



ACF Lab 5: Build a Database Server

COS 20019- Cloud Computing Architecture

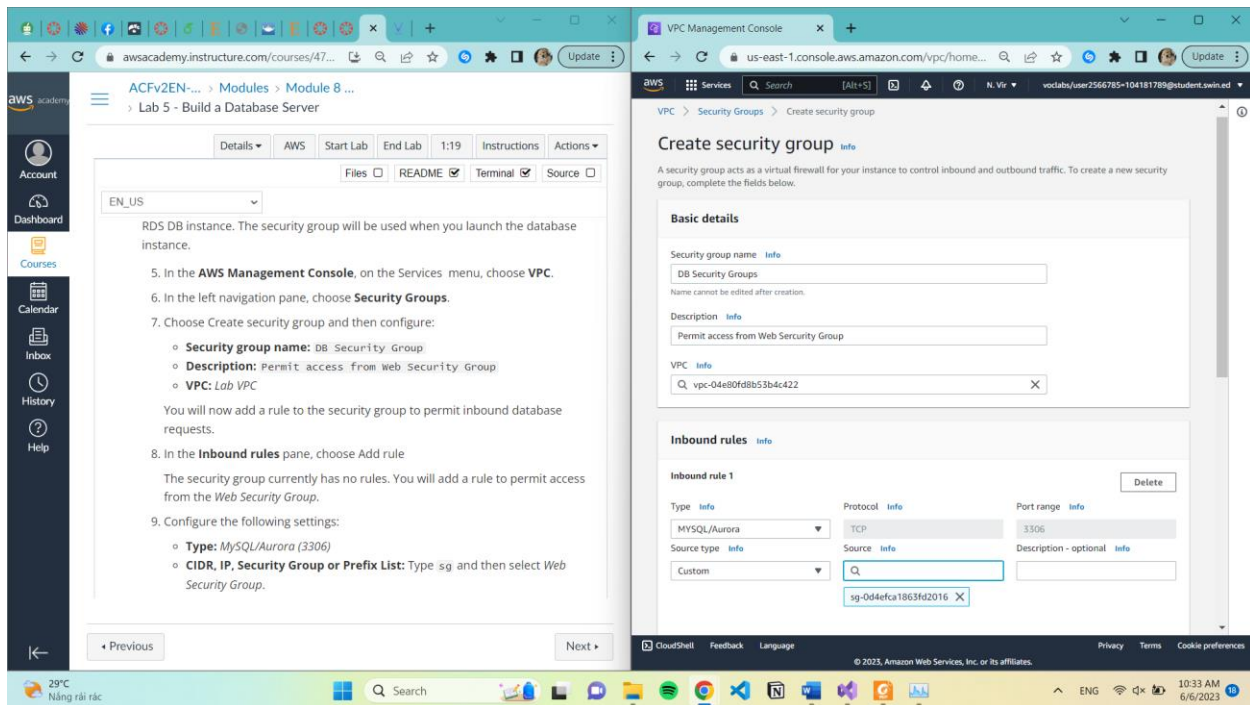
Nguyen Manh Dung

6/6/2023

So this is all my screenshot for ACF Lab 5, with explanation.

