Module -3

1-Different type of cloud storage

- Object Storage: Stores data as objects (files with metadata), ideal for unstructured data. Ex. Amazon S3, Google Cloud Storage, and Azure Blob Storage.
- Block Storage: Provides raw storage volumes similar to physical hard drives, often used for databases and high-performance applications. Ex. Amazon EBS, Azure Managed Disks, and Google Persistent Disks.
- File Storage: A cloud storage solution that mimics traditional file systems (shared network drives), commonly used for collaborative applications. Ex. Amazon EFS, Azure Files, and Google Cloud Filestore.
- Cold Storage: Used for data that is rarely accessed but needs to be stored for long periods. Examples Amazon Glacier and Google Coldline.
- Backup and Archival Storage: Aimed at securely storing backup copies of critical data. Ex. AWS Backup, Google Cloud Backup, and Azure Backup.

2-What is role base access control and identity and access management and MFA

- Role-Based Access Control (RBAC): A security approach where users are assigned roles that define what actions they can perform and what resources they can access. Roles are based on job responsibilities and can be predefined or custom.
- Identity and Access Management (IAM): IAM refers to a system that manages digital identities and controls user access to resources in a network. It ensures that only authorized users can access specific resources at appropriate times. IAM integrates user authentication, authorization, and auditing.
- Multi-Factor Authentication (MFA): MFA is an extra layer of security that requires users to provide two or more verification factors to gain access to a system. These factors include something the user knows (password), something the user has (security token or mobile device), or something the user is (biometric data like a fingerprint).

3-What is physical and virtual host allocation?

- Physical Host Allocation: Refers to the distribution of physical hardware resources (servers, storage devices) in a data center or cloud environment. Physical hosts are allocated based on demand and hardware availability.

- Virtual Host Allocation: In a cloud environment, physical hosts are used to create virtual machines (VMs), and virtual host allocation refers to assigning resources (CPU, memory, storage) to these virtualized instances. This allocation is dynamic and managed by hypervisors and cloud platforms like VMware, AWS, and Azure.

4-How to access resource of cloud computing?

- Web-based Consoles/Portals: Cloud providers like AWS, Google Cloud, and Microsoft Azure provide web interfaces where users can manage and access cloud resources.
- API Access: Many cloud resources are accessible via APIs (Application Programming Interfaces), allowing users to programmatically interact with cloud services using code.
- Command Line Interfaces (CLI): Cloud platforms also provide CLI tools that allow users to manage resources from their local machine using commands.
- SDKs: Software Development Kits (SDKs) for different programming languages (Python, Java, etc.) provide libraries for easy integration with cloud services.
- Direct Connection: For private resources, cloud services may allow direct network connections (e.g., VPNs or dedicated links) to securely access cloud resources.

5-Type of backup in cloud?

- Full Backup: A complete backup of all files and data, which can be time-consuming and storage-intensive.
- Incremental Backup: Only the data that has changed since the last backup is backed up, saving time and storage space.
- Differential Backup: Backs up all the data that has changed since the last full backup, balancing between full and incremental backups.
- Continuous Data Protection (CDP): A backup strategy that continuously saves data as changes occur, ensuring near-instantaneous backup of critical data.

6-What is disaster recovery?

- Disaster recovery (DR) refers to strategies and processes for quickly recovering data, applications, and IT infrastructure after a catastrophic event such as hardware failure, cyberattack, or natural disaster.