Class – M.Sc. (Computer Science) Part II- Sem III

Cloud Computing Practical Assignment No 12

Launch the RDS Instance (AWS) and connect.

Prepare a Screen shots file and write down the steps.

Do the following tasks

1) Use Amazon RDS to create a MySQL DB Instance

Once the database instance creation is complete and the status changes to available, you can connect to a database on the DB instance using any standard SQL client. Download MySQL Workbench, which is a popular SQL client.

connect to the database you created using MySQL Workbench.

2) Launch an EC2 instance, launch an RDS instance, and connect RDS from the EC2 instance.

For solving Use the links

- https://aws.amazon.com/getting-started/hands-on/create-mysql-db/
- https://blog.saeloun.com/2023/05/08/connect-aws-rds-with-ec2/

Commands to use for second task:

to install the MySQL command line client run the following commands. Press Y when prompted

sudo dnf update -y

sudo dnf install mariadb105-server

To connect with the DB instance, copy the endpoint from the Connectivity & security tab on the DB-identifier page.

Enter the following command to connect with the MySQL instance. Replace the endpoint with the endpoint of the DB instance and enter the master password when prompted for password

mysql -h endpoint -P 3306 -u admin -p

After successfully connecting EC2 instance with the RDS DB instance,to verify this we can run some of the MySQL commands

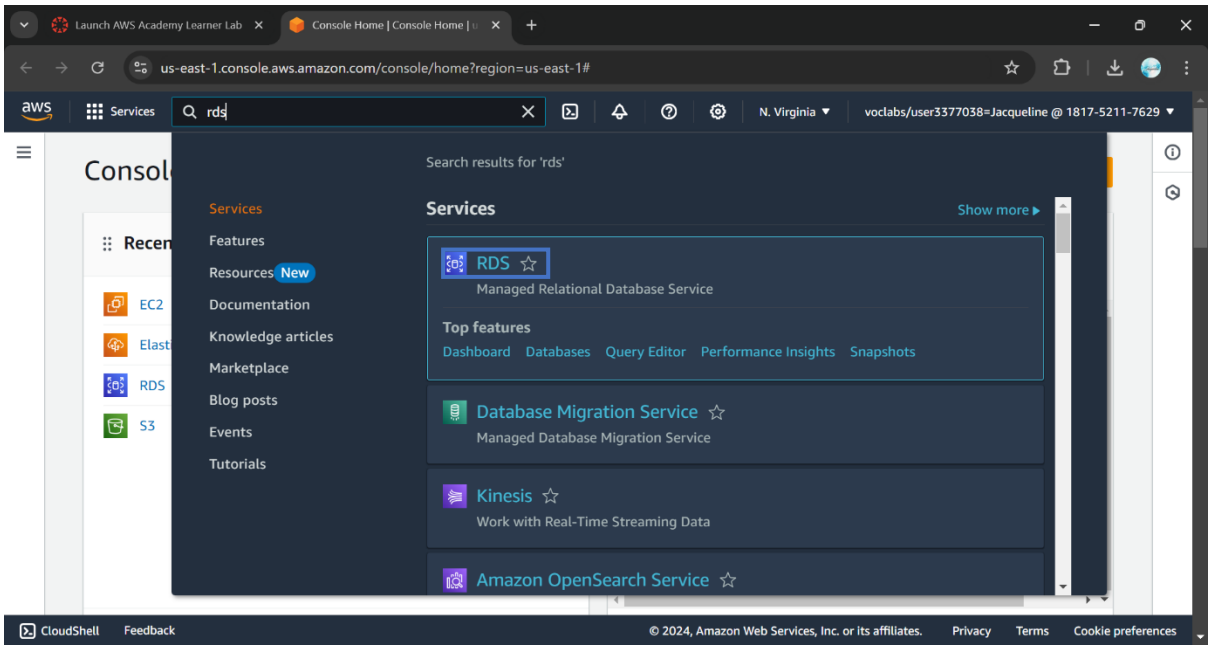
show databases

create database test;

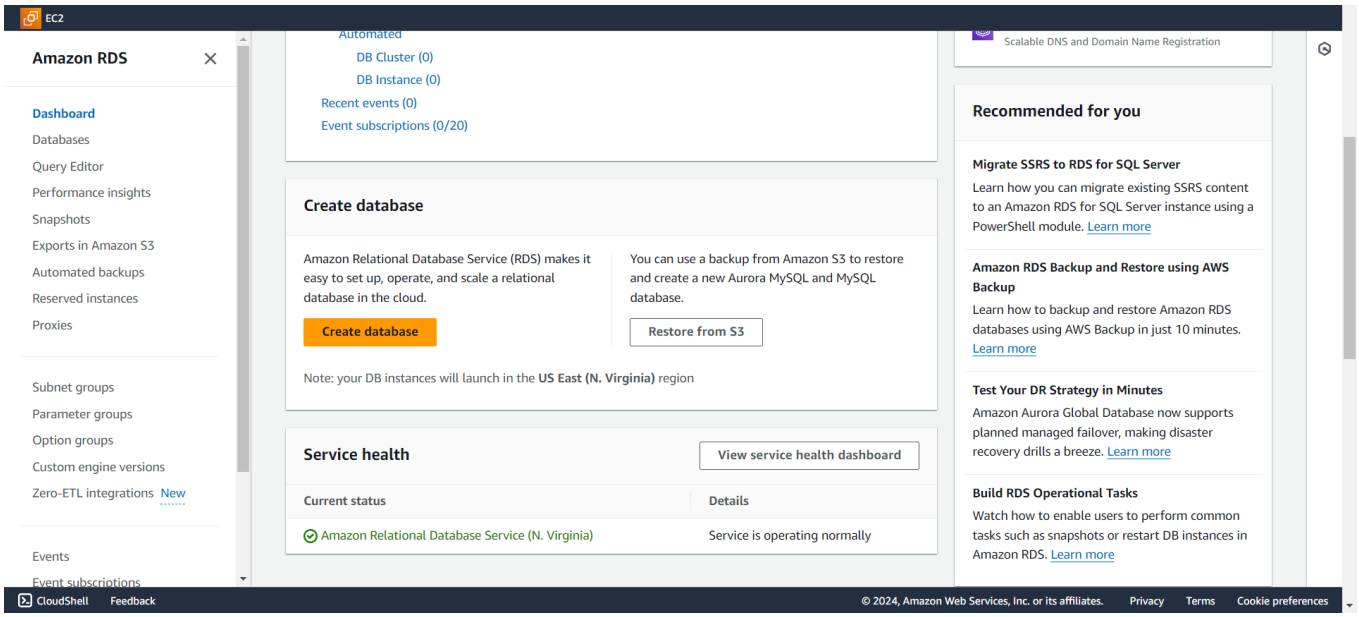
use test

Make a single Word or PDF file.

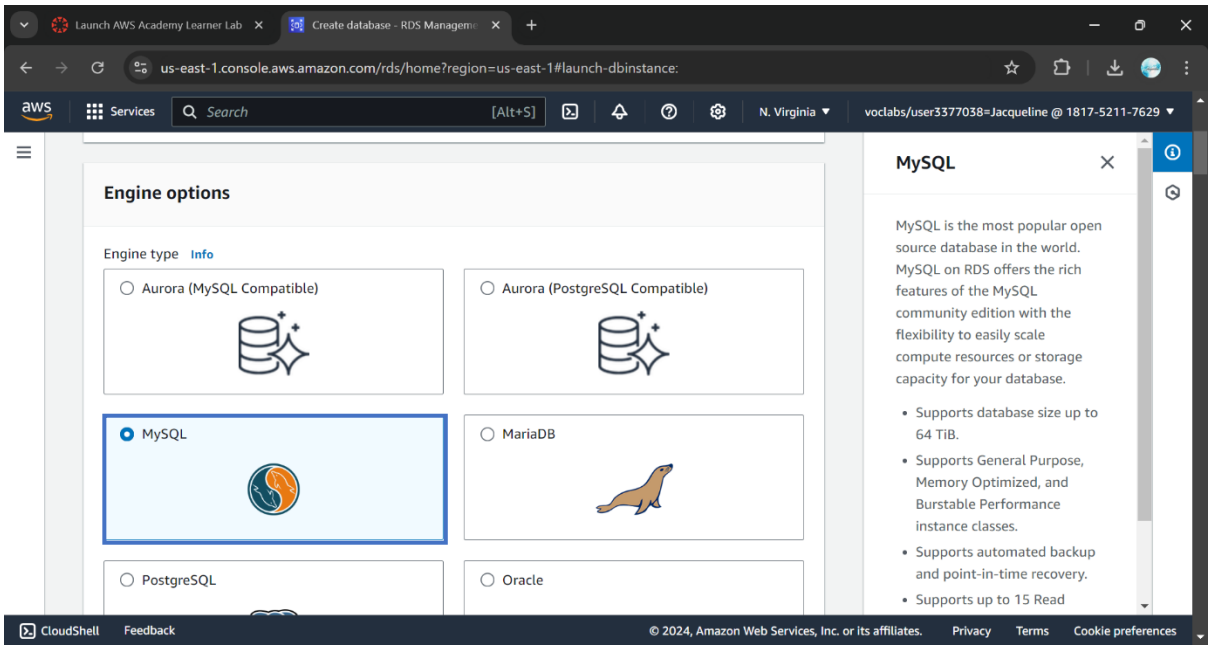
Step 1: Go to database menu and select RDS.

