



Sri Lanka Institute of Information Technology

Enterprise standards and best practices for IT infrastructure

Practical 2

Student ID: IT13146566

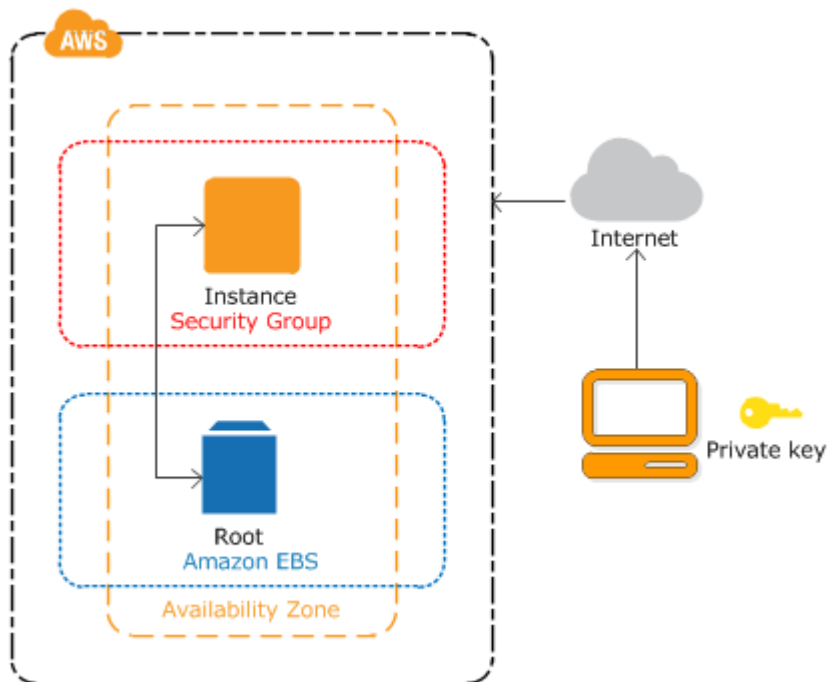
Name: W.D.A.B.Madushani

2013 June intake

Introduction

An instance is a virtual server in the AWS cloud. With Amazon EC2, can set up and configure the operating system and applications that run on an instance.

The instance is an Amazon EBS-backed instance (meaning that the root volume is an EBS volume). You can either specify the Availability Zone in which your instance runs, or let Amazon EC2 select an Availability Zone for you. When you launch your instance, you secure it by specifying a key pair and security group. When you connect to your instance, you must specify the private key of the key pair that you specified when launching your instance.

