Erbil Polytechnic University
Erbil Technical Engineering College (ETEC)
Information System Engineering Dep

7th semester
Module Name: Network Design & Implementing
Module Code: NDI704
Net Lab 2 – Practical Lecture

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Lab -2-

Objectives

- Initial Configuration
- Console Port Configuration
- VTY Port Configuration
- Ethernet Port Configuration

Configuration

Router> // User EXEC Mode
Router# // Privilege EXEC mode
Router(config)# // Global Configuration Mode
Router(config-if)# // Interface Configuration Mode
Router(config-line)# // Line Configuration Mode

Initial Configuration

Router> enable // ena

Router# configure terminal // conf t

Router(config)# exit // ex
Router# disable // (ctrl+z)

Router>
Router>? Router#? R1(config)# ? //Help Command

Switch> enable // ena

Switch# configure terminal // conf t

Switch(config)# exit // ex
Switch# disable // (ctrl+z)

Switch>
Switch>? Switch#? S1(config)# //Help Command

Initial Configuration

Example 1 : Basic switch configuration a Cisco Switch

- Hostname (Switch Name)
- Secret Password
- Save configuration

Hostname:

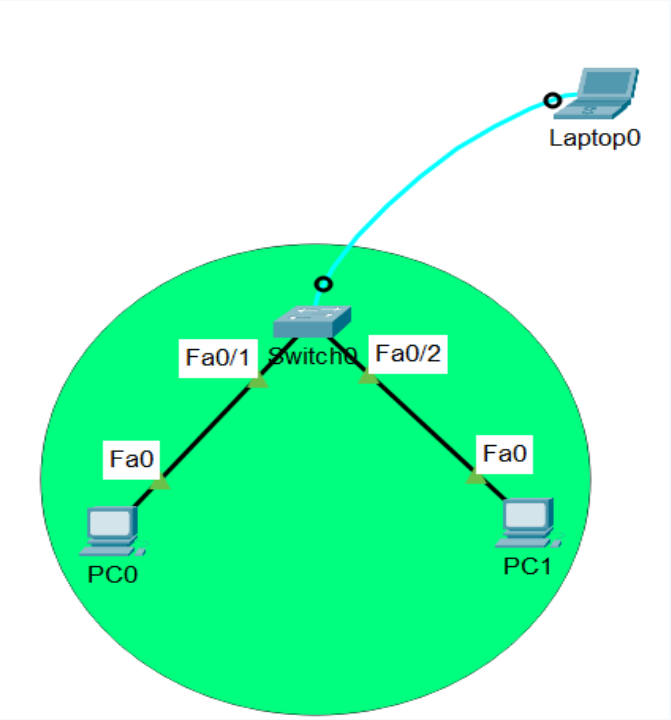
```
Switch> enable
Switch# conf t
Switch(config)# hostname S1
S1(config)# exit
S1#
```

Password:

```
S1#
S1# conf t
S1(config)# enable secret 123
S1(config)# service password-encryption
```

Save configuration:

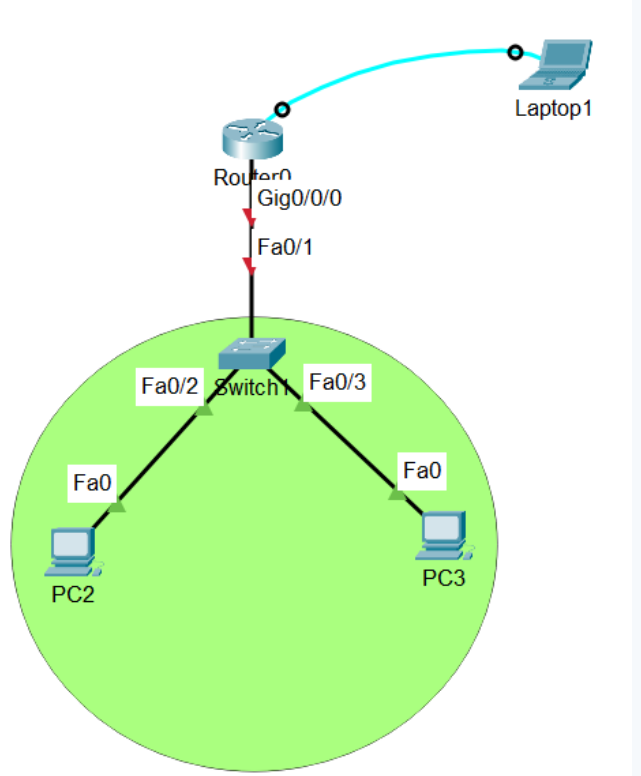
```
S1# copy running-config startup-config
```



