Genba Sopanrao Moze College of Engineering, Balewadi, Pune-45

Department of Electronics And Telecommunication

Academic year 2022_23

Roll No: **Subject: Control System Lab**

Date : **Staff Sign:**

Experiment no:-8

AIM: Executing Telnet, DHCP Server using simulator

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REQUIREMENT:

WINDOWS 10 with LAN Connectivity.

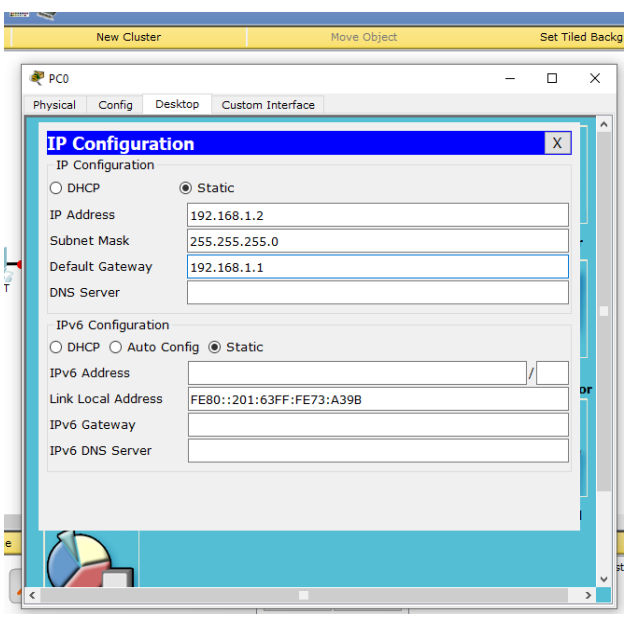
Software : Cisco Packet Tracer

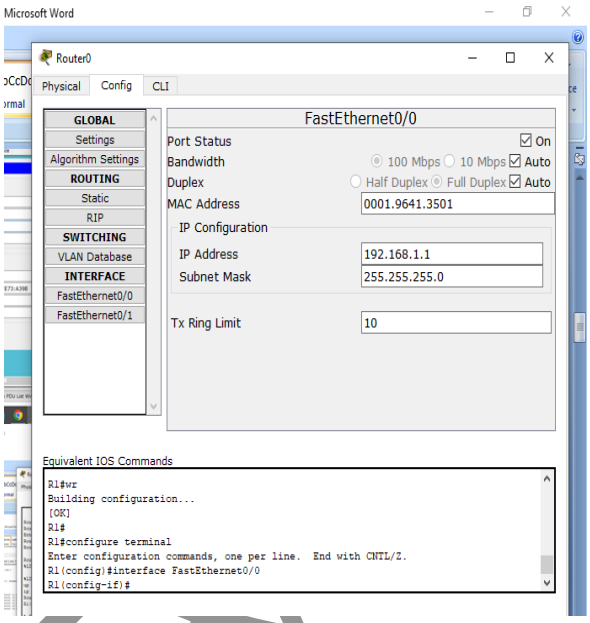
Theory:

