



SRI LANKA INSTITUTE OF INFORMATION TECHNOLOGY

# **Enterprise Standards and Best Practices for IT Infrastructure**

**4<sup>th</sup> Year 2<sup>nd</sup> Semester 2014**

## **Lab Report**

### **Lab 3 - Creating an Amazon RDS Database**

Name: Pinnawalage H.U

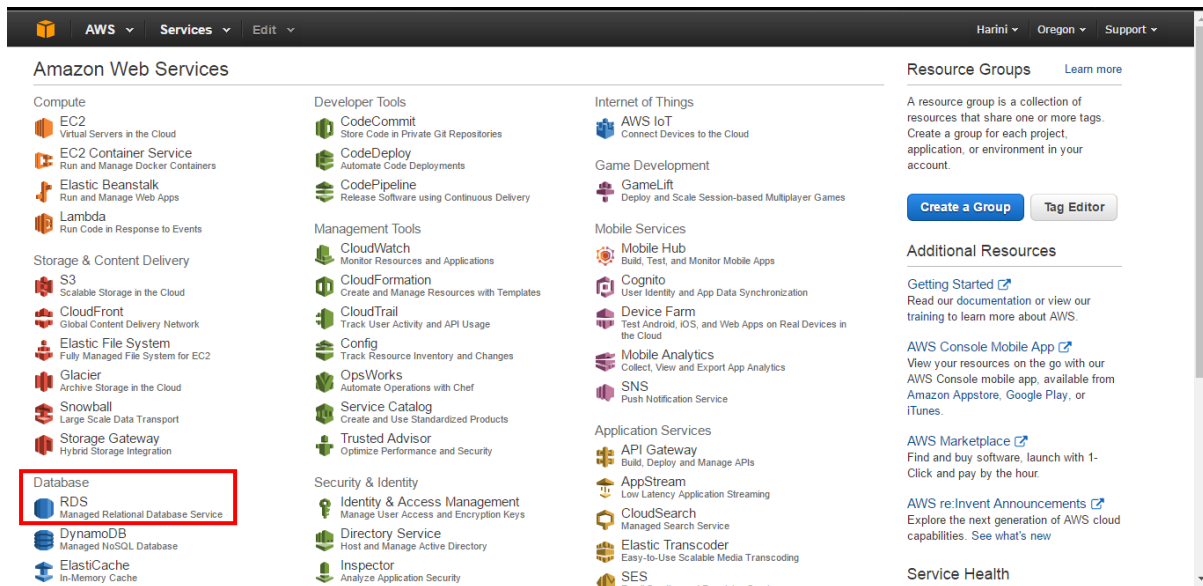
SLIIT ID: IT13055486

Practical Number: Lab 3

Date of Submission: 30/07/2016

# 1. Creating a MySQL DB Instance

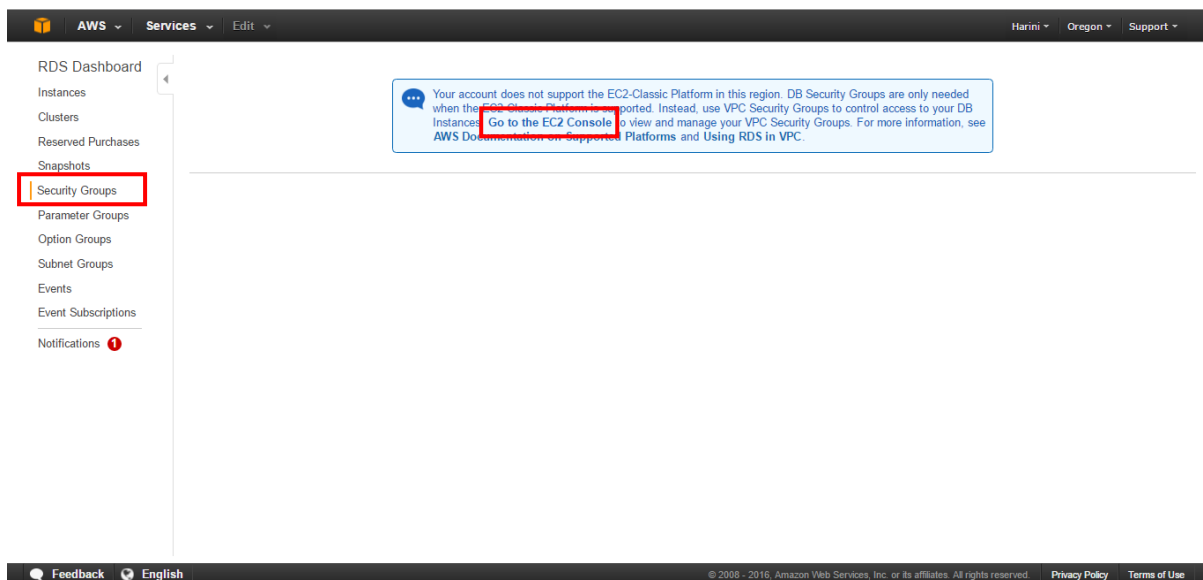
Step 1: First go to **Amazon RDS console**. (Amazon Web Services -> Database -> RDS)



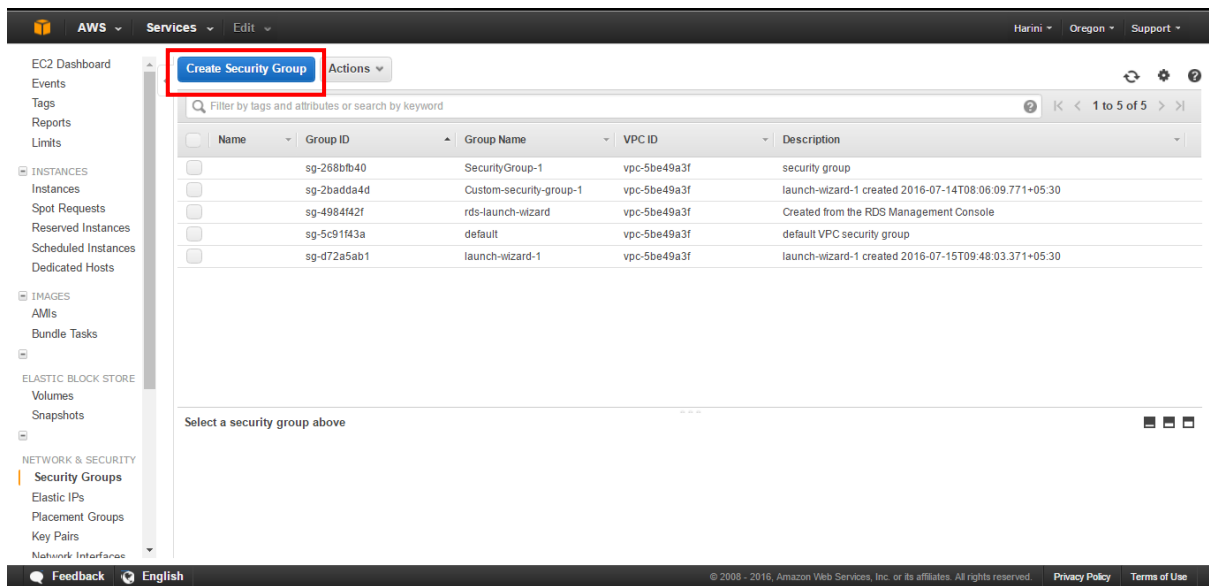
Step 2: Create a Security Group

1. In the **RDS Dashboard** navigation pane, choose **Security Groups**.  
Select **Go to the EC2 Console** to manage security groups.

