

# SET UP A VIRTUAL MACHINE IN CLOUD

## What is a Virtual machine?

A Virtual Machine (VM) is a self-contained, software-defined computer environment that emulates the functionality of a physical system, enabling multiple independent operating systems to coexist on a shared hardware infrastructure through virtualization. It abstracts computing resources, allowing dynamic allocation of CPU, memory, and storage while maintaining isolation and flexibility for testing, deployment, and cloud computing.

## PREREQUISITES:

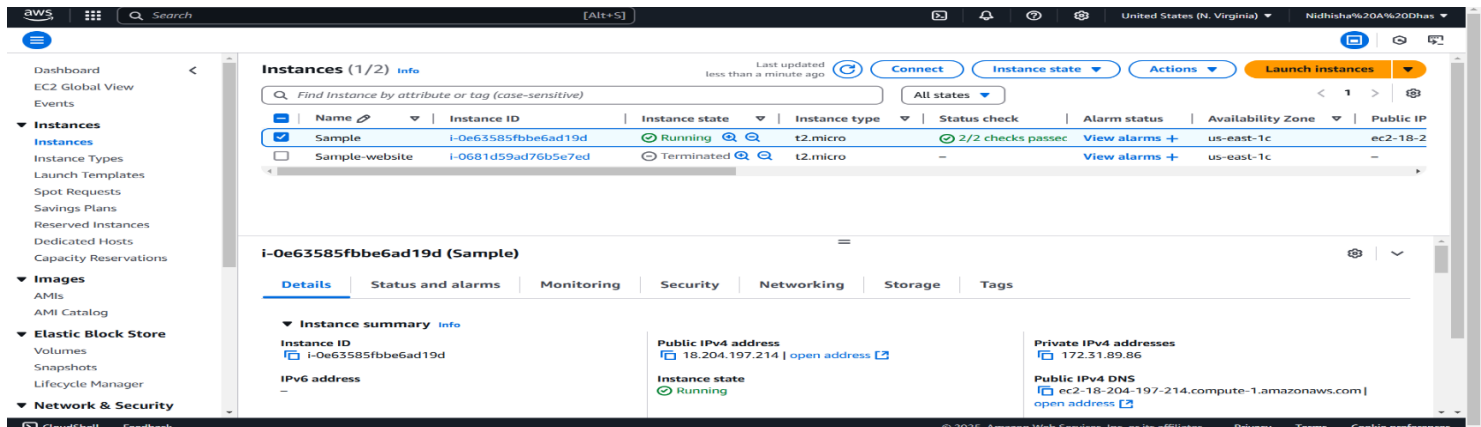
- AWS Management Console
- PowerShell

## Overview of EC2 instance:

An EC2 instance is a **virtual computer** in the cloud, provided by Amazon Web Services (AWS). It lets you run applications without needing physical hardware. You can start, stop, and scale it as needed, paying only for what you use.