Initial Configuration

Example 2 : Basic Router configuration a Cisco Switch

- **Hostname (Router Name)**
- **Secret Password**
- **Save configuration**



Hostname:

```
Router> enable
Router# conf t
Router(config)#hostname R1
R1(config)#exit
R1#
```

Password:

```
R1#
Router# conf t
R1(config)# enable secret 123
R1(config)# service password-encryption
```

Save configuration:

```
R1# copy running-config startup-config
R1# write
```

Console Port Configuration

Console Port:

```
R1>enable
R1#conf t
R1(config)#
R1(config)#line console 0
R1(config-line)#password 123
R1(config-line)#login
R1(config-line)#exit
```

Console Port:

```
S1>enable
S1#conf t
S1(config)#
S1(config)#line console 0
S1(config-line)#password 123
S1(config-line)#login
S1(config-line)#exit
```

VTY

VTY stands for Virtual Teletype. I'm sure you already know the virtual interfaces, so the "vty" is a kind of virtual interface that is used to get CLI access of a Cisco Router or Switch over Telnet/SSH.

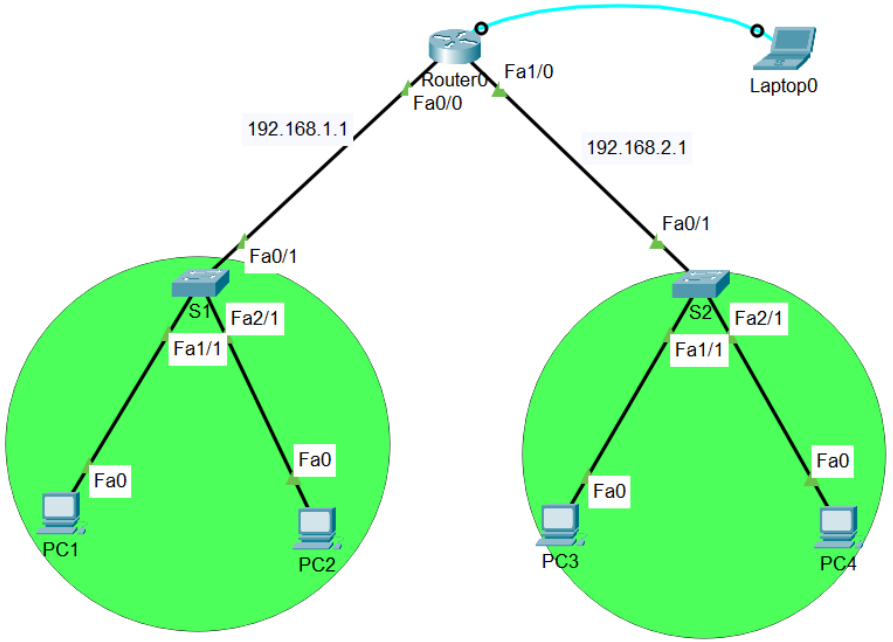
All the connections are remotely over the network, so there is no hardware associated with it.

The command, line vty 0 15, will open 16 virtual interfaces, i.e. (0,1,….,15) for remote access. That means, 5 different administrators.

VTY Port Configuration

VTY Port:

```
R1>enable
R1#conf t
R1(config)#
R1(config)#line vty 0 15
R1(config-line)# login local
R1(config-line)# transport in telnet
R1(config-line)#exit
```



Enable Remote Connection " telnet "

Ethernet Port Configuration

Ethernet Port:

```
R1>enable
R1#conf t
R1(config)#
R1(config)#interface FastEthernet 0/0
R1(config-if)#description LAN1 interface
 R1(config-if)#ip add 192.168.1.1 255.255.255.0
R1(config-if)#no shutdown
R1(config-if)#exit
```

Login to Interface

Assign IP Address to Interface

Ethernet Port Configuration

Ethernet Port:

```
R1(config)#
R1(config)#interface FastEthernet 1/0
R1(config-if)#description LAN2 interface
 R1(config-if)#ip add 192.168.2.1 255.255.255.0
R1(config-if)#no shutdown
R1(config-if)#exit
```

