

# ASSIGNMENT -V

## WORKING AND IMPLEMENTATION OF INFRASTRUCTURE AS A SERVICE

Launch Your Amazon EC2 Instance.

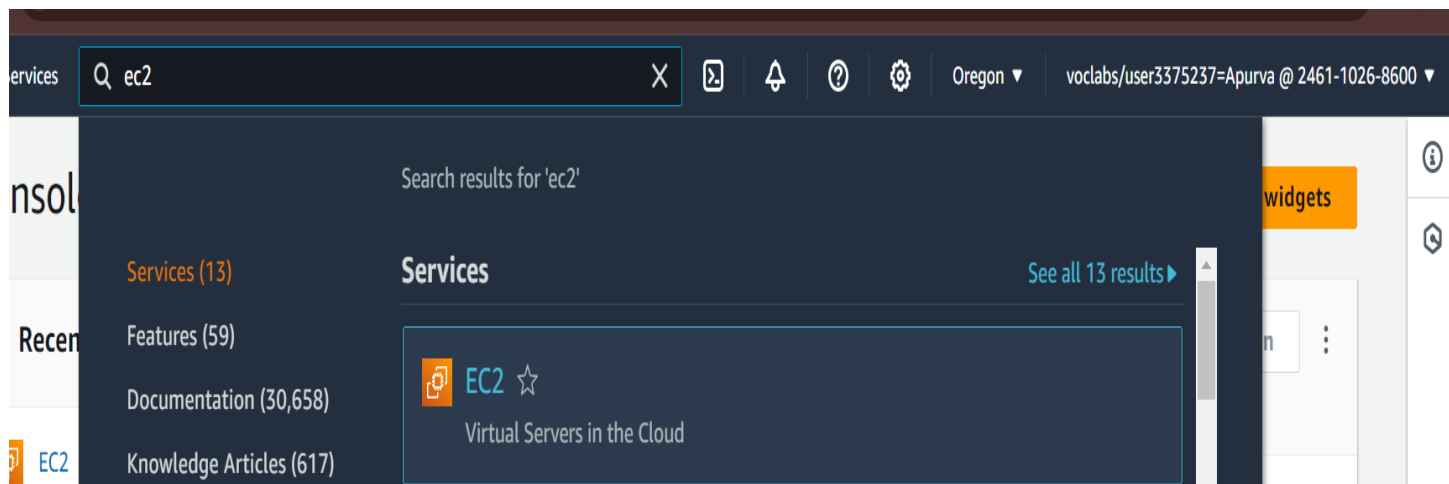
Write the shell script in the User Data box.

The script will: • Install an Apache web server (httpd)

- Configure the web server to automatically start on boot
- Run the Web server once it has finished installing
- Create a simple web page