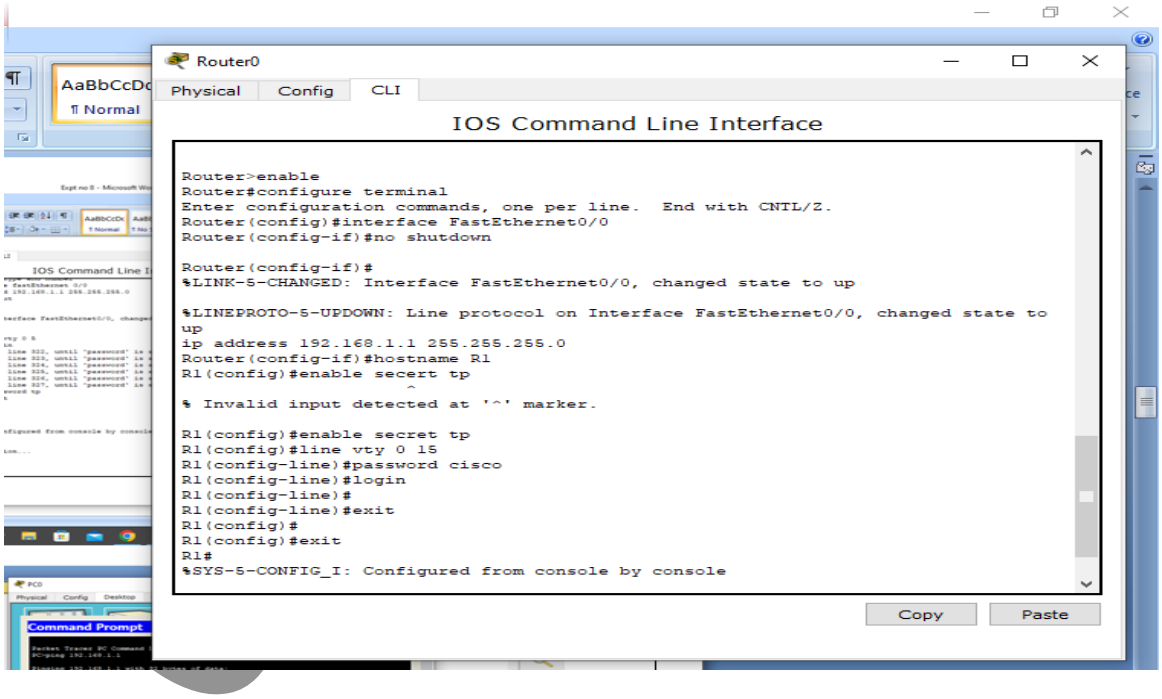
TELNET:

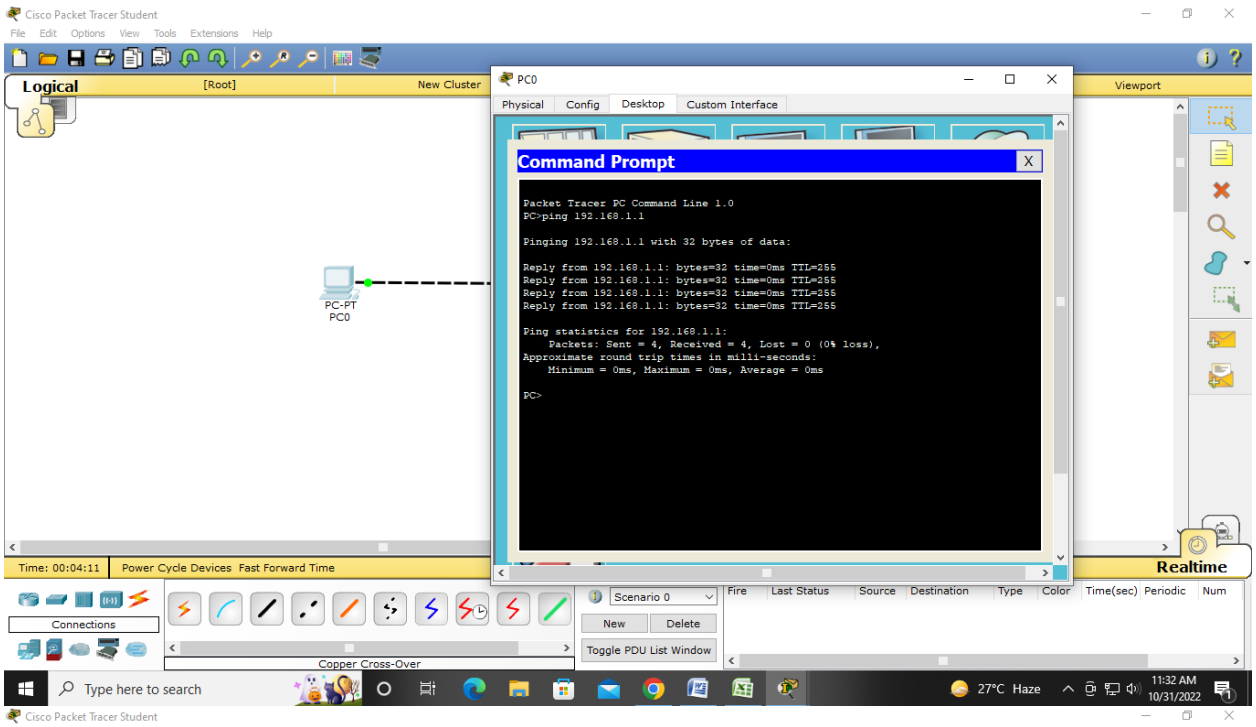
- Telnet is a network protocol used on the Internet or local area networks to provide a bidirectional interactive text-oriented communication facility using a virtual terminal connection.
- TELNET stands for TELE communication NET work and it refers to both the application and protocols.
- TELNET offers the user a way of authenticating and accessing their terminals via the network.
- TELNET needs a TELNET server on the host computer which will be accessed.

