

Enterprise Standards and Best Practices for IT Infrastructure

Amazon EC2 Linux Instances

Assignment Report 02

Author: IT13115708 - Prabha MWT

**B.Sc (Special Honours) in Information Technology
Sri Lanka Institute of Information Technology**

Tasks

To complete this tutorial, perform the following tasks:

1. Launch an Instance
2. Connect to Your Instance

Step 1: Launch an Instance

To launch an instance

1. Open the Amazon EC2 console at <https://console.aws.amazon.com/ec2/>.
2. From the console dashboard, choose **Launch Instance**.

The screenshot shows the AWS EC2 Dashboard. On the left, there's a sidebar with links for EC2 Dashboard, Events, Tags, Reports, Limits, Instances, Images, Elastic Block Store, Network & Security, and Help. The main content area has sections for Resources, Account Attributes, Additional Information, Create Instance, Service Health, Scheduled Events, and AWS Marketplace. The 'Create Instance' section is highlighted, showing a 'Launch Instance' button. The 'Service Health' section shows 'US West (Oregon)' status as 'operating normally'. The 'Scheduled Events' section shows 'No events'. The 'AWS Marketplace' section lists 'Tableau Server (10 users)'.

3. The **Choose an Amazon Machine Image (AMI)** page displays a list of basic configurations, called *Amazon Machine Images (AMIs)*, that serve as templates for your instance. Select the HVM edition of the Amazon Linux AMI. Notice that this AMI is marked "Free tier eligible."

Step 1: Choose an Amazon Machine Image (AMI)

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
- Amazon Linux **Free tier eligible** **Select** 64-bit
- AWS Marketplace
- Community AMIs
- Free tier only

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

Red Hat Enterprise Linux 7.2 (HVM), SSD Volume Type - ami-775e4f16 **Select** 64-bit

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

Root device type: ebs Virtualization type: hvm

SUSE Linux Enterprise Server 12 SP1 (HVM), SSD Volume Type - ami-d2627db3 **Select** 64-bit

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



- On the **Choose an Instance Type** page, you can select the hardware configuration of your instance. Select the t2.micro type, which is selected by default. Notice that this instance type is eligible for the free tier.

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**



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

Step 3: Configure Instance Details

Configure the instance to suit your requirements. You can launch multiple instances from the same AMI, request Spot instances to take advantage of the lower pricing, assign an access management role to the instance, and more.

Number of instances: 1

Purchasing option: Request Spot Instances

Network: vpc-65115401 (172.31.0.0/16) (default)

Subnet: No preference (default subnet in any Availability Zone)

Auto-assign Public IP: Use subnet setting (Enable)

IAM role: None

Shutdown behavior: Stop

Enable termination protection: Protect against accidental termination

Monitoring: Enable CloudWatch detailed monitoring
Additional charges apply.

Tenancy: Shared - Run a shared hardware instance

Buttons: Cancel, Previous, **Review and Launch**, Next: Add Storage

Step 4: Add Storage

Your instance will be launched with the following storage device settings. You can attach additional EBS volumes and instance store volumes to your instance, or edit the settings of the root volume. You can also attach additional EBS volumes after launching an instance, but not instance store volumes. [Learn more](#) about storage options in Amazon EC2.

Volume Type	Device	Snapshot	Size (GiB)	Volume Type	IOPS	Throughput (MB/s)	Delete on Termination	Encrypted
Root	/dev/xvda	snap-d465048a	8	General Purpose SSD (GP2)	100 / 3000	N/A	<input checked="" type="checkbox"/>	Not Encrypted

Add New Volume

Free tier eligible customers can get up to 30 GB of EBS General Purpose (SSD) or Magnetic storage. [Learn more](#) about free usage tier eligibility and usage restrictions.

Buttons: Cancel, Previous, **Review and Launch**, Next: Tag Instance

Review and Launch

Instance Type: t2.micro

AMI: Amazon Linux 2016.03-1

Network: vpc-65115401

Subnet: No preference (default subnet in any Availability Zone)

Security Group: Default Security Group

IAM Role: None

Key Pair: None

Tenancy: Shared

This instance will be launched with the following storage device settings. You can attach additional EBS volumes and instance store volumes to your instance, or edit the settings of the root volume. You can also attach additional EBS volumes after launching an instance, but not instance store volumes. [Learn more](#) about storage options in Amazon EC2.