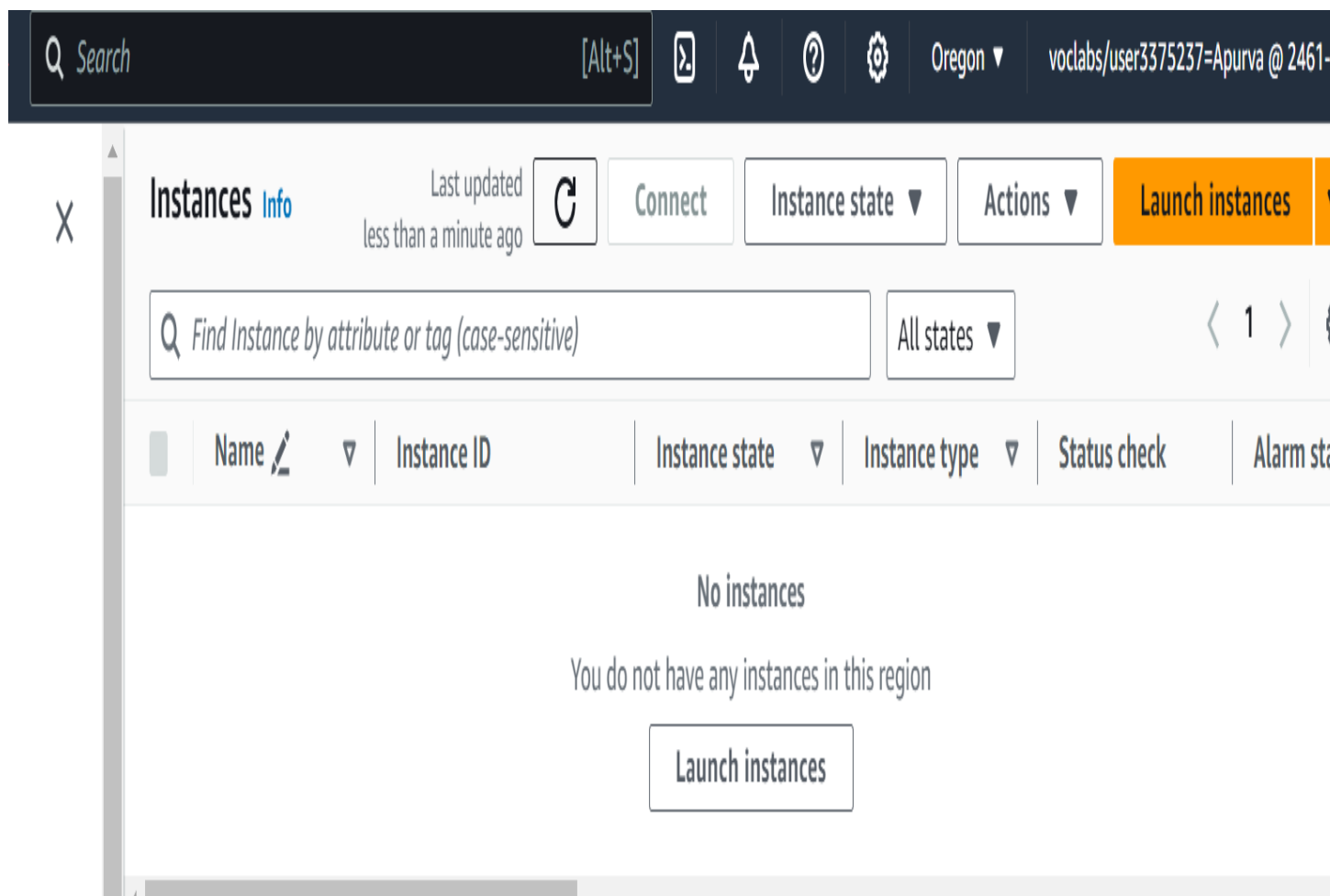
### #### Step 1: Launch Your Amazon EC2 Instance

1. Open the AWS Management Console:
  - Go to Services > EC2.



## 2. Launch an EC2 Instance:

- Click on Launch Instance.



- Name: Enter a name for your instance, e.g., "Apache-Web-Server".

Services

Search

[Alt+S]

Oregon

voclabs/user3375237=Apurva

[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

Apache-Web-Server

Add additional tags

### 3. Choose an AMI:

- Select Amazon Linux 2023 AMI.

Application and OS Images (Amazon Machine Image)

Info

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

Search our full catalog including 1000s of application and OS images

Recents

Quick Start

Amazon Linux

aws

macOS

Mac

Ubuntu

ubuntu

Windows

Microsoft

Red Hat

Red Hat

SUSE Linux

SUSE

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.

#### 4. Select Instance Type:

- Choose the instance type, e.g., t2.micro(eligible for the free tier).

▼ **Instance type** [Info](#) | [Get advice](#)

Instance type

t2.micro

Family: t2   1 vCPU   1 GiB Memory   Current generation: true

On-Demand Linux base pricing: 0.0116 USD per Hour

On-Demand SUSE base pricing: 0.0116 USD per Hour

On-Demand Windows base pricing: 0.0162 USD per Hour

On-Demand RHEL base pricing: 0.026 USD per Hour

Free

[Additional costs apply for AMIs with pre-installed software](#)

#### 5. Configure Key Pair:

- If you don't have a key pair, create one.
- Otherwise, select an existing key pair.


▼ **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 when you launch the instance.

