1. Introduction and Getting Started with AWS

Learning Objectives - In this module, you can learn about the different projects and services of AWS. You can also understand the Global Infrastructure of AWS. The AWS course module will also cover different types of EC2 instances and instance purchasing options.

Topics - Introduction to Cloud Computing, different AWS projects and services, setting up of the AWS account, AWS Global Infrastructure and its benefits, EC2 instances, different EC2 Instance purchasing options and placement groups.

Practicals to be covered - Setting up an AWS account

2. Amazon EC2

Learning Objectives - This module talks about the introduction to the compute offering from AWS called EC2. We will cover different Amazon AMIs. This also includes a demo on launching an AWS EC2 instance, connecting to an instance and hosting a website on the AWS EC2 instance.

Topics - Amazon AMI, demo on AMI creation, security groups, key pairs, various tenancy options, Elastic IP vs Public IP.

Practicals to be covered - Launching a free tier Ubuntu Instance, deploying a WordPress Blog on Amazon EC2 Windows Instance.

3. Storage Services and AWS CLI

Learning Objectives - In this module, you can learn about the different storage services offered by AWS, and how they can be used to transfer data from one place to another.

Topics - Traditional storage tiers, disadvantages of traditional storage over cloud, AWS storage options: EBS, S3, Glacier, AWS Connecting Storage: Snowball & Storage Gateway and AWS Command Line Interface (CLI)

Practicals to be covered - Restoring an Amazon EBS volume from a Snapshot, hosting a website on Amazon S3, deploying an On-Premises Gateway (Gateway - Cached), running commands in AWS CLI.

4. Virtual Private Cloud & Direct Connect

Learning Objectives - This module deals with the introduction to Amazon Virtual Private Cloud. It will help you understand how you can make public and private subnets with AWS VPC, along with a demo on creating VPC. This module will also provide an overview of AWS Direct Connect.

Topics - Subnet and Subnet Mask, VPC and its benefits, Default and Non default VPC, Components of VPC and Direct Connect

Practicals to be covered - Building a non-default VPC and launching an instance in it

5. Database Services

Learning Objectives - In this module, you can learn about the different database services offered by AWS to deal with structured and unstructured data.

Topics - Different database services of AWS: Amazon RDS, DynamoBD, RedShift, ElastiCache

Practicals to be covered - Creating a Mysql DB Instance, creating table and running query in DynamoDB, launching a RedShift Cluster

6. Elastic Load Balancing & Auto Scaling

Learning Objectives - This module will help you learn the concepts of 'Scaling' and 'Load distribution techniques' in AWS. This module also includes a demo around load distribution and scaling your resources horizontally based on time or activity.

Topics - Components and types of load balancing, auto scaling and its benefits, the life cycle of auto scaling, components and policies of auto scaling.

Practicals to be covered - Working with Elastic Load Balancer, maintaining high availability with Auto Scaling

7. Route 53 & Management Tools

Learning Objectives - This module deals with Route 53 and the different management tools, which covers monitoring AWS resources, setting up alerts and notifications for AWS resources and AWS usage billing with AWS CloudWatch.

Topics - Overview of Route 53, management tools: CloudTrail, CloudWatch, CloudFormation, and Trusted Advisor.

Practicals to be covered - Routing Traffic to AWS Resources through Route 53, enabling CloudTrail, Log Delivery to an S3 Bucket, setting up a billing alert, creating Stack and deploying it in CloudFormation

8. Application Services, AWS Lambda & Elastic Beanstalk

Learning Objectives - In this module, you can learn about the different application services of AWS that are used for sending emails and notifications.This session also deals with the various compute services of AWS through which you can run your existing code in the cloud..

Topics - AWS Application Services: SQS, SNS, SES and AWS Compute Services: Lambda and Elastic Beanstalk.

Practicals to be covered - Sending an Email through SES, running an application through Beanstalk and Copy an S3 object through Lambda

9. OpsWorks, Security & Identity Services

Learning Objectives - Through this module, you can understand how OpsWorks works, the various components of OpsWorks and how to create Chef recipes for OpsWorks. You can also learn how to achieve distribution of access control with AWS using IAM.

Topics - Benefits, features and components of OpsWorks, benefits of Chef, Cookbook, Recipes, OpsWorks life cycle events, security and identity services, IAM and KMS.

Practicals to be covered - Creating a OpsWorks stack and deploy an app in the stack, creating an IAM user in AWS account, encrypt data stored in an S3 bucket using an encryption key.

10. Project Discussion & Mock Test

Learning Objectives - This module is primarily a demo of an AWS Project using a real-life case study. It also has a Q&A session to prepare learners for AWS certifications.

Topics - Hands on workshop, Q&A, an overview of the AWS certifications.