



SRI LANKA INSTITUTE OF INFORMATION TECHNOLOGY

Enterprise Standards and Best Practices for IT Infrastructure

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Practical Number : Lab 01

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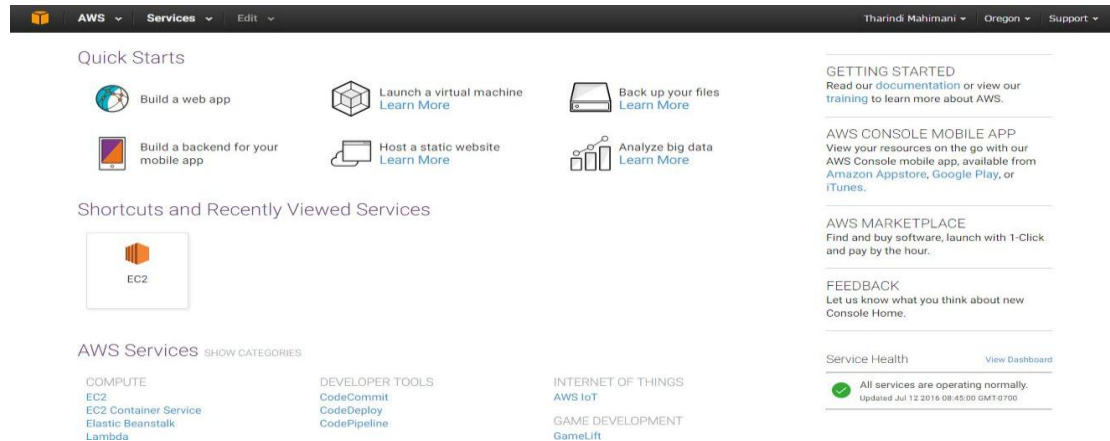
Date of Evaluation : _____

Evaluators Signature : _____

Introduction

This lab practical based on cloud computing. In this lab it suppose to create windows instance via Amazon Web Service (AWS).

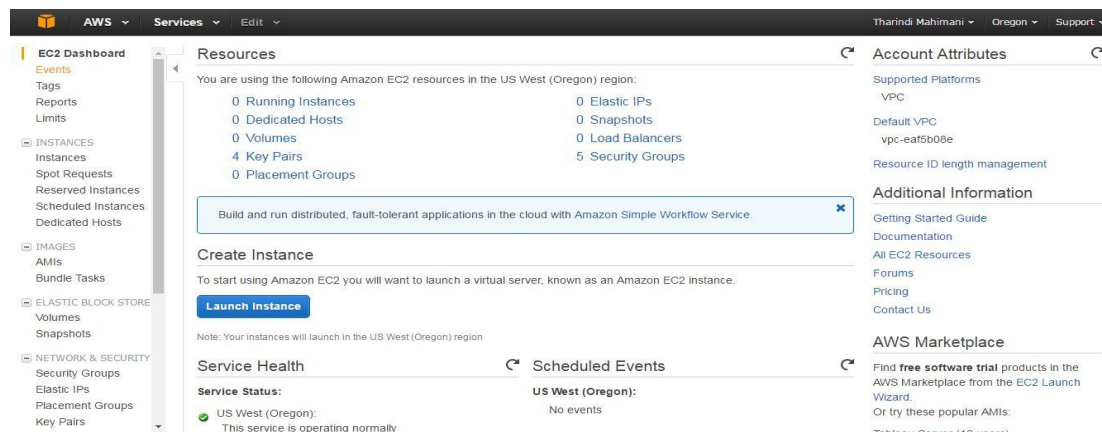
To do this practical first it have to create new account in Amazon Web Service (AWS). Then by using that created account log in to the AWS. After logged in it will appear window like below,



Step 01

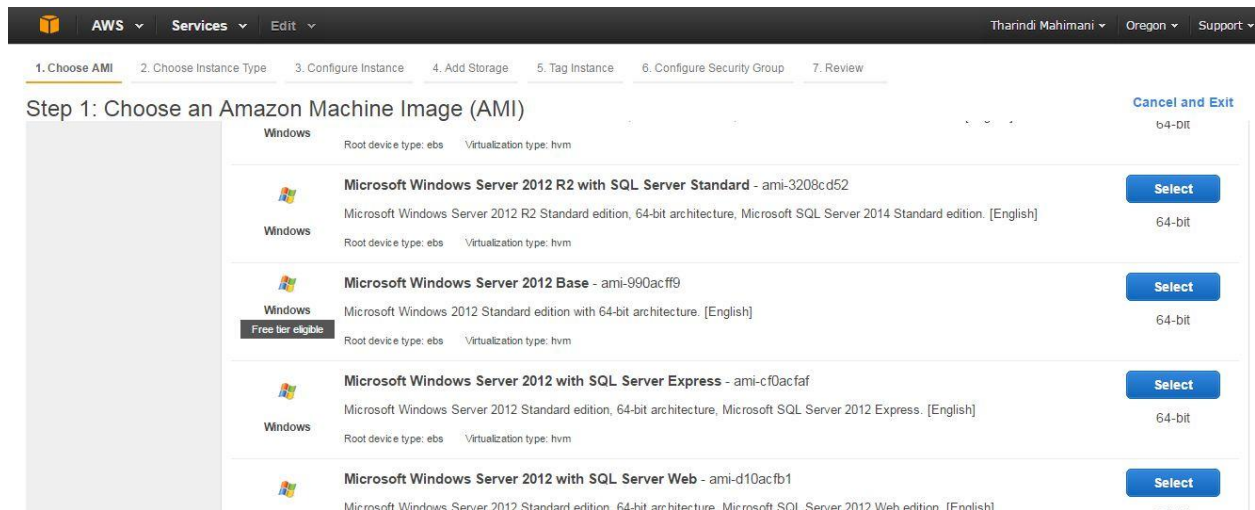
To create or launch windows instance from this window it must select EC2 Because to create OS instance software instances it uses the EC2 in AWS.

