

# ASSIGNMENT- III

Working and Implementation of Infrastructure as a service Create an EC2 Linux Instance, Install an Apache Web Server and run the Hello World page by typing commands on a virtual machine.

Step 1: Log in to AWS Management Console and Navigate to EC2 Dashboard

- In the search bar at the top, type "EC2" and select EC2 from the dropdown menu. This will take you to the EC2 Dashboard.

Step 2: Launch Instance

- On the EC2 Dashboard, click on the Launch instance button.

- Give your instance a name in the "Name and tags" section if desired.

[EC2](#) > [Instances](#) > Launch an instance

## Launch an instance [Info](#)

Amazon EC2 allows you to create virtual machines, or instances, that run on the AWS Cloud. Quickly get started by following the simple steps below.

### Name and tags [Info](#)

Name

[Add additional tags](#)

## Step 3: Choose an Amazon Machine Image (AMI)

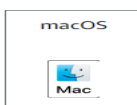
- Scroll down to the "Application and OS Images (Amazon Machine Image)" section.
- Select an AMI such as Amazon Linux AMI, SSD Volume Type.

### ▼ Application and OS Images (Amazon Machine Image) [Info](#)

An AMI is a template that contains the software configuration (operating system, application server, and applications) required to launch your instance. Search or Browse for AMIs if you don't see what you are looking for below

Recents

Quick Start



[Browse more AMIs](#)  
Including AMIs from AWS, Marketplace and the Community

#### Amazon Machine Image (AMI)

Amazon Linux 2023 AMI  
ami-02d3770deb1c746ec (64-bit (x86), uefi-preferred) / ami-018360301dddadc80 (64-bit (Arm), uefi)  
Virtualization: hvm ENA enabled: true Root device type: ebs

Free tier eligible ▼

#### Description

Amazon Linux 2023 is a modern, general purpose Linux-based OS that comes with 5 years of long term support. It is optimized for AWS and designed to provide a secure, stable and high-performance execution environment to develop and run your cloud applications.

Architecture

64-bit (x86) ▼

Boot mode

uefi-preferred

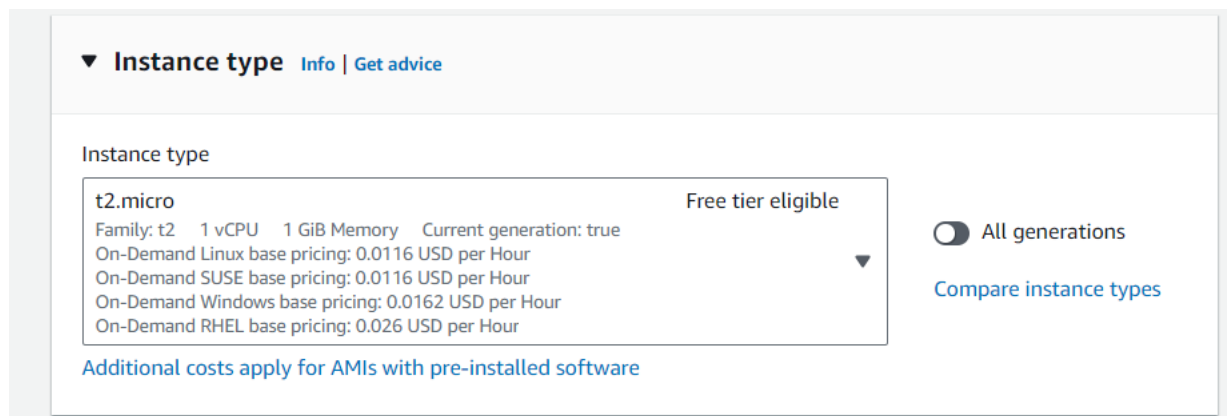
AMI ID

ami-02d3770deb1c746ec

Verified provider

## Step 4: Choose an Instance Type

- Select an instance type that suits your needs, such as t2.micro(free tier eligible).



- Click on Next: Configure Instance Details.

## Step 5: Configure Instance Details

- You can leave the default settings or modify them according to your requirements.
- Click on Next: Add Storage.

## Step 6: Add Key Pair

- When prompted, create a new key pair named Radha or select an existing one.

### ▼ Key pair (login) [Info](#)

You can use a key pair to securely connect to your instance. Ensure that you have access to the selected key pair before you launch the instance.

Key pair name - *required*

Radha



[Create new key pair](#)

## Step 7: Add Storage

- The default storage configuration is usually sufficient. Modify the storage size if needed.

