Amazon Web Services (AWS) Training Course Content

SECTION 1: CLOUD COMPUTING INTRODUCTION

- ➤ History of Cloud Computing
- ➤ Concept of Client Server Computing
- ➤ Distributed Computing and it's Challenges
- ➤ What is Cloud Computing
- ➤ Why Cloud Computing?
- ➤ Advantages of Cloud Computing

SECTION 2: CLOUD COMPUTING DEPLOYMENT MODELS

- ➤ What is Private Cloud
- ➤ What is Public Cloud
- ➤ What is Hybrid Cloud

SECTION 3: CLOUD DELIVERY/SERVICE MODELS

- ➤ What is Software as a Service (SaaS)
- ➤ What is Platform as a Service(PaaS)
- ➤ What is Infrastructure as a Service (IaaS)

SECTION 4: BASICS OF LINUX

- ➤ Basic Linux Commands
- ➤ Basic Linux Administration

SECTION 5: INTRODUCTION TO AWS SERVICES

- ➤ Amazon Elastic Compute Cloud(EC2)
- ➤ Amazon Simple Storage Service (S3)
- ➤ Elastic Block Storage (EBS)
- ➤ Elastic Load Balancing (ELB)
- ➤ Amazon Relational Database Service (RDS) Amazon DynamoDB
- ➤ Auto Scaling

- ➢ Amazon ElastiCache
- ➢ Identity and Access Management (IAM)
- ➢ Virtual Private Cloud (VPC)
- ➢ loud Formation
- ➢ Simple Email Services (SES)
- ➢ Simple Queue Services (SQS)
- ➢ Simple Notification Services (SNS)
- ➢ Server less computing (Lambda)
- ➢ Import/Export (Snowball)
- ➢ Code Commit
- ➢ Cloud Trail
- ➢ Elastic Beanstack
- ➢ Cloud Front
- ➢ Route-53
- ➢ Glacier
- ➢ Key Management Service (KMS)

SECTION 6: INTRODUCTION TO AWS

- ➢ RSubscription – AWS
- ➢ AWS Management Console

SECTION 7: NEED OF ELASTIC COMPUTE CLOUD (EC2)

- ➢ Regions and Availability Zones
- ➢ Amazon Machine Images (AMI)
- ➢ Working with AMIs
- ➢ Choosing the AMI
- ➢ Deciding / Finding an AMI
- ➢ EC2 instances – Pricing model
- ➢ On-demand, Reserved, Scheduled, Spot instances, Dedicated Hosts
- ➢ Elastic Cloud Computing Reserved Instance Marketplace
- ➢ Importing and Exporting EC2 Instances

SECTION 8: ELASTIC CLOUD COMPUTING INSTANCES

- ➢ Building an Elastic Cloud Computing Windows instance & Linux Instance
- ➢ Bootstrapping with user-data
- ➢ Security Set up
- ➢ Security with Key Pairs
- ➢ Working with Security Group

- ➢ Different IPs assigned to an Elastic Cloud Computing instance
- ➢ Assigning Elastic IPs
- ➢ Login/Access to EC2 instance
- ➢ Creating your own custom AMI, Registering & Granting access to AMI
- ➢ Placement groups
- ➢ EC2 instance protection
- ➢ Instance Roles
- ➢ Elastic Network Interfaces(ENIs)
- ➢ Resources and Tags
- ➢ Accessing Meta-Data & use cases.

SECTION 9: ELASTIC BLOCK STORE (EBS)

- ➢ What is Elastic Block Store (EBS)
- ➢ EBS Volume Types
- ➢ What is EBS Encryption
- ➢ EBS Performance
- ➢ Instance Store volumes
- ➢ Instance Stores Available on Instance Types
- ➢ Instance Store Usage Scenarios
- ➢ Adding Instance Store Volumes to an AMI
- ➢ How to Optimize the Disk Performance
- ➢ How to Create and delete volumes
- ➢ How to Attach and detach volumes
- ➢ How to Mount and Unmount the attached volume
- ➢ How to Increase the volume size
- ➢ How to Create snapshots
- ➢ How to Create Volumes & AMIs from Snapshots.
- ➢ Cross-Region snapshot copy & use cases.