Key pair name - *required*

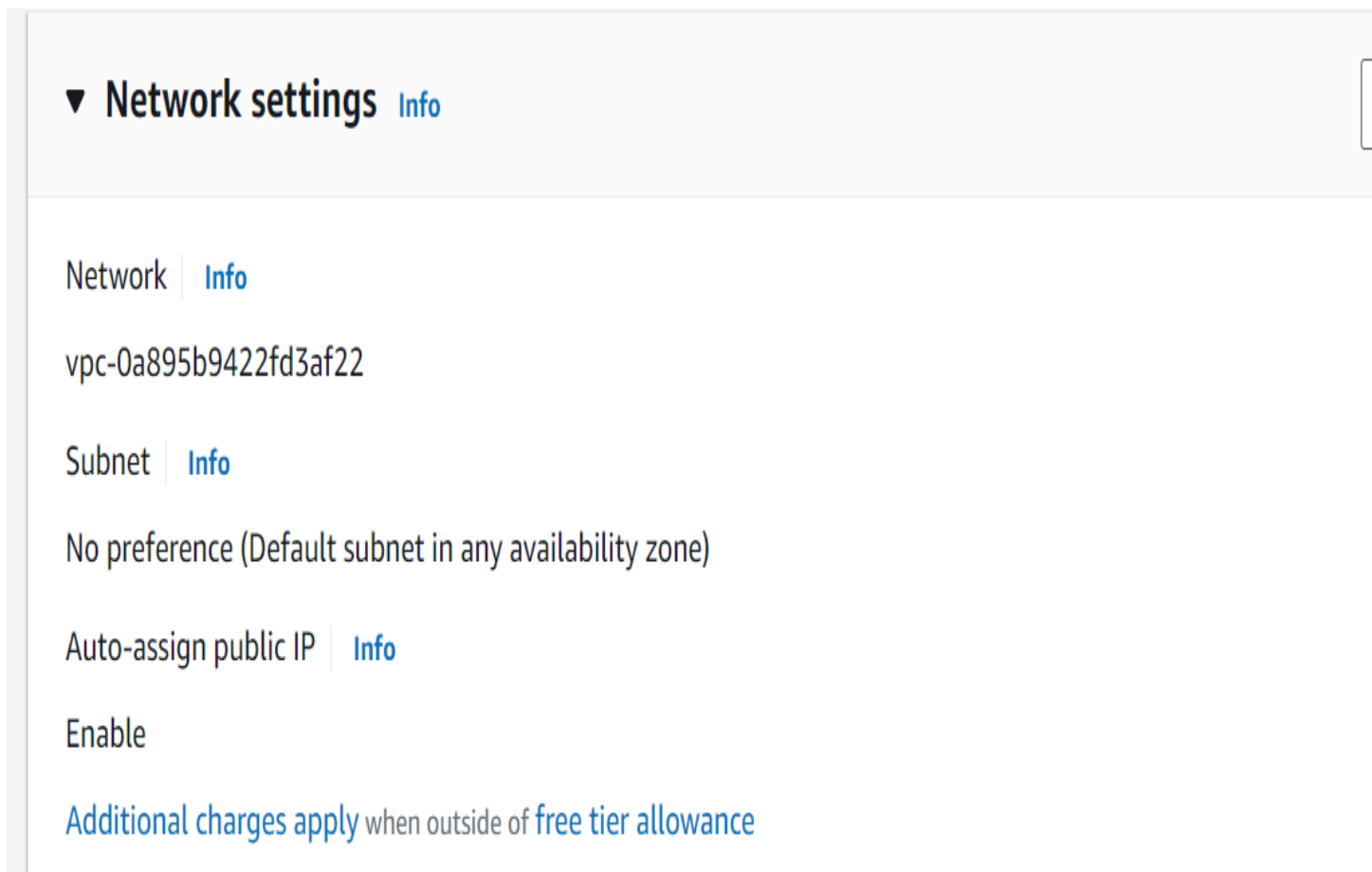
Radha

▼

 [Create new key pair](#)

## 6. Configure Network Settings:

- Ensure that your instance is in the default VPC and choose the default subnet.



