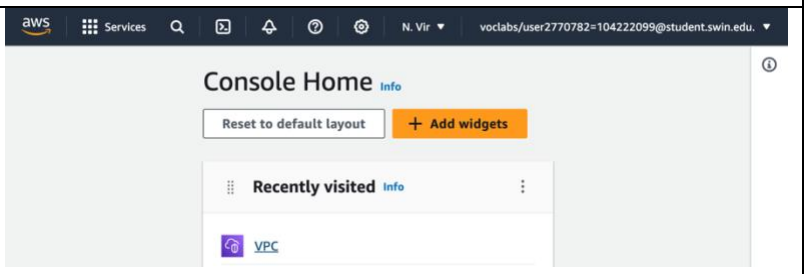
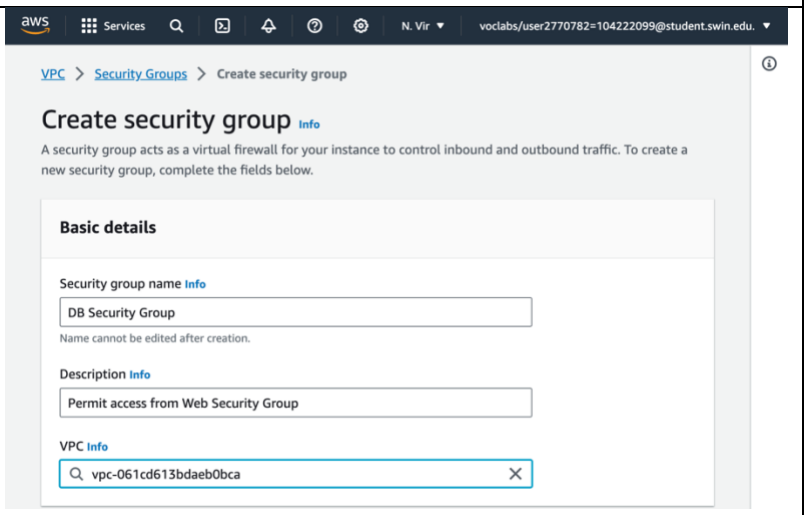
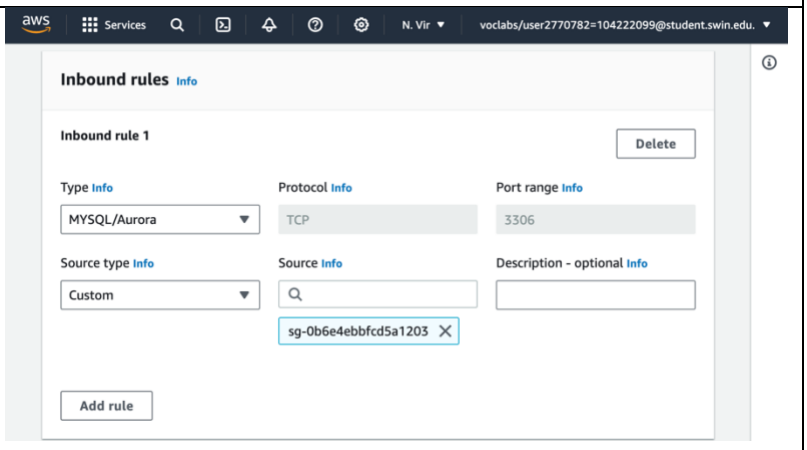
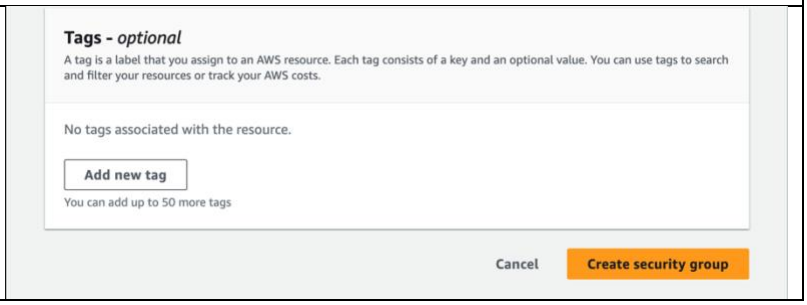
Swinburne University of Technology

