SRI LANKA INSTITUTE OF INFORMATION TECHNOLOGY

Enterprise Standards and Best Practices for IT Infrastructure

4th Year 2nd Semester 2016

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SLIIT ID: IT13017866

Practical Session: Tuesday - WE

Practical Number : Lab 01/ 02/ 03

Date of Submission: 30/07/2016

Date of Evaluation : _____

Evaluators Signature : _____

Content

Amazon Web Services (AWS)

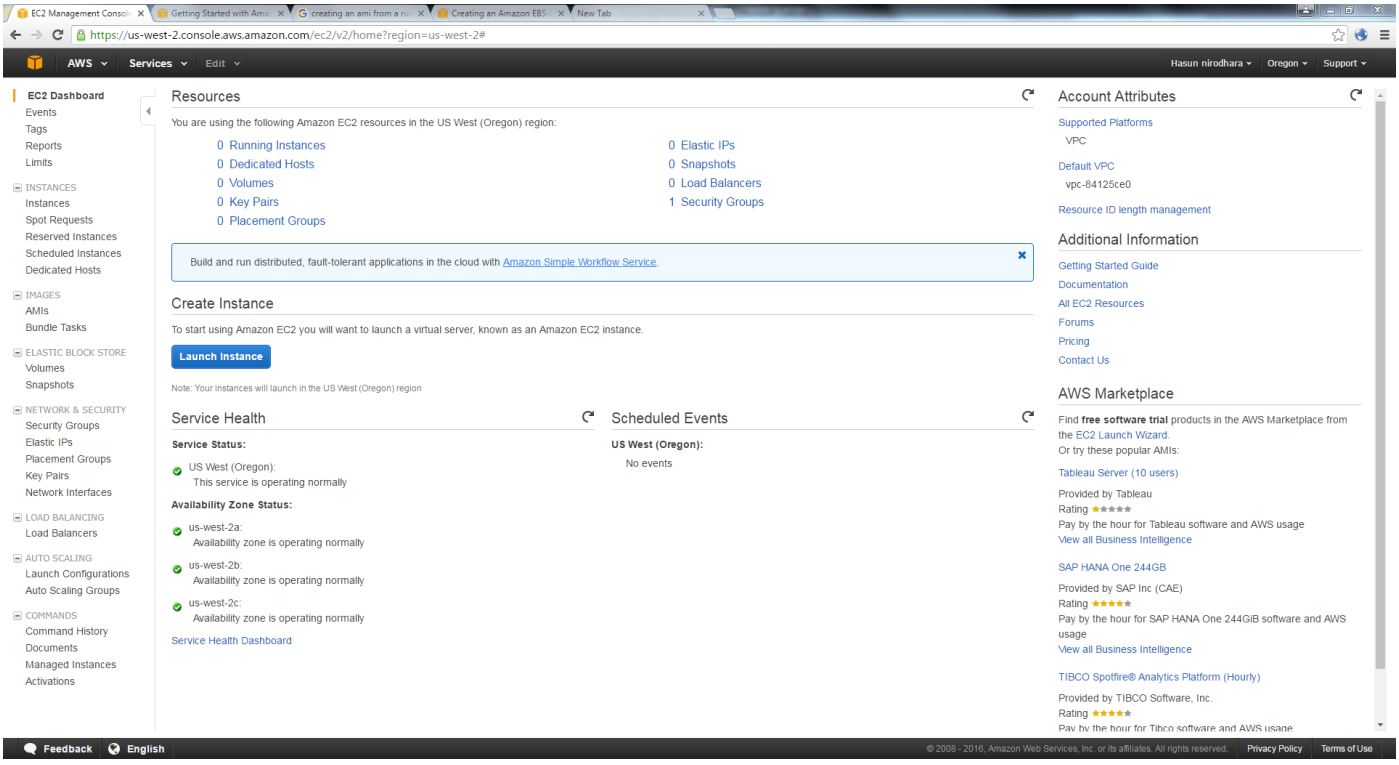
Amazon Web services (AWS) is a cloud platform which provides various on demand cloud services for the industrial and personal objectives. In terms of services AWS offers, compute, database functionalities and storage, content delivery, operating systems and other server functions to help businesses to scale and grow in their specialization.

Task 01

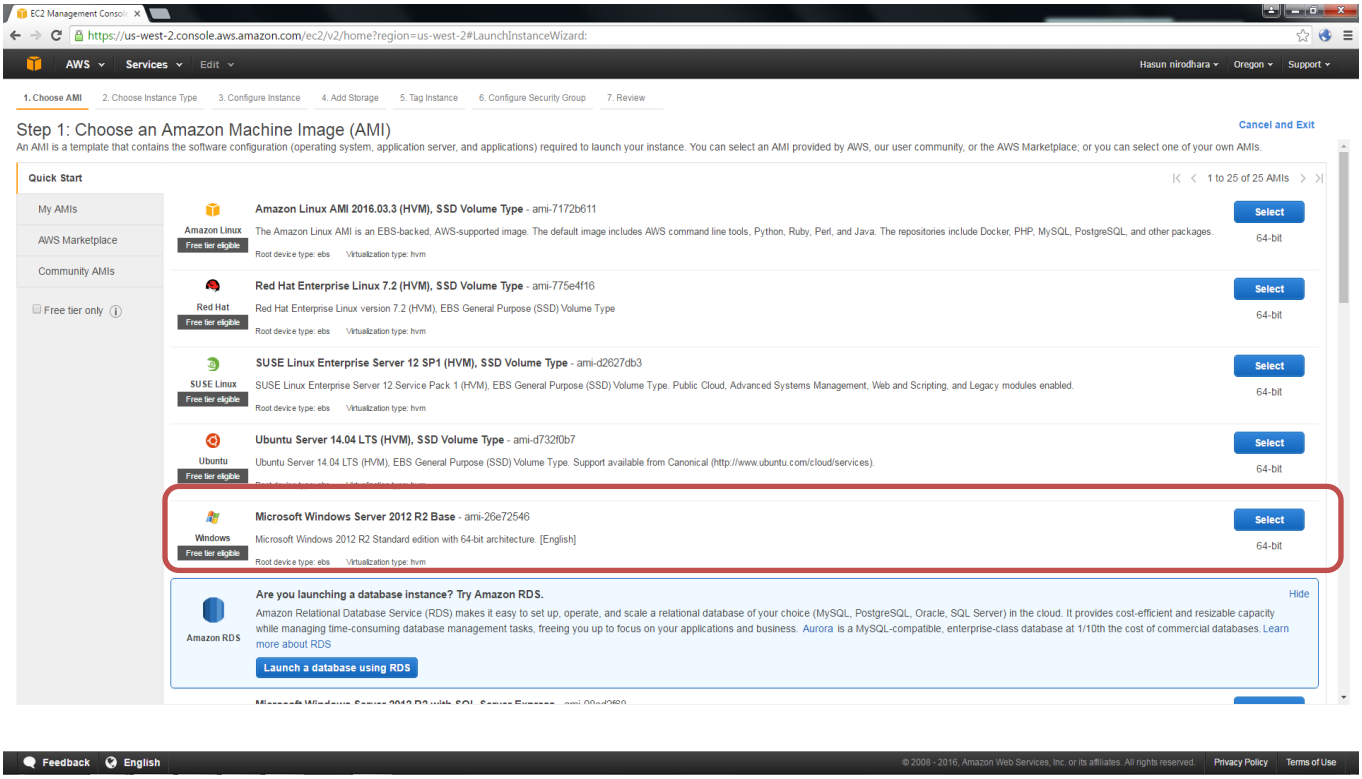
Creating a Windows 2012 server in AWS environment.

- Requirements
    - It is required to have a AWS account with verified payment method.

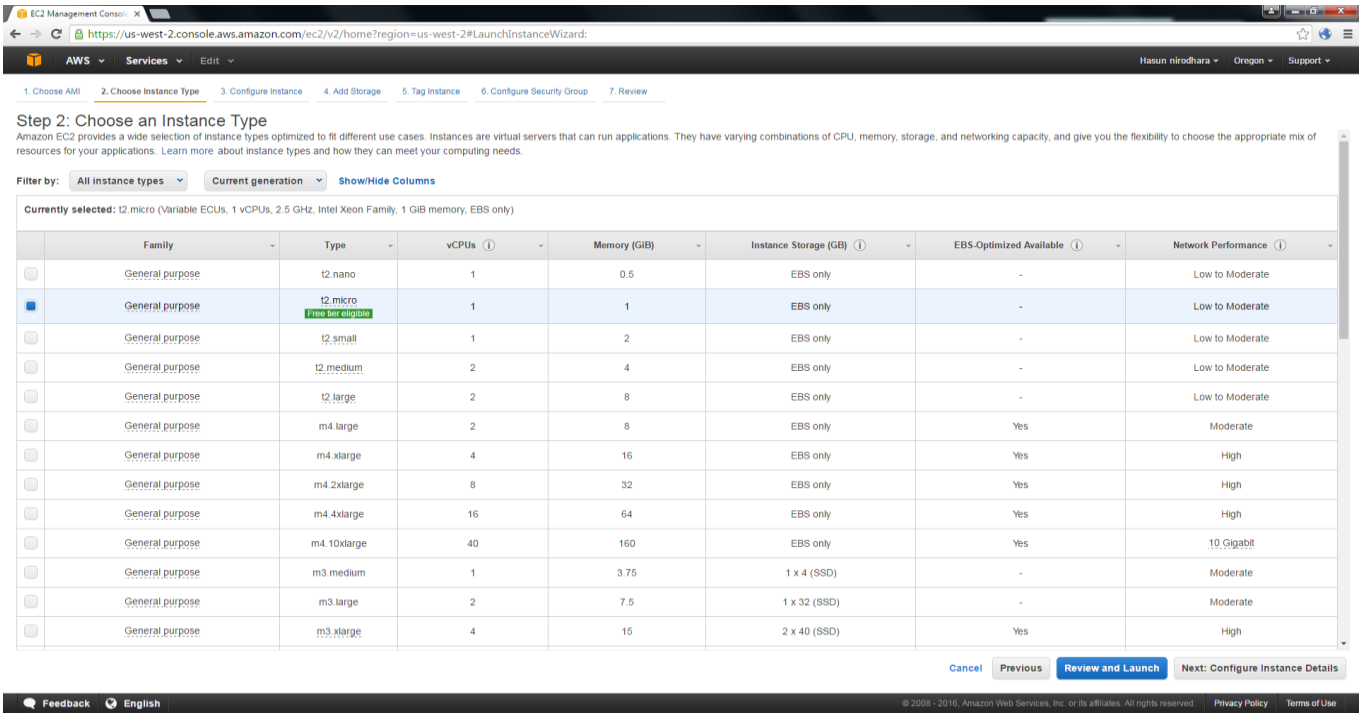
- Log in to the AWS console with the AWS account credentials and select **EC2** platform . Automatically it will direct to the Instance menu. In the menu all the details of the instances will be shown.
- Select **Launch Instance** to create a new instance.



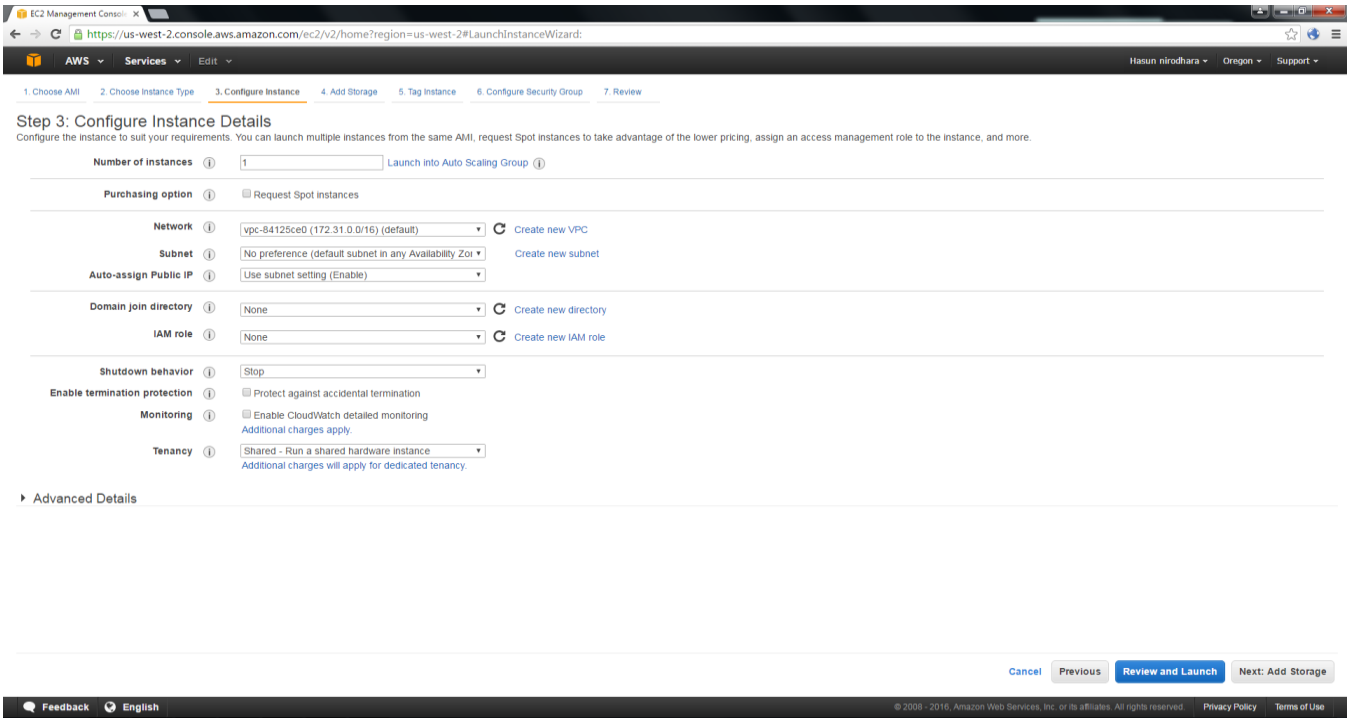
- Next window will show all the instances models this AWS platform compatible with and select **Microsoft Windows Server 2012 R2 Base** and select **Next: Configure Instance**.