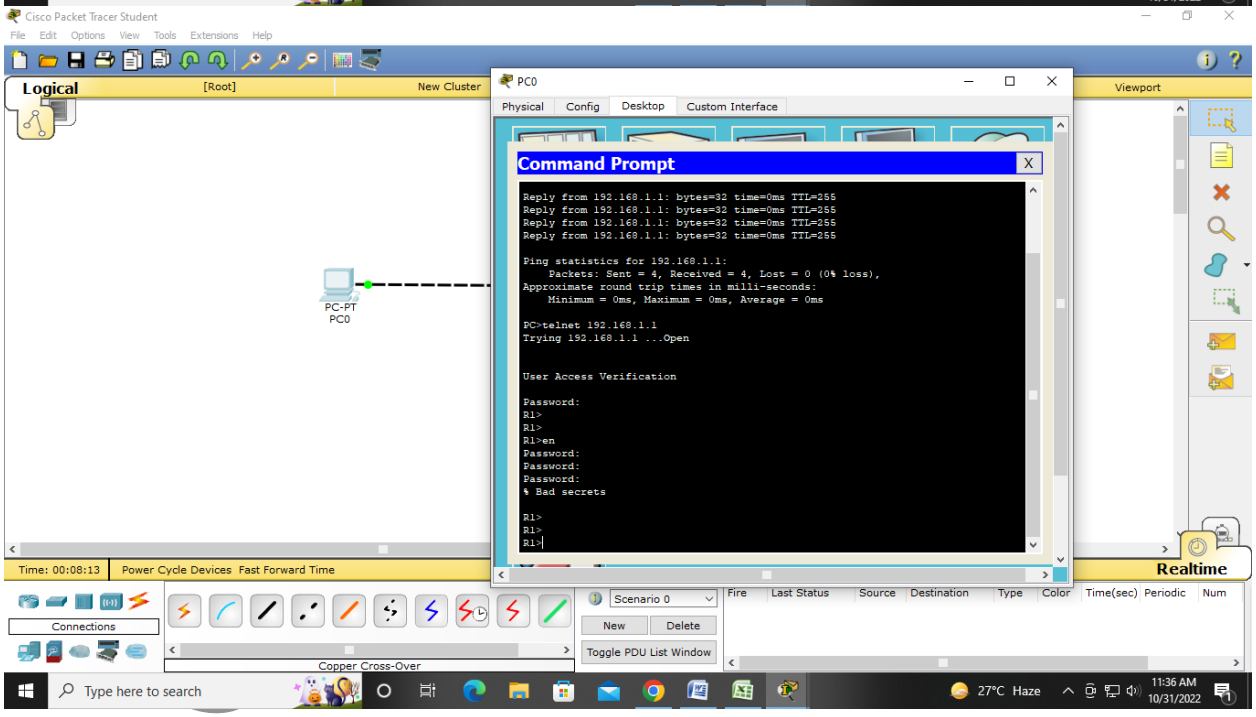
- Windows operating system needs a Telnet server in order to be accessed remotely.
- The telnet protocol is TCP connection used for transmitting data containing telnet control information.
- The telnet protocol allows the user to identify himself on a remote system through the local system.
- This protocol establishes client-server relationship between the local system and remote Telnet application permitting the functioning of a local system as a virtual terminal connected to a virtual system.
- Most network equipment and operating systems with a TCP/IP stack support a Telnet service for remote configuration (including systems based on Windows NT).
- The term *telnet* may also refer to the software that implements the client part of the protocol. Telnet client applications are available for virtually all computer platforms.
- Telnet is a client-server protocol, based on a reliable connection-oriented transport. Typically this protocol is used to establish a connection to Transmission Control Protocol