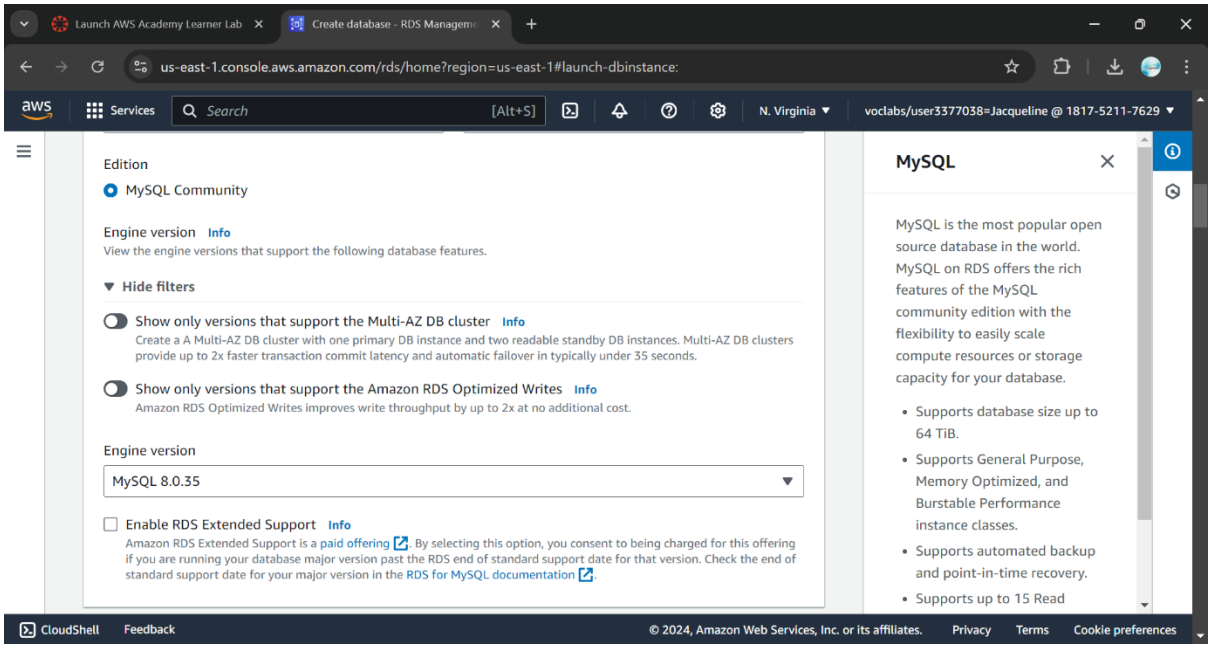


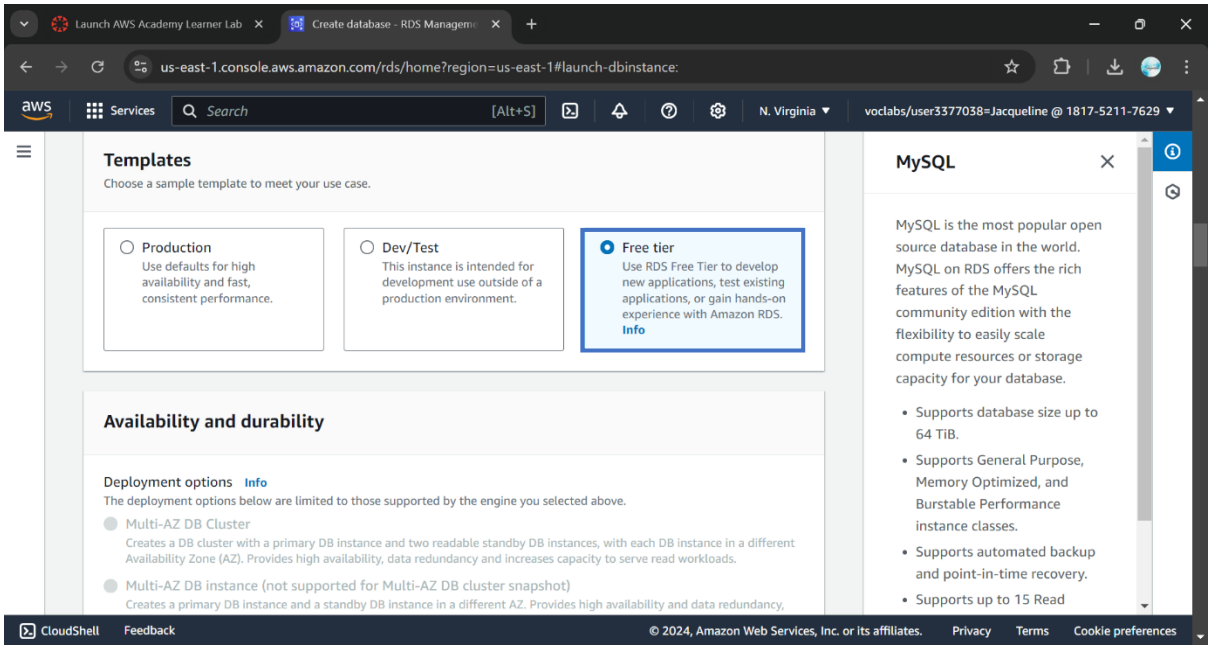
Step 2: Now select Create databases.



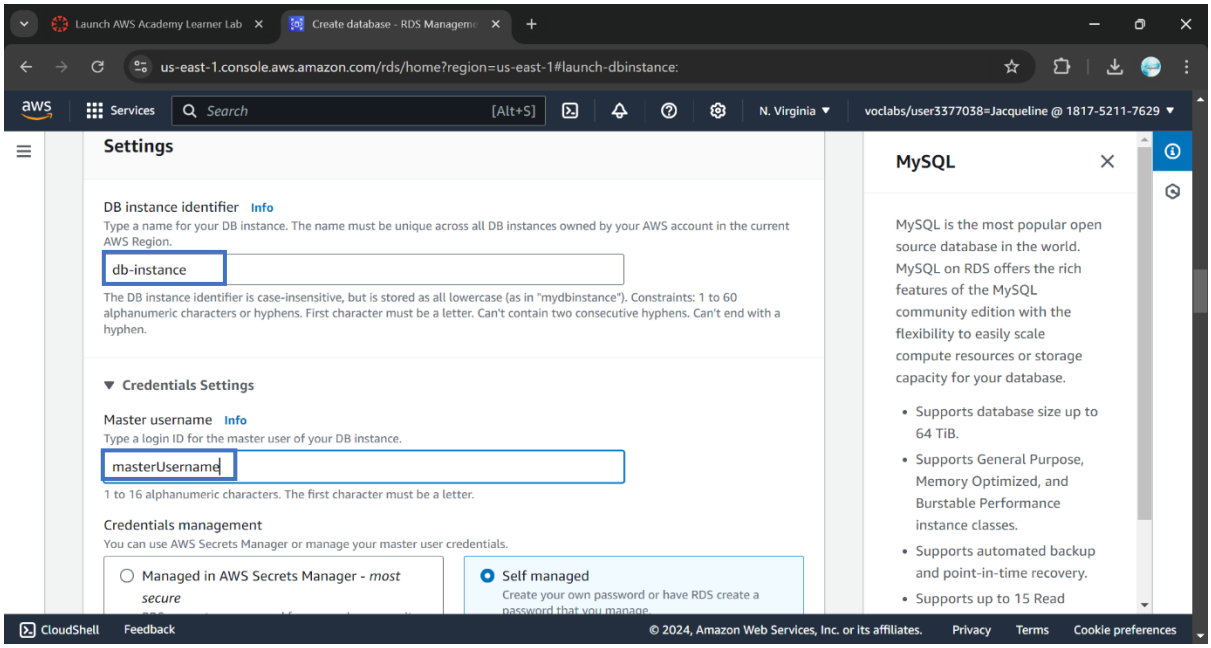
Step 3: Configure the settings as shown below:







Step 4: Give the settings as given below and click create database.


