COS20019 – Cloud Computing Architecture

ACF Lab 5: RDS Lab

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Date:4/2/2024

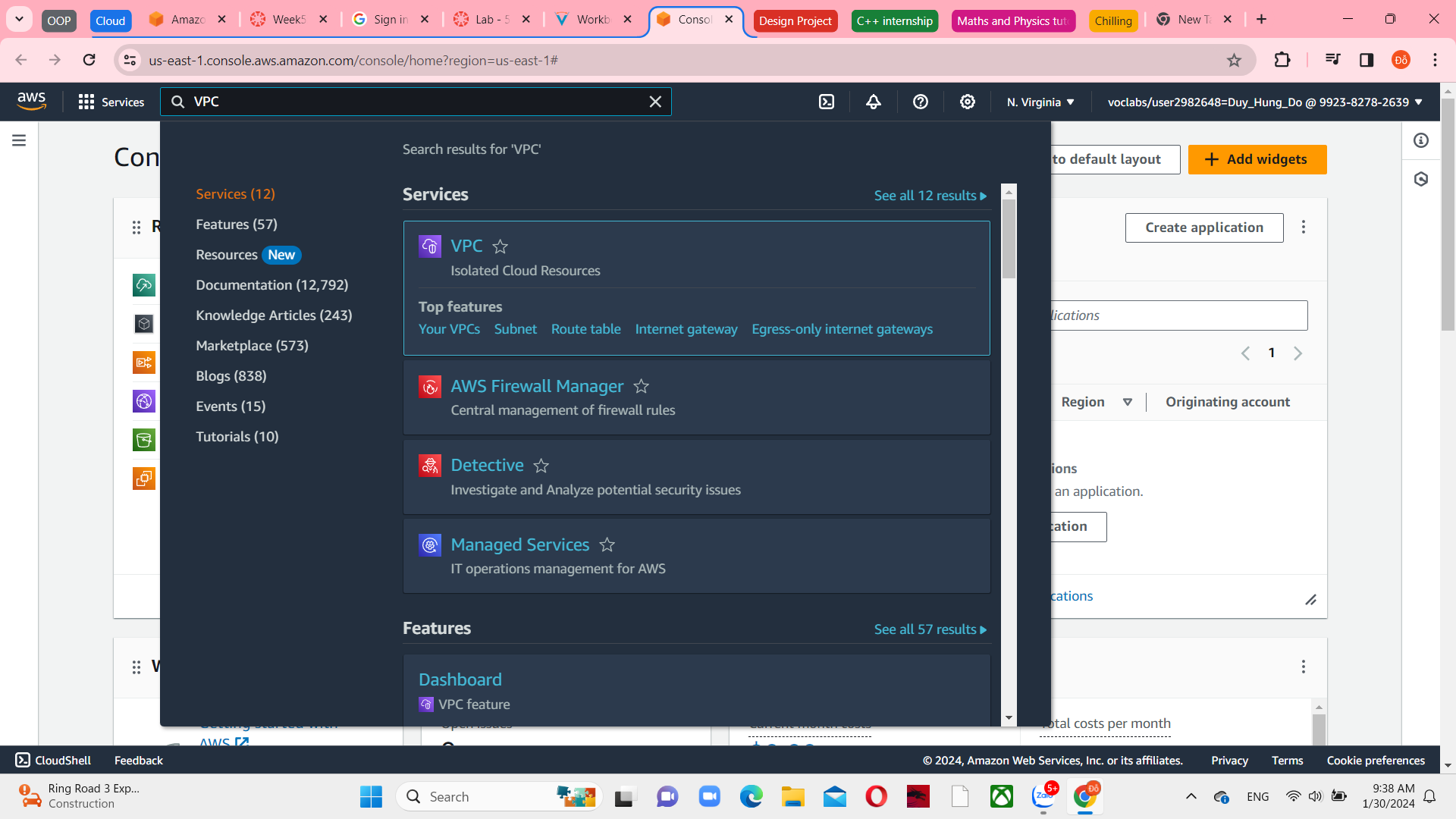
# Introduction (*Heading 1*)

