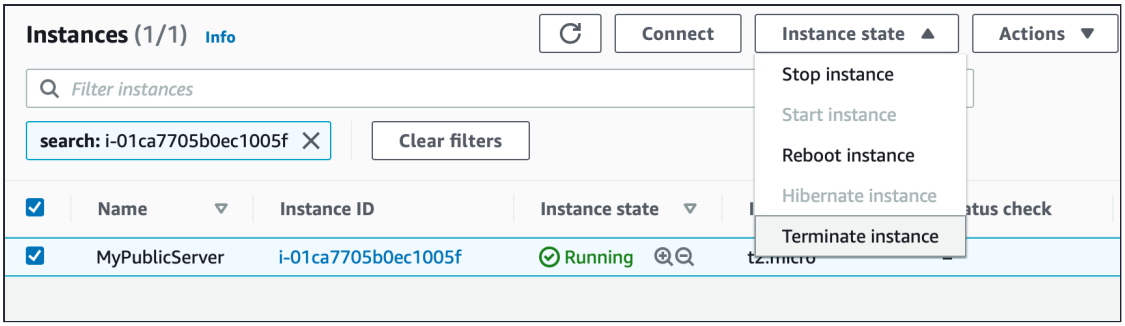
Task 7: Delete AWS Resources

7.1 Deleting EC2 Instance

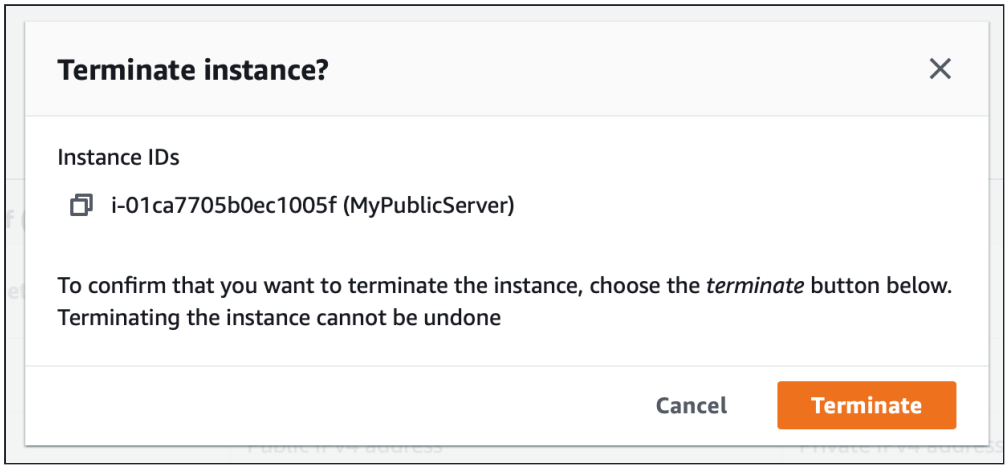
1. Navigate to EC2 by clicking on the **Services** menu in the top, then click on the **EC2** in the **Compute** section.
2. All the EC2 Instances will be listed here,

	Name	Instance ID	Instance state	Instance type	Status check
☑	MyPublicServer	i-01ca7705b0ec1005f	Running	t2.micro	–

3. To terminate the EC2, perform the following task:
   - Select **MyPublicServer**,
   - Click on Instance state (If you don't see an **Instance state** option, click on the **Actions** button and then choose **Instance state**)
   - Select **Terminate instance**