Launch AWS Academy Learner Lab
Create database - RDS Manageme
us-east-1.console.aws.amazon.com/rds/home?region=us-east-1#launch-dbinstance:
Services
Search
[Alt+S]
N. Virginia
voclabs/user3377038=Jacqueline @ 1817-5211-7629
Settings
DB instance identifier Info
Type a name for your DB instance. The name must be unique across all DB instances owned by your AWS account in the current AWS Region.
db-instance
The DB instance identifier is case-insensitive, but is stored as all lowercase (as in "mydbinstance"). Constraints: 1 to 60 alphanumeric characters or hyphens. First character must be a letter. Can't contain two consecutive hyphens. Can't end with a hyphen.
Credentials Settings
Master username Info
Type a login ID for the master user of your DB instance.
masterUsername
1 to 16 alphanumeric characters. The first character must be a letter.
Credentials management
You can use AWS Secrets Manager or manage your master user credentials.
Managed in AWS Secrets Manager - most secure
Self managed
Create your own password or have RDS create a password that you manage
MySQL
MySQL is the most popular open source database in the world. MySQL on RDS offers the rich features of the MySQL community edition with the flexibility to easily scale compute resources or storage capacity for your database.
Supports database size up to 64 TiB.
Supports General Purpose, Memory Optimized, and Burstable Performance instance classes.
Supports automated backup and point-in-time recovery.
Supports up to 15 Read
CloudShell
Feedback
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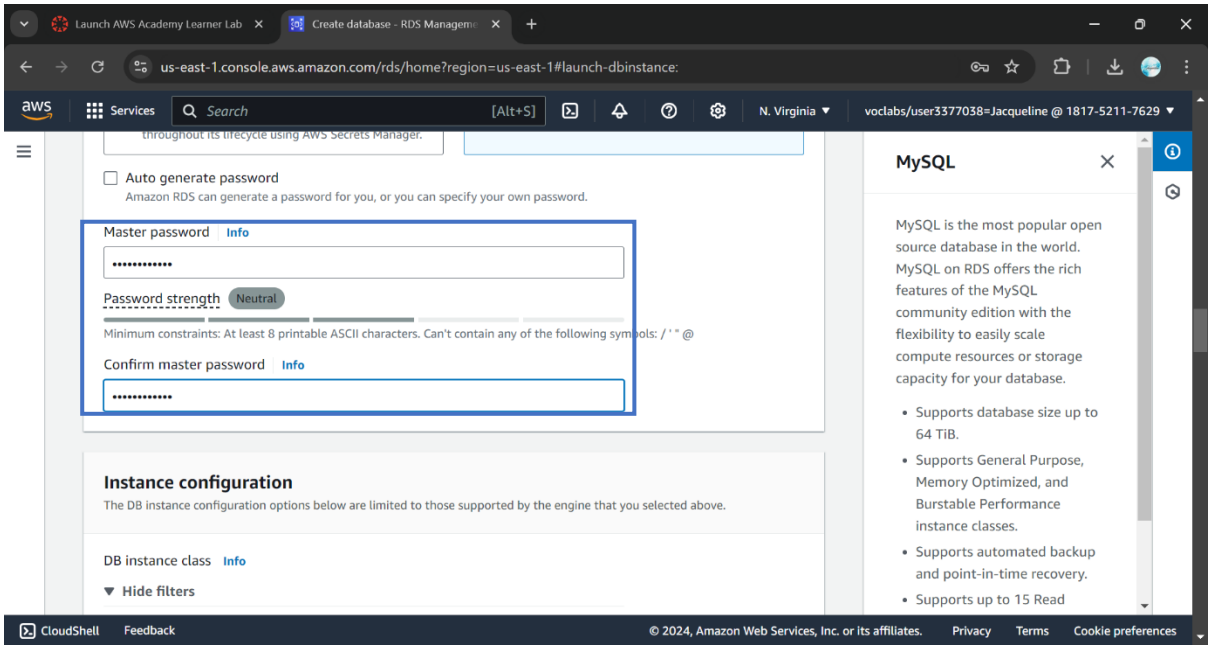
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voclabs/user3377038=Jacqueline @ 1817-5211-7629
Auto generate password
Amazon RDS can generate a password for you, or you can specify your own password.
Master password Info
Password strength
Neutral
Minimum constraints: At least 8 printable ASCII characters. Can't contain any of the following symbols: / ' " @
Confirm master password Info
Instance configuration
The DB instance configuration options below are limited to those supported by the engine that you selected above.
DB instance class Info
Hide filters
MySQL
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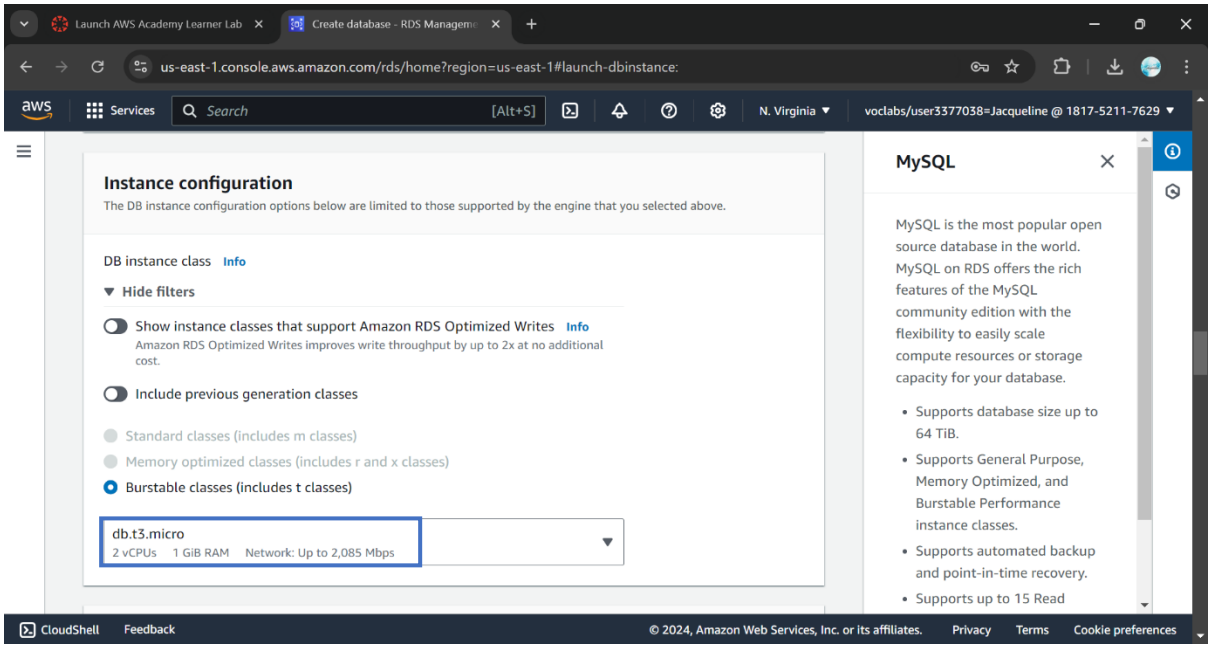
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Services
Search
[Alt+S]
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voclabs/user3377038=Jacqueline @ 1817-5211-7629
Instance configuration
The DB instance configuration options below are limited to those supported by the engine that you selected above.
DB instance class Info
Hide filters
Show instance classes that support Amazon RDS Optimized Writes Info
Amazon RDS Optimized Writes improves write throughput by up to 2x at no additional cost.
Include previous generation classes
Standard classes (includes m classes)
Memory optimized classes (includes r and x classes)
Burstable classes (includes t classes)
db.t3.micro
2 vCPUs 1 GiB RAM Network: Up to 2,085 Mbps
MySQL
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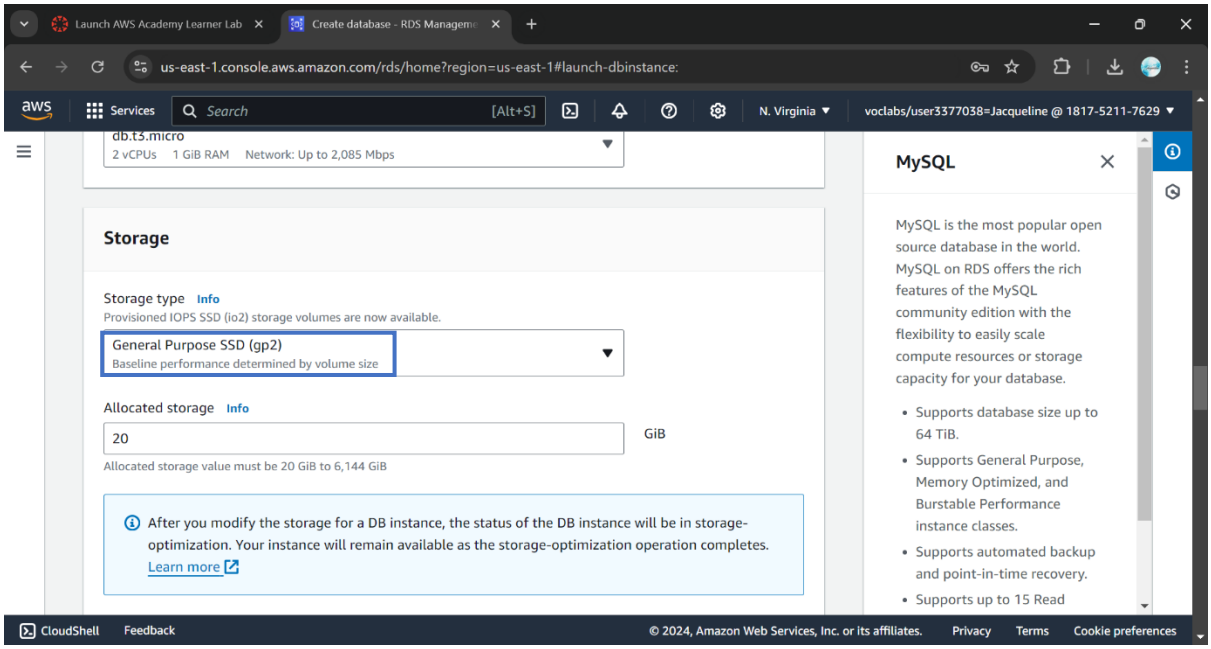
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db.t3.micro
2 vCPUs 1 GiB RAM Network: Up to 2,085 Mbps
Storage
Storage type Info
Provisioned IOPS SSD (io2) storage volumes are now available.
General Purpose SSD (gp2)
Baseline performance determined by volume size
Allocated storage Info
20
GiB
Allocated storage value must be 20 GiB to 6,144 GiB
After you modify the storage for a DB instance, the status of the DB instance will be in storage-optimization. Your instance will remain available as the storage-optimization operation completes.
Learn more
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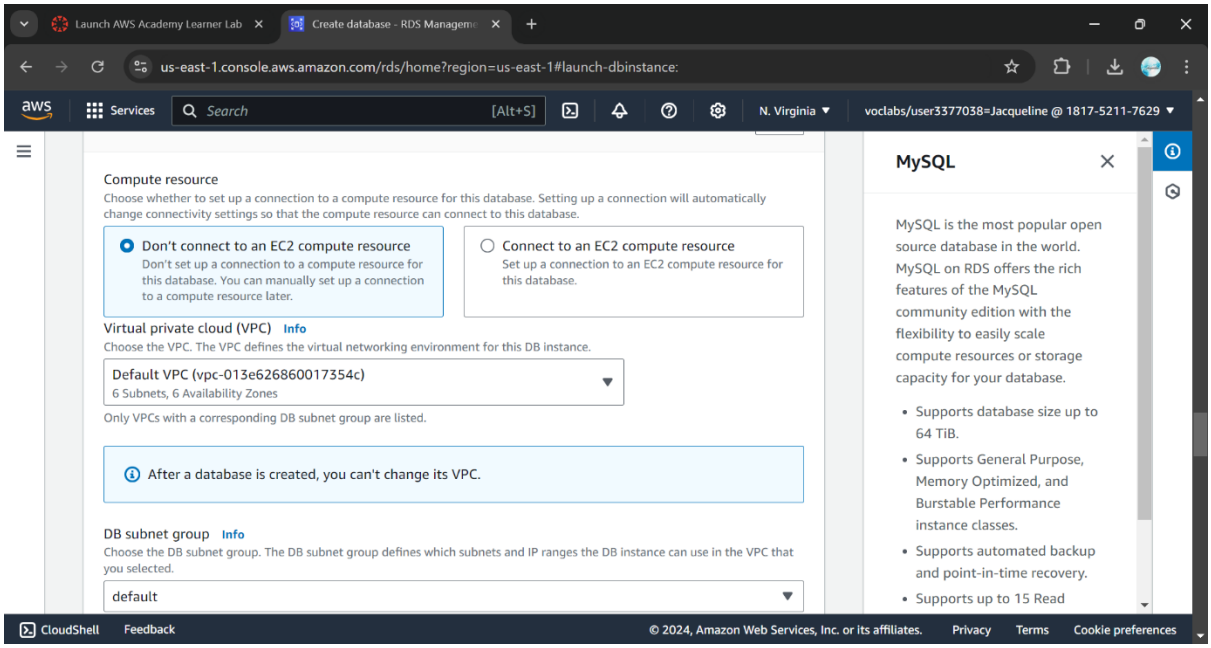
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voclabs/user3377038=Jacqueline @ 1817-5211-7629
Compute resource
Choose whether to set up a connection to a compute resource for this database. Setting up a connection will automatically change connectivity settings so that the compute resource can connect to this database.
Don't connect to an EC2 compute resource
Don't set up a connection to a compute resource for this database. You can manually set up a connection to a compute resource later.
Connect to an EC2 compute resource
Set up a connection to an EC2 compute resource for this database.
Virtual private cloud (VPC) Info
Choose the VPC. The VPC defines the virtual networking environment for this DB instance.
Default VPC (vpc-013e626860017354c)