New Cluster
Move Object
Set Tiled Backg
PC0
Physical
Config
Desktop
Custom Interface
IP Configuration
IP Configuration
DHCP
Static
IP Address
192.168.1.2
Subnet Mask
255.255.255.0
Default Gateway
192.168.1.1
DNS Server
IPv6 Configuration
DHCP
Auto Config
Static
IPv6 Address
Link Local Address
FE80::201:63FF:FE73:A39B
IPv6 Gateway
IPv6 DNS Server


Microsoft Word
Router0
Physical
Config
CLI
GLOBAL
Settings
Algorithm Settings
ROUTING
Static
RIP
SWITCHING
VLAN Database
INTERFACE
FastEthernet0/0
FastEthernet0/1
FastEthernet0/0
Port Status
On
Bandwidth
100 Mbps
10 Mbps
Auto
Duplex
Half Duplex
Full Duplex
Auto
MAC Address
0001.9641.3501
IP Configuration
IP Address
192.168.1.1
Subnet Mask
255.255.255.0
Tx Ring Limit
10
Equivalent IOS Commands
R1#wr
Building configuration...
[OK]
R1#
R1#configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
R1(config)#interface FastEthernet0/0
R1(config-if)#


Router0
Physical
Config
CLI
IOS Command Line Interface
Router>enable
Router#configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#interface FastEthernet0/0
Router(config-if)#no shutdown
Router(config-if)#
%LINK-5-CHANGED: Interface FastEthernet0/0, changed state to up
%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/0, changed state to up
ip address 192.168.1.1 255.255.255.0
Router(config-if)#hostname R1
R1(config)#enable secert tp
% Invalid input detected at '^' marker.
R1(config)#enable secret tp
R1(config)#line vty 0 15
R1(config-line)#password cisco
R1(config-line)#login
R1(config-line)#
R1(config-line)#exit
R1(config)#
R1(config)#exit
R1#
%SYS-5-CONFIG_I: Configured from console by console
Copy
Paste


Cisco Packet Tracer Student
File Edit Options View Tools Extensions Help
Logical
[Root]
New Cluster
Viewport
PC0
Physical
Config
Desktop
Custom Interface
Command Prompt
Packet Tracer PC Command Line 1.0
PC>ping 192.168.1.1
Pinging 192.168.1.1 with 32 bytes of data:
Reply from 192.168.1.1: bytes=32 time=0ms TTL=255
Reply from 192.168.1.1: bytes=32 time=0ms TTL=255
Reply from 192.168.1.1: bytes=32 time=0ms TTL=255
Reply from 192.168.1.1: bytes=32 time=0ms TTL=255
Ping statistics for 192.168.1.1:
Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
Minimum = 0ms, Maximum = 0ms, Average = 0ms
PC>
PC-PT
PC0
Time: 00:04:11
Power Cycle Devices Fast Forward Time
Realtime
Connections
Copper Cross-Over
Scenario 0
New
Delete
Toggle PDU List Window
Fire
Last Status
Source
Destination
Type
Color
Time(sec)
Periodic
Num
Type here to search
27°C Haze
11:32 AM
10/31/2022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Custom Interface
Command Prompt
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Reply from 192.168.1.1: bytes=32 time=0ms TTL=255
Reply from 192.168.1.1: bytes=32 time=0ms TTL=255
Ping statistics for 192.168.1.1:
Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
Minimum = 0ms, Maximum = 0ms, Average = 0ms
PC>telnet 192.168.1.1
Trying 192.168.1.1 ...Open
User Access Verification
Password:
R1>
R1>
R1>en
Password:
Password:
Password:
% Bad secrets
R1>
R1>
R1>
PC-PT
PC0
Time: 00:08:13
Power Cycle Devices Fast Forward Time
Realtime
Connections
Copper Cross-Over
Scenario 0
New
Delete
Toggle PDU List Window
Fire
Last Status
Source
Destination
Type
Color
Time(sec)
Periodic
Num
Type here to search
27°C Haze
11:36 AM
10/31/2022

