Home / AWS / Guided Lab / Backup and Restore AWS RDS Databases with Snapshots

Backup and Restore AWS RDS Databases with Snapshots

Level: Advanced

WHIZLABS

English

1h 57m 14s left

15 MIN

End Lab

Open Console

Validation

Lab Credentials

User Name

Whiz_User_80425.53357022

Password

62fa6d4c-8889-49ca-ad1e-fd5d1f8b9f39

Access Key

AKIAY75XIXMZG2Z2MEWU

Secret Key

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

Lab Resources

No Lab Resources Found

Support Documents

1. FAQs and Troubleshooting

Need help?

How to use Hands on Lab

Troubleshooting Lab

FAQs

Submit Feedback | Share

Lab Overview | Lab Steps | Lab Validation

Database Engineer, Cloud Administrator

Storage, 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 **User Name** 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.**

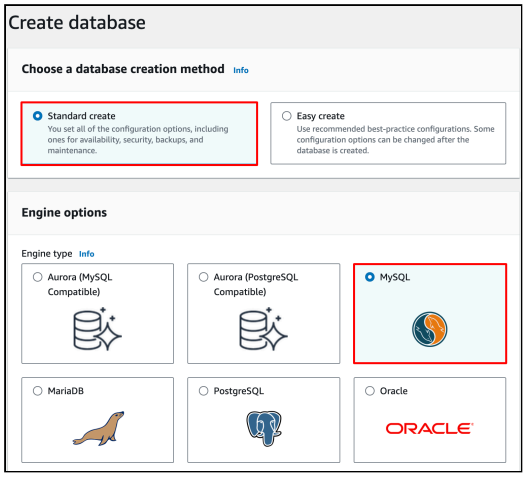
Task 2: Creating a RDS Database

1. Navigate to **Services** at the top and choose **RDS** under the **Database** section.
2. Make sure you are in the **N.Virginia** region.

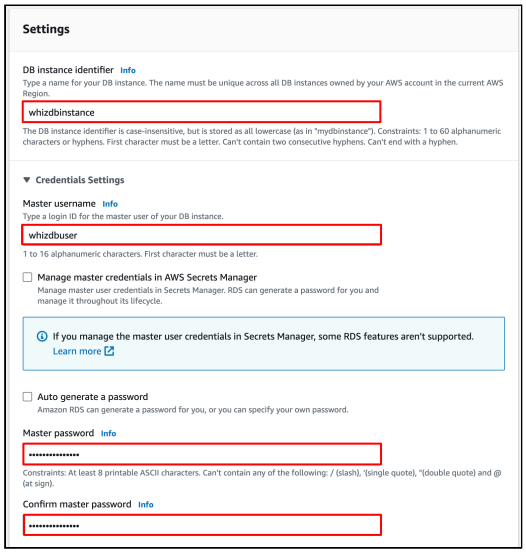
3. Click on **Create Database** in the **Databases** section on the left side bar.

4. **Specify DB Details**:

- Instance specifications
  - Database creation method: **Standard create**
  - Engine options: Select **MySQL**



  - Version: **Default**
  - Templates: Select **Free tier**
  - DB instance identifier: Enter ***whizdbinstance***
  - Master username: Enter ***whizdbuser***
  - Master password and Confirm password: Enter ***whizlabdatabase***

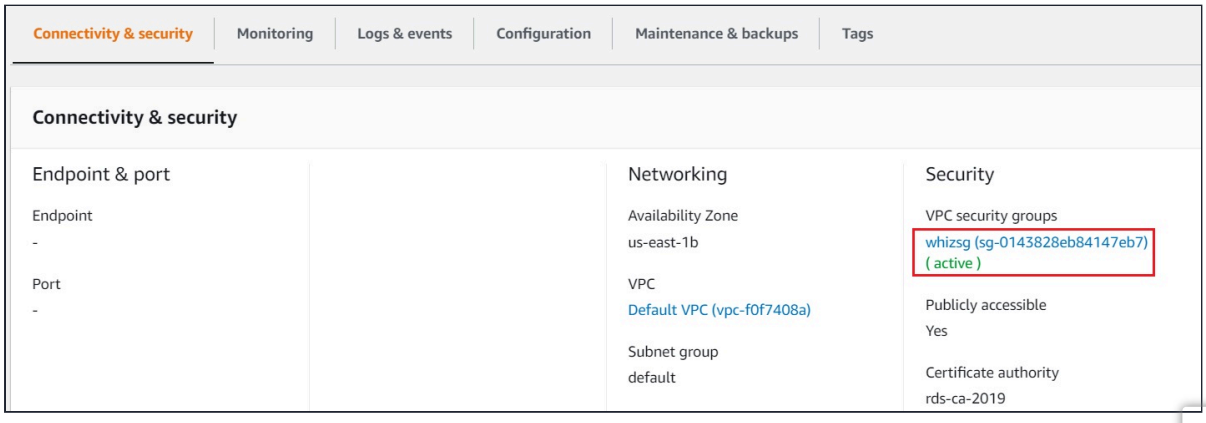


  - **Note:** This is the username/password combo used to log onto your database. Please make note of them somewhere safe.
  - Under Instance Configurations: DB instance class: Select **Burstable classes db.t2.micro — 1 vCPUs, 1 GiB RAM**

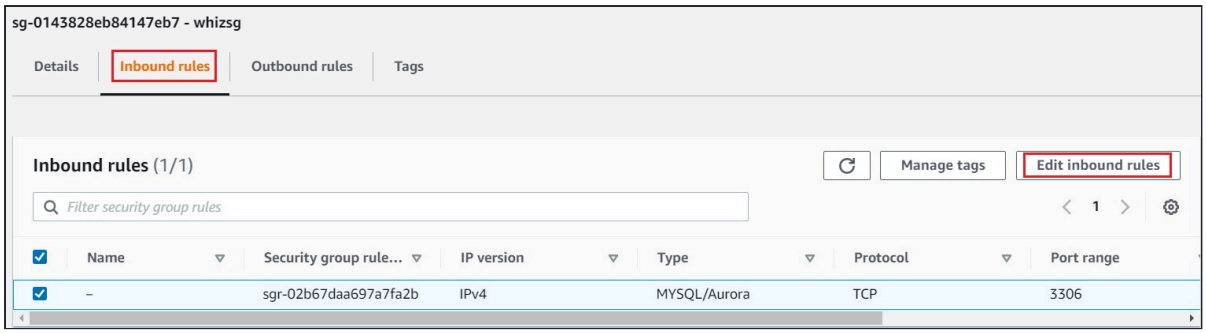
- Storage type: Select **General Purpose SSD (gp2)**
- Allocated storage: Select **20**
- Enable storage autoscaling: **Uncheck**
- Virtual Private Cloud(VPC): Select **Default VPC**
- Subnet group: Select **Default**
- Public Access: Select **Yes**
- VPC Security groups: Select **Create new**
- New VPC security group name: Enter ***whizsg***
- Scroll down to Additional Configuration options
    - Initial database name: Enter ***whizdb***
    - DB parameter group: Select **default**
    - Option group: Select **default**
    - Enable automated backups: **uncheck**
    - Enable auto minor version upgrade: **uncheck**
    - Maintenance window: Select **No preference**
    - Enable deletion protection: **uncheck**