6 Subnets, 6 Availability Zones
Only VPCs with a corresponding DB subnet group are listed.
After a database is created, you can't change its VPC.
DB subnet group Info
Choose the DB subnet group. The DB subnet group defines which subnets and IP ranges the DB instance can use in the VPC that you selected.
default
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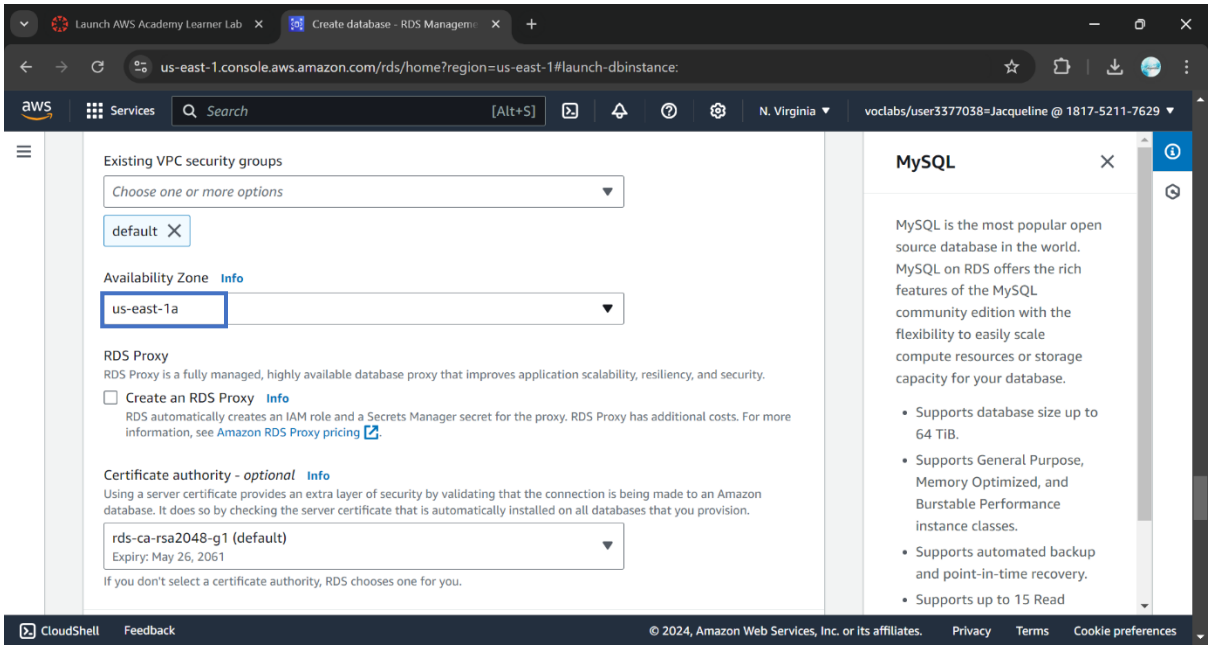
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Existing VPC security groups
Choose one or more options
default
Availability Zone Info
us-east-1a
RDS Proxy
RDS Proxy is a fully managed, highly available database proxy that improves application scalability, resiliency, and security.
Create an RDS Proxy Info
RDS automatically creates an IAM role and a Secrets Manager secret for the proxy. RDS Proxy has additional costs. For more information, see Amazon RDS Proxy pricing.
Certificate authority - optional Info
Using a server certificate provides an extra layer of security by validating that the connection is being made to an Amazon database. It does so by checking the server certificate that is automatically installed on all databases that you provision.
rds-ca-rsa2048-g1 (default)
Expiry: May 26, 2061
If you don't select a certificate authority, RDS chooses one for you.
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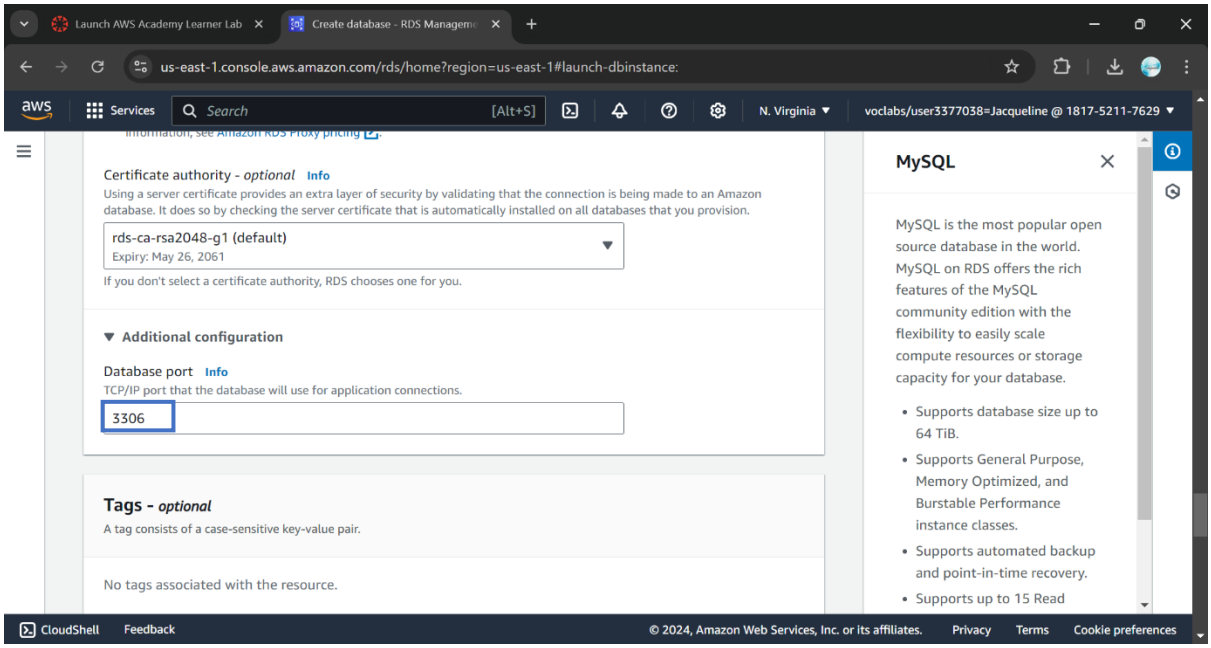
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rds-ca-rsa2048-g1 (default)
Expiry: May 26, 2061
If you don't select a certificate authority, RDS chooses one for you.
Additional configuration
Database port Info
TCP/IP port that the database will use for application connections.
3306
Tags - optional
A tag consists of a case-sensitive key-value pair.
No tags associated with the resource.
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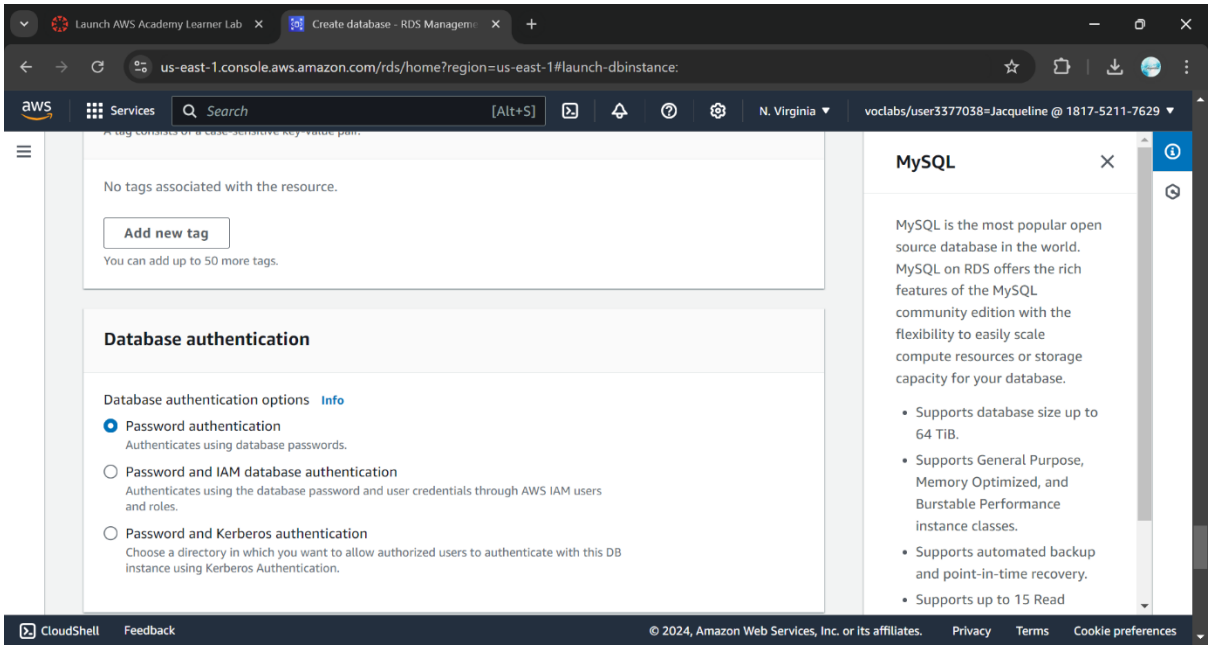
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Services
Search
[Alt+S]
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voclabs/user3377038=Jacqueline @ 1817-5211-7629
No tags associated with the resource.
Add new tag
You can add up to 50 more tags.
Database authentication
Database authentication options Info
Password authentication
Authenticates using database passwords.
Password and IAM database authentication
Authenticates using the database password and user credentials through AWS IAM users and roles.
Password and Kerberos authentication
Choose a directory in which you want to allow authorized users to authenticate with this DB instance using Kerberos Authentication.
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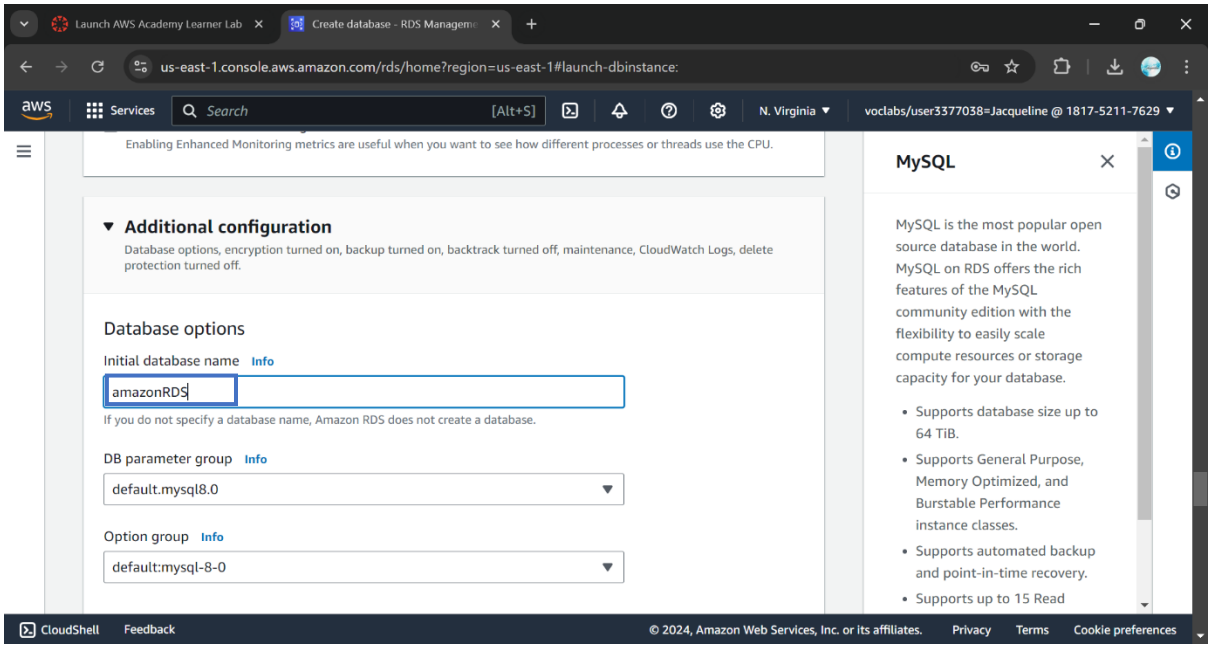
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Search
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voclabs/user3377038=Jacqueline @ 1817-5211-7629
Enabling Enhanced Monitoring metrics are useful when you want to see how different processes or threads use the CPU.
Additional configuration
Database options, encryption turned on, backup turned on, backtrack turned off, maintenance, CloudWatch Logs, delete protection turned off.
Database options
Initial database name Info
amazonRDS
If you do not specify a database name, Amazon RDS does not create a database.
DB parameter group Info
default.mysql8.0
Option group Info
default:mysql-8-0
MySQL
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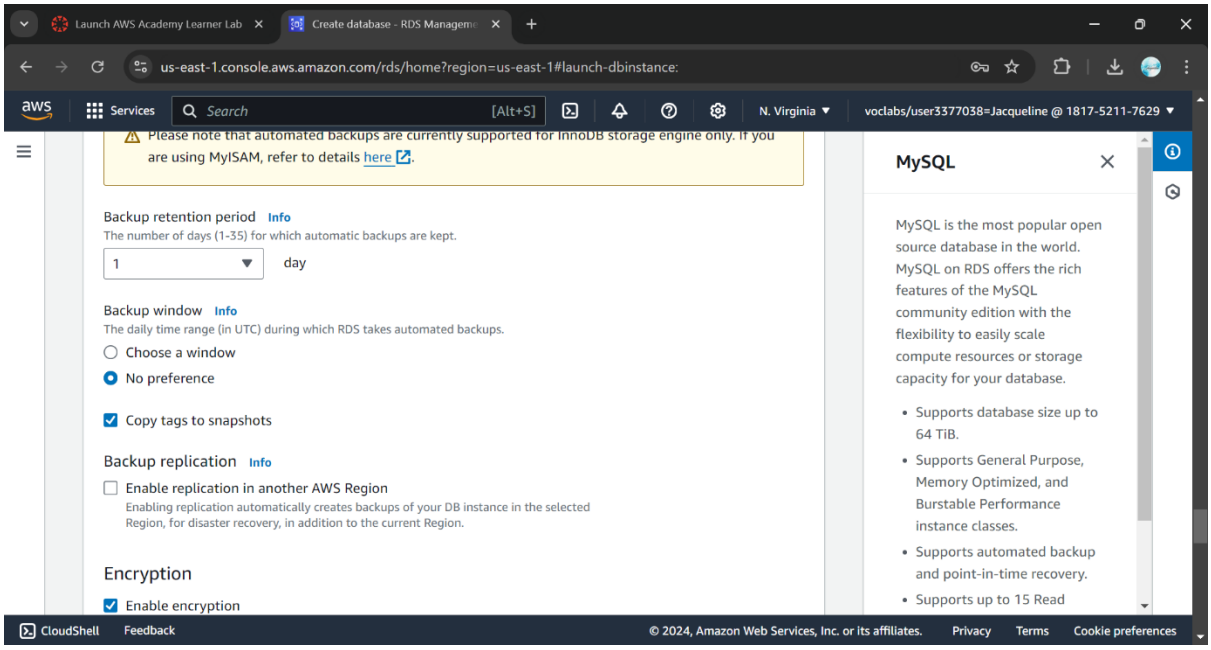
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Create database - RDS Manageme
us-east-1.console.aws.amazon.com/rds/home?region=us-east-1#launch-dbinstance:
Services
Search
[Alt+S]
N. Virginia
voclabs/user3377038=Jacqueline @ 1817-5211-7629
Please note that automated backups are currently supported for InnoDB storage engine only. If you are using MyISAM, refer to details here.
Backup retention period Info
The number of days (1-35) for which automatic backups are kept.
1
day
Backup window Info
The daily time range (in UTC) during which RDS takes automated backups.
Choose a window
No preference
Copy tags to snapshots
Backup replication Info
Enable replication in another AWS Region
Enabling replication automatically creates backups of your DB instance in the selected Region, for disaster recovery, in addition to the current Region.
Encryption
Enable encryption
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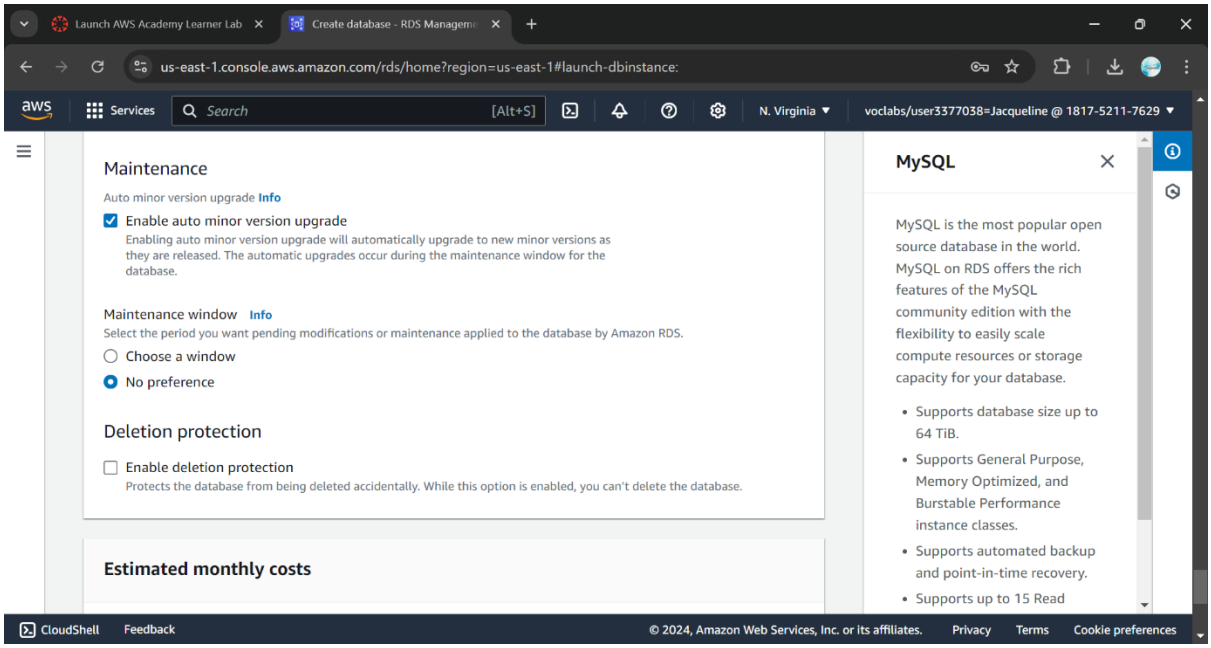
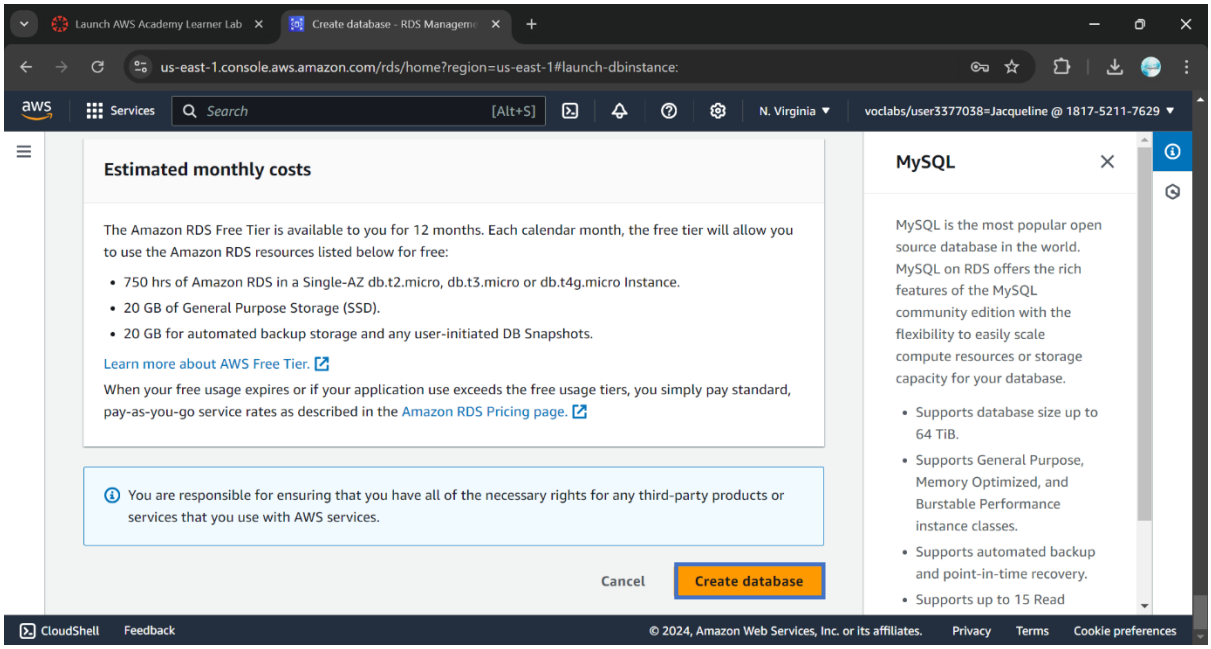
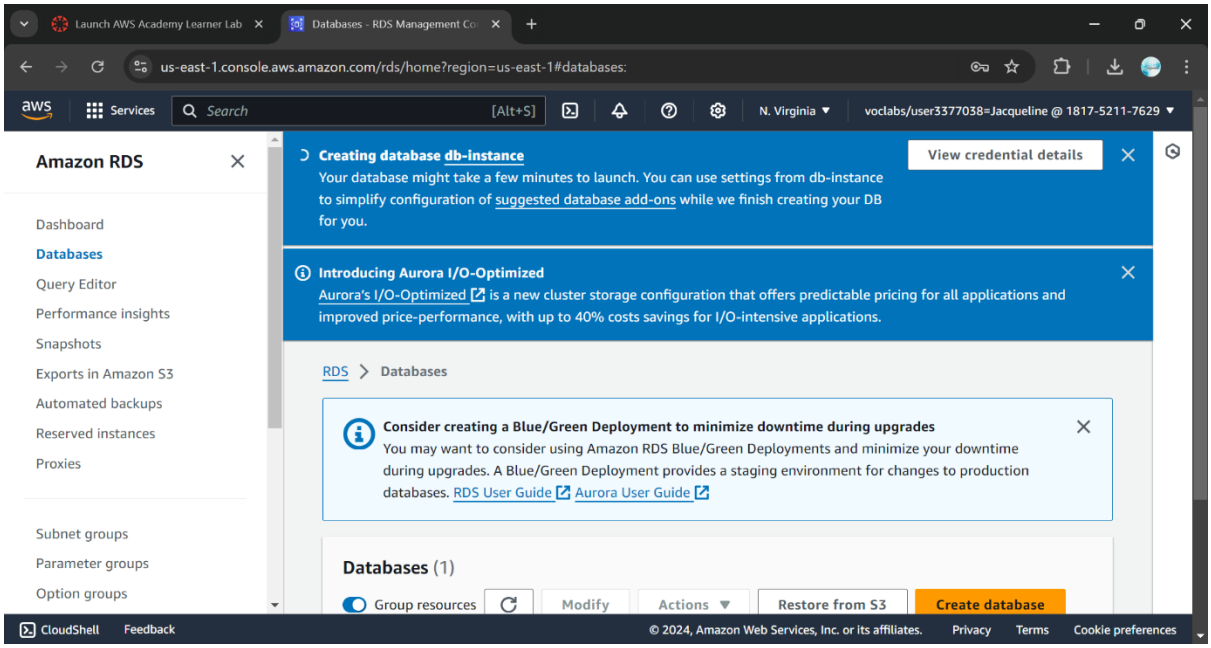
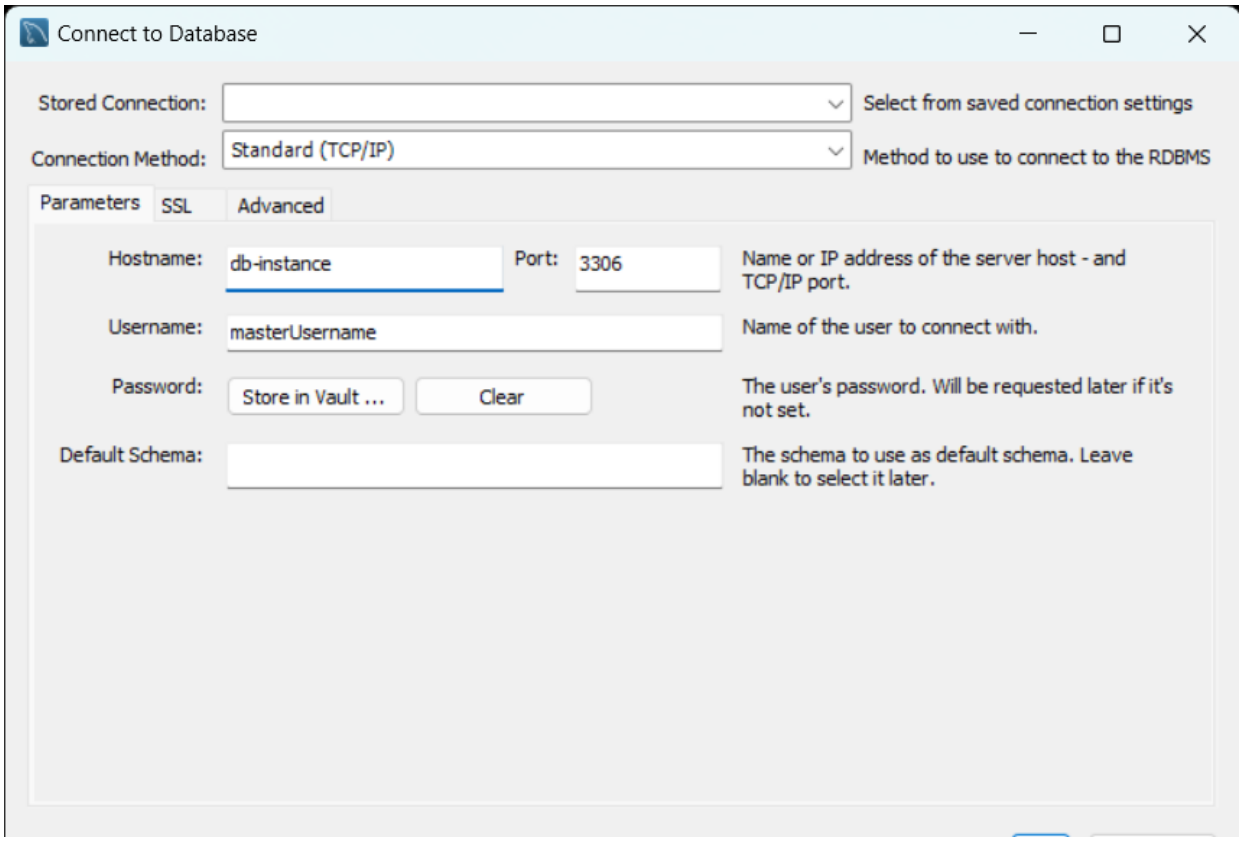




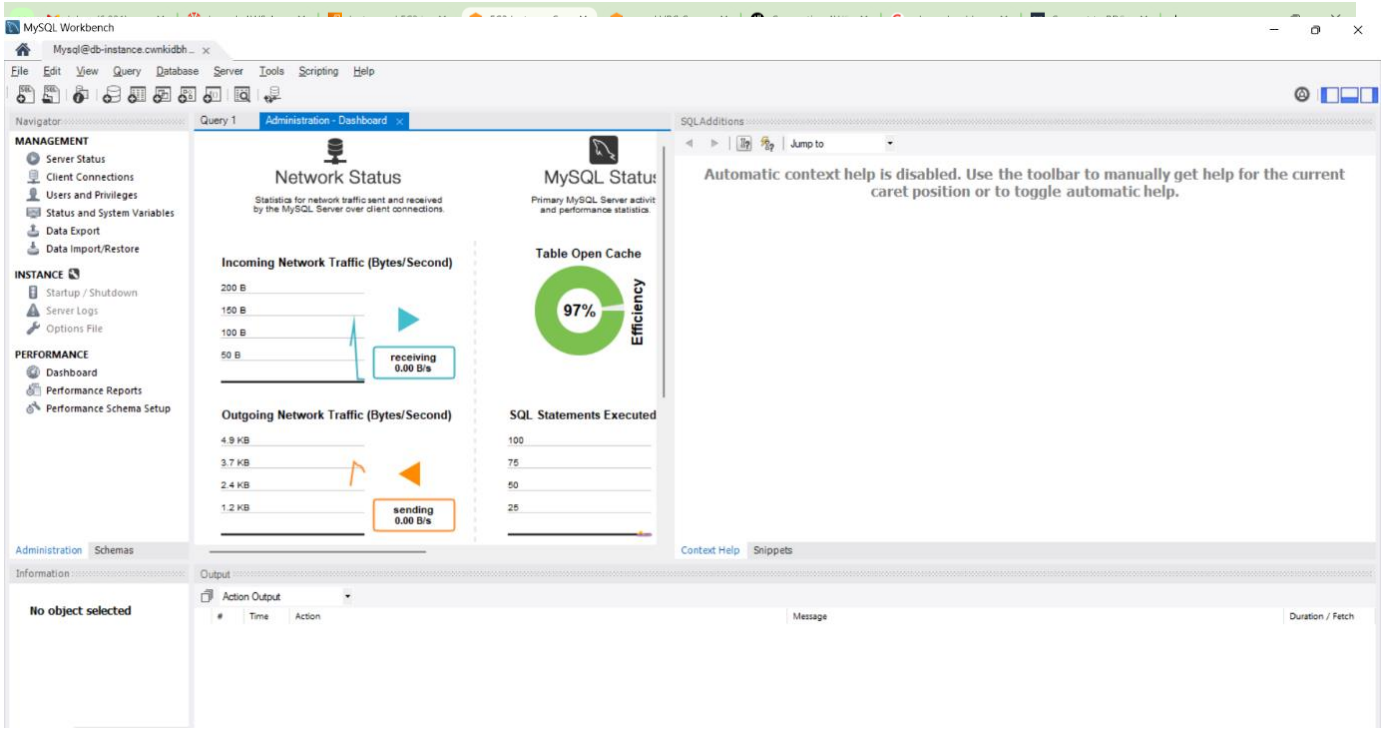
Step 5: Wait for the status to be available.



