

Enterprise Standards and Best Practices for IT Infrastructure

Lab 2 - Creating an Amazon EBS-Backed Windows AMI

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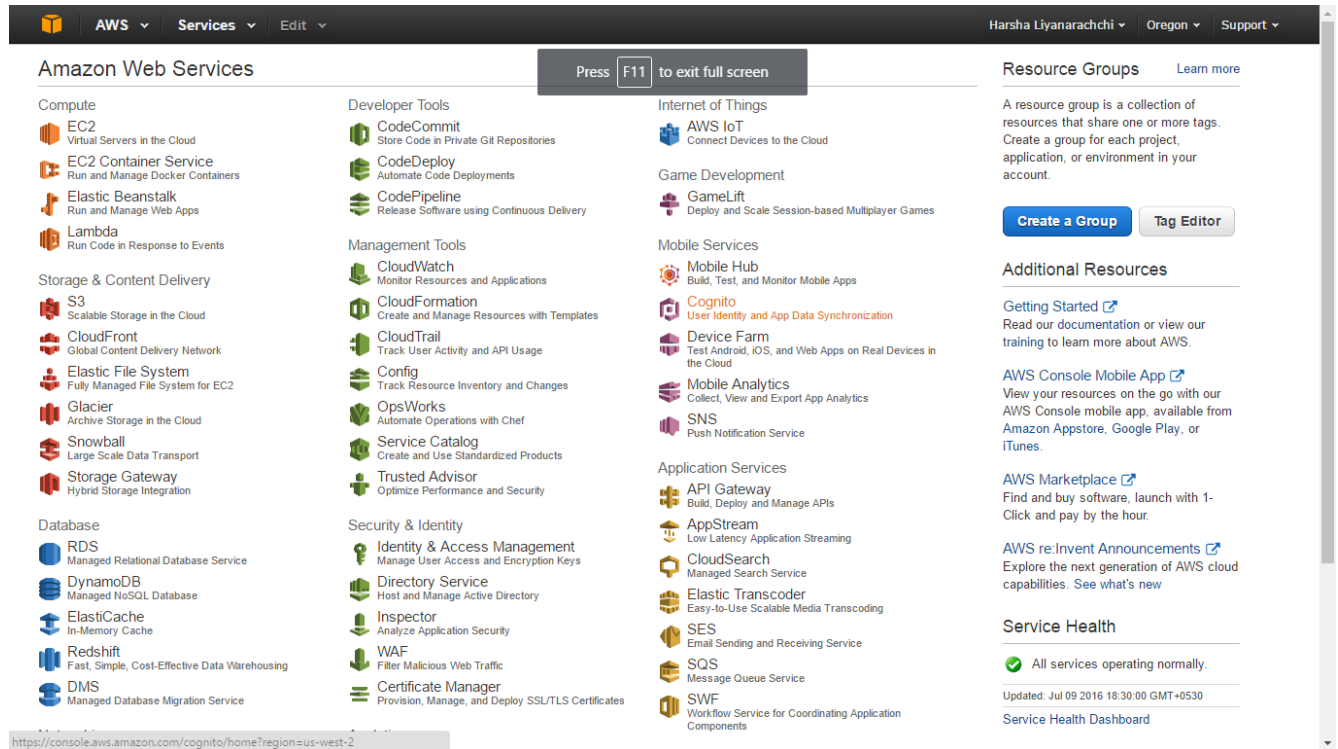
Sri Lanka Institute of Information Technology

