CLOUD COMPUTING PROGRAMME



3 Hours per Day | **Total Duration: 30 Hours (10 Days)**

DAY 1 — Introduction to Cloud Computing

- Cloud Computing: Meaning, Evolution & Need
- Characteristics, Benefits & Limitations
- Traditional IT vs Cloud Computing
- Cloud Architecture & Components
- Cloud Environments & Major Providers
- Cloud Console & Real-World Applications
- **Practical:** Exploring Basic Cloud Services

DAY 2 — Cloud Service & Deployment Models

- IaaS, PaaS & SaaS
- Comparison of Cloud Service Models
- Public, Private, Hybrid & Community Cloud
- Multi-Cloud Environment
- Cloud Deployment Strategies
- Selecting the Right Cloud Model
- **Practical:** Cloud Model Selection for Organizations

DAY 3 — Virtualization, Compute & Containers

- Virtualization & Hypervisors
- Virtual Machines, CPU, Memory & Storage
- Cloud Compute Services
- VM Creation, Images & Snapshots
- Scaling & Elasticity
- Containers & Docker Fundamentals
- **Practical:** Creating a VM / Basic Container

DAY 4 — Cloud Storage & Database Services

- Cloud Storage Concepts & Requirements
- Object, Block & File Storage
- Storage Classes & Data Management
- Data Upload, Download & Backup
- Cloud Databases: SQL & NoSQL
- Replication, Availability & Scalability
- **Practical:** Creating Cloud Storage & Managing Data

DAY 5 — Cloud Networking

- Cloud Networking Fundamentals
- Virtual Networks / VPC
- IP Addressing & Subnets
- Routing & Internet Gateways
- Firewalls & Security Groups
- DNS, Load Balancing & CDN
- Network Monitoring
- **Practical:** Creating a Basic Virtual Network

DAY 6 — Cloud Security & Identity Management

- Cloud Security Fundamentals
- Shared Responsibility Model
- IAM: Users, Groups & Roles
- Authentication & Authorization
- MFA & Access Policies
- Least Privilege Principle
- Encryption, Key Management & Security Monitoring
- **Practical:** Configuring Users, Roles & Permissions

DAY 7 — AWS / AZURE / Google Cloud Fundamentals

- Overview of Leading Cloud Platforms
- AWS, Microsoft Azure & Google Cloud
- Cloud Management Consoles
- Compute, Storage & Database Services
- Networking, IAM & Security Services
- Regions & Availability Zones
- Cloud Resource Management
- **Practical:** Exploring Cloud Services

DAY 8 — Cloud Deployment, Devops & Automation

- Cloud Application Deployment
- Cloud Application Architecture
- DevOps & Cloud Computing
- CI, CD & CI/CD Pipelines
- Infrastructure as Code (IaC)
- Configuration Management
- Docker & Kubernetes Fundamentals
- **Practical:** Basic Application Deployment / CI-CD Workflow

DAY 9 — Serverless, Cloud-native & Scalability

- Cloud-Native Applications
- Microservices Architecture
- Serverless Computing & FaaS
- APIs & API Management
- Event-Driven Architecture
- Auto Scaling & High Availability
- Fault Tolerance & Disaster Recovery
- Monitoring & Logging
- Practical: Simple Serverless Function/Application

DAY 10 — Cloud Management, Cost Optimization & Final Project

- Cloud Resource & Performance Management
- Cloud Monitoring & Cost Management
- Cloud Pricing Models
- Cost Optimization Strategies
- Backup & Disaster Recovery
- Cloud Migration Strategies
- Cloud Governance & Compliance
- Best Practices & Course Review