

#### Module 3 [Network Configuration]

**Topic: Local area networking**

##### Assignment level Basic:

1. **What is Network?**

Ans. Group of connected computers called network.

1. **What is Internet & Intranet?**

Ans. The Internet is a vast(unusually larg in size) network that connects computers all over the world.

##### Assignment level Intermediate:

1. **How many types of Network we used?**

Ans. Five types of network:

1. PAN (Personal Area Network)

2. LAN (Local Area Network)

3. MAN (Metropolitan Area Network)

4. WAN (Wide Area Network)

1. **Different between LAN & PAN?**

Ans.

|  |  |  |
| --- | --- | --- |
| Parameter Of Comparison | Personal Area Network  (PAN) | Local Area Network  (LAN) |
| Explanation | It's a network covering a tiny area, usually a single room. It allows computer devices to connect with one other and share data and information. | A network links computers across a short distance, such as within a building or a single computer lab with several machines. |
| Network Coverage | In a wireless PAN network, distances range from 10 to 100 meters (i.e. Zigbee, Bluetooth) | In the case of wireless LAN, distances can range from 10m to 100m and even more. |
| Data Speed | In Zigbee, the speed is 250 kbps. In the case of Bluetooth, the speed ranges from Kbps to 24 Mbps. | WLAN supports 54Mbps (as per 802.11a) and above 100Mbps (802.11n/11ac/11ad) data rates, while LAN supports 10, 100, and 1000 Mbps. |
| Short Form | Personal Area Network is also called PAN. | Local Area Network is also called LAN. |
| Technology | According to IEEE 802.11 specifications, a wireless LAN or WLAN is a network that transmits data wirelessly. | Bluetooth, Zigbee, and Zwave are just a few examples. |
| Efficiency | Less effective | Extremely effective |
| No. Of Devices | Lessor low devices | More or high devices |
| Classification | It can be wireless or wired. | It is either client-server LAN or Peer to Peer LAN. |
| Examples | Bluetooth | Wi-Fi |
| Communication | Easy, Fast and Time-saving. | Time Consuming |

##### Assignment level advance:

1. Explain LAN?

Ans. A network links computers across a short distance, such as within a building or a single computer lab with several machines.

1. What are different types of LAN devices?

Ans. Network connection devices

* + Hub
  + Switch
  + Wireless Access Point (WAP)
  + Router
  + Gateway
  + Bridge

#### Topic: configured Network

##### Assignment Level Basic

1. **What is configured network?**

Ans. Network configuration is the process of assigning network settings, policies, flows, and controls. In a virtual network, it's easier to make network configuration changes because physical network devices appliances are replaced by software, removing the need for extensive manual configuration.

1. **How do we configure network?**

Ans. Network configuration is the process of assigning network settings, policies, flows, and controls. In a virtual network, it's easier to make network configuration changes because physical network devices appliances are replaced by software, removing the need for extensive manual configuration.

##### Assignment level Intermediate.

* 1. **How to check the ip address?**

Ans. Find your IP address in Windows

Select Start > Settings > Network & internet > Wi-Fi and then select the Wi-Fi network you're connected to.Under Properties, look for your IP address listed next to IPv4 address.

* 1. **How to check the ip address through cmd?**

Ans. From the desktop, navigate through; Start > Run> type "cmd.exe". A command prompt window will appear.At the prompt, type "ipconfig /all". All IP information for all network adapters in use by Windows will be displayed.

* 1. **How can we enter static address in network adapter? How to Set a Static IP Address**

Ans. Access the Control Panel. In the Windows search bar, type in “ncpa.cpl” and then press enter. ...

Select the Network Adapter. ...

Select Properties. ...

Select Internet Protocol Version 4 (TCP/IPv4) ...

Manually enter IP address and subnet mask. ...

Save Settings. ...

##### Assignment Level Advanced

1. **Do a practical to release the packets from the adapter.**

**done**

1. **Do a practical to renew the lease of the ip address.**

**done**

1. **Do a practical to check the connectivity to the google.**

**done**

#### Topic: Wireless networking

##### Assignment level Basic:

* 1. [**What is the difference between WEP and WPA?**](https://www.proprofsdiscuss.com/q/1709494/what-is-the-difference-between-wep-and-wpa)

Ans. The WPA Wi-Fi protocol is more secure than WEP, because it uses a 256-bit key for encryption, which is a major upgrade from the 64-bit and 128-bit keys used by the WEP system. WPA also uses the Temporal Key Integrity Protocol (TKIP), which dynamically generates a new key for each packet, or unit of data.

* 1. **What is Wireless Network?**

Ans. A wireless network refers to a computer network that makes use of Radio Frequency (RF) connections between nodes in the network. Wireless networks are a popular solution for homes, businesses, and telecommunications networks.

##### Assignment level Intermediate:

1. **What is a wireless network connection?**

Ans. A wireless network refers to a computer network that makes use of Radio Frequency (RF) connections between nodes in the network. Wireless networks are a popular solution for homes, businesses, and telecommunications networks.

1. **What are the basic concepts of networking?**

Ans. Computer networks connect nodes like computers, routers, and switches using cables, fiber optics, or wireless signals. These connections allow devices in a network to communicate and share information and resources. Networks follow protocols, which define how communications are sent and received.

##### Assignment level advance:

1. **What do you need to know about networking?**

Ans. The foundations of networking: switches, routers, and wireless access points. Switches, routers, and wireless access points are the essential networking basics. Through them, devices connected to your network can communicate with one another and with other networks, like the Internet.

1. **How do you explain computer networking?**

Ans. Computer networking refers to interconnected computing devices that can exchange data and share resources with each other. These networked devices use a system of rules, called communications protocols, to transmit information over physical or wireless technologies.

#### Topic: THE Internet

##### Assignment level Basic:

1. **What do you mean by the term URL?**

Ans. URL is an acronym for Uniform Resource Locator and is a reference (an address) to a resource on the Internet.

1. **Term which is used to see web pages is called what?**

Ans. A browser is a software program used to view web pages.

##### Assignment level Intermediate:

1. **In the Ethernet which topology is used?**

Ans. The two possible topologies for Ethernet are bus and star. The bus is the simplest (and the traditional) topology. Standard Ethernet (10BASE5) and Thin Ethernet (10BASE2), both based on coax cable systems, use the bus.

1. **Set of rules and regulations while working on internet, which term is used?**

Ans. A protocol is a set of rules that governs the communications between computers on a network.

##### Assignment level advance:

1. **What do you mean by RAS?**

Ans. The network in the reticular formation that serves an alerting or arousal function. Synonyms: reticular activating system. Type of: neural net, neural network. Any network of neurons or nuclei that function together to perform some function in the body.

1. **What are the main search engines to get more website URL on Internet?**

Ans. Top Search Engines:

* Google.
* Bing.
* Yahoo!
* Yandex.
* DuckDuckGo.
* Baidu.
* Ask.com.
* Naver.

1. **What does the PROTOCOL consist of?**

Ans. A set of rules or procedures for transmitting data between electronic devices, such as computers. In order for computers to exchange information, there must be a preexisting agreement as to how the information will be structured and how each side will send and receive it.

#### Topic: Virtualization

##### Assignment level Basic:

1. **What is Virtualization?**

Ans. Virtualization is technology that you can use to create virtual representations of servers, storage, networks, and other physical machines. Virtual software mimics the functions of physical hardware to run multiple virtual machines simultaneously on a single physical machine.

1. **What is the Difference between Full Virtualization and Para Virtualization?**

Ans. In Full virtualization, virtual machines permit the execution of the instructions with the running of unmodified OS in an entirely isolated way. In paravirtualization, a virtual machine does not implement full isolation of OS but rather provides a different API which is utilized when OS is subjected to alteration.

##### Assignment level Intermediate:

1. **What is Hyper-visor?**

Ans. A hypervisor, also known as a virtual machine monitor or VMM, is software that creates and runs virtual machines (VMs). A hypervisor allows one host computer to support multiple guest VMs by virtually sharing its resources, such as memory and processing.

1. **What are different hypervisors available in Linux?**

Ans. VMware is a popular choice for virtualization, and offers the ESXi hypervisor and vSphere virtualization platform. Kernel-based Virtual Machine (KVM) is an open source option and is built into the Linux® kernel. Additional options include Xen, which is open source, and Microsoft Hyper-V.

1. **What is Virtualization and what are its types?**

Ans. Virtualization is technology that you can use to create virtual representations of servers, storage, networks, and other physical machines. Virtual software mimics the functions of physical hardware to run multiple virtual machines simultaneously on a single physical machine

##### Assignment level advance:

* 1. **Name the components that are used in VMware infrastructure What is benefits of Virtualization?**

Ans.

* + - ESX server host.
    - Virtual Centre Server.
    - Virtual Infrastructure (VI) client.
    - Web Browser.
    - License Server.
    - Database.