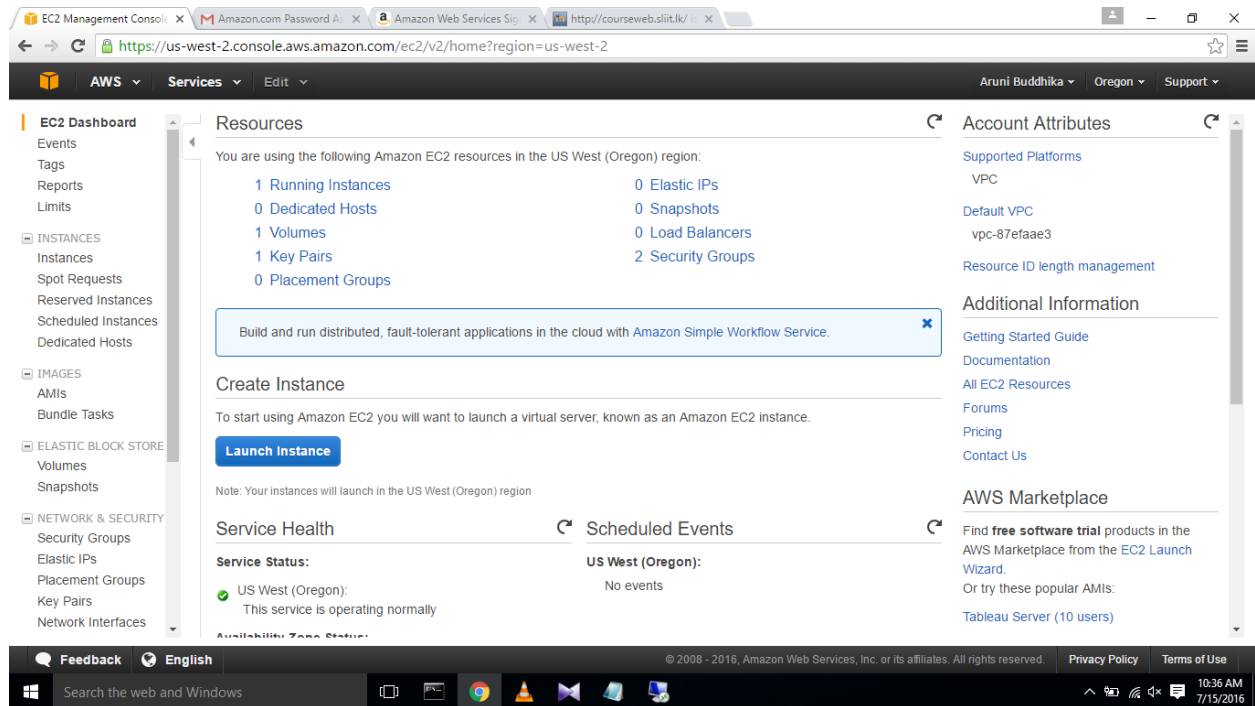


Create a Linux instance

- **Launch an instance**

Open the Amazon EC2 console at <https://console.aws.amazon.com/ec2/>

From the console dashboard, choose **Launch Instance**



The **Choose an Amazon Machine Image (AMI)** page displays a list of basic configurations.

Select the HVM edition of the Amazon Linux AMI.

EC2 Management Console | Amazon.com Password A... | Amazon Web Services Sig... | http://courseweb.sliit.lk/ - x

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

AWS Services Edit Aruni Buddhika 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

My AMIs

AWS Marketplace

Community AMIs

☐ Free tier only ⓘ

1 to 25 of 25 AMIs

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

Amazon Linux
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](#)

Red Hat
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](#)

SUSE Linux
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

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Search the web and Windows 10:37 AM 7/15/2016

Choose **Review and Launch** to let the wizard complete the other configuration settings for you.

EC2 Management Console | Amazon.com Password A... | Amazon Web Services Sig... | http://courseweb.sliit.lk/ - x

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

AWS Services Edit Aruni Buddhika 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 2: Choose an Instance Type

<input type="checkbox"/>	Compute optimized	c4.xlarge	16	30	EBS only	Yes	High
<input type="checkbox"/>	Compute optimized	c4.xlarge	36	60	EBS only	Yes	10 Gigabit
<input type="checkbox"/>	Compute optimized	c3.large	2	3.75	2 x 16 (SSD)	-	Moderate
<input type="checkbox"/>	Compute optimized	c3.xlarge	4	7.5	2 x 40 (SSD)	Yes	Moderate
<input type="checkbox"/>	Compute optimized	c3.2xlarge	8	15	2 x 80 (SSD)	Yes	High
<input type="checkbox"/>	Compute optimized	c3.4xlarge	16	30	2 x 160 (SSD)	Yes	High
<input type="checkbox"/>	Compute optimized	c3.8xlarge	32	60	2 x 320 (SSD)	-	10 Gigabit
<input type="checkbox"/>	GPU instances	g2.2xlarge	8	15	1 x 60 (SSD)	Yes	High
<input type="checkbox"/>	GPU instances	g2.8xlarge	32	60	2 x 120 (SSD)	-	10 Gigabit
<input type="checkbox"/>	Memory optimized	r3.large	2	15	1 x 32 (SSD)	-	Moderate

[Cancel](#) [Previous](#) [Review and Launch](#) [Next: Configure Instance Details](#)

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On the **Review Instance Launch** page, choose **Launch**.

The screenshot shows the AWS Management Console at the 'Review Instance Launch' step. The breadcrumb trail includes: 1. Choose AMI, 2. Choose Instance Type, 3. Configure Instance, 4. Add Storage, 5. Tag Instance, 6. Configure Security Group, and 7. Review. The 'Instance Type' table shows 't2.micro' with 1 vCPU and 1 GiB memory. The 'Security Groups' section shows a group named 'launch-wizard-2' with an SSH rule. The 'Instance Details', 'Storage', and 'Tags' sections are collapsed. At the bottom right, there are 'Cancel', 'Previous', and 'Launch' buttons.

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-2
Description: launch-wizard-2 created 2016-07-15T10:37:20.842+05:30

Type	Protocol	Port Range	Source
SSH	TCP	22	0.0.0.0/0

Instance Details [Edit instance details](#)
Storage [Edit storage](#)
Tags [Edit tags](#)

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

Select **Create a new key pair**, enter a name for the key pair, and then choose **Download Key Pair**.

The screenshot shows the same 'Review Instance Launch' page, but with a modal dialog open. The dialog is titled 'Select an existing key pair or create a new key pair'. It contains a dropdown menu set to 'Create a new key pair', a text input field for 'Key pair name' with the value 'test2', and a 'Download Key Pair' button. A message box states: '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.' At the bottom of the dialog are 'Cancel' and 'Launch Instances' buttons.