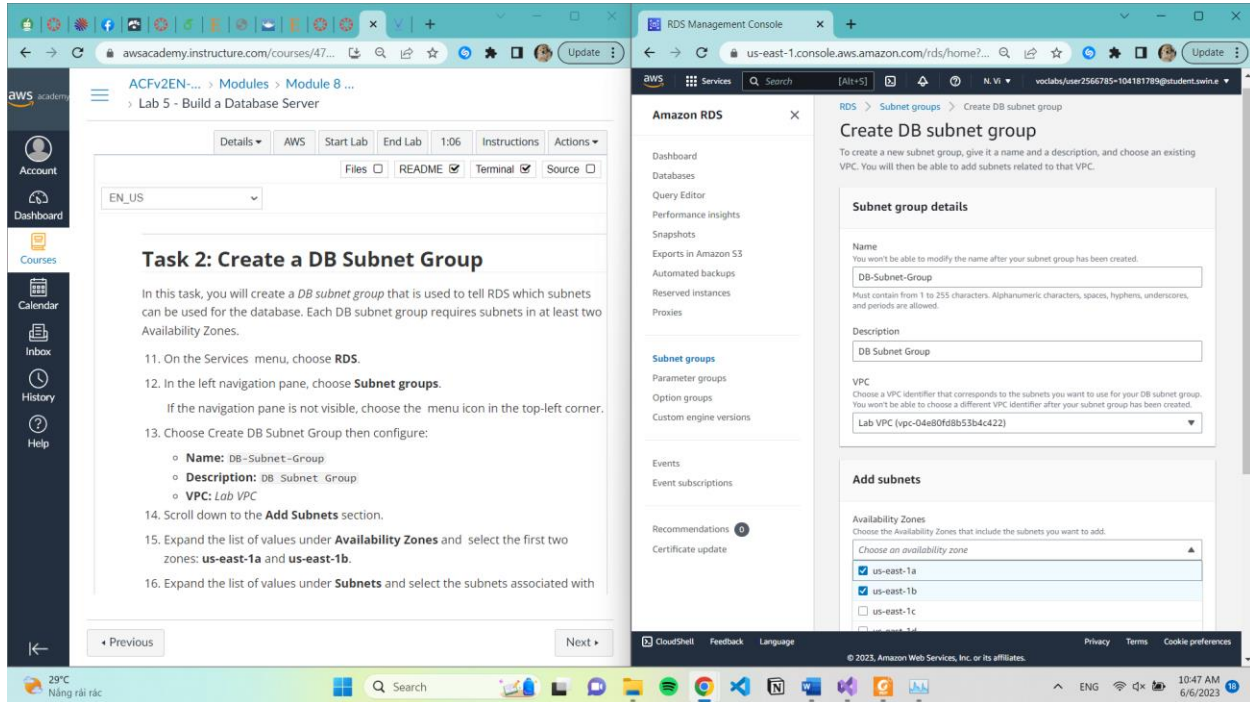
Task 1: Create a Security Group for the RDS DB Instance

- Choose Create security group and then configure:
 - **Security group name:** DB Security Group
 - **Description:** Permit access from Web Security Group
 - **VPC:** Lab VPC
- In the **Inbound rules** pane configure the following settings:
 - Type: MySQL/Aurora (3306)
 - CIDR, IP, Security Group or Prefix List: Type sg and then select Web Security Group.