DHCP:

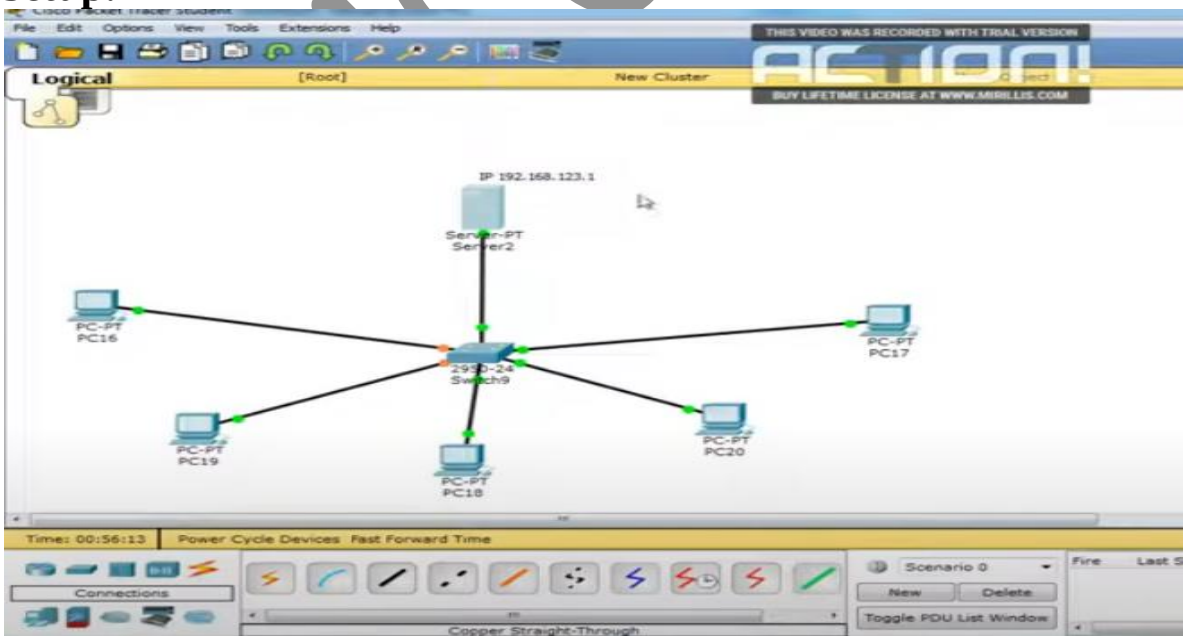
The DHCP is standardized network protocol use on internet protocol network for dynamically distributing network configuration parameters, such as IP addresses for interfaces and services. We DHCP computers request computers and networking parameters automatically from DHCP servers reducing the need for a network administrator or a user to configure these settings manually.

