TERM-1 CompTIA A+ Assignment

Module 3

[Network Configuration]

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**Local area networking**

What is network?

A network, in the context of technology, typically refers to a collection of interconnected devices or nodes that can communicate with each other. These devices can include computers, servers, routers, switches, printers, and other hardware. The purpose of a network is to enable communication and the sharing of resources, such as files, applications, and internet connections, among the connected devices.

What is intranet and internet?

Intranet: A private network used for information sharing, teamwork, and communication within an enterprise that makes use of internet protocols and technologies. Only authorized people within the organization have access to it.

Internet: A global network that enables information sharing and communication between millions of computers worldwide. It makes a number of globally accessible services, including file transfers, online gaming, web browsing, and email, possible.

How many types of networks we use?

1. Local Area Network

2. Wide Area Network

3. Metropolitan Area Network

4. Personal Area Network

5. Home Area Network

6. Wireless Local Area Network

7. Cellular Network

8. Satellite Network

9. Sensor Network

10. Virtual Private Network

Differentiate between LAN and PAN.

LAN: Local area network (LAN): A LAN is a network that links computers and other devices within a certain geographic region, like a house, workplace, or school campus.   
Usually, it encompasses a tiny area, like a single structure or a collection of adjacent buildings.   
Wi-Fi and Ethernet are two popular technologies found in LANs.   
PAN: A personal area network (PAN) links devices that are in close proximity to a person, usually within a 10-meter radius.   
It connects gadgets including PCs, tablets, cellphones, and wearable technologies for individual usage.   
PANs frequently make use of NFC and Bluetooth wireless technology.

Explain LAN.

Local Area Network is referred to as LAN. It's a network that links computers and other devices in a constrained geographic space, such a house, workplace, or educational institution. Devices connected to a network can communicate and share resources, such as files and printers, through LANs. They are frequently used for local communication and resource sharing in households and companies, and they usually connect equipment using Ethernet cables or Wi-Fi.

What are the different types of LAN devices?

LAN devices include switches, routers, network interface cards (NICs), access points, modems, hubs, and bridges.

Top of Form

**Configured network**

What is configured network?

A network that has been configured in accordance with particular specifications, such as IP addresses, subnet masks, gateways, DNS servers, and other settings required for devices to communicate within the network, is referred to be configured.

How do we configure network?

Setting up different parameters on computers, routers, switches, and access points is known as network configuration. This include assigning IP addresses, subnet masks, gateways, DNS servers, and network services and security configurations. Device interfaces can be used for manual configuration, or protocols like DHCP can be used for automatic configuration.

How to check IP address?

Open the Command Prompt by typing "cmd" in the Windows search bar and pressing Enter.

In the Command Prompt window, type the command "ipconfig" and press Enter.

Look for the "IPv4 Address" under the network adapter you're using. This address is your IP address

How to check the IP address by cmd?

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How can we enter static address in network adapter?

Access the adapter properties, choose IPv4 settings, then manually enter the appropriate IP address, subnet mask, default gateway, and DNS server addresses to configure a network adapter to a static IP address. After making the necessary adjustments, restart the network adapter if needed.

**Wireless networking**

What is the difference between WEP and WPA?

WEP: An outdated and less effective wireless network security standard. use static encryption keys, is easily cracked, and lacks strong key management and authentication.   
WPA: A better security protocol that fixes the flaws in WEP. introduces improved key management, more robust authentication techniques, and dynamic encryption keys. superior compatibility and security when compared to WEP.

What is wireless network?

A computer network that employs wireless data links between network nodes is known as a wireless network. By employing radio frequency signals, it allows devices to connect to the network without the requirement for actual connected connections. Wireless networks are frequently used for data transmission, internet access, and device-to-device communication on things like computers, printers, and cellphones.

What is wireless network connection?

Wireless Network Connection: Wi-Fi technology is usually used to establish a connection between a device and a wireless network.

What are the basic concepts of networking?

Protocols, IP addresses, routers, switches, network topology, DNS, firewalls, LANs and WANs, and wireless networking are among the fundamental ideas of networking.

What do you need to know about networking?