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: test2
[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](#)

A confirmation page lets you know that your instance is launching. Choose **View Instances** to close the confirmation page and return to the console.

The screenshot shows the 'Launch Status' page in the AWS Management Console. The page title is 'Launch Status'. Below the title, there is a section 'How to connect to your instances' which states: 'Your instances are launching, and it may take a few minutes until they are in the **running** state, when they will be ready for you to use. Usage hours on your new instances will start immediately and continue to accrue until you stop or terminate your instances.' It also says: 'Click **View Instances** to monitor your instances' status. Once your instances are in the **running** state, you can **connect** to them from the Instances screen. [Find out](#) how to connect to your instances.'

Below this, there is a section 'Here are some helpful resources to get you started' with links: 'How to connect to your Linux instance', 'Amazon EC2: User Guide', 'Learn about AWS Free Usage Tier', and 'Amazon EC2: Discussion Forum'.

At the bottom of the main content area, there are links: 'Create status check alarms to be notified when these instances fail status checks. (Additional charges may apply)', 'Create and attach additional EBS volumes (Additional charges may apply)', and 'Manage security groups'.

A blue button labeled 'View Instances' is located at the bottom right of the main content area.

The top navigation bar shows 'AWS' and 'Services'. The top right shows the user 'Aruni Buddhika', region 'Oregon', and 'Support'.

The bottom status bar shows 'test2.pem' and the time '10:38 AM 7/15/2016'.

On the **Instances** screen, you can view the status of the launch. It takes a short time for an instance to launch. When you launch an instance, its initial state is pending. After the instance starts, its state changes to running and it receives a public DNS name. (If the **Public DNS** column is hidden, choose the Show/Hide icon in the top right corner of the page and then select **Public DNS**.)

The screenshot shows the 'Instances' page in the AWS Management Console. The page title is 'Instances'. Below the title, there is a table of instances.

Name	Instance ID	Instance Type	Availability Zone	Instance State	Status Checks	Alarm Status	Public DNS	Public IP
	i-0257caf29e9305ab9	t2.micro	us-west-2a	running	2/2 checks ...	None	ec2-54-191-138-239.us-west-2.compute.amazonaws.com	54.191.138.239
	i-095c7167ba568258a	t2.micro	us-west-2a	terminated		None		
	i-0ad59cb710ee68c54	t2.micro	us-west-2b	running	2/2 checks ...	None	ec2-54-213-30-229.us-west-2.compute.amazonaws.com	54.213.30.229

Below the table, there is a section for the selected instance 'i-0257caf29e9305ab9'. The public DNS is 'ec2-54-191-138-239.us-west-2.compute.amazonaws.com'.

The instance details are shown in a table:

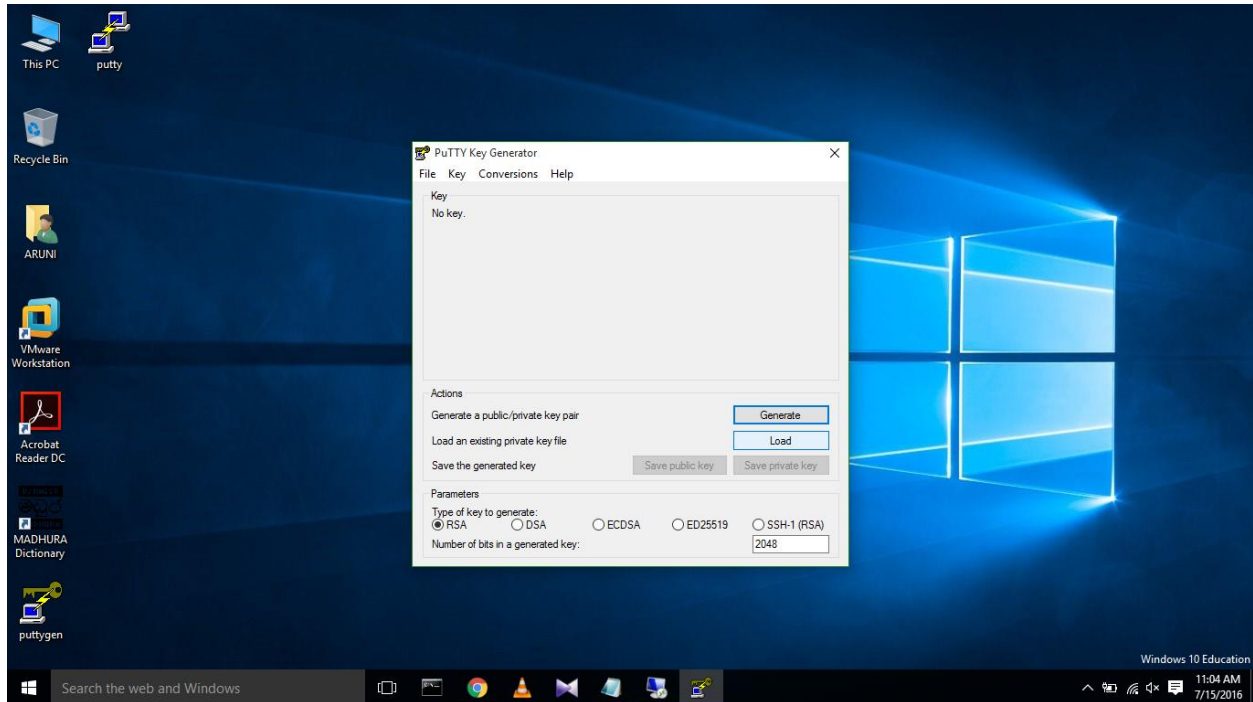
Description	Status Checks	Monitoring	Tags
Instance ID	i-0257caf29e9305ab9	Public DNS	ec2-54-191-138-239.us-west-2.compute.amazonaws.com
Instance state	running	Public IP	54.191.138.239
Instance type	t2.micro	Elastic IPs	
Private DNS	ip-172-31-31-235.us-west-2.compute.internal	Availability zone	us-west-2a
Private IPs	172.31.31.235	Security groups	launch-wizard-3, view rules
Secondary private IPs		Scheduled events	No scheduled events
VPC ID	vpc-87efaae3	AMI ID	amzn-ami-hvm-2016.03.3.x86_64-gp2 (ami-7172b611)

