**Module 3 [Network Configuration]**

Topic: Local area networking

• Assignment level Basic:

1. **What is Network?**

* A network is a group of two or more computers or other electronic devices that are interconnected for the purpose of exchanging data and sharing resources.

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

* The Internet is a global computer network that allows for information exchange between devices. An intranet is a private network that is only accessible to members of an organization.

• Assignment level Intermediate:

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

* **Below mentioned are different types of networks:**
* PAN (Personal Area Network)
* LAN (Local Area Network)
* MAN (Metropolitan Area Network)
* WAN (Wide Area Network)

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

* The major difference between these networks is that a PAN connects the devices within the short range of an individual person, whereas a LAN connects devices at a single site, typically an office building. Similar to a PAN, a LAN can be both wired and wireless.

• Assignment level advance:

1. **Explain LAN?**

* A local area network (LAN) is a collection of devices connected together in one physical location, such as a building, office, or home.

1. **What are different types of LAN devices?**

* **Types of Local Area Network (LAN)**
* Client-server LAN. In a client-server LAN environment, a single server connects to multiple devices known as clients.
* Peer to peer (P2P) LAN.
* Token ring LAN.
* Token bus LAN.
* Wired LAN.
* Wireless LAN.
* Cloud-managed LAN.

Topic: configured Network

• Assignment Level Basic

1. **What is configured network?**

* 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

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

* **Network Configuration Procedures**
* IP address of each network interface on every machine.
* Host names of each machine on the network. ...
* NIS, NIS+, or DNS domain name in which the machine resides, if applicable.
* Default router addresses. ...
* Subnet mask (required only for networks with subnets)

• Assignment level Intermediate.

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

* First, click on your Start Menu and type cmd in the search box and press enter. A black and white window will open where you will type ipconfig /all and press enter. There is a space between the command ipconfig and the switch of /all. Your ip address will be the IPv4 address.

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

* **Find your IP Address on Windows 10: Using the Command Prompt**
* Open the Command Prompt. a. Click the Start icon, type command prompt into the search bar and press click the Command Prompt icon.
* Type ipconfig/all and press Enter.
* The IP Address will display along with other LAN details.

1. **How can we enter static address in network adapter?**

* **How to set a static IP address on Windows 10 and 11**

1. Open “Settings” on your computer.
2. Select “Network and internet.”
3. Select your current connection.
4. Select “Manage known networks” > “Properties” > “IP settings.”
5. Select “Edit.”
6. Select “Manual.”
7. Select “IPv4” and switch it to “On.”

• 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?**

* WPA (Wi-Fi Protected Access) is a wireless security protocol released in 2003 to address the growing vulnerabilities of its predecessor, WEP. 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.

1. **What is Wireless Network?**

* A wireless network refers to a computer network that makes use of Radio Frequency (RF) connections between nodes in the network.

• Assignment level Intermediate:

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

* Wireless communications is the transmission of voice and data without cable or wires. In place of a physical connection, data travels through electromagnetic signals broadcast from sending facilities to intermediate and end-user devices.

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

* Networking allows sharing data and resources among various computers. A computer network is mainly classified into three types: Local Area Network (LAN), Metropolitan Area Network (MAN) and Wide Area Network (WAN). LAN connects nodes over a short distance.

• Assignment level advance:

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

* **As a professional working in computer networking, here are 9 basic concepts you typically should know:**
* Switches. A switch is essential to computer networking. ...
* Ethernet (cabling) ...
* Network hubs. ...
* Routers. ...
* Firewall. ...
* Internet protocol (IP) addresses. ...
* Client and server. ...
* Wireless access points (WAPs)

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

* 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: Wireless networking

• Assignment level Basic:

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1. **What is Wireless Network?**

* wireless networks include cell phone networks, wireless local area networks (WLANs), wireless sensor networks, satellite communication networks, and terrestrial microwave networks.

• Assignment level Intermediate:

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Topic: THE Internet

• Assignment level Basic:

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

* A URL (Uniform Resource Locator) is a unique identifier used to locate a resource on the Internet. It is also referred to as a web address.

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

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

• Assignment level Intermediate:

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

* Bus topology is used with Ethernet. The most used network topology is this one. Bus and star topologies,

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

* A network protocol is a set of established rules that specify how to format, send and receive data so that computer network endpoints, including computers, servers, routers and virtual machines, can communicate despite differences in their underlying infrastructures, designs or standards.

• Assignment level advance:

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

* Reliability, availability and serviceability (RAS) is a set of related attributes that must be considered when designing, manufacturing, purchasing and using a computer product or component.

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

* **Meet the 7 Most Popular Search Engines in the World**
* Google. With over 86% of the search market share, one hardly needs to introduce readers to Google.
* YouTube.
* Amazon.
* Facebook.
* Microsoft Bing.
* Baidu.
* Yandex.

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

* protocol, in computer science, a set of rules or procedures for transmitting data between electronic devices, such as computers.

Topic: Virtualization

• Assignment level Basic:

1. **What is Virtualization**

* irtualization is a process that allows a computer to share its hardware resources with multiple digitally separated environments. Each virtualized environment runs within its allocated resources, such as memory, processing power, and storage.

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

* Full Virtualization uses binary translation and a direct approach as a technique for operations. While Para virtualization uses hyper calls at compile time for operations

• Assignment level Intermediate:

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

* A hypervisor is a software that you can use to run multiple virtual machines on a single physical machine.

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

* 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?**

* Virtualization is technology that you can use to create virtual representations of servers, storage, networks, and other physical machines.

The three main types of server virtualization: full-virtualization, para-virtualization, and OS-level virtualization.

• Assignment level advance:

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

* Virtual infrastructure componentsBy separating physical hardware from operating systems, virtualization can provision compute, memory, storage and networking resources across multiple virtual machines (VMs) for greater application performance, increased cost savings and easier management.