Procedure:

a. Design network by using computer, Switch and server
b. Then assign IP address for all PC
c. Assign IP address server
d. Click on server and config fastethernet0.In services>DHCP>On>Give Startup IP>Max. no. of users>Save.
e. Click on PC0 Click on PC0 and then click on simulation button on the right hand corner of the screen
f. click on PC0>Desktop>select DHCP>IP address will auto generate
g. Check packet transmission

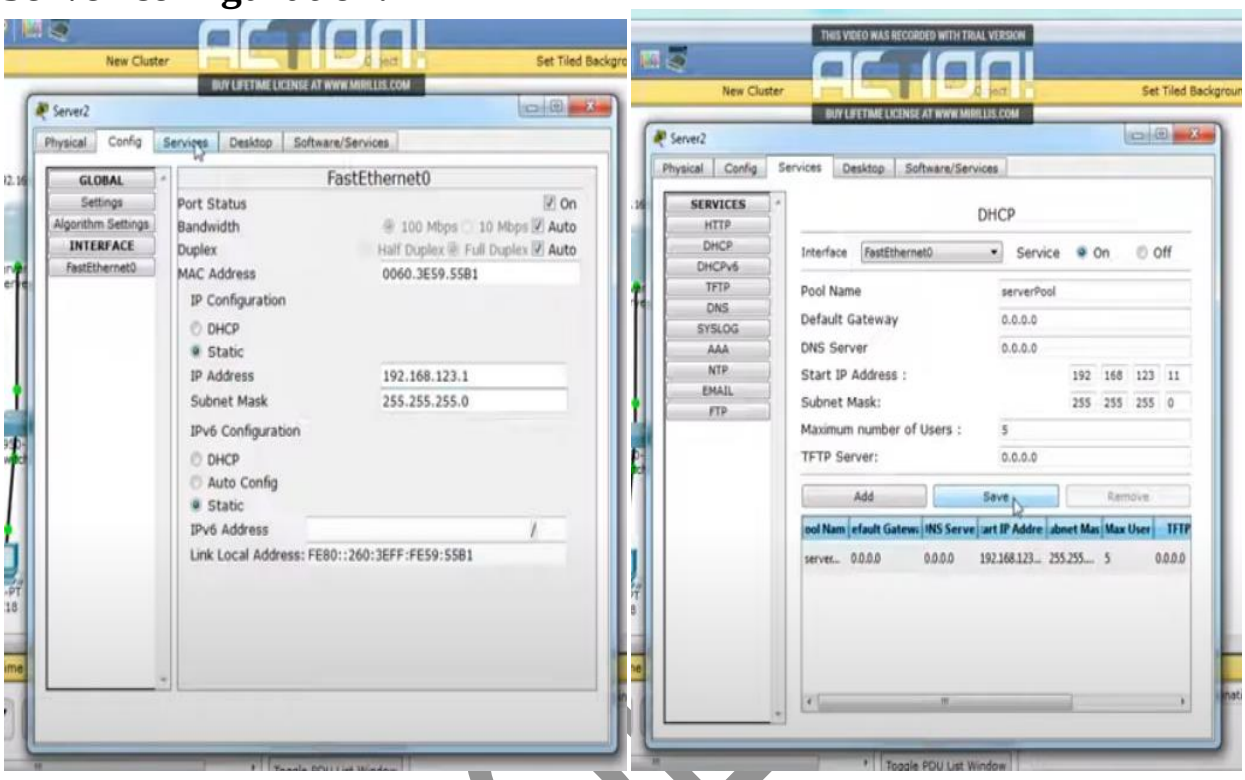
CONGIURATION USING PACKET TRACER:

Setup:

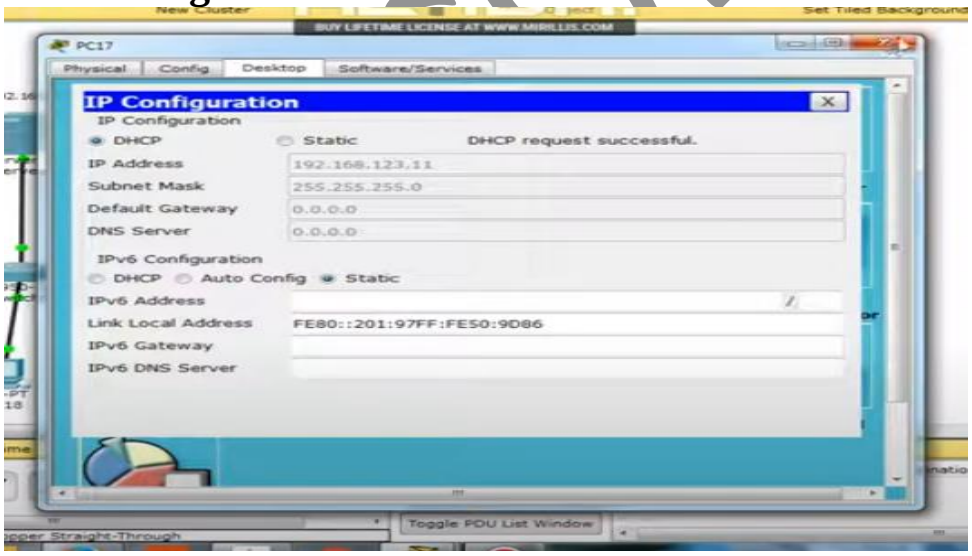


Result Printouts:

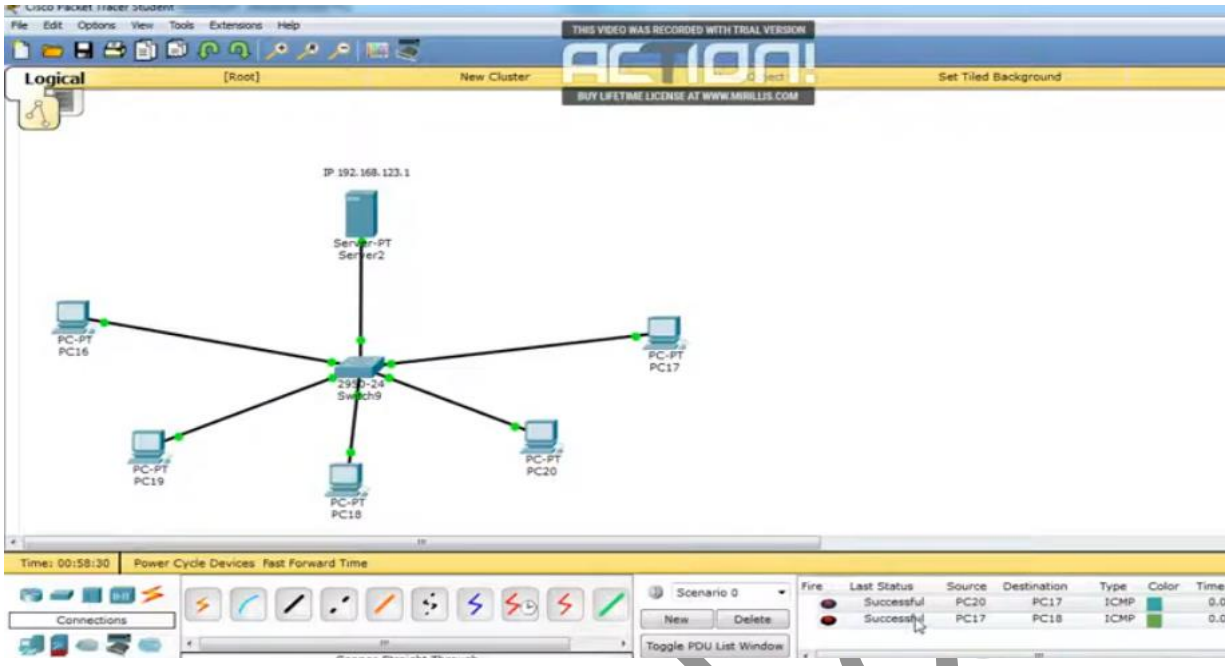
Server configuration:



PC 0 configuration:



Do this for all PC



CONCLUSION: