Cloud Computing

Assignment No. 1

Study of PaaS Cloud: Google Colab

Use Google colab to write any python program save it on google drive and run it to see the output.

Cloud Computing

Assignment No. 2

Paravirtualization: KVM with Virt-Manager

Install KVM on any Linux platform and alongside install virt-manager and run virtualized OS on the KVM through virt-manager.

Cloud Computing

Assignment No. 3

Application-Level Virtualization & Emulation

1. Install Wine on Linux O.S. and run any windows program through wine on Linux.
2. Install DOSBox on windows / Linux and run any Legacy DOS app / Mario game on DOSBox.

Cloud Computing
Assignment No. 4

Installation & Configuration of Bare Metal Hypervisor: Citrix Hypervisor

1. Download Citrix xenserver opensource iso and make a bootable usb.
2. Install Citrix bare metal hypervisor by booting machine through bootable usb created in step 1.
3. Configure the xen server by creating necessary users and also configure the networking.
4. Check if xen server is accessible in LAN by installing citrix-xen-center client on other machine in the LAN.

Cloud Computing
Assignment No. 5

Full virtualization using Citrix Bare Metal Hypervisor: IaaS Private

1. Use the Citrix Xen server created in assignment No. 4.
2. Download any O.S. ISO file for creating virtual machine on XenServer.
3. Create a local ISO repository on citrix Xen Server and mount ISO in the same.
4. Use Citrix-xen-center client from remote machine in the same LAN to access ISO repository created.
5. Using the same client create the Virtual Machine by allocating virtual CPU, Disk and RAM.
6. Access this virtual machine using xen-center and observe the orchestration.

Cloud Computing
Assignment No. 6

Study of AWS EC2: IaaS Public Cloud.

Create an Amazon AWS account and create a virtual machine instance using free tier of AWS by allocating necessary resources and access the console of instance through the browser and execute commands.

Cloud Computing
Assignment No. 7

Hosting Website on Public Cloud and Accessing it globally by assigning Public IP using Amazon Elastic IP cloud.

1. Use the EC2 instance created in Assignment No. 6
2. Install Httpd on the instance using the browser-based console.
3. Host your webpages in the document root of httpd.
4. Assign Static Public IP to your webserver using Amazon Elastic IP.
5. Try to access the website from different networks (ISPs) using public IP provided by Elastic IP Service.

Cloud Computing
Assignment No. 8

Installation of Docker Desktop and Basic Docker commands and running Hello-world Container in Docker

Install docker desktop on your machine try different docker commands using docker cli.

Also check GUI based utilities of docker.

Pull the docker image of hello-world and run your first container in the docker.

Also pull docker ubuntu image and access bash terminal of container in docker.

Cloud Computing
Assignment No. 9

Docker Networking and Volumes

Pull the httpd docker image on docker desktop and run the container.

Try to observe the docker internal network configurations.

Now map the container port 80 with Host port 6543 and try to access the same webpage of httpd.

Now create the sample webpages on the desktop map the desktop path with docker volume option to host/access the webpages on the desktop via httpd running in the container.