B.Sc. Special (Honors) Degree in Information Technology

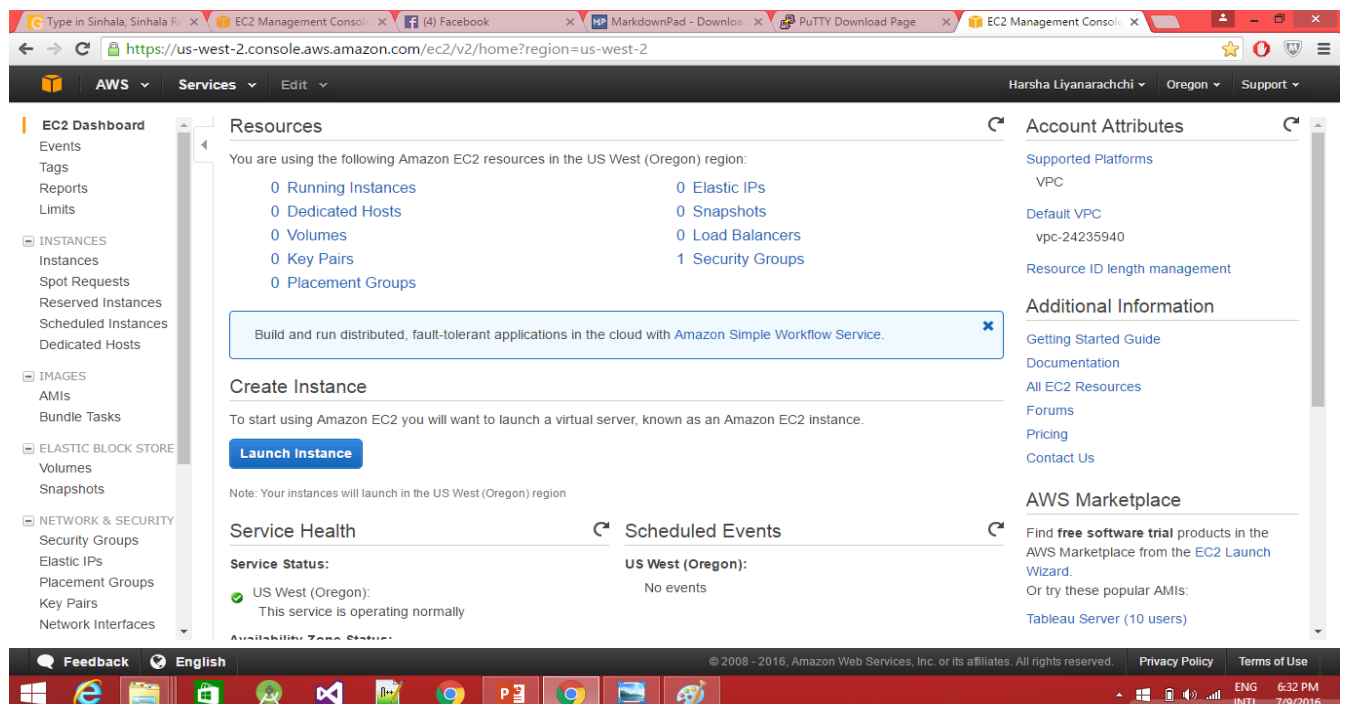
Specialized in Information Technology

Creating an Amazon EBS-Backed Linux AMI

Step 01 - Select EC2 web service (virtual servers in cloud) from Amazon Web Services.



Step 02 - Select Launch Instance Button under the Create Instance.



Step 03 – Choose an Amazon Linux AMI Machine image from list and click SELECT button.

Machine Image - **Amazon Linux AMI 2016.03.3 (HVM), SSD Volume Type** - ami-7172b611

EC2 Management Console - X

https://us-west-2.console.aws.amazon.com/ec2/v2/home?region=us-west-2#LaunchInstanceWizard:

AWS Services Edit

Harsha Liyanarachchi Oregon Support

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

Step 1: Choose an Amazon Machine Image (AMI) Cancel and Exit

An AMI is a template that contains the software configuration (operating system, application server, and applications) required to launch your instance. You can select an AMI provided by AWS, our user community, or the AWS Marketplace; or you can select one of your own AMIs.

Quick Start 1 to 25 of 25 AMIs

My AMIs

AWS Marketplace

Community AMIs

☒ Free tier only ⓘ

Amazon Linux AMI 2016.03.3 (HVM), SSD Volume Type - ami-7172b611 Select

Free tier eligible

The Amazon Linux AMI is an EBS-backed, AWS-supported image. The default image includes AWS command line tools, Python, Ruby, Perl, and Java. The repositories include Docker, PHP, MySQL, PostgreSQL, and other packages.

Root device type: ebs Virtualization type: hvm

64-bit

Red Hat Enterprise Linux 7.2 (HVM), SSD Volume Type - ami-775e4f16 Select

Free tier eligible

Red Hat Enterprise Linux version 7.2 (HVM), EBS General Purpose (SSD) Volume Type

Root device type: ebs Virtualization type: hvm

64-bit

SUSE Linux Enterprise Server 12 SP1 (HVM), SSD Volume Type - ami-d2627db3 Select

Free tier eligible

SUSE Linux Enterprise Server 12 Service Pack 1 (HVM), EBS General Purpose (SSD) Volume Type. Public Cloud, Advanced Systems Management, Web and Scripting, and Legacy modules enabled.

Root device type: ebs Virtualization type: hvm

64-bit

Step 04 – Choose Instance type and click launch and review button.

EC2 Management Console - X

https://us-west-2.console.aws.amazon.com/ec2/v2/home?region=us-west-2#LaunchInstanceWizard:

AWS Services Edit

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

Step 2: Choose an Instance Type

Amazon EC2 provides a wide selection of instance types optimized to fit different use cases. Instances are virtual servers that can run applications. They have varying combinations of CPU, memory, storage, and networking capacity, and give you the flexibility to choose the appropriate mix of resources for your applications. [Learn more](#) about instance types and how they can meet your computing needs.

