Experiment no. 12

SEMESTER: V (17-18) **DATE OF DECLARATION:** 14/10/17

SUBJECT: CN **DATE OF SUBMISSION:** 23/10/17

NAME OF THE STUDENT: Dion George **ROLL NO.:** 19

Aim	To build basic wired and wireless topology using cisco packet tracer.
Objective:	The student will learn cisco packet tracer.
Outcome:	The student will use cisco packet tracer to build wired /wireless

topology. **Theory:** Packet Tracer is a powerful tool that allows you to virtually simulate network setup just by interacting on your computer.

Building wired topology:

Open Packet Tracer

Go to Start. Type "Cisco Packet Tracer" and click the application to open it.

Physical Setup

To make a network, we first need a source such as a network hub. For this example, we will use a router.

1. Go ahead and click the Router section and choose the 1841 Router.
2. Move your mouse to the white space, and click to place the router on the workspace.
3. Click End Devices and click Generic PC.
4. Move your mouse to the white space, and click once to place the PC on the workspace.
5. Repeat, and add a second Generic PC.
6. Now we are going to connect them together. Click Connections.
7. Choose the Copper Cross-Over cable.
8. Click on PC-0 and select FastEthernet.
9. Click on the other side to Router and select the FastEthernet0/0.
10. Repeat and connect PC-1 to the FastEthernet interface. 11. Connect PC-1 to the Router and select FastEthernet0/1.

Router Configuration

1. Click Router0. A window will come up. Go to the CLI tab.
2. Type no when asked to continue with configuration dialog.
3. Type enable to go to "privileged execution mode".
4. Type config t, to enter "global configuration mode".
5. Type hostname Router0, to name the router.
6. Type enable secret class, to password protect the "privileged execution mode".
7. We are going to configure the password for the console line.
   Type line con 0. Then type password cisco, to set the password as cisco.
8. Type login to enable password prompting.
9. Type exit to return to "global configuration mode".
10. We are going to configure the password for the "virtual terminal lines".
    Type in line vty 0 4. Type in password cisco.
11. We are going to enable the password requirement. Type in login.
12. Type exit to return to "global configuration mode".
13. Earlier, we connected the computers to the router using the FastEthernet interface.
    We are going to set up the router to work with those interfaces.
    Type in interface FastEthernet0/0.
14. Type in ip address 10.1.1.1 255.0.0.0
    (This will set the IP address and Subnet mask of the first FastEthernet Interface)
15. We are going to set a description on the router for later reference. To do this, we will type in description Router0 FastEthernet0/0 16. To start the interface, we are going to type no shutdown.
17. Type exit to return to "global configuration mode".
18. We are going to repeat this process with FastEthernet0/1.
19. Type in interface FastEthernet0/1.
20. This time, type ip address 11.1.1.1 255.0.0.0
21. Type in description Router0 FastEthernet0/1.
22. To start the interface, we are going to type no shutdown.
23. Type exit to exit from "interface configuration mode".
24. Type exit to return to "global configuration mode".
25. Hit the Enter key, and we will be back at the "privileged execution mode" when we first started the command line.
26. We are now going to check the information that we entered into the system. To do this, type show running-config.
    will see all the configurations you just set.

	27. We want the router to run these configurations when it starts up. To do this, we need to copy the configuration files into the Router's NV RAM.

Continuously hit Enter to scroll down the list. You
To do this, we type in copy running-config startup- config.

Hit Enter to confirm.
The router configuration is now complete.

PC Configuration

We are now going to configure the computers to connect to the network.

1. First, click on PC-0. A configuration window will come up.
2. Go to the Desktop tab and click IP Configuration.
3. We will set a Static IP.
4. Set the IP Address to 10.1.1.2 5. Set the Subnet Mask to 255.0.0.0.
6. Set the Default Gateway to 10.1.1.1
7. Close the PC-0 configuration window.
8. Repeat with PC-1, except use 11.1.1.2 for the IP Address.
9. Set the Subnet Mask to 255.0.0.0
10. Set the Default Gateway to 11.1.1.1
11. Close the PC-1 configuration window.

Testing Connectivity

We are going to test for a valid connection by pinging PC -1 from PC -0. 1.To do this, click PC-0. Go to the Desktop tab and click Command Prompt.

This acts very similar to a DOS prompt in a Windows OS.

2. To see the details of the computer's local network, we can type in ipconfig.
3. We are going to ping PC-1 by typing in ping 11.1.1.2

At first, the request might time-out, but you should get a reply after that.