After selecting EC2 in this window it will appear window like below

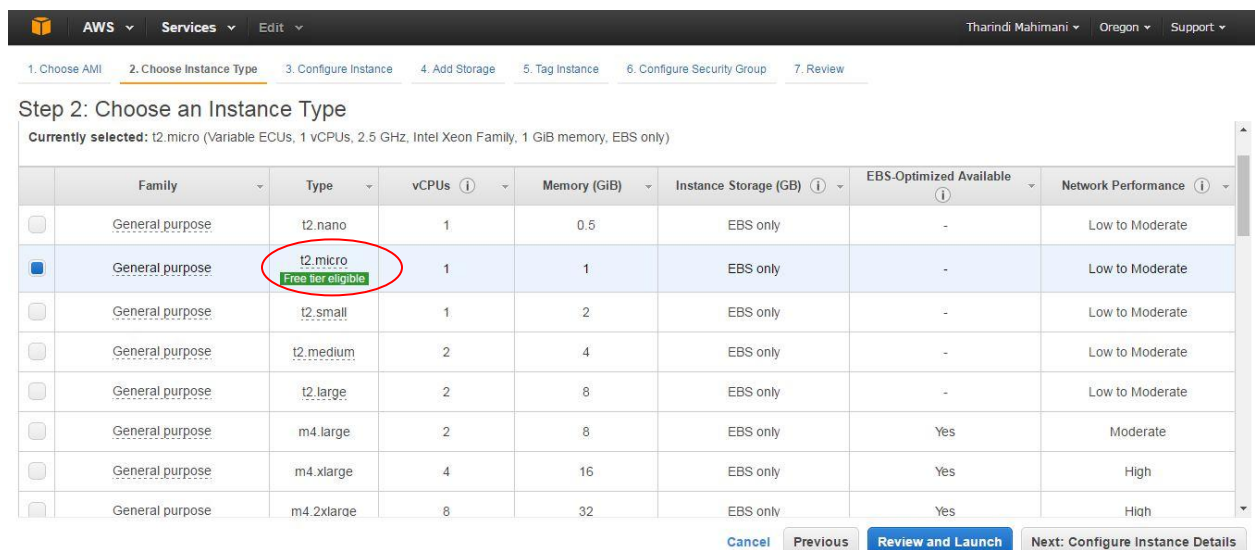


Step 02

In this window it must click on “Launch Instance ” button to launch the instance



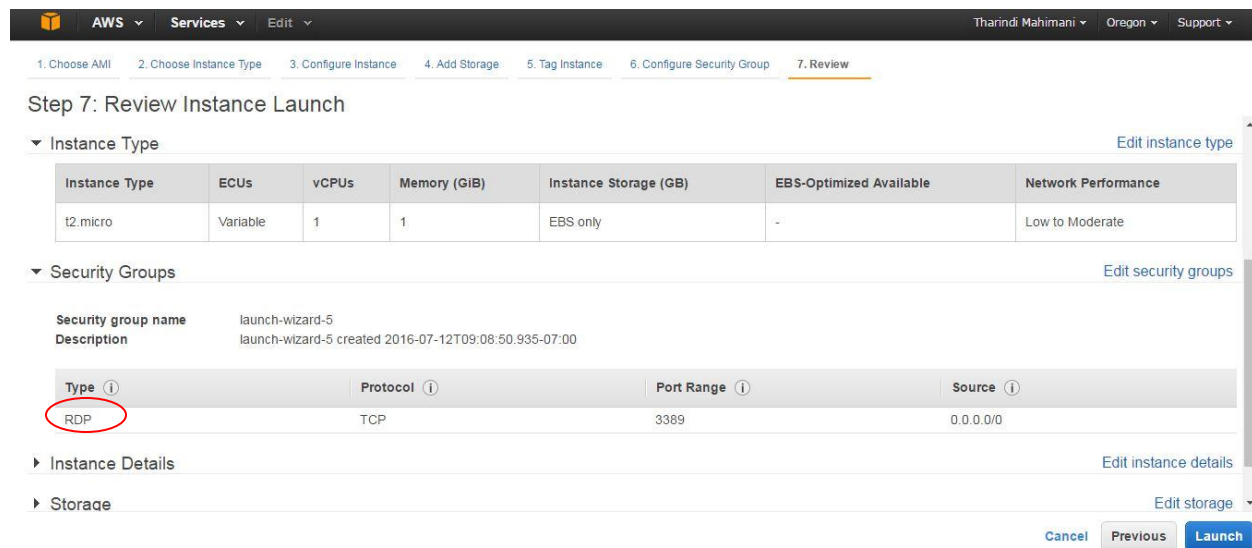
In this window it must select Windows free tier eligible one for the to launch the windows instance freely. After selecting this it will appear window like below



In this window it must select the type and must configure the instance and must review. Type “should be t2.micro free tier eligible”

Step 03

After reviewing and launch bellow window will display



Step 7: Review Instance Launch

▼ Instance Type [Edit instance type](#)

Instance Type	ECUs	vCPUs	Memory (GiB)	Instance Storage (GB)	EBS-Optimized Available	Network Performance
t2.micro	Variable	1	1	EBS only	-	Low to Moderate

▼ Security Groups [Edit security groups](#)

Security group name: launch-wizard-5
Description: launch-wizard-5 created 2016-07-12T09:08:50.935-07:00

Type ⓘ	Protocol ⓘ	Port Range ⓘ	Source ⓘ
RDP	TCP	3389	0.0.0.0/0

► Instance Details [Edit instance details](#)

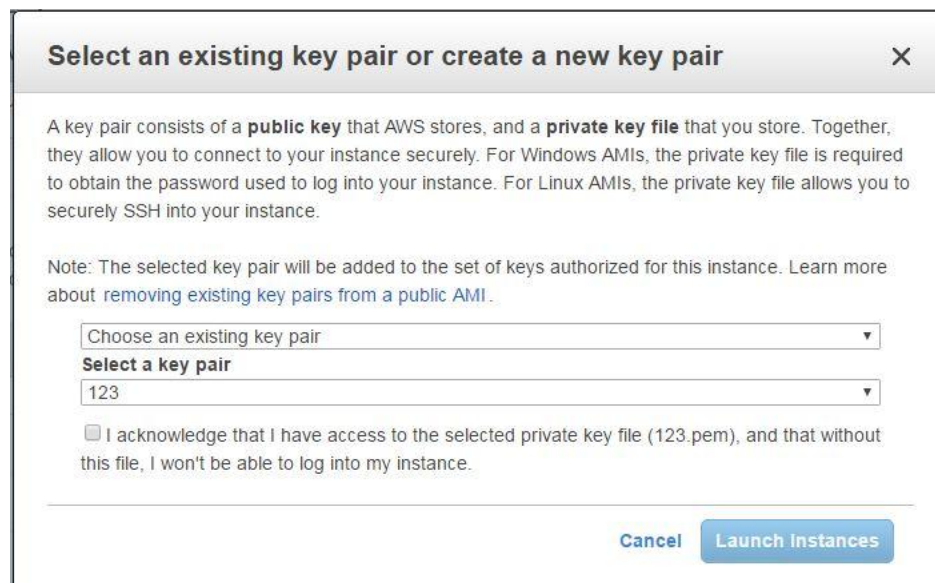
► Storage [Edit storage](#)

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

In here it willing to launch Windows instance because of that its type is will RDP

Step 04

After launching this window will appear window like this in here it must have to give key pairs to that form the drop menu it must have select the “create new Key Pair ” and must provide Key pair name and after it must have to download the key pair. After downloading must launch the instance



Select an existing key pair or create a new key pair

A key pair consists of a **public key** that AWS stores, and a **private key file** that you store. Together, they allow you to connect to your instance securely. For Windows AMIs, the private key file is required to obtain the password used to log into your instance. For Linux AMIs, the private key file allows you to securely SSH into your instance.