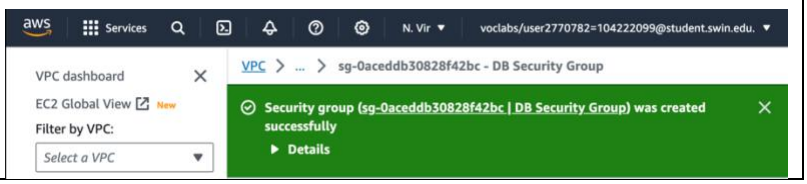
COS20019 Cloud Computing Architecture

Lab 5 - Build a Database Server

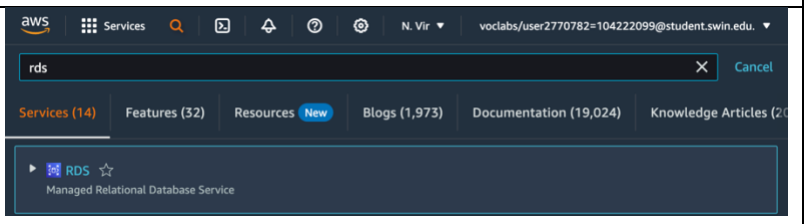
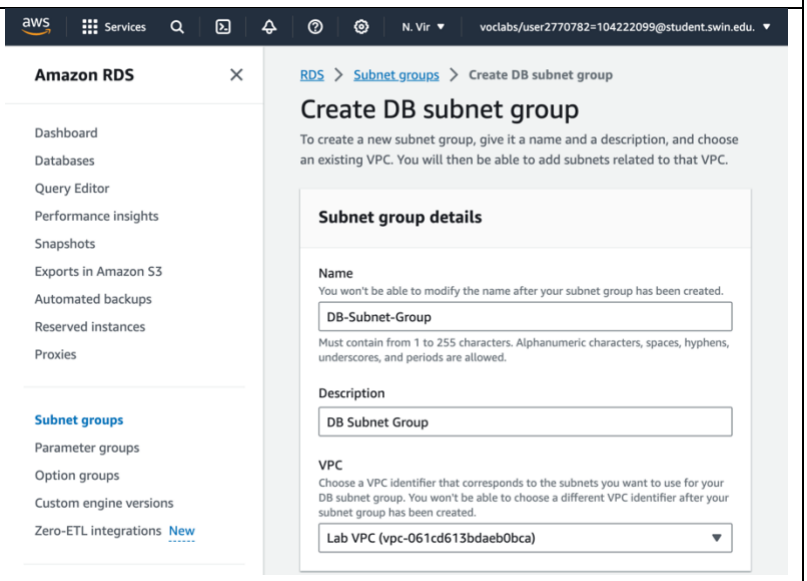
Saturday 7th October, 2023

