

# AMAZON WEB SERVICES (AWS)

## COURSE CONTENTS

### **Section-1: Overview of Software Development Lifecycle**

- Waterfall model
- Agile model
- Devops Methodology
- Role / Importance of cloud technologies in SDLC

### **Section-2: Introduction to AWS**

- Overview of major cloud technologies
- What is AWS?
- Why is AWS?
- Certifications in AWS
- Job opportunities in AWS

### **Section-3: Getting started with AWS**

- Creating a AWS free tier account
- Tours of AWS management console
- AWS terminology
- Various services in AWS
- What is a region?
- What is an availability zone (AZ)?

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### **Section-4: Elastic Cloud Compute (EC2)**

- EC2 fundamentals
- Creating 1<sup>st</sup> EC2 instance
- What is an AMI?
- What is an instance type?
- Firewall in AWS: Security Groups
- Common errors and their troubleshoots

### **Section-5: Website hosting using Apache webserver**

- Basic Linux commands: Hands-on
- Setting up Apache web server
- Web application deployment
- Assignment: Web application deployment on Nginx

### **Section-6: Route 53**

- What is DNS?
- Overview of R53
- Domain name registration
- Creating record sets
- L1 integration between EC2 and R53

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### **Section-7: High availability: Load Balancers**

- What is high availability?
- Need for load balancers
- Types of load balancers
- Application load balancer – Hands On

### **Section-8: Amazon Certificate Manager (ACM)**

- Types of SSL certificates
- SSL certificate creation using ACM service
- Secure website hosting

### **Section-9: Identity & Access management (IAM)**

- IAM introduction
- Creating users, groups and permissions
- Password policy configuration
- MFA (Multi Factor Authentication)
- IAM roles for AWS services

### **Section-10: Amazon Machine Image (AMI)**

- Creating an AMI
- AMI migration

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### **Section-11: Networking – VPC**

- Concept of networking
- VPC design
- Public Vs Private IP
- VPC implementation in AWS
- Route tables, IGW and NAT gateway
- NACL (Network Access Control Lists)
- VPC peering

### **Section-12: Scalability using Auto Scaling Groups (ASG)**

- What is Scalability?
- Overview of ASG
- ASG – Scaling Policies
- Auto Scaling Groups – Hands-On
- Creating secure ELB using SSL

### **Section-13: AWS S3**

- Introduction to S3
- Versioning in S3
- S3 object and bucket policies

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### **Section-14: Static website hosting**

- Dynamic Vs Static website hosting
- Creating a static website using S3
- Troubleshooting common errors in real time

### **Section-15: AWS CLI**

- AWS CLI setup on windows / Linux / Mac OS
- AWS CLI hands-on

### **Section-16:Elastic Block Store (EBS)**

- EBS volumes Hands-on
- EBS snapshot

### **Section-17: Disaster management / AWS backup**

- Need for disaster management / backup
- DM of EC2 instances and volumes
- S3 cross region replication

### **Section-18: User activity monitoring and Auditing**

- Introduction to CloudTrail
- CloudTrail Hands-on

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### **Section-19: AWS monitoring**

- Introduction to CloudWatch
- CloudWatch metrics
- CloudWatch dashboards
- CloudWatch alarms

----- WISH YOU ALL THE VERY BEST -----