

# ROOMAN TECHNOLOGIES

## Master in Cloud Administration (3X OFFER)



## Curriculum AWS Practitioner & Associate Combo

### Introduction of Network

- Introduction of network
- type of network
- TCP/IP Model
- IP Address(type version and class)
- windows and Linux Physical servers setup

### Introduction to Cloud Computing

- Introduction to Cloud Computing
- Why Cloud Computing?
- Benefits of Cloud Computing
- Public Cloud, Private Cloud, Hybrid Cloud
- Service Models (IAAS, PAAS, SAAS)
- Software as a Service,
- Platform as a Service,
- Infrastructure as a Service,
- VIRTUALIZATION
- What is virtualization?,
- Virtualization and Cloud Computing,
- Types of virtualization,
- Virtualization terminologies,
- Hypervisor,

### Introduction to AWS

- Elastic computing
- Introduction to the AWS products

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- Regions and Availability Zones
- Signing up for AWS.
- AWS Free usage tier
- Introduction AWS management console

## Identity access management (IAM)

- Introduction of IAM Service
- Creating Users and Groups
- Grant Least Privilege
- Configuring a Strong Password Policy for your Users
- Enabling MFA for Privileged Users
- Granting permissions using IAM Policies
- Creating Custom Policies and Associating to Users and Groups
- Understanding Roles

## EC2 Compute Service

- EC2 Introduction
- Public and Private IPs
- Spinning Windows/Linux servers in EC2
- Key Pairs,
- Elastic IPs
- Connecting to Instances using RDP, MobaXTerm, Putty
- Security Group Basics and Implementing Security for Real-Time Environments.
- Backups for Instances using Snapshots

## S3 (Simple Storage Service)

- Introduction to AWS Object Storage
- Creating S3 Buckets and Uploading Data into them
- S3 durability and redundancy
- Various S3 Storage Types (Standard, Infrequent, One Zone)
- Configuring S3 Versioning, Logging, Encryption
- Hosting a Static Website on S3
- Implementing Lifecycle and cross region replication for S3 Buckets
- Understanding S3 Analytics, Metrics and Inventory

## EBS (Elastic Block Storage)

- Understanding Block Level Storage using EBS
- Configuring SSD/HDD/Magnetic Storage for Windows and Linux Servers
- Attach and detach EBS volumes,
- Mounting and un-mounting EBS volume,
- Creating and deleting snapshots,
- Creating volumes from snapshots
- Configuring VOLUME-SNAPSHOT-VOLUME Process
- Understanding AMI and its Features
- Creating AMI for Windows/Linux Servers
- Server migration in same region and cross region

## Amazon Virtual Private Cloud (VPC)

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- Introduction to VPC
- IPv4 Addressing Scheme
- Public and Private IP's
- Understanding Subnetting
- Elastic IP's
- Basic VPC configuration
- Implementing Private/Public subnets in VPC
- VPC security
- Deep Dive in to VPC core concepts (Route Tables, Subnets, Internet Gateway)
- Building Custom VPC Network Topology for Real Time Environments

## ELB (Elastic Load Balancer)

- Introduction to ELB
- Implementing HA using Load Balancer for Websites
- Understanding ELB Load Distribution using Round Robin Algorithm
- Understanding Health Checks
- Configuring Advanced VPC and Cross-Zone Load Balancing
- Adding and removing instances on ELB

## CloudWatch

- Introduction of AWS Monitoring
- Understanding Virtualization
- Making a Status Check Failed Incident manually
- CloudWatch Basic and Detailed Monitoring and Its Features
- Cloudwatch dashboard
- Implementing Real-Time monitoring by Integrating with SNS.
- Understanding CloudWatch Logs and Metrics
- Creating Alarms and its Actions
- Configuring Dashboards for Organization Architectures

## Simple Notification Service (SNS)

- Introduction to SNS.
- Creating topics and Evaluating ARNs.
- Subscribing using Various Protocols.
- Publishing Notifications using SNS.
- Integrating SNS Topics with CloudWatch and Autoscaling Services.

## Route53

- Introduction of the Domain-Name System
- Buying Domain names at Domain Registrars
- Creating Zones on Route53
- Creating Route53 Records (Address, CNAME, Alias)
- Creating Health Checks in Route53
- Understanding routing policies provided by AWS
- Routing Policy and its Implementation

## Auto scaling

- Understanding Horizontal vs Vertical scaling
- Understanding Auto Scaling

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- Create a launch configuration
- Create an Auto Scaling group
- Understanding Various Scaling Types (Dynamic, Scheduled, Step, Target Tracking Scaling Policies)
- Setting up an auto-scaled, load-balanced Application using Autoscaling

## Microsoft Azure Fundamentals & Administrator (Combo)

### Manage Azure identities and governance

- Create users and groups
- Create administrative units
- Manage user and group properties
- Manage guest accounts
- Configure self-service password reset

### Manage access control

- Create custom role-based access control (RBAC) and Azure AD roles
- Provide access to Azure resources by assigning roles at different scopes

### Manage Azure subscriptions and governance

- Configure and manage Azure policy
- Apply and manage tags on resources
- Manage resource groups
- Manage subscriptions
- Manage costs by using alerts, budgets, and recommendations
- Configure management groups

### Implement and manage storage

- Configure network access to storage accounts
- Create and configure storage accounts
- Configure stored access policies
- Manage access keys
- Configure storage encryption

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## Manage data in Azure storage accounts

- Manage data by using Azure Storage Explorer and AzCopy
- Implement Azure Storage redundancy
- Configure object replication
- Configure Azure Blob Storage
- Configure storage tiers
- Configure blob lifecycle management

## Deploy and manage Azure compute resources

- Create a VM
- Manage images by using the Azure Compute Gallery
- Configure Azure Disk Encryption
- Manage VM sizes
- Add data disks
- Configure VM availability options
- Deploy and configure VM scale sets
- Configure sizing and scaling for Azure Instances
- Configure storage for Azure Kubernetes Service (AKS)
- Create and configure an Azure App Service
- Create an App Service plan
- Configure scaling settings in an App Service plan
- Create an App Service
- Configure custom domain names

## Configure and manage virtual networking

- Create and configure virtual networks and subnets
- Create and configure virtual network peering
- Configure private and public IP addresses
- Vnet peering
- Manage gateway
- Configure Azure DNS
- Create and configure network security groups (NSGs)

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- Evaluate effective security rules
- Implement Azure Bastion
- Configure service endpoints on subnets
- Configure load balancing
- Configure an internal or public load balancer

## Monitor and maintain Azure resources

Monitor resources by using Azure Monitor

- Configure Azure Monitor Logs
- Query and analyze logs
- Set up alerts and actions
- Configure monitoring of VMs, storage accounts, and networks by using VM insights

## Implement backup and recovery

- Create an Azure Recovery Services vault
- Create an Azure Backup vault
- Perform backup and restore operations by using Azure Backup
- Configure Azure Site Recovery for Azure resources
- Perform failover to a secondary region by using Azure Site Recovery
- Configure and review backup reports

## GCP Associate Cloud Engineer-----

### Identity Services – IAM

(Permissions, Roles), Cloud Identity, Service Accounts

### Compute –

Google Compute Engine, App Engine, Google Cloud Functions, Backups and Images, Preemptible Virtual Machines, Live Migration

### Data Services –

Knowledge of Cloud Storage, Pub-Sub, Cloud Dataflow, BigQuery, Cloud Dataprep, Dataproc, Datalab

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## **Data Storage –**

Google Cloud Storage, Cloud Spanner, Firestore, Bigtable, Cloud Datastore, Filestore, Cloud SQL, Storage Classes

## **Networking –**

Make sure you are familiar with VPCs, subnets, VPNs, Cloud Interconnect and Cloud Routers. Some other important topics include Firewalls, Cloud CDN, load balancing

## **Monitoring –**

Stackdriver, Audit Logs

## **GKE –**

Cloud Shell, Google's implementation of Kubernetes Engine called GKE (Google Kubernetes Engine). Know the GKE setting default cluster

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