Wireless topology:

STEPS:

1. Take a wireless router named Linksys.
2. Take 2 pc's PC-0 and PC-1 and also take a switch named 2960
3. Click on Pc-0 and then go to Desktop scroll down and click on red button.
4. Scroll down and replace the already present host with Linksys -WMP300N 5. Then go to Desktop you will get an error message. Click ok. Then turn the power button off and close the window.

6. Click on router and go to configuration. Go to wireless settings. Enable WEP. Type there abcde12345. The default in the right corner will change to router.
7. Click on GUI. Check the settings. Go to wireless again make network mode mixed. Network name =router. Close that window.
8. Go to PC-0. Go to desktop. Go to PC-wireless. Click connect and then click

on refresh. You will see a router on the left side. And then again click on connect. Then a window will apprear in which a web key will be typed by the user. And then click connect. Close this window.

9.Go to IP Configuration make it to DHCP. Close that window.

10. Connect router to switch and switch to PC-1.

11. Click on PC-1, go to IP-configuration make it to DHCP and a message of successfully connected will be received.

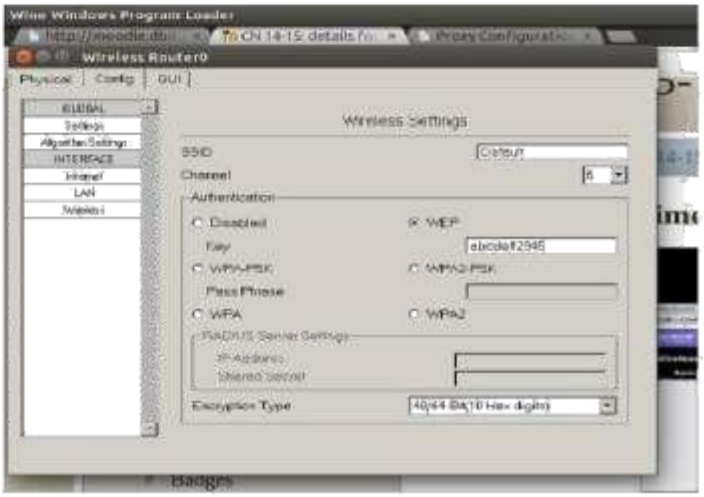
12.Click on PC-0. Go to command prompt. Type: ipconfig->enter

Ping 192.168.0.101->enter.

13. Click on PC-0. Go to command prompt. Type: ipconfig->enter

Ping 192.168.0.100->enter.

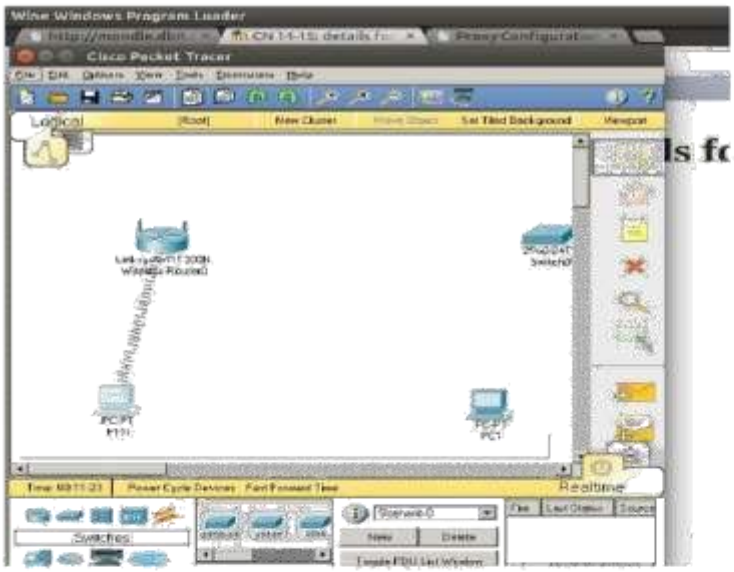
Output:




Wine Windows Program Loader
Wireless Router0
Physical
Config
GUI
Wireless
Setup
Security
Access Restrictions
Applications & Gaming
Administration
Basic Wireless Settings
Network Mode:
Mixed
Network Name (SSID):
linksys
Radio Band:
Auto
Wide Channel:
Auto
Standard Channel:
1 - 2.412GHz
SSID Broadcast:
Enabled
Disabled
Save Settings
Cancel Changes