    Note: Leave all the other settings as default

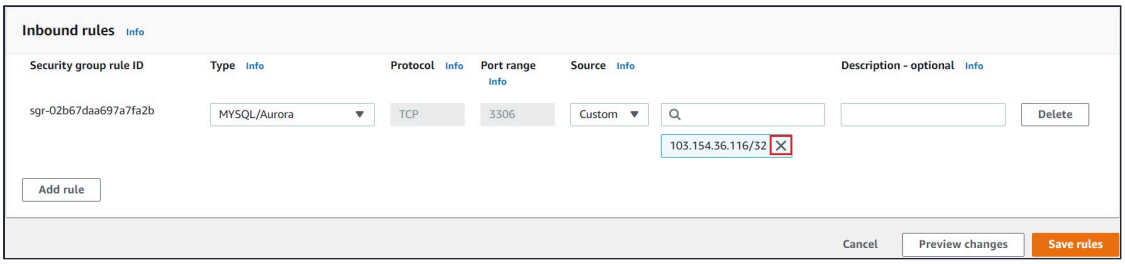
5. Once all the configurations are done properly, click on **Create Database**.
6. Click on the created database **whizdbinstance**. Under **Connectivity and Security**, click the **VPC Security groups**.

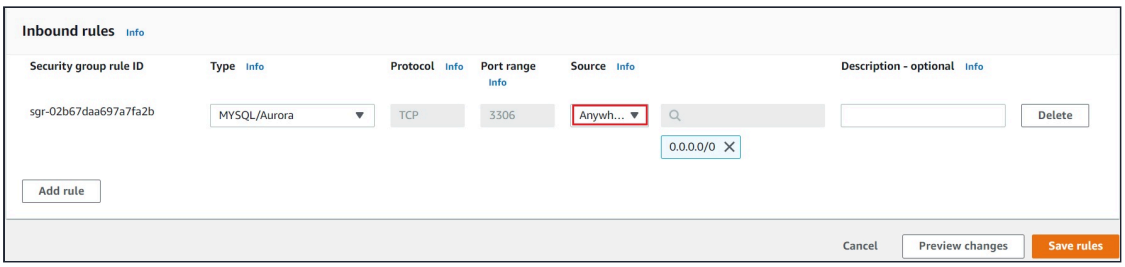


7. Choose the **Inbound Rules** tab below and click on **Edit Inbound Rules**.



8. **Remove the source of IP address** and select **Anywhere-IPv4** (**0.0.0.0/0**) and click on **Save rules.**