This will redirect to the EC2 dashboard.

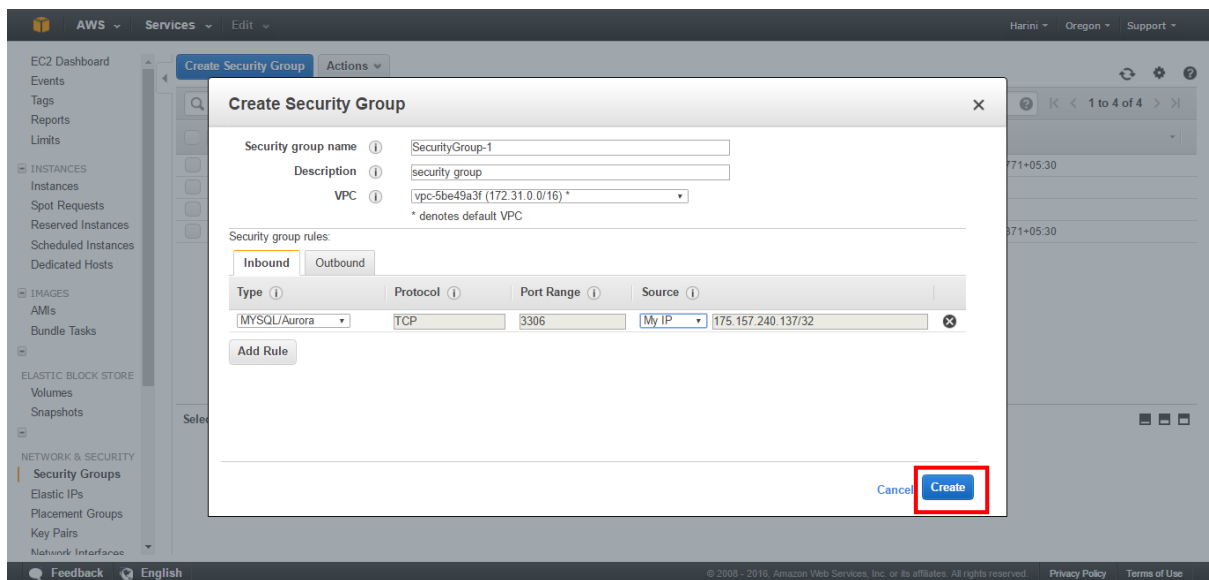


## 2. In the EC2 Console select **Create Security Group**.



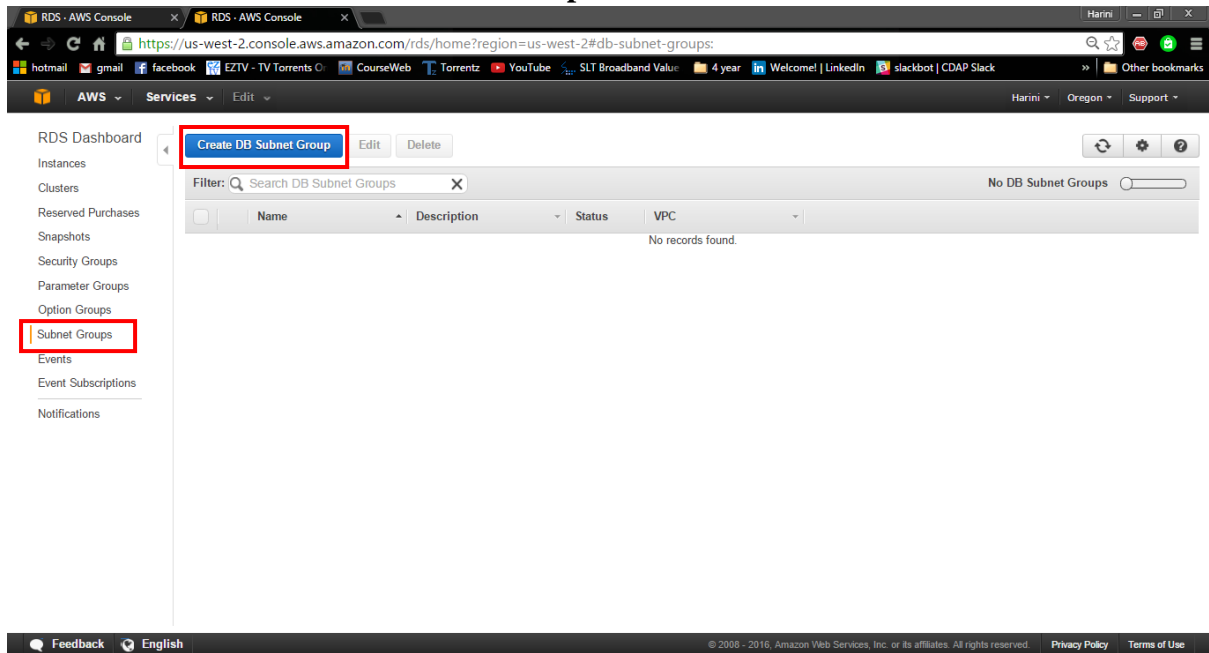
## 3. Enter **Security group name** of the security group (SecurityGroup-1) and provide a **Description**.

Select the ID of the VPC from the **VPC** menu and select **Create**.