To properly understand networking principles, you must comprehend ideas like protocols, IP addressing, routers, switches, network topology, DNS, firewalls, LANs, WANs, and wireless networking.

What do u know about computer networking?

In order to share resources and data, computer networking entails connecting and interacting between numerous computers and devices. It includes a number of ideas like network topology, DNS, routers, switches, IP addressing, protocols, firewalls, LANs, WANs, and wireless networking.

**The internet**

What do u mean by the term URL?

The web address "URL" (Uniform Resource Locator) is used to find a particular resource on the internet. When you ask for a "URL in short," you may be requesting a shortened URL, which is a condensed URL that points to the same webpage as a longer one. Shortened URLs are frequently created using services like Bitly or Tiny URL.

Term which is use to see web pages is called?

Viewing web sites is frequently referred to as "browsing" or "web browsing." We refer to the act of accessing a website or navigating between pages on the internet as web browsing.

In the Ethernet which topology is used?

The "star" architecture is the most widely used topology in Ethernet networks. Every network device (computers, printers, etc.) in a star topology is directly connected to a hub or switch in the middle. The data is routed between the linked devices by this central hub or switch, which controls network traffic. Benefits of the star topology include its easy scalability, ease of troubleshooting, and capacity to isolate network problems to certain segments.

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

A protocol is a set of guidelines or customs that control the transfer and reception of data between systems or devices. Numerous protocols, including HTTP, DNS, SMTP, POP, IMAP, and FTP, as well as TCP/IP, enable various online activities and forms of communication.

What do u mean by RAS?

The term for Remote Access Service is RAS. This technology allows users to establish remote connections via a telecommunications network to a computer system or network. With RAS, users may access resources like files, printers, and programs just as if they were physically attached to a computer system or network. Remote administration, telecommuting, and user support are prominent uses for this technology.

What are the main search engines to get more website URL on internet?

Google

Bing

Yahoo

DuckDuckGo

Baidu

Yandex

What does the protocol consist of?

The rules and regulations that control how devices on a network communicate with one another are called protocols. They specify data packet formats, error detection and repair techniques, and the start, stop, and manage of communication session protocols

**Virtualization**

What is virtualization?

The process of creating virtualized versions of hardware, operating systems, storage, and networks is known as virtualization. By enabling the operation of numerous virtual instances on a single physical computer, it enhances resource management, flexibility, and utilization.

What is the difference between full virtualization and para virtualization?

full virtualization: No changes are made to the guest OSs throughout their operation.   
The underlying hardware is completely abstracted from and imitated by the virtualization layer (hypervisor).   
offers wide compatibility, however because it is simulating hardware, there may be overhead.   
VMware ESXi, Microsoft Hyper-V, and KVM are a few examples.

para virtualization:  
requires the guest operating system to be modified.   
Visitors engage with the virtualization layer directly and are aware of it.   
may provide improved performance because it does not require the whole overhead of virtualization.   
need specialized operating system and hardware support from the host.   
Xen and Linux Containers are two instances.

What is difference between hypervisor available in Linux?

In short, Linux provides two primary categories of hypervisors: Type 2 comprises programs like VirtualBox and QEMU that operate on top of a host operating system, while Type 1 programs like Xen and KVM operate directly on hardware. Type 2 is typically used for testing or desktop applications, but Type 1 is better suited for server virtualization.

What is Virtualization and its types?

The process of generating virtual versions of hardware, software, storage, or networks is known as virtualization. Its primary varieties are:   
A physical server can be divided into several virtual servers through server virtualization.   
Multiple virtual desktop instances can be created on a single physical machine thanks to desktop virtualization.   
The abstraction of physical storage into a virtual resource pool is known as storage virtualization.   
Virtual networks are created by network virtualization, which is separate from physical infrastructure. In computing settings, each kind improves flexibility, resource management, and usage.

Name the components used in VMware infrastructure what are benefit of virtualization?

ESXi, vCenter Server, vSphere Client, vSphere Web Client, vSphere Distributed Switch, vSphere HA, and vSphere DRS are some of the components that make up a VMware infrastructure. Resource efficiency, flexibility, scalability, enhanced disaster recovery, decreased downtime, centralized management, and improved security are some of the advantages of virtualization in VMware architecture.