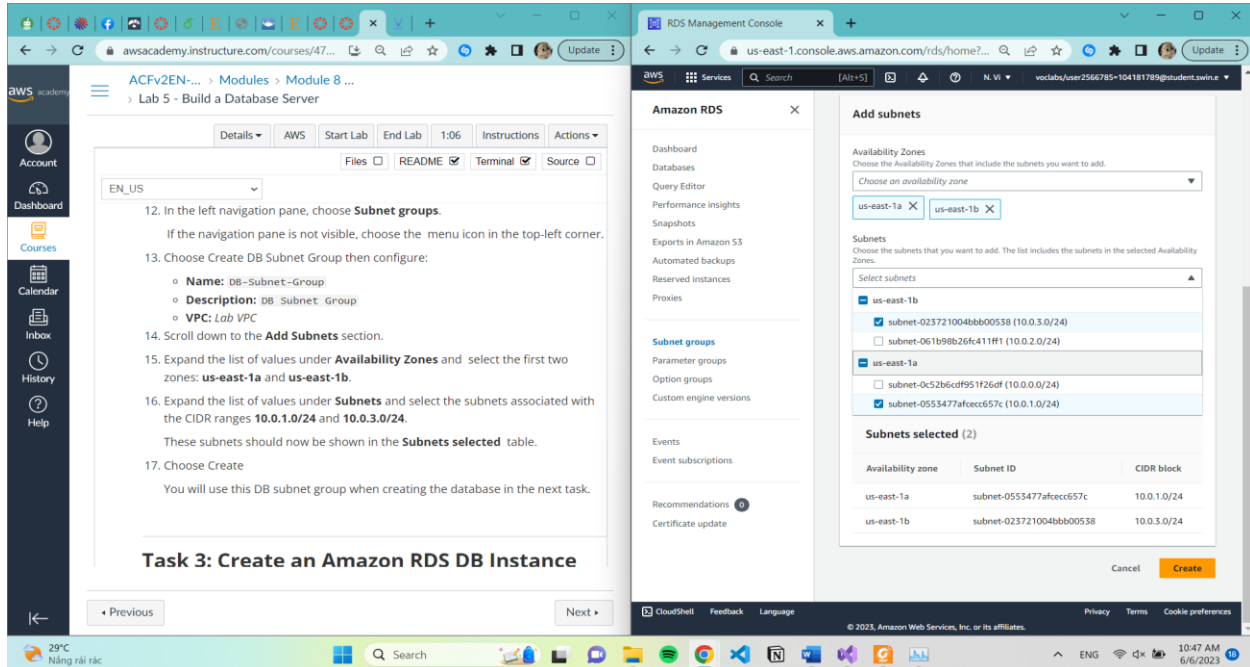


Task 2: Create a DB Subnet Group

- choose **Subnet groups** then choose Create DB Subnet Group then configure:
 - **Name:** DB-Subnet-Group
 - **Description:** DB Subnet Group
 - **VPC:** Lab VPC
- 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.



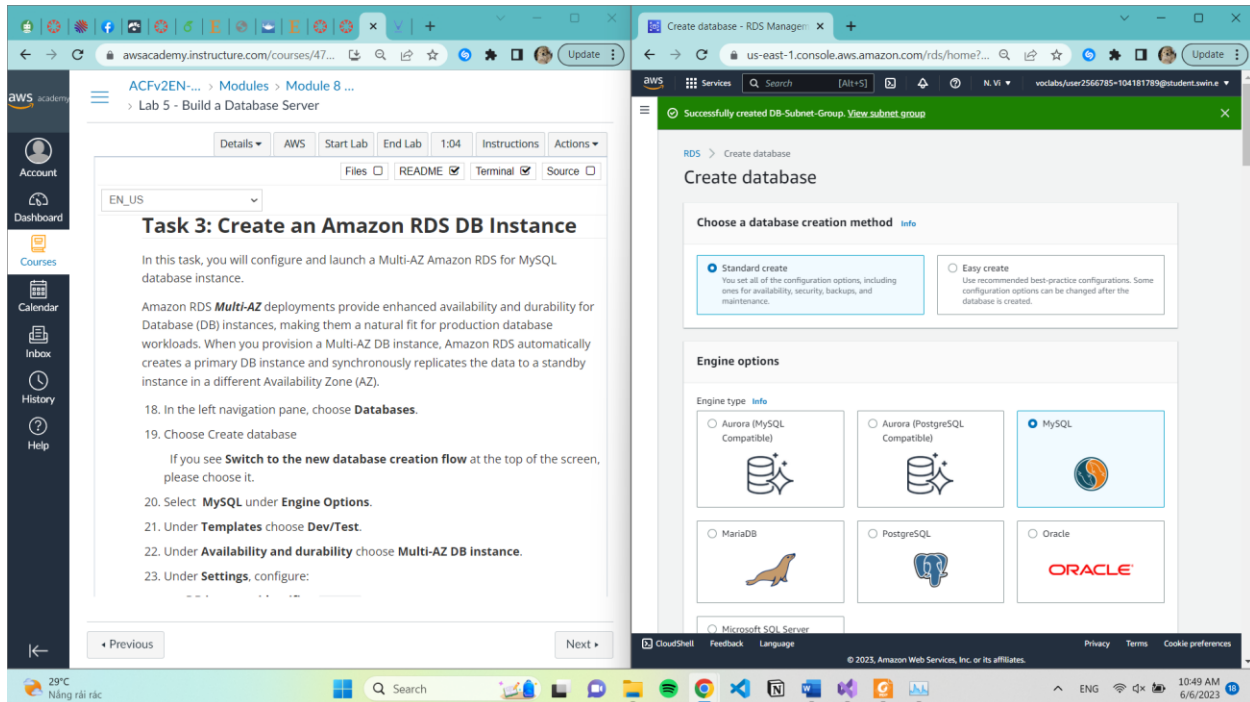
Expand the list of values under **Subnets** and select the subnets associated with the CIDR ranges **10.0.1.0/24** and **10.0.3.0/24**.