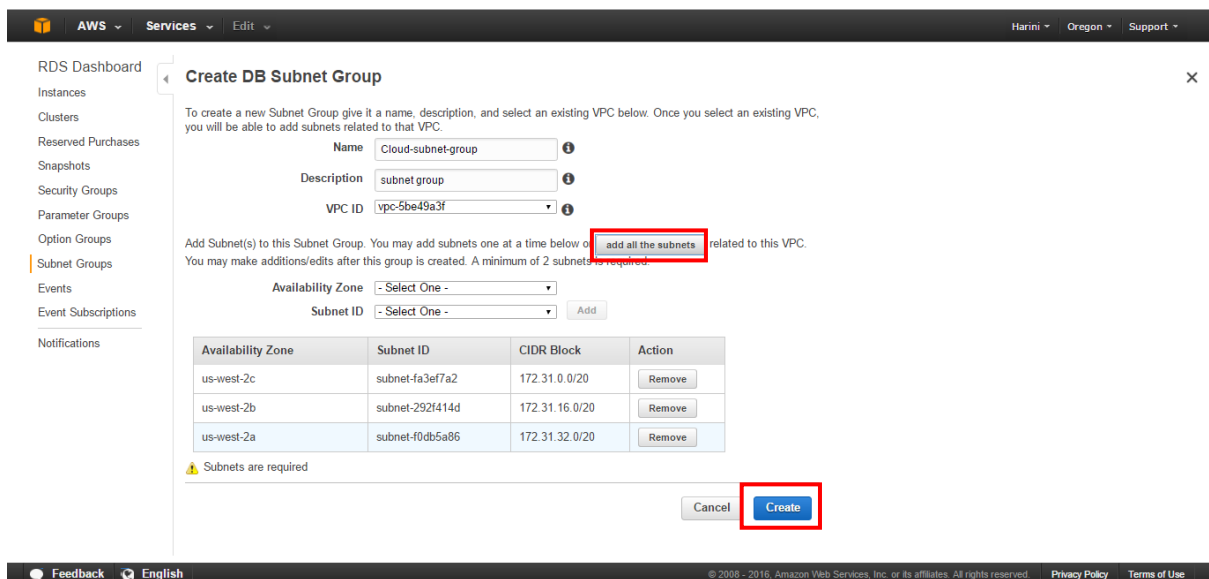


### Step 3: Create a DB Subnet Group

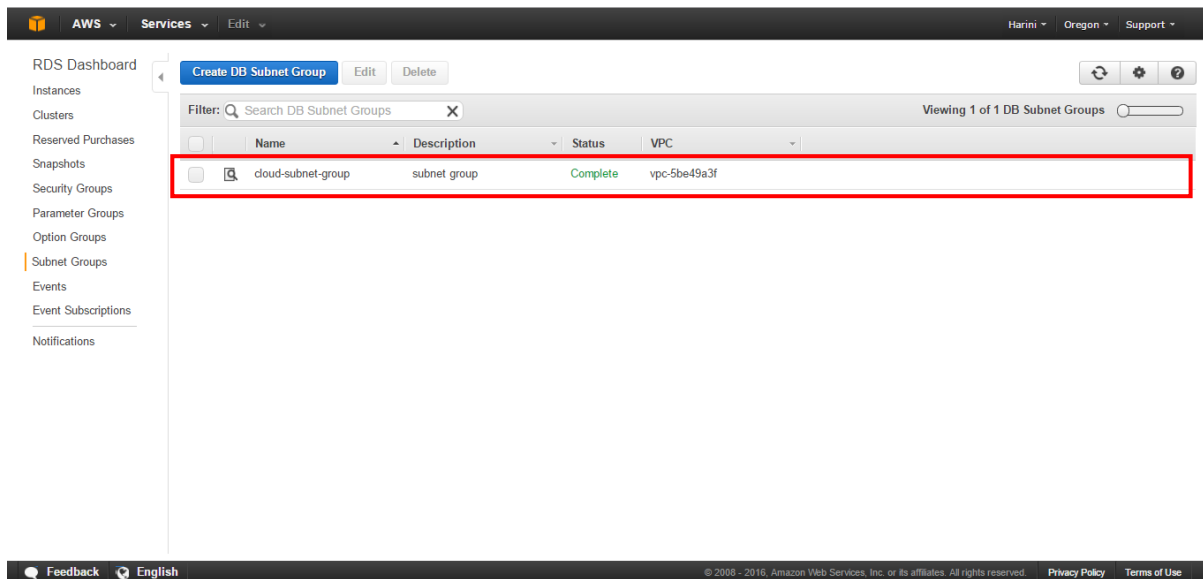
1. In the **RDS Dashboard** navigation pane, choose **Subnet Groups**.  
Select **Create DB Subnet Group**.



2. For **Name**, type the name of the DB subnet group. (Cloud-subnet-group)  
For **Description**, type a description for the DB subnet group.  
For **VPC ID**, choose the VPC created.  
In the **Add Subnet(s) to this Subnet Group** section, click the **add all the subnets** link.

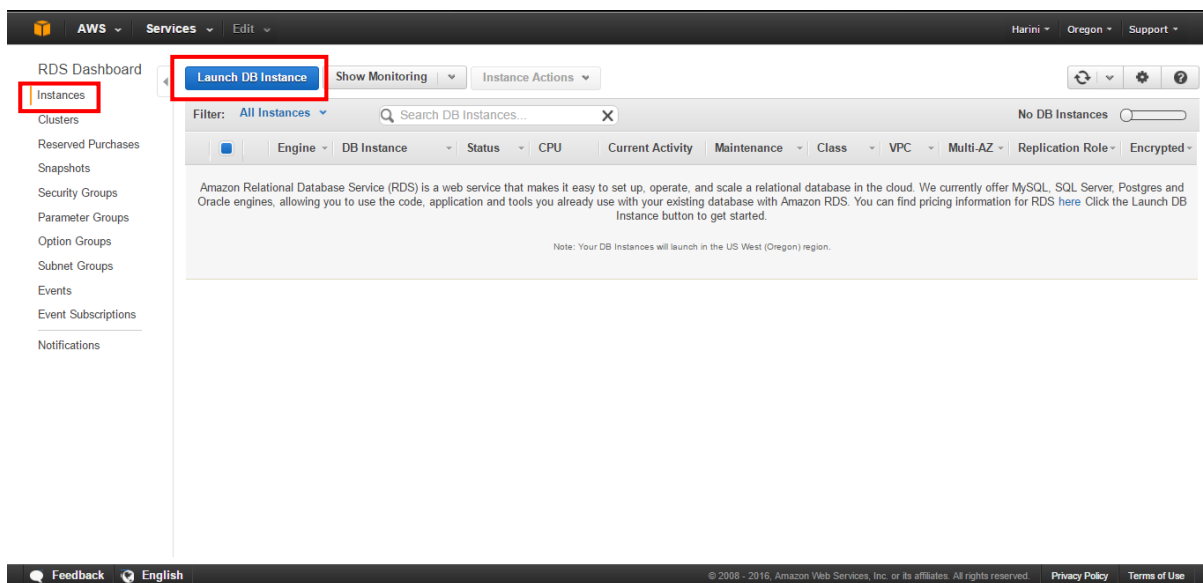


### 3. Select **Create**.



Step 4: In the **RDS Dashboard** navigation pane, choose **Instances**.

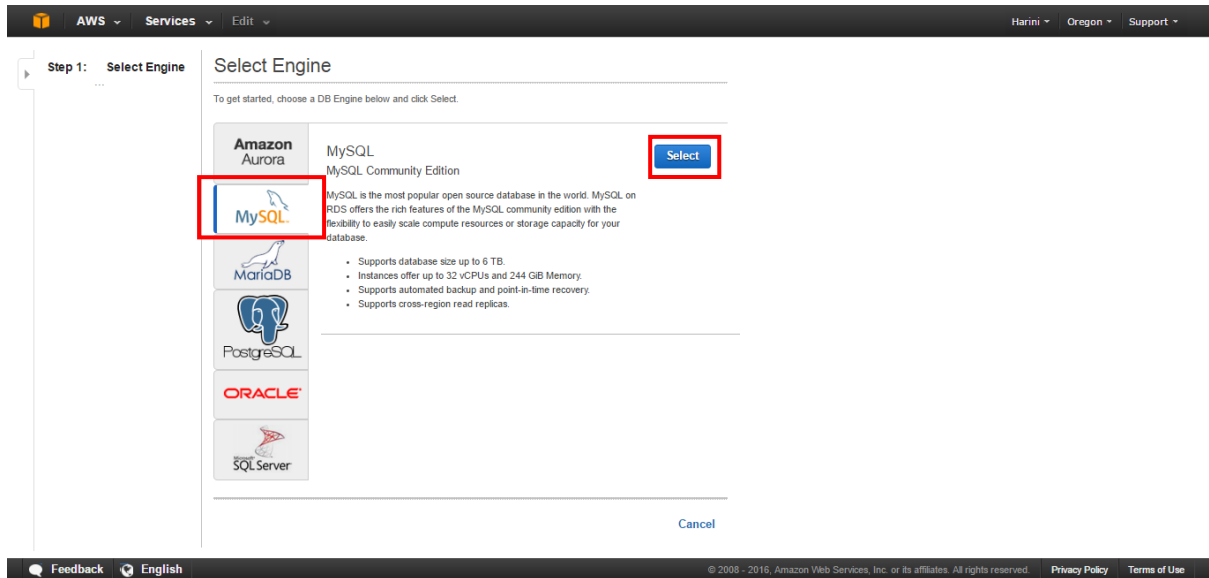
Select **Launch DB Instance**.