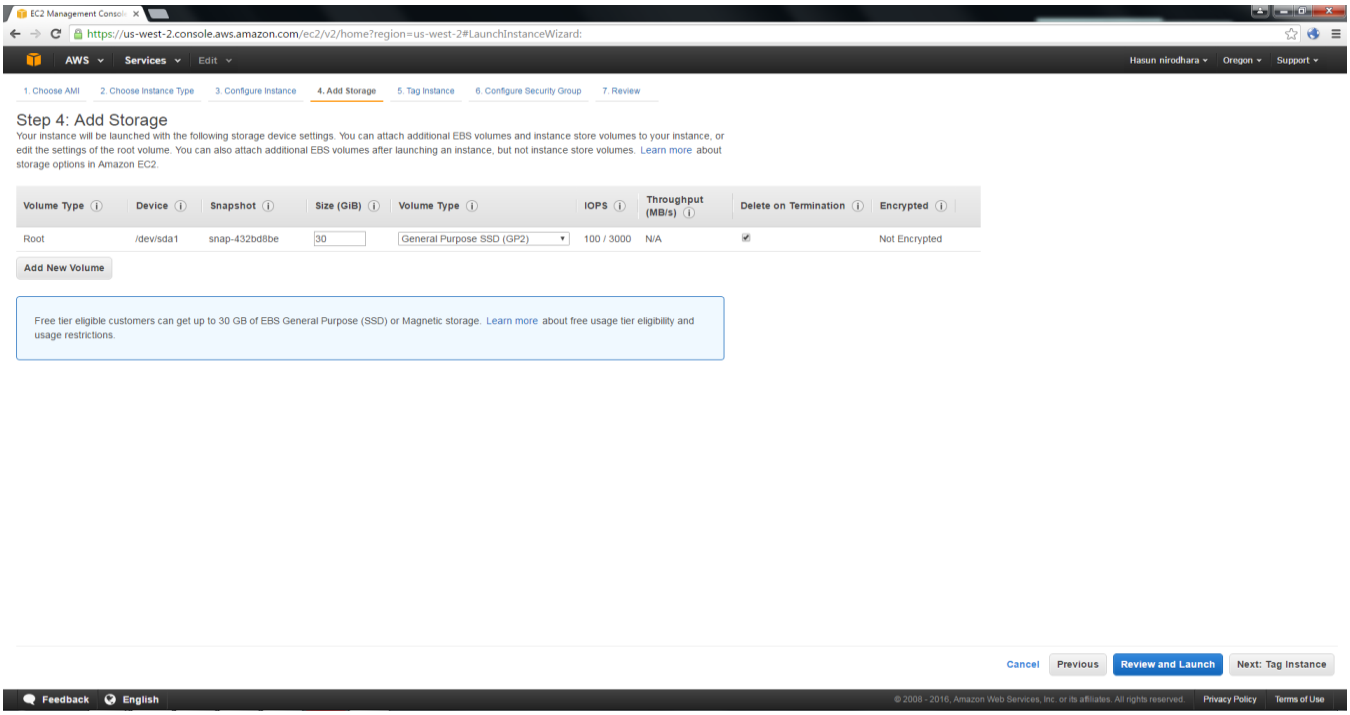
- In the next window select the PC performance as per the requirement. In this case leave the selection as it is.



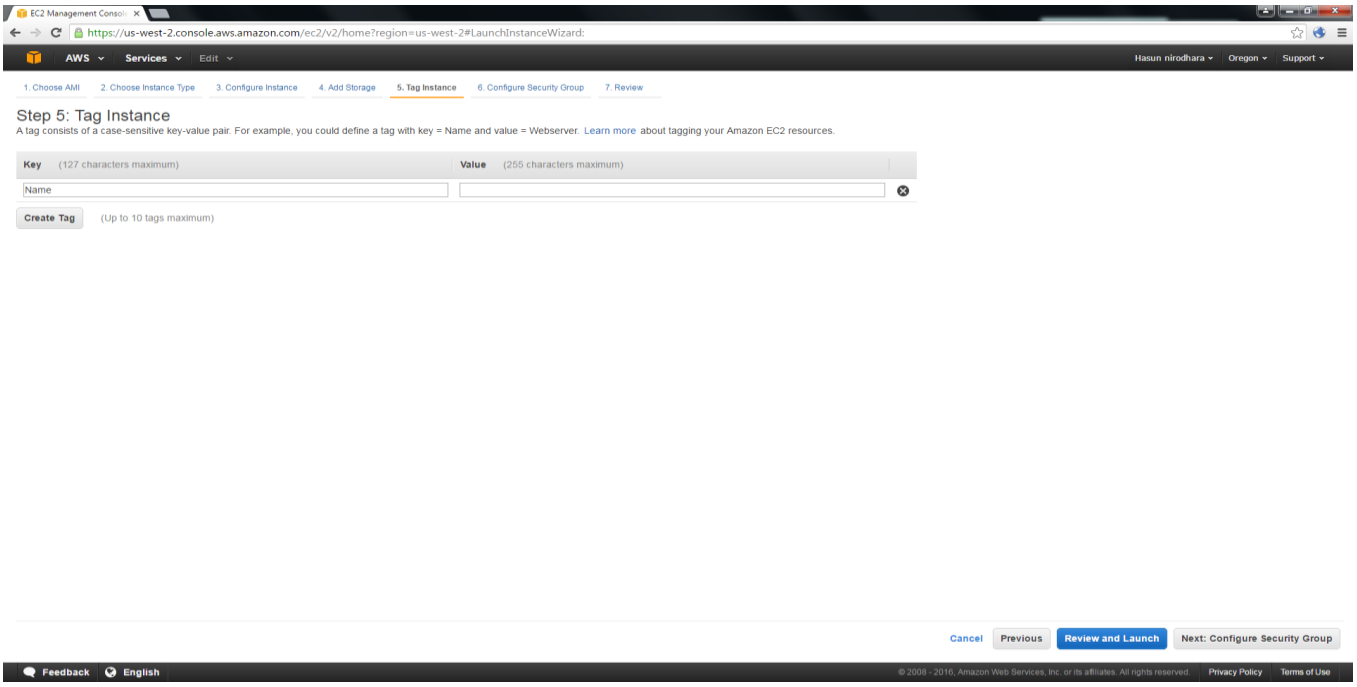
- Keep the all settings in the next page as default or else it can be changes as required.



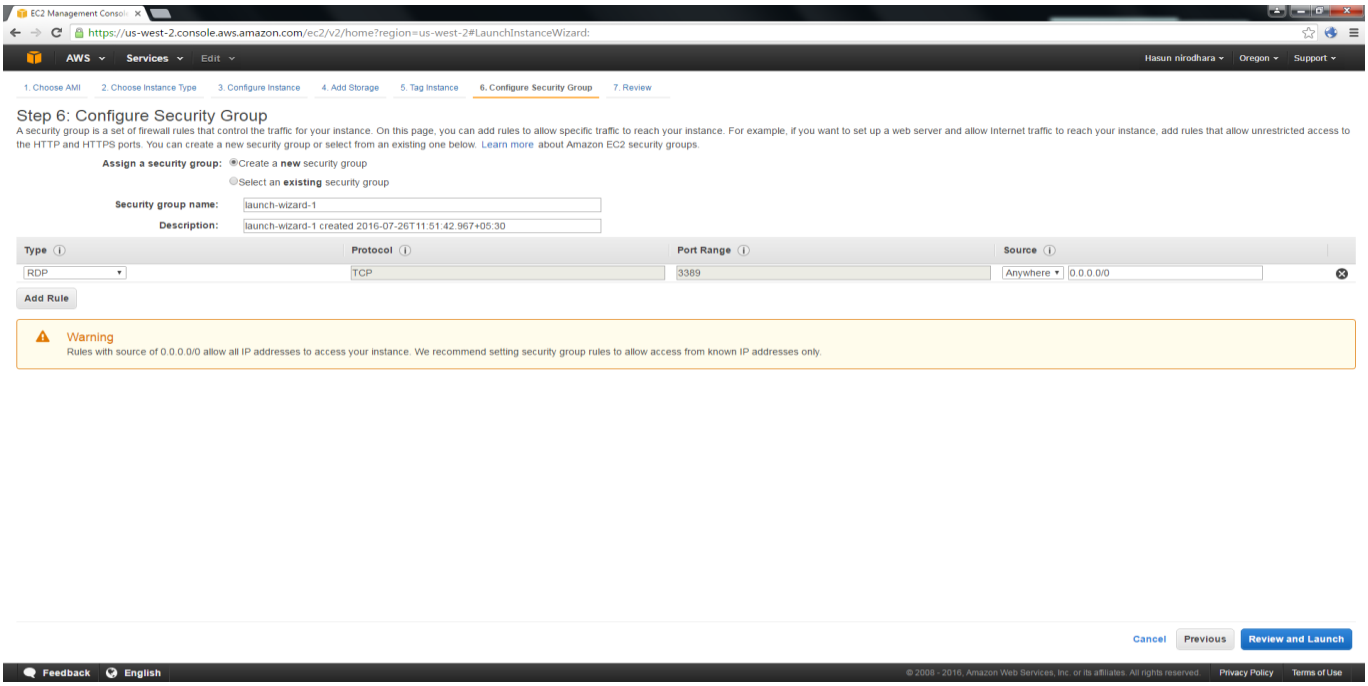
- In the next window we can add storage to the created server instance.



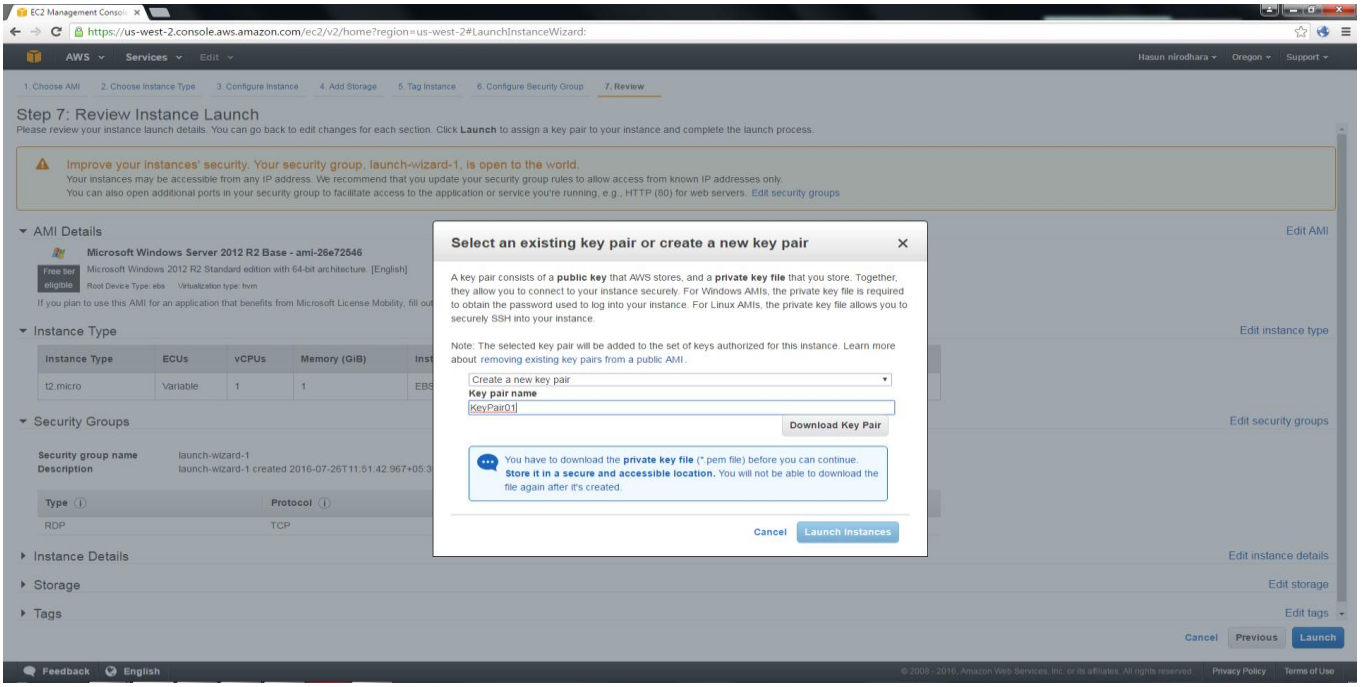
- A new Key pair can be created in this window but we will create it later.