### ▼ Configure storage [Info](#)

[Advanced](#)

1x  GiB  Root volume (Not encrypted)

Free tier eligible customers can get up to 30 GB of EBS General Purpose (SSD) or Magnetic storage

[Add new volume](#)

Click refresh to view backup information

The tags that you assign determine whether the instance will be backed up by any Data Lifecycle Manager policies.



0 x File systems

[Edit](#)

- Click on Next: Add Tags.

## Step 8: Add Tags (Optional)

- Add tags to help identify your instance (e.g., key `Name` and value `MyLinuxInstance` ).
- Click on Next: Configure Security Group.

## Step 9: Configure Security Group

- Create a new security group or choose an existing one.
- Ensure SSH access is enabled by allowing traffic on port 22 and http

▼ Network settings [Info](#)

Edit

Network | [Info](#)

vpc-0a895b9422fd3af22

Subnet | [Info](#)

No preference (Default subnet in any availability zone)

Auto-assign public IP | [Info](#)

Enable

Additional charges apply when outside of free tier allowance

Firewall (security groups) | [Info](#)

A security group is a set of firewall rules that control the traffic for your instance. Add rules to allow specific traffic to reach your instance.

☒ Create security group

☐ Select existing security group

We'll create a new security group called 'launch-wizard-3' with the following rules:

☒ Allow SSH traffic from

Helps you connect to your instance


Anywhere  
0.0.0.0/0

☐ Allow HTTPS traffic from the internet

To set up an endpoint, for example when creating a web server

☒ Allow HTTP traffic from the internet

To set up an endpoint, for example when creating a web server

 Rules with source of 0.0.0.0/0 allow all IP addresses to access your instance. We recommend setting security group rules to allow access from known IP addresses only.

×

- Click on Review and Launch.

## Step 10: Review and Launch

- Review your instance details.
- Click Launch.

The screenshot shows the 'Review and Launch' step in the AWS Management Console. The top navigation bar includes icons for home, notifications, help, and settings, along with the region 'Oregon' and the user 'voclabs/user3375237=Apurva @ 2461-1026-8600'. The main content area is titled 'Summary' and displays the following configuration details:

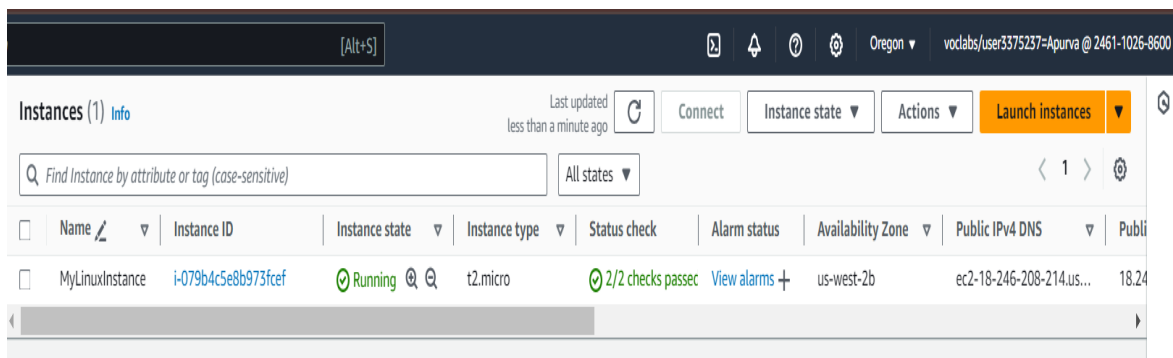
- Number of instances:** 1 (with an 'Info' link)
- Software Image (AMI):** Amazon Linux 2023 AMI 2023.5.2... (with a 'read more' link and ID ami-02d3770deb1c746ec)
- Virtual server type (instance type):** t2.micro
- Firewall (security group):** New security group
- Storage (volumes):** 1 volume(s) - 8 GiB

A 'Free tier' information box is displayed, stating: 'Free tier: In your first year includes 750 hours of t2.micro (or t3.micro in the Regions in which t2.micro is unavailable) instance usage on free tier AMIs per month, 750 hours of public IPv4 address usage per month, 30 GiB of EBS storage, 2 million IOs, 1 GB of snapshots, and 100...'. At the bottom, there are three buttons: 'Cancel', 'Launch instance' (in orange), and 'Review commands' (in blue).

- Confirm by clicking Launch Instances.