The **Launch DB Instance Wizard** opens.

## Step 5: Select Engine

Choose the **MySQL** icon and then **Select** for the MySQL DB engine.

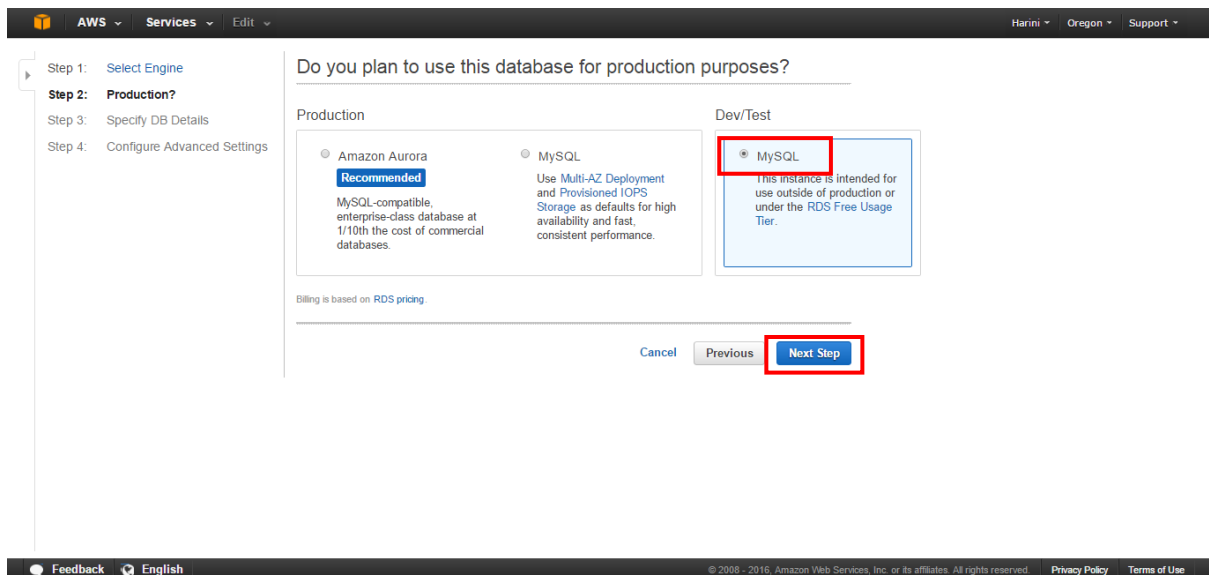


## Step 6: Production?

It asks whether Do you plan to use this database for production purposes.

Choose **Dev/Test (RDS free Usage Tier)**.

Select **Next Step** to continue.



## Step 7: Specify DB Details

On the **Specify DB Details** page, specify the DB instance information.

Choose **db.m1.small** as **DB Instance Class**.

Select **No** for **Multi-AZ Deployment**.

**Storage Type** is **General Purpose (SSD)**.

**Allocated Storage** is **5 GB** of storage for your database. (for free tier)

The screenshot shows the 'Specify DB Details' page in the AWS Management Console. The left sidebar indicates the current step is 'Step 3: Specify DB Details'. The main content area is titled 'Specify DB Details' and includes a 'Free Tier' section with a warning about storage limits. Below this, the 'Instance Specifications' section contains several dropdown menus and input fields. A red box highlights the 'DB Instance Class' (db.m1.small), 'Multi-AZ Deployment' (No), 'Storage Type' (General Purpose (SSD)), and 'Allocated Storage' (5 GB) fields. A warning icon at the bottom of the red box states: 'Provisioning less than 100 GB of General Purpose (SSD) storage for high throughput workloads could result in higher latencies upon exhaustion of the initial General Purpose (SSD) IO credit balance.'

Step 1: [Select Engine](#)  
Step 2: [Production?](#)  
**Step 3: Specify DB Details**  
Step 4: [Configure Advanced Settings](#)

The following selections disqualify the instance from being eligible for the free tier:

- DB Instance Class

You will be charged normal RDS Prices. [Learn More.](#)

Estimate your monthly costs for the DB Instance using the [RDS Instance Cost Calculator.](#)

### Specify DB Details

**Free Tier**  
The Amazon RDS Free Tier provides a single db.t2.micro instance as well as up to 20 GB of storage, allowing new AWS customers to gain hands-on experience with Amazon RDS. [Learn more about the RDS Free Tier and the instance restrictions here.](#)

☐ Only show options that are eligible for RDS Free Tier

#### Instance Specifications

DB Engine: **mysql**  
License Model: **general-public-license**  
DB Engine Version: **5.6.27**

[Review the Known Issues/Limitations to learn about potential compatibility issues with specific database versions.](#)

DB Instance Class: **db.m1.small — 1 vCPU, 1.7 GiB RAM**  
Multi-AZ Deployment: **No**  
Storage Type: **General Purpose (SSD)**  
Allocated Storage\*: **5** GB

**Warning:** Provisioning less than 100 GB of General Purpose (SSD) storage for high throughput workloads could result in higher latencies upon exhaustion of the initial General Purpose (SSD) IO credit balance.

Feedback English © 2008 - 2016, Amazon Web Services, Inc. or its affiliates. All rights reserved. [Privacy Policy](#) [Terms of Use](#)

Type a name for the DB instance that is unique for the account for the **DB Instance Identifier**. (rds-lab)

Type a name using alphanumeric characters that will use as the **Master Username** to log on to your DB instance. (cloudacademy)

Type a password that contains from 8 to 41 printable ASCII characters (excluding /, ", and @) for your **Master Password** and Confirm Password.

Select **Next Step**.

Prices. Learn More.

Estimate your monthly costs for the DB Instance using the RDS Instance Cost Calculator.

Review the Known Issues/Limitations to learn about potential compatibility issues with specific database versions.

DB Instance Class: db.m1.small — 1 vCPU, 1.7 GiB RAM

Multi-AZ Deployment: No

Storage Type: General Purpose (SSD)

Allocated Storage\*: 5 GB

Provisioning less than 100 GB of General Purpose (SSD) storage for high throughput workloads could result in higher latencies upon exhaustion of the Initial General Purpose (SSD) IO credit balance. [Click here](#) for more details.

