PowerShell

Windows PowerShell is Microsoft's task automation framework, consisting of a command-line shell and associated scripting language built on top of .NET Framework. PowerShell provides full access to COM and WMI, enabling administrators to perform administrative tasks on both local and remote Windows systems.
PowerShell is a Command line interpreter and a scripting environment
Cmdlets are specialized commands in the PowerShell environment that implement specific functions.

LAYER 2 SWITCH LAYER 3 SWICTH

- Operate on layer 2 (Data link) of OSI model.Operate on layer 3 (Network Layer) of OSI model.
- Send packet to detination on the basis of MAC address. Route Packet with help of IP address
- Work with MAC address only Can perform functioning of both 2 layer and 3 layer switch
- Used to reduce traffic on local network. Mostly Used to implement VLAN (Virtual Local area network)
- Quite fast as they do not look at the - Layer 3 portion of the data packets. Takes time to examine data packets before sending them to their destination
- It has single broadcast domain. It has multiple broadcast domain.
- Can communicate within a network only. Can communicate within or outside network.

Active Directory (AD) is a Microsoft product that consists of several services that run on Windows Server to manage permissions and access to networked resources. The main service in Active Directory is Domain Services (AD DS), which stores directory information and handles the interaction of the user with the domain.

LDAP is an application protocol used to access and maintain directory services over a network. LDAP stores objects -- such as usernames and passwords -- in directory services -- such as Active Directory -- and shares that object data across the network.

SQL TOOL: Toad and Sql server management studio and SQLite Database Browser:
Create and delete indexes
Browse, edit, add and delete records
Import and export records as text
Import and export tables from CSV files
It Import and export databases from SQL dump files
Examine a log of all SQL commands issued by the application

Cluster Server:

Server clustering refers to a group of **servers** working together on one system to provide users with higher availability. These **clusters** are used to reduce downtime and outages by allowing another **server** to take over in the event of an outage. Here's how it **works**. A group of **servers** are connected on a single system. A group of servers are connected on a single system. The moment one of these servers experiences a service outage, the workload is redistributed to another server before any downtime is experienced by the client. Clustered servers are generally used for applications with frequently updated data with file, print, database and messaging servers ranking as the most commonly used clusters. Overall, clustering servers offers clients a higher level of availability, reliability and scalability than any one server could possibly offer.

.Net Framework: A *framework* (in programming terms) is really a collection of Application Programming Interfaces (APIs) and a shared library of code that developers can call when

developing applications, so that they don't have to write the code from scratch. In the .NET Framework, that library of shared code is named the Framework Class Library (FCL). The bits of code in the shared library can perform all kinds of different functions.

SAN and NAS

A storage area network is a type of local area network (LAN) designed to handle large data transfers and bulk storage of digital information. A SAN typically supports data storage, retrieval and replication on business networks using high-end servers, multiple disk arrays and interconnect technology.

A NAS is a single storage device that operates on data files, while a SAN is a local network of multiple devices.