Network Interface Configuration

Network Interface core commands and configuration files

To view the Ethernet configuration
```
ifconfig
ifconfig eth0
```

Network Configuration files are stored on
```
cd /etc/sysconfig/network-scripts/
```

For DHCE client
```
vi ifcfg-eth0
    DEVICE=eth0
    BOOTPROTO=dhcp
    ONBOOT=yes
```

Or use “setup” command to assign IP using TUI-window.

Request IP address from DHCP server
```
dhclient eth0
```

To shut down the eth0
```
ifdown eth0
```

To startup the eth0
```
ifup eth0
```

Assigning Static IP
```
vi ifcfg-eth1
    DEVICE=eth0
    BOOTPROTO=static
    IPADDR=192.168.0.133
    NETMASK=255.255.255.0
    ONBOOT=yes
```

To create virtual Ethernet( create a file with :number suffix, where :number is virtual interface number. For instance, ifcfg-eth0:0 is a first virtual interface of eth0 in following example.
```
vi ifcfg-eth0:0
    DEVICE=eth0
    BOOTPROTO=static
    IPADDR=192.168.0.134
    NETMASK=255.255.255.0
    ONBOOT=yes
```

Adding range of IPs for same NIC
```
vi ifcfg-eth0-range0
    IPADDR_START=192.168.0.2
```
To set Global network parameters

```
vi /etc/sysconfig/network
NETWORK=yes
HOSTNAME=Shiba.cba.com
GATEWAY=192.168.0.1
```

To set hostname of the system

```
hostname st1.cba.com
```

To view hostname

```
hostname
```

DNS client

```
vi /etc/resolv.conf
search wlink.com.np
nameserver 192.168.0.1
```

Network troubleshooting commands

**DNS utilities**

```
dig shiba.com.np
dig mx shiba.com.np
host www.shiba.com.np
host -a shiba.com.np
nslookup hotmail.com
```

**Ping command**

```
ping www.shiba.com.np
ping -c 3 -I 100 -s 1024 www.shiba.com.np
```

To set alias of host name

```
vi /etc/hosts
192.168.0.100 www.shiba.com.np.internal shiba.com.np.internal
```

To track MAC address

```
arp -a
```

To view network status

```
netstat –ant
```

To trace route path

```	raceroute www.shiba.com.np
mtr www.shiba.com.np #combination of ping and traceroute
```

To verify physical link of cable or reset other tx base

```
mii-tool
```
Router Configuration

```
vi /etc/sysconfig/network-scripts/router-eth0
102.168.0.0/24 via 192.168.1.128
route -nr
```

*where 192.168.1.128 is gateway to 102.168.0.0/24 network*

Further study:
Study on following tools:
- ip
- iftop
- route
- ethtool
- telnet

For GUI through following URL:

```
```