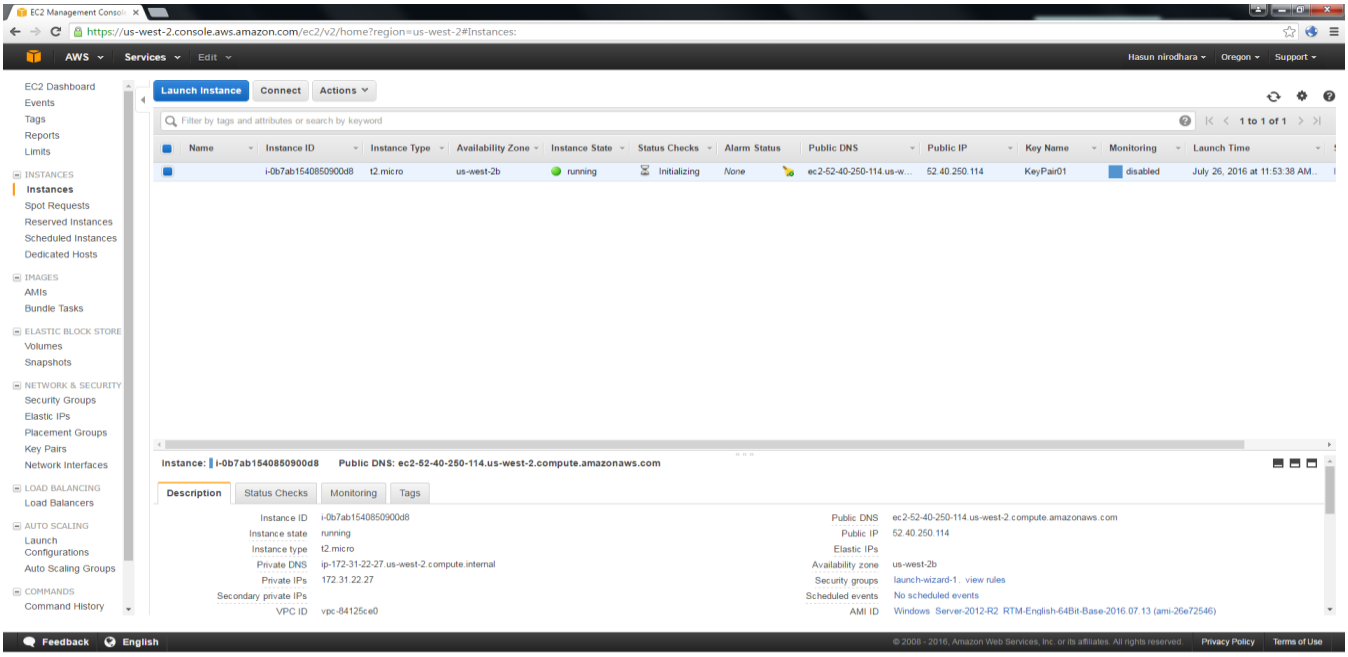
- In this window we can create new security group which specifies the security specification who can access the instance from where it can be accessed. For now keep the default values.



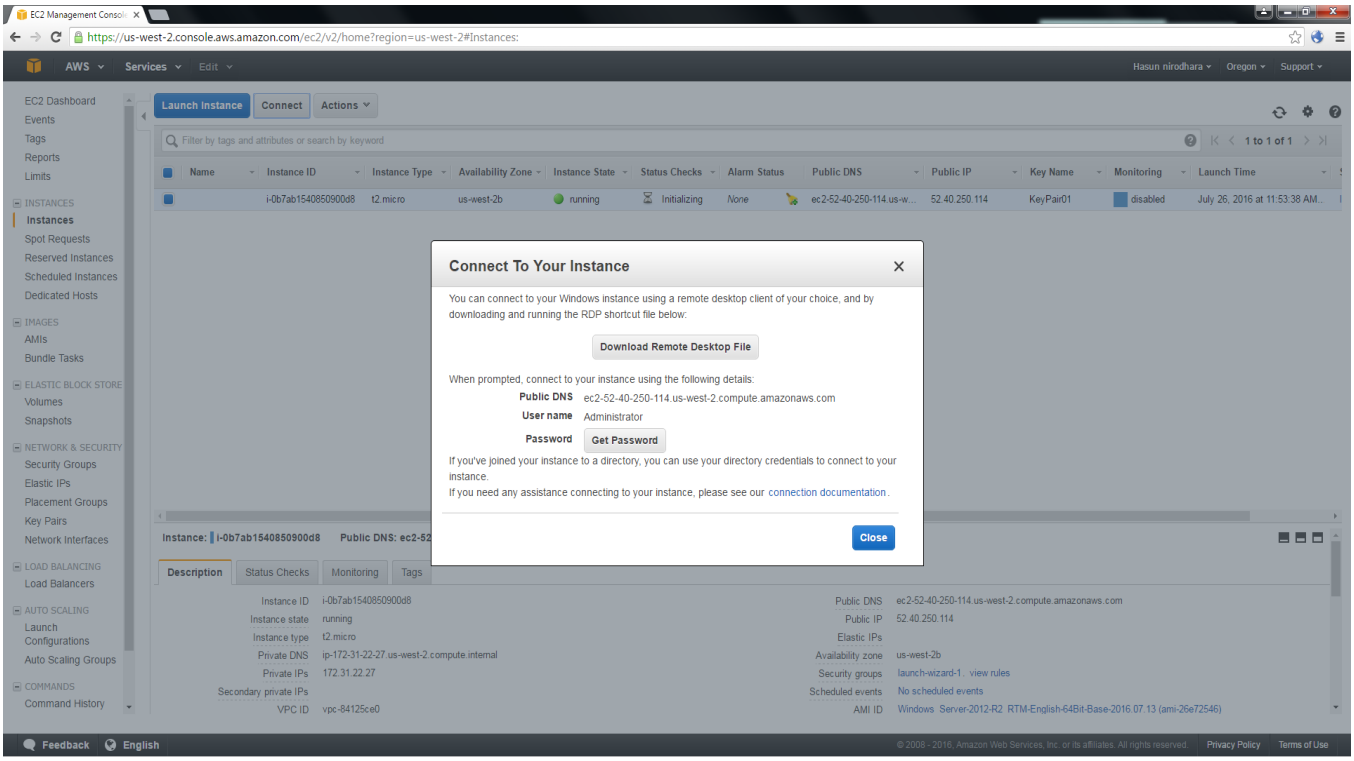
- In the next window we will have to create a authentication key to generate password when connecting to the windows server. Select to create a new key pair and provide the key value.



- Now created instance will be shown in the instances tab.



- Now connect to the instance. Each time we are connecting to the instance we will have to obtain a password using the key pair that we created.
- Use the generated password and username as Administrator to connect to the server.