Task 3: Create an Amazon RDS DB Instance

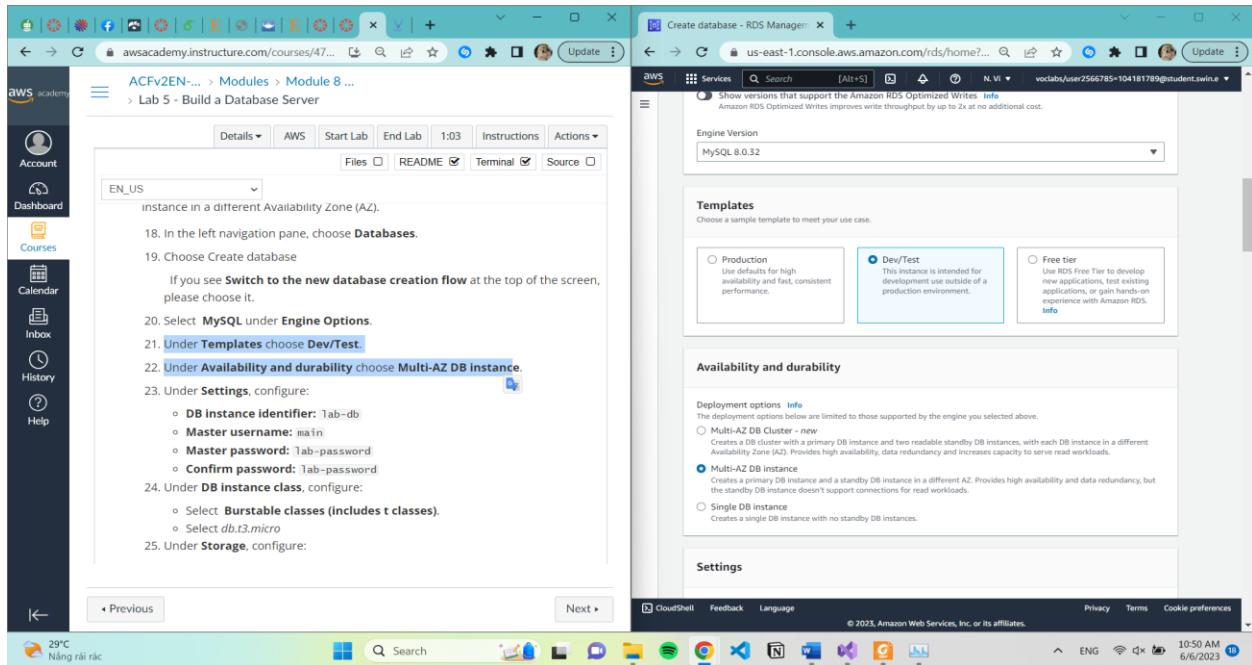
choose **Databases** => choose Create database

Select **MySQL** under **Engine Options**.



