**AMAZON WEB SERVICES (AWS)**

**Course Duration:** 40 hrs

**AWS CERTIFICATION PATH**

**ASSOCIATE LEVEL**

* AWS Certified Solutions Architect - Associate
* AWS Certified Developer - Associate
* AWS Certified SysOps Administrator - Associate

**PROFESSIONAL LEVEL**

* AWS Certified Solutions Architect - Professional
* AWS Certified DevOps Engineer - Professional

NB : covering topics for AWS Certified Solutions Architect - Associate and Professional

**Introduction to AWS Cloud Computing**

**Getting started with Amazon Web Services (AWS)**

* Introduction to Virtualization
* Private,Public and Hybrid cloud
* Iaas,Paas,Saas
* Why Cloud Computing?
* Benefits of Cloud Computing
* Creating accounts and analyzing the cost breakdown
* Evaluating Service Level Agreements (SLA)
* Console, command–line tools and API
* Introduction to the AWS Product
* Regions and Availability Zones

**Overview of the architecture**

* EC2
* S3
* EBS
* Beanstalk
* RDS
* VPC
* CloudFront
* SimpleDB
* SQS
* CloudWatch

**Achieving Agility with EC2**

**Managing the EC2 infrastructure**

* Browsing Amazon Machine Images (AMI)
* Specifying security groups and key pairs

**Provisioning resources**

* Evaluating Elastic Block Store (EBS) and instance store root devices
* Assigning elastic IP addresses
* Mapping instance types to computing needs

**Implementing Durable and Reliable Storage**

**Storing data in the cloud**

* Persisting off–instance storage with EBS volumes
* Creating backups with snapshots
* Achieving high durability with SimpleStorage Service
* Transmitting data in/out of the Amazon cloud

**Simplifying the database infrastructure**

* Achieving high availability of nonrelational data with SimpleDB
* Effortlessly implementing a relational database with Relational Database Service (RDS)

**Creating cost–effective distributed solutions**

* Decoupling applications with Simple Queue Service
* Leveraging CloudFront for high–performance edge cache content delivery
* Delivering static and streaming content

**Adapting EC2 to Your Business Needs**

**Customizing virtual machines**

* Modifying existing images
* Creating new images off of running instances
* Converting an instance store AMI to an EBS AMI

**Creating an AWS cloud architecture**

* Applying best practices for a cloud solution
* Selecting a cloud setup for different use case scenarios

**Handling Dynamic Resource Requirements**

**Monitoring from inside or outside of the cloud**

* Visualizing utilization metrics with CloudWatch
* Setting alarms to send and receive notifications

**Transparently scaling to meet load variations**

* Distributing incoming traffic with elastic load balancing
* Dynamically adding and removing instances with Auto Scaling
* Setting capacity thresholds

**Hosting Applications with Elastic Beanstalk**

**Improving application delivery with Platform as a Service (PaaS)**

* Deploying scalable applications on the AWS cloud
* Selecting and launching an application environment

**Managing application environments**

* Customizing and configuring platform stacks
* Provisioning application resources with CloudFormation

**AWS Security Features**

**Controlling account security**

* Configuring access credentials
* Managing users with Identity Access Management (IAM)

**Leveraging the Virtual Private Cloud (VPC)**

* Launching EC2 instances in private subnets for extra security
* Bridging EC2 instances to your internal network with a VPN
* Organizing EC2 instances in separate subnets with a VPC

**Deployment and Management**

* Identify AWS CloudFormation
* Describe Amazon CloudWatch metrics and alarms
* Describe Amazon Identity and Access Management (IAM)

**AWS Load Balancing Service**

* Introduction Elastic Load Balancer
* Creating and Verifying Elastic Load Balancer

**AWS Storage (S3) & Content Delivery**

* Identify key AWS storage options
* Describe Amazon EBS
* Creating an Elastic Block Store Volume
* Adding an EBS Volume to an Instance
* Snapshotting an EBS Volume and Increasing Performance
* Create an Amazon S3 bucket and manage associated objects

**AWS LAMDA**

* Introduction to AWS Lambda
* Distributed Environments
* Handling S3 Events using the AWS Lambda Console
* Monitor Lambda S3 functions through Amazon CloudWatch
* Infrastructure as Code Assignments