The top navigation bar shows 'AWS' and 'Services'. The top right shows the user 'Aruni Buddhika', region 'Oregon', and 'Support'.

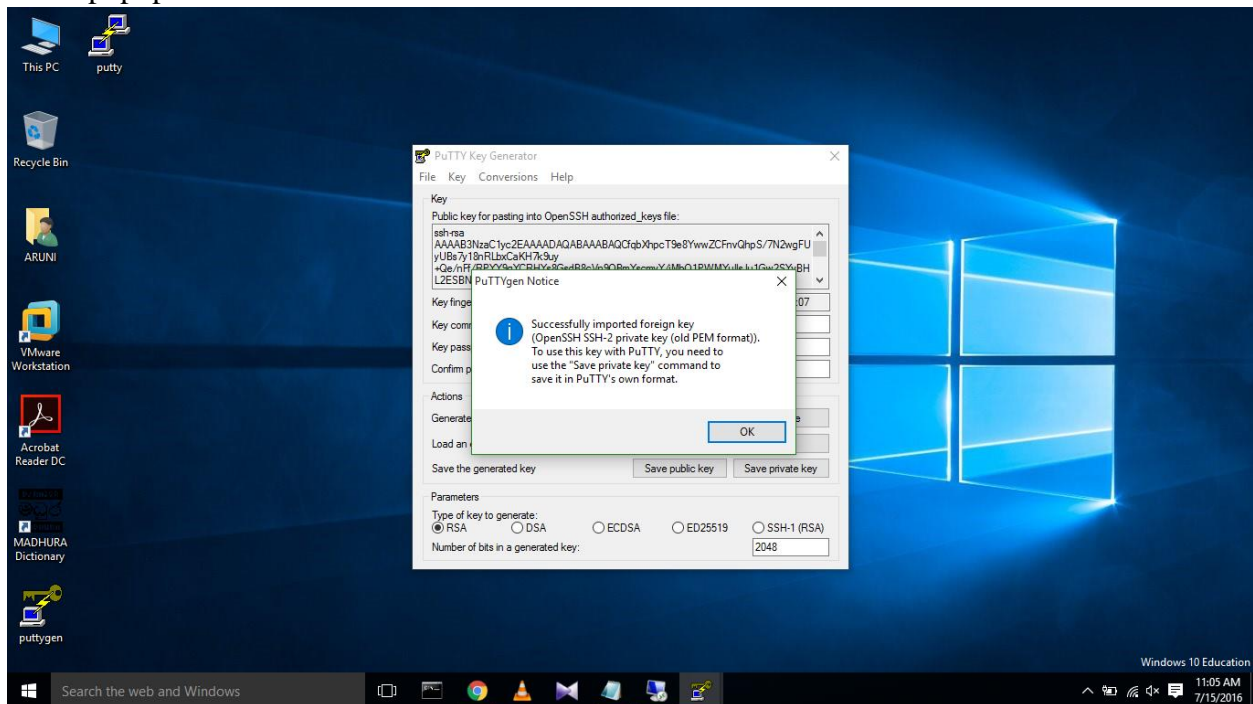
The bottom status bar shows 'test2.pem' and the time '11:04 AM 7/15/2016'.

