

AWS - Amazon Web Services – Architect & Developer

Duration: 8-9 Weeks

Prerequisites

- Basic Knowledge of Operation & Infrastructure

Basics for AWS

1. Linux Basics

- Intro to Linux
- Basic Commands
- Network Configuration
- Software Management
- User and Group management.
- Firewall.

2. Storage Basics

- Filesystem usage.
- Mount Options.
- Checking free space.
- Giving permissions.

AWS Course Curriculum

1. Introduction to Cloud & AWS

- Define cloud computing.
- Cloud computing Infrastructure.
- The requirements that need to be fulfilled to qualify as a cloud service.
- Cloud service and deployment models.
- Common misconceptions about cloud computing.
- Common cloud Implementations.
- Architecture discussion
- Lab preparation
- Overview of major AWS services
- Get to know different AWS services and their Usage
- Benefits of studying AWS

2. Amazon Elastic Compute Cloud (EC2)

- Defining EC2 Instances
- Different type of Images (AMI)
- Create Linux EC2 instances
- Create Windows EC2 instance
- Connecting to EC2 instances
- Lab AMI creation
- Volumes (EBS)
- Lab volume creation
- Setting up a volume once attached to Ec2
- Hands on snapshot creation
- Lab security Groups
- Key Pairs
- Elastic Load Balancing
- Hands on Elastic load balancing
- Launch configuration
- Auto scaling concepts
- Lab Auto scaling
- Lab ELB
- Lab creation of billing alerts
- Lab Cloud Watch
- Hands on setting up for NodeJs development

3. Identity And Access Management Techniques (IAM)

- Understand Users, Groups and Roles
- Policies and Policy documents
- Lab creating roles,user and groups
- Access control
- Policy management
- Hands on assigning policies to users, groups and roles
- Restricting different services for users.

4. S3

- S3 buckets and its usage
- Lab creating a S3 Bucket
- Lab upload and retrieve data from S3 bucket.
- Giving privileges on to S3 bucket.
- Hands on S3 policies and ACLs
- Lab Life Cycle Management
- Lab object expiration in S3
- Lab S3 Versioning
- S3-RRS, S3-IA and Glacier
- CORS
- Lab hosting a website on S3

5. SNS, SWF and SQS

- Working with simple notification system.
- Understanding queuing service.
- SNS and SQS real-time use case
- Introduction to SWF and use case
- Lab on SNS
- Programming Amazon SQS and SNS using the AWS NodeJS SDK

6. Networking: Setting up VPC and NAT

- Custom VPC and default VPC concepts
 - CIDR notation
 - Subnets and routing concepts
 - Different methods to connect to custom VPC
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- Lab to create Subnets, ACLs, Routing rules.
- Lab to create security groups at instance.
- Lab creating a notification subscription.
- Lab creating a VPC.
- Lab setting up public and private subnets
- Lab setting up Internet/Nat gateway
- Securing your network.
- Network ACLs

7. AWS Databases RDS and Dynamodb

- AWS Database services overview – RDS, DynamoDB, ElastiCache, Redshift
- Lab creating RDS instances
- Read Replicas
- RDS scaling concepts
- RDS postgres sql server
- RDS Oracle Server
- Lab Migrating from Oracle to Aurora using Database migration Service
- Lab configuring Multi-AZ failover
- Lab accessing a database hosted on RDS

9. Project: Work

- Hands-on workshop/Project: Deploying a web-application using AWS services
- Deploy a PHP application to access/create/upload files on S3 through EC2
- Deploy PHP application to create tables, insert values in DynamoDb through EC2
- Lab on Kinesis, through cloud formation
- Programming Amazon SQS and SNS using the AWS NodeJS SDK
- Lambda with NodeJS
- Lab setting up Dynamodb with Nodejs
- ElastiCache with Nodejs

10. Big Data Solutions

- Data warehousing in AWS
- Big data solutions in AWS

11. Important

- Designing Fault tolerant and Highly Available architecture
- Data Security
- Backup and Disaster Recovery
- Deployment on AWS
- Cost Optimization in AWS

12. Bonus Brief Introduction to Docker

- What are containers and images
- Introduction to Dockers
- Architecture of Docker
- Lab working with Dockers

- DynamoDb Core knowledge
- Scaling with Dynamodb
- DynamoDb write and read unit calculation
- DynamoDb with NodeJS
- ElastiCache concepts

8. Application Services

- R53 and DNS
- Domain registration
- R53 routing policies
- Lab on routing policy setup
- Routing policies in detail
- AWS CloudFront
- AWS Cloud Formation
- Deployment Using Cloud Formation
- OPS works
- Lab OPS works
- Cloud Trail
- Direct Connect

Preparation for AWS Associate Certifications

- **Doubts clarification session**
 - **500+ practice questions, based on exam format**
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