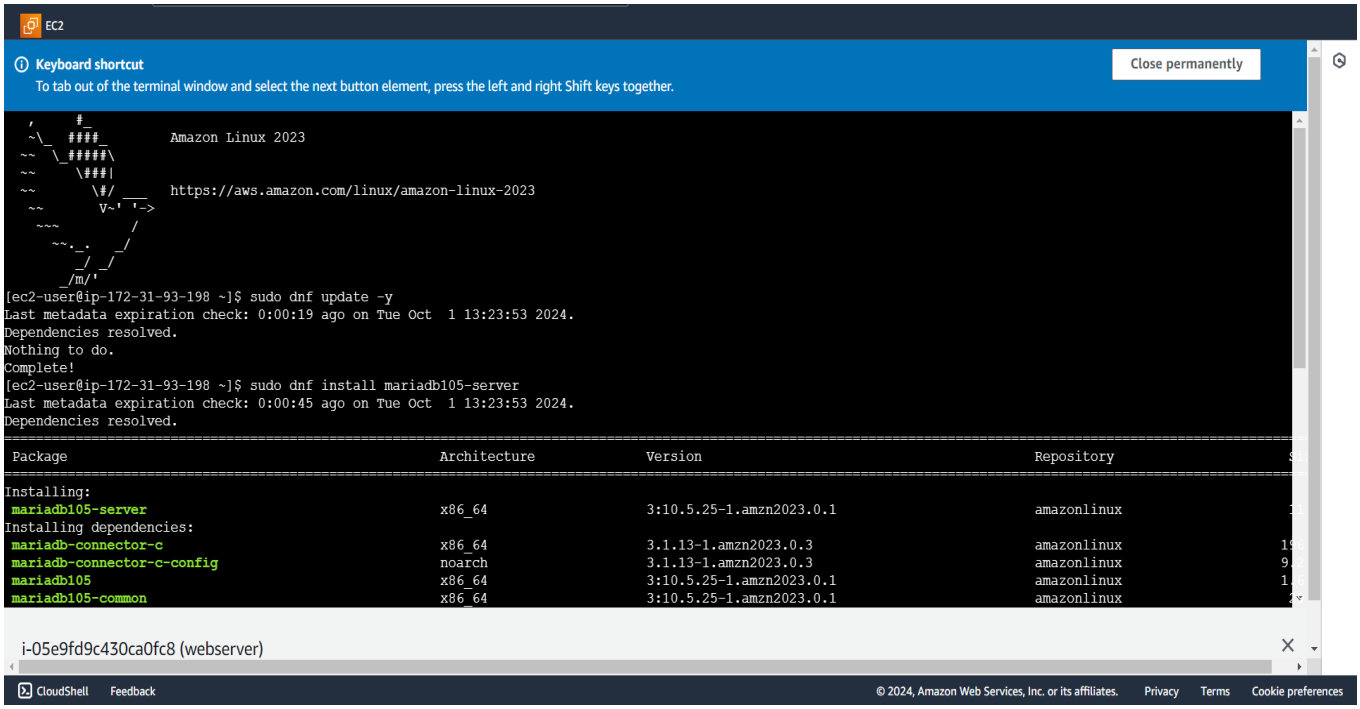
Step 6: Now go to MySQL workbench and connect to DB



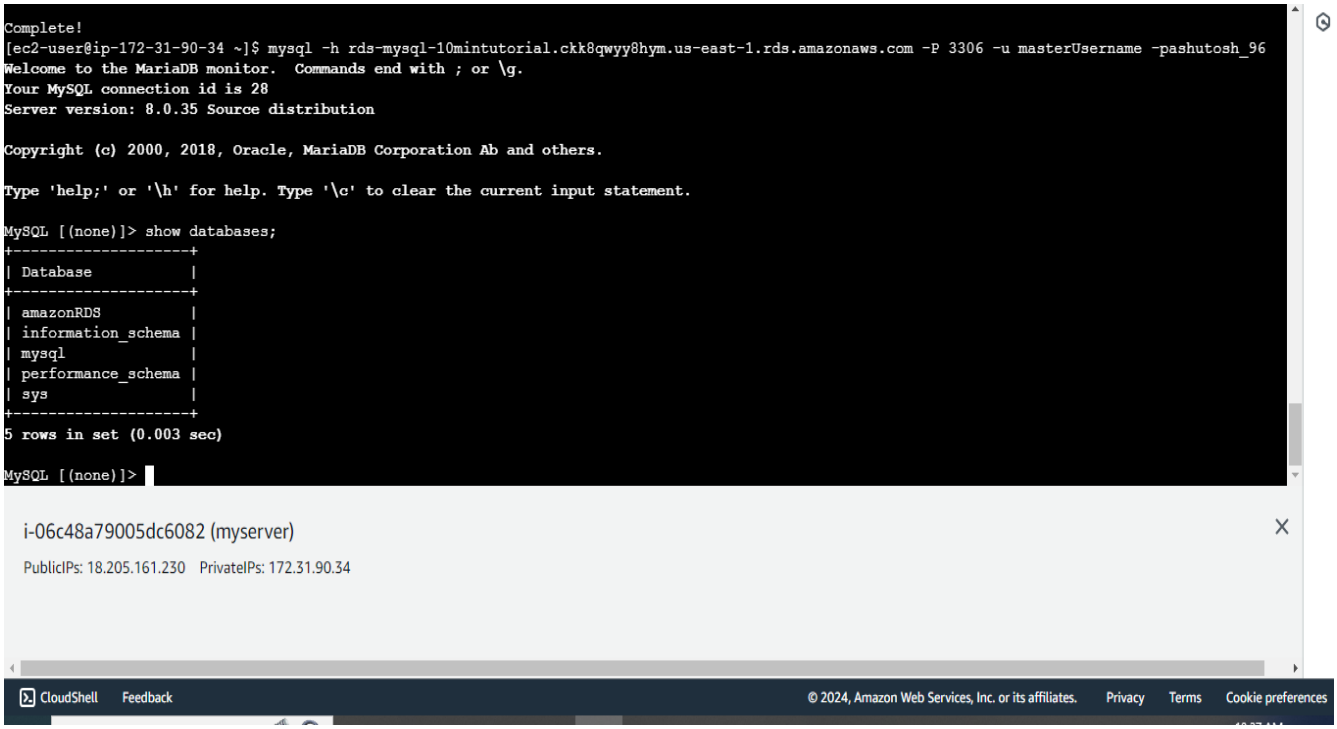
Step 7: This screen will appear



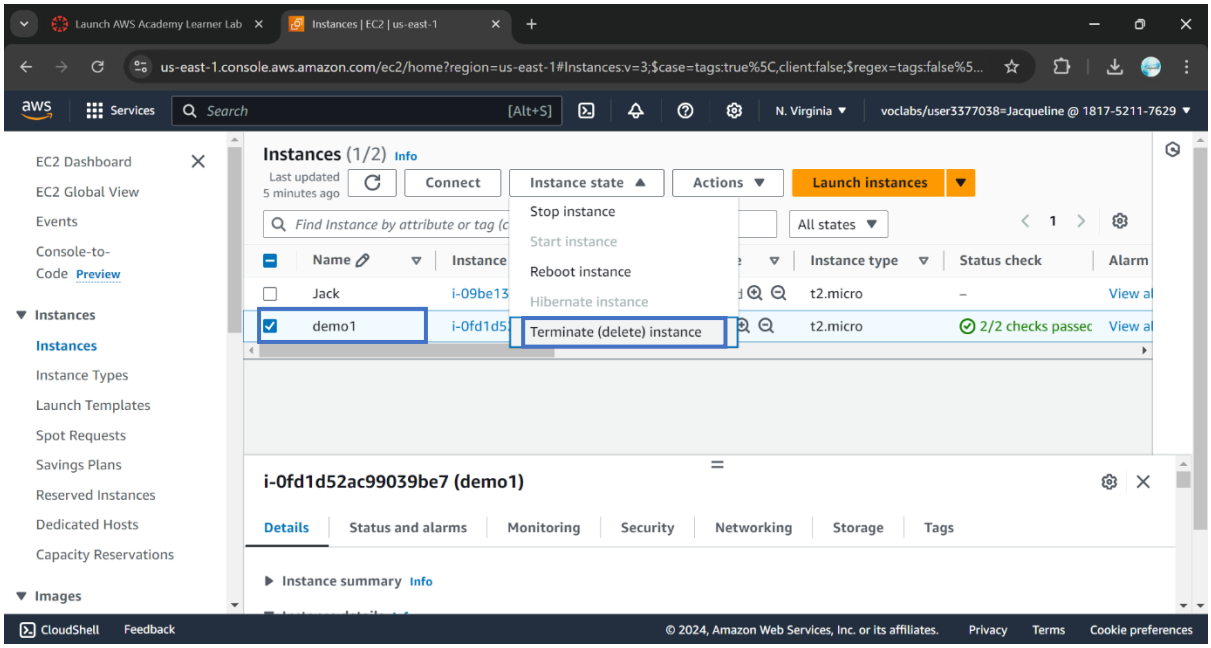
Step 8: Now create instance and connect using following commands.

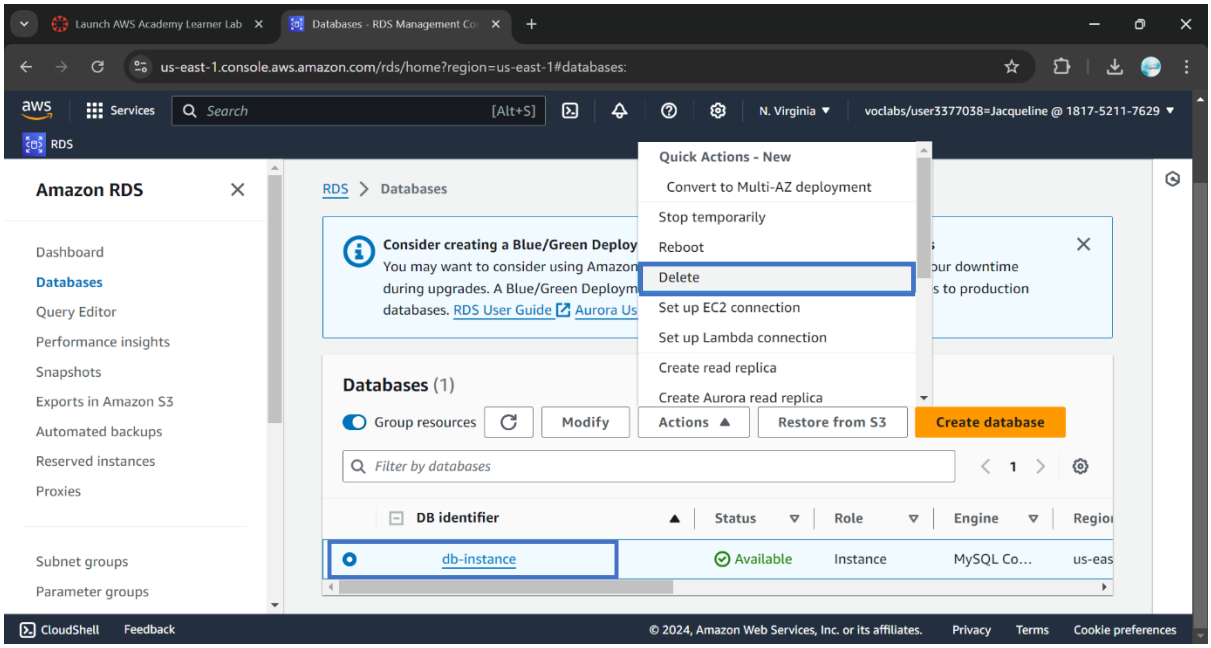


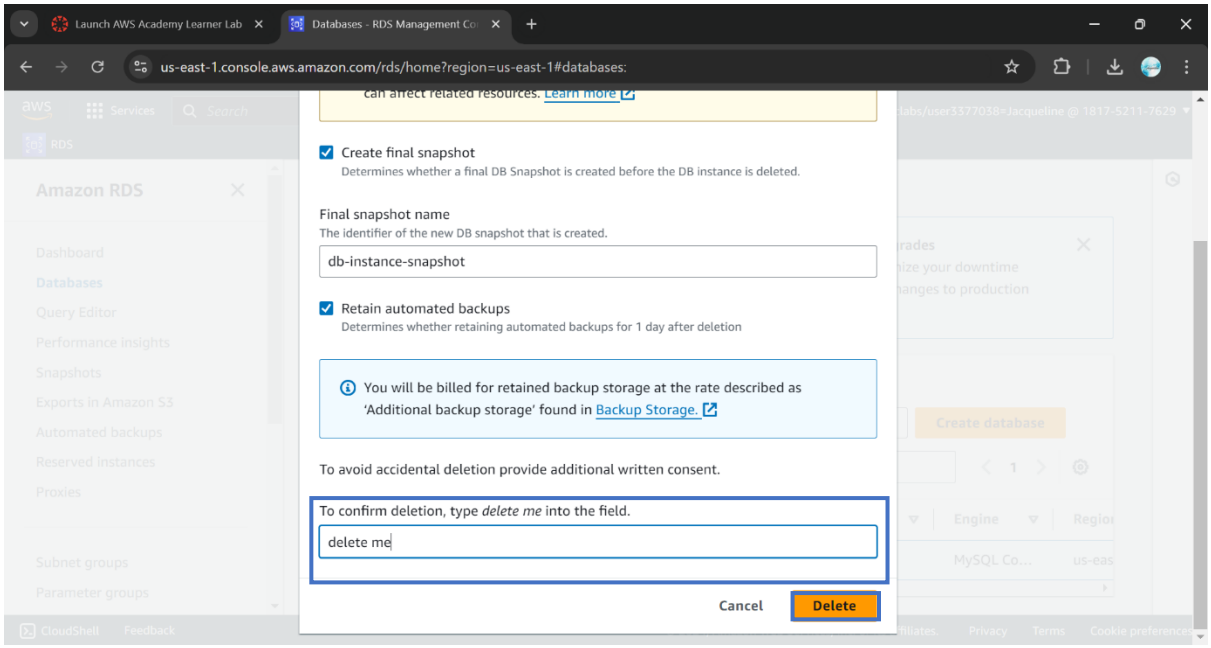
Step 9: The connected database screen will appear.



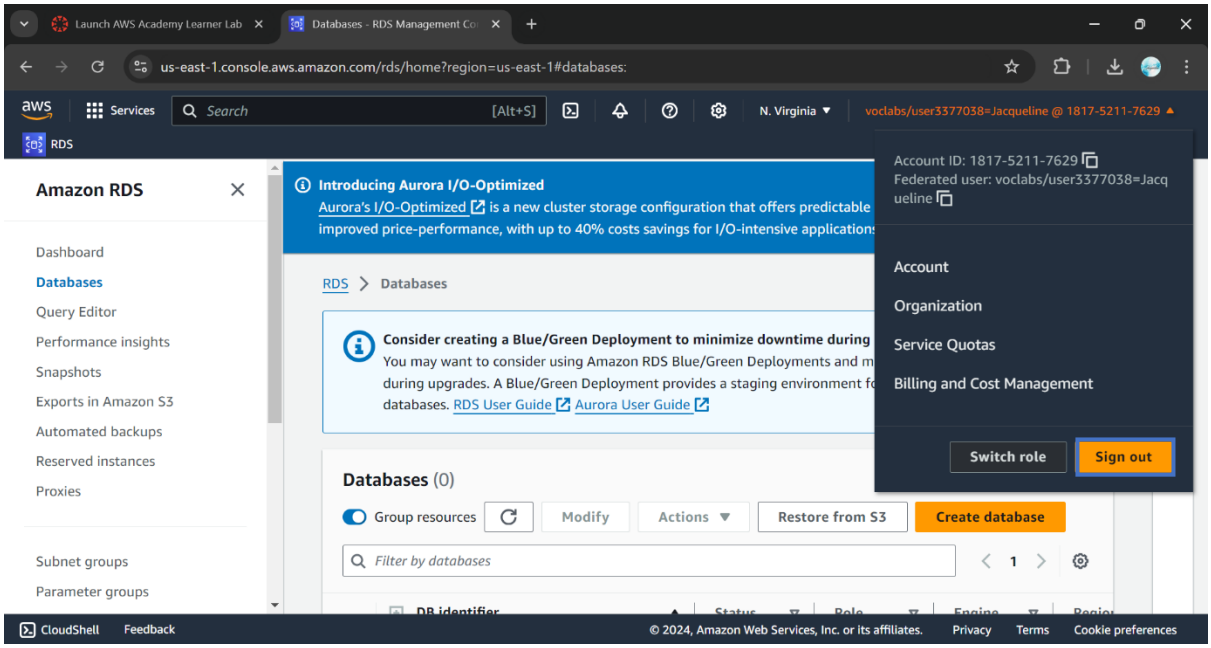
Step 10: Now delete the instance and databases.







Step 10: Sign out and end lab.


Launch AWS Academy Learner Lab
Databases - RDS Management Co
us-east-1.console.aws.amazon.com/rds/home?region=us-east-1#databases:
Services
Search
[Alt+S]
N. Virginia
voclabs/user3377038=Jacqueline @ 1817-5211-7629
RDS
Amazon RDS
Dashboard
Databases
Query Editor
Performance insights
Snapshots
Exports in Amazon S3
Automated backups
Reserved instances
Proxies
Subnet groups
Parameter groups
Introducing Aurora I/O-Optimized
Aurora's I/O-Optimized is a new cluster storage configuration that offers predictable
improved price-performance, with up to 40% costs savings for I/O-intensive applications
RDS > Databases
Consider creating a Blue/Green Deployment to minimize downtime during
You may want to consider using Amazon RDS Blue/Green Deployments and m
during upgrades. A Blue/Green Deployment provides a staging environment fo
databases. RDS User Guide Aurora User Guide
Databases (0)
Group resources
Modify
Actions
Restore from S3
Create database
Filter by databases
1
DB identifier
Status
Role
Engine
Region
Account ID: 1817-5211-7629
Federated user: voclabs/user3377038=Jacqueline
Account
Organization
Service Quotas
Billing and Cost Management
Switch role
Sign out
CloudShell
Feedback
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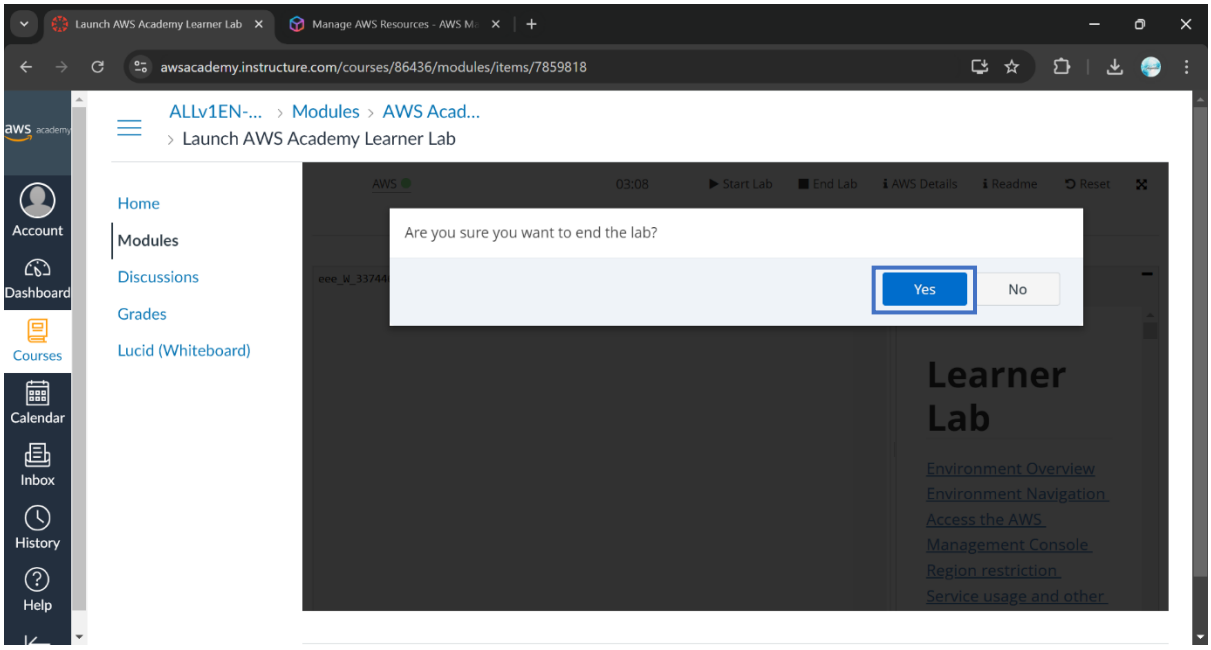
Launch AWS Academy Learner Lab
Manage AWS Resources - AWS M
awsacademy.instructure.com/courses/86436/modules/items/7859818
ALLv1EN-... > Modules > AWS Acad...
Launch AWS Academy Learner Lab
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Lucid (Whiteboard)
AWS
03:08
Start Lab
End Lab
AWS Details
Readme
Reset
Are you sure you want to end the lab?
Yes
No
Learner Lab
Environment Overview
Environment Navigation
Access the AWS Management Console
Region restriction
Service usage and other