Module 3 [Network Configuration]

Topic: Local area networking

• Assignment level Basic:

1. What is Network?

Ans. A computer network is a system that connects numerous independent computers in order to share information (data) and resources. The integration of computers and other different devices allows users to communicate more easily. A computer network is a collection of two or more computer systems that are linked together.

1. What is Internet & Intranet?

Ans. 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?

Ans. Local area network (LAN) Personal area network (PAN) Wireless local area network (WLAN) Campus area network (CAN) Metropolitan area network (MAN)Wide area network (WAN) Storage area network (SAN)

2.Different between LAN & PAN?

Ans. PANs and LANs are unique in their own ways. 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?

Ans. A local area network (LAN) is a collection of devices connected together in one physical location, such as a building, office, or home. A LAN can be small or large, ranging from a home network with one user to an enterprise network with thousands of users and devices in an office or school.

2.What are different types of LAN devices? Topic: configured Network

Ans. Wired end-user devices,

Mobile end-user devices,

Centralized server,

Network switch,

Wi-Fi router,

Modem,

Firewall appliance..

• 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.

2.How do we configure network?

Ans. 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?

Ans. Select start > settings > network & internet > wi-fi and then select the wi-fi network you are connected to. Under Properties, look for your IP address listed next to IPv4 address.

2.How to check the IP address through CMD?

Ans. 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.

3.How can we enter static address in network adapter?

Ans. Open “Settings” on your computer.

Network and internet,

your current connection,

Manage known networks” > “Properties” > “IP settings.”

Edit,

Manual,

IPv4” and switch it to “On.”..

• Assignment Level Advanced

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

Ans. done.

2.Do a practical to renew the lease of the ip address.

Ans. done.

3.Do a practical to check the connectivity to the GOOGLE.

Ans. done

Topic: Wireless networking

• Assignment level Basic:

1.What is the difference between WEP and WPA?

Ans. WPA (Wi-Fi Protected Access) is 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.

2.What is Wireless Network?

Ans. The term wireless refers to the fact that it does not require any physical connection (such as a wire) between devices on the network. Instead, each device communicates with other devices by sending and receiving radio signals over the air.

• 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.

2. What are the basic concepts of networking?

Ans. Networking involves the exchange of data between devices through interconnected systems, relying on concepts like IP addressing, protocols, and routing to enable communication within a computer network.

•Assignment level advance:

1.What do you need to know about networking?

Ans. LAN vs. WAN, Clients and servers, DNS lookup & IP addresses, Ethernet, Default gateway, Routers and switches.

2.How do you explain computer networking?

Ans. Computer networking is the practice of connecting computers and other devices to share resources, information, and services, facilitating communication and collaboration across a network.

Topic: Wireless networking

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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.

•Assignment level advance:

1.What do you need to know about networking?

Ans. Switches, Ethernet, Network hubs, Routers, Firewall, Internet protocol (IP) addresses, Client and server, Wireless access points (WAPs)

3.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. 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.

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

Ans. browser

• Assignment level Intermediate:

1.In the Ethernet which topology is used?

Ans. Bus topology is used with Ethernet.

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

Ans. Protocol.

• Assignment level advance:

1.What do you mean by RAS?

Ans. A remote access service (RAS) is any combination of hardware and software to enable the remote access tools or information that typically reside on a network of IT devices

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

Ans. Google,

YouTube,

Amazon,

FACEBOOK,

Microsoft Bing,

BAIDU.

3. What does the PROTOCOL consist of?

Ans. set of rules.

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.

2.What is the Difference between Full Virtualization and Para Virtualization?

Ans. The main difference lies in how the guest operating systems interact with the virtualization layer. Full virtualization runs unmodified guest OSes, while para virtualization requires modifications and uses hyper calls for communication.

• Assignment level Intermediate:

1.What is Hyper-visor?

Ans. A hypervisor is a software that you can use to run multiple virtual machines on a single physical machine. Every virtual machine has its own operating system and applications. The hypervisor allocates the underlying physical computing resources such as CPU and memory to individual virtual machines as required.

2.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 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.

Application Virtualization – hosting individual applications in a virtual environment separate from the native OS. Service Virtualization – hosting specific processes and services related to a particular application.

• Assignment level advance:

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

Ans. 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.

Benefits : Greater IT efficiencies. Reduced operating costs. Faster workload deployment. Increased application performance. Higher server availability. Eliminated server sprawl and complexity.