Buttons: Cancel, Previous, **Review and Launch**, Next: Tag Instance

Step 5: Tag Instance

A tag consists of a case-sensitive key-value pair. For example, you could define a tag with key = Name and value = Webserver. [Learn more](#) about tagging your Amazon EC2 resources.

Key (127 characters maximum) **Value** (255 characters maximum)

Name Webserver

Create Tag (Up to 10 tags maximum)

Cancel **Previous** **Review and Launch** **Next: Configure Security Group**

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

Step 7: Review Instance Launch

Please review your instance launch details. You can always change them later.

AMI Details

Amazon Linux AMI 2016.03.3 (HVM, SSD Volume Type)
Free tier eligible
The Amazon Linux AMI is an EBS-backed AMI. It includes the latest version of the Amazon Linux distribution, the AWS CLI, and other tools.
Root Device Type: ebs Virtualization type: HVM

Instance Type

Instance Type	ECUs
t2.micro	Variable

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](#).

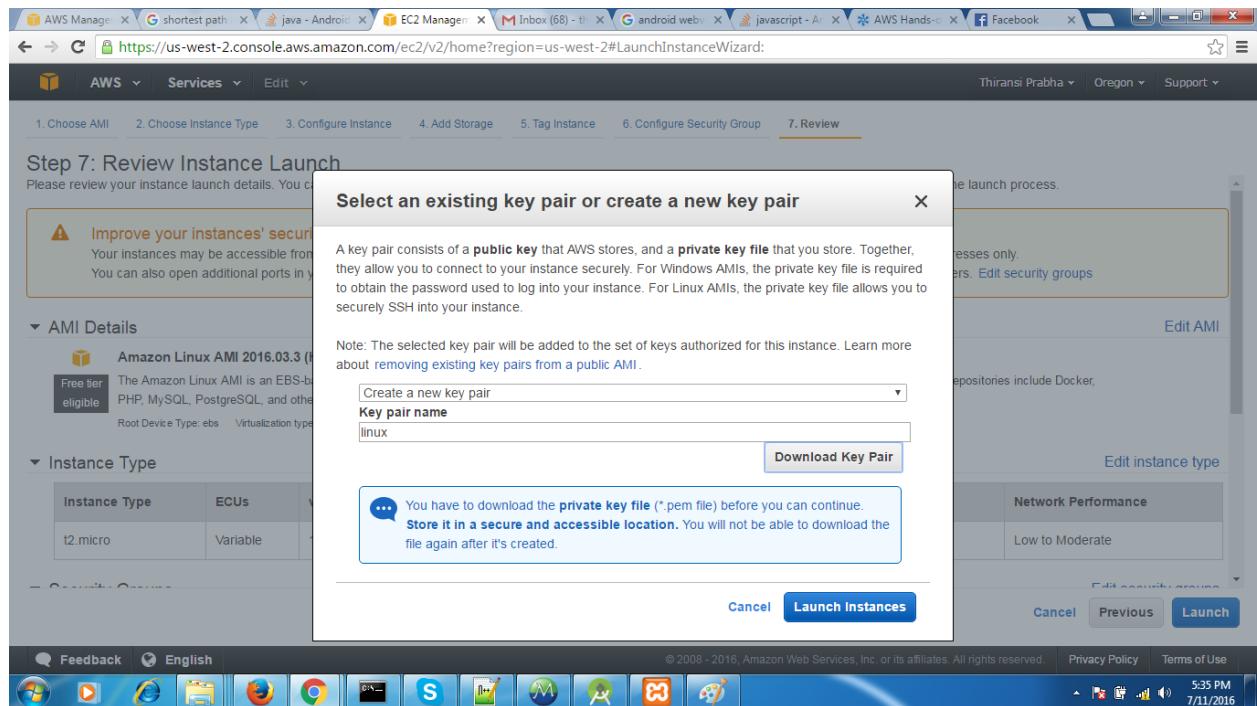
Create a new key pair
Key pair name
Download Key Pair

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.

