Placement Empowerment Program

Cloud Computing and DevOps Centre

Task:Set up a Virtual Machine in the Cloud

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Introduction

Introduction to Setting Up a Virtual Machine in the Cloud

A **Virtual Machine (VM)** in the cloud is a computing resource that runs on a cloud provider's infrastructure. It allows users to deploy applications, test environments, or run workloads without needing physical hardware.

This **Proof of Concept (PoC)** aims to guide you through the process of setting up a virtual machine on major cloud platforms like **Amazon Web Services (AWS), Microsoft Azure, or Google Cloud Platform (GCP)** using their **free-tier** offerings. The steps include:

1. **Creating a Cloud Account** – Sign up for a free-tier account on AWS, Azure, or GCP.
2. **Launching a Virtual Machine** – Choose an appropriate VM configuration and operating system.
3. **Connecting via SSH** – Securely access the VM using SSH from your local machine.

By the end of this PoC, you will have a running cloud-based VM that you can use for development, testing, or hosting applications.

Overview

Step-by-Step Overview for Setting Up a Virtual Machine in the Cloud (PoC)

1: Create a Cloud Account

Sign up for a free-tier accounton one of the major cloud providers:

AWS (Amazon Web Services) – AWS Free Tier

Azure (Microsoft Azure) – Azure Free Account

GCP (Google Cloud Platform) – Google Cloud Free Tier

Verify your email, phone number, and payment method (most providers require a credit card for verification but won't charge for free-tier usage).

2: Access the Cloud Console

Log in to the respective cloud console:

AWS Console: AWS Management Console

Azure Portal: Azure Portal

Google Cloud Console: Google Cloud Console

3: Launch a Virtual Machine (VM)

Navigate to the Compute Servicessection:

AWS: EC2 (Elastic Compute Cloud)

Azure: Virtual Machines

GCP: Compute Engine

Click on Create Instance / Launch VM Configure the following settings:

Choose OS (Ubuntu, Windows, CentOS, etc.)

Select Machine Type (Free-tier eligible instance like AWS t2.micro, Azure B1s, or

GCP e2-micro)

Configure Network & Security (Ensure SSH is enabled)

Create & Download SSH Key Pair (AWS & GCP) or set up username/password

(Azure)

Launch / Deploy the VM

4: Connect to the VM via SSH

Once the VM is running, retrieve its public IP address Open a terminal (Linux/macOS) or use PuTTY (Windows) Connect using SSH: ssh -i your-key.pem username@public-ip

AWS: ssh -i key.pem ec2-user@public-ip

Azure: ssh username@public-ip

GCP: ssh username@public-ip (or use Google Cloud Console SSH button)