Amazon Relational Database Service (RDS) is a cloud-based database service offered by Amazon Web Services (AWS) that simplifies the setup, operation, and scaling of relational databases. RDS supports several database engines, including MySQL, PostgreSQL, Oracle, SQL Server, and MariaDB, allowing users to choose the one that best fits their application requirements. With RDS, users can offload database management tasks such as backups, software patching, and scaling, allowing them to focus more on developing applications and less on infrastructure maintenance. RDS offers high availability through automatic backups, automated software patching, and the option to deploy databases across multiple Availability Zones for enhanced reliability. Additionally, it provides security features such as encryption at rest and in transit, making it a convenient and secure solution for managing relational databases in the cloud.

# Ease of Use

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

4, Select VPC from the Services

  
 Firgue1 – VPC selection

5, Choose Security groups in the left navigation pane

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Firgue2 – Security groups main menu

6, Create security groups with this information:

* Security group name: DB Security Group
* Description: Permit access from Web Security Group
* VPC: Lab VPC

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Firgue3 – Create Security Group

7, Add rule with MySQL type and Web Security Group resources

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Firgue4 – Inbound rules

9, And then, create a security group

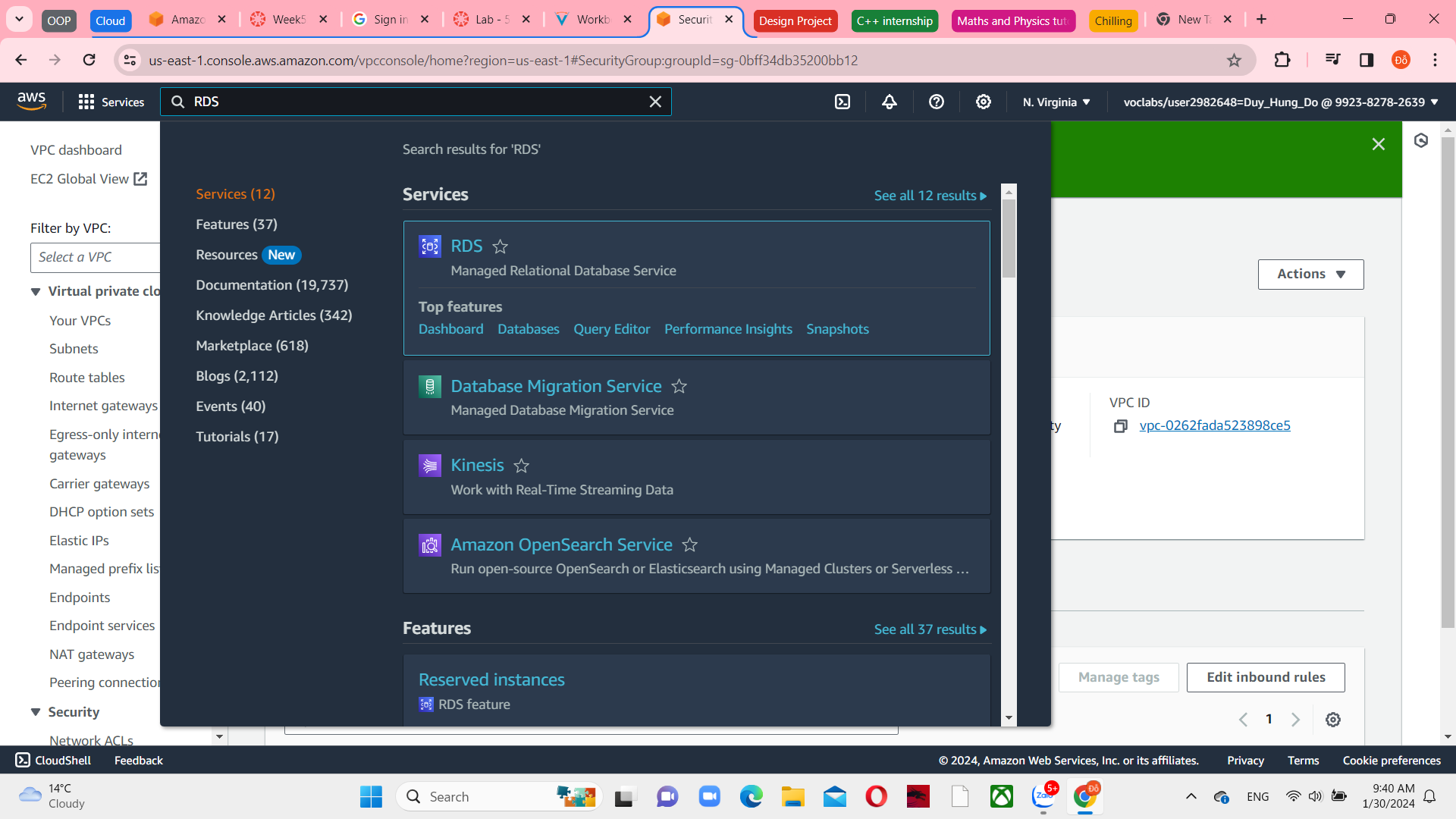
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Firgue5 – Create security group successfully

