

## **Experiment-6**

Basic Switch and End Device Configuration using Cisco Packet Tracer.

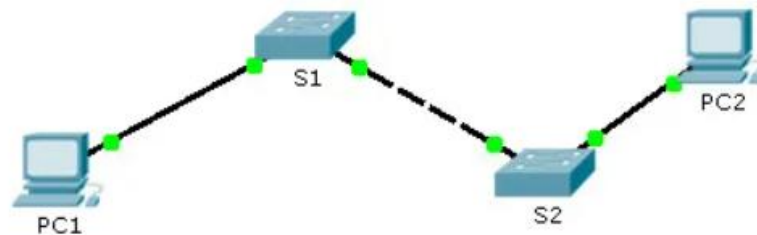
### **Objectives**

1. Configure hostnames and IP addresses on two Cisco Internetwork Operating System (IOS) switches using the command-line interface (CLI).
2. Use Cisco IOS commands to specify or limit access to the device configurations.
3. Use IOS commands to save the running configuration.
4. Configure two host devices with IP addresses.
5. Verify connectivity between the two PC end devices.

### **Scenario**

As a recently hired LAN technician, your network manager has asked you to demonstrate your ability to configure a small LAN. Your tasks include configuring initial settings on two switches using the Cisco IOS and configuring IP address parameters on host devices to provide end-to-end connectivity. You are to use two switches and two hosts/PCs on a cabled and powered network.

### **Topology:**



### **Addressing Table:**

Device	Interface	Address	Subnet Mask
Class-A	VLAN 1	128.107.20.10	255.255.255.0
Class-B	VLAN1	128.107.20.15	255.255.255.0
Student-1	NIC	128.107.20.25	255.255.255.0
Student-2	NIC	128.107.20.30	255.255.255.0

## Instructions:

Configure the devices to fulfill the requirements below:

## Requirements:

- Use a console connection to access each switch.
- Name **Class-A** and **Class-B** switches.
- Use the **R4Xe3** password for all lines.
- Use the **C4aJa** secret password.
- Encrypt all clear text passwords.
- Configure an appropriate message-of-the-day (MOTD) banner.
- Configure addressing for all devices according to the Addressing Table.
- Save your configurations.
- Verify connectivity between all devices.

**Note:** Click **Check Results** to see your progress. Click **Reset Activity** to generate a new set of requirements. If you click on this before you complete the activity, all configurations will be lost.

## Configuration Command:

### Class-A

enable

config terminal

hostname **Class-A**

line console 0

password **R4Xe3**

exit

line vty 0 15

password **R4Xe3**

login

exit

enable secret **C4aJa**

service password-encryption

banner motd #Unauthorized access to this device is prohibited!#

interface vlan 1

ip address 128.107.20.10 255.255.255.0

no shutdown

Press Control Z to end

copy running-config startup-config

```
%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/2, changed state to up

Switch>enable
Switch#config terminal
Enter configuration commands, one per line. End with CNTL/Z.
Switch(config)#hostname Class-A
Class-A(config)#line console 0
Class-A(config-line)#password R4Xe3
Class-A(config-line)#exit
Class-A(config)#line vty 0 15
Class-A(config-line)#password R4Xe3
Class-A(config-line)#login
Class-A(config-line)#exit
Class-A(config)#enable secret C4aJa
Class-A(config)#service password-encryption
Class-A(config)#banner motd #Unauthorized access to this device is prohibited!#
Class-A(config)#interface vlan 1
Class-A(config-if)#ip address 128.107.20.10 255.255.255.0
Class-A(config-if)#no shutdown

Class-A(config-if)#
%LINK-5-CHANGED: Interface Vlan1, changed state to up

%LINEPROTO-5-UPDOWN: Line protocol on Interface Vlan1, changed state to up

Class-A(config-if)#^Z
Class-A#
%SYS-5-CONFIG_I: Configured from console by console

Class-A#copy running-config startup-config
Destination filename [startup-config]?
Building configuration...
[OK]
Class-A#
```