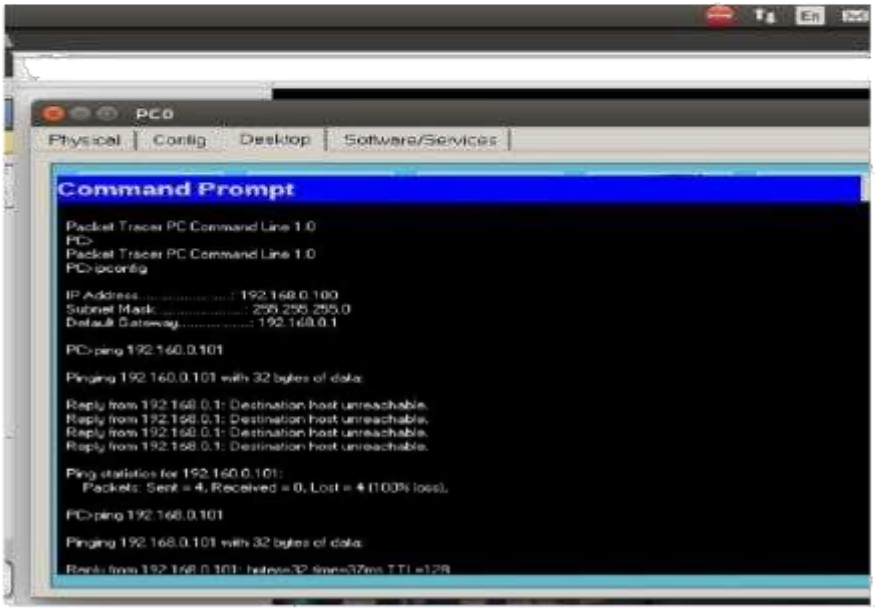

Wine Windows Program Loader
PC0
Config
Desktop
Software/Services
LINKSYS
Connect
Profiles
No association with access point
2.4GHz
Adapter is inactive
Wireless-N Notebook Adapter
Wireless Network Monitor v1.0
WPC300N

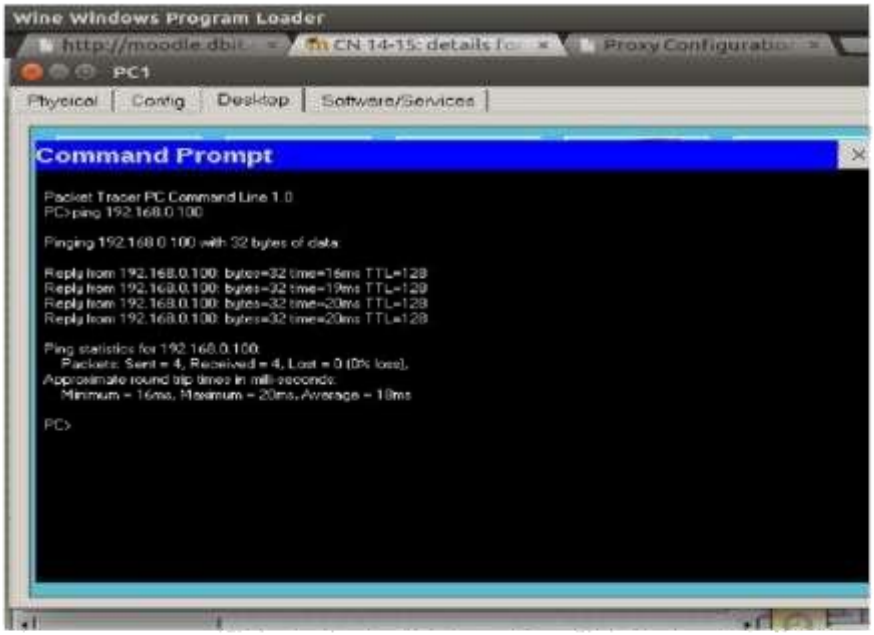

Wine Windows Program Loader
PC0
Physical
Config
Desktop
Software/Services
LINKSYS
Link Information
Connect
Profiles
Below is a list of available wireless networks. To search for more wireless networks, click the Refresh button. To view more information about a network, select the wireless network name. To connect to that network, click the Connect button below.
Wireless Network Name
CH
Signal
linksys
1
100%
Site Information
Wireless Mode
Network Type
Radio Band
Security
WEP
MAC Address
Refresh
Connect
2.4GHz
Adapter is inactive
Wireless-N Notebook Adapter
Wireless Network Monitor v1.0
WPC300N