EC2 Management Console
https://us-west-2.console.aws.amazon.com/ec2/v2/home?region=us-west-2#Instances:
AWS
Services
Edit
Hasun nirodhara
Oregon
Support
EC2 Dashboard
Events
Tags
Reports
Limits
INSTANCES
Instances
Spot Requests
Reserved Instances
Scheduled Instances
Dedicated Hosts
IMAGES
AMIs
Bundle Tasks
ELASTIC BLOCK STORE
Volumes
Snapshots
NETWORK & SECURITY
Security Groups
Elastic IPs
Placement Groups
Key Pairs
Network Interfaces
LOAD BALANCING
Load Balancers
AUTO SCALING
Launch Configurations
Auto Scaling Groups
COMMANDS
Command History
Launch Instance
Connect
Actions
Filter by tags and attributes or search by keyword
1 to 1 of 1
Name
Instance ID
Instance Type
Availability Zone
Instance State
Status Checks
Alarm Status
Public DNS
Public IP
Key Name
Monitoring
Launch Time
i-0b7ab1540850900d8
t2.micro
us-west-2b
running
Initializing
None
ec2-52-40-250-114.us-w...
52.40.250.114
KeyPair01
disabled
July 26, 2016 at 11:53:38 AM...
Connect To Your Instance
You can connect to your Windows instance using a remote desktop client of your choice, and by downloading and running the RDP shortcut file below:
Download Remote Desktop File
When prompted, connect to your instance using the following details:
Public DNS ec2-52-40-250-114.us-west-2.compute.amazonaws.com
User name Administrator
Password Get Password
If you've joined your instance to a directory, you can use your directory credentials to connect to your instance.
If you need any assistance connecting to your instance, please see our connection documentation.
Close
Instance: i-0b7ab1540850900d8
Public DNS: ec2-52
Description
Status Checks
Monitoring
Tags
Instance ID i-0b7ab1540850900d8
Instance state running
Instance type t2.micro
Private DNS ip-172-31-22-27.us-west-2.compute.internal
Private IPs 172.31.22.27
Secondary private IPs
VPC ID vpc-84125ce0
Public DNS ec2-52-40-250-114.us-west-2.compute.amazonaws.com
Public IP 52.40.250.114
Elastic IPs
Availability zone us-west-2b
Security groups launch-wizard-1. view rules
Scheduled events No scheduled events
AMI ID Windows_Server-2012-R2_RTM-English-64Bit-Base-2016.07.13 (ami-26e72546)
Feedback
English
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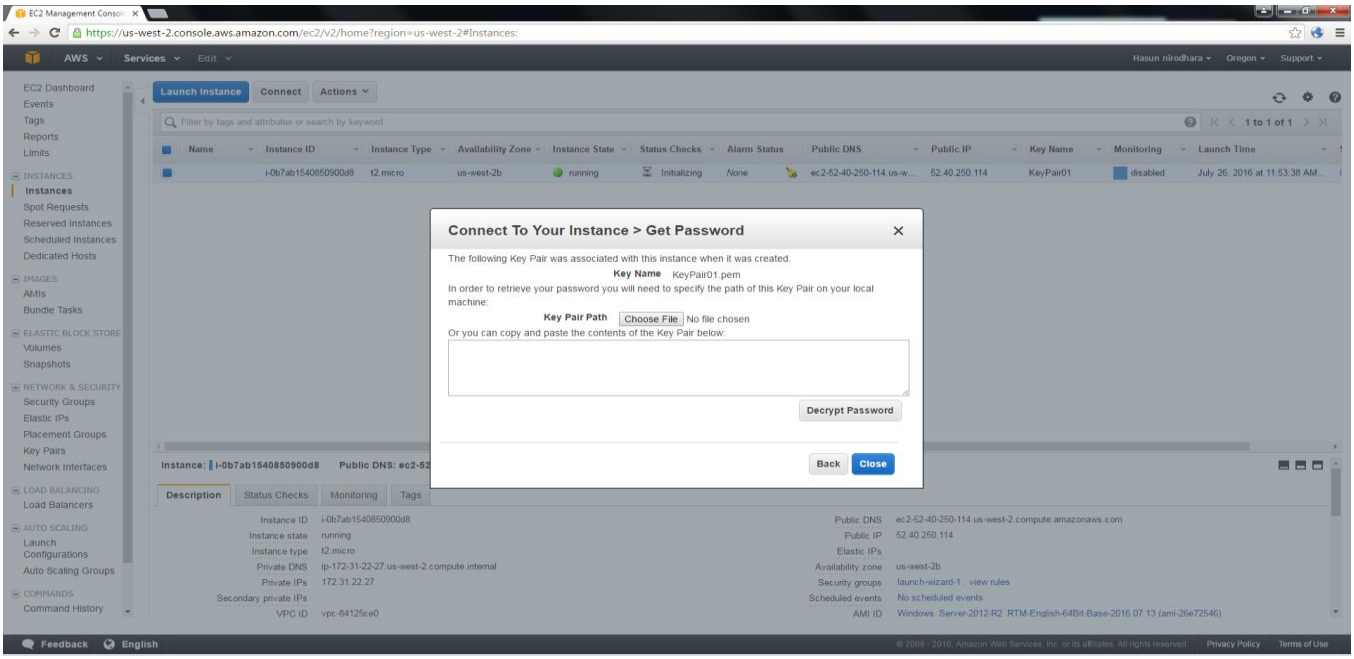
EC2 Management Console
https://us-west-2.console.aws.amazon.com/ec2/v2/home?region=us-west-2#Instances:
AWS
Services
Edit
Hasun nirodhara
Oregon
Support
EC2 Dashboard
Events
Tags
Reports
Limits
INSTANCES
Instances
Spot Requests
Reserved Instances
Scheduled Instances
Dedicated Hosts
IMAGES
AMIs
Bundle Tasks
ELASTIC BLOCK STORE
Volumes
Snapshots
NETWORK & SECURITY
Security Groups
Elastic IPs
Placement Groups
Key Pairs
Network Interfaces
LOAD BALANCING
Load Balancers
AUTO SCALING
Launch Configurations
Auto Scaling Groups
COMMANDS
Command History
Launch Instance
Connect
Actions
Filter by tags and attributes or search by keyword
1 to 1 of 1
Name
Instance ID
Instance Type
Availability Zone
Instance State
Status Checks
Alarm Status
Public DNS
Public IP
Key Name
Monitoring
Launch Time
i-0b7ab1540850900d8
t2.micro
us-west-2b
running
Initializing
None
ec2-52-40-250-114.us-w...
52.40.250.114
KeyPair01
disabled
July 26, 2016 at 11:53:38 AM...
Connect To Your Instance > Get Password
The following Key Pair was associated with this instance when it was created.
Key Name KeyPair01.pem
In order to retrieve your password you will need to specify the path of this Key Pair on your local machine:
Key Pair Path Choose File No file chosen
Or you can copy and paste the contents of the Key Pair below:
Decrypt Password
Back
Close
Instance: i-0b7ab1540850900d8
Public DNS: ec2-52
Description
Status Checks
Monitoring
Tags
Instance ID i-0b7ab1540850900d8
Instance state running
Instance type t2.micro
Private DNS ip-172-31-22-27.us-west-2.compute.internal
Private IPs 172.31.22.27
Secondary private IPs
VPC ID vpc-84125ce0
Public DNS ec2-52-40-250-114.us-west-2.compute.amazonaws.com
Public IP 52.40.250.114
Elastic IPs
Availability zone us-west-2b
Security groups launch-wizard-1. view rules
Scheduled events No scheduled events
AMI ID Windows_Server-2012-R2_RTM-English-64Bit-Base-2016.07.13 (ami-26e72546)
Feedback
English
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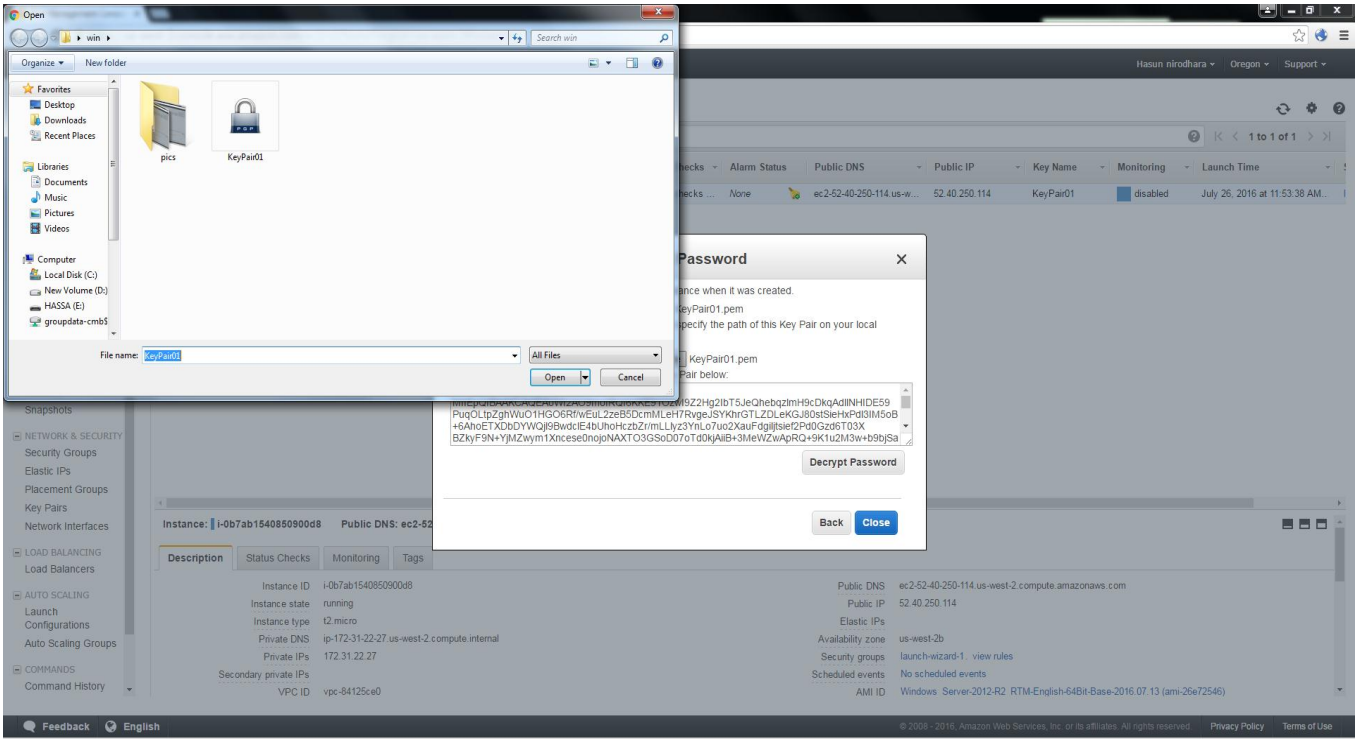
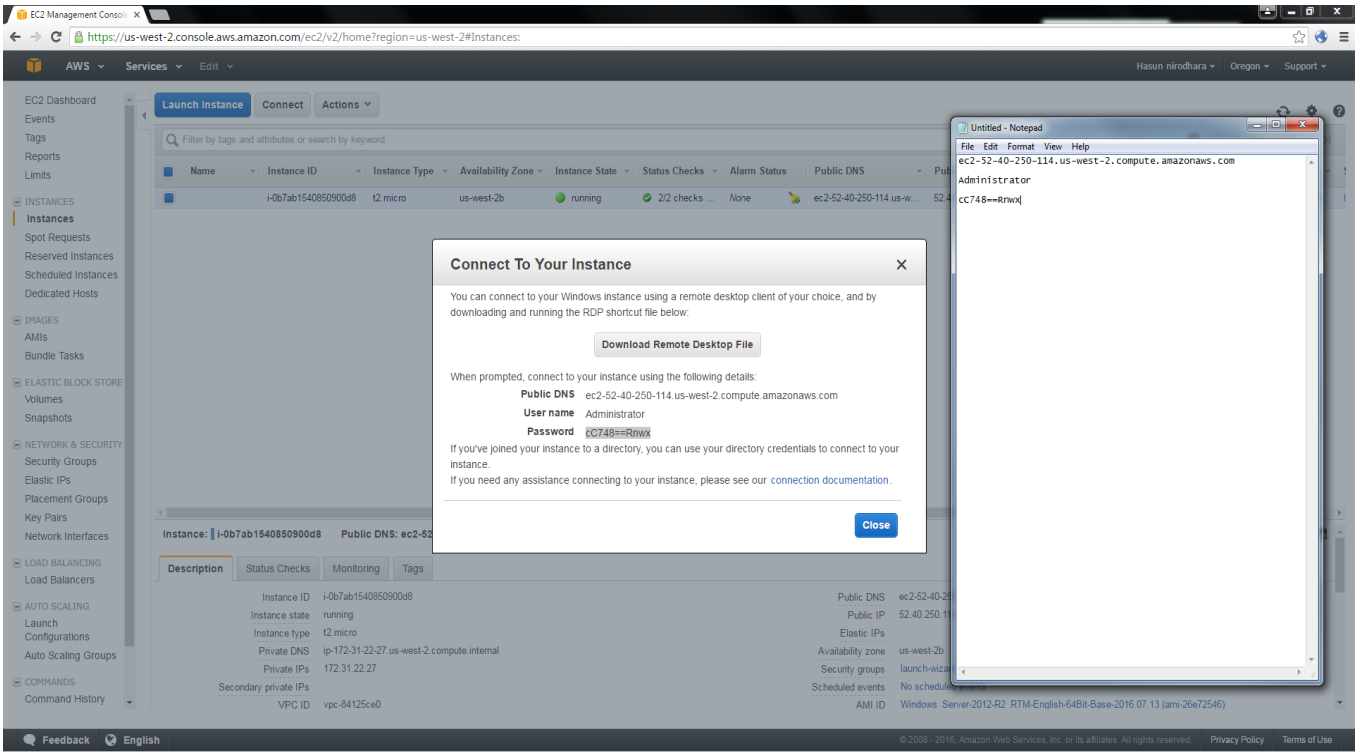
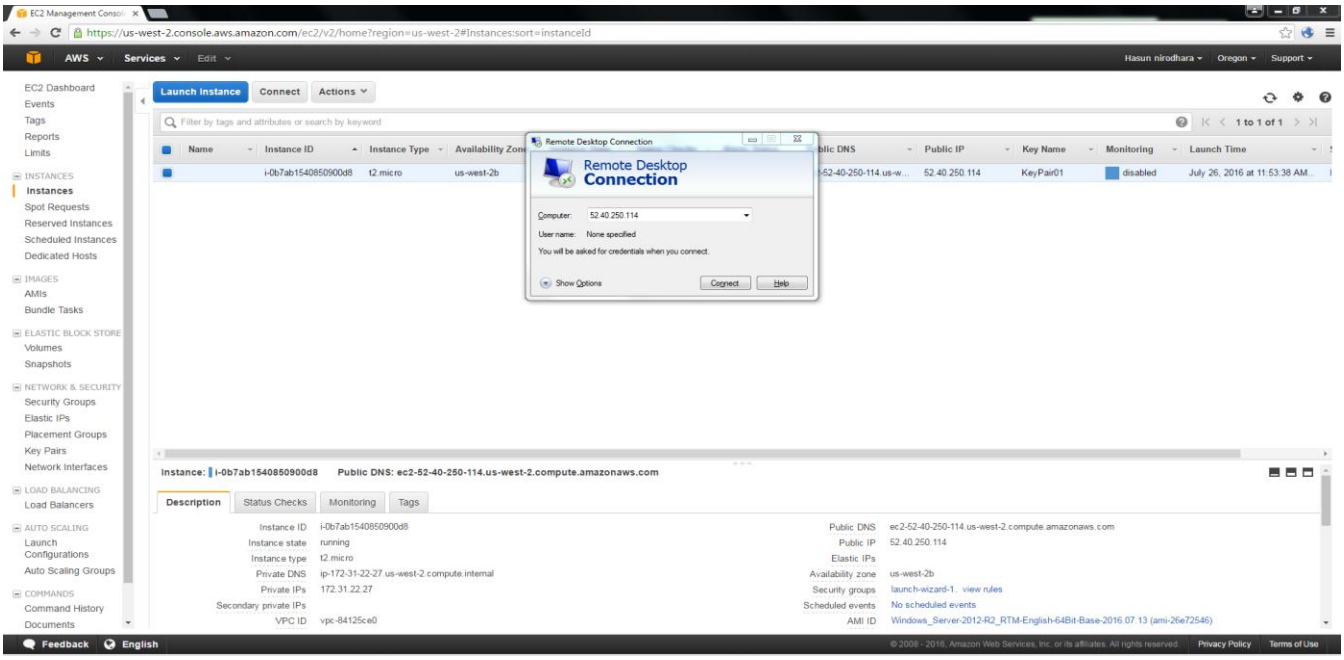
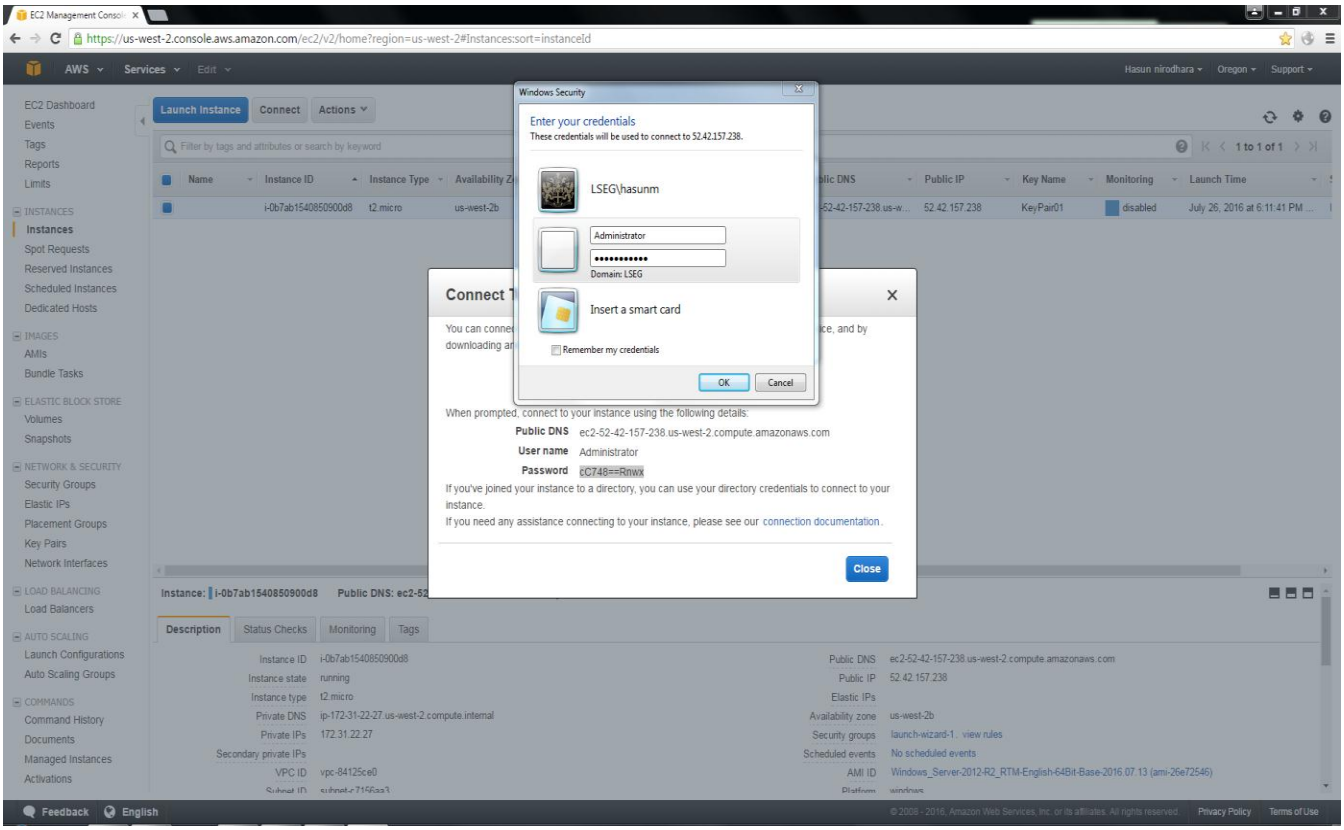
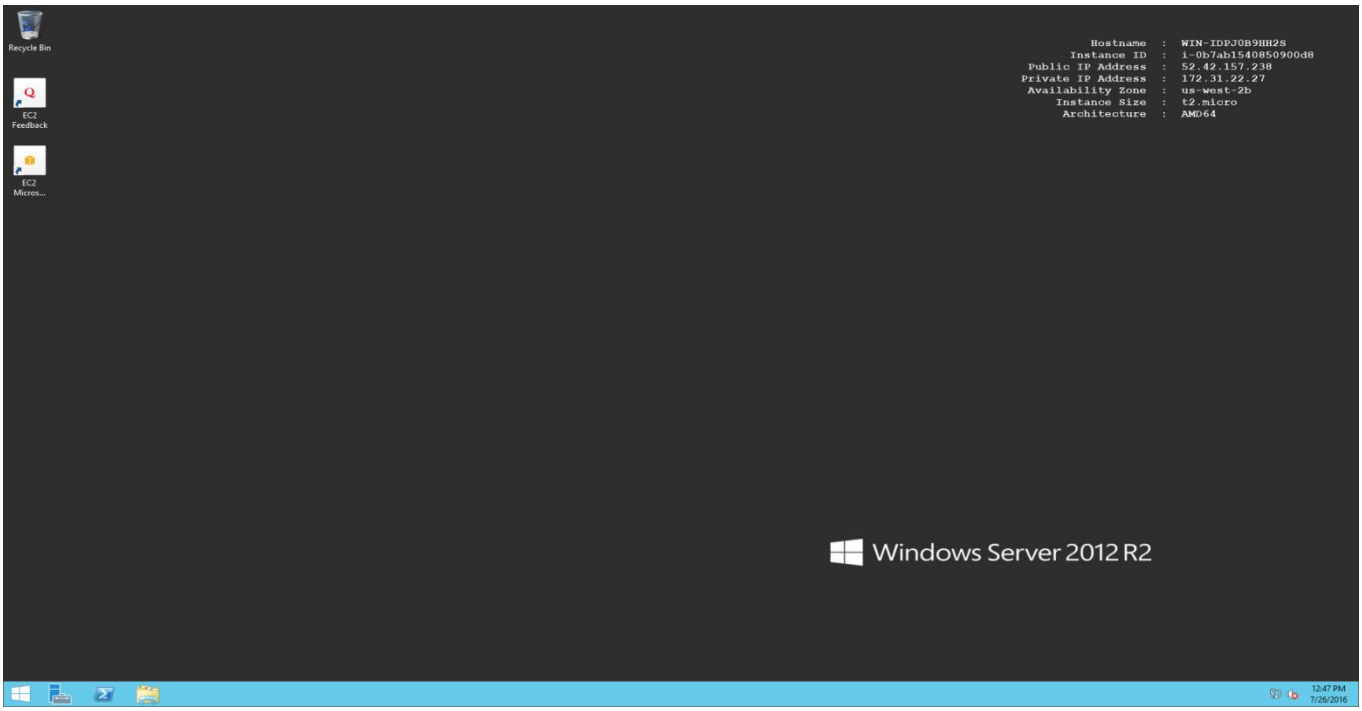