Note: The selected key pair will be added to the set of keys authorized for this instance. [Learn more about removing existing key pairs from a public AMI.](#)

Choose an existing key pair ▼

Select a key pair

123 ▼

☐ I acknowledge that I have access to the selected private key file (123.pem), and that without this file, I won't be able to log into my instance.

[Cancel](#) [Launch Instances](#)

Created instance will display like this

Filter by tags and attributes or search by keyword									
	Name	Instance ID	Instance Type	Availability Zone	Instance State	Status Checks	Alarm Status	Public DNS	Publ
		i-0b70939843d591d2f	t2.micro	us-west-2a	running	Initializing	None	ec2-54-218-12-31.us-we...	54.21

Now it is running instance

Step 05

Right click on the instance and “Get windows password ” it will get window like below

Retrieve Default Windows Administrator Password

To access this instance remotely (e.g. Remote Desktop Connection), you will need your Windows Administrator password. A default password was created when the instance was launched and is available encrypted in the system log.

To decrypt your password, you will need your key pair for this instance. Browse to your key pair, or copy and paste the contents of your private key file into the text area below, then click Decrypt Password.

The following Key Pair was associated with this instance when it was created.

Key Name Lab01

In order to retrieve your password you will need to specify the path of this Key Pair on your local machine:

Key Pair Path No file chosen

Or you can copy and paste the contents of the Key Pair below:

Paste contents of private key file here

from that choose file and decrypt the password via doing it will get user name and password.

Retrieve Default Windows Administrator Password

Password Decryption Successful
The password for instance i-0b70939843d591d2f was successfully decrypted.

Password change recommended
We recommend that you change your default password. Note: If a default password is changed, it cannot be retrieved through this tool. It's important that you change your password to one that you will remember.

You can connect remotely using this information:

Public DNS ec2-54-218-12-31.us-west-2.compute.amazonaws.com

User name Administrator

Password QL5c9It*84s

Step 06

After the step 05 in the machine go to the remote desktop connection and provide the public IP address



After connecting it must provide the user name and password got previously



After providing user name and password it will display window like below you must select “yes”
After it ,will be able to you to work in the newly created windows instance.



Conclusion

In this lab practical it launch the windows instance via AWS it successfully launch the. Before the leaving it must have terminate the launched instance.

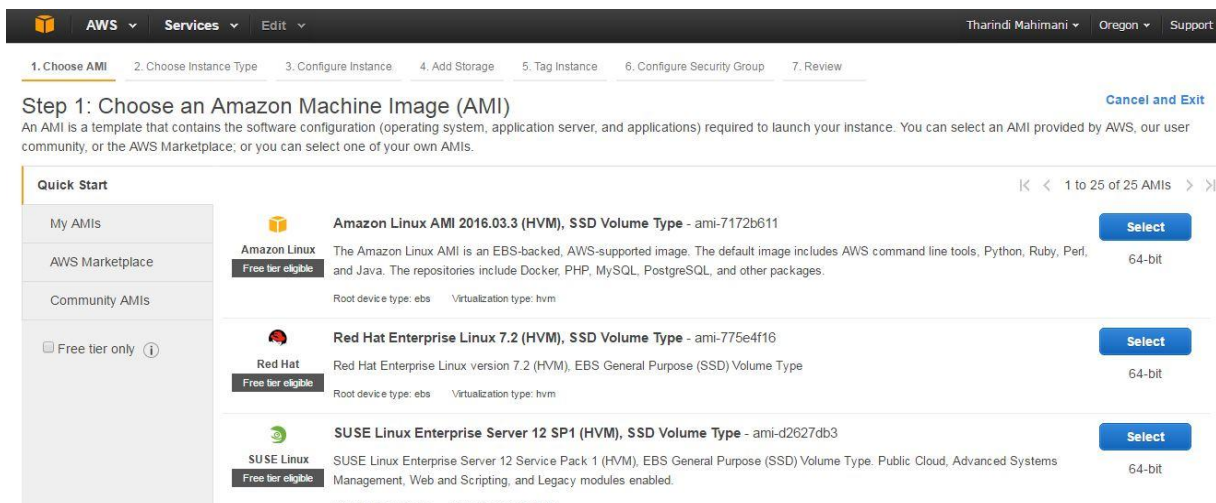
Lab 02 – Creating Linux Instance

Introduction

This lab practical based on cloud computing. In this lab it suppose to create Linux instance via Amazon Web Service (AWS).

To do this practical first it have to logged in to via account that created in previous practical Amazon Web Service (AWS). Then same as first few steps in previous practical must select EC2 to launch the instance. As before it must select free tire eligible “Amazon Linux ” or free tire eligible “Red Hat ” for launch the Linux instance.

In here I had selected “Amazon Linux ” form below window



Step 01

After selecting the one we need then it can review and the it can be launch after this step it will sappier window like below

Step 7: Review Instance Launch
 eligible PHP, MySQL, PostgreSQL, and other packages.
 Root Device Type: ebs Virtualization type: hvm

1. Choose AMI 2. Choose Instance Type 3. Configure Instance 4. Add Storage 5. Tag Instance 6. Configure Security Group 7. Review

▼ Instance Type [Edit instance type](#)

Instance Type	ECUs	vCPUs	Memory (GiB)	Instance Storage (GB)	EBS-Optimized Available	Network Performance
t2.micro	Variable	1	1	EBS only	-	Low to Moderate

▼ Security Groups [Edit security groups](#)

Security group name: launch-wizard-6
 Description: launch-wizard-6 created 2016-07-13T22:58:06.983-07:00

Type ⓘ	Protocol ⓘ	Port Range ⓘ	Source ⓘ
SSH	TCP	22	0.0.0.0/0

▶ Instance Details [Edit instance details](#)

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

In here it willing to launch Linux instance because of that its type is will SSH. In previous practical it launch the windows instance so their type is appear as RDP.

Step 02

Like previous practical in here also need to create new key pair for Linux instance it can do by using below window

Select an existing key pair or create a new key pair

A key pair consists of a **public key** that AWS stores, and a **private key file** that you store. Together, they allow you to connect to your instance securely. For Windows AMIs, the private key file is required to obtain the password used to log into your instance. For Linux AMIs, the private key file allows you to securely SSH into your instance.

Note: The selected key pair will be added to the set of keys authorized for this instance. [Learn more about removing existing key pairs from a public AMI.](#)

Create a new key pair

Key pair name

Linux123

Download Key Pair

You have to download the **private key file** (*.pem file) before you can continue. **Store it in a secure and accessible location.** You will not be able to download the file again after it's created.

Cancel

Launch Instances

After providing the key pair it must download the key pair and then launch the instance.

Step 03

After launching the instance it can view the instance it will display the window like below and instance state in running.