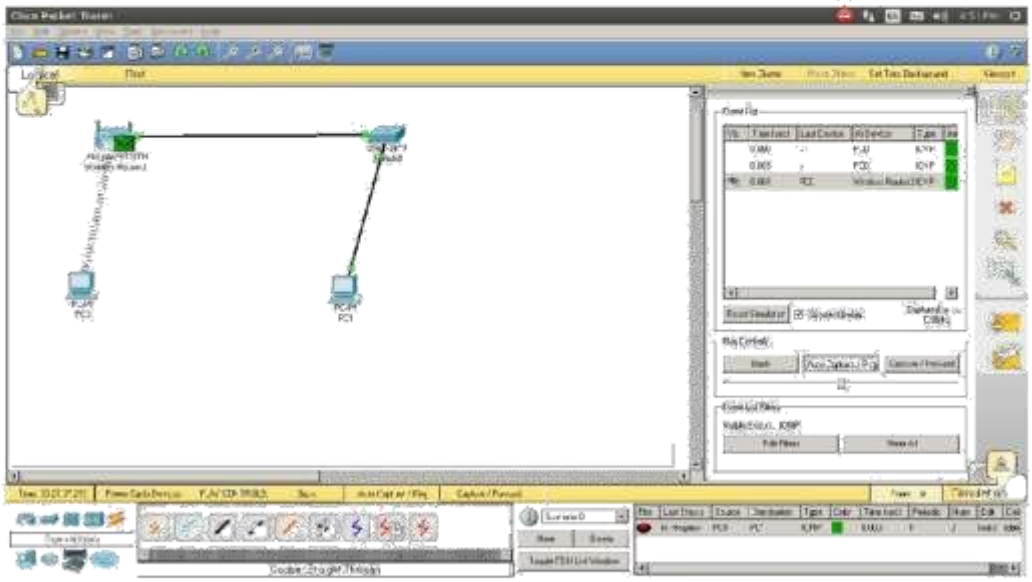

Wine Windows Program Loader
Cisco Packet Tracer
Logical
Root
New Cluster
Set Tiled Background
Viewport
Realtime
Switches

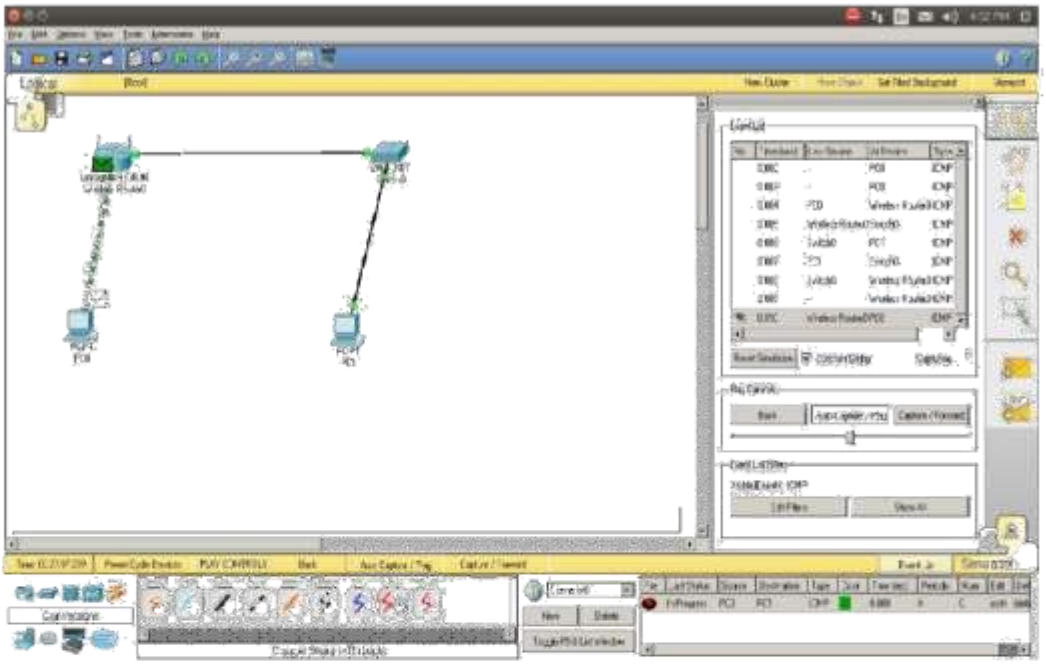

Wine Windows Program Loader
PC1
Physical
Config
Desktop
Software/Services
IP Configuration
DHCP
Static
DHCP request failed.
IP Address
Subnet Mask
Default Gateway
DNS Server
Web Browser
Cisco IP Communicator
E-Mail
Text Editor

