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YOUVA

# Module 2

**Que-1** What is the SOHO network?

**Ans:** SOHO or Small office and Home office networks, is a LAN that connects computers in a home office or remote office to a corporate network or access shared resources. It is ideal for small business with a small number of workers, typically ranging from 0 to 10. Soho networks offers features like easy setup and efficient information sharing with multiple users within the organization.

**Que:** What is NAT?

**Ans:** Network Address Translation (NAT) is a service that enables private IP networks to use the internet and cloud. NAT translate private Ip addresses in an ~~ex~~ internal network to a public Ip address before packet are sent to an external network

**Que:** What is PAT?

**Ans:** Port address translation in a network address translation process that maps a network private IPV4 addresses to a single public IP addresses. PAT differs from other NAT methods by using port numbers to map private IP addresses to a public IP address.

Que:

Ans:

Que: Difference between NAT & PAT?

Ans:

| NAT | PAT |
|---|---|
| • NAT stands for Network Address Translation. | • PAT stands for port Address |
| • In NAT, private IP addresses are translated into the public IP address. | • In PAT, private IP addresses are translated into the public IP address via port number. |
| • NAT can be considered PAT's superset. | • PAT is a dynamic NAT. |
| • NAT uses IPv4 address | • PAT also uses IPv4 address but with port number. |
| • It have 3 types: static, Dynamic NAT and PAT/NAT overloading/IP masquerading. | • It also have two types: Static and Overloaded PAT. |

Que: What is ACL?

Ans: An access control list (ACL) is a set of rules that determines who can access a specific system resource. These lists are installed in routers or switches as filters, managing network traffic. Each system resource

has a security attribute identifying its ACL, which includes entries for every user. Common privileges includes readings, writing and execution of files. ACLs are also built into network interfaces and operating systems like linux and windows. They filter traffic based on source and destination.

Que: What are different types of ACL? What is wildcard mask?

Ans: There are two types of ACL:

File system ACLs manage access to files and directories. They give OSes the instruction that establish user access permissions for ~~switches and routers~~, the System and their privileges once the system has been accessed.

Networking ACLs control network access by defining traffic types and user permissions for network switches and routers, with network administrators predefining ~~these~~ these rules, resembling a firewall in function.

Wildcard mask: A wildcard mask is a sequence of numbers that streamlines packet routing inside a proprietary network subnets. It also referred to as an inverse mask.

Que: Explain circuit switching?

Ans: Circuit switching is a network configuration where a physical path is reserved for a single connection between two end points. It is commonly used in voice phone services, where the reserved circuit is used for a call duration, with fixed bandwidth and data transmission rate. It requires a physical connection between hosts for operation.

Que: practice on printer sharing?

Ans: printer sharing on windows:

→ Connect the printer:
- Ensure that the printer is connected to the computer that will act as the print server.

→ Enable printer sharing
- Right click on the printer you want to share and select "printer Properties".
- Navigate to the "sharing" tab.
- Check the box that says "share the printer".
- Assign a share name to the printer.

→ Configure permission
- Click on the "security" tab to set permissions for users who will access the shared printer.
- Add or modify user accounts and set appropriate permission.

→ Access the shared printer
- On the another computer go to "Devices and printers".
- Click on "Add a printer" and select "Add a network, wireless or bluetooth printer".
- Choose the shared printer from the list

Que: Use of IIS?

Ans: IIS is a microsoft web server on the windows operating system, used for exchanging static and dynamic web content with users. It can host, deploy, and manage web application using technologies like ASP.NET and PHP. IIS uses protocol like HTTP, SMTP and FTP for communication and data exchange.

Que: Create an FTP server

Ans: Step-1: Navigate to start > Control panel > Administrative Tools > Internet information services (IIS) Manager.

Step-2: Once the IIS console is open, expand the local server.

Step-3: Right click on sites, and click on Add FTP site.

Step-4: In the Add FTP site window, type the FTP server name and the content directory path, and click Next. The directory path should be the same as they one we permission to allow

anonymous access. Above, we used %.system Drive %.\ftp\ftproot,

Step-5: In the binding and SSL setting window, type the IP address of the server. Check the start FTP site Automatically option. Choose SSL based on constraint. Click Next.

Step-6: Now, select Basic for authentication.

Step-7: Click Finish. Now, the FTP site creation is complete.

Q11: What is the difference between Cloud And virtualization?

Ans: Scope:

→ Virtualization focuses on creating virtual instances of computing resources with a local infrastructure.

- Cloud computing involves delivering a wide range of computing services over the internet, which can include virtualized resources.

Deployment:

→ Virtualization is typically implemented within an organization's data center or on-premises infrastructure.

- Cloud computing services can be deployed locally (private cloud) or accessed over the internet from third party providers (Public cloud).

Service Models:

→ Virtualization primarily deals with creating virtual instances of computing resources.

• Cloud Computing encompasses a broader range of services, including IaaS, PaaS and SaaS.

Que: Why are network monitoring tools used?