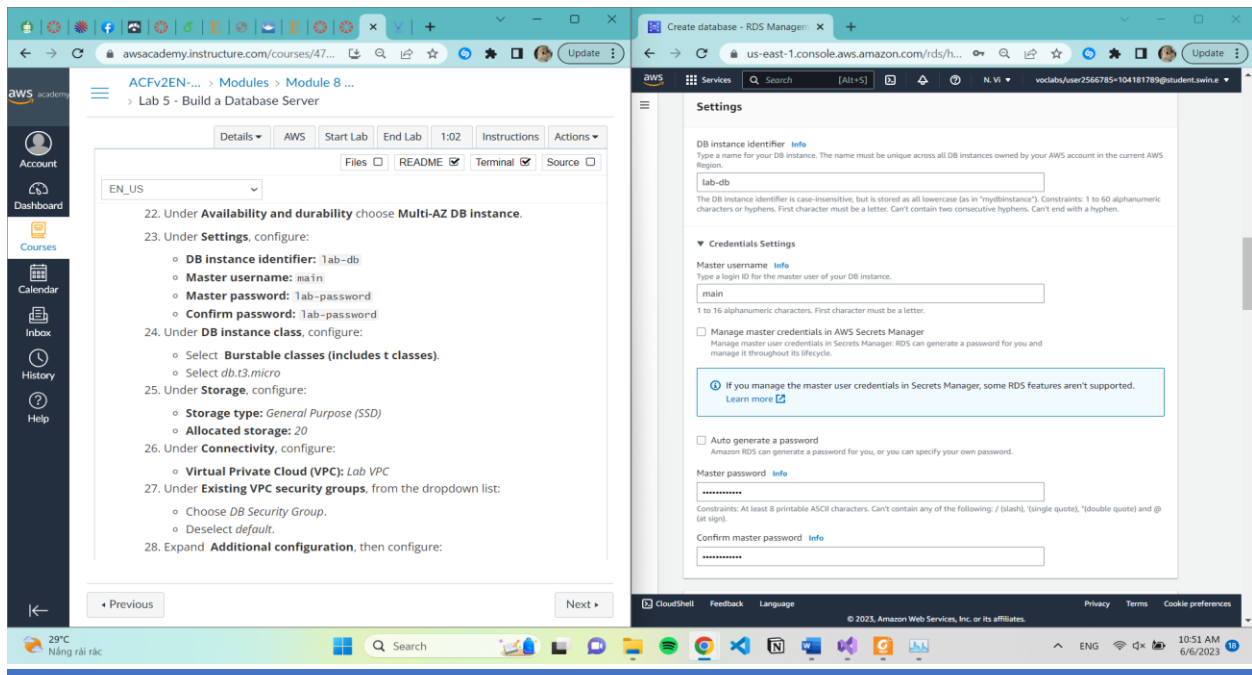
Under **Templates** choose **Dev/Test**.

Under **Availability and durability** choose **Multi-AZ DB instance**.