Open
win
Search win
Organize
New folder
Favorites
Desktop
Downloads
Recent Places
Libraries
Documents
Music
Pictures
Videos
Computer
Local Disk (C:)
New Volume (D:)
HASSA (E:)
groupdata-cmb$
pics
KeyPair01
File name: KeyPair01
All Files
Open
Cancel
Password
KeyPair01.pem
Decrypt Password
Back
Close
Hasun nirodhara
Oregon
Support
Launch Time
July 26, 2016 at 11:53:38 AM...
Instance: i-0b7ab1540850900d8
Public DNS: ec2-52
Description
Status Checks
Monitoring
Tags
Instance ID i-0b7ab1540850900d8
Instance state running
Instance type t2.micro
Private DNS ip-172-31-22-27.us-west-2.compute.internal
Private IPs 172.31.22.27
Secondary private IPs
VPC ID vpc-84125ce0
Public DNS ec2-52-40-250-114.us-west-2.compute.amazonaws.com
Public IP 52.40.250.114
Elastic IPs
Availability zone us-west-2b
Security groups launch-wizard-1. view rules
Scheduled events No scheduled events
AMI ID Windows Server-2012-R2 RTM-English-64Bit-Base-2016.07.13 (ami-26e72546)
Feedback
English
Privacy Policy
Terms of Use


EC2 Management Consol
https://us-west-2.console.aws.amazon.com/ec2/v2/home?region=us-west-2#Instances:
AWS
Services
Edit
Launch Instance
Connect
Actions
Connect To Your Instance
You can connect to your Windows instance using a remote desktop client of your choice, and by downloading and running the RDP shortcut file below:
Download Remote Desktop File
When prompted, connect to your instance using the following details:
Public DNS ec2-52-40-250-114.us-west-2.compute.amazonaws.com
User name Administrator
Password cC748==Rnwx
If you've joined your instance to a directory, you can use your directory credentials to connect to your instance.
If you need any assistance connecting to your instance, please see our connection documentation.
Close
Untitled - Notepad
File Edit Format View Help
ec2-52-40-250-114.us-west-2.compute.amazonaws.com
Administrator
cC748==Rnwx
Hasun nirodhara
Oregon
Support
Instance: i-0b7ab1540850900d8
Public DNS: ec2-52
Description
Status Checks
Monitoring
Tags
Instance ID i-0b7ab1540850900d8
Instance state running
Instance type t2.micro
Private DNS ip-172-31-22-27.us-west-2.compute.internal
Private IPs 172.31.22.27
Secondary private IPs
VPC ID vpc-84125ce0
Public DNS ec2-52-40-25
Public IP 52.40.250.11
Elastic IPs
Availability zone us-west-2b
Security groups launch-wizar
Scheduled events No schedule
AMI ID Windows Server-2012-R2 RTM-English-64Bit-Base-2016.07.13 (ami-26e72546)
Feedback
English
Privacy Policy
Terms of Use

- Take a remote desktop session using public IP address of the server. Provide the Username and the generated password to connect.



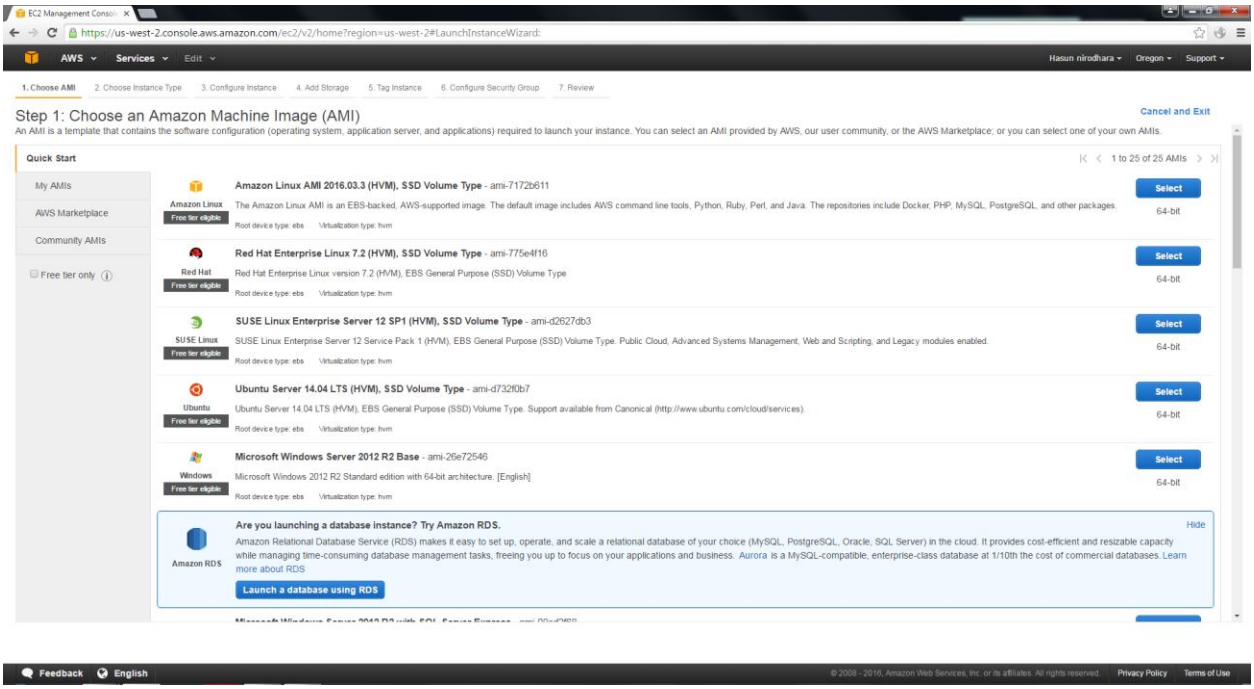



Recycle Bin
EC2 Feedback
EC2 Micros...
Hostname : WIN-IDPJOB9HH2S
Instance ID : i-0b7ab1540850900d8
Public IP Address : 52.42.157.238
Private IP Address : 172.31.22.27
Availability Zone : us-west-2b
Instance Size : t2.micro
Architecture : AMD64
Windows Server 2012 R2
12:47 PM
7/26/2016