- **Connect to the Instance**

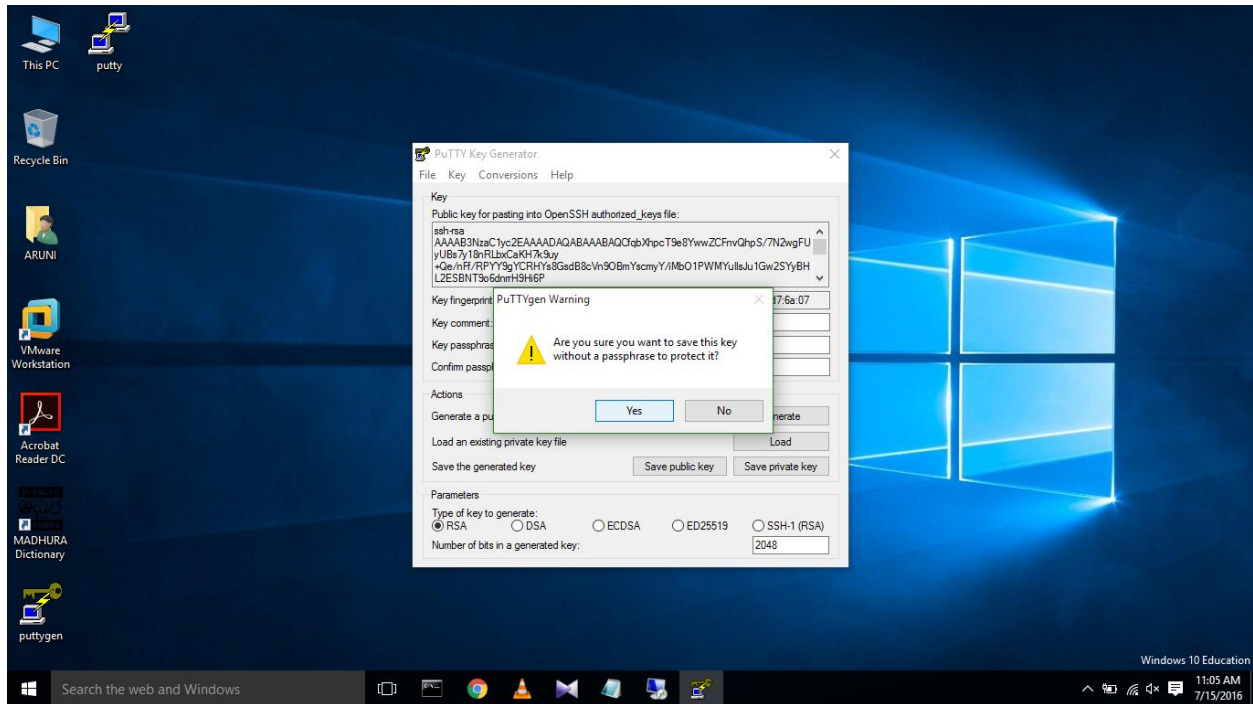
There are several ways to connect to a Linux instance. In this procedure, you'll connect using your browser. Alternatively, you can connect using PuTTY or an SSH client. Select generate button.