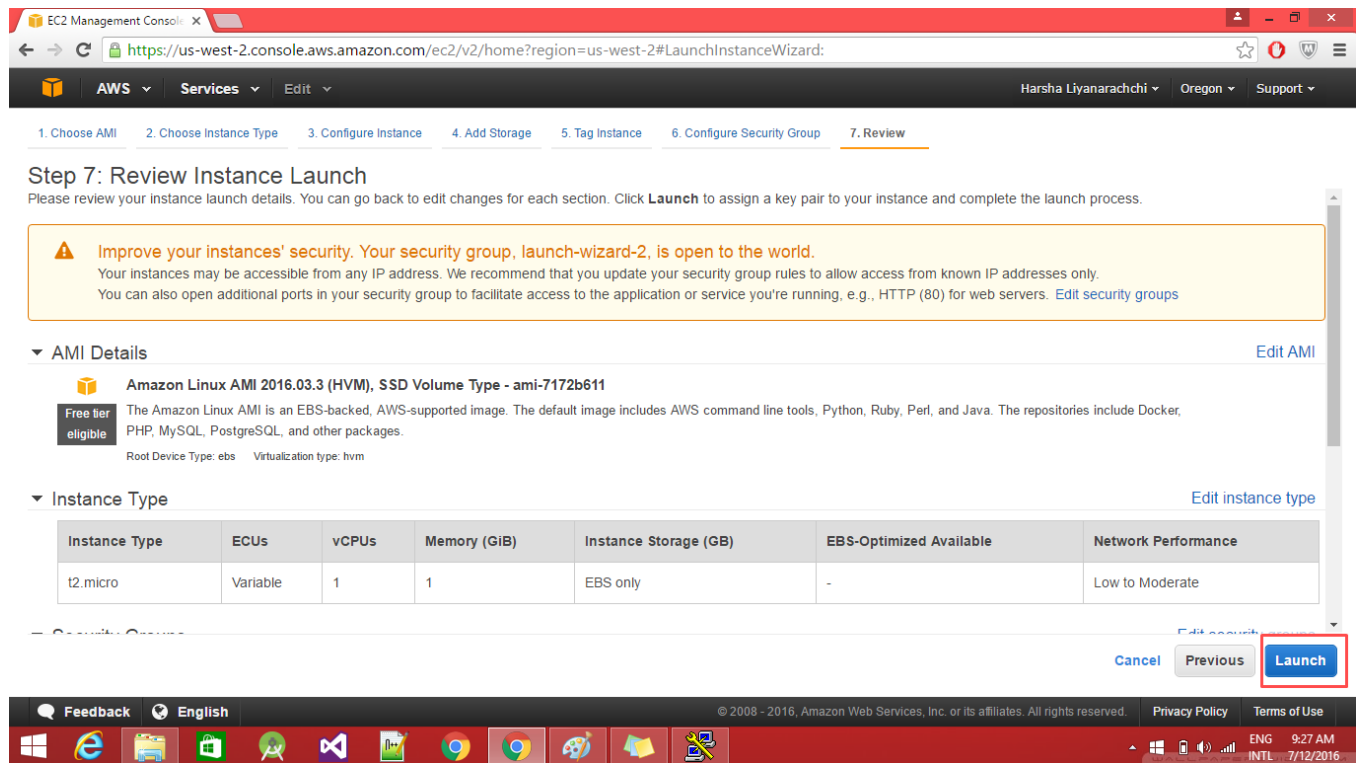
Filter by: All instance types Current generation Show/Hide Columns

Currently selected: t2.micro (Variable ECUs, 1 vCPUs, 2.5 GHz, Intel Xeon Family, 1 GiB memory, EBS only)

