 

**Placement Empowerment Program**

***Cloud Computing and DevOps Centre***

**Set Up a Virtual Machine in the Cloud**

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**Introduction and Overview**

In this POC, we will learn how to set up a virtual machine (VM) in the cloud. This process involves selecting a cloud provider, configuring VM specifications, and launching a virtual machine. By following these steps, you’ll gain hands-on experience in cloud computing and infrastructure management.

**Objective**

The goal of this project is to:

1. Choose a cloud provider (**AWS, Azure, GCP, etc.).**
2. Configure and launch a virtual machine.
3. Access the VM and perform basic operations.

**Importance of Using Virtual Machines in the Cloud**

Deploying VMs in the cloud ensures:

* **Scalability:** Quickly scale resources as needed.
* **Cost-Effectiveness:** Pay only for what you use.
* **Flexibility:** Run different operating systems and applications on demand.

**Step-by-Step Overview**

**Step 1:** Choose a Cloud Provider Select a cloud provider such as AWS, Microsoft Azure, or Google Cloud Platform (GCP). Sign up and create an account if you don’t already have one.

**Step 2:** Create a Virtual Machine

1. Log in to the cloud provider’s console.
2. Navigate to the Virtual Machines or Compute section.
3. Click on “Create VM” or “Launch Instance.”

**Step 3:** Configure VM Settings

1. Choose an operating system (Ubuntu, Windows, etc.).
2. Select an instance type based on CPU, RAM, and storage requirements.
3. Configure networking and security settings.
4. Add a key pair for secure SSH or RDP access.

**Step 4:** Launch the Virtual Machine

1. Review the configuration settings.
2. Click “Launch” or “Create” to start the VM.
3. Wait for the instance to be provisioned.

**Step 5:** Connect to the Virtual Machine

* For Linux VMs:

ssh -i /path/to/key.pem username@public-ip

* For Windows VMs:
  + Use Remote Desktop Protocol (RDP) and enter the public IP address.

**Step 6:** Manage and Monitor the VM

1. Install necessary software and updates.
2. Monitor resource usage via the cloud provider’s dashboard.
3. Stop, start, or terminate the VM as needed.