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. An intranet is internal and only accessible to members of an organization.

 Assignment level Intermediate:

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

* Mainly there are three types of computer networks: LAN(Local Area Network), WAN(Wide Area Network) and MAN(Metropolitan Area Network).

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

* 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?**

* 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.

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

* In general, there are two types of LANs: client/server LANs and peer-to-peer LANs. A client/server LAN consists of several devices (the clients) connected to a central server.

**Topic: configured Network**

** Assignment Level Basic**

* **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 appliances are replaced by software, removing the need for extensive manual configuration.
* **How do we configure network?**
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** Assignment level Intermediate.**

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

* **For Wi-Fi connection**
* 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.

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

* Right-click the Windows Start menu and select Run.
* Type cmd in the search field and click OK.
* In Command Prompt, type ipconfig and hit Enter. Scroll to IPv4 Address to see your local IP address.

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

* 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. ...
* Revert Back to DHCP.

 **Assignment Level Advanced**

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

* Yes

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

* Yes

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

**Topic: Wireless networking**

** Assignment level Basic:**

1. **What is the difference between WEP and WPA?**

* Wi-Fi Protected Access (WPA) is a security standard for computing devices with wireless internet connections. It was developed by the Wi-Fi Alliance to provide better data encryption and user authentication than Wired Equivalent Privacy (WEP), which was the original Wi-Fi security standard.

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. Wireless networks are a popular solution for homes, businesses, and telecommunications networks.

**Assignment level Intermediate:**

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

**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. Let's answer some common computer networking FAQs.

**Topic: Wireless networking**

**Assignment level Basic:**

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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?**

* Browser refers to the program a website visitor is using to view the web site. Examples include Safari, Firefox, Google Chrome, Opera, and Internet Explorer.

**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, as well as coax, twisted-pair, or fibre optic cable, are options.

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

* 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?**

* 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. The term was first used by IBM to define specifications for its mainframes and originally applied only to hardware.

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

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

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

* In networking, a protocol is a set of rules for formatting and processing data. Network protocols are like a common language for computers. The computers within a network may use vastly different software and hardware; however, the use of protocols enables them to communicate with each other regardless.

**Topic: Virtualization**

.**Assignment level Basic:**

1. **What is Virtualization**

* Virtualization is **a process that allows for more efficient utilization of physical computer hardware** and is the foundation of cloud computing.

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

* Full virtualization enables the Guest operating system to run independently. In contrast, paravirtualization enables the Guest OS to interact with the hypervisor. Full virtualization performance is slow. In contrast, paravirtualization performance is high than full virtualization.

**Assignment level Intermediate:**

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

* 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?**

* VirtualBox. Oracle
* Virtuozzo. Virtuozzo
* QEMU. QEMU
* VMware ESXi. VMware
* vSphere Hypervisor. VMware
* . VMware Workstation Player. VMware
* . Triton SmartOS
* . Red Hat ...

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

* Desktop virtualization lets you run multiple desktop operating systems, each in its own VM on the same computer. There are two types of desktop virtualization: Virtual desktop infrastructure (VDI) runs multiple desktops in VMs on a central server and streams them to users who log in on thin client devices.

**Assignment level advance:**

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

* Virtual infrastructure is a collection of software-defined components that make up an enterprise IT environment. A virtual infrastructure provides the same IT capabilities as physical resources, but with software, so that IT teams can allocate these virtual resources quickly and across multiple systems, based on the varying needs of the enterprise.
* By decoupling physical hardware from an operating system, a virtual infrastructure can help organizations achieve greater IT resource utilization, flexibility, scalability and cost savings. These benefits are especially helpful to small businesses that require reliable infrastructure but can’t afford to invest in costly physical hardware.