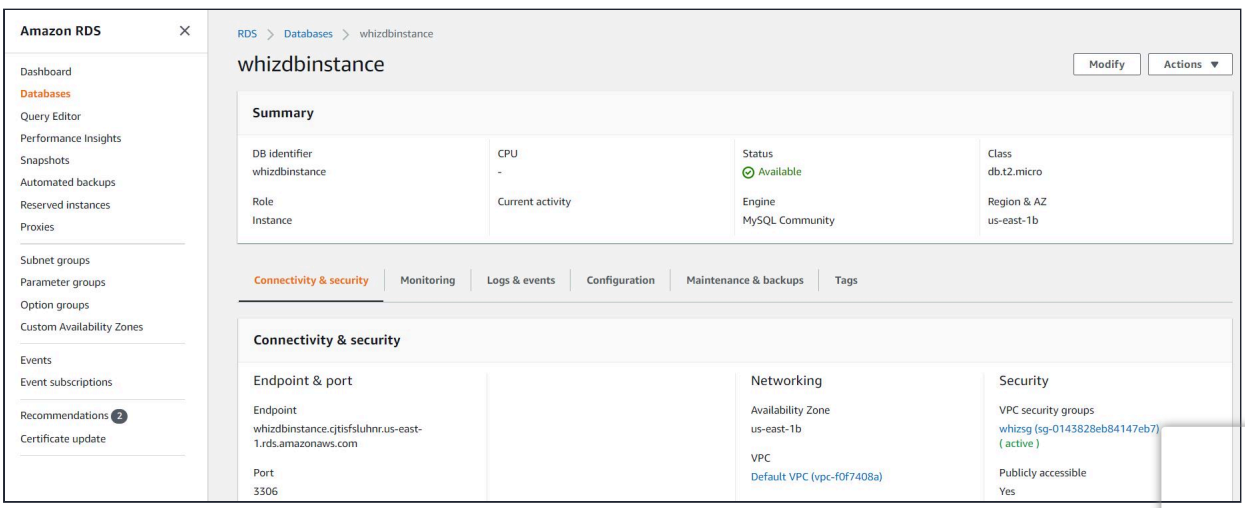




9. Navigate to **Services** and click on **RDS** under **Database**

10. Click on **Database** in the left panel.

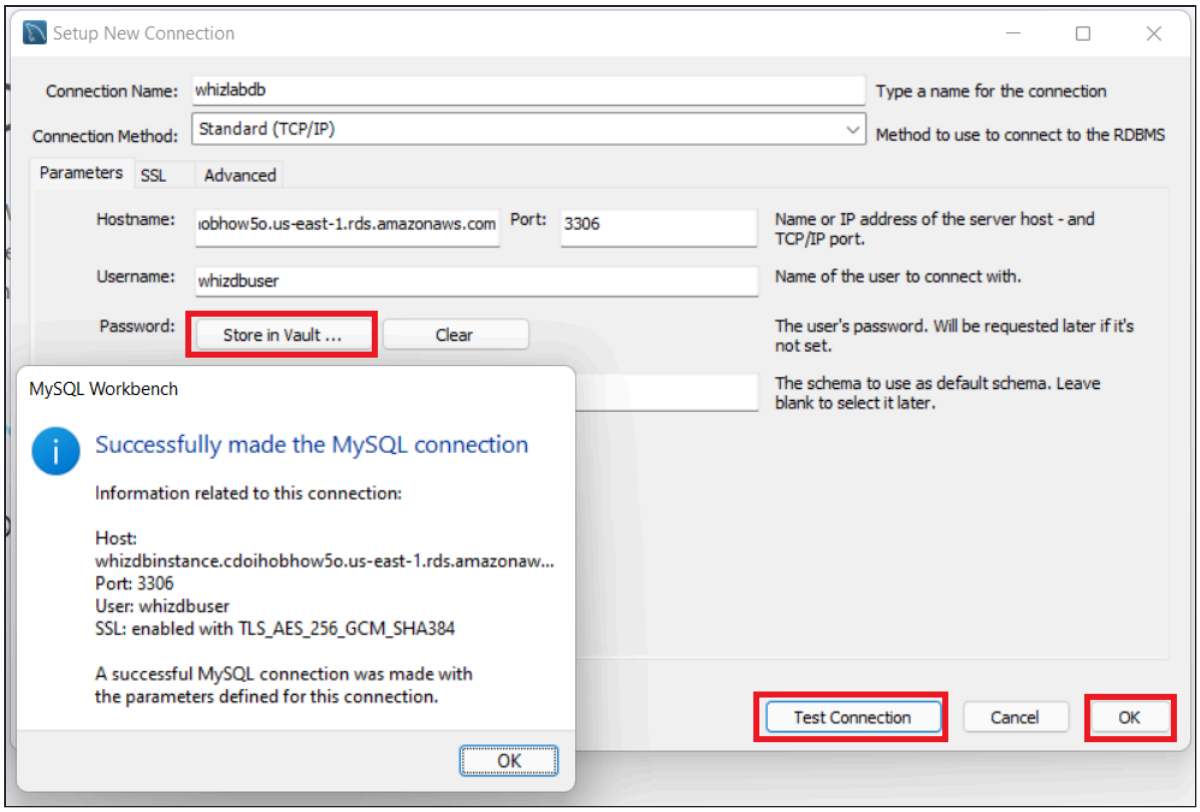
11. On the RDS console, the details for the new DB instance appear. The DB instance has a status of **creating** until the DB instance is ready to use. When the state changes to **Available**, you can connect to the DB instance. **It can take up to 20 minutes** before the new instance status becomes **Available**.



Task 3: Connecting to RDS Database

1. To connect to a database on a DB instance using MySQL monitor, find the **endpoint** (DNS name) and **port number** for your DB Instance.
    - Navigate to **Databases** and click on **whizdbinstance.**
    - Under **Connectivity & security** section, copy and note the **endpoint & port**.
        - Endpoint example: whizdbinstance.cjxskndztif9.us-east-1.rds.amazonaws.com
        - Port: 3306

        (Note: You need both the endpoint and the port number to connect to the DB instance.)
2. First, download and install MYSQL Workbench on your local machine.
3. Start MySQL Workbench and click on **plus** icon aside of **MySQLConnections**.
    - Enter the Connection Name : Enter ***whizlabdb***
    - Hostname : **copy / paste the Endpoint**
    - Username: ***whizdbuser*** (your Master Username)
    - Password: Click on **Store in Vault** button and enter ***whizlabdatabase*** (your Master password)
4. Click on **Test Connection** and click on **OK** on the pop up box. Click on **OK** again after the connection is successful.

