

DHCP and DNS Configuration

Program – 5

DHCP Configuration

Step 1: Open Virt-manager and create Isolated Network

- **Edit --> Connection Details --> Virtual Networks --> Click on Plus Symbol**
- **Provide Network Name (DHCP)--> Click Forward**
- **Unclick on Ipv4 network address space definition --> Click Forward**
- **--> Click Forward**
- **--> Click Finish**

Step 2: Create VM (VM1) with two Interface

ens3: Isolated Network

ens8: default nating

Step3: Create 2 VM (VM2 and VM3) with isolated Network

Step4: Go to VM1

- **sudo apt-get update**
- **sudo apt-get install dnsmasq**
- **sudo nano /etc/dnsmasq.conf**
 - **uncomment interface and provide interface name (ens3)**
 - **uncomment dhcp-range and provide the range of ip address (any Ip range)**
 - **save and exit**
- **Assign Static Ip to ens3**
- **restart the dnsmasq service**
 - **sudo /etc/init.d/dnsmasq restart**
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Step5: Obtain Dynamic Ip address for VM2 and VM3

- **VM1: 172.16.65.20 (static Ip)**
- **VM2: 172.16.65.9 (Dynamic Ip)**
- **VM3: 172.16.65.6 (Dynamic Ip)**

DNS Configuration

Step 1: Create 3 VM (Any way Already Created)

- **VM1: 172.16.65.20**
- **VM2: 172.16.65.9**
- **VM3: 172.16.65.6**

2. open dnsmasq.conf file in VM1

- **sudo nano /etc/dnsmasq.conf**

3. Add following Lines

- **addn-hosts=/etc/hostname.list**
- **Save and Exit**

4. Create new file called `hostname.list`
 - `sudo touch /etc/hostname.list`
6. Create the `hostname.list` file by typing following command
 - `sudo nano hostname.list`
VM1: 172.16.65.20
VM2: 172.16.65.9 AAA-BBB-CCC.com
VM3: 172.16.65.6 BBB-CCC-AAA.com
 - Save and Exit
7. restart `dnsmasq` service
 - `sudo /etc/init.d/dnsmasq restart`
8. `nslookup ipaddress`
 - `nslookup 172.16.65.9`
 - `nslookup 172.16.65.6`
9. ping all system using domain Name or ip
10. if you require capture packets in pc using `tcpdump`
11. Ping from VM3 to VM2 through domain name

Packets will be Moving from

VM3 -> VM1 -> VM2 (If you Need to clarify, Capture packets in VM1)

Thank You.