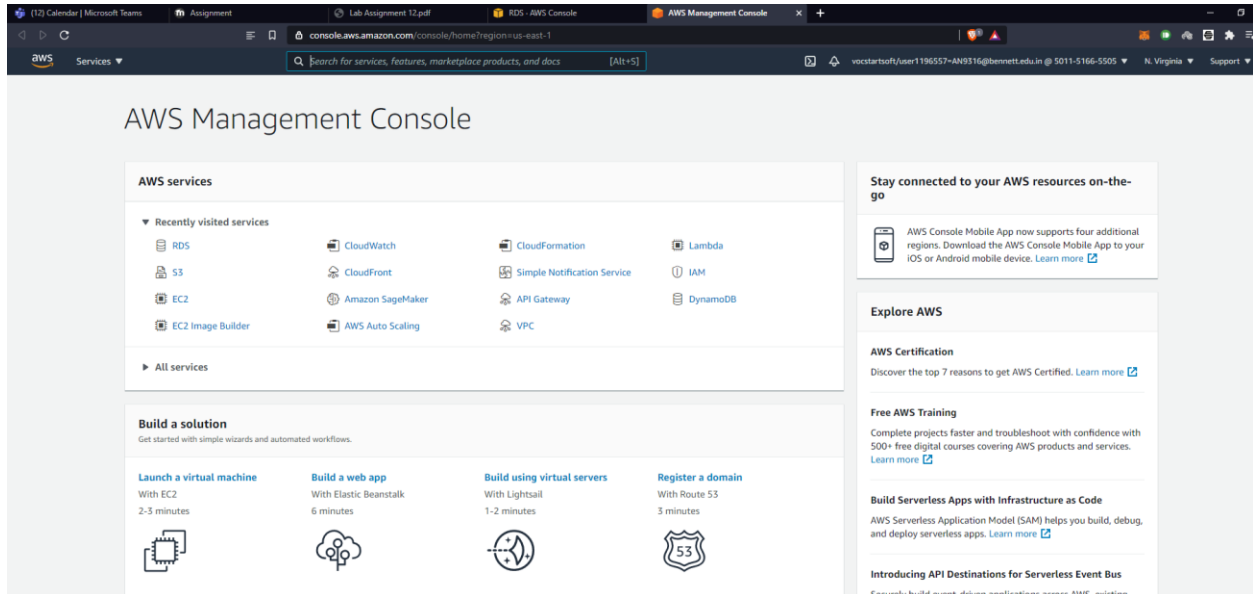


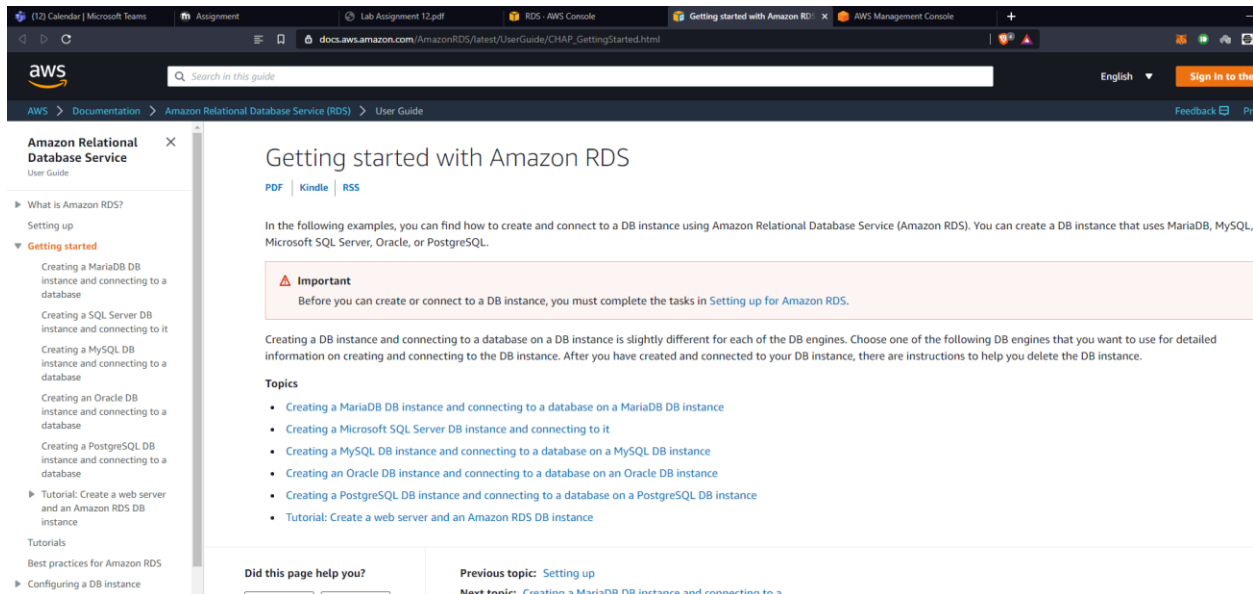
# Cloud Computing – Lab 12

## Anudit Nagar – E18CSE024

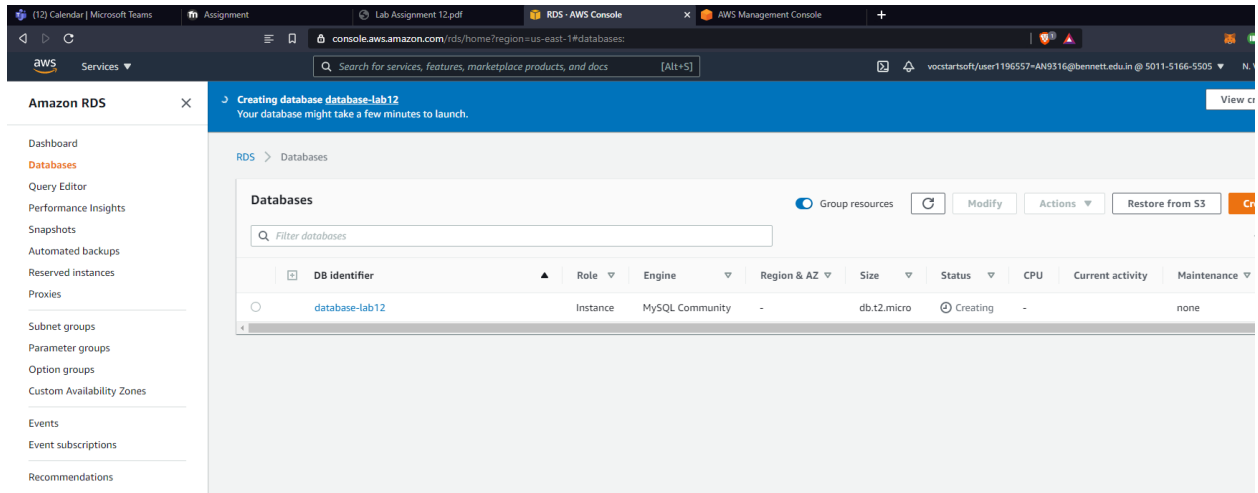
Task 1 – Go to AWS management console.



Task 2 – Understanding Amazon RDS



### Task 3 – Create the RDS database by using RDS AWS service.



**Amazon RDS**

Dashboard  
Databases  
Query Editor  
Performance Insights  
Snapshots  
Automated backups  
Reserved instances  
Proxies  
Subnet groups  
Parameter groups  
Option groups  
Custom Availability Zones  
Events  
Event subscriptions  
Recommendations

**Creating database database-lab12**  
Your database might take a few minutes to launch.

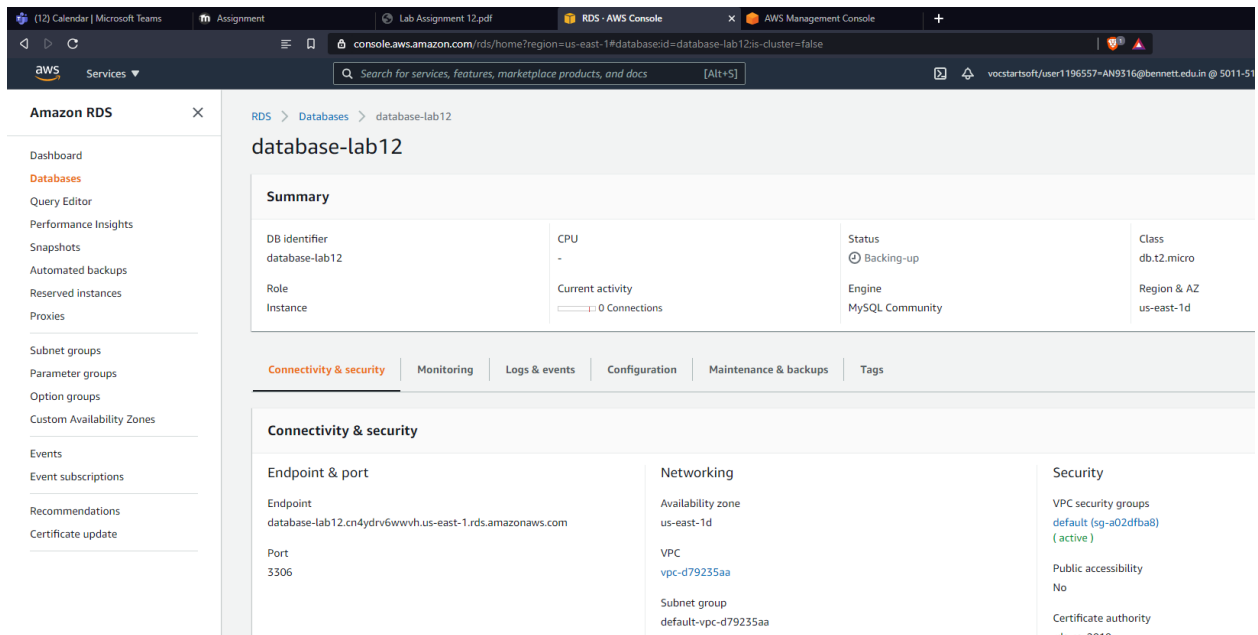
RDS > Databases

**Databases** Group resources Modify Actions Restore from S3

Filter databases

DB identifier	Role	Engine	Region & AZ	Size	Status	CPU	Current activity	Maintenance
database-lab12	Instance	MySQL Community	-	db.t2.micro	Creating	-	-	none

### Task 4 – Setting up Amazon RDS for first time use



**Amazon RDS**

Dashboard  
Databases  
Query Editor  
Performance Insights  
Snapshots  
Automated backups  
Reserved instances  
Proxies  
Subnet groups  
Parameter groups  
Option groups  
Custom Availability Zones  
Events  
Event subscriptions  
Recommendations  
Certificate update

RDS > Databases > database-lab12

**database-lab12**

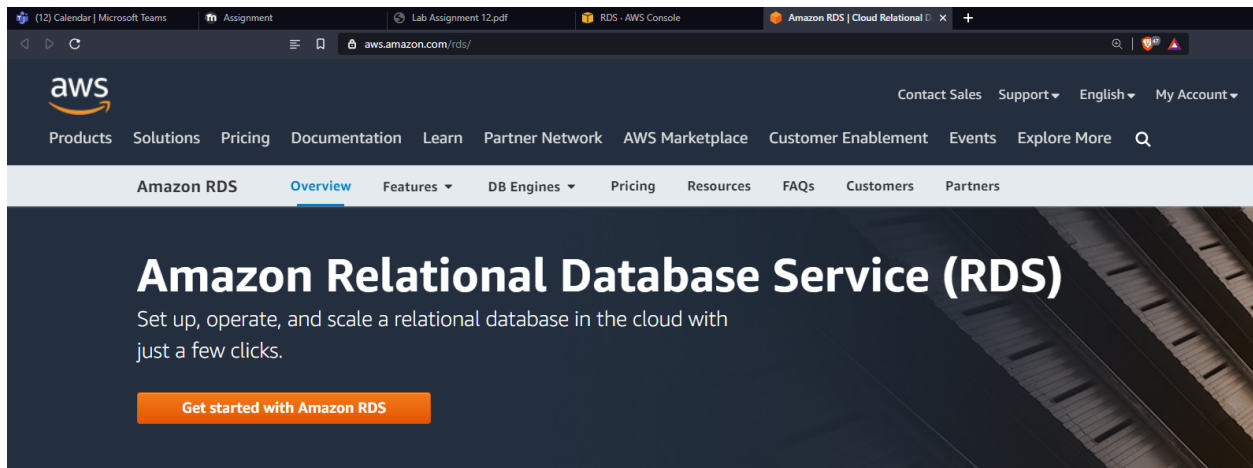
**Summary**

DB identifier database-lab12	CPU -	Status Backing-up	Class db.t2.micro
Role Instance	Current activity 0 Connections	Engine MySQL Community	Region & AZ us-east-1d

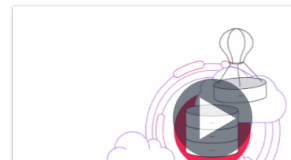
**Connectivity & security**

Endpoint & port	Networking	Security
Endpoint database-lab12.cn4ydrv6wwvh.us-east-1.rds.amazonaws.com	Availability zone us-east-1d	VPC security groups default (sg-a02dfba8) (active)
Port 3306	VPC vpc-d79235aa	Public accessibility No
	Subnet group default-vpc-d79235aa	Certificate authority default-ca

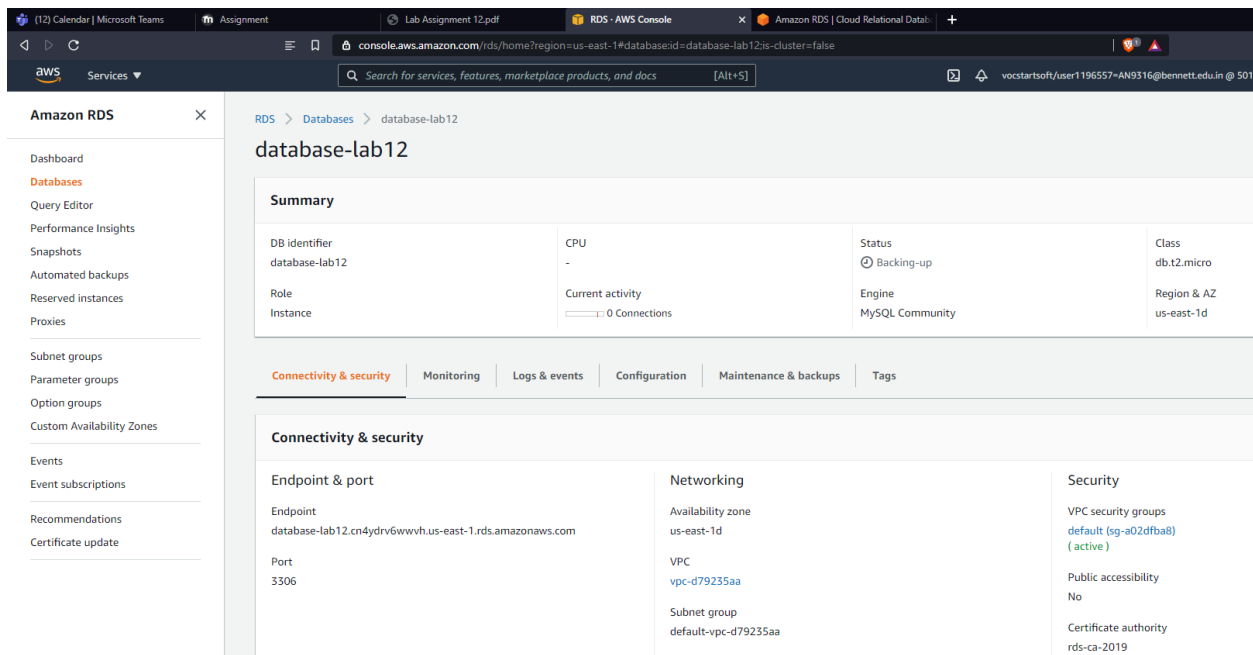
## Task 5 – Understanding Amazon RDS DB instances



Amazon Relational Database Service (Amazon RDS) makes it easy to set up, operate, and scale a relational database in the cloud. It provides cost-efficient and resizable capacity while automating time-consuming administration tasks such as hardware provisioning, database setup, patching and backups. It frees you to focus on your applications so you can give them the fast performance, high availability, security and compatibility they need.



## Task 6 – Creating a DB instance for production



## Task 7 – Managing security for your DB instance

The screenshot shows the AWS Management Console for an Amazon RDS instance named 'database-lab12'. The left sidebar contains navigation links for Dashboard, Databases, Query Editor, Performance Insights, Snapshots, Automated backups, Reserved instances, Proxies, Subnet groups, Parameter groups, Option groups, Custom Availability Zones, Events, Event subscriptions, Recommendations, and Certificate update. The main content area displays the 'database-lab12' configuration page, which is divided into several sections: Summary, Connectivity & security, Monitoring, Logs & events, Configuration, Maintenance & backups, and Tags. The Configuration section is currently selected, showing details for the DB instance ID, Engine version, DB name, License model, Instance class, vCPU, RAM, Availability, Master username, Storage, Encryption, Storage type, and Performance Insights.

Summary			
DB identifier database-lab12	CPU -	Status ⌚ Backing-up	Class db.t2.micro
Role Instance	Current activity 0 Connections	Engine MySQL Community	Region & AZ us-east-1d

Instance			
<b>Configuration</b>	<b>Instance class</b>	<b>Storage</b>	<b>Performance Insights</b>
DB instance ID database-lab12	Instance class db.t2.micro	Encryption Not enabled	Performance Insights No
Engine version 8.0.20	vCPU 1	Storage type General Purpose (SSD)	
DB name -	RAM 1 GB	IOPS -	
License model General Public License	Availability	Storage 20 GiB	
	Master username		

## Task 8 – Connecting to your DB instance using MySQL Workbench and command line

The screenshot shows the MySQL Workbench interface. The top menu bar includes File, Edit, View, Query, Database, Server, Tools, Scripting, and Help. The left sidebar contains a Navigator pane with a Schemas list and a Filter objects search bar. Below the Navigator, the Administration and Schemas tabs are visible. The Connection Details section shows the following information:

- Name:** lab12
- Host:** database-lab12.cn4ydr6wvwh.us-east-1.rds.amazonaws.com
- Port:** 3306
- Login User:** admin
- Current User:** admin@%
- SSL cipher:** TLS\_AES\_256\_GCM\_SHA384

The Server section shows:

- Product:** Source distribution
- Version:** 8.0.20

The Connector section shows:

- Version:** C++ 8.0.23

The main query editor area on the right shows a single query result with one row.

## Task 10 – Create/import the HR database as attached to the file.

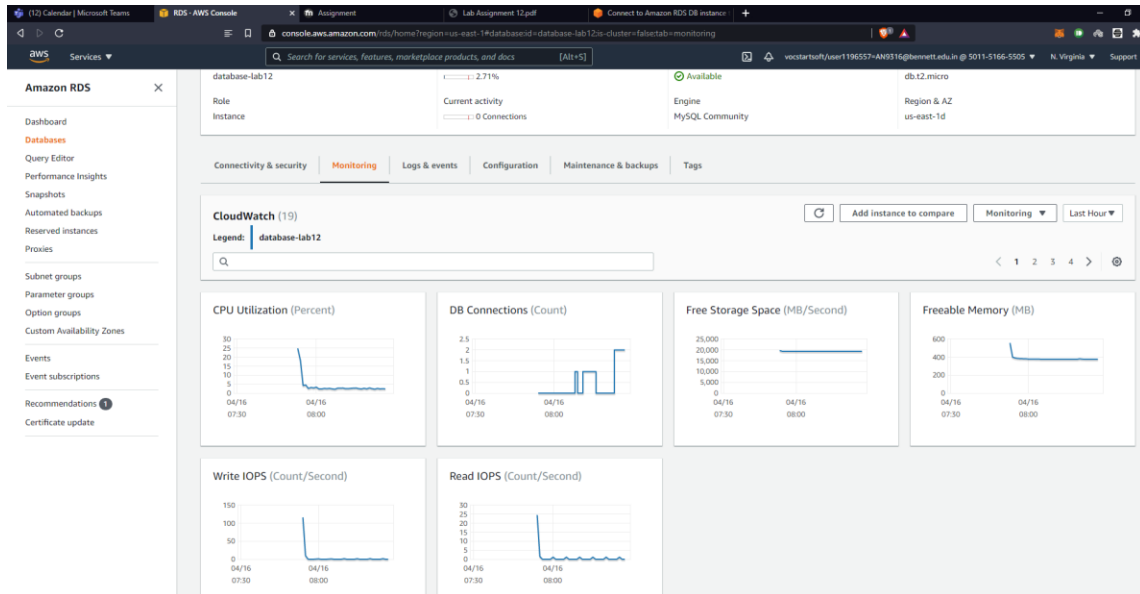
The screenshot displays the MySQL Workbench interface with the 'lab12' database selected. The 'Schemas' pane on the left shows the database structure. The 'Query' pane on the right contains the following SQL code:

```
1 CREATE TABLE IF NOT EXISTS `countries` (  
2   `COUNTRY_ID` varchar(2) NOT NULL,  
3   `COUNTRY_NAME` varchar(40) DEFAULT NULL,  
4   `REGION_ID` decimal(10,0) DEFAULT NULL,  
5   PRIMARY KEY (`COUNTRY_ID`),  
6   KEY `COUNTRY_REG_FK` (`REGION_ID`)  
7 )  
8  
9  
10 INSERT INTO `countries` (`COUNTRY_ID`, `COUNTRY_NAME`, `REGION_ID`) VALUES  
11 ('AR', 'Argentina', '2'),  
12 ('AU', 'Australia', '3'),  
13 ('BE', 'Belgium', '1'),  
14 ('BR', 'Brazil', '2'),  
15 ('CA', 'Canada', '2'),  
16 ('CH', 'Switzerland', '1'),  
17 ('CN', 'China', '3'),  
18 ('DE', 'Germany', '1'),  
19 ('DK', 'Denmark', '1'),  
20 ('EG', 'Egypt', '4'),  
21 ('FR', 'France', '1'),  
22 ('HK', 'HongKong', '3'),  
23 ('IL', 'Israel', '4'),  
24 ('IN', 'India', '3'),  
25 ('IT', 'Italy', '1'),  
26 ('JP', 'Japan', '3'),  
27 ('KW', 'Kuwait', '4'),  
28 ('MX', 'Mexico', '2'),  
29 ('NG', 'Nigeria', '4'),  
30 ('NL', 'Netherlands', '1'),  
31 ('SG', 'Singapore', '3'),  
32 ('UK', 'United Kingdom', '1'),  
33 ('US', 'United States of America', '2'),  
34 ('ZH', 'Zambia', '4').
```

The 'Output' pane at the bottom shows the execution results of the SQL queries:

#	Time	Action	Message
14	08:32:03	INSERT INTO jobs (JOB_ID, JOB_TITLE, MIN_SALARY, MAX_SALARY) VALUES (AD_PRES, President, 20000, 40000);	19 row(s) affected Records: 19 Duplicates: 0 Warnings: 0
15	08:32:06	CREATE TABLE IF NOT EXISTS locations ( LOCATION_ID decimal(4,0) NOT NULL DEFAULT 0, STREET_ADDRESS var...	0 row(s) affected
16	08:32:06	INSERT INTO locations (LOCATION_ID, STREET_ADDRESS, POSTAL_CODE, CITY, STATE_PROVINCE, COUNTRY_I...	23 row(s) affected Records: 23 Duplicates: 0 Warnings: 0
17	08:32:07	CREATE TABLE IF NOT EXISTS regions ( REGION_ID decimal(5,0) NOT NULL, REGION_NAME varchar(25) DEFAULT NUL...	0 row(s) affected
18	08:32:07	INSERT INTO regions (REGION_ID, REGION_NAME) VALUES (1, 'Europe'), (2, 'America'), (3, 'Asia'), (4, 'Middle East ...	4 row(s) affected Records: 4 Duplicates: 0 Warnings: 0

## Task 11 – Monitoring a MySQL DB instance



## Task 12 – Execute a few of SQL queries and again monitor the database performance .

