

## 1. Cloud Computing Course Design

**Course Duration:** 6-8 weeks

**Target Audience:** Beginners to intermediate learners

### Module 1: Introduction to Cloud Computing

- What is Cloud Computing?
- Types of Cloud: Public, Private, Hybrid
- Cloud Service Models: IaaS, PaaS, SaaS
- Benefits of Cloud Computing

### Module 2: Cloud Platforms Overview

- AWS Overview (EC2, S3, Lambda, RDS)
- Microsoft Azure Overview
- Google Cloud Platform Overview
- Choosing the Right Cloud Platform

### Module 3: Cloud Architecture and Design

- Cloud Computing Architecture
- Building Scalable Cloud Applications
- Load Balancing and Auto-scaling
- Virtualization and Containers (Docker)

### Module 4: Cloud Security and Compliance

- Securing Cloud Infrastructure
- Identity and Access Management (IAM)
- Data Encryption and Key Management
- Cloud Compliance Standards (GDPR, HIPAA, etc.)

### Module 5: Cloud DevOps

- Introduction to DevOps on Cloud
- CI/CD Pipeline in Cloud
- Monitoring and Logging in the Cloud
- Cloud Automation Tools (Terraform, Ansible)

### Module 6: Real-World Cloud Project

- Setting up a Cloud Infrastructure
- Deploying a Web App on the Cloud
- Monitoring and Scaling the Cloud Environment