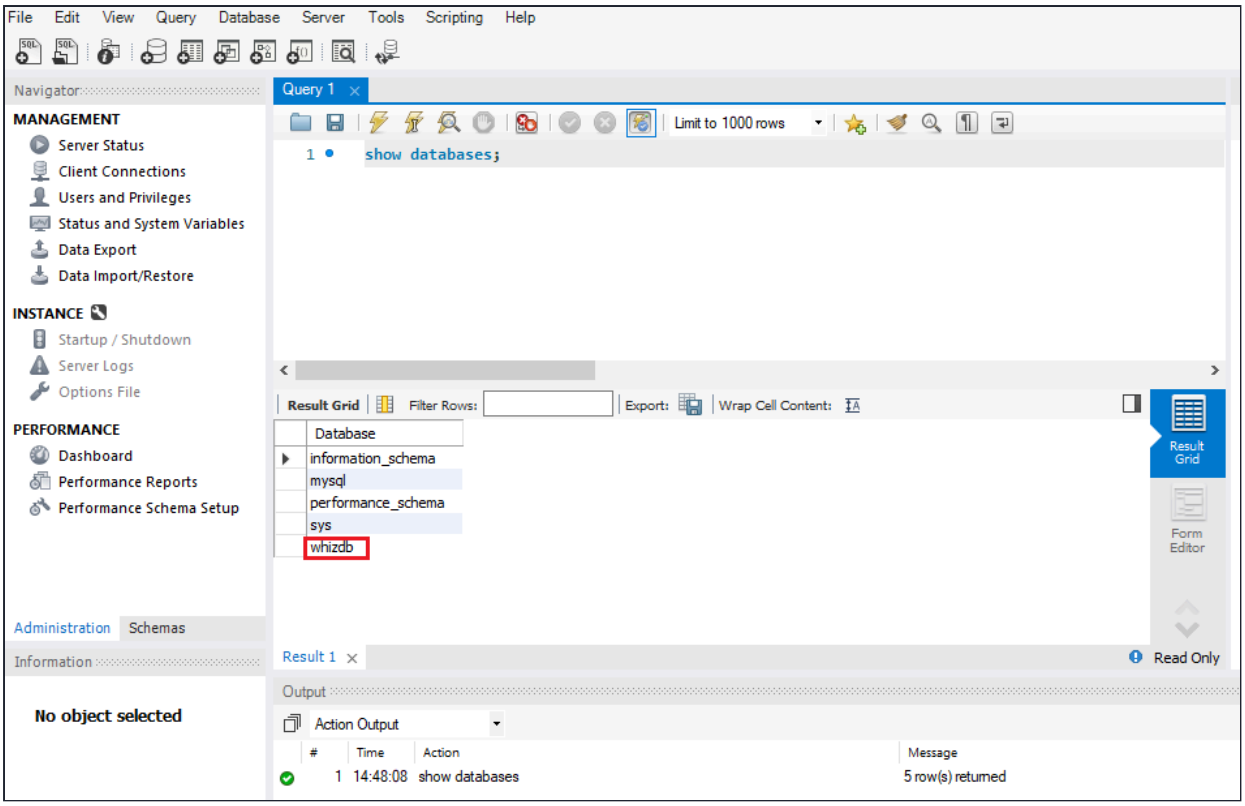


5. Click on the connection created, ie., **whizlabdb** to open the editor.

6. In the editor type

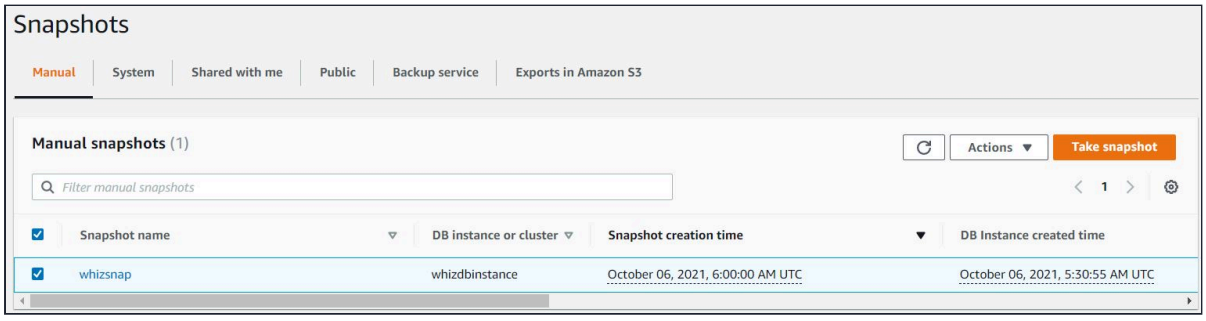
```
show databases;
```

and click on the **lightning icon** button. Now you will see the database **whizdb** below in the result.

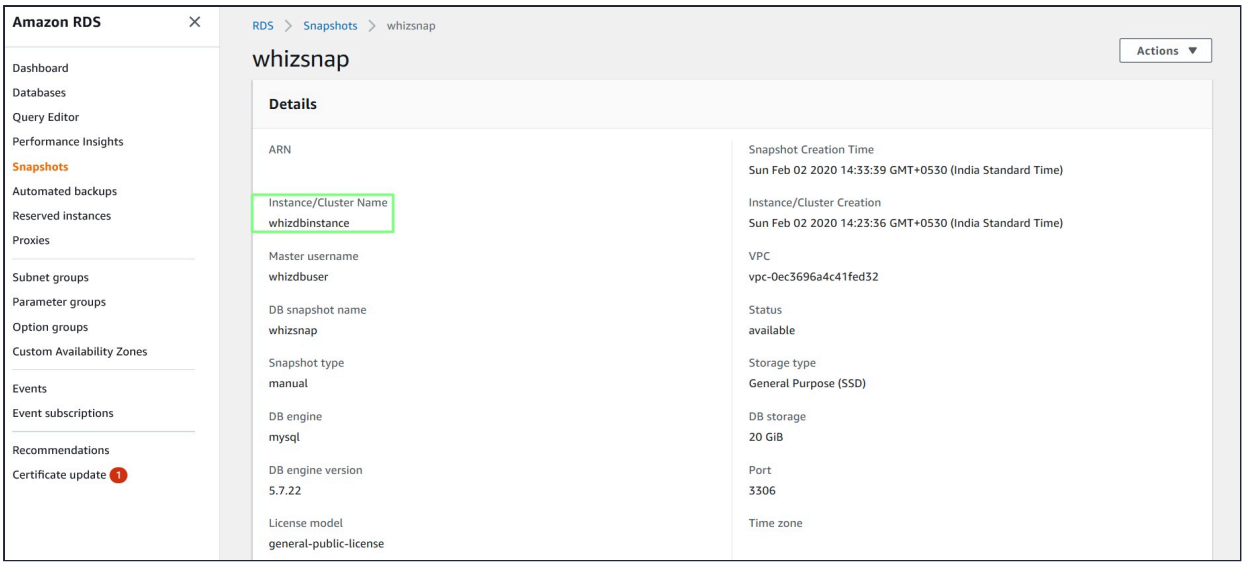


Task 4: Creating a Snapshot

1. Navigate back to **Amazon RDS** page.
2. Now take a snapshot by clicking on **Snapshots** in the left side panel and then on **Take Snapshot**
3. Select the DB Instance you created **(i.e whizdbinstance)** to take a snapshot.
4. Enter the snapshot name : ***whizsnap*** and click on **Take Snapshot.**
5. Wait for 3-5 minutes for snapshot creation. Once the snapshot is created successfully, your screen will look similar to the screenshot below.



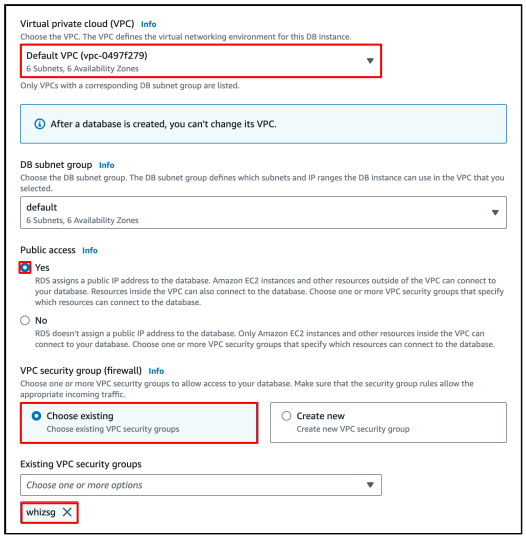
6. You can check the snapshot details by **clicking on the snapshot** and viewing the details of your DB Instance.