Settings

DB Instance Identifier\*: rds-lab

Master Username\*: cloudacademy

Master Password\*: .....

Confirm Password\*: .....

Retype the value you specified for Master Password.

\* Required

Cancel Previous **Next Step**

Feedback English

© 2008 - 2016, Amazon Web Services, Inc. or its affiliates. All rights reserved. Privacy Policy Terms of Use

## Step 8: Configure Advanced Settings

Choose the created **Subnet Group**. (Cloud-subnet-group)

Choose **Publicity Accessible** as **No**.

Type a **Database name**. (database1)

Step 1: Select Engine

Step 2: Production?

Step 3: Specify DB Details

Step 4: **Configure Advanced Settings**

### Configure Advanced Settings

Network & Security

VPC\*: Default VPC (vpc-5be49a3f)

Subnet Group: cloud-subnet-group

Publicly Accessible: No

Availability Zone: No Preference

VPC Security Group(s): Create new Security Group, Custom-security-group-1 (VPC), default (VPC), launch-wizard-1 (VPC)

Database Options

Database Name: **database1**

Note: if no database name is specified then no initial MySQL database will be created on the DB Instance.

Database Port: 3306

DB Parameter Group: default.mysql5.6

Option Group: default.mysql5-5.6

Copy Tags To Snapshots: ☐

Enable Encryption: No

Feedback English

© 2008 - 2016, Amazon Web Services, Inc. or its affiliates. All rights reserved. Privacy Policy Terms of Use



## Select Launch DB Instance.

Note: if no database name is specified then no initial MySQL database will be created on the DB Instance.

Database Port

DB Parameter Group

Option Group

Copy Tags To Snapshots ☐

Enable Encryption

**Backup**

Please note that automated backups are currently supported for InnoDB storage engine only. If you are using MyISAM, refer to detail [here](#).

Backup Retention Period  days

A backup retention period of zero days will disable automated backups for this DB Instance.

Backup Window

**Maintenance**

Auto Minor Version Upgrade

Maintenance Window

\* Required

[Cancel](#) [Previous](#) [Launch DB Instance](#)

Feedback English

© 2008 - 2016, Amazon Web Services, Inc. or its affiliates. All rights reserved. [Privacy Policy](#) [Terms of Use](#)

## Step 9: Choose View Your DB Instances after launching.

Step 1: [Select Engine](#)

Step 2: [Production?](#)

Step 3: [Specify DB Details](#)

Step 4: [Configure Advanced Settings](#)

✓ Your DB Instance is being created.

Note: Your instance may take a few minutes to launch.

**Connecting to your DB Instance**

You will be unable to connect to your database instance unless you have previously authorized access on your chosen security group.

[Go to the Security Groups Page](#)

**Related AWS Services**

**Amazon ElastiCache**  
Add a managed Memcached or Redis-compatible in-memory cache to speed up your database access.

[Click here to learn more and launch your Cache Cluster](#)

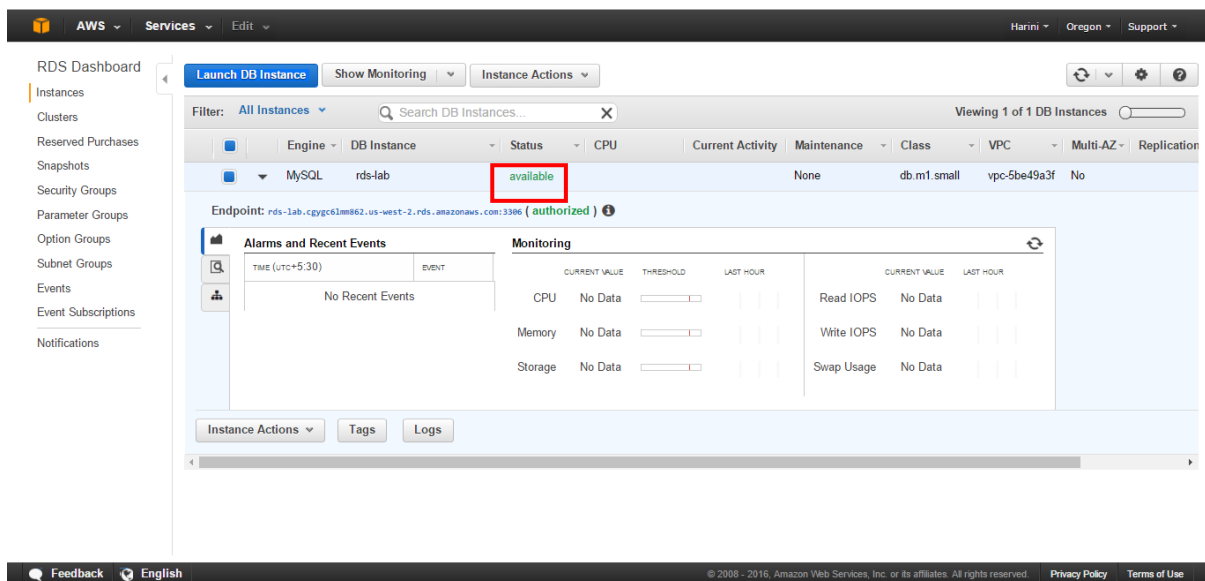
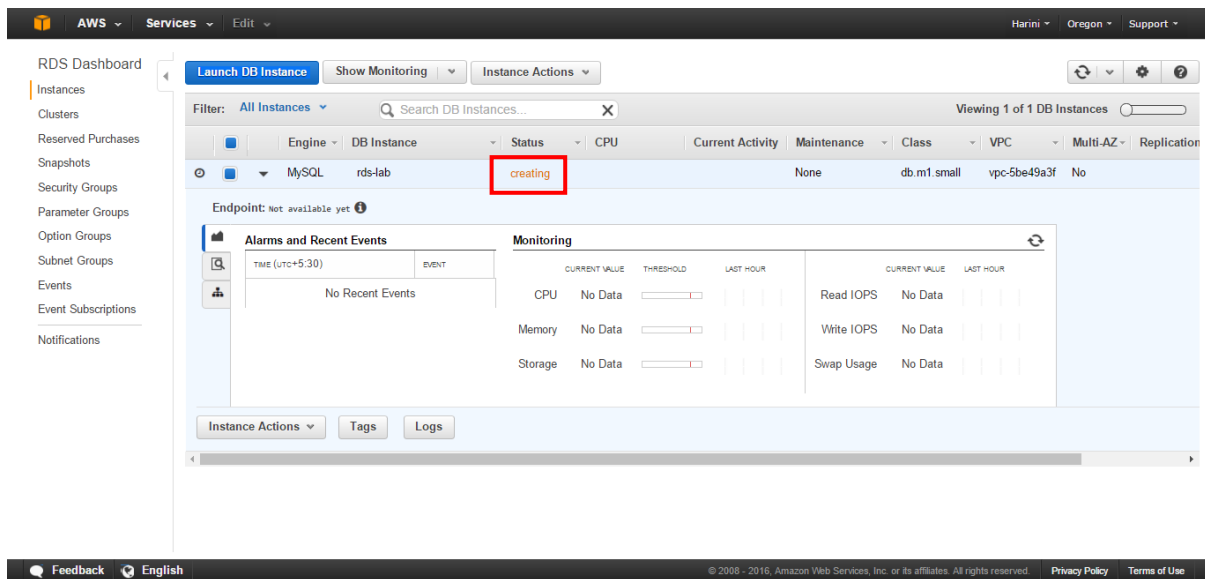
[View Your DB Instances](#)

Feedback English

© 2008 - 2016, Amazon Web Services, Inc. or its affiliates. All rights reserved. [Privacy Policy](#) [Terms of Use](#)

Step 10: View the status of the instance on the Instances windows.