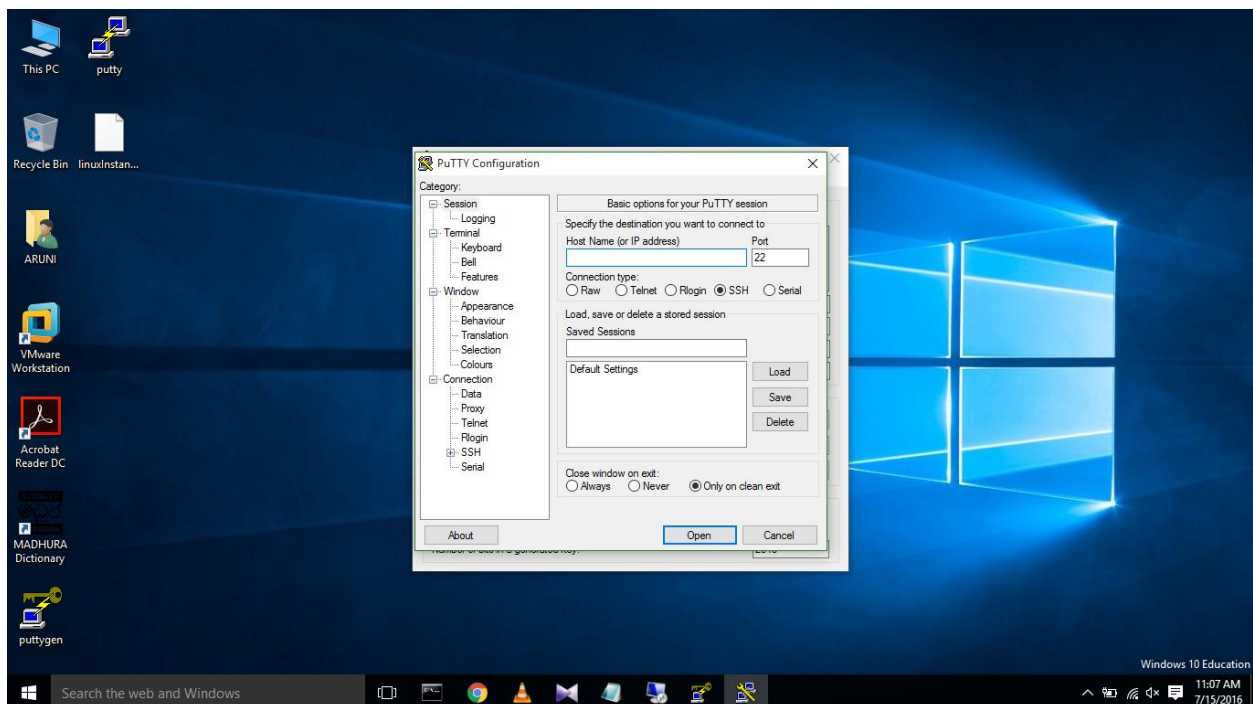
In the popup window click ok.



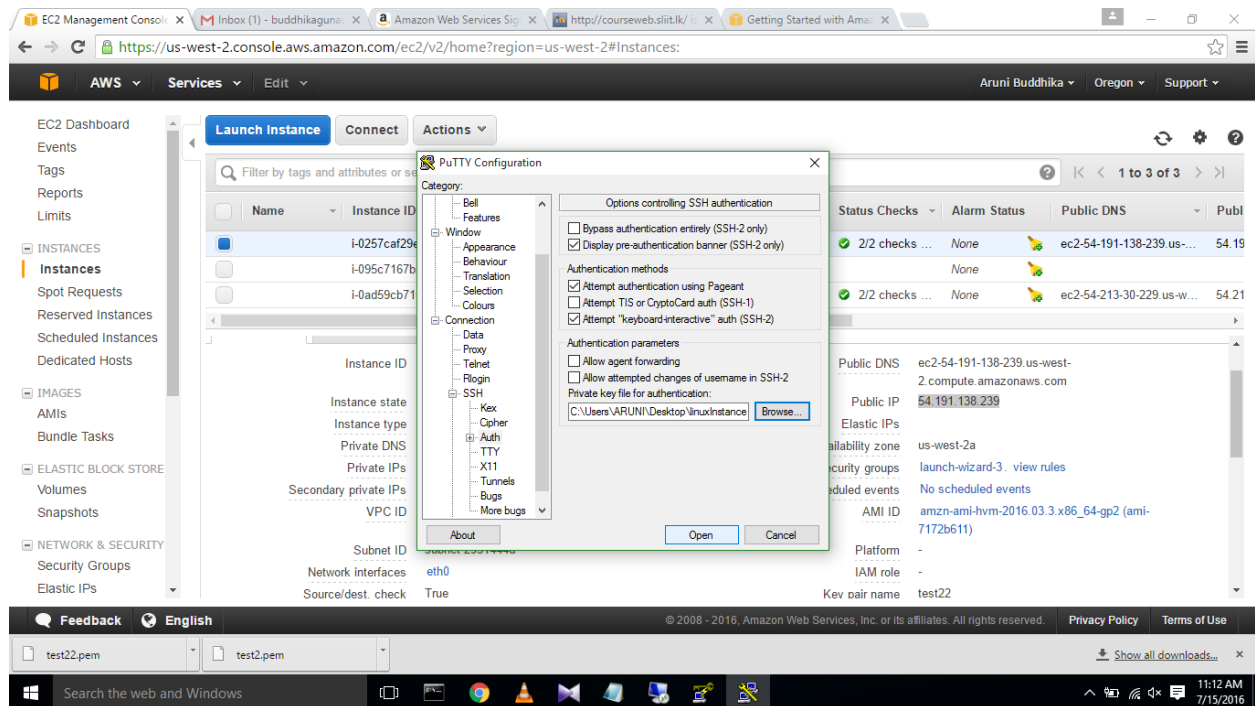
The key will appear. And to save the key select save private key button. And to the warning message, select ok to save the key.