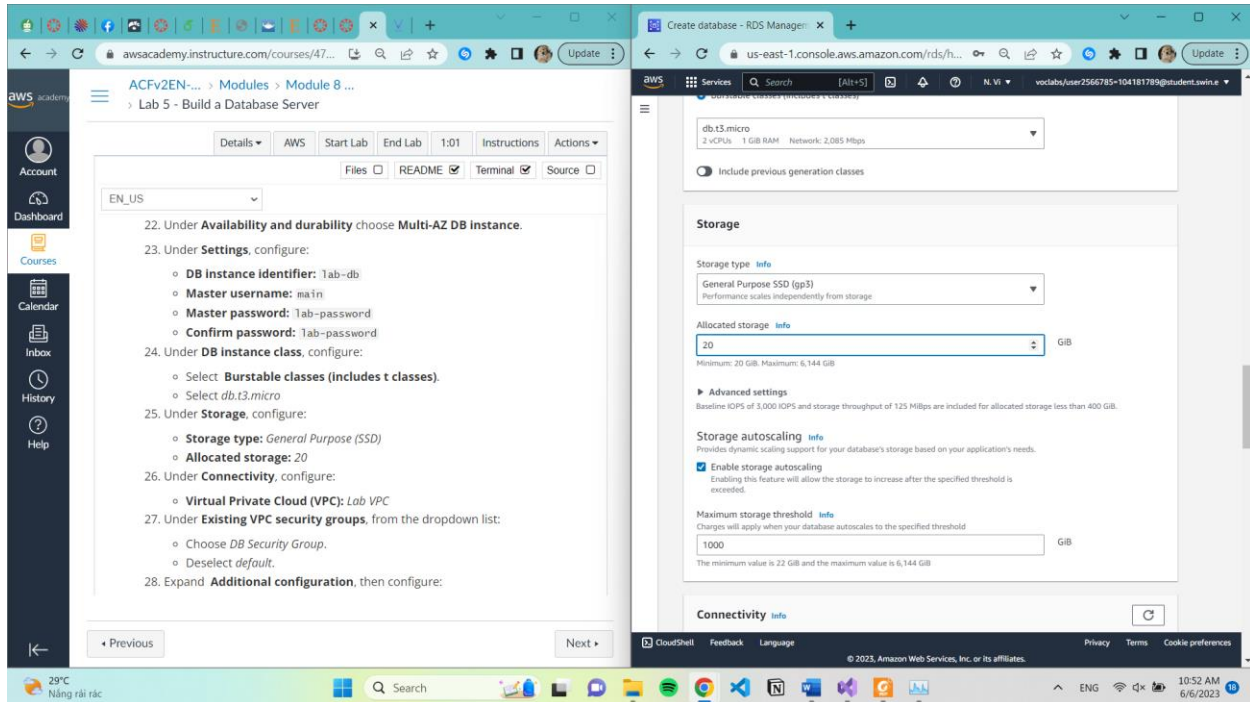


Under **Settings**, configure:

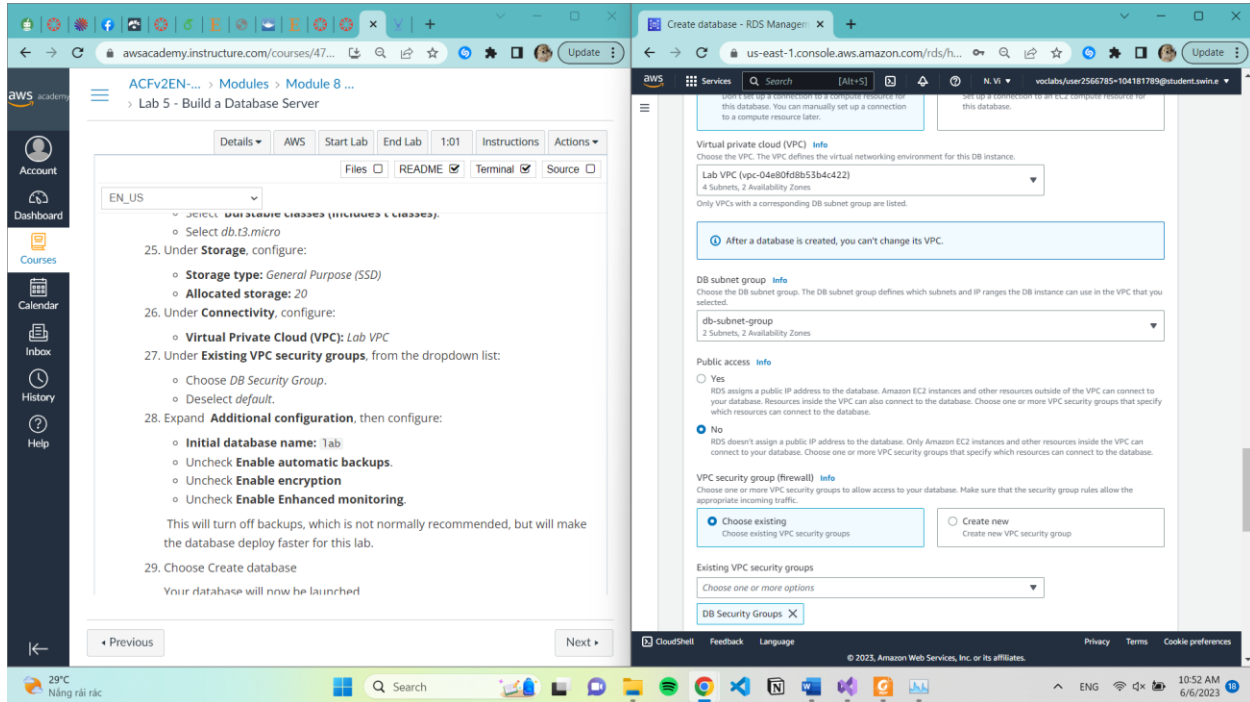
- **DB instance identifier:** lab-db
- **Master username:** main
- **Master password:** lab-password
- **Confirm password:** lab-password