Ans: Network monitoring tools are used to ensure optimal network performance by tracking metrics such as bandwidth, latency and security. They aid in early fault detection, troubleshooting, resource utilization optimization, security threat detection, compliance reporting, and overall network health management. These tools enable proactive maintenance, capacity planning and cost-effective network management.

Que: What is ping?

Ans: A ping is an internet program that allows users to verify the existence of a destination IP address and accept requests in computer network administration. It is also used diagnostically to ensure a host computer is operating and can be used on any operating system with networking capability.

Que: What is traceroute?

Ans: Traceroute is a command line utility that returns information about the communication

route between two nodes on an Internet protocol (IP) network. The utility sends out User Datagram protocol (UDP) test packets and tracks their path as they travel from the system where the utility is running - the source - to the destination, which might be a server, router or other device on the network.

Que: What is ns lookup?

Ans: Nslookup is the name of a program that lets users enter a host name and find out the corresponding IP address or domain name system (DNS) record. Users can also enter a command in nslookup to do a reverse DNS lookup and find the host name for a specified IP address.

Que: Explain core switches?

Ans: A core switch is the primary switch in a network, designed for fast data transfer and reliability. It sits at the tops of the network structure, ensuring efficient data circulation across the network.

Key aspects:

- Structure
- Designed for efficiency and capacity
- Stability
- prioritization
- versatility
- Adaptability.

Que: What is network management?

Ans: Network mangement involves configuring, monitoring and managing network performance and is a platform used by IT and NetOps teams. It incorporates advanced analytics, machine learning and intelligent automation for continuous optimization. As Organization adapt to a distributed workforce, these system are increasingly deployed in cloud and hosted environments.

Que: Explain Event viewer?

Ans: Event viewer is a windows tool that enables users to manage and monitors system events, errors, warnings, and informational messages, aiding system administrators, support personnel, and advanced users in diagnosing and resolving issues.

Main components & features of Event viewer

Event logs: Application, security, setup, System.

Views: Custom views, windows logs, Application and services logs

Event types: Information, warning, error, critical, audit success / failure

Filtering and searching

Event details

Actions.

Que: What are the types of network security attacks?

Ans: Types of network security attacks

There are different types of attacks on network security. we will discuss the most common types.:

- Malware
- Virus
- Worm
- Man-in the middle
- Distributed Denial of service
- phishing
- Ip Spoofing
- Botnet
- Trojan horse
- packet sniffer

Que: Practice "parental control" or "family safety" option in the control panel?

Ans: Access family safety settings:

- Open the "control panel" on your windows computer
- Navigate to "user Accounts" and then select "set up family safety for any user".

Create a family Safety Account:

- Sign in with a microsoft account or create a new one
- Follow the prompt to set up a family group and add family members.

Configure family safety settings:

- Once the family is set up, you can configure various settings for each family member, including web filtering, screen time limits, app and game restriction and activity reporting.

Web filtering:

- Choose the appropriate level of web filtering to block inappropriate content.

Screen Time limits:

- Set specific time limits for when each family member can use the computer.

App and game restrictions:

- Control access to specific apps and games based on age appropriateness.

Activity reporting:

- Receive reports on your child's online activity, including websites visited and time spent on the computer.

Que: Difference between a POTS line and a leased line?

Ans: Purpose and usage:

→ POTS line (Plain Old Telephone service): POTS lines are traditional analog telephone lines used primarily for voice communication. They are commonly used for residential phone service and small businesses.

- leased line are dedicated, exclusive connections used for data-intensive application like office connections, business internet access and large scale data transfer.

Technology:

→ POTS line use analog technology to transmit voice signals.

- Leased lines can use various technologies including T1/E1 lines, fiber-optic, cable or other dedicated digital lines

Availability:

→ POTS line are widely available and are commonly used for basic telephone service in residential areas and small businesses.

- Leased lines may not be as widely available as pots line.

Cost:

→ pots line are generally more affordable and are suitable for basic voice communication tools.

- Leased line tend to be more expensive due to dedicated and higher bandwidth nature of the service.

Qu: What is the difference between leased line and broadband?

Ans:

| Broadband | Leased line |
| --- | --- |
| • Performance lower than leased line | • High performance |

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| Broadband | Leased line |
| --- | --- |
| • Shared connection between customer premises and provider local exchange. | • Dedicated connection between customer premises and provider local exchange. |
| • Asymmetric speed | • Symmetric speed |
| • Bandwidth is shared across multiple customer | • Bandwidth is dedicated to a customer. |
| • Low reliability | • High reliability |
| • Limited or ~~no~~ QoS | • Better QoS than broadband |
| • Less preferred for voice and video traffic. | • Leased line is preferred choice for voice and video application. |
| • Cheaper than leased line | • Costlier than broadband Connection. |
| • Generally public IP is not provided for using customer own web facing application like web servers. | • Public IP are generally provided for using customer own web facing application like web server etc. |
| • A broadband connection is shared across multiple customers. | • A leased line is dedicated to customer. |