**TNGS Learning Solutions – AWS SA Course Curriculum**

**Section 1:Introduction - AWS Solutions Architect Associate**

Lecture 1:Welcome and Course Introduction

Lecture 2:About your Instructor

Lecture 3:What is AWS?

**Section 2:Cloud Computing Models**

Lecture 4:Infrastructure as a Service (IaaS)

Lecture 5:Platform as a Service (PaaS)

Lecture 6:Software as a Service (SaaS)

**Section 3:Virtualization**

Lecture 7:Understanding Virtualization

**Section 4:Introduction to Cloud Computing**

Lecture 8:Hybrid Cloud

Lecture 9:Public Cloud

Lecture 10:Private Cloud

Lecture 11:Virtualization

**Section 5:The pillars of the AWS Well-Architected Framework**

Lecture 12:Introduction

Lecture 13:Understanding the 6 Pillars of Well Architected Framework

**Section 6:AWS SignUp**

Lecture 14:Sign up for an AWS Account and log in

Lecture 15:AWS Free usage tier

Lecture 16:Create a Billing Alarm

**Section 7:Introduction to AWS (Amazon Web Services)**

Lecture 17:Introduction AWS management console

Lecture 18:Regions and Availability Zones

**Section 8:Elastic Compute (EC2) Compute Service Fondermentals**

Lecture 19:SpinUp a Windows Server

Lecture 20:SpinUp a Linux Server

Lecture 21:Keypair

Lecture 22:Amazon Machine Image (AMI)

Lecture 23:Instance Type

Lecture 24:Elastic IP

Lecture 25:Tags

Lecture 26:Security Groups

Lecture 27:Elastic Block Storage (EBS)

Lecture 28:EBS Snapshots

Lecture 29:Download Putty for Windows

Lecture 30:Download Mobaxterm for Windows

Lecture 31:How to SSH using Putty

Lecture 32:How to SSH using Mobaxterm

Lecture 33:How to SSH on MacOS

Lecture 34:Bootstrapping a Server

Lecture 35:Automate Snapshots Backup

Lecture 36:Automate AMI Backup

Lecture 37:Launch a Wordpress Server

**Section 9:Identity and Access Management (IAM)**

Lecture 38:Introduction to the IAM Dashboard

Lecture 39:How to create an IAM Group

Lecture 40:How to create an IAM user

Lecture 41:How to Add an IAM user to an IAM Group

Lecture 42:How to grant permission to IAM User

Lecture 43:How to grant permission to IAM Group

Lecture 44:How to create an in-line policy for an IAM user

Lecture 45:How to create an in-line policy for an IAM Group

Lecture 46:Understand IAM Json Policy

Lecture 47:Enable MFA for IAM user

Lecture 48:Configure IAM password policy for AWS Account

Lecture 49:Create IAM Role and Assign to EC2 Instance

Lecture 50:Install AWS CLI on Windows

Lecture 51:Install AWS CLI on MacOS

**Section 10:Auto Scaling**

Lecture 52:Introduction to Auto Scaling

Lecture 53:How to Launch an instance inside an ASG

Lecture 54:How to Create a Launch Template

Lecture 55:How to create a Launch configuration

Lecture 56:How to Add and existing server inside a new ASG

Lecture 57:How to Add and existing server inside an existing ASG

Lecture 58:How to configure ASG

Lecture 59:Exploring the properties of Auto Scaling Group

Lecture 60:Setting up an Auto-Scaled, Load-Balanced Application using Autoscaling

Lecture 61:Deleting ASG Resources

**Section 11:Virtual Private Cloud (VPC)**

Lecture 62:Introduction to VPC Dashboard

Lecture 63:IPv4 Vs IPv6 Addressing Scheme

Lecture 64:What is the difference between Public and Private IP’s

Lecture 65:How to create a VPC

Lecture 66:How to create a subnet

Lecture 67:How to create a Internet Gateway

Lecture 68:How to create a NAT gateway

Lecture 69:How to create a Route Table

Lecture 70:How to create a VPC Flow logs

Lecture 71:How to configure a standard VPC Network for a 3 tier application

**Section 12:Networking - VPC Peering**

Lecture 72:How to create a VPC Peering between 2 VPC

**Section 13:Elastic Load Balancers**

Lecture 73:Introduction to ELBs

Lecture 74:Created Load Balancer Security Group

Lecture 75:How to create and configure a Network Load Balancer (NLB)

Lecture 76:How to create and configure a Application Load Balancer (ALB)