Login to Interface

Assign IP Address to Interface

Save configuration

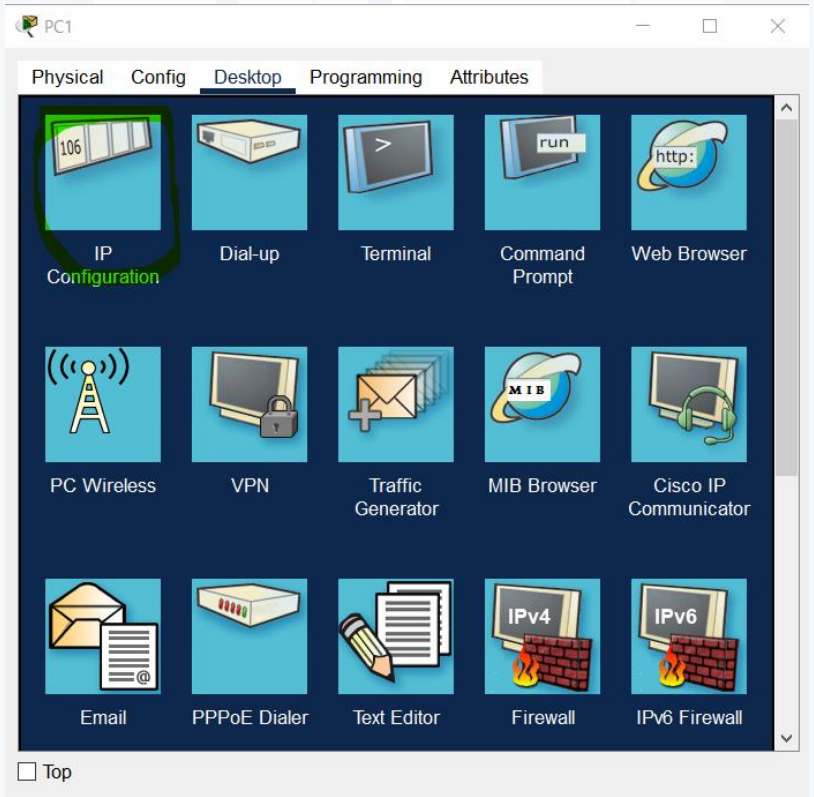
Save configuration:

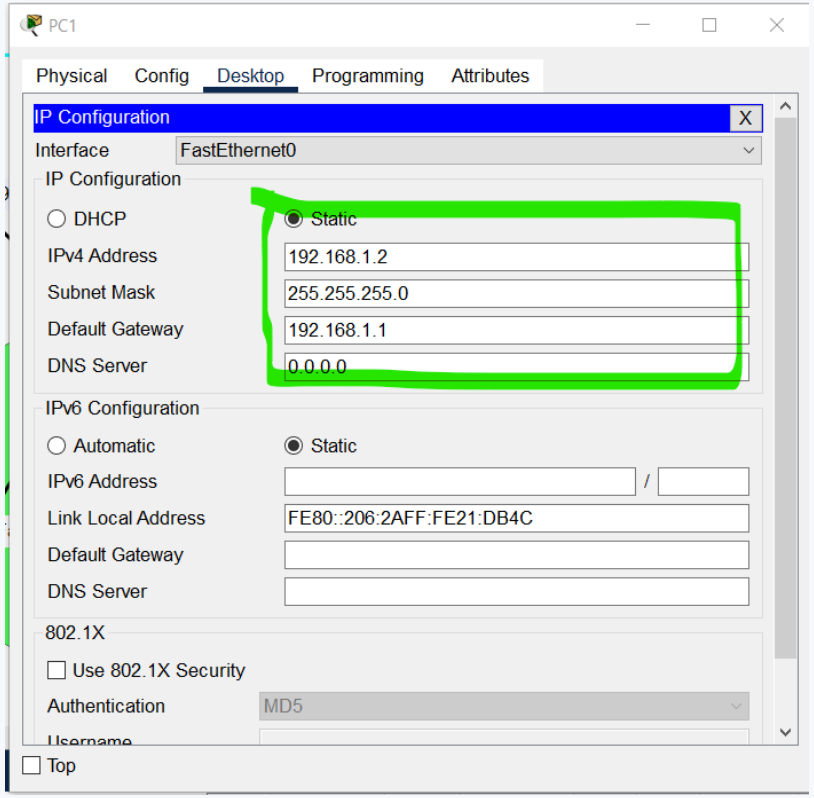
```
R1# copy running-config startup-config
R1# write
```