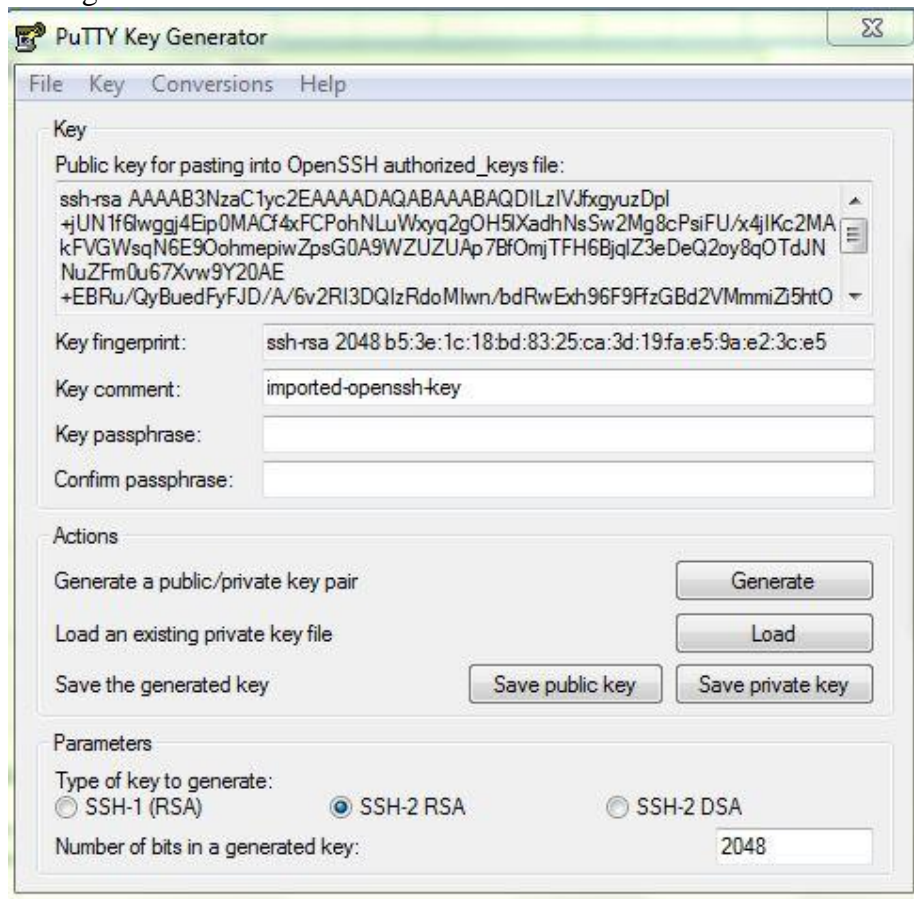
Step 04

After the instance launching and it is on running state to work towards in created instance it must do some other things to do it must decrypt the password to do that it must have download another two software “PUTTY Gen” and the “PUTTY”

In here it use the PUTTY Gen software to decrypt the password in .pem format to .ppk format because to PUTTY software it can only understand .ppk format.

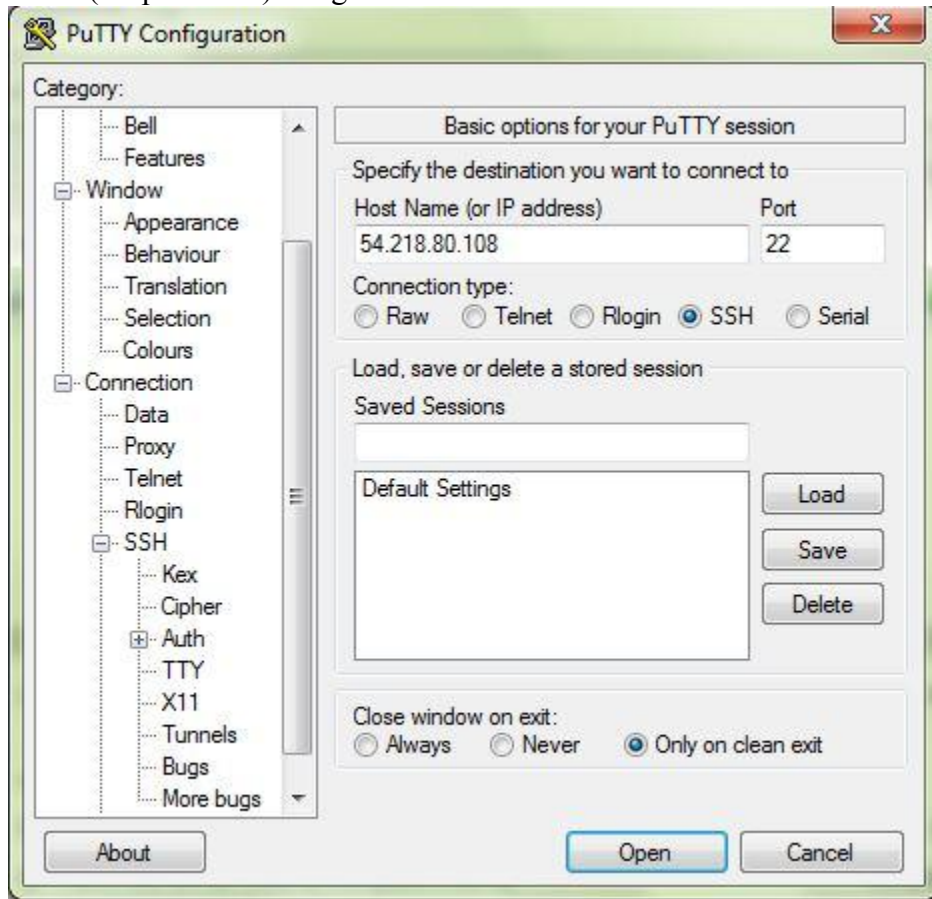


This is the view of PuTTY Gen software form this it must load the key pair we download previously
After successfully loaded the key pair it will change this window like bellow and will display message ox like below

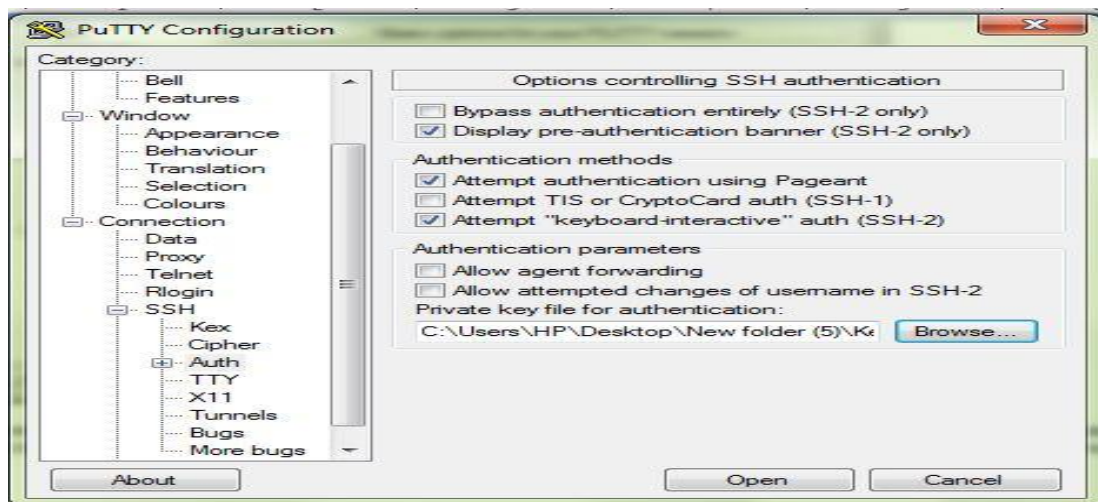


Step 05

Then it must open the PUTTY software in that it must provide the public IP address to “Host Name (or ip address)” cage as bellow

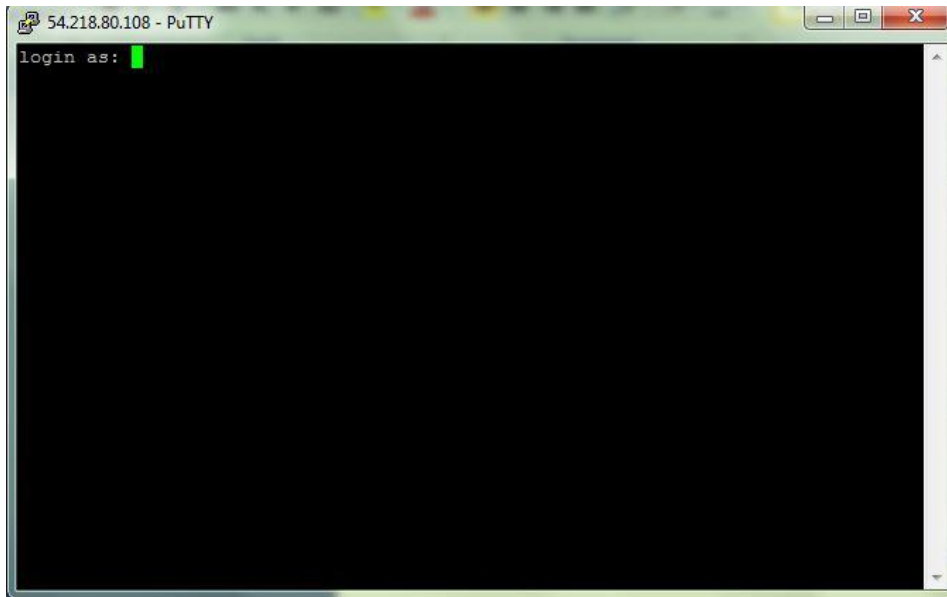


Then extract the “SSH” and navigate to the “Auth” authentication function form that it must brows the path to the decrypted key pair which we decrypted by using PUTTY Gen software.

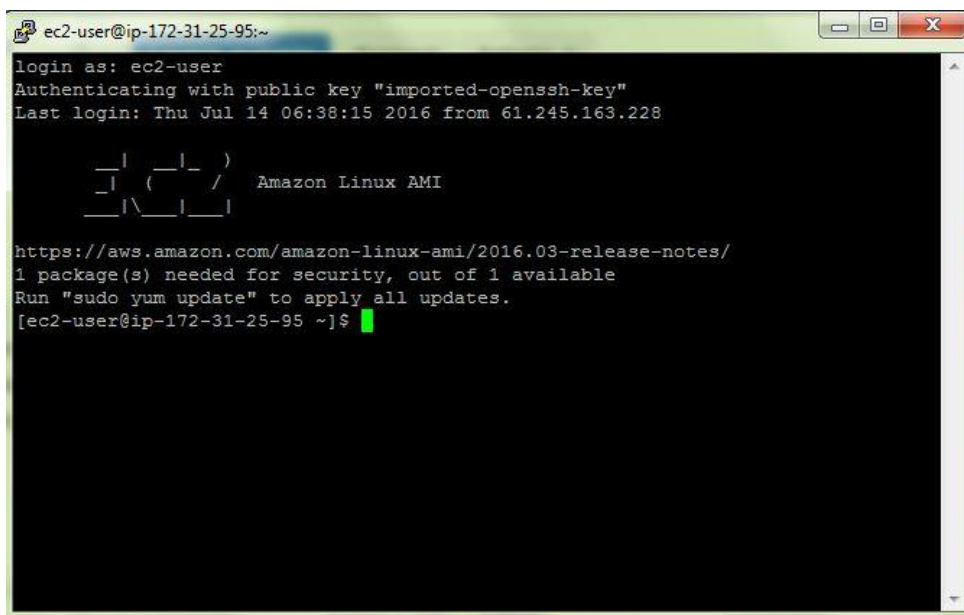


Step 06

After browsing the path then open it will display window like below



To this window it must provide “ec2-user ” as given in the AWS manual. After providing the user name as “ec2-user ” it will appear the Linux instance to do work that we want. It will look like below.



In this lab practical it launch the Linux instance via AWS it successfully launch the. Before the leaving it must have terminate the launched instance.