Lecture 77:How to create and configure a Classic Load Balancer

Lecture 78:How to configure ALB and ASG

**Section 14:Relational Database Service (RDS)**

Lecture 79:Introduction to RDS

Lecture 80:How to create a RDS Database Subnet Group

Lecture 81:Create DB Security Group

Lecture 82:How to create a MySQL database in RDS

Lecture 83:RDS Snapshot

Lecture 84:RDS Multi-AZ and Read Replica

**Section 15:Cloudwatch**

Lecture 85:Introduction to Cloudwatch

Lecture 86:Custom Dashboards

Lecture 87:Cloudwatch Alarm

Lecture 88:Cloudwatch Logs

Lecture 89:Cloudwatch Metrics

Lecture 90:Cloudwatch Events

**Section 16:Cloudtrail**

Lecture 91:Introduction to Cloudtrail

Lecture 92:Cloudtrail Event History

Lecture 93:How to create a Trail

**Section 17:Storage - Simple Storage Service (S3)**

Lecture 94:Introduction to S3

Lecture 95:How to create an S3 bucket

Lecture 96:Upload files to s3 bucket through web user interface

Lecture 97:How to Enable Bucket Versioning

Lecture 98:S3 Static Website

Lecture 99:Manage S3 Bukcet Permission

Lecture 100:Enable Bukcet Encryption

Lecture 101:Upload files to s3 using command line

Lecture 102:Uplaod files from s3 bucket to EC2 Instance

**Section 18:Storage - Elastic File Service (EFS)**

Lecture 103:Introduction to EFS

Lecture 104:How to create and mount EFS on EC2 Instance

**Section 19:Platform As A Service (PaaS) - Elastic Beanstalk**

Lecture 105:Introduction to EB

Lecture 106:How to create a Sample Web Application in EB

Lecture 107:How to create a custom Elastic beanstalk Environment

Lecture 108:Manage chanages within an existing Elastic Beanstalk Environment

Lecture 109:How to save Elastic Beanstalk Environment Configuration

Lecture 110:Terminate Resources

**Section 20:Simple Notification Service (SNS)**

Lecture 111:Introduction to SNS

Lecture 112:Creating topics and Evaluating ARNs

Lecture 113:Subscribing using Email Protocols

Lecture 114:Publishing Notifications using SNS

Lecture 115:Integrating SNS Topics with CloudWatch and Autoscaling Services

**Section 21:CloudFront - Content Delivery Network (CDN)**

Lecture 116:Introduction to Content Delivery Network (CDNs).

Lecture 117:Understanding AWS EDGE Network Locations

Lecture 118:Understanding CloudFront Distributions and Origins

Lecture 119:Implementing CDN for S3 Static Websites using CloudFront

Lecture 120:Going through CloudFront Reports and Analytics

Lecture 121:CloudFront Security for S3 buckets using OAI (Origin Access Identity).

Lecture 122:Configuring origins and behaviors

Lecture 123:Deleting CloudFront Resources

**Section 22:CloudFormation (IaaC)**

Lecture 124:Introduction to CloudFormation

Lecture 125:Understanding Stacks

Lecture 126:Automating a Ruby on Rails Application using CloudFormation

**Section 23:AWS S3 Glacier**

Lecture 127:Introduction to Glacier Storage

Lecture 128:Creating Vaults

Lecture 129:Download and Install FastGlacier

Lecture 130:Uploading data to Vaults

**Section 24:Trusted Advisor**

Lecture 131:Introduction to Trusted Advisor

Lecture 132:Understanding Cost Optimization Tab

Lecture 133:Understanding Performance Tab

Lecture 134:Understanding Security Tab

Lecture 135:Understanding Fault Tolerance Tab

Lecture 136:Understanding Service Limits Tab

**Section 25:NoSQL Database - Dynamo DB**

Lecture 137:Understanding NOSQL Databases

Lecture 138:Creating a DynamoDB table with Sample Data

Lecture 139:Understanding RCU and WCU of DynamoDB Tables

Lecture 140:Understanding Throttling in DynamoDB

Lecture 141:Creating Alarms in DynamoDB

**Section 26:3 Tier Application Architecture**

Lecture 142:Designing and Implementing a 3 Tier Application in AWS

Lecture 143:Deleting Resources.

**Section 27:DNS - Route53**

Lecture 144:Introduction of Domain Name System

Lecture 145:Buying Domain names at Domain Registrars

Lecture 146:Creating Zones on Route53

Lecture 147:Creating Route53 Records (Address, CNAME, Alias)

Lecture 148:Creating Health Check in Route53

Lecture 149:Understanding routing policies provided by AWS