SECTION 10: ELASTIC LOAD BALANCER (ELB)

- ➢ What is ELB
- ➢ How ELB Works
- ➢ Types of ELB
- ➢ How to Create load balancer
- ➢ What is Internal & External Load balancers
- ➢ Load balancing protocols
- ➢ What is Listener Configurations
- ➢ What is SSL Negotiation Configurations

- ➢ How to Attach & Detach Subnets
- ➢ How to create Security groups for the load balancer
- ➢ How to Configure health check for the load balancer
- ➢ How to Add multiple instances to the load balancer
- ➢ What is Custom Domain Names
- ➢ What is Cross-Zone Load Balancing
- ➢ What is DNS Failover
- ➢ Sticky Sessions
- ➢ How to perform Monitoring and Logging
- ➢ What is Connection Draining
- ➢ ELB traffic logging

SECTION 11: AUTO SCALING

- ➢ Introduction to auto scaling
- ➢ Auto scaling components
- ➢ Advantages of auto scaling
- ➢ Launch configuration Prerequisites
- ➢ How to Create launch configuration.
- ➢ How to Create Auto Scaling Groups (ASG)
- ➢ How to Attach & Detach EC2 Instances in ASG
- ➢ How to configure auto scaling policies based on the Load on EC2 instances.
- ➢ How to Use Auto scaling with Elastic Load balancer (ELB).
- ➢ Removing the Instances Temporarily
- ➢ Suspend and Resume Process
- ➢ Shut Down – Auto Scaling Process
- ➢ Monitoring – Auto Scaling Instances
- ➢ Health Checks
- ➢ Getting Notifications When ASG Changes

SECTION 12: SIMPLE STORAGE SERVICE (S3)

- ➢ How to Create and delete buckets
- ➢ How to Add objects to buckets
- ➢ Getting the objects
- ➢ Deleting the objects
- ➢ What is Notifications
- ➢ S3 storage and it's usage
- ➢ How to Work with Permissions of S3, Access Control, Bucket policy
- ➢ Types of S3 Data encryption

- S3 Objects Enable Versioning and Logging
- S3 Lifecycle rules
- Accessing the Simple Storage Services with Tools
- How to Host a Static Website
- Cross-Origin – Resource Sharing
- Cross-region – replication
- AWS CloudTrail – Audit Logging

SECTION 13: GLACIER STORAGE

- How to Create Vaults
- Working with Archives
- How to Access the Glacier vault using tools
- Backups using Glacier
- What is Job Operations
- What is Data Retrieval Policy Operations

SECTION 14: IDENTITY AND ACCESS MANAGEMENT (IAM)

- How to Create user accounts
- How to Set up multi factor Authentication (MFA)
- IAM Roles
- IAM Groups
- How to Delegation of User Permissions
- How to Create of custom policies for delegation
- How to Use Identity Providers
- Accessing Cross-Account
- Account settings
- What is Credential Report
- Encryption – Key Management Service (KMS)

SECTION 15: VIRTUAL PRIVATE CLOUD (VPC)

- Setting up the different types of networks in AWS
- How to Create custom VPC
- What is NACLs & Security Groups
- How to Create Internet Gateway(IGW)
- How to Connect to instances in the gateway
- What is Subnets, Route Tables & Association
- NAT Instances & NAT-Gateways
- DHCP Options Sets & DNS

- ➢ VPC Peering
- ➢ Overview of VPN and its components

SECTION 16: ROUTE 53

- ➢ How to Configure Amazon Route 53 as Your DNS Service
- ➢ How to Register a Domain Name and Configure Amazon Route 53 as the DNS Service
- ➢ DNS Service Migration for an Existing Domain to Amazon Route 53
- ➢ How to Create a Sub domain that Uses Amazon Route 53 without Migrating the Parent Domain
- ➢ How to Work with Public Hosted Zones
- ➢ How to Work with Private Hosted Zones
- ➢ How to Work with Resource Record Sets
- ➢ Health Checks and DNS Failover
- ➢ Health Checks – Creation, Updation, and Deletion
- ➢ How to Transfer a Domain from a Different AWS Account or Registrar
- ➢ How to Use IAM to Control Access to Amazon Route 53 Resources