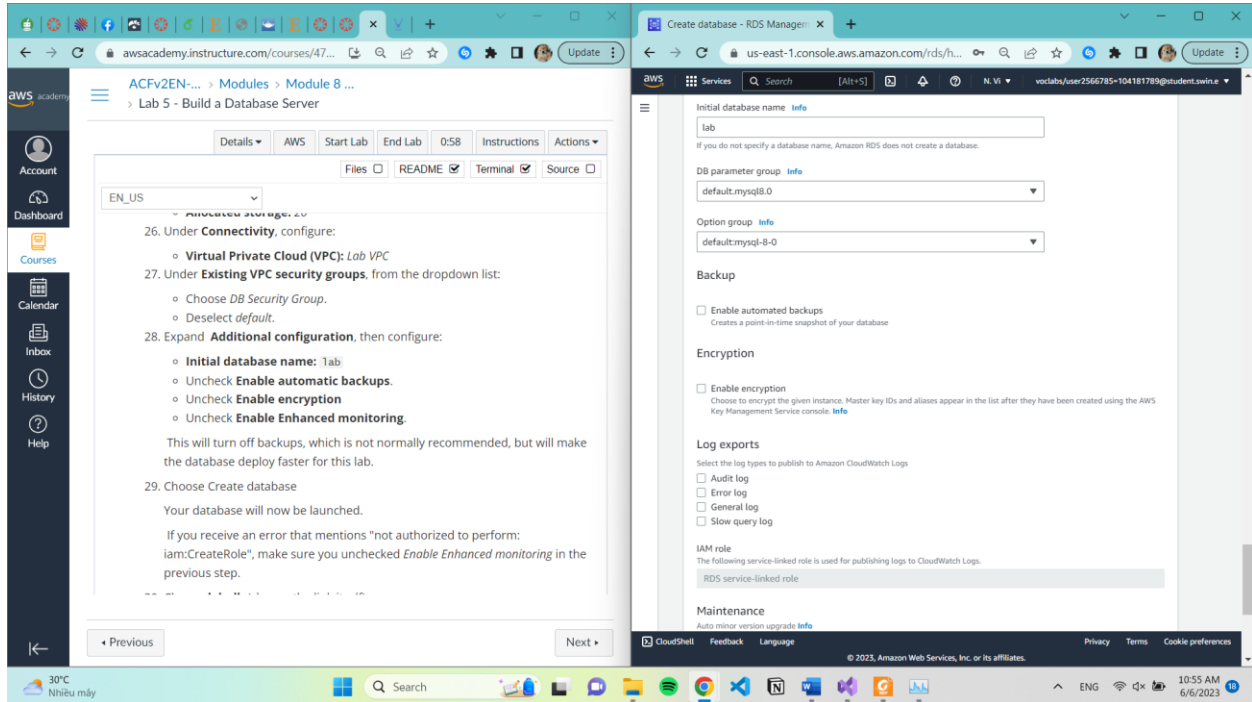
- Under **DB instance class**, configure:
- Select **Burstable classes (includes t classes)**.
- Select **db.t3.micro**
- Under **Storage**, configure:
 - **Storage type:** General Purpose (SSD)
 - **Allocated storage:** 20