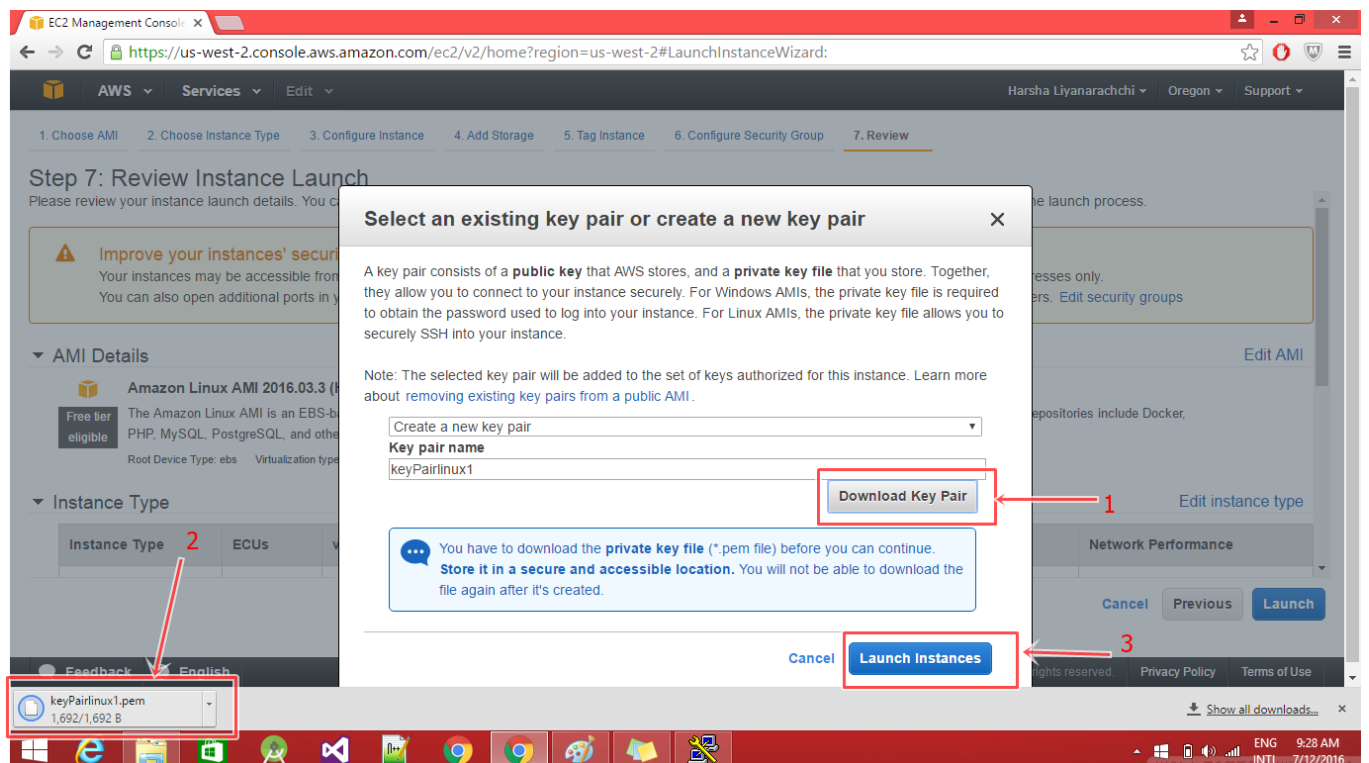
| | Family | Type | vCPUs ⓘ | Memory (GiB) | Instance Storage (GB) ⓘ | EBS-Optimized Available ⓘ | Network Performance ⓘ |
|-------------------------------------|-----------------|--------------------------------|---------|--------------|-------------------------|---------------------------|-----------------------|
| <input type="checkbox"/> | General purpose | t2.nano | 1 | 0.5 | EBS only | - | Low to Moderate |
| <input checked="" type="checkbox"/> | General purpose | t2.micro Free tier eligible | 1 | 1 | EBS only | - | Low to Moderate |
| <input type="checkbox"/> | General purpose | t2.small | 1 | 2 | EBS only | - | Low to Moderate |
| <input type="checkbox"/> | General purpose | t2.medium | 2 | 4 | EBS only | - | Low to Moderate |
| <input type="checkbox"/> | General purpose | t2.large | 2 | 8 | EBS only | - | Low to Moderate |
| <input type="checkbox"/> | General purpose | m4.large | 2 | 8 | EBS only | Yes | Moderate |

Cancel Previous Review and Launch Next: Configure Instance Details

Step 05 – Click launch button in review Instance launch section.



Step 06 – Once after click Launch Button Pop up Dialog will popup message where user have to create key pair and it will downloaded the key pair file once after click download key pair.



Step 07 – Click the View Instance button in the Launch Status page.

