



AWS Solutions Architect Associate Training

Job Ready Training on AWS with Automaton

1. Introduction to Cloud Computing

- a. What is Cloud Computing
- b. Benefits of Cloud Computing
- c. Cloud Service Offerings - IaaS SaaS & PaaS
- d. Cloud deployment models
- e. Who should learn AWS
- f. Opportunities & Job Roles in the cloud

2. Networking - VPC

- a. VPC (Virtual Private Cloud)
- b. Private & public subnets
- c. Calculating CIDR Blocks Internet Gateways
- d. VPC wizards & Route Tables
- e. Elastic IPs & public IPs
- f. Securing VPC (Security groups & NACLs)
- g. VPC Peering Connection
- h. VPC Access Methods (VPN & Direct Connect)
- i. NAT instance & NAT Gateway
- j. Transit Gateways
- k. VPC Endpoints
- l. VPC Private links
- m. Placement Groups

3. EC2 (Elastic Compute Cloud)

- a. EC2 Instances
- b. Amazon Machine Images (AMI)
- c. Taking Instance Backups
- d. Instance Resizing
- e. Instance Types Generations & Sizes
- f. On-Demand Instances
- g. Spot Requests

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- h. Dedicated Hosts
- i. Scheduled Instances
- j. Improving performance of EC2
- k. Migrating EC2 to different Regions

4. EBS (Elastic Block Store)

- a. Volume Types
- b. General Purpose SSD
- c. Provisioned IOPS
- d. Magnetic, Cold HDD & Throughput Optimized HDD
- e. Creating Snapshots (Backups)
- f. Restoring from Snapshots
- g. Automating EBS and EC2 backups (Data lifecycle Management)
- h. Resizing Volumes
- i. Migrating Volumes to Another Region
- j. Securing EBS volumes
- k. Instance store

5. Storage Gateway and Data Sync

- a. Storage Gateway Features
- b. Storage Gateway use cases
- c. Data Sync features
- d. Data Sync use cases

6. EFS and FSx

- a. Introduction to EFS and FSx
- b. Creating EFS file system
- c. Mounting to multiple EC2 instances

7. Elastic Load Balancer (ELB)

- a. Application Load Balancer
- b. Classic Load Balancer
- c. Network Load Balancer

8. Auto Scaling

- a. Auto Scaling Group
- b. Launch Configuration
- c. Step Simple Scaling

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- d. Lifecycle Hooks
- e. Scheduled Scaling
- f. Deploying New Versions to Auto Scaling Group

9. IAM (Identity & Access Management)

- a. User & Service management
- b. Managing Passwords Policies
- c. Key Management Service
- d. Managing Roles
- e. Identity Providers
- f. Activating Multi-Factor Authentication
- g. Identity Federation
- h. Cross-Account Access
- i. Managing Programmatic Access

10. KMS (Key Management Service)

- a. What is KMS
- b. Creating KMS key
- c. Managing KMS admin and usage permissions

11. Databases

- a. RDS (Oracle MySQL MariaDB)
- b. Redshift for Data Warehousing
- c. NoSQL - DynamoDB
- d. Taking Automated Backups
- e. Migrating DB Across Regions
- f. Setting up multi A-Z
- g. Configuring Read Replicas
- h. Optimizing RDS Performance
- i. ElastiCache (Redis & Memcached)

12. Route 53 (DNS & Domain Registration)

- a. DNS Flow
- b. Fundamentals of Route53
- c. Registering A Domain
- d. Route53 resolvers
- e. Creating Hosted Zones
- f. Record Sets (A, AAAA, CNAME)

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- g. Routing policy (Simple weighted failover geolocation & latency based)

13. S3 - Simple Storage Services

- a. Standard Storage
- b. Standard - Infrequently Accessed
- c. Reduced Redundancy
- d. Encrypting Objects
- e. Uploading deleting & downloading objects
- f. Versioning
- g. Life cycle management
- h. S3 Logging
- i. Static Website Hosting
- j. Cross-region Replication
- k. Configuring Events
- l. Glacier, Snowball

14. Terraform - Infrastructure as Code (IaC)

- a. Implementing Infrastructure as Code
- b. Automating Provisioning of Resources
- c. IAC Best Practices
- d. Resources, Variables & Data sources
- e. Terraform Outputs
- f. Loops & Conditions
- g. Provisioning 3 tier Architecture
- h. Provisioning, VPC, Subnet, EC2, User data, Route tables
- i. Provisioning, NAT Instances, Security Groups
- j. Provisioning Auto scaling, ELB, Route53, IAM Roles
- k. Building Reusable Modules
- l. Commands - fmt, console, plan, apply, init & get
- m. Terraform Locks, import, local & remote state files
- n. Terraform functions, local & remote executions

15. CloudFront - CDN (Content Delivery Network)

- a. Edge Location
- b. Origins
- c. Configuring CDN

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16. Monitoring CloudWatch

- a. Trusted Adviser & Cloud Trail
- b. Basic & Detailed Monitoring
- c. Creating custom dashboards & widgets
- d. Setting up alerts
- e. Configuring events & rules
- f. Scheduling tasks
- g. EC2 actions

17. Simple Services

- a. Simple Queue Service (SQS)
- b. Simple Email Service (SES)
- c. Simple Notification Service (SNS)

18. Boto3 & Lambda (Serverless Architecture)

- a. Learning Python scripting basics
- b. Learning Boto3 AWS Python SDK
- c. Boto3 Resources, Clients, Waiters, Filters, Collections
- d. Creating lambda functions (Python)
- e. Configuring test events
- f. Building real-time use cases
- g. Managing external dependencies
- h. Creating Deployment Packages
- i. Monitoring lambda functions
- j. Performance tuning lambda functions
- k. Running Lambda in VPC
- l. Environment variable
- m. Encrypting sensitive data
- n. Creating Alias
- o. Managing different environments, dev, staging, prod

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