## Class-B

enable

config terminal

hostname **Class-B**

line console 0

password **R4Xe3**

exit

line vty 0 15

password **R4Xe3**

login

exit

enable secret **C4aJa**

service password-encryption

banner motd #Unauthorized access to this device is prohibited!#

interface vlan 1

ip address **128.107.20.15** 255.255.255.0

no shutdown

**Press Control Z to end**

copy running-config startup-config

```
%LINK-3-CHANGED: Interface FastEthernet0/2, changed state to up
%LINEPROTO-3-UPDOWN: Line protocol on Interface FastEthernet0/2, changed state to up

Switch#enable
Switch#config terminal
Enter configuration commands, one per line. End with CNTL/Z.
Switch(config)#hostname Class-B
Class-B(config)#line console 0
Class-B(config-line)#password R4Xe3
Class-B(config-line)#exit
Class-B(config)#line vty 0 15
Class-B(config-line)#password R4Xe3
Class-B(config-line)#login
Class-B(config-line)#exit
Class-B(config)#enable secret C4aJa
Class-B(config)#service password-encryption
Class-B(config)#banner motd #Unauthorized access to this device is prohibited!#
Class-B(config)#interface vlan 1
Class-B(config-if)#ip address 128.107.20.15 255.255.255.0
Class-B(config-if)#no shutdown
Class-B(config-if)#
%LINK-3-CHANGED: Interface Vlan1, changed state to up
%LINEPROTO-3-UPDOWN: Line protocol on Interface Vlan1, changed state to up
^Z
Class-B#
%SYS-5-CONFIG_I: Configured from console by console

Class-B#copy running-config startup-config
Destination filename [startup-config]?
Building configuration...
[OK]
Class-B#
```

## End Device Configuration:

Student-1

Physical Config **Desktop** Programming

IP Configuration

Interface: FastEthernet0

IP Configuration

☐ DHCP ☒ Static

IPv4 Address: 128.107.20.25

Subnet Mask: 255.255.255.0

Default Gateway: 0.0.0.0

DNS Server: 0.0.0.0

IPv6 Configuration

☐ Automatic ☒ Static

IPv6 Address: /

Link Local Address:

Default Gateway:

DNS Server:

802.1X

☐ Use 802.1X Security

☐ Top

Student-2

Physical Config **Desktop** Programming

IP Configuration

Interface: FastEthernet0

IP Configuration

☐ DHCP ☒ Static

IPv4 Address: 128.107.20.30

Subnet Mask: 255.255.255.0

Default Gateway: 0.0.0.0

DNS Server: 0.0.0.0

IPv6 Configuration

☐ Automatic ☒ Static

IPv6 Address: /

Link Local Address:

Default Gateway:

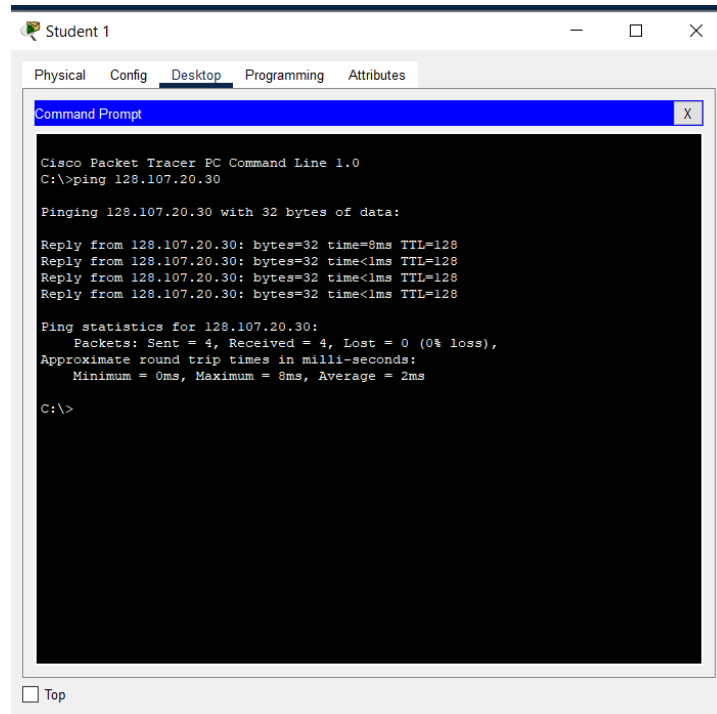
DNS Server:

802.1X

☐ Use 802.1X Security

☐ Top

## Verification of connectivity between the two PC end devices using Ping Command



Student 1

Physical Config Desktop Programming Attributes

Command Prompt

```
Cisco Packet Tracer PC Command Line 1.0
C:\>ping 128.107.20.30

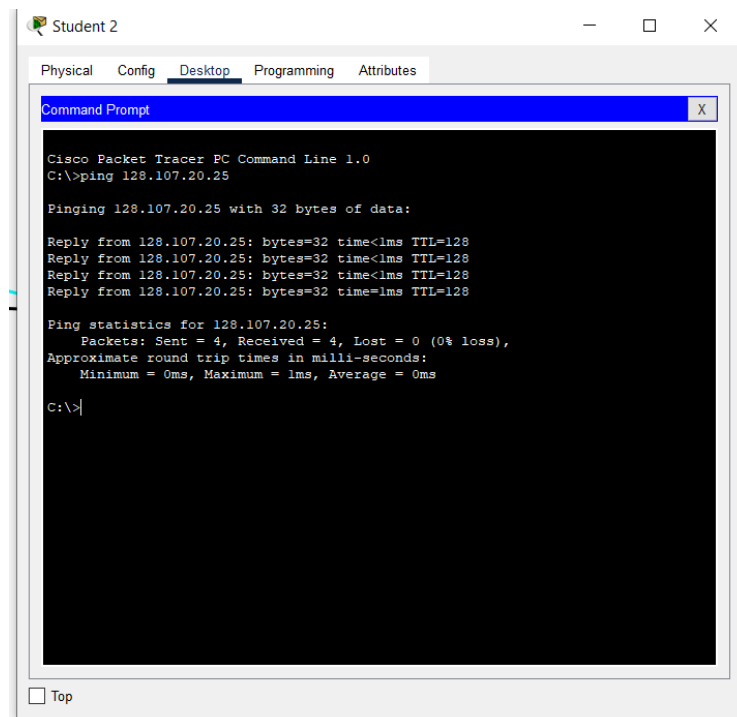
Pinging 128.107.20.30 with 32 bytes of data:

Reply from 128.107.20.30: bytes=32 time=8ms TTL=128
Reply from 128.107.20.30: bytes=32 time<1ms TTL=128
Reply from 128.107.20.30: bytes=32 time<1ms TTL=128
Reply from 128.107.20.30: bytes=32 time<1ms TTL=128

Ping statistics for 128.107.20.30:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 8ms, Average = 2ms

C:\>
```

☐ Top



Student 2

Physical Config Desktop Programming Attributes

Command Prompt

```
Cisco Packet Tracer PC Command Line 1.0
C:\>ping 128.107.20.25

Pinging 128.107.20.25 with 32 bytes of data:

Reply from 128.107.20.25: bytes=32 time<1ms TTL=128
Reply from 128.107.20.25: bytes=32 time<1ms TTL=128
Reply from 128.107.20.25: bytes=32 time<1ms TTL=128
Reply from 128.107.20.25: bytes=32 time<1ms TTL=128

Ping statistics for 128.107.20.25:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 1ms, Average = 0ms

C:\>
```

☐ Top

**Reference:**

Chapter-2, Introduction to Networks Labs and Study Guide by Allan Johnson, Cisco