

PUNE INSTITUTE OF COMPUTER TECHNOLOGY, PUNE
ACADEMIC YEAR: 2021-22
DEPARTMENT of COMPUTER ENGINEERING DEPARTMENT
CLASS: T.E. SEMESTER: I
SUBJECT: CNSL

ASSINGMENT NO.	2
TITLE	Setup WAN which able to ping Wired to Wireless LAN
PROBLEM STATEMENT /DEFINITION	Setup a WAN which contains wired as well as wireless LAN by using a packet tracer tool. Demonstrate transfer of a packet from LAN 1 (wired LAN) to LAN2 (Wireless LAN).
OBJECTIVE	Setup Wired to Wireless LAN
OUTCOME	Creation of Wired to Wireless Network
S/W PACKAGES AND HARDWARE APPARATUS USED	Open Source Operating System, Packet Tracer, Wireshark, Core I3/I5/I7 with 4GB RAM system, Wired Wireless AP/Router, Wireless Adapter
REFERENCES	1. https://www.cisco.com/c/dam/en_us/training-events/netacad/course_catalog/docs/Cisco_PacketTracer_DS.pdf 2. https://www.netacad.com/courses/packet-tracer 3. https://www.cisco.com/c/en/us/solutions/small-business/resource-center/networking/wireless-network.html#~introduction
STEPS	1. Collect router and Wireless card 2. Connect router in local LAN 3. Connect USB/Wireless adapter to system 4. Network Configuration Select Automatic dhcp 5. Connect system with router 6. Check Your system IP and try to ping any LAB system from Your system 7. Start Wireshark 8. Provide filter ip.addr==10.10.10.71 9. Take Screenshots 10. Repeat the same using Packet Tracer
INSTRUCTIONS FOR WRITING JOURNAL	1. Date 2. Assignment no. 3. Problem definition 4. Learning objective 5. Learning Outcome 6. Concepts related Theory 7. Algorithm 8. Test cases 10. Conclusion/Analysis

Prerequisites: Open Source Operating System, Packet Tracer, Wireshark,

Core I3/I5/I7 with 4GB RAM system, Wired Wireless AP/Router, Wireless Adapter

Concepts related Theory:

What is a Wi-Fi or wireless network vs. a wired network?

A wireless network allows devices to stay connected to the network but roam untethered to any wires.

[Access points](#) amplify Wi-Fi signals, so a device can be far from a [router](#) but still be connected to the network. When you connect to a Wi-Fi hotspot at a cafe, a hotel, an airport lounge, or another public place, you're connecting to that business's wireless network.

A wired network uses cables to connect devices, such as laptop or desktop computers, to the Internet or another network. A wired network has some disadvantages when compared to a wireless network. The biggest disadvantage is that your device is tethered to a router. The most common wired networks use cables connected at one end to an Ethernet port on the network router and at the other end to a computer or other device.

Previously it was thought that wired networks were faster and more secure than wireless networks. But continual enhancements to wireless network technology such as the [Wi-Fi 6](#) networking standard have eroded speed and security differences between wired and wireless networks.

Algorithm:

1. Collect router and Wireless card
2. Connect router in local LAN
3. Connect USB/Wireless adapter to system
4. Network Configuration Select Automatic dhcp
5. Connect system with router
6. Check Your system IP and try to ping any LAB system from Your system
7. Start Wireshark
8. Provide filter ip.addr==10.10.10.71
9. Take Screenshots
10. Repeat the same using Packet Tracer

Conclusion:

Thus, after successfully completing this assignment, Wired to Wireless LAN.

Review Questions:

1. What are the requirements to use the wired network service?
2. Can I use a Wi-Fi connection with the wired network service?
3. I have a registered device, but cannot connect to the campus network. What do I do?
4. Can I register more than one device?
5. What is a wireless
6. [What is authentication?](#)
7. [What is an access point?](#)
8. [What is a](#) MAC address?