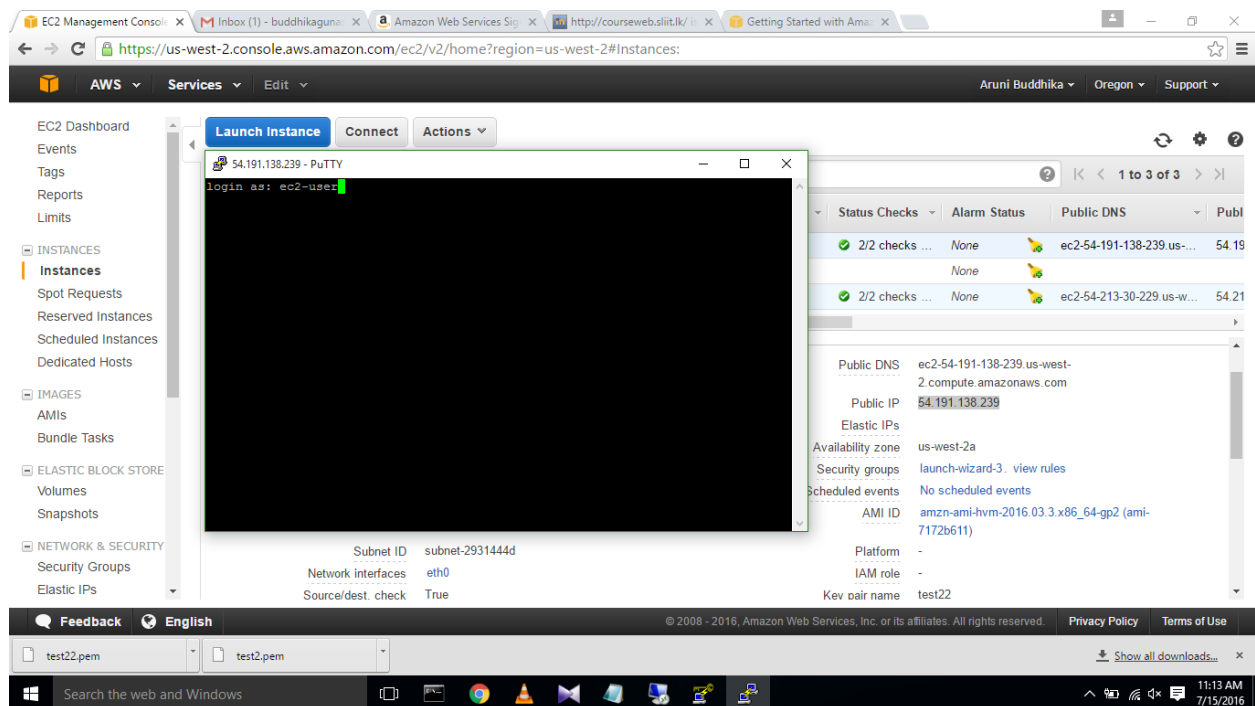
Then open PuTTY .