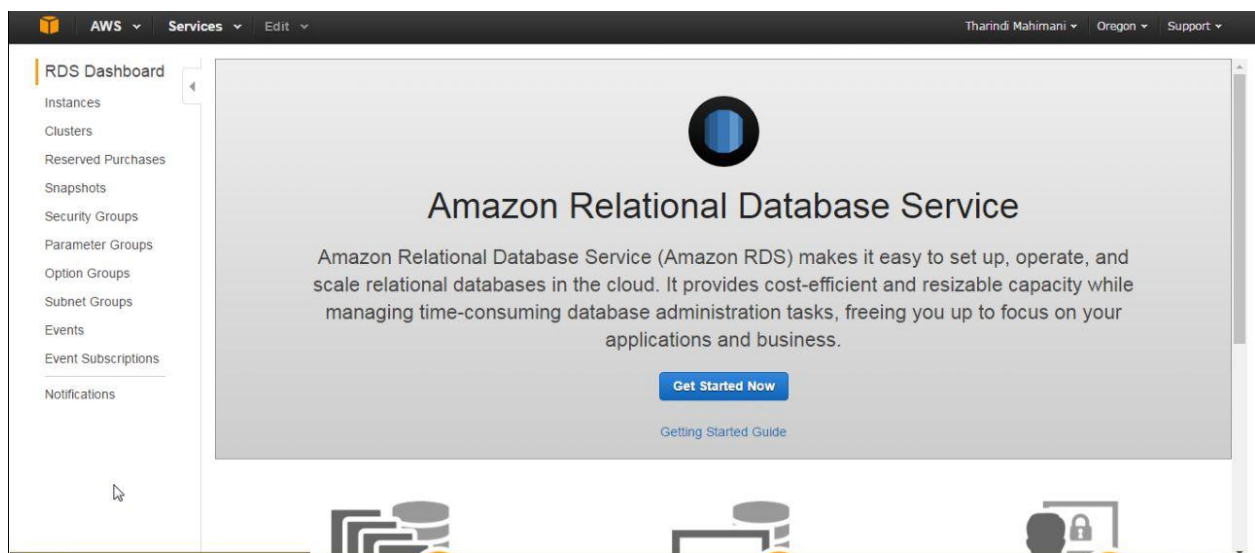
Lab -03 Creating Data Base Instance

Introduction

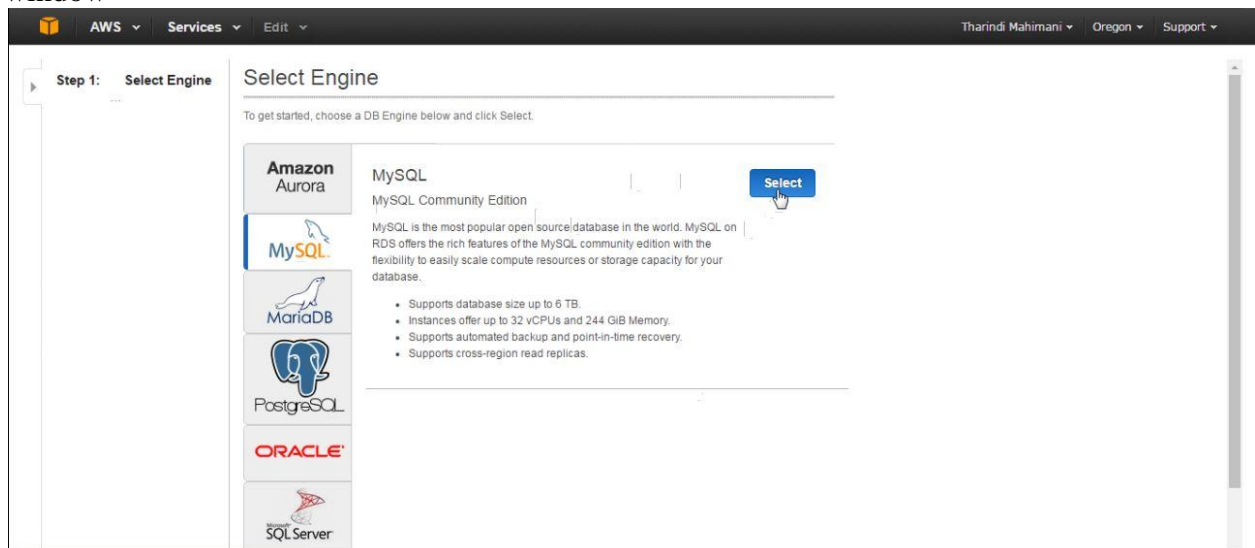
This lab practical based on cloud computing. In this lab it suppose to create DB instance via Amazon Web Service (AWS).

To do this practical first it have to logged in to via account that created in previous practical Amazon Web Service (AWS). Then same as first few steps in previous practical must select RDS to launch the instance. As before it must select free tire eligible or free tire eligible phase must be select.

In here I had selected “RDS Dashboard ” form below window



After getting this window it must click on “ Get Start Now” after doing it redirect to the below window



From this in this lab It suppose to create My SQL instance because of that it must select the My SQL Engine as above

After selecting engine it redirect to page as below

The screenshot shows the AWS RDS console interface. On the left, a sidebar lists four steps: Step 1: Select Engine, Step 2: Production?, Step 3: Specify DB Details, and Step 4: Configure Advanced Settings. The main content area is titled 'Do you plan to use this database for production purposes?'. It has two tabs: 'Production' and 'Dev/Test'. Under the 'Production' tab, there are two options: 'Amazon Aurora' (marked as 'Recommended') and 'MySQL'. The 'MySQL' option is selected. A description for MySQL states: 'Use Multi-AZ Deployment and Provisioned IOPS Storage as defaults for high availability and fast, consistent performance.' Under the 'Dev/Test' tab, the 'MySQL' option is also selected, with a description: 'This instance is intended for use outside of production or under the RDS Free Usage Tier.' At the bottom, there are three buttons: 'Cancel', 'Previous', and 'Next Step'. A mouse cursor is pointing at the 'Next Step' button.

In here it have to have select the production in here it select the My SQL production after selecting production it must specify Data Base details from following window

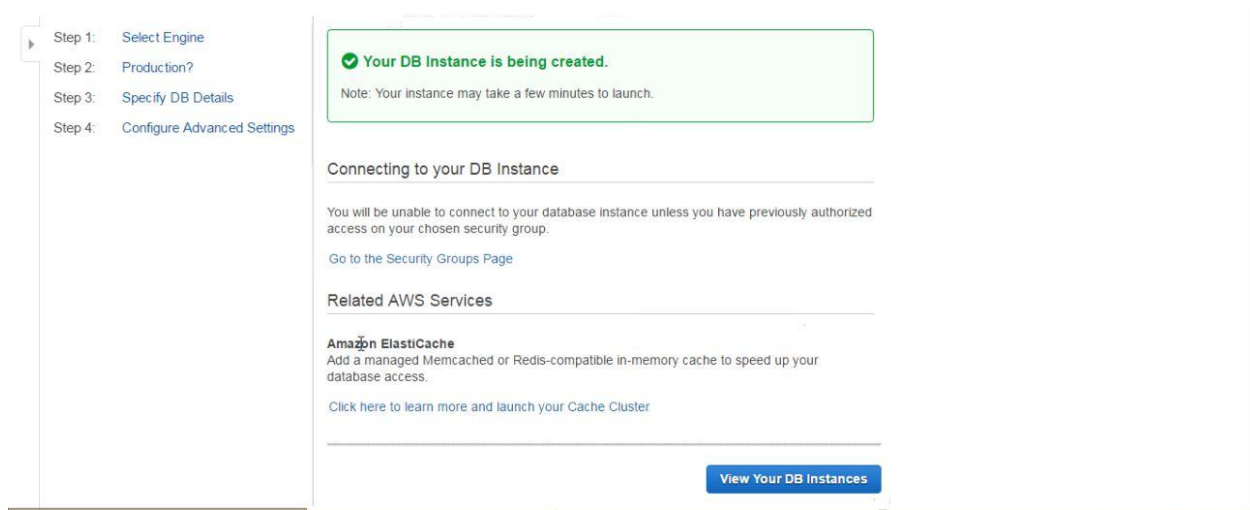
The screenshot shows the AWS RDS console 'Instance Specifications' page. On the left, a sidebar contains two informational messages: 'Your current selection is eligible for the free tier. Learn More.' and 'Estimate your monthly costs for the DB Instance using the RDS Instance Cost Calculator.' The main content area is titled 'Instance Specifications'. It has several sections: 'DB Engine' (MySQL), 'License Model' (General Public License), 'DB Engine Version' (5.7.mysql_aurora.6.0.1), 'DB Instance Class' (db.m1.small), 'Multi-AZ Deployment' (Single-AZ), 'Storage Type' (General Purpose (SSD)), and 'Allocated Storage' (5 GB). A warning message at the bottom 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. Click here for more details.' On the right, there is a list of available DB instance classes, including db.m1.xlarge, db.m3.2xlarge, db.r3.large, db.r3.xlarge, db.r3.2xlarge, db.r3.xlarge, db.m2.xlarge, db.m2.2xlarge, db.m2.4xlarge, db.m1.xlarge, db.m1.medium, db.m1.large, db.m1.xlarge, and db.t1.micro. The 'db.m1.small' class is selected. A tooltip for 'db.m1.small' provides details: '1 vCPU, 1.7 GiB RAM, 10 GiB storage, 100 MB/s network, and 100 MB/s memory capacity required by planned workload of this DB instance. Learn More.'