## 7. Add User Data (Shell Script):

- Scroll down to Advanced details.
- In the User data section, enter the following script:

```
#!/bin/bash
```

# Update the package repository

yum update -y

# Install Apache web server

yum install -y httpd

# Start the Apache web server

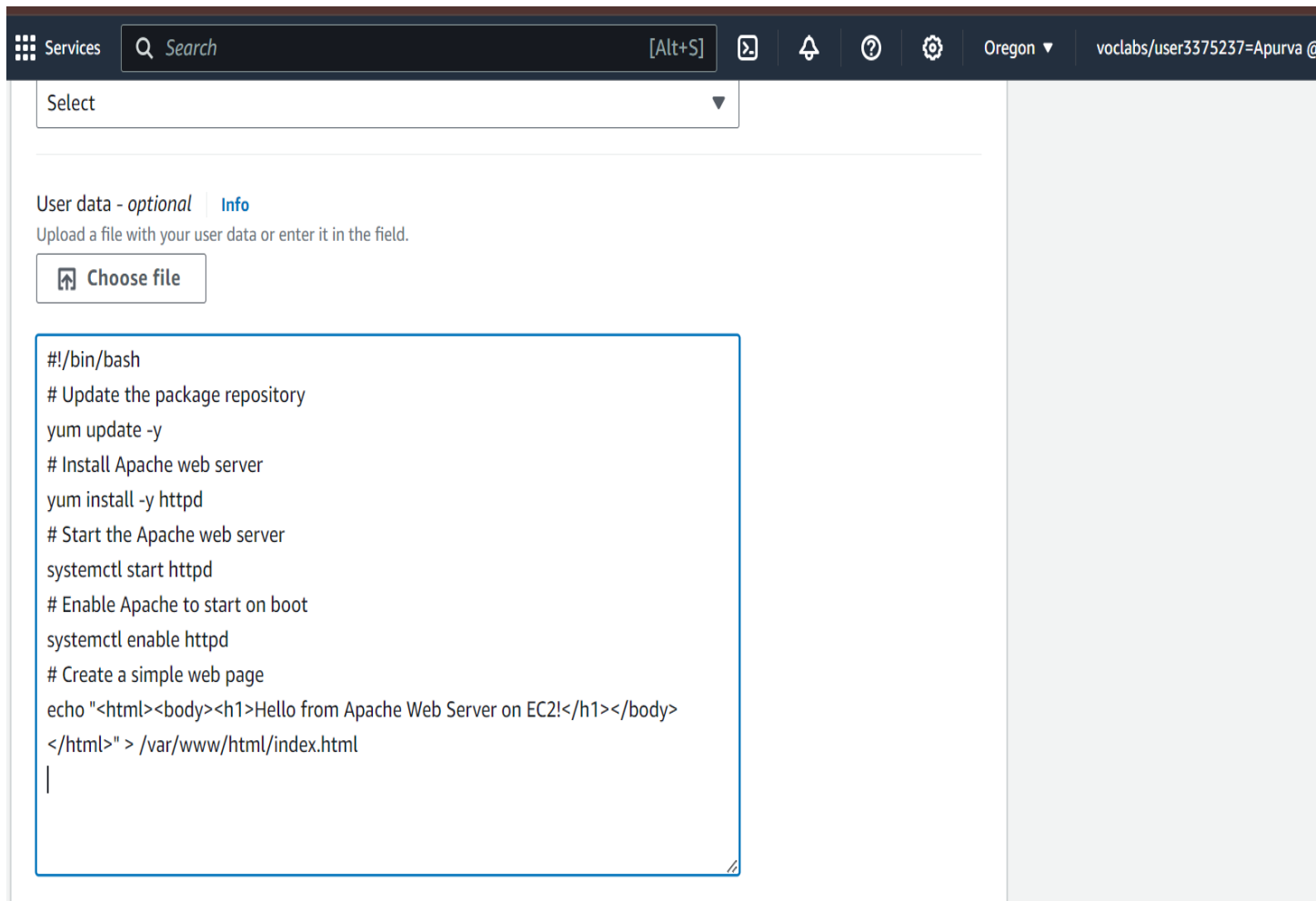
systemctl start httpd

# Enable Apache to start on boot

systemctl enable httpd

# Create a simple web page

```
echo "<html><body><h1>Hello from  
Apache Web Server on  
EC2!</h1></body></html>" >  
/var/www/html/index.html
```



## 8. Configure Storage:

- Set the storage options as required. The default is 8 GiB of General Purpose SSD (gp2).

## 9. Launch the Instance:

- Review the configuration and click Launch Instance.