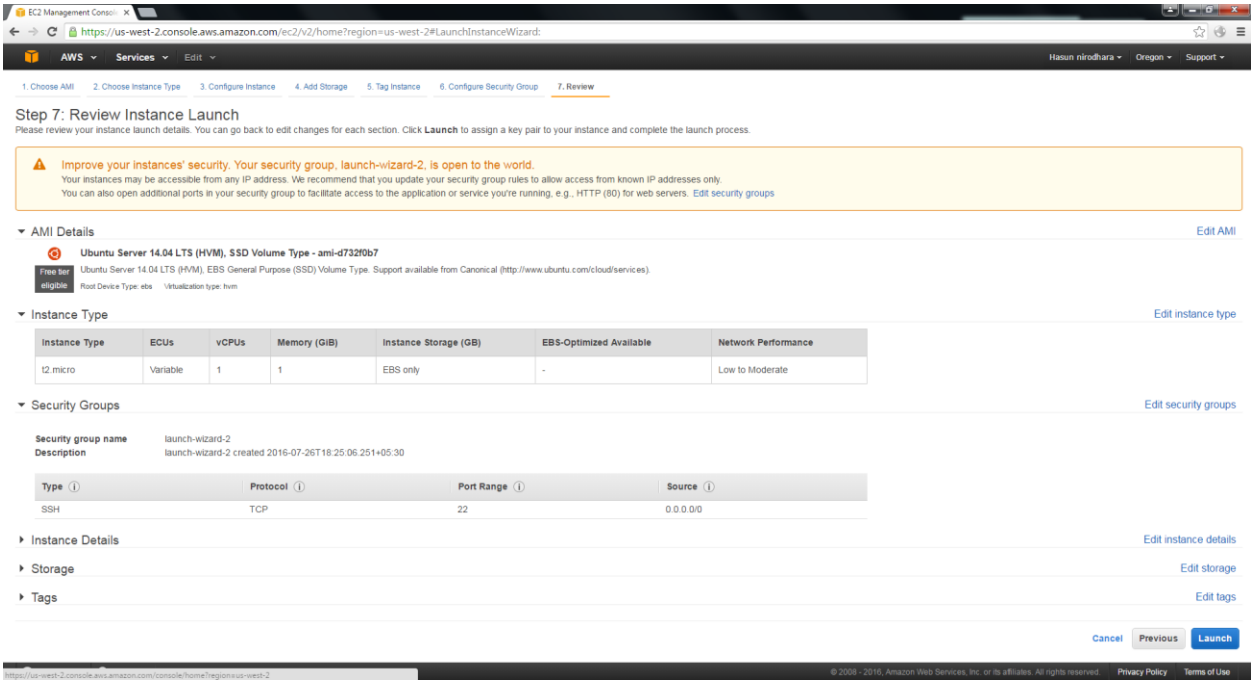
Task 02

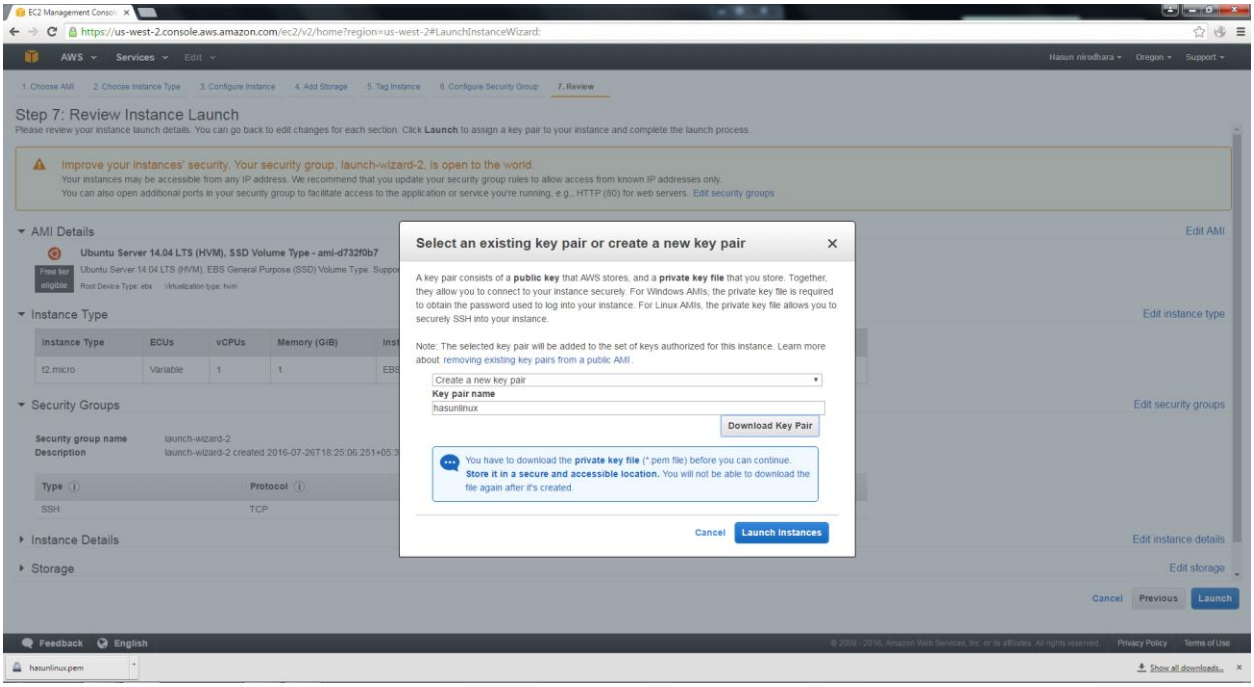
Creating a Linux instance in AWS

- Logged in to the AWS console and in the instances tab, launch a new instance in the EC2 container.
- Select UBUNTU from the instances list.

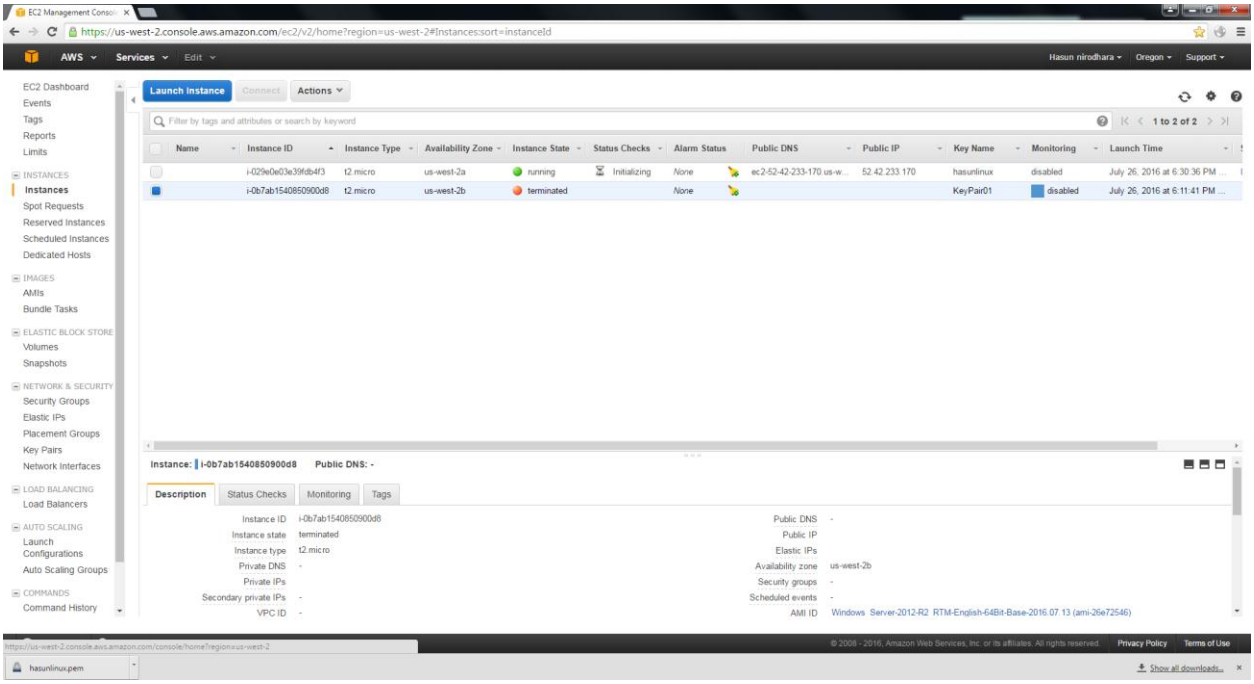


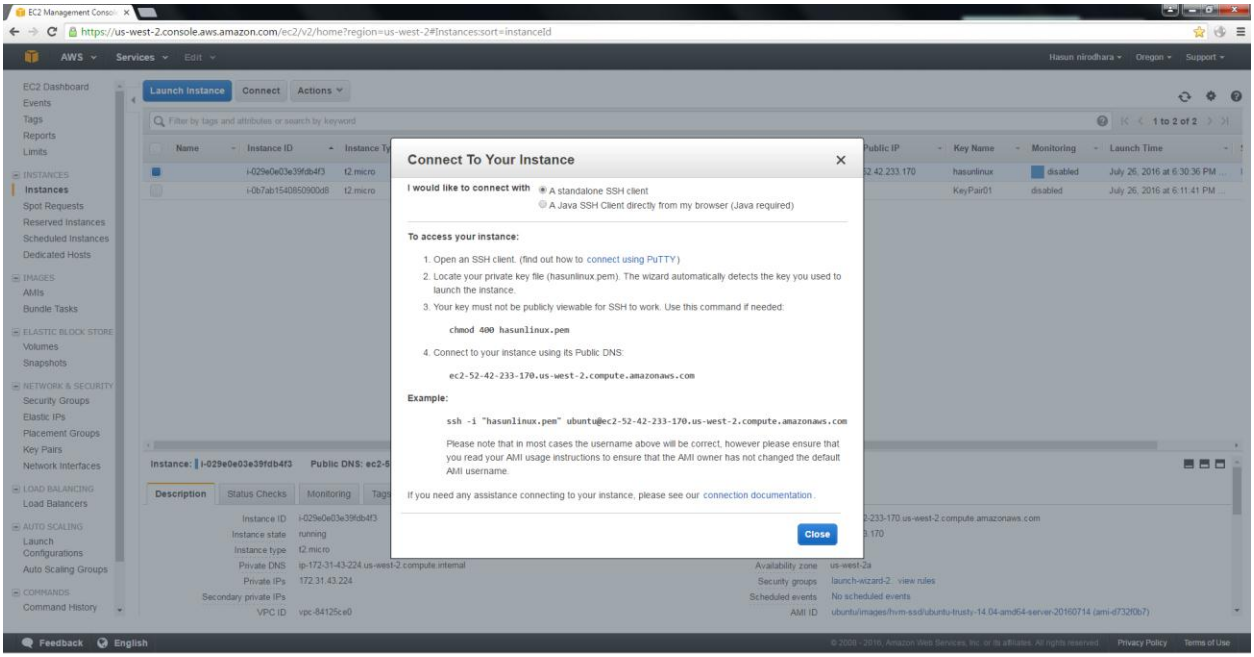
- In the next window all the details of the instance will be displayed and we will have to create a key pair to generate a authentication key.



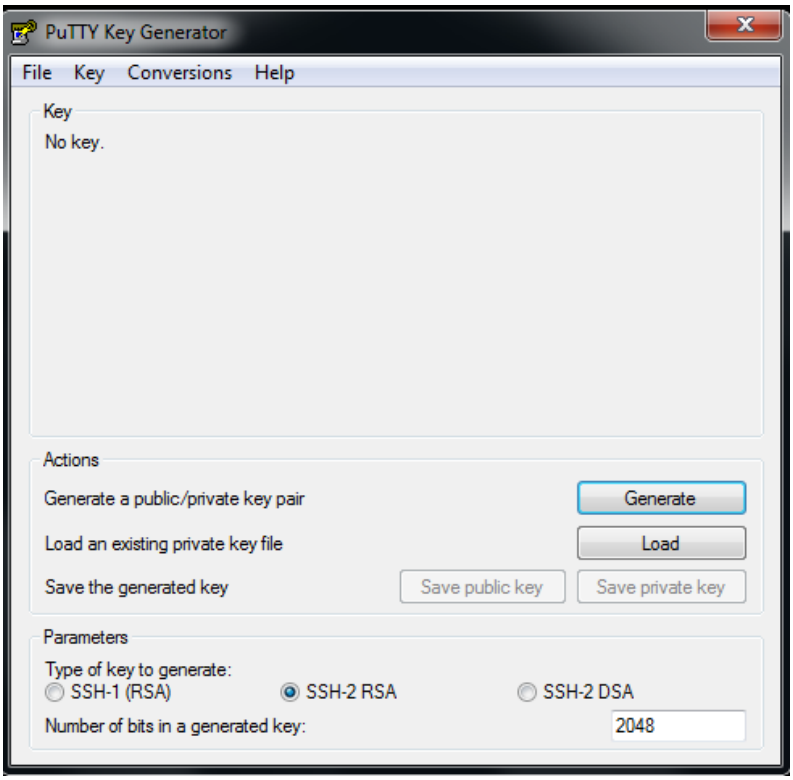


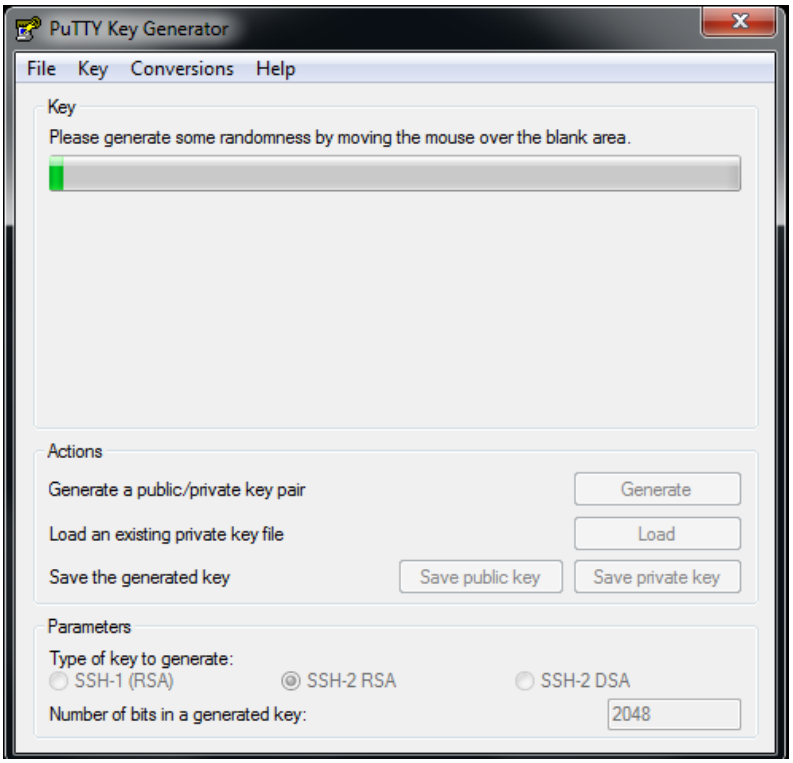
- Make sure to download and keep the key pair at safer place.
- In the next window will display all the instances created.
- Connect to the linux instance and it will show the necessary steps to connect using ssh protocol.



