Cloud Computing

Month 1: Cloud Fundamentals and Introduction to Cloud Service Models

Week 1: Introduction to Cloud Computing

- Definition and characteristics of cloud computing
- Evolution and significance of cloud computing
- Cloud deployment models: public, private, hybrid

Week 2-3: Cloud Service Models

- Infrastructure as a Service (IaaS)
- Platform as a Service (PaaS)
- Software as a Service (SaaS)
- Function as a Service (FaaS) / Serverless

Week 4-5: Major Cloud Service Providers

- Overview of major cloud providers (AWS, Azure, Google Cloud)
- Comparative analysis of services offered by each provider
- Selecting the right cloud provider for specific use cases

Week 6: Cloud Security Fundamentals

- Basics of cloud security
- Identity and Access Management (IAM)
- Encryption and compliance

Month 2: Key Cloud Services and Advanced Topics

Week 1-2: Compute Services

- Virtual machines and containers
- Serverless computing
- Auto-scaling and load balancing

Week 3-4: Storage Services

- Object storage (e.g., Amazon S3, Azure Blob Storage)
- Block storage and file storage
- Database services (e.g., Amazon RDS, Azure SQL Database)

Week 5-6: Networking Services and Advanced Cloud Concepts

- Virtual Private Cloud (VPC)

- Content Delivery Network (CDN)
- Advanced cloud concepts: Hybrid cloud, multi-cloud, and edge computing