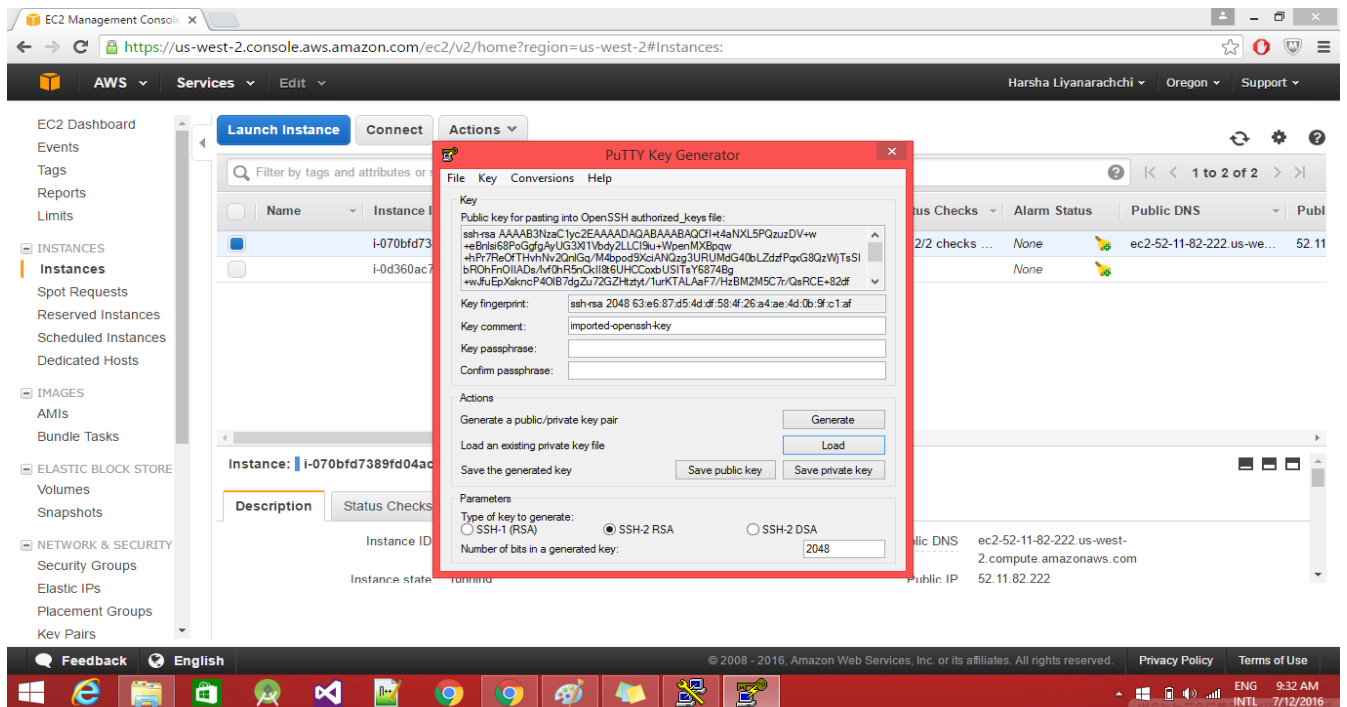
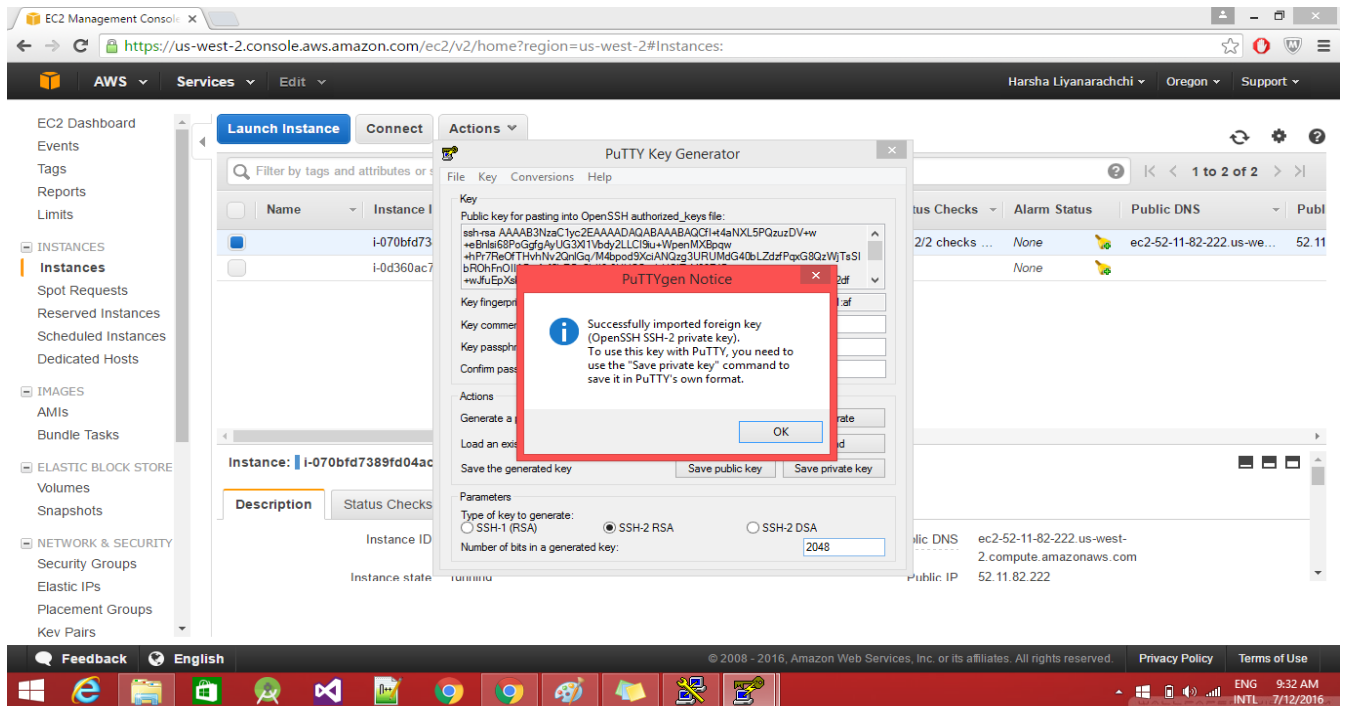
The screenshot shows the AWS Management Console 'Launch Status' page. At the top, a green banner states 'Your instances are now launching' with the instance ID 'i-070bfd7389fd04ac9' and a link to 'View launch log'. Below this is a blue banner for 'Get notified of estimated charges'. The main content area is titled 'How to connect to your instances' and provides instructions on the instance lifecycle. It includes a section 'Here are some helpful resources to get you started' with links to 'How to connect to your Linux instance', 'Amazon EC2: User Guide', 'Learn about AWS Free Usage Tier', and 'Amazon EC2: Discussion Forum'. The bottom of the page features a navigation bar with 'Feedback', 'English', and copyright information, along with a taskbar showing various application icons and system status.

