

Placement Empowerment Program

Cloud Computing and DevOps Centre

Set Up a Virtual Machine in the Cloud Create a free-tier 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.
- Create a new Linux VM instance.
- 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:

- Use the SSH command to access your cloud VM.

```
ssh <user>@<IP_address>
```

2. 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
```

3. Transfer HTML Files to the VM:

- Use SCP (Secure Copy Protocol) to transfer files:

```
scp index.html <user>@<IP_address>:/var/www/html/
```

4. Configure the Web Server:

- 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.