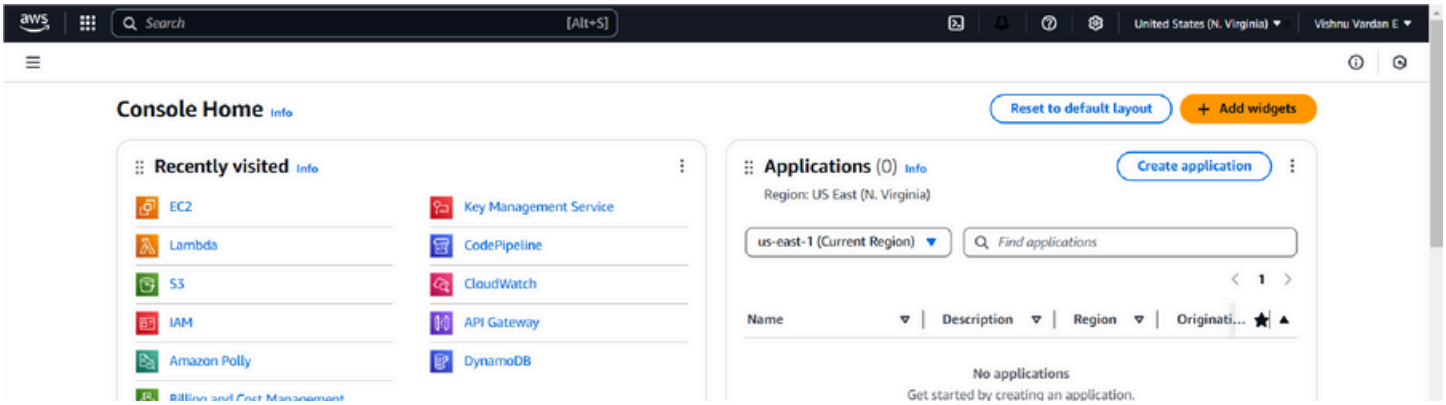
5: Verify and Use Your VM

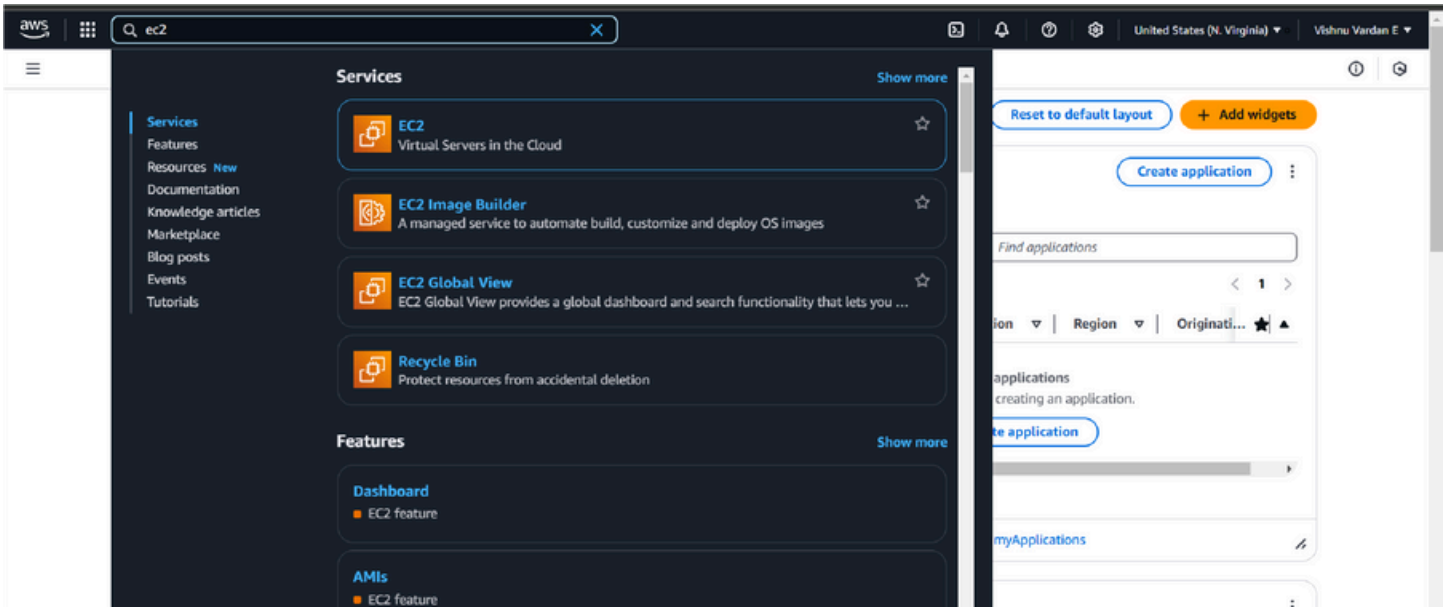
Run basic commands to ensure the VM is working: uname -a # Check system info df -h # Check disk usage top # Monitor processes

Install required packages or deploy an application as needed

Step-by-Step Overview Step 1:

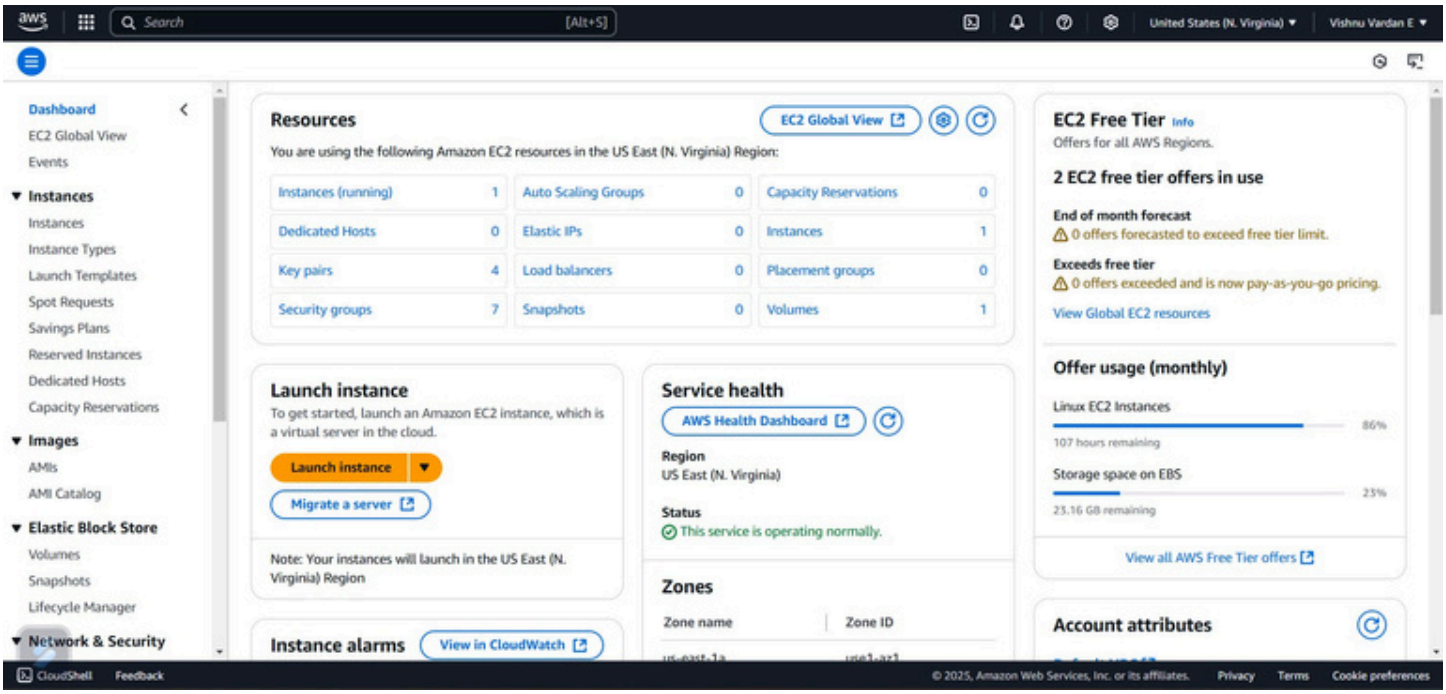
Navigate to the aws console and search ec2