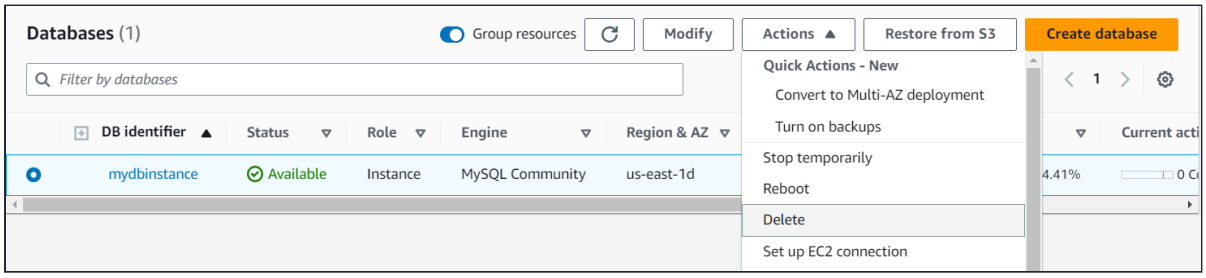
4. Finally, Click on terminate



5. EC2 Instance is terminated.

7.2 Deleting RDS DB Instance

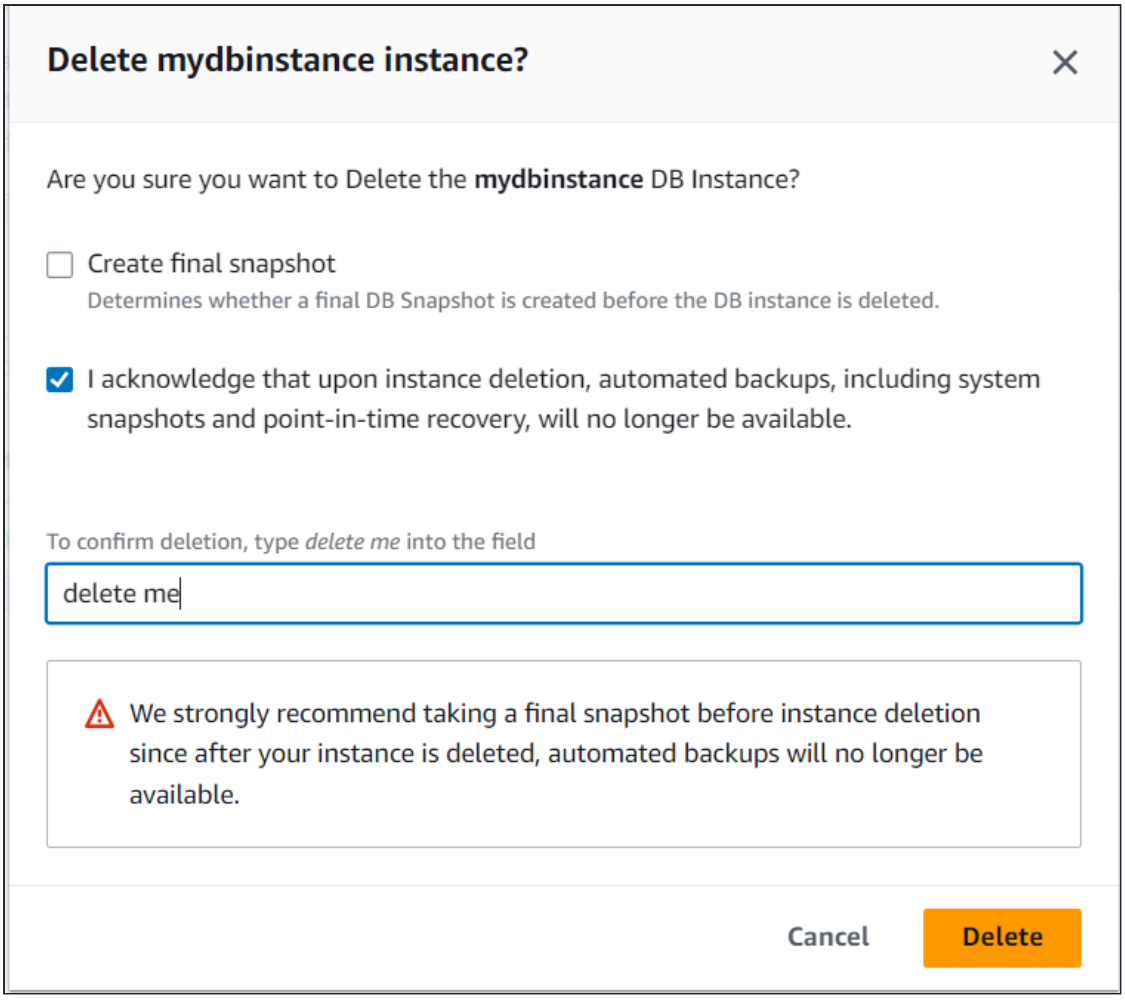
1. Navigate to **RDS** by clicking on the **Services** menu available under the **Database** section.
2. Click on DB Instances
3. It will list all the RDS databases
4. Click on **Actions** and select **Delete**



5. To delete, we have to perform several tasks:

- Uncheck the option of **Create final snapshot**,
- Acknowledge by **selecting** the second option,
- Type **delete me** to confirm

- And finally, click on **Delete** button below.



6. It will take around, 5 minutes to delete the instance, you can end the lab now.

Completion and Conclusion

1. You have successfully launched an EC2 Instance in a default VPC.
2. You successfully ran a MySQL command and performed operations on a database created with Amazon RDS.

End Lab

1. Sign out of AWS Account.
2. You have successfully completed the lab.
3. Once you have completed the steps, click on **End Lab** from your whizlabs dashboard.