It takes time for an instance to launch. When launching an instance, the initial state is **creating**. After the instance starts, the state changes to **available**.

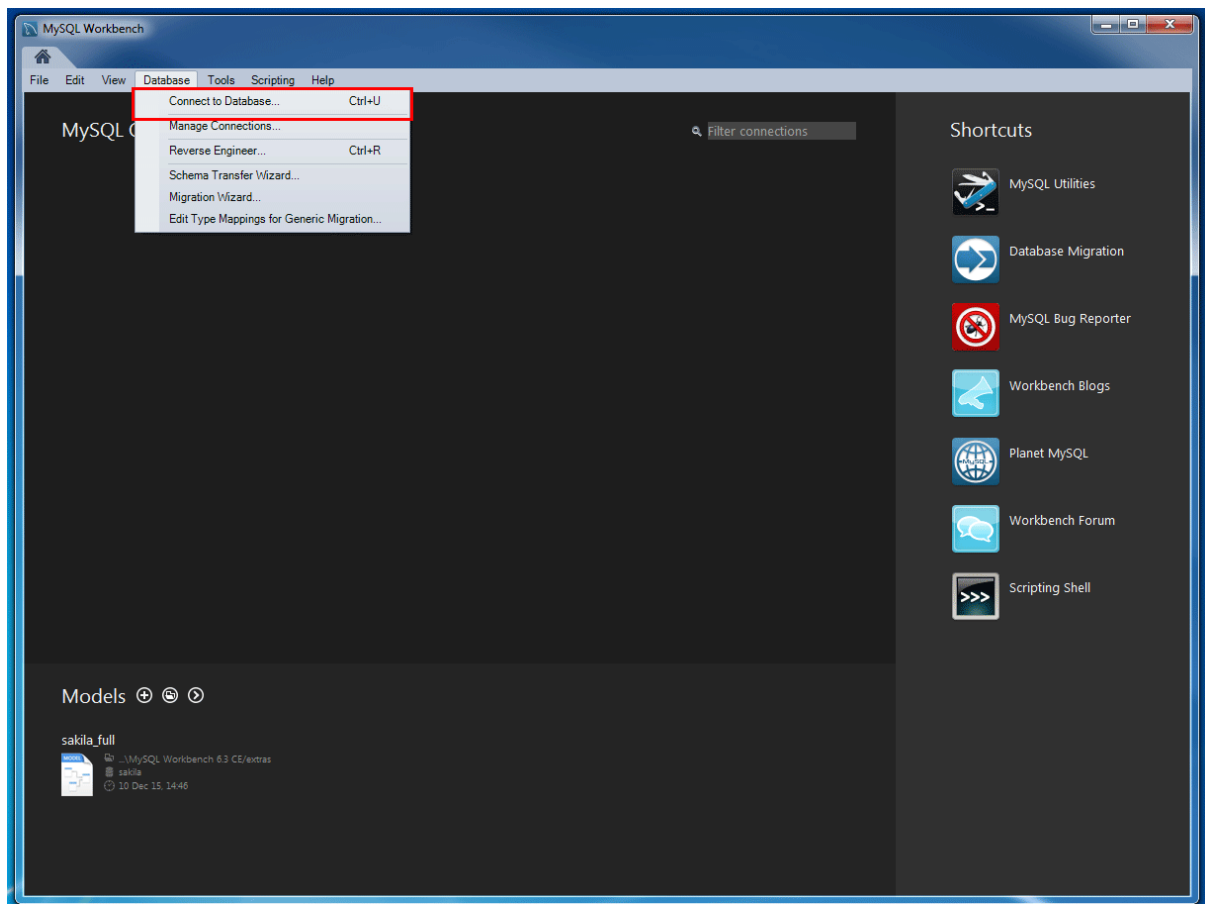


## 2. Connect to the MySQL Database

Once the database instance is created, it is possible to connect to a database on the DB instance using any standard SQL client. This step use **MySQL Workbench** SQL client.

Step 1: Launch the MySQL Workbench application.

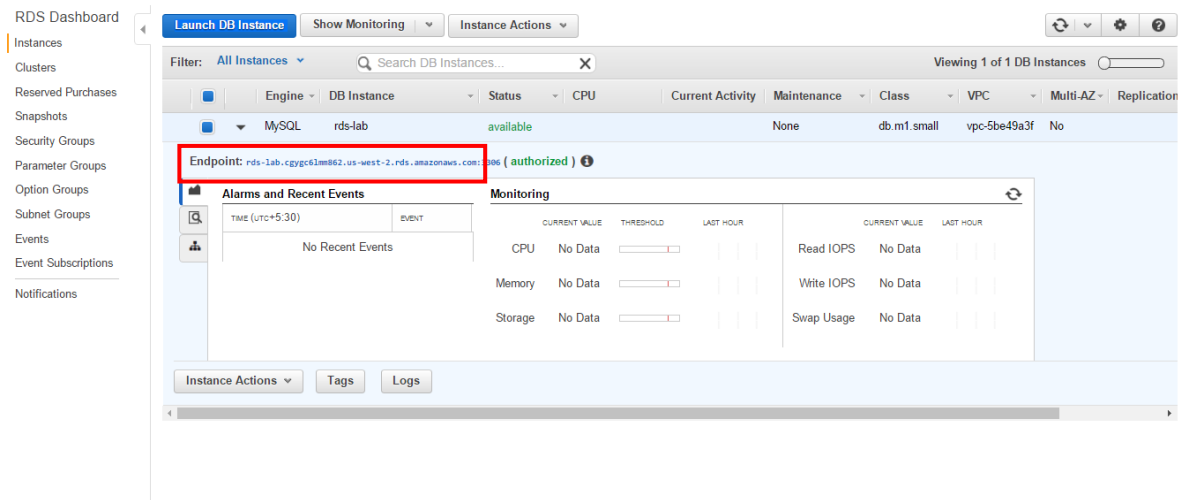
Go to **Database**, then select **Connect to Database** from the Database menu bar.