SECTION 17: CLOUD WATCH

- ➢ Debugging cloud issues
- ➢ AWS Service Health Dashboard Monitoring
- ➢ Cloud watch Monitoring
- ➢ How to Get statistics for a specific EC2 instance
- ➢ How to Get aggregated statistics
- ➢ Metrics for other AWS Services and related namespaces
- ➢ How to Set up notifications

SECTION 18: SIMPLE NOTIFICATION SERVICES (SNS)

- ➢ How to Create a topic
- ➢ How to Subscribe to topic via Email
- ➢ How to Set notification for EC2 instance changes

SECTION 19: SIMPLE QUEUE SERVICE (SQS)

- ➢ How to Create a queue
- ➢ How to Send messages to the queue
- ➢ Sending Simple Notification Services to Simple Queue Services
- ➢ Retrieving messages from Simple Queue Services

SECTION 20: SIMPLE EMAIL SERVICES (SES)

- ➢ How to Set up email domain
- ➢ Limits of Simple Email Services
- ➢ Test Email setup

SECTION 21: ELASTIC BEANSTALK

- ➢ How to Create Web-App using Elastic Beanstalk
- ➢ How to Build a sample application using Beanstalk
- ➢ How to modify the properties of deployment.

SECTION 22: RELATIONAL DATABASE SERVICE (RDS)

- ➢ What is DB Instances
- ➢ How to Select the DB-Engine
- ➢ How to Configure the Database Server
- ➢ How to Create the Database
- ➢ How to Set up automatic backups, snapshots & restores
- ➢ Authorizing access to the DB with RDS Security Groups
- ➢ DB Instance Replication
- ➢ Security: Using IAM to Manage Access to Amazon RDS Resources
- ➢ What is RDS Limits
- ➢ How to Manage MySql Database server
- ➢ DB Instance Life Cycle: How to Rename a DB Instance
- ➢ How to Delete or Reboot a DB Instance
- ➢ How to work with Storage Types
- ➢ How to Upgrade a DB Instance
- ➢ How to work with Option Groups & DB Parameter Groups
- ➢ How to work with Reserved DB Instances
- ➢ What is Monitoring
- ➢ What is Database Log Files

SECTION 23: CLOUD FRONT

- ➢ How Cloud Front Delivers the Content
- ➢ How to Work with Distributions
- ➢ How to Work with Web Distributions
- ➢ How to Work with Objects
- ➢ Request and Response Behaviour
- ➢ How to Serve Private Content through Cloud Front

- ➢ Accessing Objects using HTTPS Connection
- ➢ How to Use IAM to Control Access to Cloud Front Resources
- ➢ How to Monitor Cloud Front Activity Using CloudWatch

SECTION 24: ELASTICACHE

- ➢ Introduction to ElastiCache Terminology and Concepts
- ➢ How to take Backup and How to Restore
- ➢ What is Clusters Explanation (Memcached and Redis)
- ➢ Cloud Watch Metrics with ElastiCache
- ➢ How to Manage ElastiCache
- ➢ How to Manage Replication Groups
- ➢ DNS Names and Underlying IP

SECTION 25: CLOUD FORMATION

- ➢ How to Build AWS infrastructure as a code
- ➢ Sample templates – Utilization
- ➢ JSON – Introduction

SECTION 26: USE CASES

- ➢ Cloud Architecture and its Best Practices
- ➢ How to Optimize the Cost
- ➢ Security Considerations
- ➢ How to Calculate the Cost
- ➢ AWS CLI & use case to check instance, ELB, EBS states
- ➢ How to Build a simple web application in the AWS cloud
- ➢ Certification Track & guidance

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