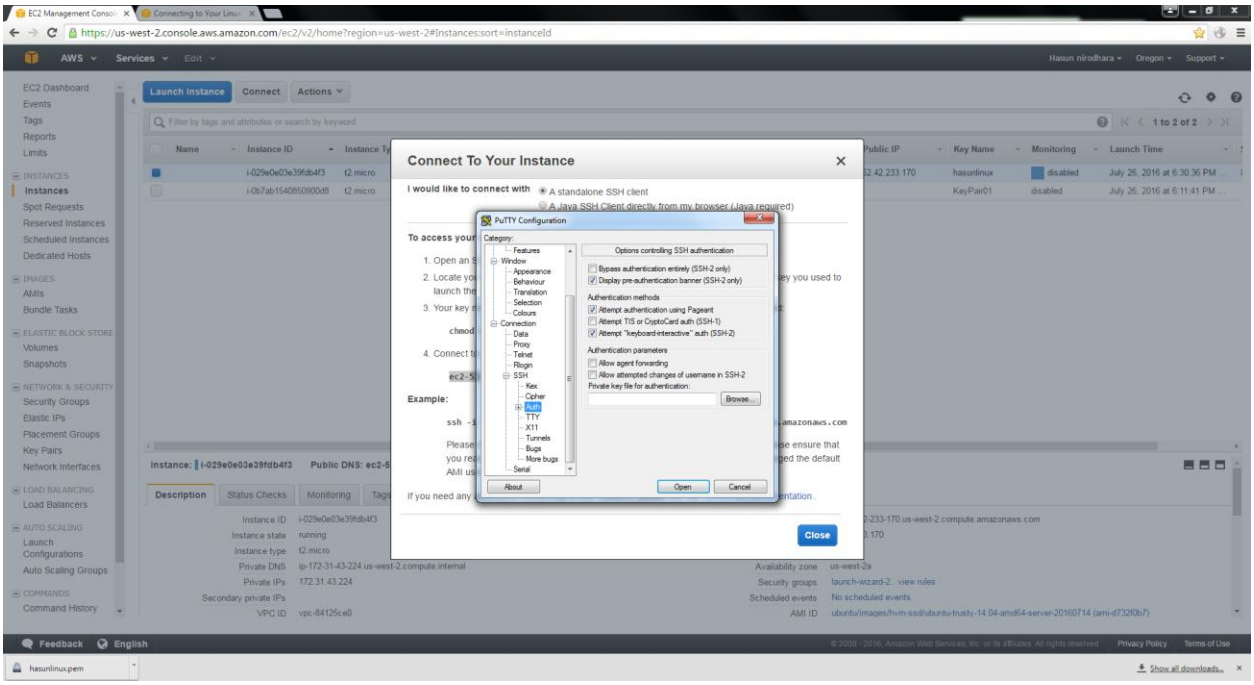


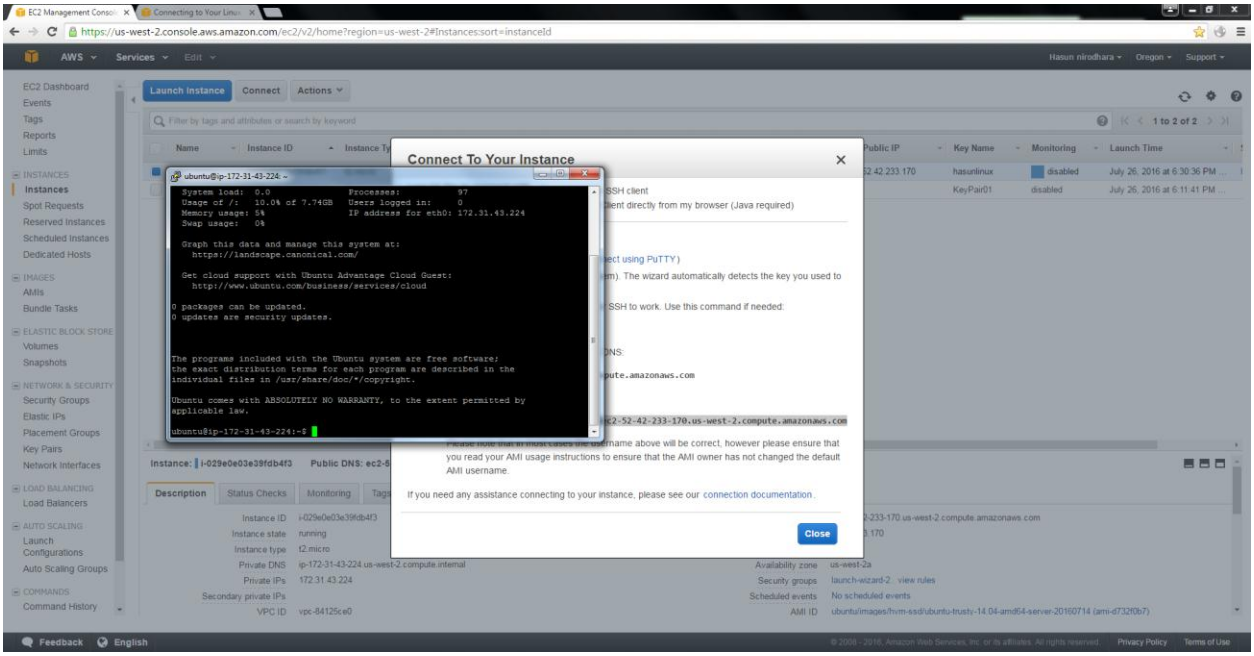
- Download *puttygen* and generate a private key using the key pair that we created earlier.
- Use that private key to connect using ssh in putty.


PuTTY Key Generator
File Key Conversions Help
Key
No key.
Actions
Generate a public/private key pair
Generate
Load an existing private key file
Load
Save the generated key
Save public key
Save private key
Parameters
Type of key to generate:
SSH-1 (RSA)
SSH-2 RSA
SSH-2 DSA
Number of bits in a generated key:
2048


PuTTY Key Generator
File Key Conversions Help
Key
Please generate some randomness by moving the mouse over the blank area.
Actions
Generate a public/private key pair
Generate
Load an existing private key file
Load
Save the generated key
Save public key
Save private key
Parameters
Type of key to generate:
SSH-1 (RSA)
SSH-2 RSA
SSH-2 DSA
Number of bits in a generated key:
2048

- Type the public IP address or the DNS address at the session ssh tab and browse and provide the private key at the authentication tab under ssh in putty.

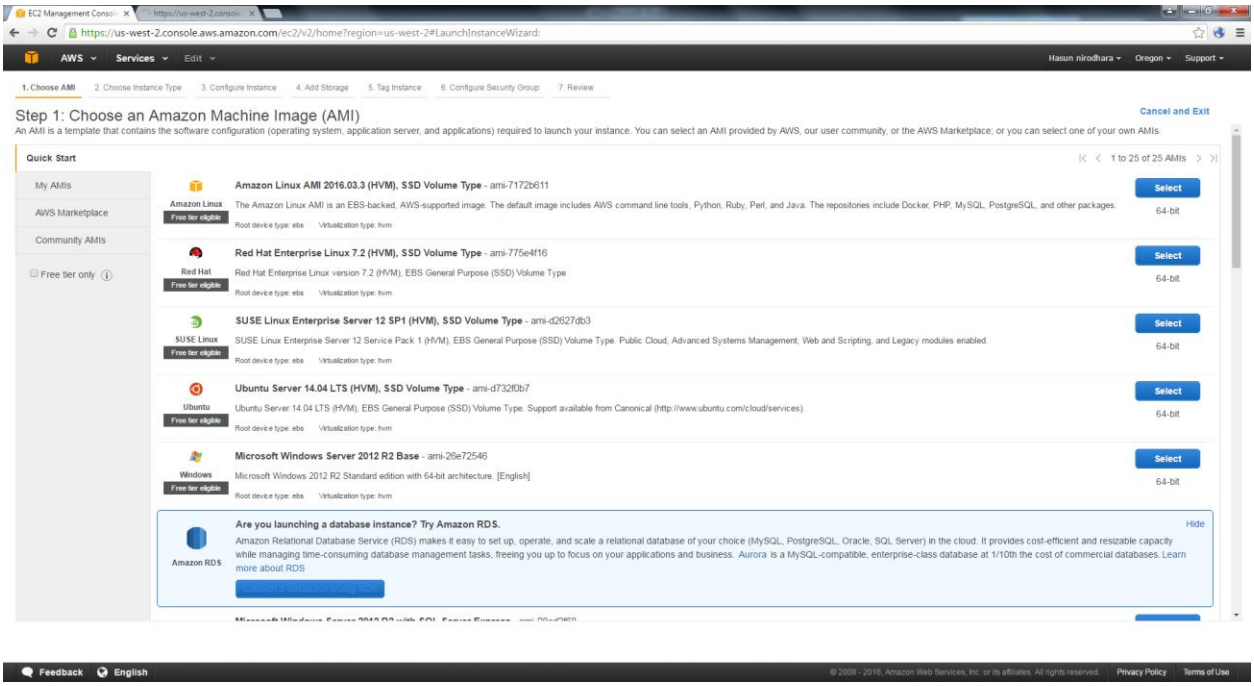


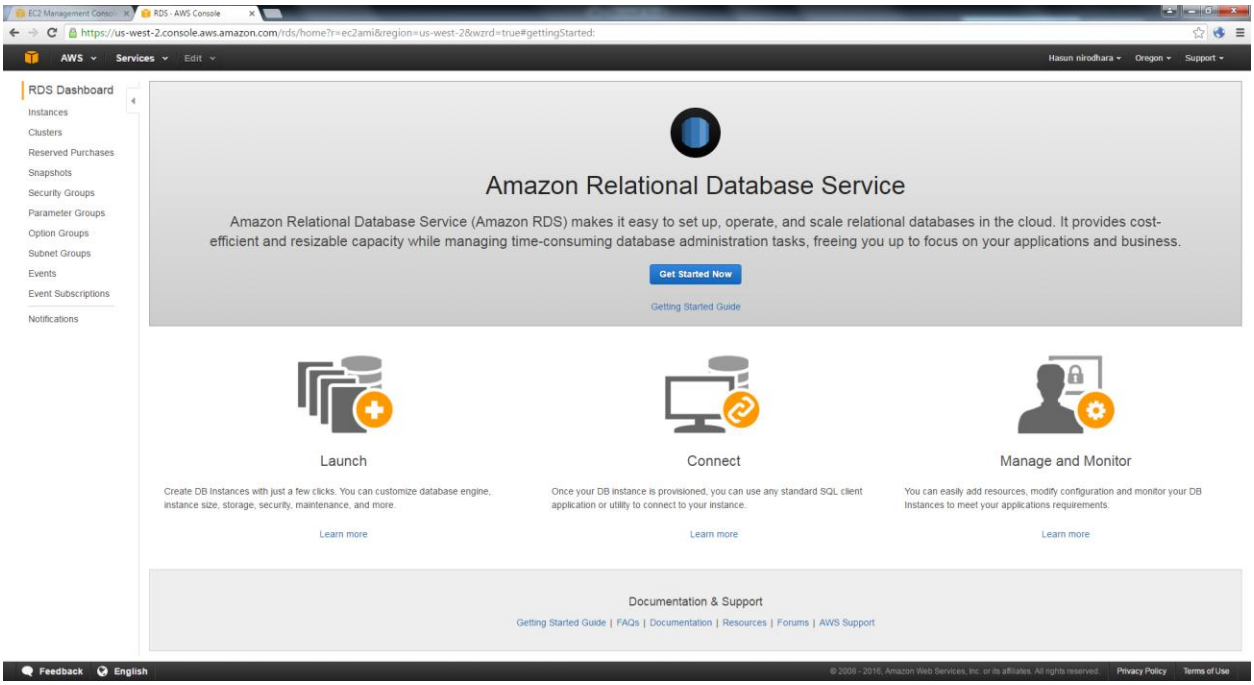


Task 03

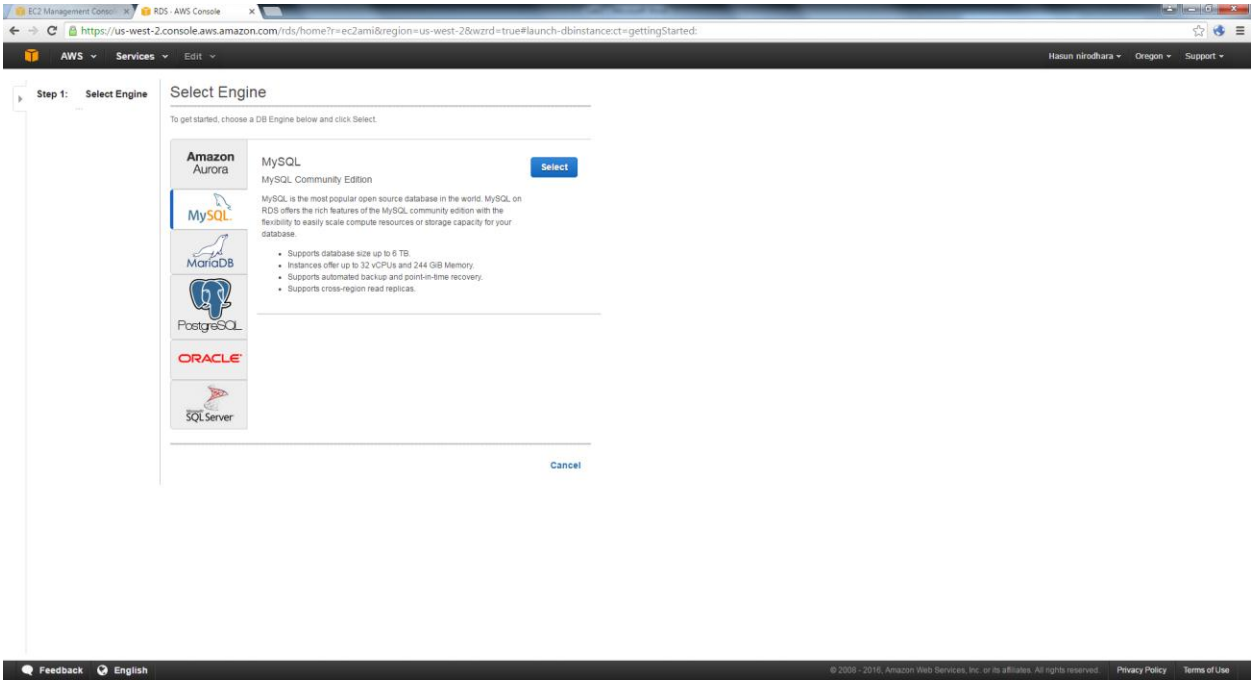
Create a MySql Database using Relational Database Service option AWS