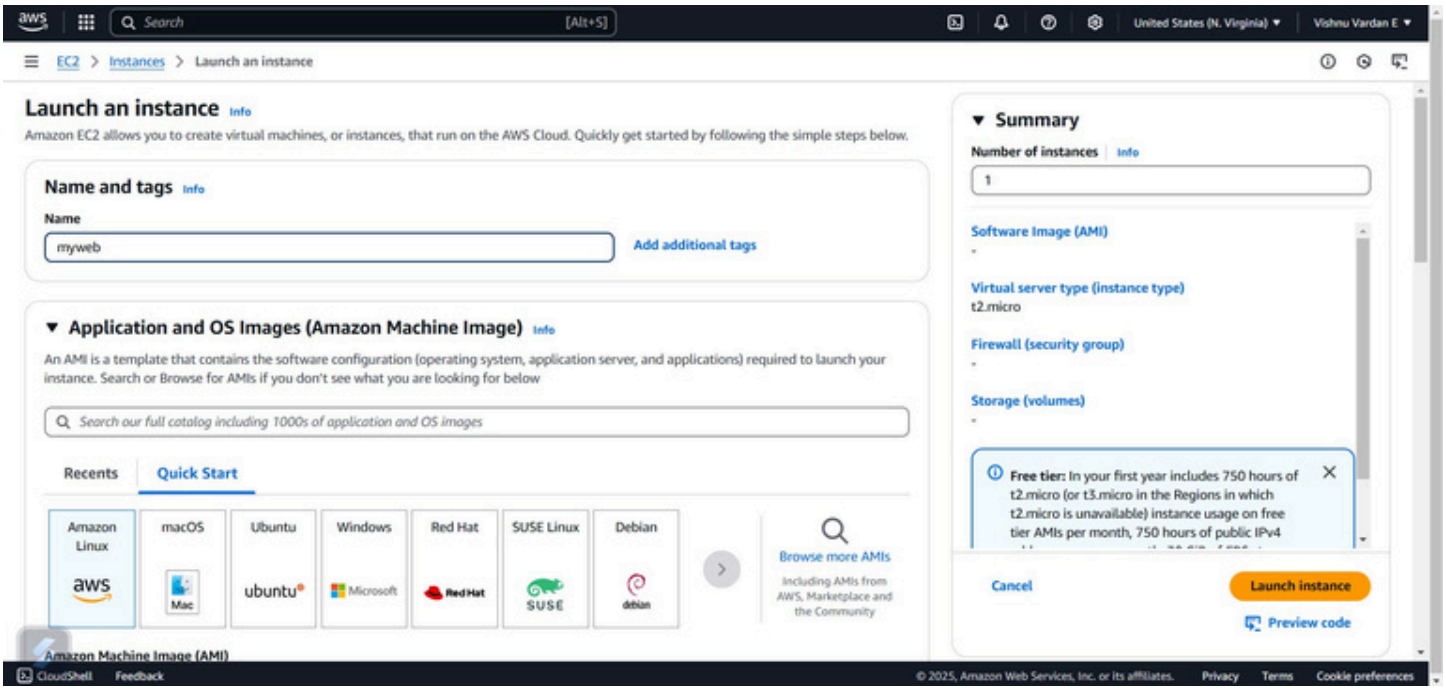
Step 2

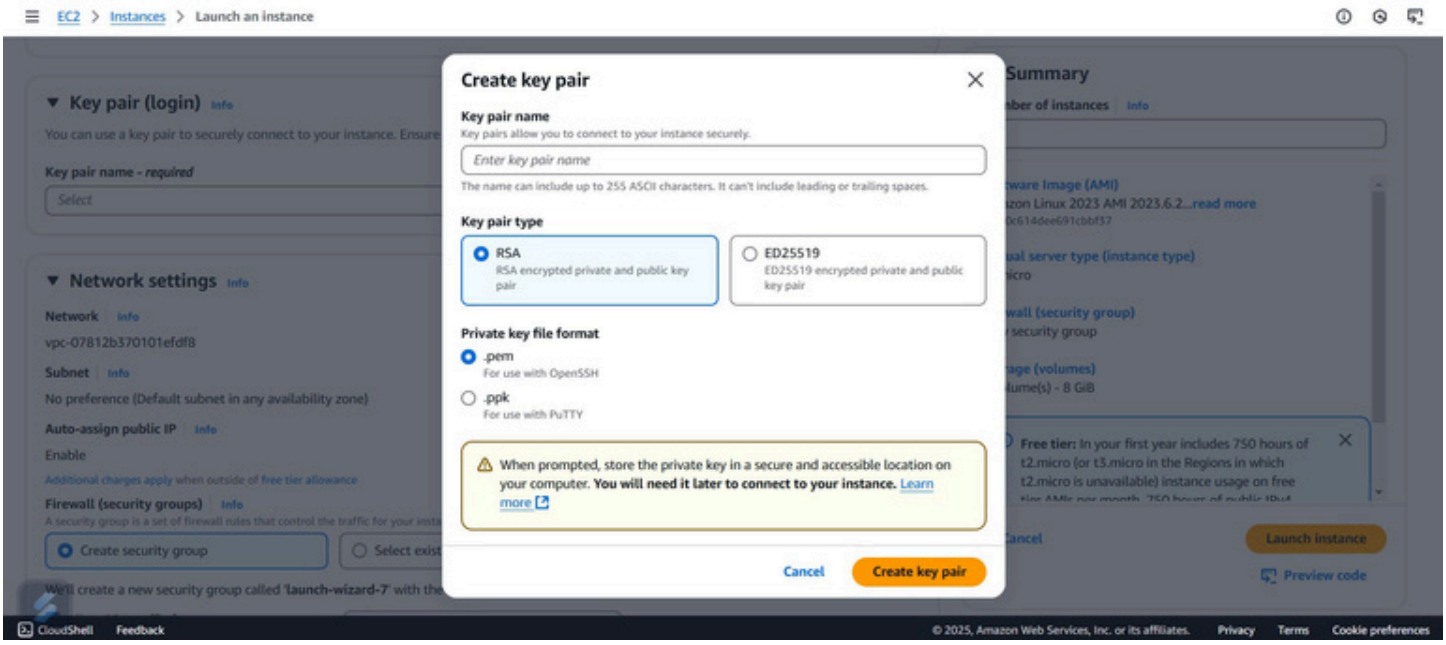
Now click the ec2 and launch an instance