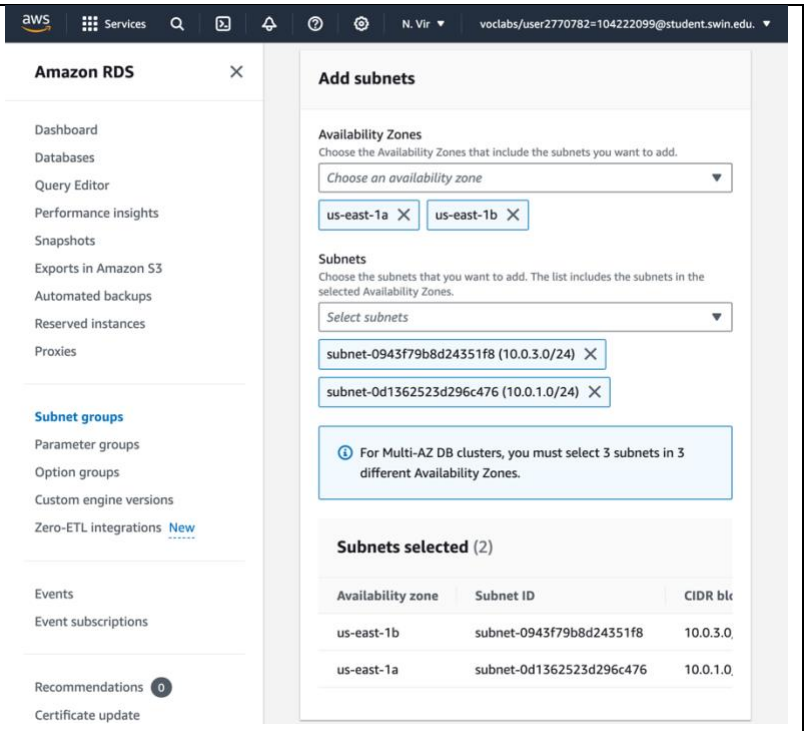
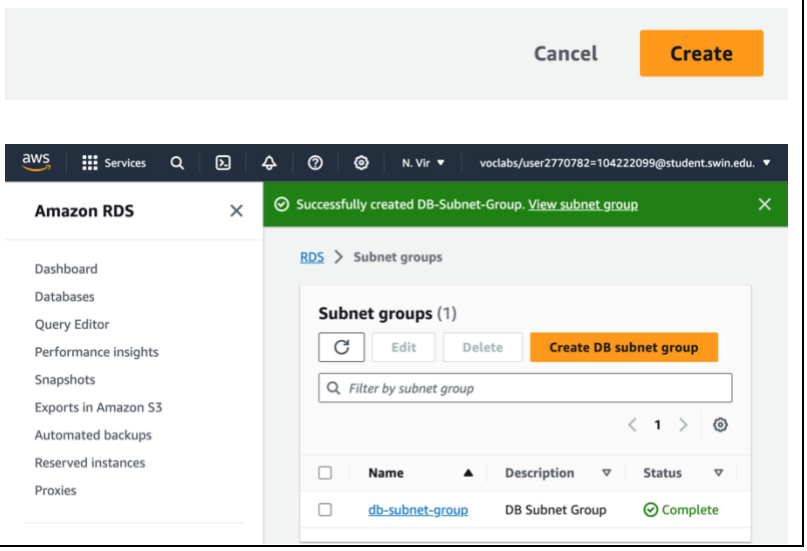
Task 1: Create a Security Group for the RDS DB Instance

Step	Description	Screenshot
1	In the **AWS Management Console**, on the Services menu, choose **VPC**.	
2	In the left navigation pane, choose **Security Groups**. Choose Create security group and then configure: • **Security group name:** DB Security Group • **Description:** Permit access from Web Security Group • **VPC:** *Lab VPC*	
3	In the **Inbound rules** pane , choose Add rule. Configure the following settings: • **Type:** *MySQL/Aurora (3306)* • **CIDR, IP, Security Group or Prefix List:** Type sg and then select *Web Security Group*.	
4	Choose **Create security group**	