Step 08 – click the instance from navigation panel and created instance can see there. At the beginning created instance status will be pending status and after 2 3 minutes later it will turn to running state.

The screenshot displays the AWS Management Console 'Instances' page. The left-hand navigation pane shows the 'Instances' section selected. The main area features a table of instances. The first instance, 'i-070bfd7389fd04ac9', is in a 'pending' state with a status of 'Initializing'. The second instance, 'i-0d360ac745f53a0d9', is in a 'terminated' state. Below the table, there is a prompt to 'Select an instance above'. The bottom of the page includes the same navigation bar and taskbar as the previous screenshot.

| | Name | Instance ID | Instance Type | Availability Zone | Instance State | Status Checks | Alarm Status | Public DNS |
|--|------|---------------------|---------------|-------------------|----------------|---------------|--------------|------------|
| | | i-070bfd7389fd04ac9 | t2.micro | us-west-2b | pending | Initializing | None | |
| | | i-0d360ac745f53a0d9 | t2.micro | us-west-2b | terminated | | None | |

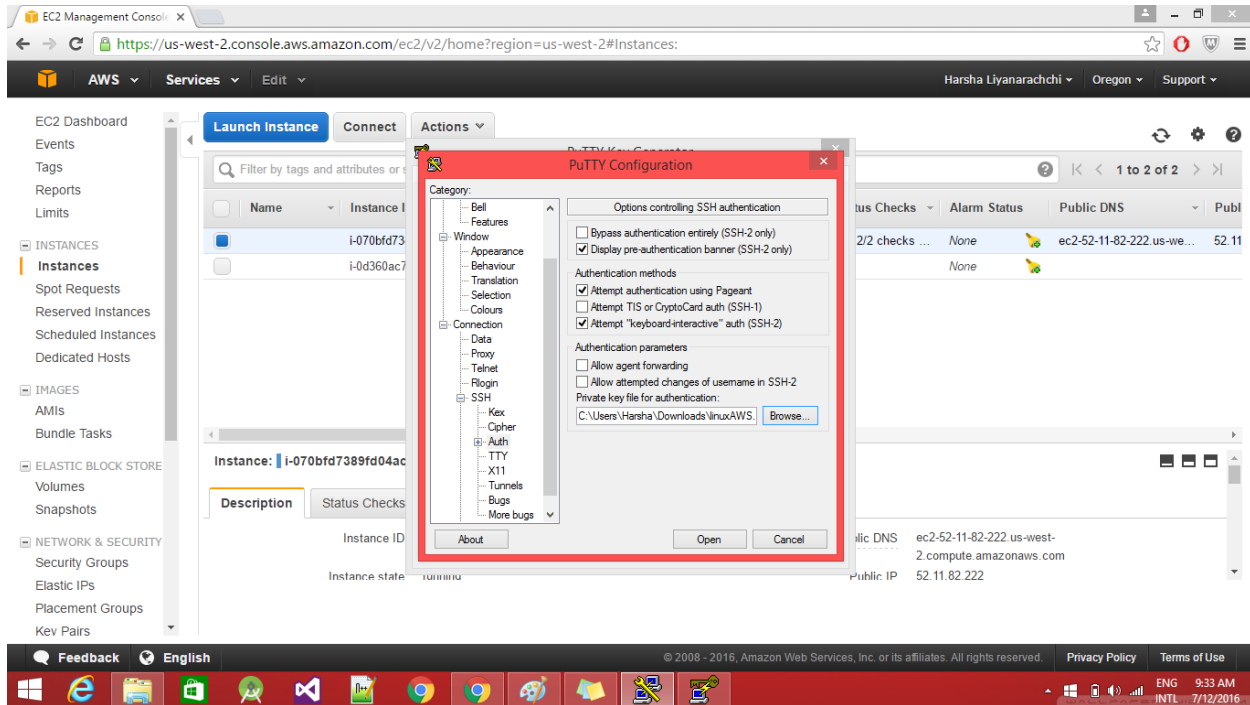
Step 09 – Open PuTTY Key Generator. Then browse and load the downloaded key pair file and save it as a private key.