Task 5: Creating a Backup

1. Enter into the snapshot created above and click on **Actions** button on the top right corner and then choose **Restore Snapshot.**
2. **DB specifications**
    - Engine : Select **MySQL Community**
3. **Availability & durability**
    - Multi-AZ deployment : Select **Single DB Instance.**
4. **Settings**
    - DB Instance Identifier : Enter ***whizsnaprestore***
5. **DB instance size**
    - DB instance class : Select **Burstable classes (includes t classes)**
    - Select **db.t3.micro** (Default)
6. **Storage**
    - Storage type : Select **General Purpose SSD (gp2)**
    - Allocated storage : **20**
7. **Connectivity**
    - Virtual Private Cloud (VPC) : **default VPC**
    - Subnet group : **default**
    - Public access : Select **Yes**

- VPC security groups :
  - VPC security group : Select **Choose Existing**
  - Remove the **default** security group which is selected by default.
  - Select Security group created by the above database **(whizsg)**.
  - Availability Zone : Select **No preference** (Default)

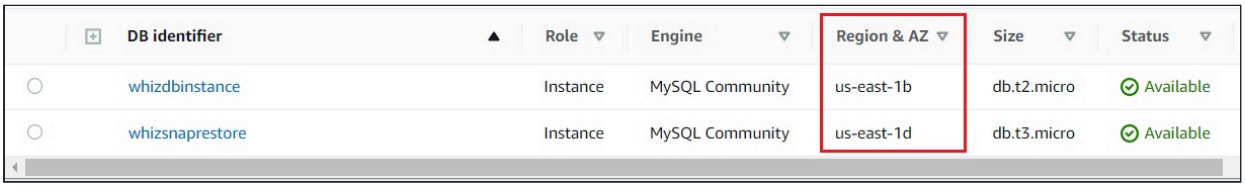


- Expand Additional configuration
  - Database port : Default **3306**

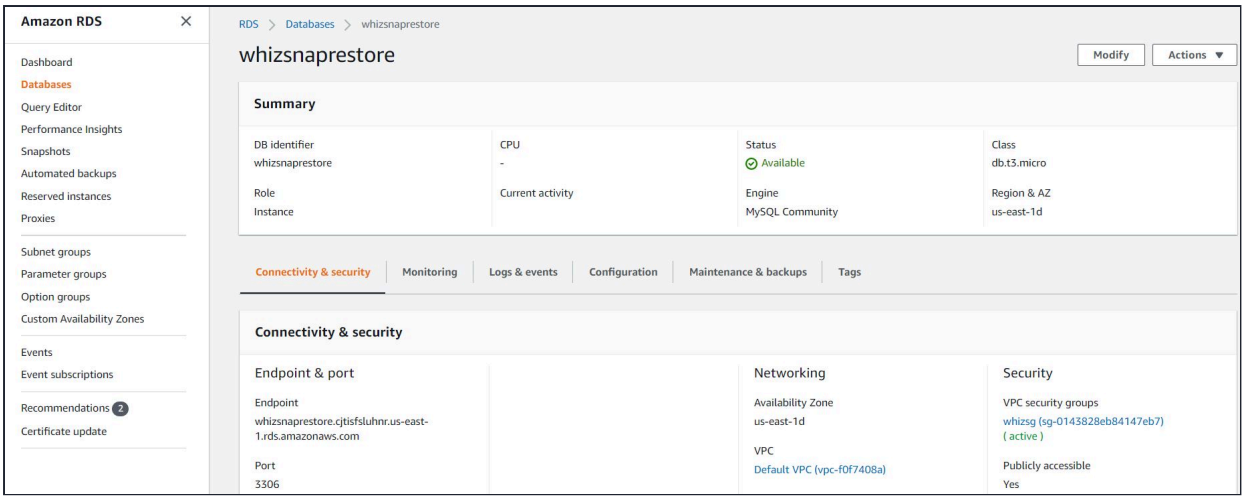
8. **Database authentication**
   - Database authentication options : Select **Password authentication** (Default)
9. **Additional configuration**
   - Leave everything as **default**
10. Click on **Restore DB Instance.**

    (Note : It will take up to 20 minutes to create the Restore DB Instance.)

11. The restored instance will be created in a different AZ. Now you have successfully completed the lab.



12. Click on **whizsnaprestore.**
13. Under **Connectivity & security** section, copy and note the **endpoint & port**.



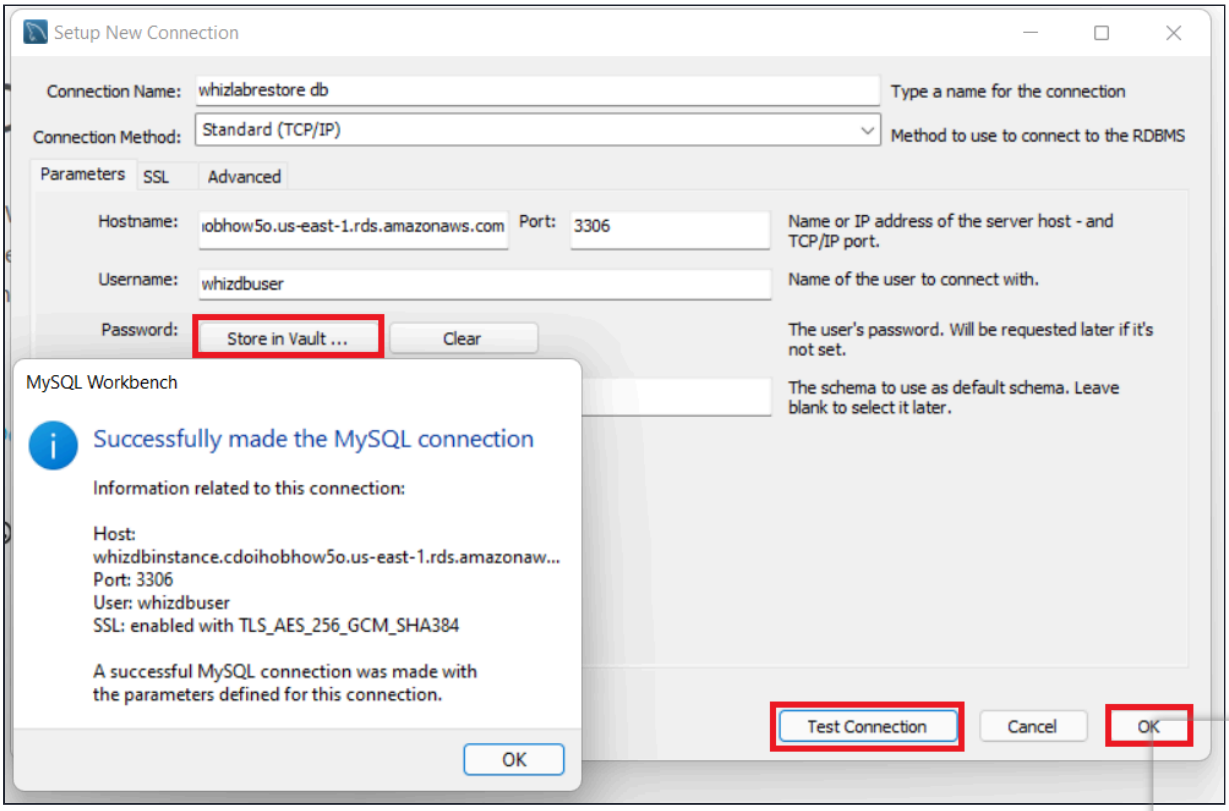
Task 6: Connecting to a Backup Database

1. Navigate to MySQL Workbench and click on **plus** icon aside of **MySQLConnections**.

    - Connection Name : Enter ***whizlabrestore db***
    - Host Name : **Paste the above Endpoint.**