## Step 11: View Instance

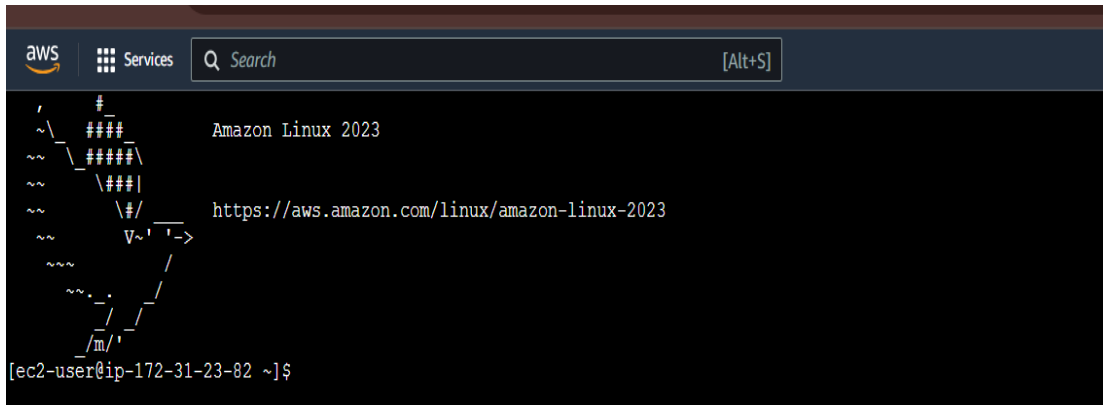
- Click on the View Instances button to see your instance's status.
- Wait for the instance status to show as "running".



## 2. Install Apache Web Server and Run the Hello World Page

### Step 1: Connect to Your EC2 Instance

- . In the EC2 Dashboard, select your instance and click on **Connect**.



## Step 2: Update Package Information

- Once connected, update the package information by running the following command:

`sudo yum update -y`

```
[ec2-user@ip-172-31-23-82 ~]$ sudo su
[root@ip-172-31-23-82 ec2-user]# sudo yum update -y
Last metadata expiration check: 0:03:23 ago on Wed Sep  4 09:06:05 2024.
Dependencies resolved.
Nothing to do.
Complete!
```

## Step 3: Install Apache Web Server

- Install the Apache web server (httpd) using the following command:

`sudo yum install -y httpd`



```

root@ip-172-31-23-82 ec2-user]# sudo yum install -y httpd
Last metadata expiration check: 0:04:24 ago on Wed Sep  4 09:06:05 2024.
Dependencies resolved.

```

Package	Architecture	Version
Installing:		
httpd	x86_64	2.4.62-1.amzn2023
Installing dependencies:		
apr	x86_64	1.7.2-2.amzn2023.0.2
apr-util	x86_64	1.6.3-1.amzn2023.0.1
generic-logos-httpd	noarch	18.0.0-12.amzn2023.0.3
httpd-core	x86_64	2.4.62-1.amzn2023
httpdfilesystem	noarch	2.4.62-1.amzn2023
httpd-tools	x86_64	2.4.62-1.amzn2023
libbrotli	x86_64	1.0.9-4.amzn2023.0.2
mailcap	noarch	2.1.49-3.amzn2023.0.3
Installing weak dependencies:		

## Step 4: Start the Apache Web Server

- Start the Apache service and enable it to start on boot:

```
bash
```

```
sudo systemctl start httpd
```

```
sudo systemctl enable httpd
```

```

Completed!
[root@ip-172-31-23-82 ec2-user]# sudo systemctl start httpd
sudo systemctl enable httpd
Created symlink /etc/systemd/system/multi-user.target.wants/httpd.service → /usr/lib/systemd/system/httpd.service.
[root@ip-172-31-23-82 ec2-user]#

```

## Step 5: Create a Hello World Page


- Create a simple HTML file to serve as your "Hello World" page

```
echo "<html><body><h1>Hello  
World</h1></body></html>"  
/var/www/html/index.html
```

```
[root@ip-172-31-23-82 ec2-user]# echo "<html><body><h1>Hello World</h1></body></html>" > /var/www/html/index.html  
[root@ip-172-31-23-82 ec2-user]#
```

## Step 6: Verify the Web Server

- Open a web browser and enter the public IP address of your EC2 instance.
- You should see the "Hello World" page displayed.



← → ↻ ⚠ Not secure 18.246.208.214

# Hello World