Steps

Managing cloud solutions (Lovely Professional University)

Prerequisites:

1. **VMware Workstation:**

or VirtualBox

- Ensure VMware Workstation is installed on your machine.

2. **Download Ubuntu ISO:**

- Download the Ubuntu Desktop ISO from the official Ubuntu website: [Ubuntu Desktop](https://ubuntu.com/download/desktop)

-CentOS 7

Step 1: Create a Virtual Machine (VM) for Ubuntu Desktop:

1. Open VMware Workstation.

2. Click on "Create a New Virtual Machine."

3. Select "Typical" and click "Next."

4. Choose "Installer disc image file (iso)" and browse to the downloaded Ubuntu Desktop ISO file.

5. Complete the virtual machine creation wizard.

Step 2: Install Ubuntu Desktop:

1. Power on the VM.

2. Follow the Ubuntu Desktop installation prompts:

   - Select language, keyboard layout, etc.

   - Choose "Normal Installation" and ensure the "Download updates while installing Ubuntu" and "Install third-party software" options are selected.

   - Create a user account and set a password.

Step 3: Update and Upgrade Ubuntu:

Open a terminal on the Ubuntu VM and run the following commands:

#sudo apt update

#sudo apt upgrade

Step 4: Install CloudStack Dependencies:

Configure hostname ip address for prepare server.

```
# lsb_release -a
No LSB modules are available.
Distributor ID: Ubuntu
Description: Ubuntu 20.04.2 LTS
Release: 20.04
Codename: focal
```

```
# ip r
```

```
# cat /etc/hosts
output: 127.0.0.1 localhost
10.66.100.21 cloud.virtual-machine.local cloud
```

```
# cat /etc/hostname
cloud                   #to check hostname
```

static ip address setup

```
#cat /etc/netplan/00-installer-config.yaml
or
#cat /etc/netplan/01-network-manager-all.yaml
#sudo nano /etc/netplan/01-network-manager-all.yaml
network:
    ethernets:
         enp0s3:
            dhcp4: false
            addresses: [127.0.1.1/8] #your IP cloud IP add
            gateway4: 192.168.124.2
            nameservers:
                    addresses: [8.8.8.8,8.8.4.4]
    version: 2
```

Download required package for setup Apache Cloud Stack

```
#hostname --fqdn
#ping cloudstack.apache.org
#apt-get install -y openntpd openssh-server sudo vim htop tar intel-
microcode bridge-utils mysql-server
```

Apache Cloud Stack 4.15 repo.

```
# echo deb http://download.cloudstack.org/ubuntu focal 4.15  >
/etc/apt/sources.list.d/cloudstack.list
```

```
# sudo wget -O - http://download.cloudstack.org/release.asc|gpg --
dearmor > cloudstack-archive-keyring.gpg

# sudo mv cloudstack-archive-keyring.gpg /usr/share/keyrings/
```

Install Apache Cloud Stack package

```
# apt-get install -y cloudstack-management cloudstack-usage
```

mysqld.cnf file to add some configuration.

```
# vi /etc/mysql/mysql.conf.d/mysqld.cnf
or
# sudo nano /etc/mysql/mysql.conf.d/mysqld.cnf

(note: insert the below code in the file and save it)
server_id = 1
sql-
mode="STRICT_TRANS_TABLES,NO_ENGINE_SUBSTITUTION,ERROR_FOR_DIVISION_BY_
ZERO,NO_ZERO_DATE,NO_ZERO_IN_DATE,NO_ENGINE_SUBSTITUTION"
innodb_rollback_on_timeout=1
innodb_lock_wait_timeout=600
max_connections=1000
log-bin=mysql-bin
binlog-format = 'ROW'
```

```
# vi /etc/mysql/mysql.conf.d/cloudstack.cnf
or
# sudo nano /etc/mysql/mysql.conf.d/cloudstack.cnf
(note : insert the below line in the file and save it)
```

```
[mysqld]
```

Configure Mysql database and create cloud database.

```
# systemctl restart mysql
# mysql -u root -p
```

```
SELECT user,authentication_string,plugin,host FROM mysql.user;
(note: to be executed in mysql)
ALTER USER 'root'@'localhost' IDENTIFIED WITH mysql_native_password BY
'passw0rd';

use mysql;

UPDATE user SET plugin="mysql_native_password" WHERE User='root';

flush privileges;

\q
```

run Apache Cloud Stack Management setup command with root password

```
# cloudstack-setup-databases cloud:cloud@localhost --deploy-
as=root:passw0rd
```

```
# cloudstack-setup-management
```