        - Username : Enter ***whizdbuser*** (Master Username)
        - Password: Click on **Store in Vault** and enter ***whizlabdatabase*** (The password will be the same as above)

2. Click on **Test Connection** and click on **OK** on the pop up box. Click on **OK** again after the connection is successful.

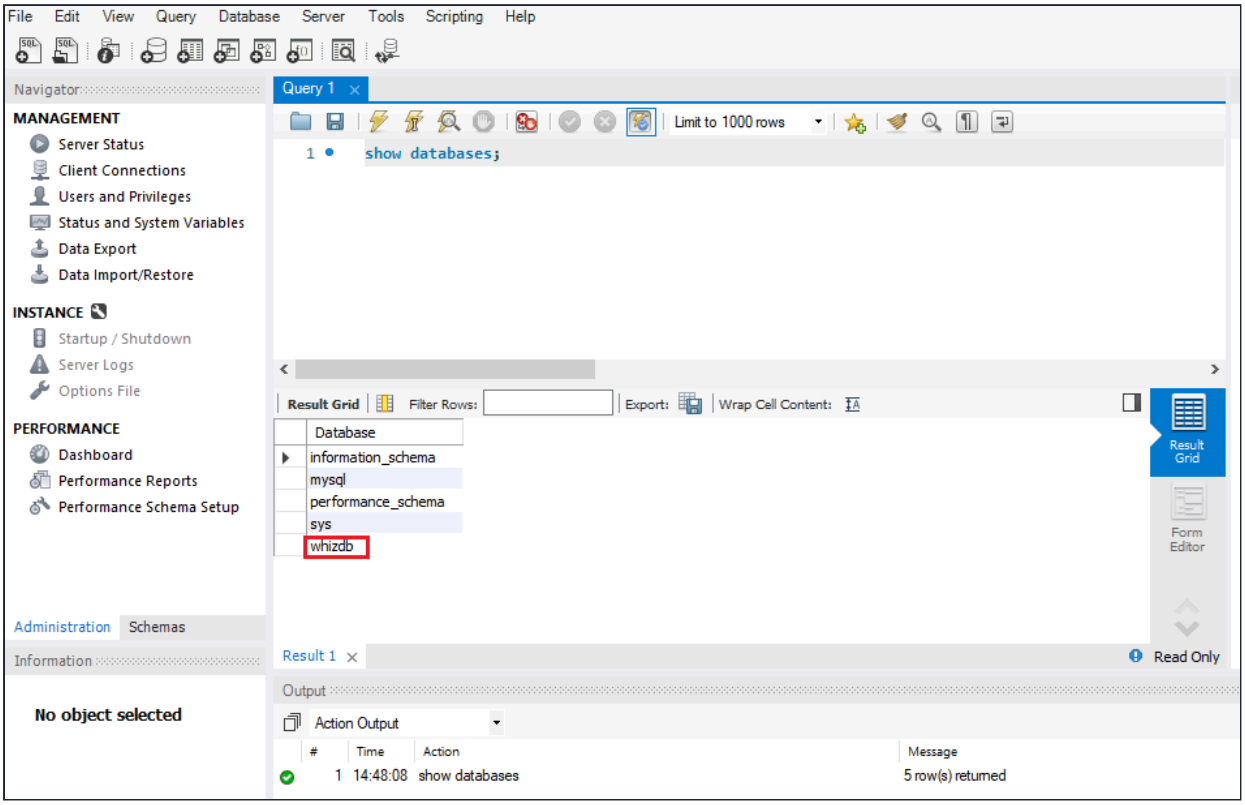


3. Click on the connection created, ie., ***whizlabrestore db*** to open the editor.

4. In the editor type

```
show databases;
```

and click on the **Lightning icon** button. Now you will see the database **whizdb** below in the result.



Do You Know ?

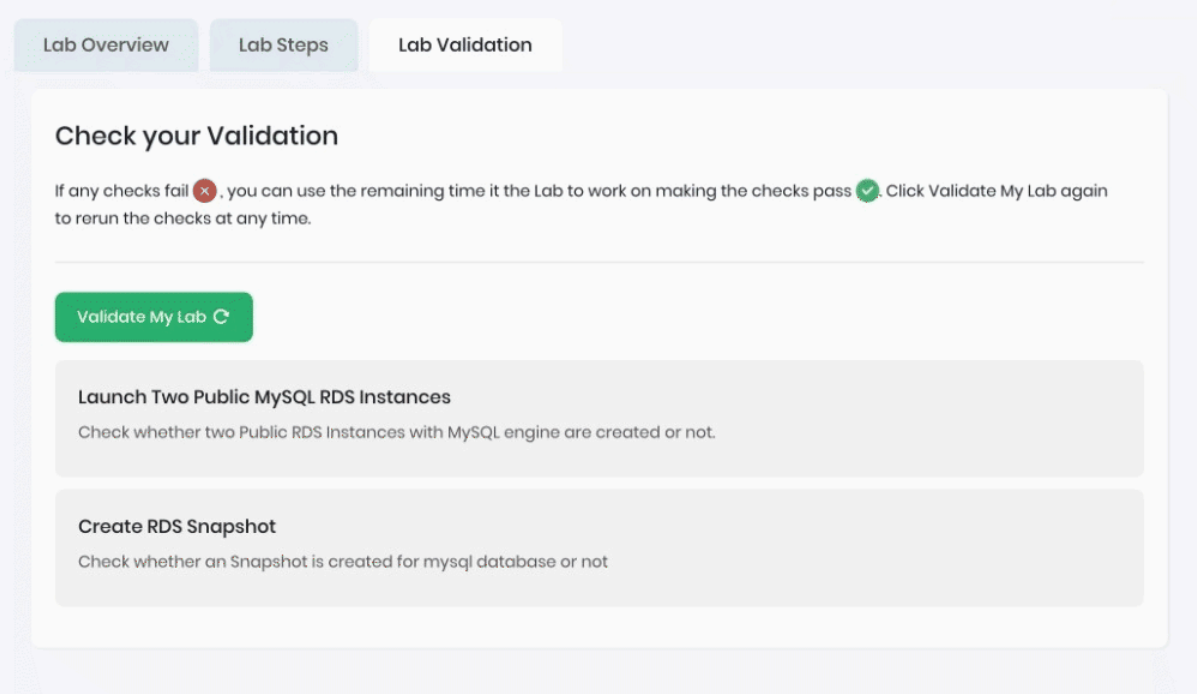
When restoring an AWS RDS database from a snapshot, you have the option to choose the specific point in time to restore to within the retention period of automated backups. This feature is known as Point-in-Time Recovery (PITR) and allows you to restore your database to a specific transaction or moment in time, providing even more granular control over data recovery.