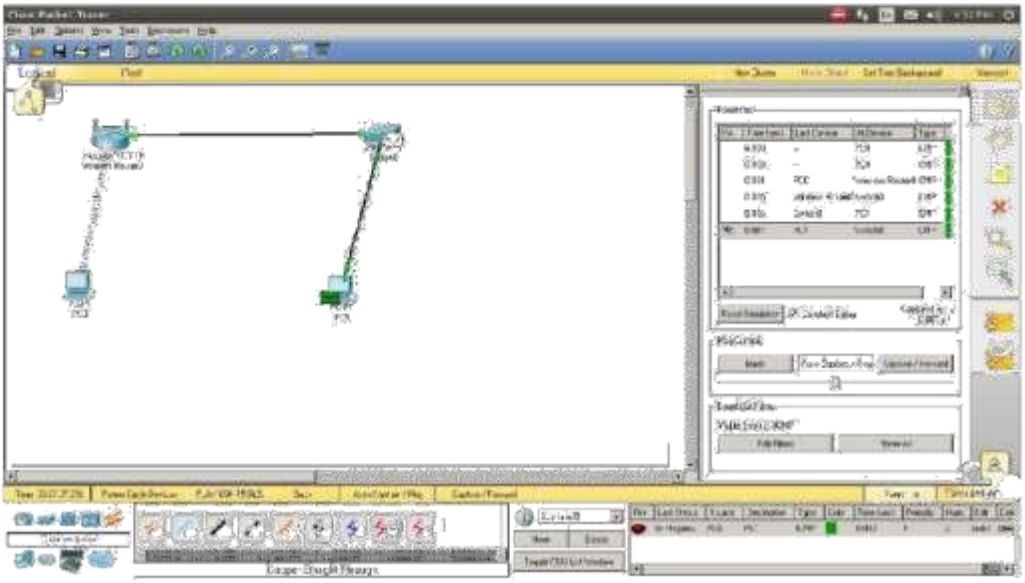

Wine Windows Program Loader
PC1
Physical
Config
Desktop
Software/Services
IP Configuration
Dial-up
Terminal
Command Prompt
Web Browser
PC Wireless
VPN
Traffic Generator
MIB Browser
Cisco IP Communicator
E-Mail
PPPoE Dialer
Text Editor


PC0
Physical
Config
Desktop
Software/Services
Command Prompt
Packet Tracer PC Command Line 1.0
PC>
Packet Tracer PC Command Line 1.0
PC>ipconfig
IP Address.....: 192.168.0.100
Subnet Mask.....: 255.255.255.0
Default Gateway.....: 192.168.0.1
PC>ping 192.160.0.101
Pinging 192.160.0.101 with 32 bytes of data:
Reply from 192.168.0.1: Destination host unreachable.
Reply from 192.168.0.1: Destination host unreachable.
Reply from 192.168.0.1: Destination host unreachable.
Reply from 192.168.0.1: Destination host unreachable.
Ping statistics for 192.160.0.101:
Packets: Sent = 4, Received = 0, Lost = 4 (100% loss),
PC>ping 192.168.0.101
Pinging 192.168.0.101 with 32 bytes of data:


Wine Windows Program Loader
PC1
Physical
Config
Desktop
Software/Services
Command Prompt
Packet Tracer PC Command Line 1.0
PC>ping 192.168.0.100
Pinging 192.168.0.100 with 32 bytes of data:
Reply from 192.168.0.100: bytes=32 time=16ms TTL=128
Reply from 192.168.0.100: bytes=32 time=19ms TTL=128
Reply from 192.168.0.100: bytes=32 time=20ms TTL=128
Reply from 192.168.0.100: bytes=32 time=20ms TTL=128
Ping statistics for 192.168.0.100:
Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
Minimum = 16ms, Maximum = 20ms, Average = 18ms
PC>







Activities:	1. Perform steps for wired topology and attach appropriate screenshots. 2. Perform steps for wireless topology and attach appropriate screenshots.
Conclusion:	The student has successfully built wired and wireless topology.
References:	1. http://cvhscisco.com/files/Cisco-Packet-Tracer.pdf 2. http://www.youtube.com/watch?v=uB6iBSlAkIc