Cloud computing

Module -1

1. What is Cloud Computing?

Cloud computing is a model of delivering computing services over the internet, where resources are provided as a service to users on-demand. users can access these resources on a pay-as-you-go basis.

2. Cloud Computing Deployment Models

There are three main cloud computing deployment models:

* Public Cloud: A third-party provider delivers cloud services over the internet, making resources available to anyone.
* Private Cloud: A single organization owns and manages a cloud environment, typically hosted on-premises or in a data center.
* Hybrid Cloud: A combination of public and private cloud services, allowing for data and applications to be shared between them.

3. Components of Cloud Computing

The main components of cloud computing are:

* Infrastructure as a Service (IaaS): Provides virtualized computing resources, such as servers, storage, and networking.
* Platform as a Service (PaaS): Offers a complete platform for developing, running, and managing applications, including tools, libraries, and infrastructure.
* Software as a Service (SaaS): Delivers software applications over the internet, eliminating the need for local installation and maintenance.

4. Advantages and Disadvantages of Cloud Computing

Advantages:

* Scalability: Scale resources up or down as needed
* Cost-effectiveness: Pay only for what you use
* Reliability: Built-in redundancy and disaster recovery
* Flexibility: Access resources from anywhere, on any device
* Maintenance: Reduced maintenance and support needs

Disadvantages:

* Security: Data stored outside organizational control
* Dependence on internet connectivity: Requires stable internet connection
* Vendor lock-in: Difficulty switching providers
* Limited control: Less control over infrastructure and resources