 

**Placement Empowerment Program**

***Cloud Computing and DevOps Centre***

**Host a Static Website on a Cloud VM**

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**Introduction and Overview**

In this POC, we will learn how to host a static website on a cloud virtual machine (VM). This process involves deploying a web server, configuring VM settings, and hosting static files. By following these steps, you’ll gain hands-on experience in cloud-based website hosting.

**Objective**

The goal of this project is to:

1. Set up a cloud VM.
2. Install and configure a web server (Apache or Nginx).
3. Deploy and host a static website.

Importance of Hosting a Website on a Cloud VM

Hosting a static website on a cloud VM ensures:

* **Scalability:** Easily scale resources based on traffic.
* **Reliability:** Cloud providers offer high uptime and redundancy.
* **Customization:** Full control over server configurations.

Step-by-Step Overview

**Step 1:** Create a Virtual Machine in the Cloud

1. Log in to your cloud provider (AWS, Azure, or GCP).
2. Navigate to the Compute section and click “Create VM” or “Launch Instance.”
3. Choose an operating system (Ubuntu, CentOS, or Windows Server).
4. Select an instance type based on CPU, RAM, and storage needs.
5. Configure networking and security settings.
6. Generate a key pair for secure access.

**Step 2:** Install a Web Server Once the VM is running, connect to it using SSH (for Linux) or RDP (for Windows):

* **For Linux:**

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

* **For Windows:**
  + Use Remote Desktop Protocol (RDP) and enter the VM’s public IP.

Then, install a web server:

* **For Apache (Ubuntu/Debian):**

sudo apt update

sudo apt install apache2 -y

* **For Nginx (Ubuntu/Debian):**

sudo apt update

sudo apt install nginx -y

**Step 3:** Configure the Web Server

1. Ensure the web server starts on boot:

sudo systemctl enable apache2 # For Apache

sudo systemctl enable nginx # For Nginx

1. Start the web server:

sudo systemctl start apache2 # For Apache

sudo systemctl start nginx # For Nginx

1. Adjust firewall settings to allow HTTP traffic:

sudo ufw allow 80/tcp

sudo ufw allow 443/tcp

sudo ufw reload

**Step 4:** Deploy the Static Website

1. Navigate to the web server's document root:

cd /var/www/html # Apache

cd /usr/share/nginx/html # Nginx

1. Upload or create your static website files (index.html, CSS, JS, etc.).
2. Set correct file permissions:

sudo chown -R www-data:www-data /var/www/html # Apache

sudo chown -R www-data:www-data /usr/share/nginx/html # Nginx

**Step 5:** Access Your Website Open a browser and enter your VM’s public IP address:

http://your-public-ip

You should see your static website hosted successfully.