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— TASTE OF LINUX —

WELCOME TO THE WORLD OF LINUX

DAY - 11

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Understanding Network Interface Card Naming

previous Red Hat Enterprise Linux Network Interface card was simple. Like eth0, eht1, eht2.

But in RHEL7 there are 3 different naming scheme are available.

- **BIOS Naming:** - Based on Hardware properties.
  - *em[1-N]* anything, short for embedded NICs. WLAN is represents '*wl*'
  - *p<Slot-Number>p<Port-Number>*like '*p6p1'*, short for PCI slots.
- **Udev Naming:** - Classical Naming like eth0, eth1 and so on.
- **Physical Naming:** - same as BIOS naming.

In previous Red Hat Enterprise Linux '*ifconfig'* command works for showing the ip address, but in RHEL 7 version it is no one used for Network administration.
In this version '*ip'* command is used for managing the networks.

All the network information scripts are stored into "*/etc/sysconfig/network-scripts/*" directory.

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Validating Network Configurations

ip link show

To see the IP Address

ip addr show

Or

ip addr show 'interface-name'

i.e' # ip addr show ens33

To see the routing table of the machine

ip route show

To see the statistics of network

ip -s link show 'interface-name'

i.e, # ip -s link show 'ens33'

To ping a machine with 4 count.

ping –c4 'ip-address'

To trace the route

tracepath 'host-name or ip-address' OR # traceroute 'host-name or ip-address'

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Validating Network Configurations

To see the TCP sockets details

ss –lta [In previous version, was netstat]

Note: - l = listening ports | - t = TCP ports | - a = all

Configuring Network with "NMCLI"

To display all the network connection

nmcli connection show

To see the active network connection

nmcli connection show –active

To see the detail of a network connection

nmcli connection show 'interface-name'

i.e, # nmcli connection show ens33

To see the device status

nmcli device status

To see a device details

nmcli device show 'interface-name'

i.e, # nmcli device show ens33

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Configuring Network with "NMCLI"

To make a network profile to assign the IP through DHCP Server.
nmcli connection add con-name "lan" type ethernet ifname ens33

To assign static IP address with gateway.
nmcli connection add con-name "lan" ifname ens33 autoconnect no type Ethernet ip4 192.168.10.2/24 gw4 192.168.10.1

To active a network profile.
nmcli connection up "lan"

To deactivate a network profile.
nmcli connection down "lan"

To add DNS address.
nmcli connection mod "lan" ipv4.dns 192.168.10.254

To add alternate DNS address.
nmcli connection mod "lan" +ipv4.dns 4.2.2.2

To turn off auto connect.
nmcli connection mod "lan" connection.autoconnect no.

To turn on auto connect.
nmcli connection mod "lan" connection.autoconnect yes [Then it takes IP from DHCP

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Configuring Network with “NMCLI”

To replace the static IP.

nmcli connection mod con-name “lan” ipv4.addresses 10.10.10.2/8 gw4 10.1.1.1

Note:- After replacing your ip you have to make the connection up.

To add a secondary IP address without gateway.

nmcli connection mod con-name “lan” +ipv4.addresses 172.31.1.2/16

Note:- After replacing your ip you have to make the connection up.

To delete network profile.

nmcli connection del “lan”.

To active static connection after boot.

vi /etc/sysconfig/network-scripts/ifcfg-[network-profile-name]

i.e, # vi /etc/sysconfig/network-scripts/ifcfg-lan

Then change the following

ONBOOT=yes [default no]

Then save and quit, and restart machine to test.

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Configuring HOST-NAME and DNS”

To check the host-name of your machine.

hostname

Note:- Host-name are stored into “/etc/hostname” file and you can modify it.

To set the host-name.

hostnamectl set-hostname “name”

i.e, # hostnamectl set-hostname “SUBHA-PC”

Note:- After changing host name you need to restart the pc.

To display Machine Status.

hostnamectl status “name”

DNS information are stored into /etc/resolv.conf

To see the DNS details.

cat /etc/resolv.conf”

To resolve the hostname.

host machine-name” example: host server.example.com

To resolve the IP of a machine.

host “IP-Address” example: host 192.168.2.2

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THANK YOU

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