

## **AWS Cloud Administration (3 Months)**

**Duration:** 3 Months (~120 Hours)

**Mode:** Live Online / Classroom

**Tools & Technologies:** IAM, VPC, EC2, S3, EBS, CloudFront, Route 53, CloudWatch, CloudTrail, RDS

**Certifications Prepared:** AWS Certified Cloud Practitioner, AWS Certified SysOps Administrator – Associate

## **Syllabus**

### **Week 1: Cloud & AWS Fundamentals**

- Cloud Concepts: IaaS, PaaS, SaaS
- AWS Global Infrastructure (Regions, AZs, Edge Locations)
- AWS Free Tier, Pricing Models
- AWS CLI & SDK Setup
- Hands-on: Launch EC2 with CLI
- Assignment

### **Week 2: Identity & Access Management (IAM)**

- IAM Users, Groups, Policies, Roles
- MFA, Access Keys, Federation
- Service-linked roles
- Security Best Practices (least privilege)
- Hands-on: Secure IAM setup with MFA + S3 access policy
- Assignment

### **Week 3: Virtual Private Cloud (VPC)**

- VPC, CIDR, Subnets (Public & Private)
- Route Tables, Internet & NAT Gateways
- Security Groups vs NACLs
- VPN, Direct Connect overview
- Hands-on: Multi-tier VPC setup
- Assignment

### **Week 4: Compute with EC2**

- Instance Families (General, Compute, Memory optimized)
- AMIs, Snapshots, Elastic IPs

- Auto Scaling Groups, Elastic Load Balancers (ALB/NLB)
- EBS vs EFS
- Hands-on: Web App with Auto Scaling + ELB
- Assignment
- Mock Interview 1

### **Week 5: Storage Services**

- Amazon S3: Buckets, Objects, ACLs, Policies
- S3 Storage Classes & Lifecycle Rules
- Glacier & Archive Storage
- Cross-Region Replication
- Hands-on: Host static website on S3 + CloudFront CDN
- Assignment

### **Week 6: Monitoring & Logging**

- CloudWatch Metrics, Dashboards, Alarms
- CloudTrail Logs & Events
- AWS Config for Compliance
- Trusted Advisor Recommendations
- Hands-on: EC2 Monitoring Dashboard in CloudWatch
- Assignment

### **Week 7: Databases**

- Amazon RDS (MySQL, PostgreSQL)
- Multi-AZ Failover, Read Replicas
- DynamoDB Basics (NoSQL)
- Backup, Restore & Security
- Hands-on: Deploy RDS DB & connect with EC2 app
- Assignment

### **Week 8: Capstone Project & Interview**

- Project: Multi-tier Application (VPC + EC2 + S3 + RDS + CloudWatch)
- Resume Prep for AWS Admin Role
- Assignment
- Mock Interview 2

### **Learning Outcomes**

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- Manage AWS Identity and Access Management (IAM), VPC, EC2, S3, RDS
  - Implement monitoring and auditing with CloudWatch and CloudTrail
  - Deploy highly available compute and storage solutions
  - Secure workloads with IAM, Security Groups, and Key Management
  - Prepare for AWS Certified Cloud Practitioner and AWS Certified SysOps Administrator – Associate