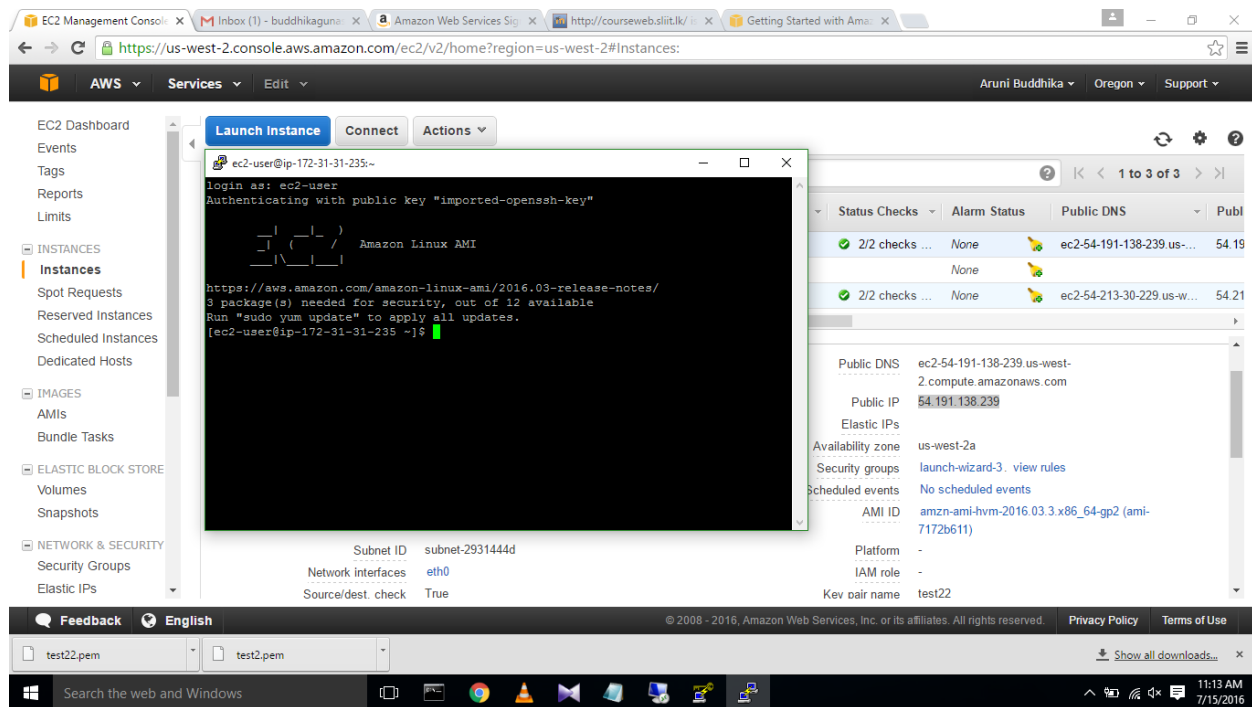


In category list go to Connection>SSH>Auth. And in the text box enter the place that your key is downloaded (private key path) using browse button. And select open.

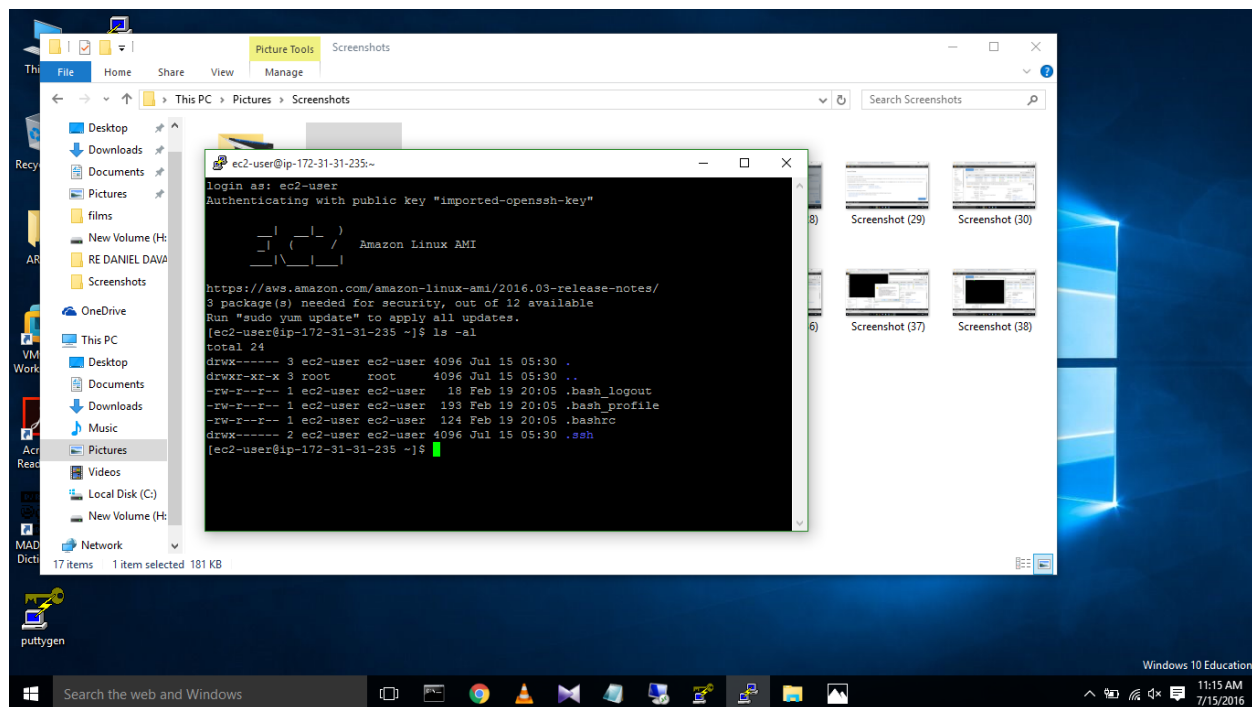


Finally you will get a command prompt and set user name as ec2-user.





Then you can check whether Linux commands are running on that terminal.



- **References:**

http://docs.aws.amazon.com/AWSEC2/latest/UserGuide/EC2_GetStarted.html