## Step 2: Connect to database

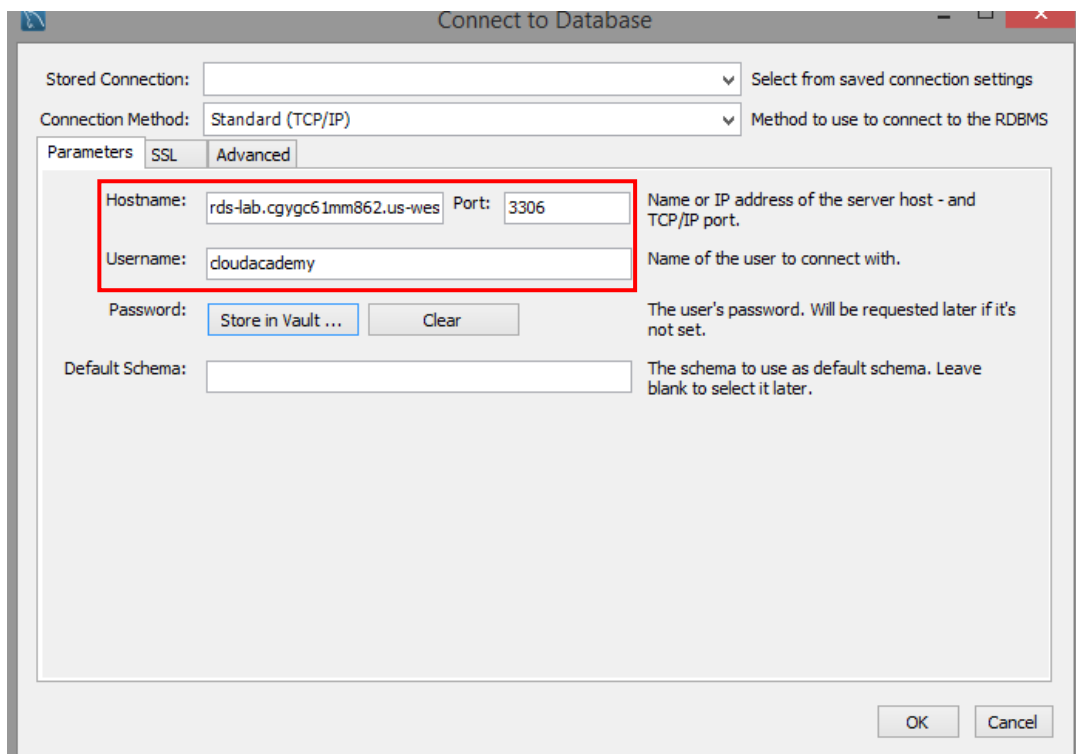
**Hostname** is the Endpoint value of the created DB instance.

(rds-lab.cgyc61mm862.us-west-2.rds.amazonaws.com)

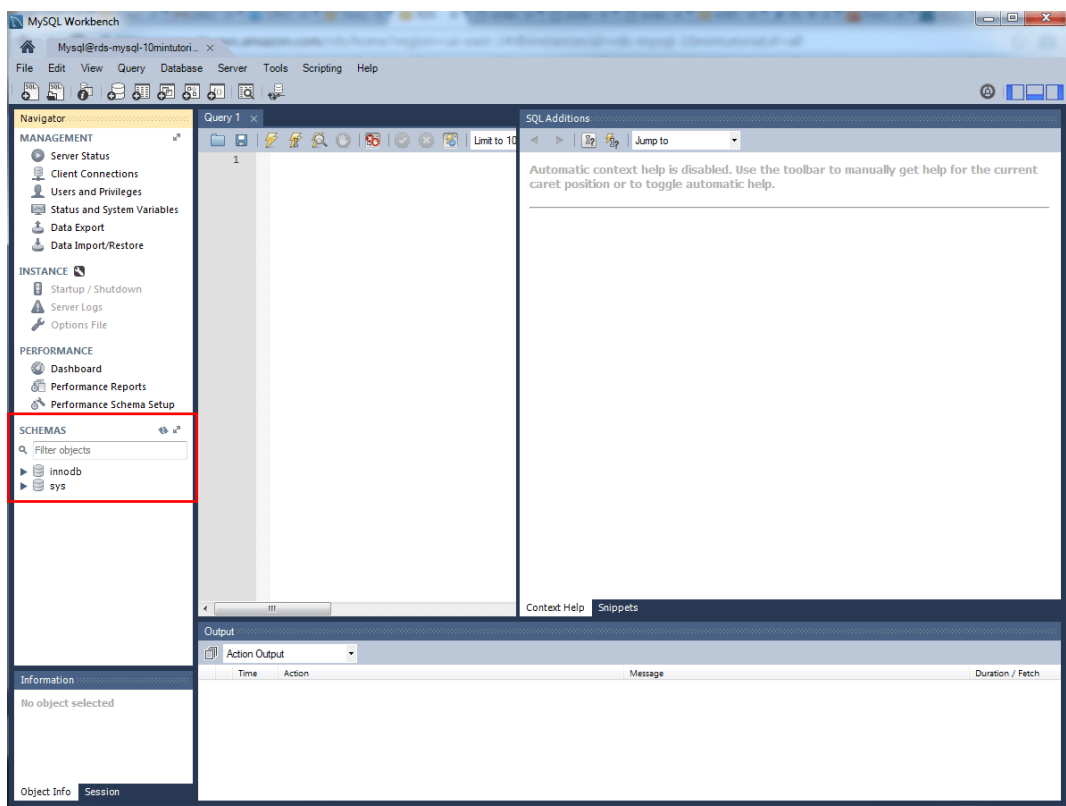
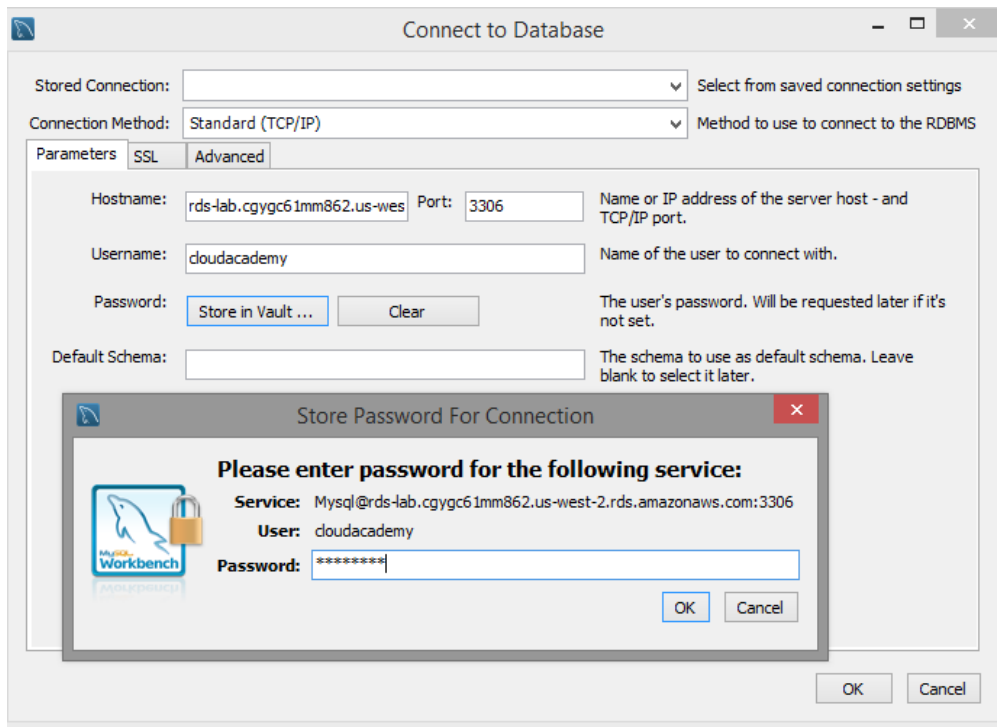