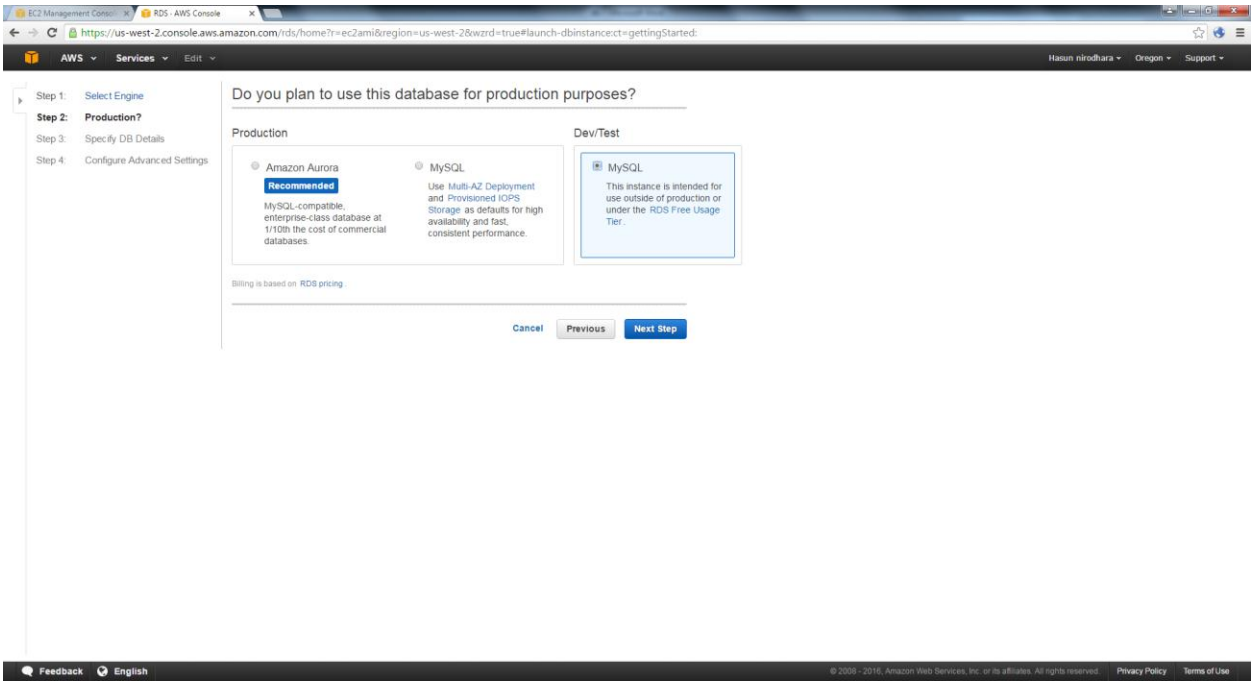
- Login to the AWS console.
- Select **Launch Instance.**
- Launch a RDS instance.





- Amazon RDS page will appear. Get started with a RDS.
- In the next page you can select the database version that you need to launch in the cloud environment. In this case, select MySql and continue.

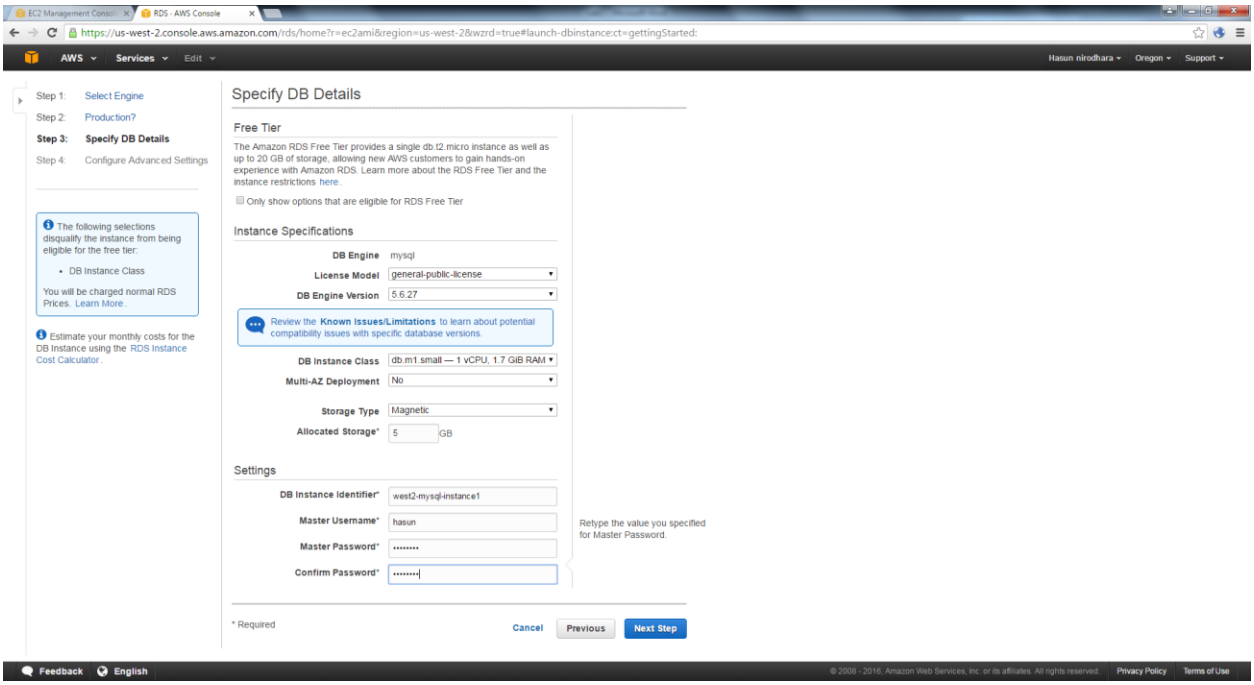




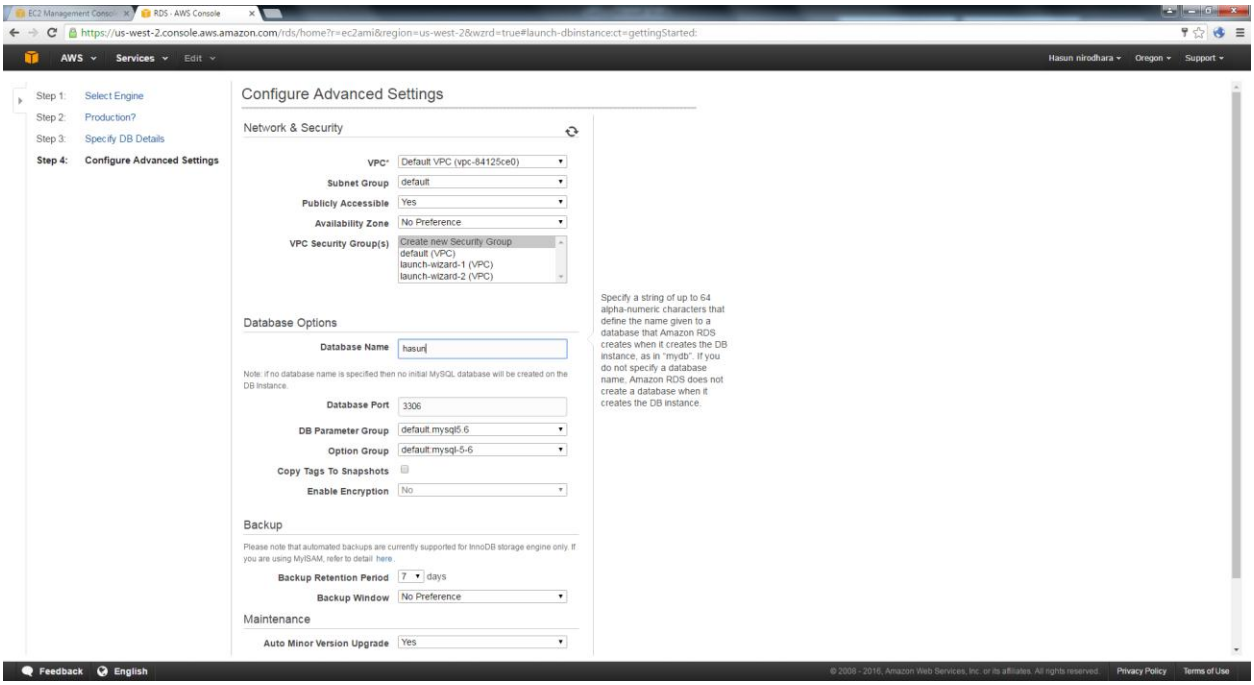
- Select MySql free tier.

- In the next page we can configure the database hardware specifications. Provide the necessary specs as per the requirement.

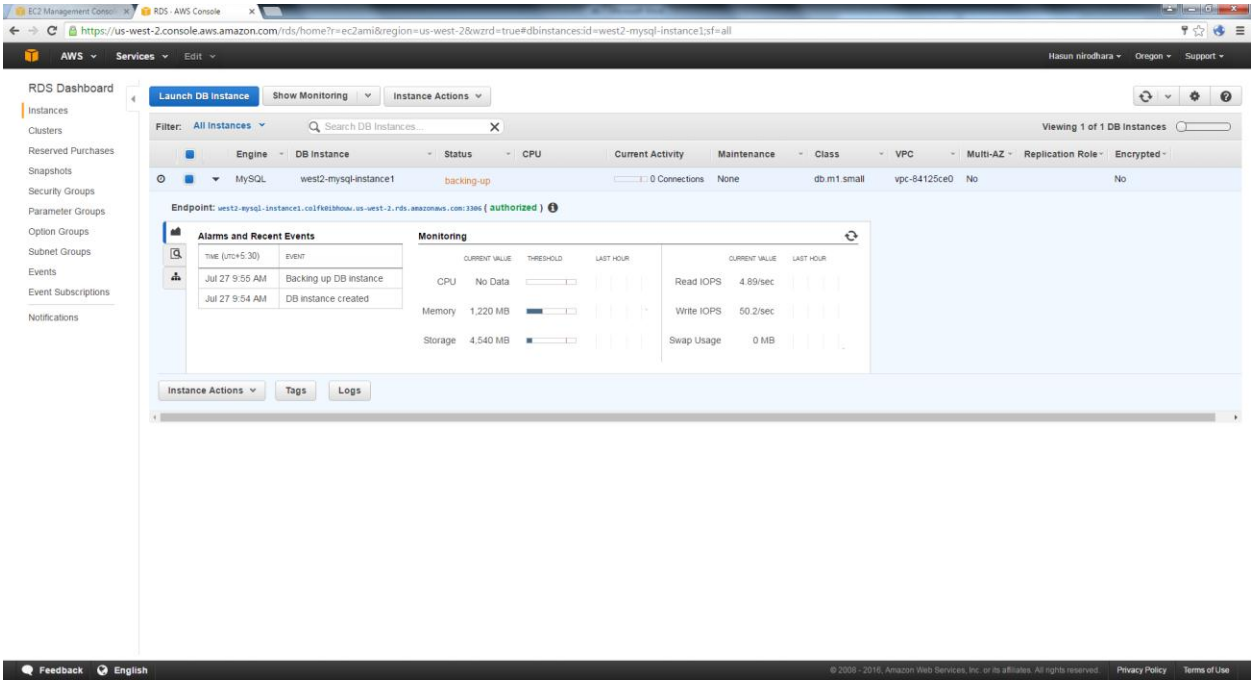
- Make sure to provide a database name if you want to create a database with the instance creation.



- In the next window advanced settings can be configured.
- Select the appropriate network and security profiles or it can be custom made for the connection areas.
- Make sure to put **YES** to publicly accessible box. Otherwise there won't be a public address to connect to the database remotely.



- Then you can view you created database instance.
- All the details and the performance can monitor using the RDS console. Logs generated regarding the changes are stored and can be viewed using instance action tab.



Connecting to the database .

- Using MySql utilities we can get a command line interface connection to the data base. For the connection provided DNS address need to be used with the relevant port address. Instance address will be automatically transferred to the IP address of the database using DNS protocol.
- For a GUI administration, MySql workbench can be used. Same as previous we need to create a instance session using the instance address and the port address. Connection credentials will be the username of the user.