Cloud Fundamentals Notes

1. What is Cloud Computing?

- Delivery of **computing services** (servers, storage, databases, networking, software) over the Internet ("the cloud").

- Eliminates need for on-premises infrastructure.

2. Key Characteristics

- **On-demand self-service**

- **Broad network access**

- **Resource pooling** (shared resources)

- **Rapid elasticity** (scale up/down easily)

- **Measured service** (pay-as-you-go)

3. Cloud Service Models

Model Description

IaaS   Infrastructure as a Service (VMs, storage, networks)

PaaS   Platform as a Service (runtime environment, development tools)

SaaS   Software as a Service (ready-to-use applications)

4. Deployment Models

- **Public Cloud** – Owned by providers (AWS, Azure, GCP)

- **Private Cloud** – Dedicated for one organization

- **Hybrid Cloud** – Combination of public & private

- **Multi-Cloud** – Using multiple providers

5. Advantages

- Cost-efficient

- Scalability & flexibility

- High availability & disaster recovery

- Easy collaboration

6. Examples of Cloud Providers

- **AWS**, **Microsoft Azure**, **Google Cloud Platform**, **IBM Cloud**