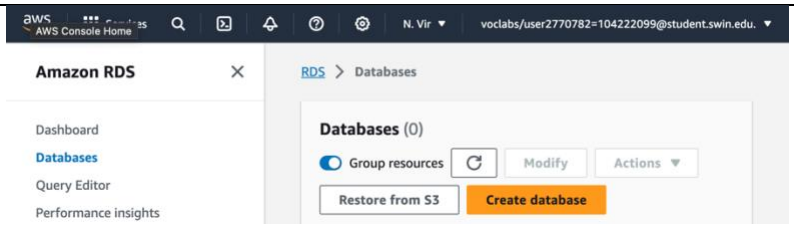
		

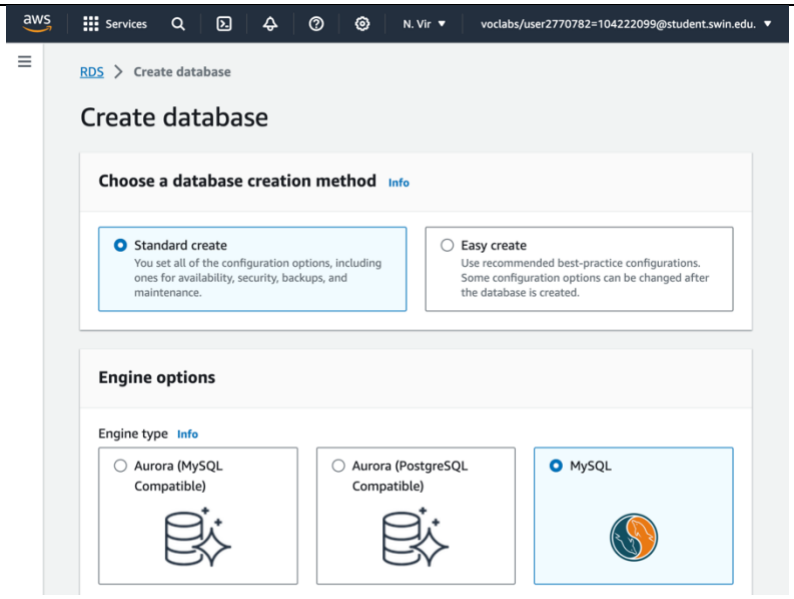
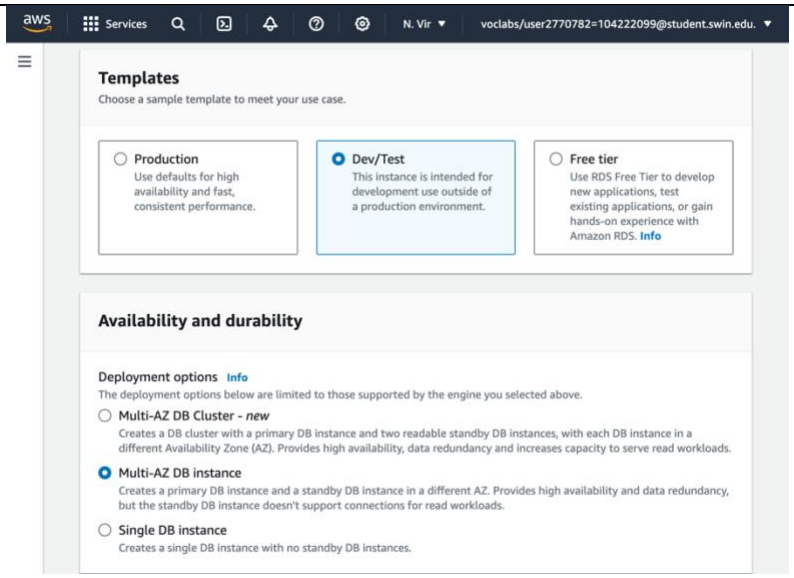
Task 2: Create a DB Subnet Group

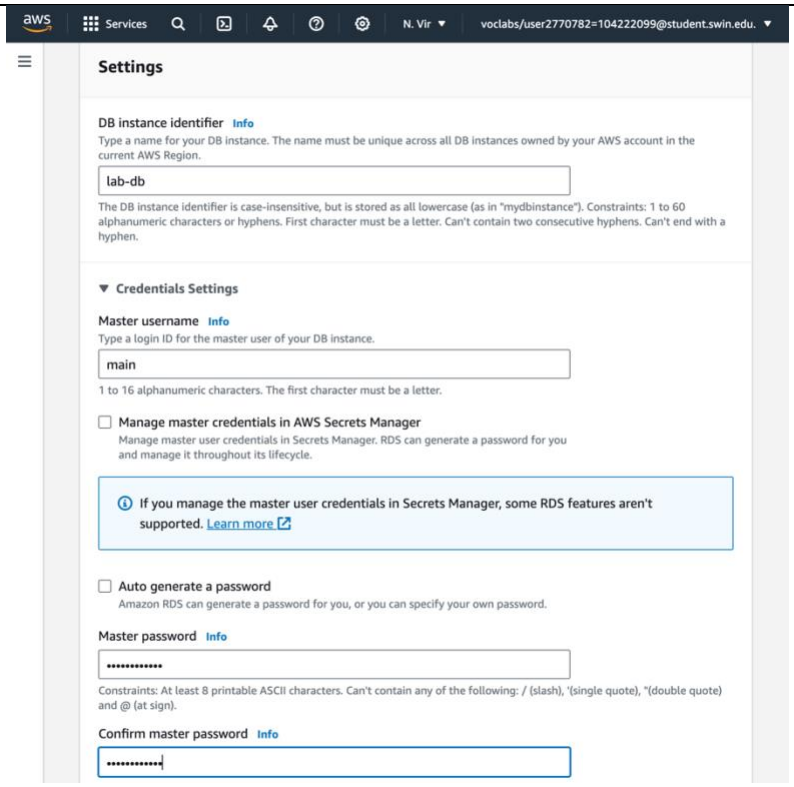
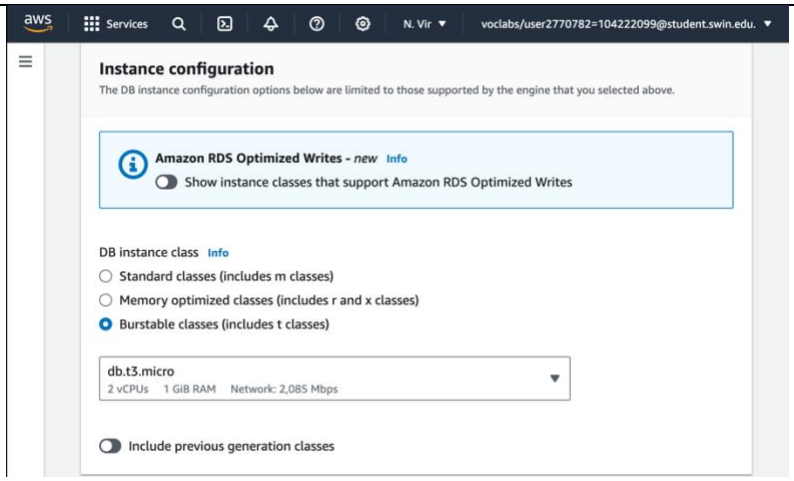
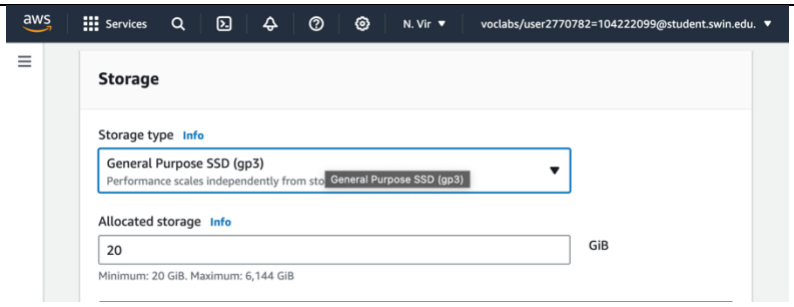
Step	Description	Screenshot
5	On the Services menu, choose **RDS**.	
6	In the left navigation pane, choose **Subnet groups**. Choose Create DB Subnet Group then configure: • **Name:** DB-Subnet-Group • **Description:** DB Subnet Group • **VPC:** *Lab VPC*	
7	Scroll down to the **Add Subnets** section. Expand the list of values under **Availability Zones** and select the first two zones: **us-east-1a** and **us-east-1b**. Expand the list of values under **Subnets** and select the subnets	

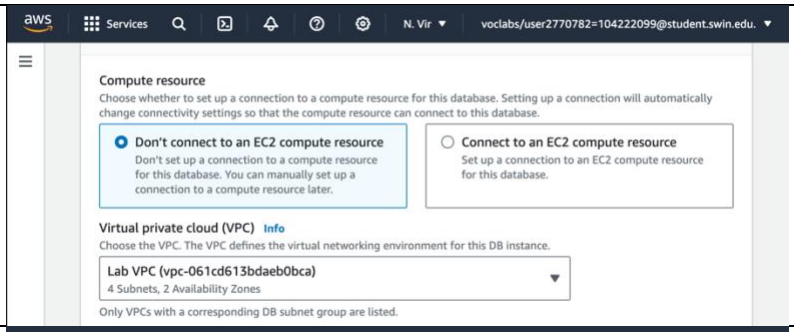
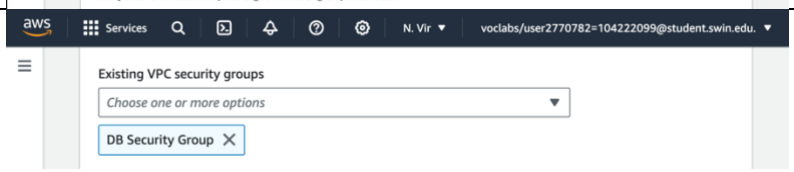
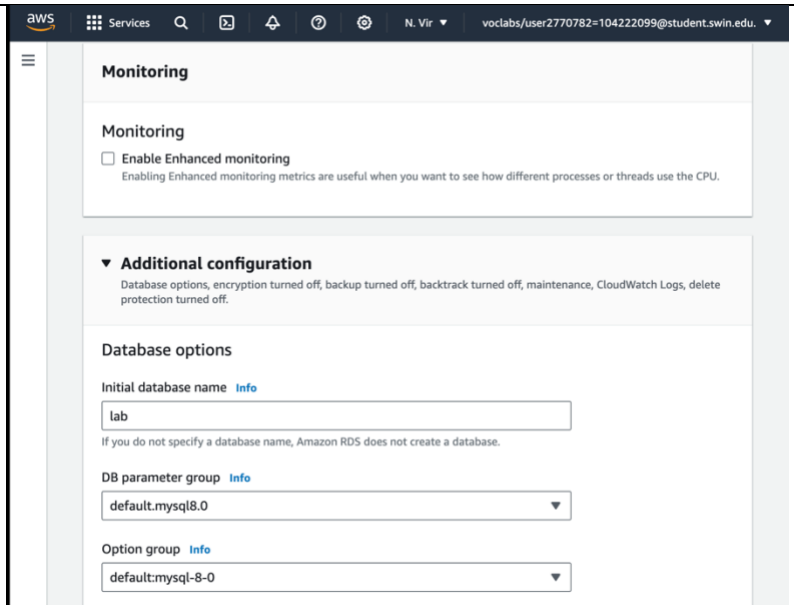
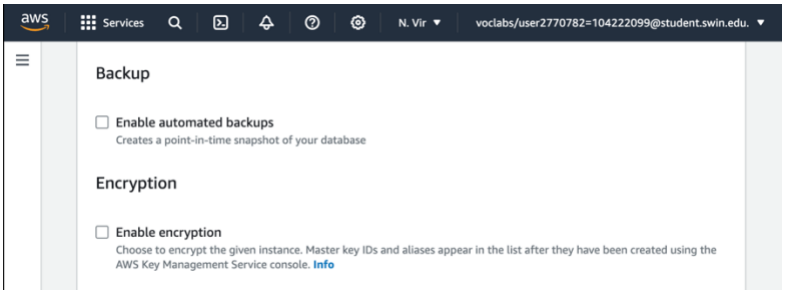
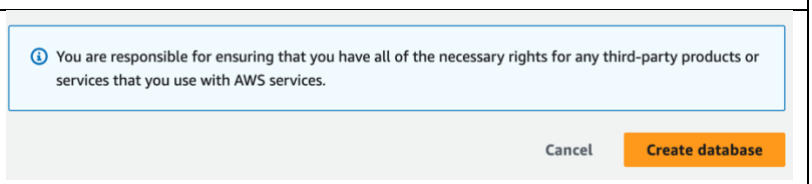
	associated with the CIDR ranges **10.0.1.0/24** and **10.0.3.0/24**. These subnets should now be shown in the **Subnets selected** table.	
8	Choose **Create**	

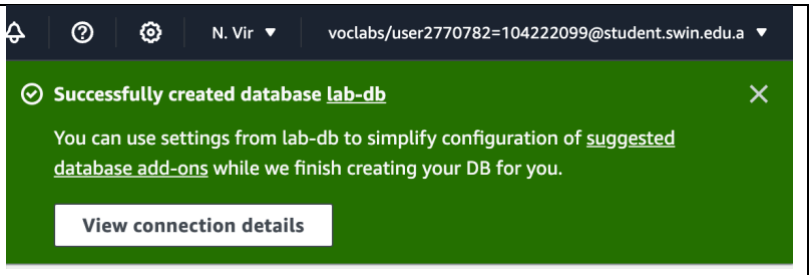
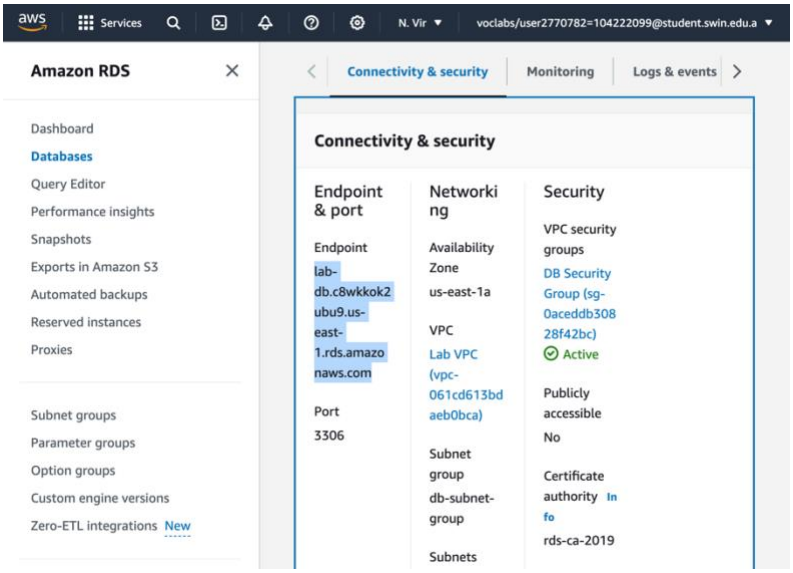
Task 3: Create an Amazon RDS DB Instance

Step	Description	Screenshot
9	In the left navigation pane, choose **Databases**. Choose Create database Select **MySQL** under **Engine Options**.	

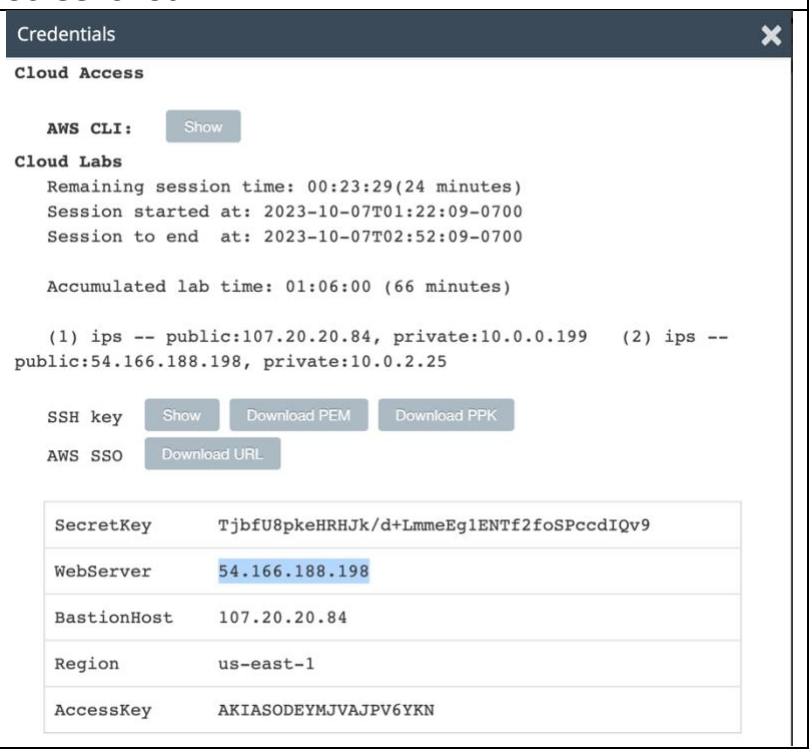
		
10	Under **Templates** choose **Dev/Test**. Under **Availability and durability** choose **Multi-AZ DB instance**.	

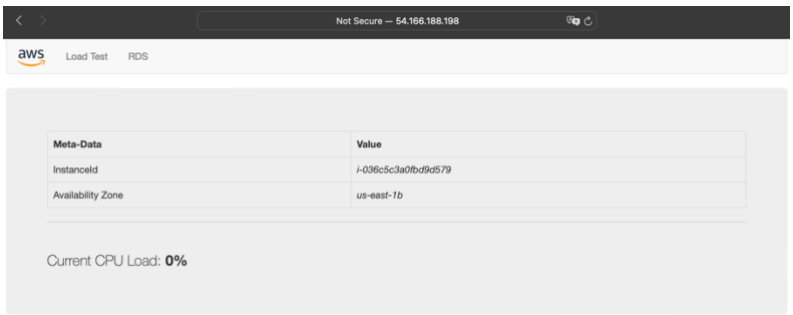
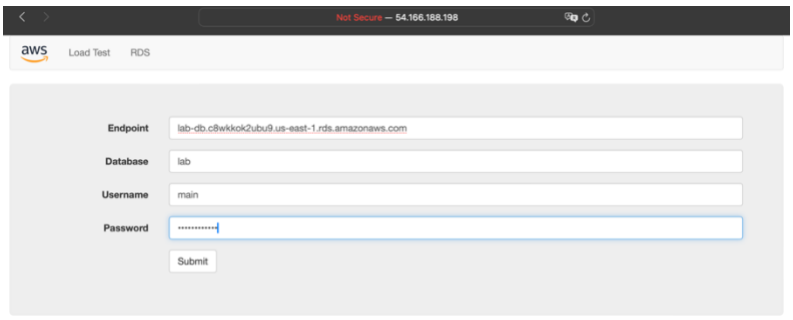
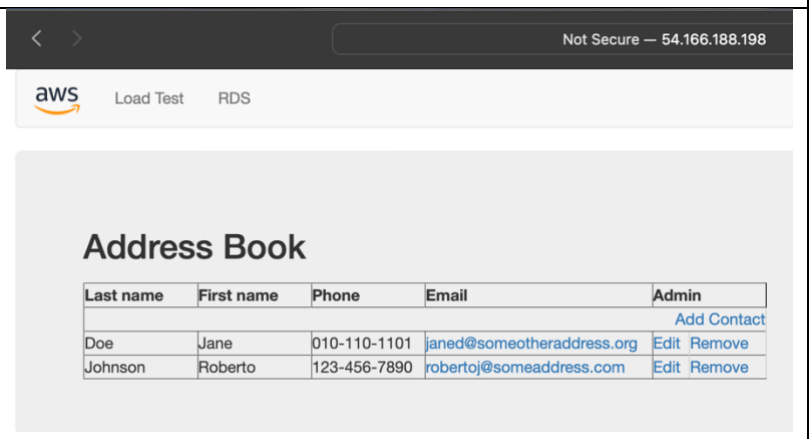
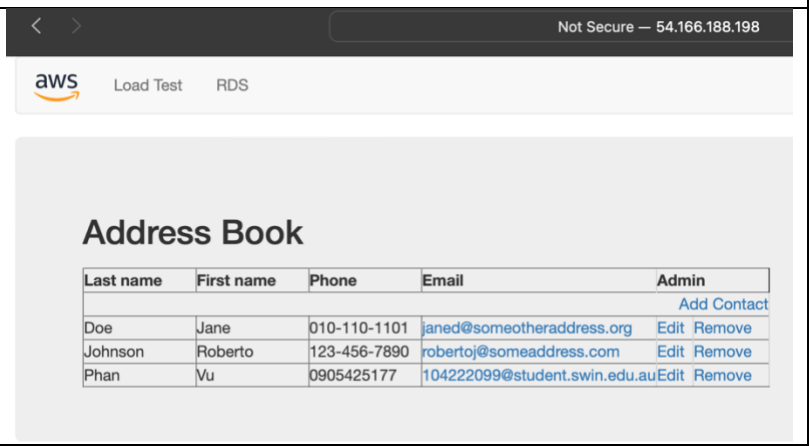
11	Under **Settings**, configure: • **DB instance identifier:** lab-db • **Master username:** main • **Master password:** lab-password • **Confirm password:** lab-password	
12	Under **DB instance class**, configure: • Select **Burstable classes (includes t classes)**. • Select *db.t3.micro*	
13	Under **Storage**, configure: • **Storage type:** *General Purpose (SSD)* • **Allocated storage:** *20*	

14	Under **Connectivity**, configure: • **Virtual Private Cloud (VPC):** *Lab VPC*	
15	Under **Existing VPC security groups**, from the dropdown list: • Choose *DB Security Group*. • Deselect *default*.	
16	Expand **Additional configuration**, then configure: • **Initial database name:** lab • Uncheck **Enable automatic backups**. • Uncheck **Enable encryption** • Uncheck **Enable Enhanced monitoring**.	 
17	Choose Create database	

		
18	Choose **lab-db.** Wait until **Info** changes to **Modifying** or **Available**. Scroll down to the **Connectivity & security** section and copy the **Endpoint** field. ***lab-db.c8wkkok2ubu9.us-east-1.rds.amazonaws.com***	

Task 4: Interact with Your Database

Step	Description	Screenshot
19	To copy the **WebServer** IP address, choose on the Details drop down menu above these instructions, and then choose Show.	

20	Open a new web browser tab, paste the *WebServer* IP address and press Enter. Choose the **RDS** link at the top of the page.	
21	Configure the following settings: • **Endpoint:** lab-db.c8wkkok2ubu9.us-east-1.rds.amazonaws.com • **Database:** lab • **Username:** main • **Password:** lab-password • Choose **Submit**	
22	A message will appear explaining that the application is running a command to copy information to the database. After a few seconds the application will display an **Address Book**. The Address Book application is using the RDS database to store information.	
23	Test the web application by adding, editing and removing contacts.	

END LAB.