## ▼ Summary

Number of instances [Info](#)

1

Amazon Linux 2023 AMI 2023.5.20240819.0 x86\_64 HVM kernel-6.1  
ami-02d3770deb1c746ec

[Virtual server type \(instance type\)](#)

t2.micro

[Firewall \(security group\)](#)

New security group

[Storage \(volumes\)](#)

1 volume(s) - 8 GiB



**Free tier:** In your first year includes 750 hours of t2.micro (or t3.micro in the Regions in which

Cancel

Launch

- Wait for the instance to enter the running state.

[Alt+S] Oregon ▼ voclabs/user3375237=Apu

Instances (1) [Info](#) Last updated less than a minute ago

Connect Instance state ▼ Actions ▼ Launch inst

All states ▼

<input type="checkbox"/>	Name  ▼	Instance ID	Instance state ▼	Instance type ▼	Status check
<input type="checkbox"/>	Apache-Web-S...	i-06edcb64265364682	Running	t2.micro	2/2 checks passec



## #### Step 2: Update Your Security Group

### 1. Go to Security Groups:

- In the EC2 console, select Security Groups from the left-hand menu.

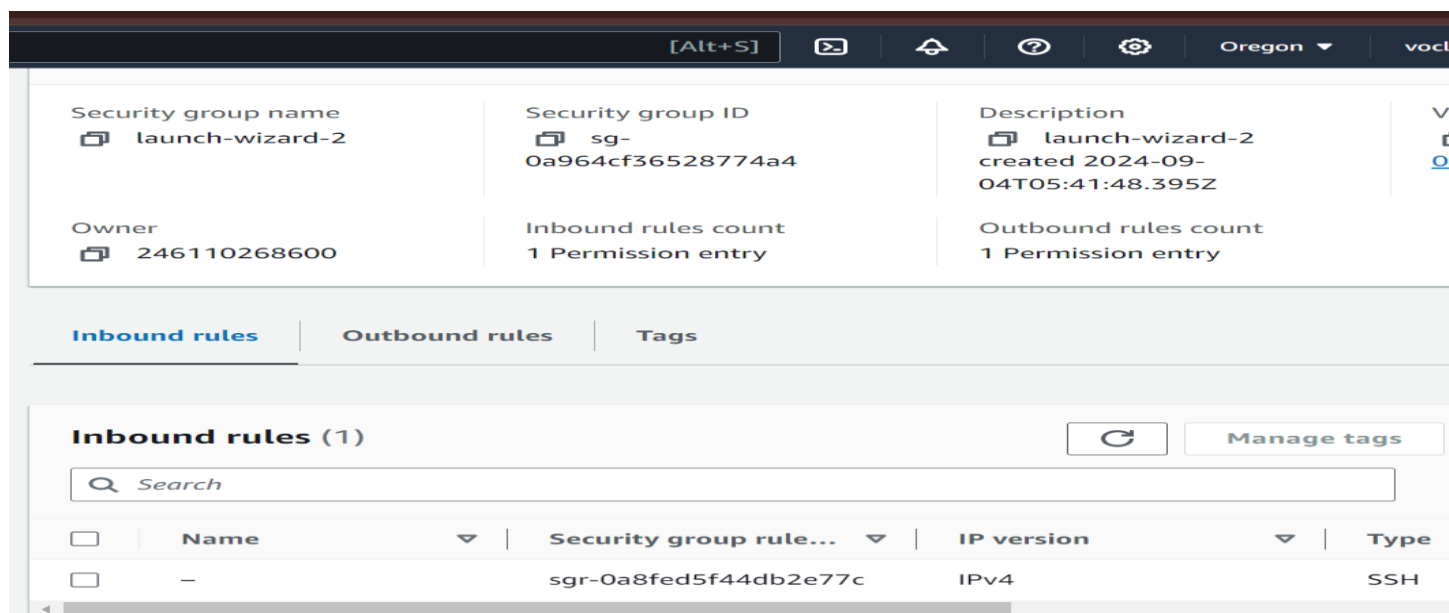
### 2. Select the Security Group:

- Select the security group associated with your instance.



### 3. Edit Inbound Rules:

- Click on Edit inbound rules.



## 4. Add HTTP Access:

- Click Add Rule and configure:
- Type: HTTP
- Protocol: TCP
- Port Range: 80
- Source: Anywhere (0.0.0.0/0) to allow public access.

EC2 > Security Groups > sg-0a964cf36528774a4 - launch-wizard-2 > Edit inbound rules

### Edit inbound rules [Info](#)

Inbound rules control the incoming traffic that's allowed to reach the instance.