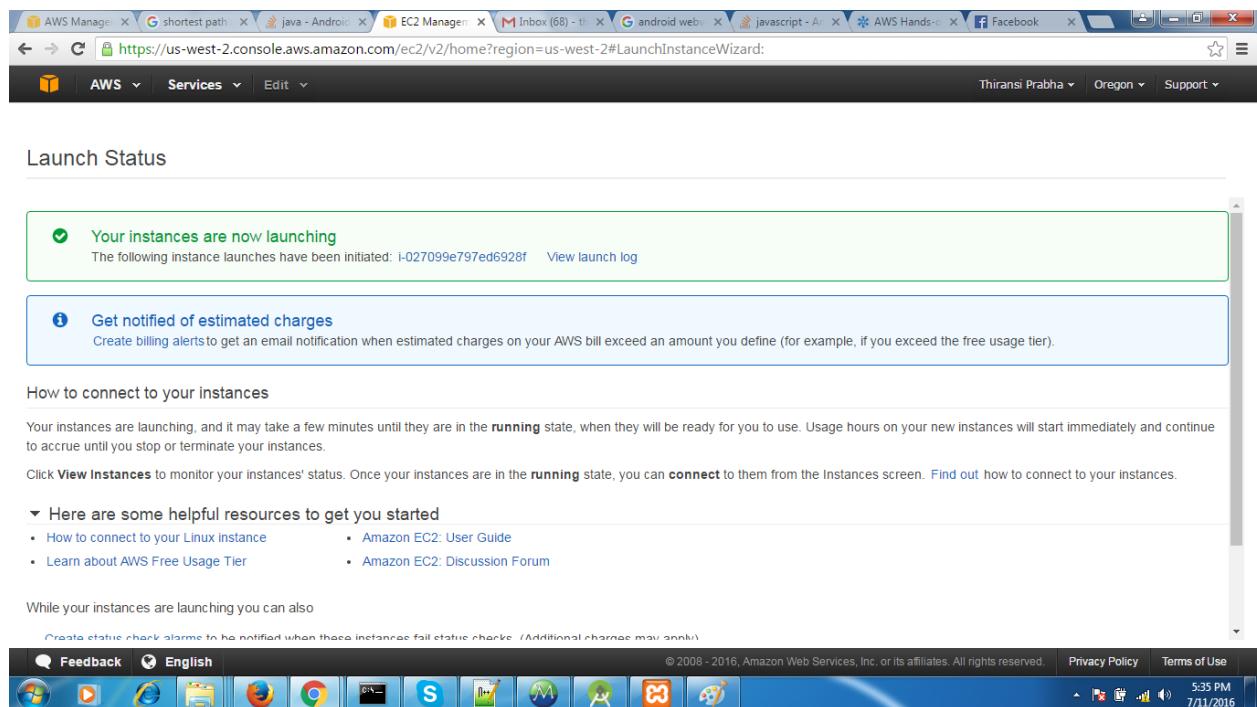
Cancel **Launch Instances**

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

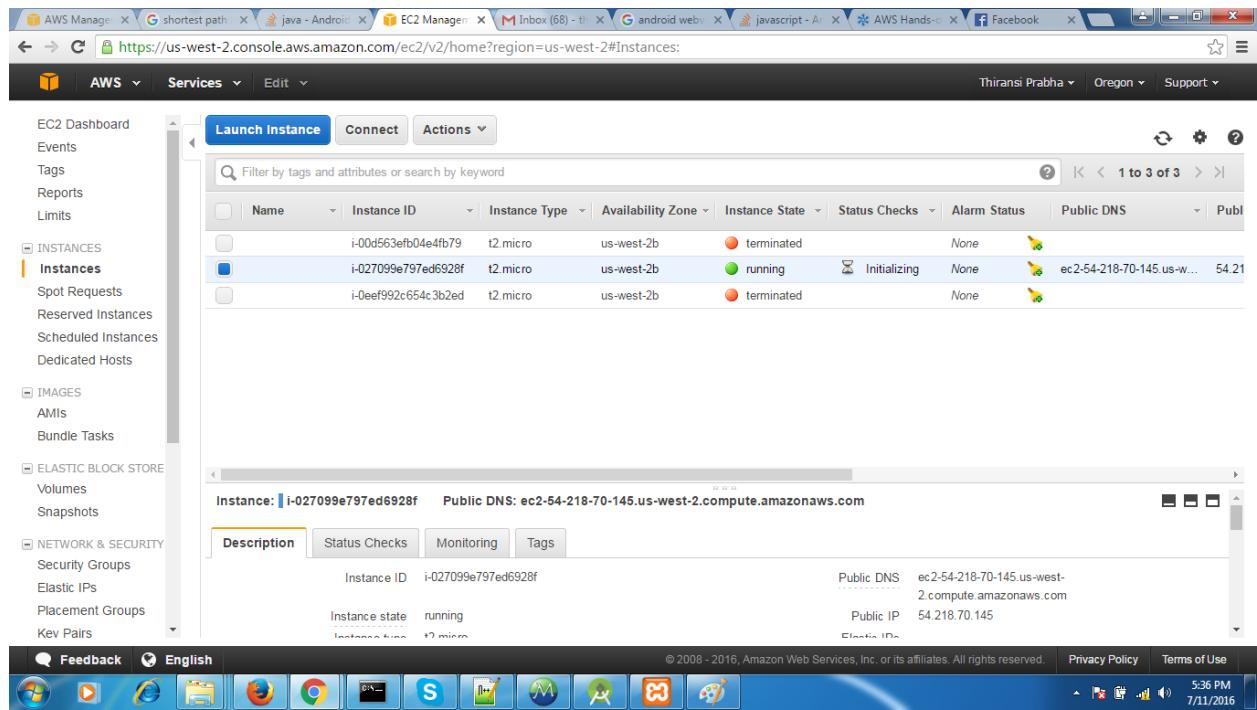
7. When prompted for a key pair, Select **Create a new key pair**, enter a name for the key pair, and then choose **Download Key Pair**.



8. And then choose **Launch Instances**.



9. 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 AWS EC2 Instances screen. On the left, there's a navigation pane with options like EC2 Dashboard, Events, Tags, Reports, Limits, Instances (which is selected), Instances Requests, Reserved Instances, Scheduled Instances, Dedicated Hosts, Images, AMIs, Bundle Tasks, Elastic Block Store, Volumes, Snapshots, Network & Security, Security Groups, Elastic IPs, Placement Groups, and Key Pairs. The main area has tabs for Launch Instance, Connect, and Actions. Below that is a search bar and a table with columns: Name, Instance ID, Instance Type, Availability Zone, Instance State, Status Checks, Alarm Status, Public DNS, and Publ. There are three rows in the table:

Name	Instance ID	Instance Type	Availability Zone	Instance State	Status Checks	Alarm Status	Public DNS	Publ
	i-00d563fb04e4fb79	t2 micro	us-west-2b	terminated		None		
	i-027099e797ed6928f	t2 micro	us-west-2b	running	Initializing	None	ec2-54-218-70-145.us-west-2.compute.amazonaws.com	54.21
	i-0eef992c654c3b2ed	t2.micro	us-west-2b	terminated		None		

Below the table, there's a detailed view for the running instance (i-027099e797ed6928f):

Instance: i-027099e797ed6928f Public DNS: ec2-54-218-70-145.us-west-2.compute.amazonaws.com

Description Status Checks Monitoring Tags

Instance ID: i-027099e797ed6928f Public DNS: ec2-54-218-70-145.us-west-2.compute.amazonaws.com
Instance state: running Public IP: 54.218.70.145
Instance type: t2.micro Creation time: +2 min

At the bottom, there are links for Feedback, English, Privacy Policy, and Terms of Use, along with system status icons.

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.

Step 2: Connect to Your Instance

To connect to your Linux instance using a web browser

1. From the Amazon EC2 console, choose **Instances** in the navigation pane.
2. Select the instance, and then choose **Connect**.

3. Run Putty Key Generator and Generate the Key and choose the type as SSH-2 RSA

