

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
```

[save and exit vi]

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
```

```
IPADDR_END=192.168.0.22  
CLONENUM_START=0
```

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 -l 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

```
traceroute 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:

https://www.centos.org/docs/5/html/Deployment_Guide-en-US/ch-network-config.html