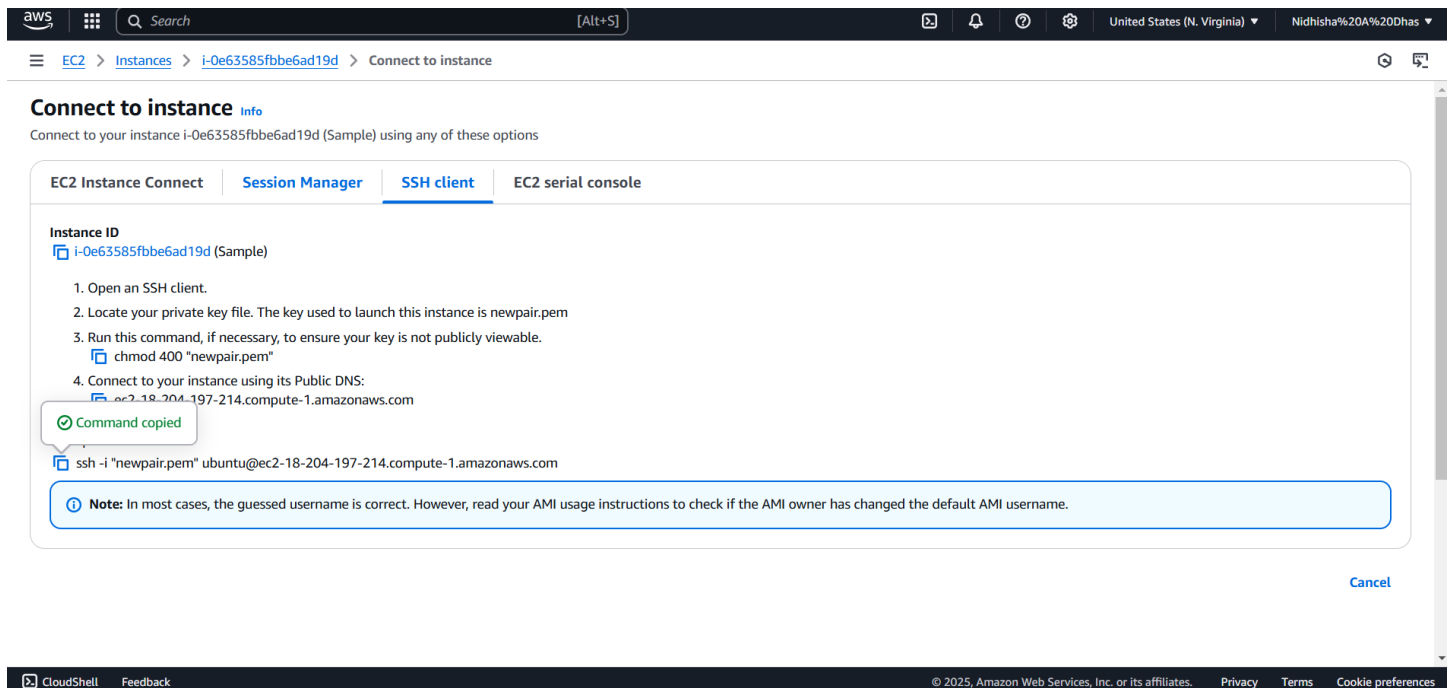
### Step 1: Creating an EC2 instance

- Login into AWS console.
- Navigate into the EC2 service.
- Select launch instance and specify the name, instance type, OS and create a Key-Pair value.
- Allow the SSH, HTTPS, HTTP traffic from the internet.
- Finally review and launch the instance.



## Step 2:

After successfully launching an EC2 instance, select the instance id and copy the SSH ID to connect using SSH as shown below.



## Step 3: Change the key-pair directory.

Open the Windows PowerShell and give the appropriate commands as mentioned below to change the directory. Copy the SSH command and paste it in the terminal to change the directory from downloads.

```
PS C:\Users\Arulldhas> cd downloads
PS C:\Users\Arulldhas\downloads> ssh -i "newpair.pem" ubuntu@ec2-18-204-197-214.compute-1.amazonaws.com
The authenticity of host 'ec2-18-204-197-214.compute-1.amazonaws.com (18.204.197.214)' can't be established.
ED25519 key fingerprint is SHA256:JnQCZz8d+OXoqADV+6YzvKIsr0QeUW/oWAnnJrfpgbk.
This key is not known by any other names.
Are you sure you want to continue connecting (yes/no/[fingerprint])? yes
Warning: Permanently added 'ec2-18-204-197-214.compute-1.amazonaws.com' (ED25519) to the list of known hosts.
Welcome to Ubuntu 24.04.1 LTS (GNU/Linux 6.8.0-1021-aws x86_64)

 * Documentation:  https://help.ubuntu.com
 * Management:    https://landscape.canonical.com
 * Support:       https://ubuntu.com/pro

System information as of Wed Jan 29 03:54:44 UTC 2025

System load:  0.0          Processes:    103
Usage of /:   24.9% of 6.71GB   Users logged in: 0
Memory usage: 19%          IPv4 address for enx0: 172.31.89.86
Swap usage:   0%

Expanded Security Maintenance for Applications is not enabled.

0 updates can be applied immediately.

Enable ESM Apps to receive additional future security updates.
See https://ubuntu.com/esm or run: sudo pro status

The list of available updates is more than a week old.
To check for new updates run: sudo apt update

The programs included with the Ubuntu system are free software;
the exact distribution terms for each program are described in the
individual files in /usr/share/doc/*/copyright.
```

## CONCLUSION:

Thus, by completing this **POC**, we have learnt how to launch a Virtual Machine (EC2) in the AWS management console and connect it with SSH using the Windows PowerShell.

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