

**Placement Empowerment Program**

***Cloud Computing and DevOps Centre***

**Set Up a Virtual Machine in the Cloud Create a freetier AWS, Azure, or GCP account. Launch a virtual machine and SSH into it.**

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**Introduction**

Cloud computing has revolutionized how businesses manage IT resources. In this task, we will focus on deploying a virtual machine (VM) in the cloud. This hands-on activity will provide an understanding of cloud platforms, virtual machine provisioning, and secure SSH access.

**Objectives**

1. Understand the concept of cloud computing and VMs.
2. Create a free-tier account on a cloud provider (AWS, Azure, or GCP).
3. Launch a Linux virtual machine.
4. Connect to the VM securely using SSH.

**Steps**

1. **Create a Free-Tier Cloud Account:**
   * Sign up for a free-tier account on AWS, Azure, or GCP.
   * Verify your account to access free-tier services.
2. **Launch a Virtual Machine:**
   * Access the cloud provider’s dashboard. o Create a new Linux VM instance. o Configure the instance with basic settings such as region, operating system, and instance type.
3. **Connect to the Virtual Machine:**
   * Retrieve the public IP address of your VM.
   * Use the following SSH command to connect:

ssh <user>@<IP\_address>

Replace <user> with the default username for your chosen cloud provider (e.g., ec2-user for AWS) and <IP\_address> with your VM’s public IP.

**Key Learnings**

* Basics of cloud computing.
* Creating and configuring a virtual machine.
* Using SSH to access remote servers securely.

**Document 2: Hosting a Static Website on a Cloud VM Introduction**

Hosting a static website on a cloud virtual machine is a fundamental step in understanding web server setup. This task demonstrates how to install a web server, configure it, and deploy a static HTML website.

**Objectives**

1. Learn how to install and configure a web server (Apache or Nginx).
2. Transfer static website files to the server.
3. Serve the static website over the internet.

**Steps**

1. **Connect to the Cloud VM:** o Use the SSH command to access your cloud VM.

ssh <user>@<IP\_address>

1. **Install Apache or Nginx:**
   * Update the package list:

sudo apt update

* + Install Apache:

sudo apt install apache2 -y OR Install Nginx:

sudo apt install nginx -y

1. **Transfer HTML Files to the VM:**
   * Use SCP (Secure Copy Protocol) to transfer files:

scp index.html <user>@<IP\_address>:/var/www/html/

1. **Configure the Web Server:** o Ensure the web server is running:

sudo systemctl start apache2

OR

sudo systemctl start nginx

* + Access the website using the VM’s public IP in a browser: http://<IP\_address>.

**Key Learnings**

* Basics of web servers (Apache/Nginx).
* Transferring files using SCP.
* Hosting a static website on a cloud VM.