**About AWS**

The Cloud Computing is type of computing services that we already using in our environment. The services that we are using like email, Storage drives through network(Google Drive) etc. are one of the best examples for the Cloud Computing.

**Why AWS**

* Advantages
* Easy to use:
* Flexible:
* Cost-Effective.
* Secure:.
* Scalable and High Performance:
* Go global in minutes
* Reliable:
* Increase speed and agility
* Trade Capital Expense for variable Expense:

Today, AWS provides a highly reliable, scalable, low-cost infrastructure platform in the cloud that powers hundreds of thousands of businesses in 190 countries around the world.

**Who can do AWS?**

* Absolute Beginners. No prior AWS experience is necessary
* Previous System Administration/ Development knowledge would be added advantage
* System Administrators Interested in Deploying Applications on AWS

Cloud Computing Enthusiasts

**Prerequisites**

* **Some knowledge of any Operating Systems**
* **Knowledge of Virtualization**
* **Some knowledge of Networking**
* **Programming knowledge is not required**

**Program Objectives**

* Practical based learning.
* Individual should be able to grab the relevant opportunity.
* Individual will be able to work on the project immediately.

**Program Contents (AWS Solution Architect)**

**Introduction:** (1 hour)

1. Cloud Computing basics

2. Types of Cloud Computing Deployment

3. Introduction of AWS

4. Theory

**Module1: Security & Compliance {2 Hours}**

● IAM Users

● IAM Groups

● IAM Policies

● IAM Roles

● IAM Identity Providers(theory)

● IAM Security Credentials

● IAM Encryption Keys

● Explanation about ARN

● Troubleshooting & Practicals

2. WAF & SHIELD (theory & explanation) > {30 MInutes}

● Web Application Firewall

● Shield from DDoS Attack

● Examples

● Benefits

● Charge Enquiry

3. GUARDDUTY {30 Minutes}

● Introduction

● Theory

● Process & examples

● Benefits

4. Certificate Manager {30 MInutes}

● Introduction

● Theory

● Encryption Methods

● Process & Benefits

**Module2: Compute**

1. EC2 (Elastic Compute Cloud) { 2 Hours }

● Creating Instances Types

of Instances

● Events, Tags, Limits of Instances

● Creating Images(AMI) Advantages

Explanation

practical

● Assigning protocols

● Key Pairs

● Network Interface

● Troubleshooting

2. AWS EC2 Load Balancer {1 Hour}

● Theory

● Types of Load Balancer

● Target Group

● Practical

3. AWS AutoScaling (compute level) {1 Hour}

● Launch Configuration

● AutoScaling group

● Troubleshooting & Examples

4. AWS Lambda { 30 Minutes}

● Functions

● Process

● Triggering

**Module3: Storage**

1. EBS (Elastic Block Storage) {1 hour}

● Creating Volumes Types

of Volumes

● Creating Snapshots

● Snapshot to create Images

● Snapshot to create volumes

● Attach & Detach Volumes Encryption

● Troubleshooting

2. EFS (Elastic File System) {1 Hour}

● Introduction

● Advantages

● Creation of EFS

● Mounting method

● Troubleshooting

3. S3 (Simple Storage Service) {2 Hours}

● Introduction

● Storage Class Types

of Storage Classes

● Permissions Types

of Permissions

● Creating Buckets

● Uploading Data & Assigning Permissions

● Properties of Buckets ( 9 Properties )

● Properties of Objects ( 4 Properties )

● Management of S3

4. Glacier {30 Minutes}

● Introduction

● Working

● Explanation of Archive Storage

5. Storage Gateway {30 Minutes}

● Introduction

● Explanation

● Theory

**Module4: Management Tools**

1. CloudWatch →{1 Hour}

● DashBoard

● Alarms

● Metrics

● Logs

● Explanation & Examples

2. CloudTrail {30 Minutes}

● Introduction

● Trails Creation

● Troubleshooting Logs

3. AWS Config {30 Minutes}

● Introduction

● Advantages

4. CloudFormation {30 MInutes}

● Introduction

● Designing Stacks

**Module5: Database**

1. RDS (Relational Database Service) { 1 Hour }

● Creating DB Instances

● Creating Snapshots

● Cluster Theory

● DB Parameters

● Troubleshooting

2. DynamoDB,Redshift & ElastiCache { 1 Hour }

● Introduction

● Theory

● Functions

**Module6: Network**

1. VPC (Virtual Private Cloud) {3 Hours}

● Creating Private Network

● Creating Subnets

● Creating Route Tables

● Creating Internet Gateway

● Creating Egress only IG

● Elastic IP’s

● NAT GatewaysExplanationAdvantage

● Peering Connection

● Network ACL

● Security Group

● Explanation VPN Customer

Gateway Virtual

Private

Gateway

● Creation of FlowLogs

2. Route53 {1 Hour}

● Hosted Zones

● Zone Records

● DNS Management

● Traffic Management

**Module 7: Content Delivery**

1. CloudFront {1 Hour}

● Distributions

● Reports & Analysis

● SecurityOAI,

Public Key, FLE

● Troubleshooting

**Module7:Messaging {1 Hour}**

1. Amazon SQS→ Simple Queue Service

2. Amazon SNS→ Simple Notification Service

3. Amazon SES→ Simple Email Service

4. Amazon SWF→ Simple WorkFlow Service

**Module8: Services {2 Hours}**

1. Amazon Rekognition

2. Amazon Polly

3. Amazon DeepLens

4. Athena

5. Kinesis

6. Direct Connect

7. Elastic Transcoder

8. MediaConvert

9. Snowball

10. Inspector

11. Troubleshooting

12. Interview Questions

13. AWS FAQs