Red Hat System Administration I

UNIT 11

Managing Red Hat Enterprise Linux Networking

Objectives

- Explain fundamental concepts of computer networking.
- Test and review current network configuration with basic utilities.
- Manage network settings and devices with nmcli and NetworkManager.
- Modify network settings by editing the configuration files.
- Configure and test system host name and name resolution

IPv4 networking

- IPADDR
- DNS
- GATEWAY

IPADDRESS

IP Address:
172.17.5.3 = 10101100.00010001.00000101.00000011

Netmask:
255.255.0.0 = 11111111.11111111.00000000.00000000

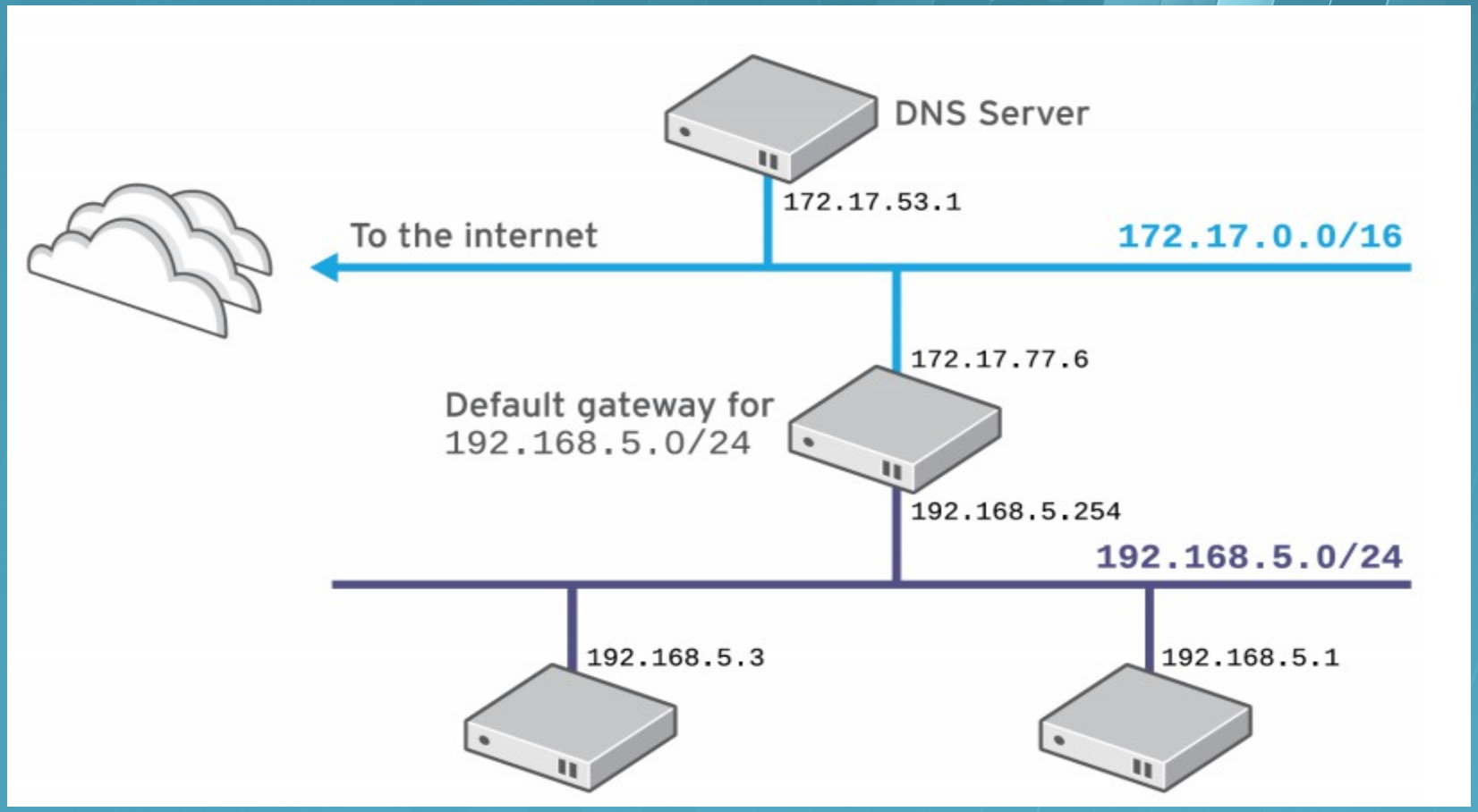
10101100.00010001.00000101.00000011
Network Host

IP Address:
192.168.5.3 = 11000000.10101000.00000101.00000011

Netmask:
255.255.255.0 = 11111111.11111111.11111111.00000000

11000000.10101000.00000101.00000011
Network Host

GATEWAY


DNS Server
172.17.53.1
To the internet
172.17.0.0/16
172.17.77.6
Default gateway for
192.168.5.0/24
192.168.5.254
192.168.5.0/24
192.168.5.3
192.168.5.1

DNS

- Domain name server
  - ipaddress <---------->domain

Net command networking

- ifconfig
- ip addr show eth0
- ping -c -w
- ip route
- traceroute

netport

- command for ss

Option	Description
-n	Show numbers instead of names for interfaces and ports.
-t	Show TCP sockets.
-u	Show UDP sockets.
-l	Show only listening sockets.
-a	Show all (listening and established) sockets.
-p	Show the process using the sockets.

Net command nmcli

Command	Use
nmcli dev status	List all devices.
nmcli con show	List all connections.
nmcli con up "<ID>"	Activate a connection.
nmcli con down "<ID>"	Deactivate a connection. The connection will restart if autoconnect is yes.
nmcli dev dis <DEV>	Bring down an interface and temporarily disable autoconnect.
nmcli net off	Disable all managed interfaces.
nmcli con add ...	Add a new connection.
nmcli con mod "<ID>" ...	Modify a connection.
nmcli con del "<ID>"	Delete a connection.

Editing Network Configuration Files

- /etc/sysconfig/network-scripts/ifcfg <name>

Static	*Dynamic*	*Either*
BOOTPROTO=none	BOOTPROTO=dhcp	DEVICE=eth0
IPADDR0=172.25.*X*.10		NAME="System eth0"
PREFIX0=24		ONBOOT=yes
GATEWAY0=172.25.*X*.254		UUID=f3e8dd32-3...
DEFROUTE=yes		USERCTL=yes
DNS1=172.25.254.254		

Changing the system host name

- hostname
- hostnamectl set-hostname \desktopX.example.com
- hostnamectl status
- /etc/hostname

Configuring name resolution

- /etc/hosts
- /etc/resolv.conf
- nmcli con mod IDipv4.dns IP

Lab

<lab 1>
Create a new connection with a static network connection using the settings in the table. Be sure to replace the Xwith the correct number for your systems

Parameter	Setting
Connection name	lab
IP address	172.25.*X*10/24
Gateway address	172.25.*X*1
DNS address	172.25.254.254

<lab 2>
Configure the new connection to be autostarted. Other connections should not start automatically
<lab 3>
Modify the new connection so that it also uses the address 10.0.X.1/24.
<lab 4>
Configure the hosts file so that 10.0.X.1 can be referenced as "private".
<lab 5>
Reboot the system, then run lab network grade to verify settings.

That's all