Step 10 - Open PuTTY Configuration.

Go to Connection category for SSH authentication. (Connection -> SSH -> Auth)

Then under authentication parameters browse saved private key and open.



Step 11 - Go back to Session category in PuTTY Configuration. Copy the Public DNS of created instance and paste it under Host Name.

Set Connection type to SSH and open.

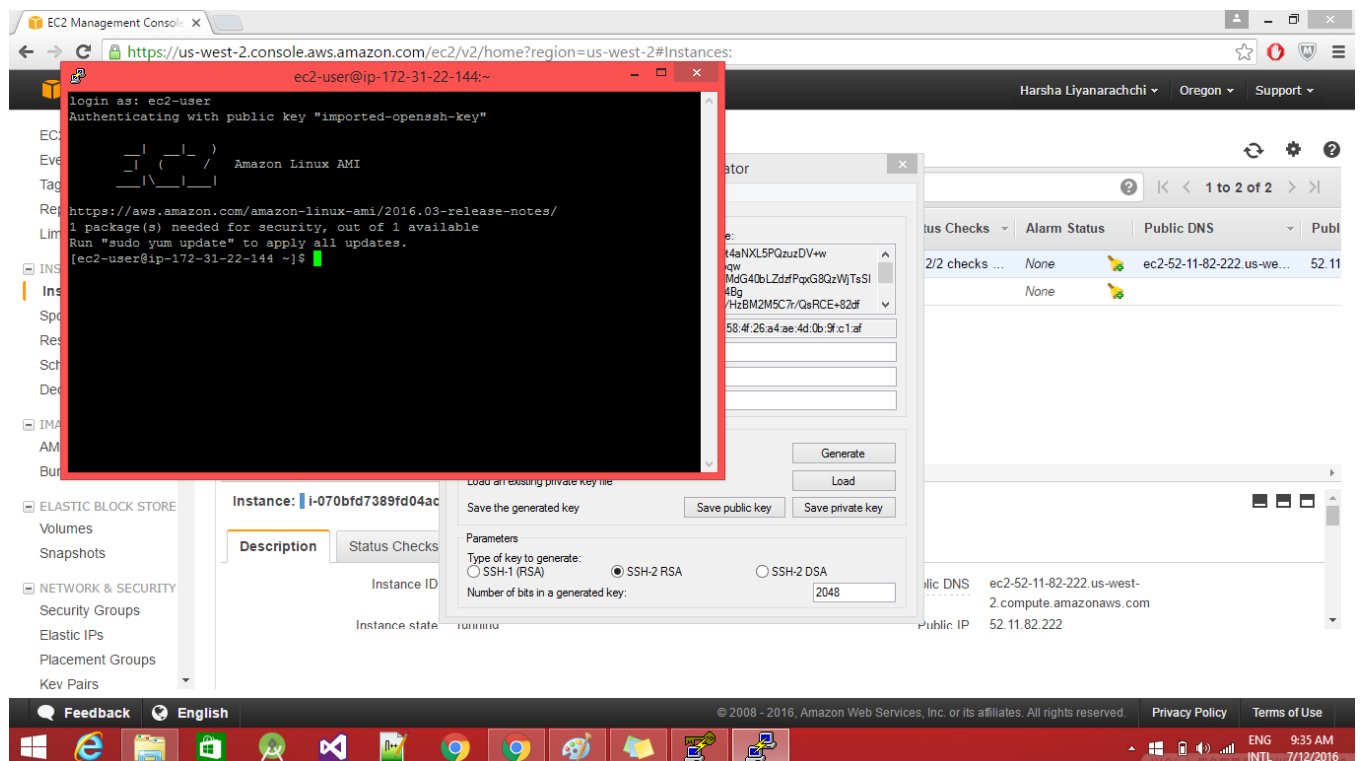
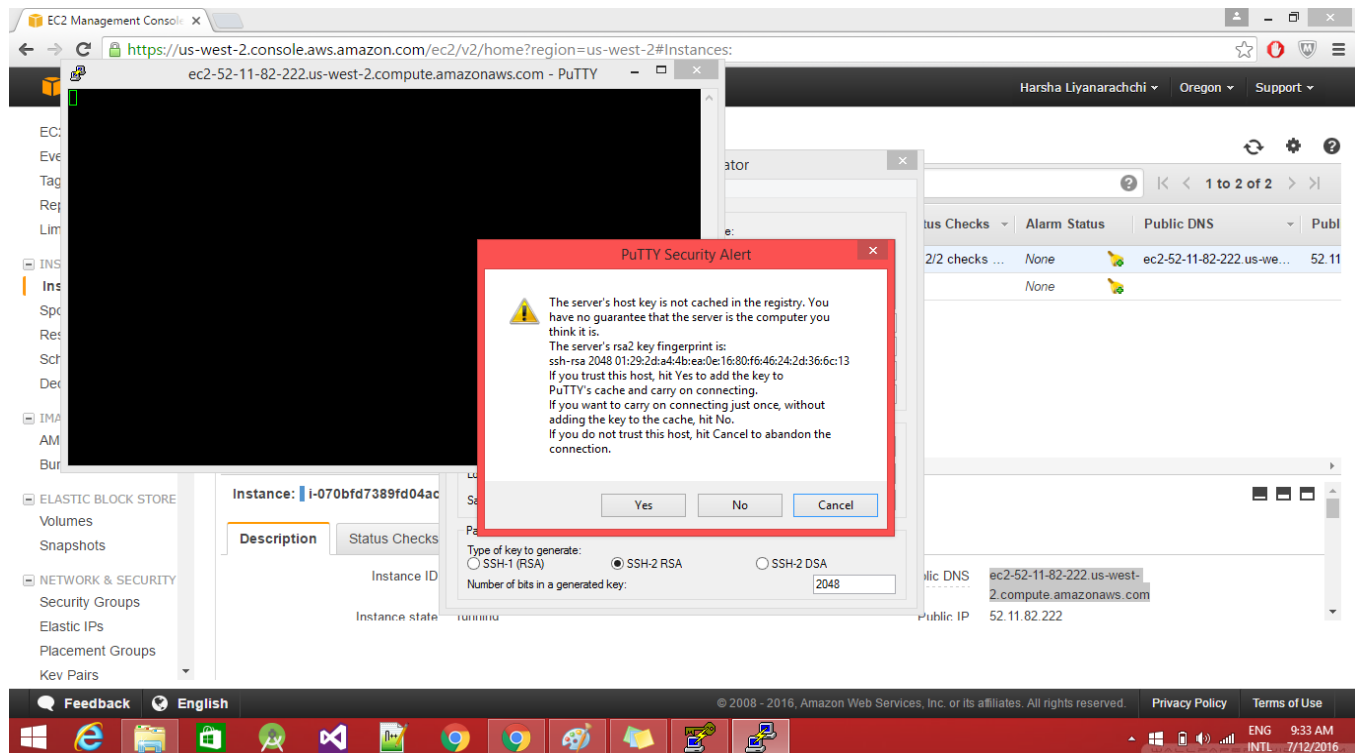
The screenshot shows the AWS Management Console interface with the PuTTY Configuration dialog box open. The dialog is titled 'PuTTY Configuration' and has a 'Category' list on the left. The 'Session' category is selected. The 'Basic options for your PuTTY session' section contains the following fields:

- Host Name (or IP address): 222.us-west-2.compute.amazonaws.com
- Port: 22
- Connection type: ☒ Raw ☐ Telnet ☐ Rlogin ☒ SSH ☐ Serial
- Load, save or delete a stored session: Saved Sessions (empty list)
- Close window on exit: ☐ Always ☐ Never ☒ Only on clean exit

The 'Open' button is highlighted in blue. In the background, the AWS console shows a table of instances with the following data:

| Instance Checks | Alarm Status | Public DNS | Public IP |
|-----------------|--------------|---------------------------|--------------|
| 2/2 checks ... | None | ec2-52-11-82-222.us-we... | 52.11.82.222 |

Step 12 - Log into Linux by giving username in the kernel. (ec2-user).



Step 13 – Try out some Linux commands and check.

The screenshot shows the AWS Management Console for the 'us-west-2' region. A terminal window is open, displaying the login process for the 'ec2-user' on an Amazon Linux AMI. The terminal output shows the user is logged in as 'ec2-user' and the system is 'Amazon Linux AMI'. The user runs 'ls -a' and 'ls -al', which show the contents of the home directory and the file permissions for the user's files. The terminal also shows the user running 'sudo yum update' to apply all updates.

The background shows the EC2 instance details page for the instance 'i-070bfd7389fd04ac9'. The instance is in the 'running' state. The public DNS is 'ec2-52-11-82-222.us-west-2.compute.amazonaws.com' and the public IP is '52.11.82.222'.

Step 14 - Terminate or stop the instance from instance state.

(Right click on instance -> Instance State -> Terminate/ Stop)

The screenshot shows the AWS Management Console for the 'us-west-2' region. The 'Instances' page is displayed, showing a list of instances. The instance 'i-070bfd7389fd04ac9' is in the 'stopping' state. The instance 'i-0d360ac745f53a0d9' is in the 'terminated' state.

The details for the instance 'i-070bfd7389fd04ac9' are shown below the list. The instance is in the 'stopping' state. The public DNS is 'ec2-52-11-82-222.us-west-2.compute.amazonaws.com' and the public IP is '52.11.82.222'.