Assign IP Address to Manually to PC's

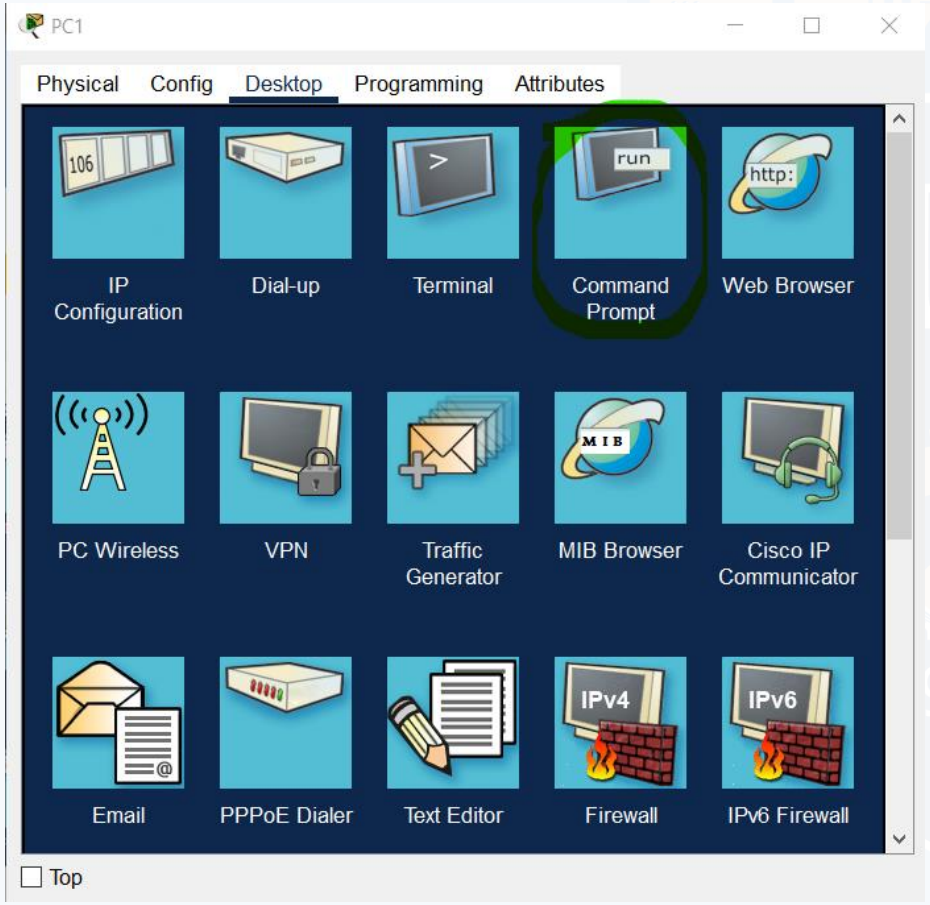
Geteway (PC1,PC2)=
192.168.1.1 //net1

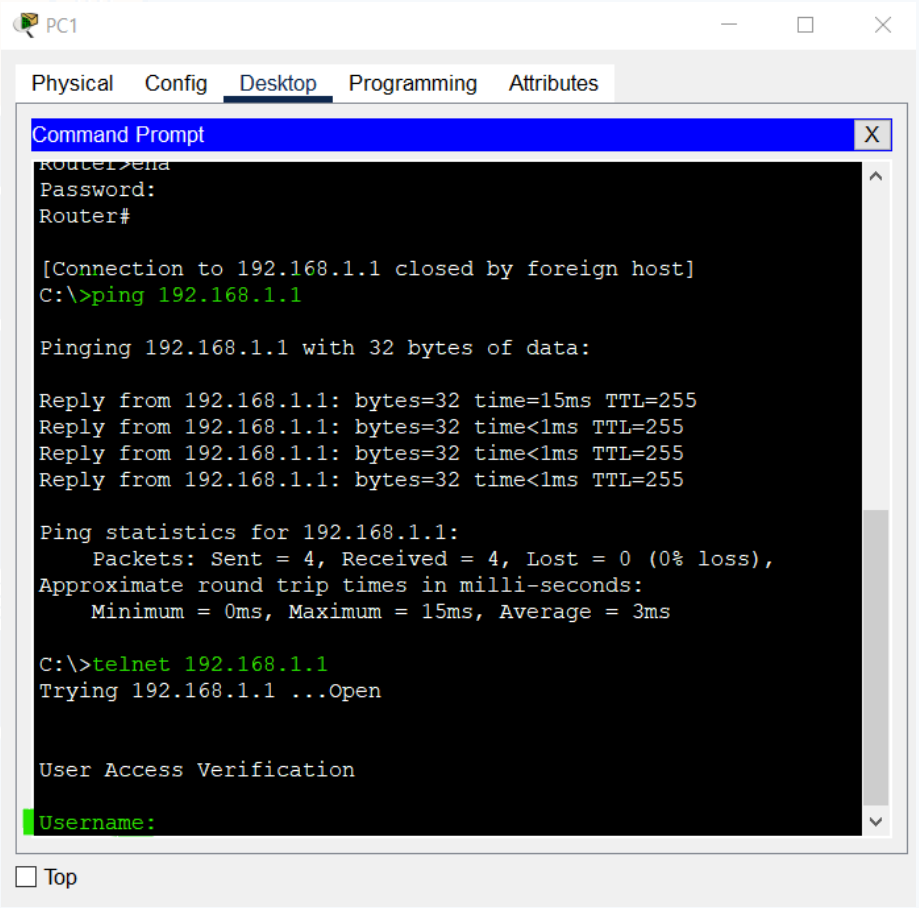
Geteway (PC3,PC4)=
192.168.2.1 // net2





Ping to Router





Troubleshooting

R1#show startup-config
R1#show interfaces
R1#show ip interface

Thanks

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Questions