From above window it must configure the Data base details as “DB instance class ”. and from second window it must adjust setting as mention above. After done all this it must set the security and the advanced settings of Data Base because security is a key pillar of a Data Base. It use below window to configure Security.

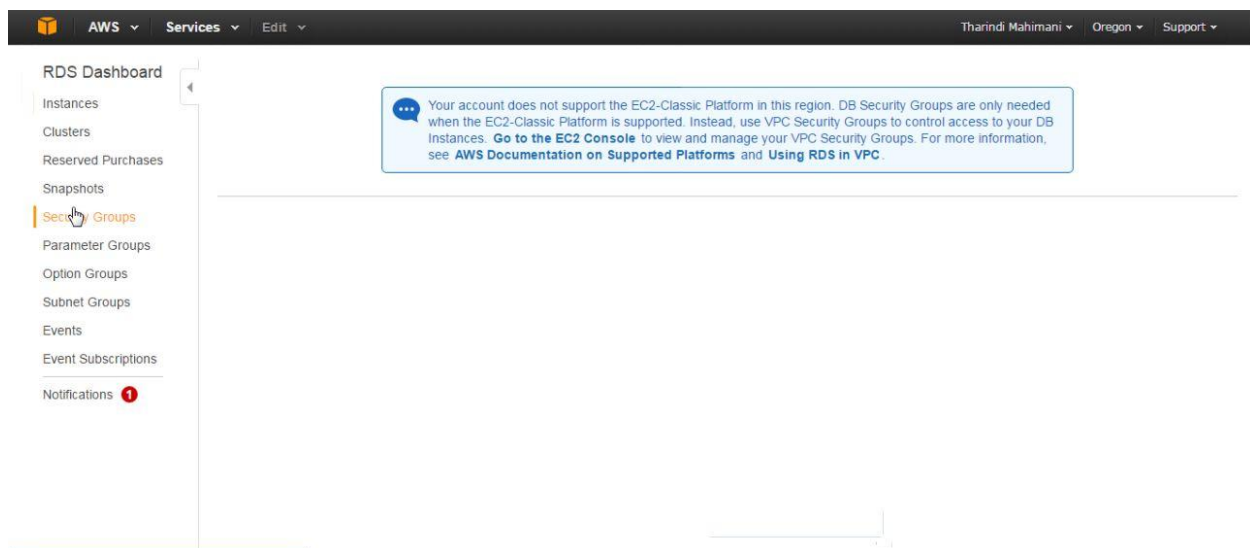
After setting up some security it must set the Data Base options as below,

Then it Must have to set Backup as well in here Backup Retention Period is get more important in this if we select period we have to pay for it so it must have keep in mid it must select “0” as value of Backup Retention Period.

After following the steps mention above it will get successful message as below



After successfully launched DB Instance it must look for security groups. It must create security group for the created DB Instance. To do that again it must go to the RDS dashboard and select Security Groups.



Then from there it can create security groups as below,

Create Security Group

Security group name: Lab03

Description: ESBP|| Lab03

VPC: vpc-eaf5b08e (172.31.0.0/16) *

* denotes default VPC

Security group rules:

Inbound | Outbound

Type	Protocol	Port Range	Source
This security group has no rules			

Add Rule

Cancel Create

Ater giving relevant details, as Security Group Name, Description it must Click on “Add Rule”

Group

Security group name: Lab03

Description: ESBP|| Lab03

VPC: vpc-eaf5b08e (172.31.0.0/16) *

* denotes default VPC

Security group rules:

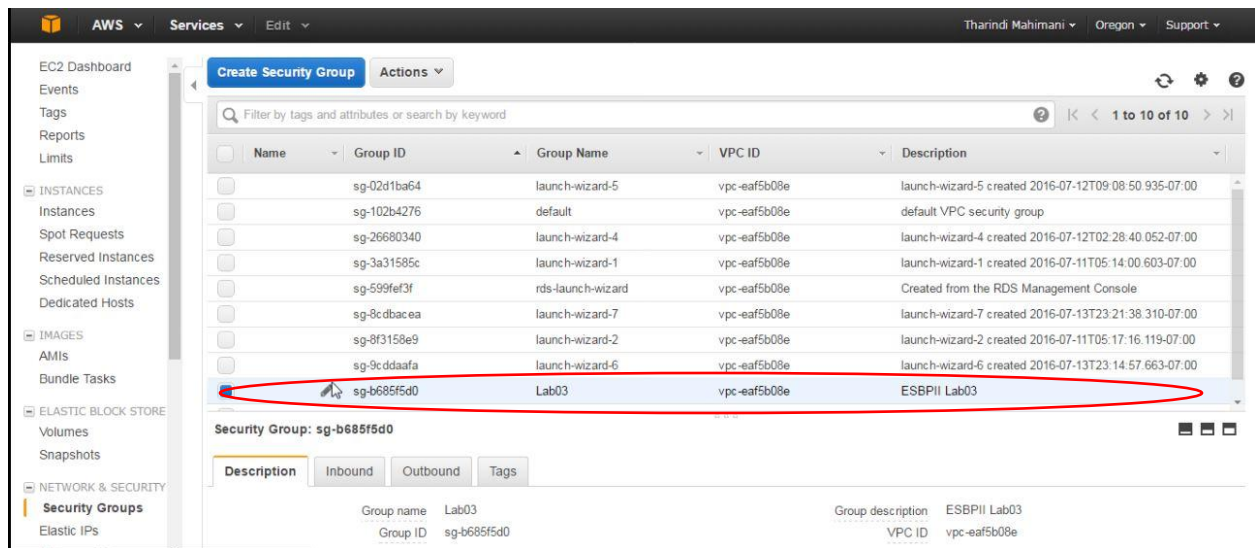
Inbound | Outbound

Type	Protocol	Port Range	Source
MYSQL/Aurora	TCP	0	Custom

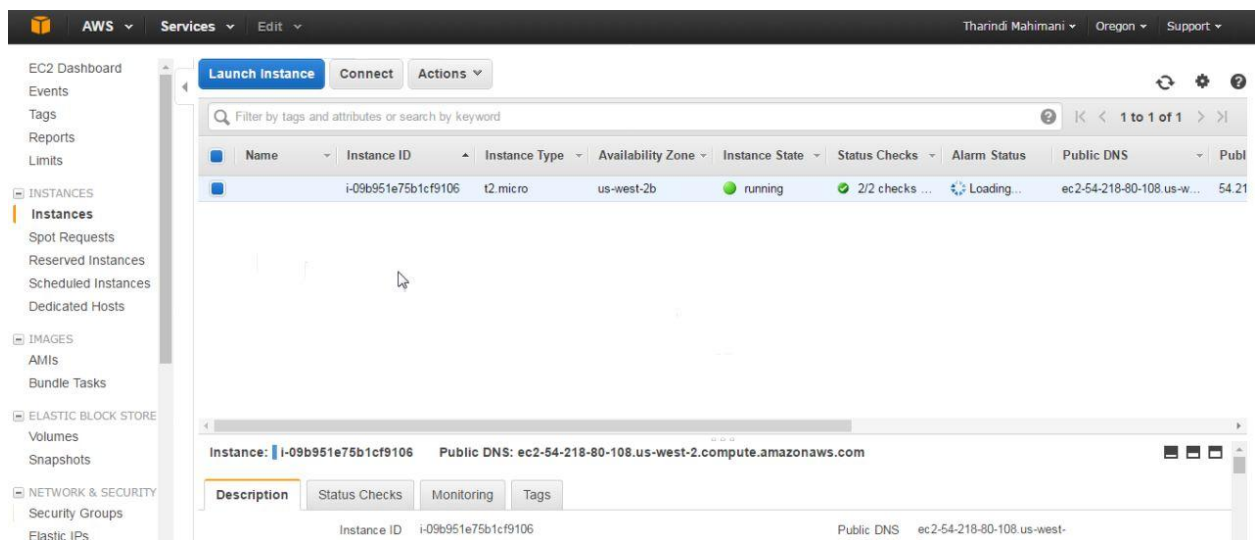
Add Rule

Cancel Create

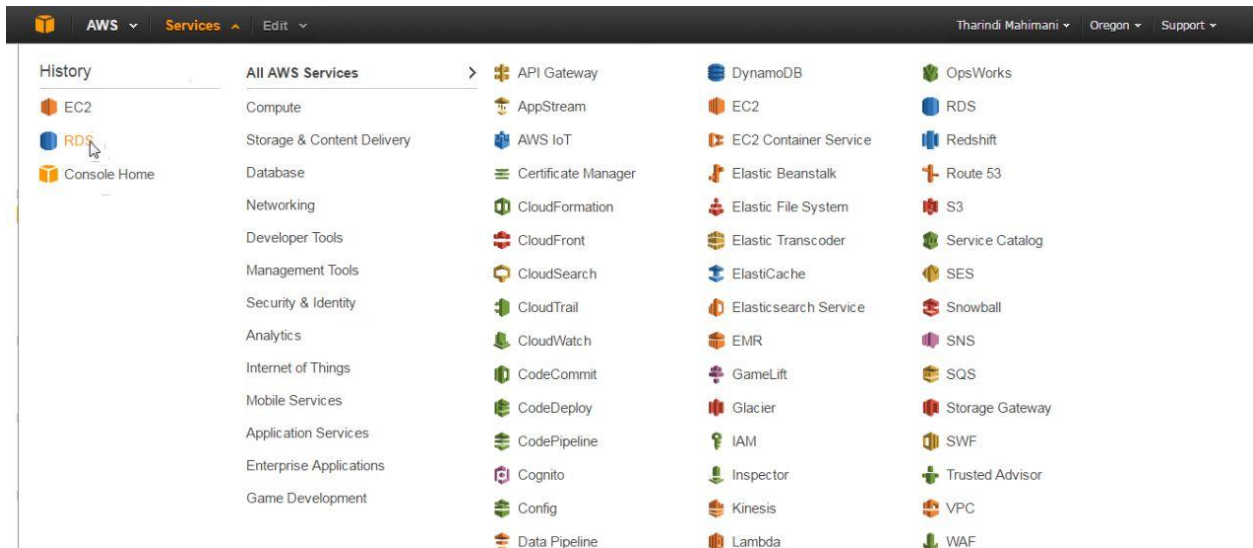
In here it must select Type as “MYSQL/Aurora” then it can create after creating the security group it Can look as below



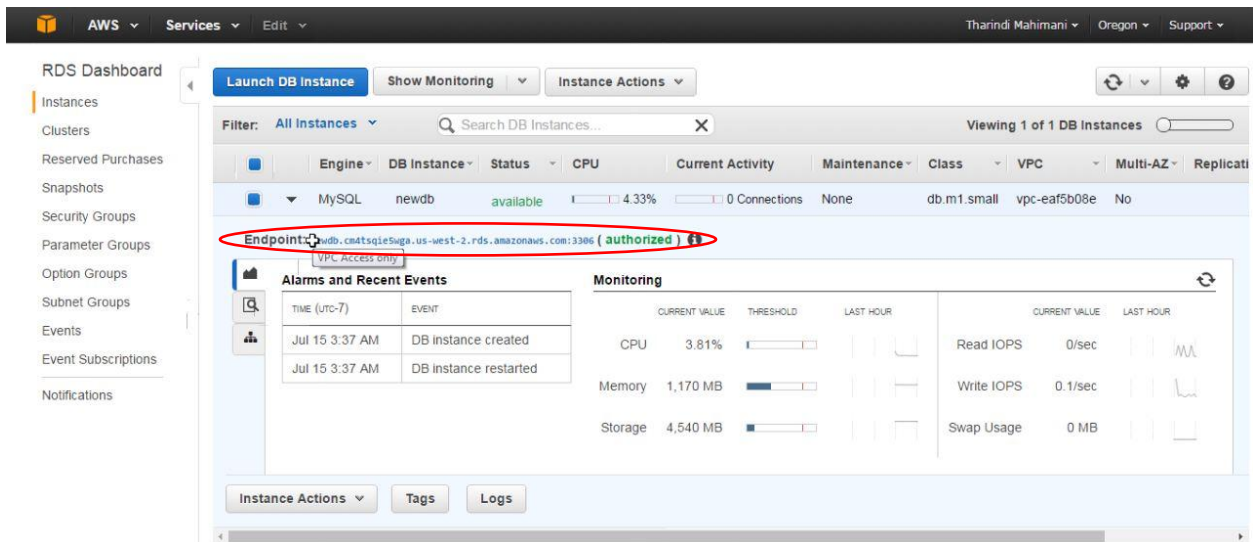
Then It have to go to the instance and check on it



Now in here the DB instance in running state. Then go to the Services and select RDS



From their it can get a look for DB instance which we crated before in detail,



After completing the process it get a key in end point .By using that key it can Connecting to a Database on a DB Instance Running the MySQL Database Engine. To do that process it must have MY SQL work bench on your machine.