Security group rule ID	Type <a href="#">Info</a>	Protocol <a href="#">Info</a>	Port range <a href="#">Info</a>	Source <a href="#">Info</a>	Description - optional <a href="#">Info</a>	
sg-07e342e6c9d430b2d	HTTP	TCP	80	Custom	<input type="text" value="Q"/>	<input type="button" value="Delete"/>
					0.0.0.0/0 <input type="button" value="X"/>	
sg-0a8fed5f44db2e77c	SSH	TCP	22	Custom	<input type="text" value="Q"/>	<input type="button" value="Delete"/>
					0.0.0.0/0 <input type="button" value="X"/>	

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

## 5. Save Rules:

- Click Save rules to apply the changes.

#### Step 3: Access the Web Server

# 1. Get the Public IP Address:

- In the EC2 dashboard, select Instances.

The screenshot shows the AWS Management Console interface for the EC2 Instances page. At the top, there's a header with navigation icons and user information. Below the header, the 'Instances (1/1)' section is active, showing a table with one instance. The instance is 'i-06edcb64265364682' (Apache-Web-Server), which is in the 'Running' state. Below the table, the details for this instance are expanded, showing tabs for 'Details', 'Status and alarms', 'Monitoring', 'Security', 'Networking', 'Storage', and 'Tags'. The 'Details' tab is selected, displaying the 'Instance summary' with the instance ID, public IPv4 address (18.236.91.37), and private IPv4 addresses (172.31.21.94).

Instances (1/1) [Info](#) Last updated less than a minute ago [Refresh](#) [Connect](#) [Instance state](#) [Actions](#) [Launch instances](#)

[All states](#)

[Instance state = running](#) [Clear filters](#) < 1 > [Settings](#)

<input checked="" type="checkbox"/>	Name <a href="#">✎</a>	Instance ID	Instance state	Instance type	Status check	Alarm status	Availability Zone	Public IPv4 DNS	Public IPv4 address
<input checked="" type="checkbox"/>	Apache-Web-S...	i-06edcb64265364682	<span>Running</span>	t2.micro	<span>2/2 checks passed</span> <a href="#">View alarms</a>		us-west-2b	ec2-18-236-91-37.us-w...	18.236.91.37

**i-06edcb64265364682 (Apache-Web-Server)** [Settings](#) [Close](#)

[Details](#) [Status and alarms](#) [Monitoring](#) [Security](#) [Networking](#) [Storage](#) [Tags](#)

▼ **Instance summary** [Info](#)

Instance ID	Public IPv4 address	Private IPv4 addresses
i-06edcb64265364682 (Apache-Web-Server)	18.236.91.37   <a href="#">open address</a>	172.31.21.94

- Find your running instance and copy the Public IPv4 address.

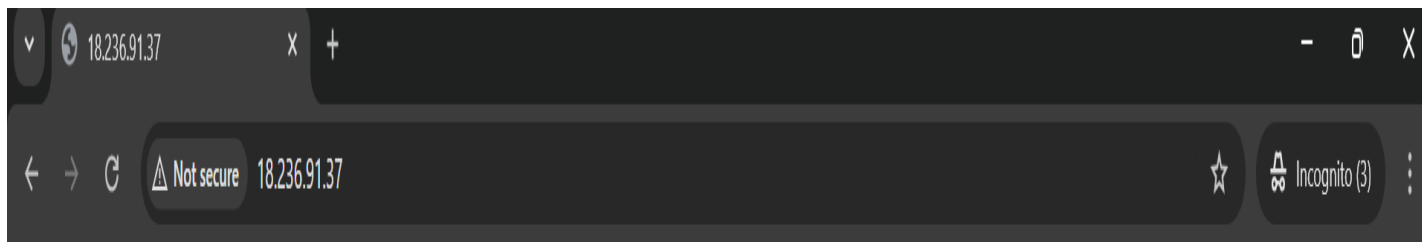
## 2. Access the Web Page:

- Open a web browser and enter the following URL:

`http://<Public_IP_Address>`

- Replace '18.236.91.37' with the actual IP address of your EC2 instance.

- You should see the message: "Hello from Apache Web Server on EC2!"



Hello from Apache Web Server on EC2!