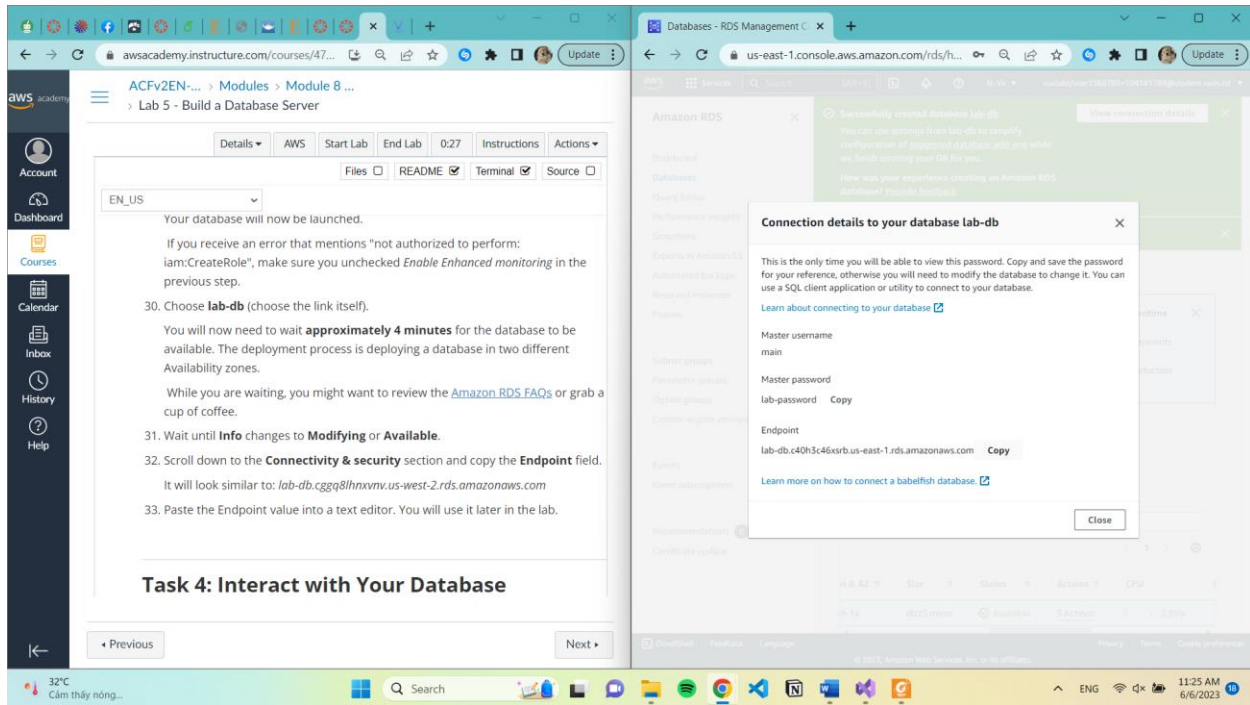
- Under **Connectivity**, configure:
- **Virtual Private Cloud (VPC):** Lab VPC
- Under **Existing VPC security groups**, from the dropdown list:
 - Choose DB Security Group.
 - Deselect default.



- Expand **Additional configuration**, then configure:
 - **Initial database name:** lab
 - Uncheck **Enable automatic backups**.
 - Uncheck **Enable encryption**
 - Uncheck **Enable Enhanced monitoring**.



- Choose **lab-db** then wait until **Info** changes to **Modifying** or **Available**.
- Scroll down to the **Connectivity & security** section and copy the **Endpoint** field.



Task 4: Interact with Your Database

The screenshot shows the AWS Academy interface on the left and the AWS RDS console on the right. The Academy page displays instructions for Task 4: Interact with Your Database. The RDS console shows the details of an Amazon RDS instance, including its ID, availability zone, and current CPU load.

Task 4: Interact with Your Database

In this task, you will open a web application running on your web server and configure it to use the database.

- To copy the **WebServer** IP address, choose on the Details drop down menu above these instructions, and then choose Show.
- Open a new web browser tab, paste the **WebServer** IP address and press Enter. The web application will be displayed, showing information about the EC2 instance.
- Choose the **RDS** link at the top of the page. You will now configure the application to connect to your database.
- Configure the following settings:
 - Endpoint:** Paste the Endpoint you copied to a text editor earlier
 - Database:** lab
 - Username:** main
 - Password:** lab-password

Meta-Data

Meta-Data	Value
InstanceID	i-06905330cb1600d75
Availability Zone	us-east-1b

Current CPU Load: 0%

Choose the RDS link at the top of the page.

- **Configure the following settings:**
 - **Endpoint:** Paste the Endpoint you copied to a text editor earlier
 - **Database:** lab
 - **Username:** main
 - **Password:** lab-password
 - Choose **Submit**

The screenshot shows the AWS RDS console configuration form for connecting to the database. The form includes fields for Endpoint, Database, Username, and Password, along with a Submit button.

Endpoint lab-db-c40h3c46xarb.us-east-1.rds.amazonaws.com

Database lab

Username main

Password
Submit