Task 7: Validation Test

1. Once the lab steps are completed, please click on the **Validation** button on the right side panel.

2. This will validate the resources in the AWS account and displays whether you have completed this lab successfully or not.

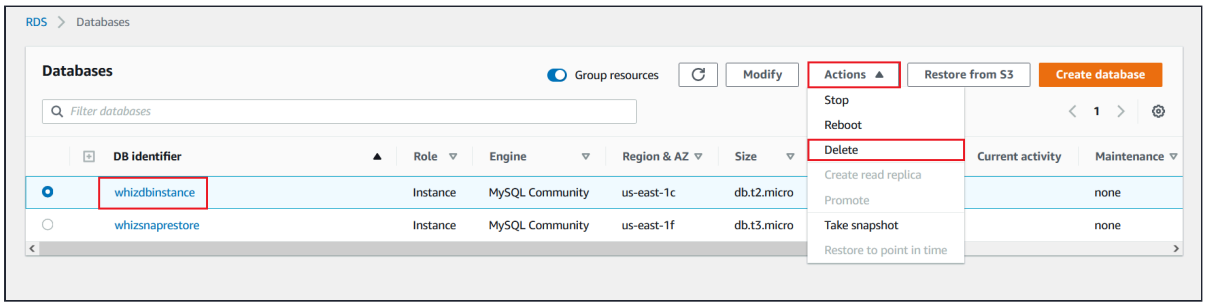
3. Sample output :



Task 8: Delete AWS Resources

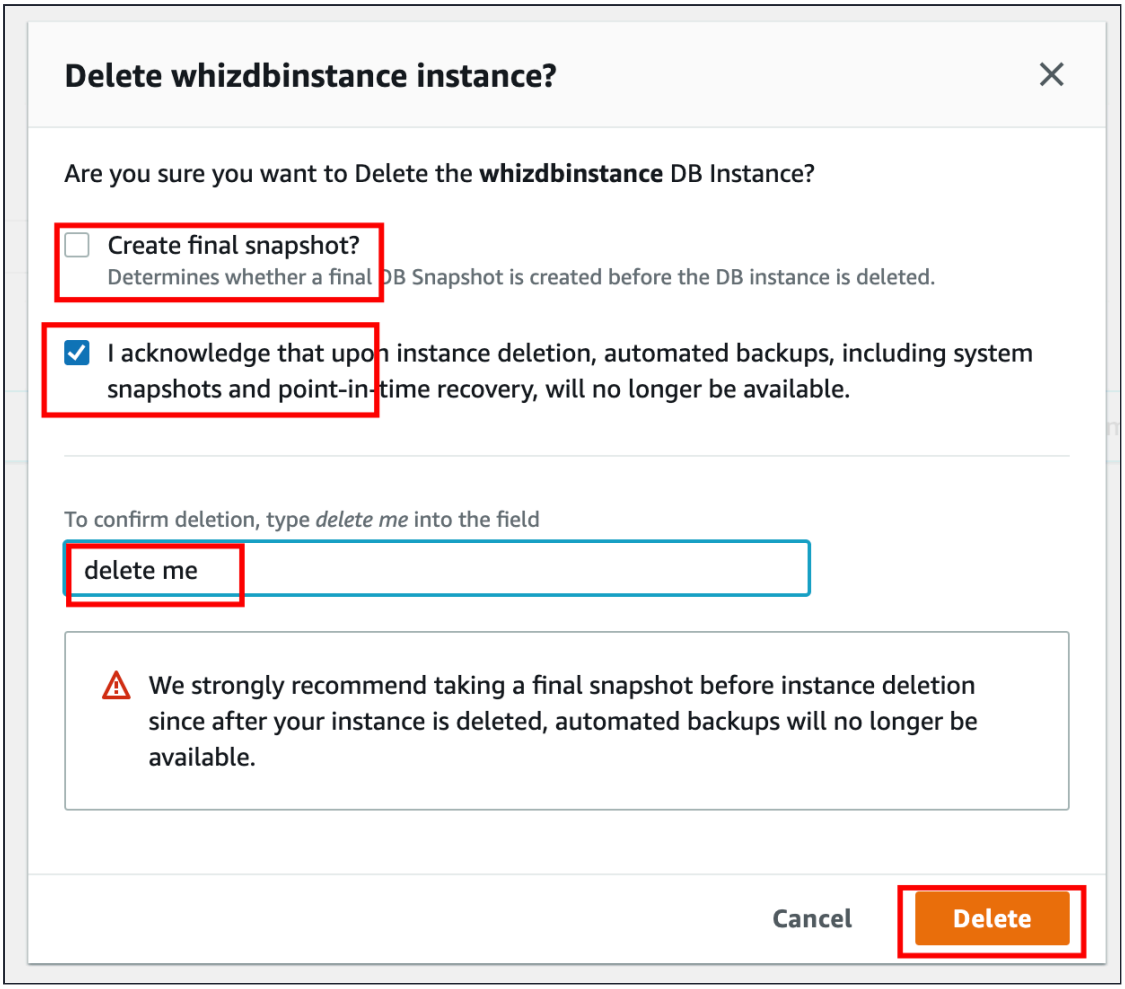
Deleting RDS database

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

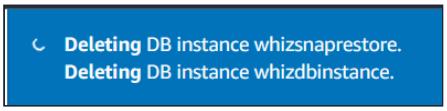


5. To delete we have to perform several tasks:
    - Uncheck the option **Create final snapshot**
    - Acknowledge by **selecting** the second option.
    - Type **delete me** to confirm