**Port:** the default value should be **3306**.

**Username:** Type in the Master Username created for the Amazon RDS database.

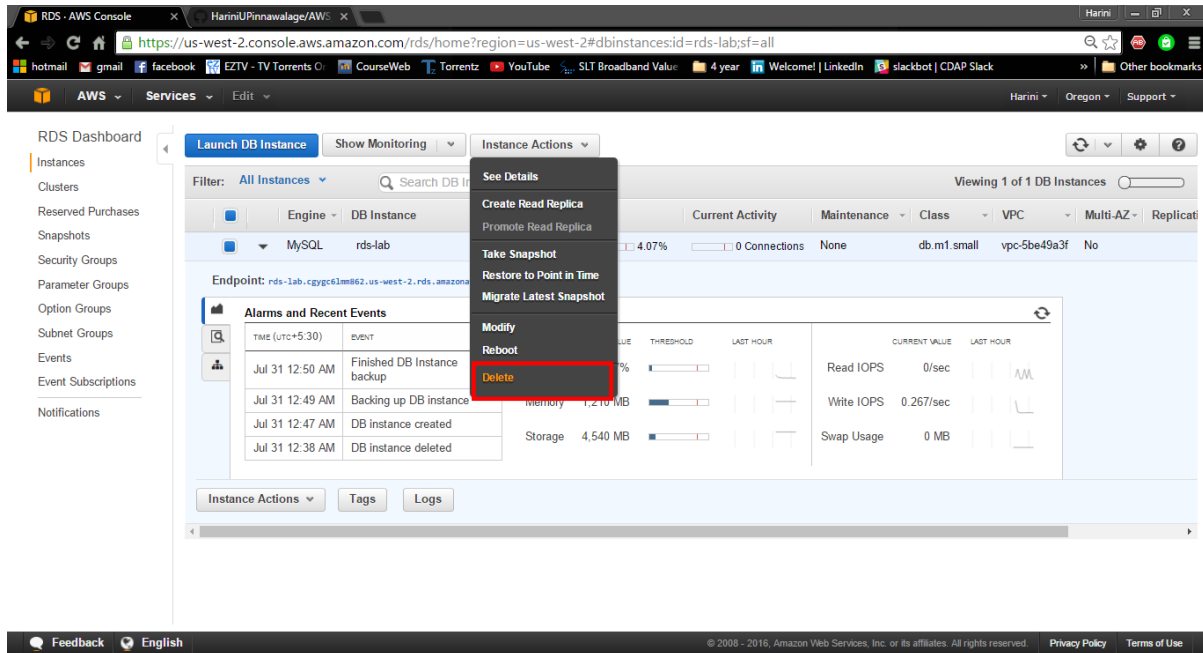


Step 3: Enter the password used while creating the Amazon RDS database.



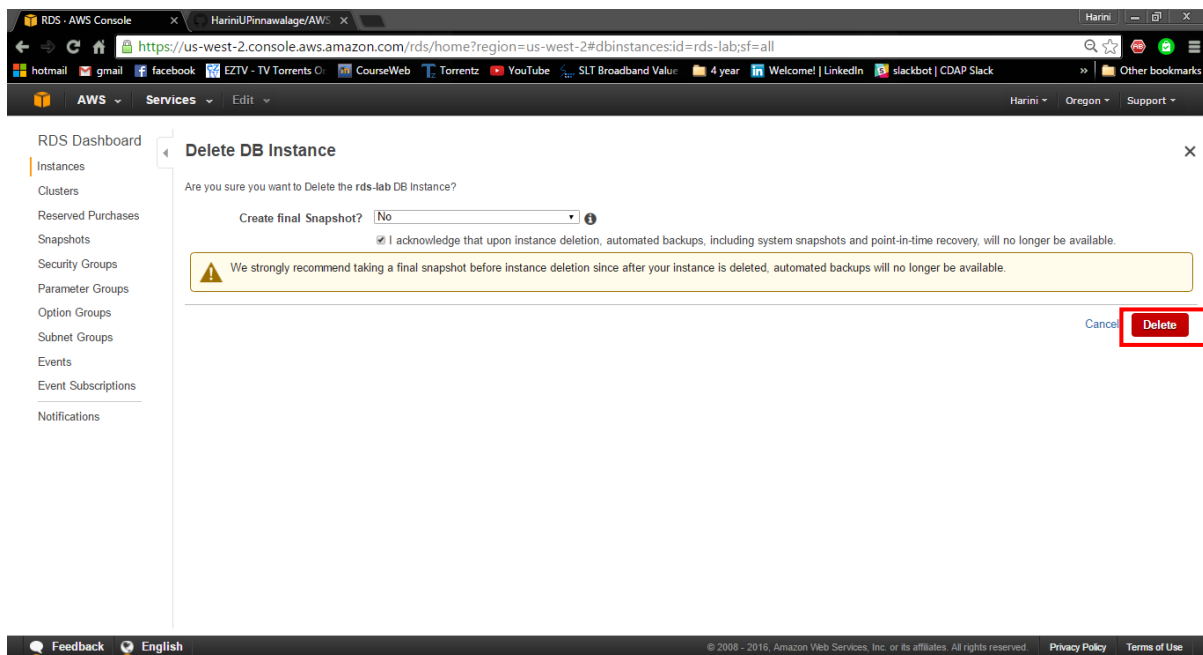
### 3. Delete the DB Instance

Step 1: Select **Instance Actions** and select **Delete**.



Step 2: It prompts to create a final snapshot.

Select **No**, check the acknowledgment box, and select **Delete**.



Step 3: Deleting the DB Instance may take time. After the instance is deleted, it remains visible on the console for a short while, and then the entry is deleted.

The screenshot displays the AWS RDS console interface. The left sidebar contains navigation links for RDS Dashboard, Instances, Clusters, Reserved Purchases, Snapshots, Security Groups, Parameter Groups, Option Groups, Subnet Groups, Events, Event Subscriptions, and Notifications. The main content area shows a list of DB instances with the following details:

Engine	DB Instance	Status	CPU	Current Activity	Maintenance	Class	VPC	Multi-AZ	Replica
MySQL	rds-lab	deleting	3.33%	0 Connections	None	db.m1.small	vpc-5be49a3f	No	

Endpoint: rds-lab.cgyc61m862.us-west-2.rds.amazonaws.com:3306 (authorized)

**Alarms and Recent Events**

TIME (UTC+5:30)	EVENT
Jul 31 12:50 AM	Finished DB Instance backup
Jul 31 12:49 AM	Backing up DB instance
Jul 31 12:47 AM	DB instance created
Jul 31 12:38 AM	DB instance deleted

**Monitoring**

	CURRENT VALUE	THRESHOLD	LAST HOUR
CPU	3.67%		
Memory	1,210 MB		
Storage	4,540 MB		
Read IOPS	0/sec		
Write IOPS	0.633/sec		
Swap Usage	0 MB		

At the bottom of the console, there are links for Feedback, English, and a footer with copyright information: © 2008 - 2016, Amazon Web Services, Inc. or its affiliates. All rights reserved. Privacy Policy Terms of Use.