Step 3:

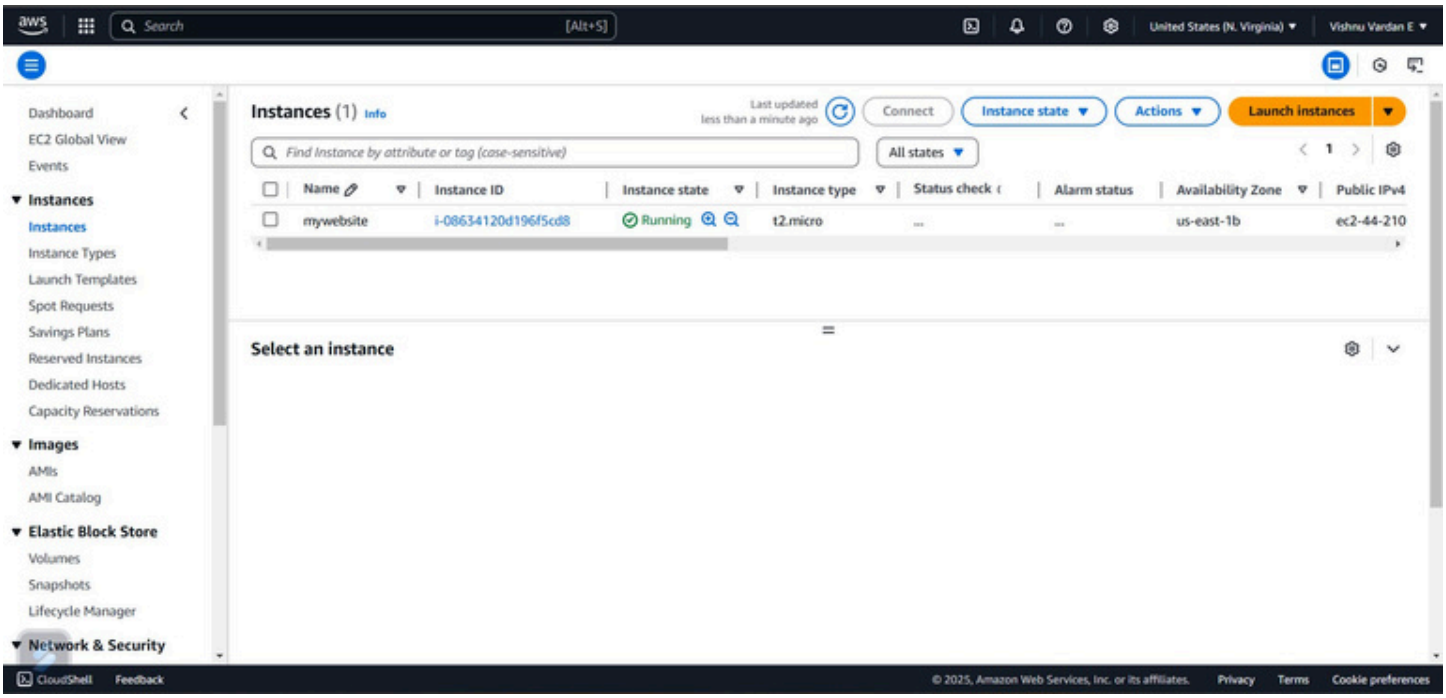
Name the instance and create an new key pair name





Step 4:

Click to launch instance button and your instance has been launched



Expected Outcome

After completing these steps, you will have a **fully functional cloud-based virtual machine** that can be accessed remotely. This VM can be used for **development, hosting applications, or running workloads**.