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



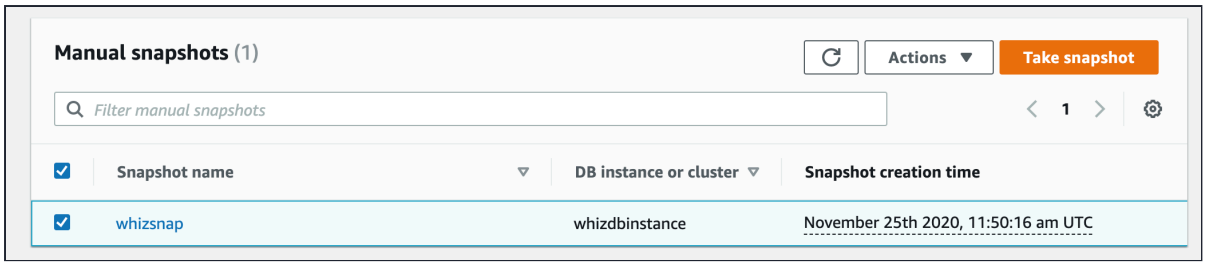
6. It will take around 5 minutes to delete the instance, **now repeat the steps to delete the other RDS databases also**.



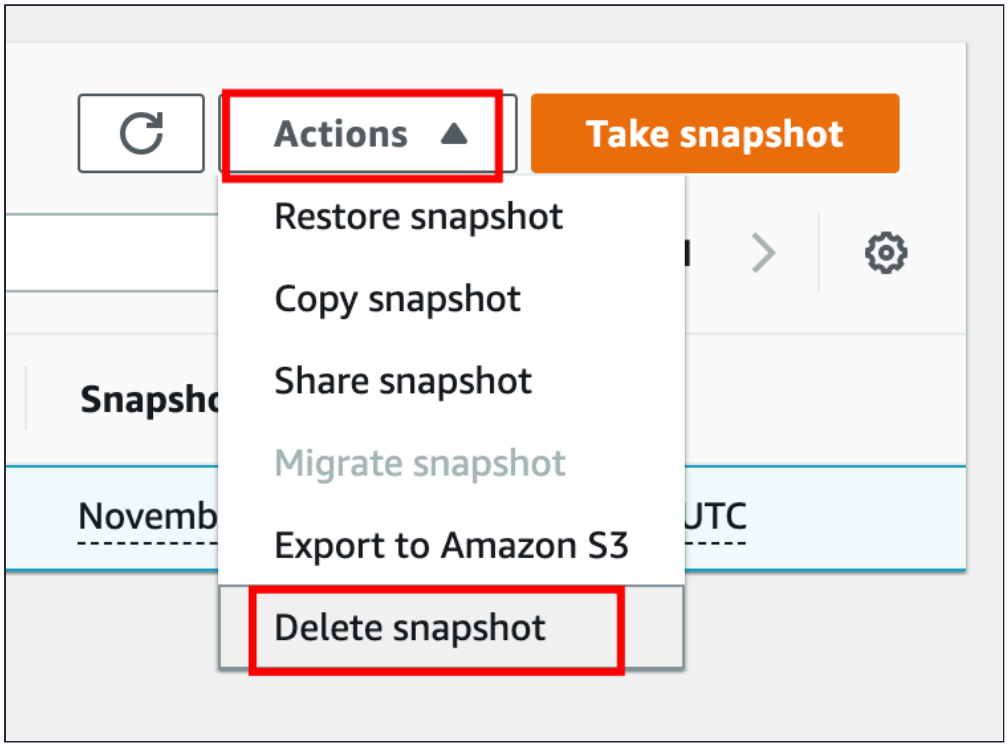
Deleting RDS snapshot

1. Navigate to **RDS** by clicking on the **Services** menu available under the **Database** section.
2. Click on a **snapshot** in the left sidebar

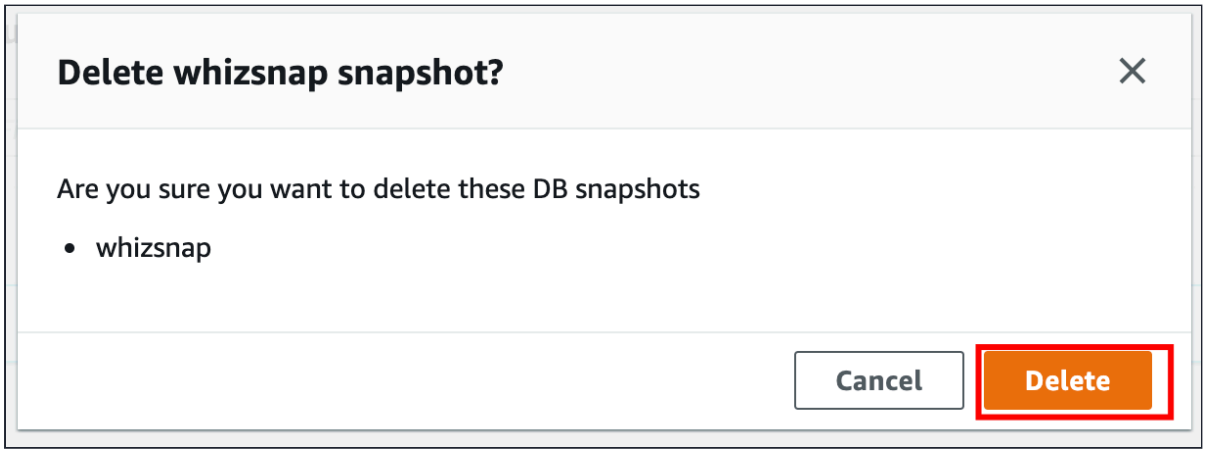
3. It will list all the RDS databases



4. Click on **Actions** and select **Delete snapshot**



5. Now click on the **Delete** button.



Completion and Conclusion

1. You have successfully created the RDS Database.
2. You have successfully created a snapshot for the Database.
3. You have successfully restored a database from a snapshot.
4. You have successfully completed the Lab.

End Lab

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