## Task 2: Create a DB Subnet Group

11, Select RDS from Services



Firgue5 – RDS selection

12, Create DB Subnet Group with this following information:

* Name: DB-Subnet-Group
* Description: DB Subnet Group
* VPC: Lab VPC

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Firgue6 – Subnet groups main menu

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Firgue7 – Subnet Group details

13, In the Add Subnets section, select the CIDR ranges 10.0.1.0/24 for us-east-1a and 10.0.3.0/24 for us-east-1b

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Firgue8 – Add subnets

And then, create them

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Firgue9 – Successfully creation subnet groups

## Task 3: Create an Amazon RDS RB Instance

17, Choose Databases in left navigation pane and create the databases.

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Firgue9 – Create new databases

19, In Engine Options, select MySQL

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Firgue11 – MySQL in Engine Options

21, Choose Dev/Test under Templates

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Firgue12 – Templates

21, Choose Multi-AZ DB instance under Availability and durability

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Firgue13 – Output details tab

22, In Settings, configure:

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

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Firgue14 – Change settings

23, Under DB instance class, configure:

* Burstable class (include t classes)
* Select db.t3.micro

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Firgue15 – Instance configuration

24, Under Storage choose:

* Storage type: General Purpose (SSD), gp2 or gp3 is ok
* Allocated storage: 20

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Figure17- Storage

25, Choose Lab VPC in Connectivity

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Firgue18 – Connectivity

26, Under Existing VPC security groups:

* Choose DB Security Group
* Deselect default

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Firgue 18 - Existing VPC security groups

27, Uncheck Enable Enhanced monitoring, Enable automatic backups and Enable encryption with the database name “lab”

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Firgue19 – Monitoring

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Firgue19 – Enabled status

29, And them, create Database  
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Firgue20 – Successfully creation the database

30, Wait approximately 4 minutes until Modifying status and choose lab-db, scroll down to Connectivity and security section and copy the Endpoint field to a text editor

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Firgue21 – Connectivity and Security

## Task 4: Interact with Your Database

34, If you want to copy IP address, choose EC2 and select running instance is “Web Server”

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Firgue22 – EC2 instance menu

36, Paste the IP address to other web browsers and choose the RDS link at the top right of the page

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Firgue23 – AWS databases

37, Configure the following settingsL

* Endpoint: the aws link you copied before
* Database: lab
* Username: main
* Password: lab-password

And then submit. You can see 2 Address Book.

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Figure24 – RDS links

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Figure 25- Address Book