

Amazon Web Services Cloud Infrastructure

Length: 3 Days

COURSE CONTENT

OUTLINE OF TOPICS FOR DAY 1

MODULE 1: INTRODUCTION TO AMAZON WEB SERVICES

- a) Summarize the benefits of AWS
- b) Describe differences between on-demand delivery and cloud deployments
- c) Summarize the pay-as-you-go pricing model

MODULE 2: COMPUTE IN THE CLOUD

- a) Describe the benefits of Amazon Elastic Compute Cloud (Amazon EC2) at a basic level
- b) Identify the different Amazon EC2 instance types
- c) Differentiate between the various billing options for Amazon EC2
- d) Describe the benefits of Amazon EC2 Auto Scaling
- e) Summarize the benefits of Elastic Load Balancing
- f) Give an example of the uses for Elastic Load Balancing
- g) Amazon Simple Notification Service (SNS) and Amazon Simple Queue Services (SQS)
- h) Summarize additional AWS compute options

MODULE 3: GLOBAL INFRASTRUCTURE AND RELIABILITY

- a) Summarize the benefits of the AWS Global Infrastructure
- b) Describe the basic concept of Availability Zones
- c) Describe the benefits of Amazon CloudFront and Edge locations
- d) Compare different methods for provisioning AWS services

MODULE 4: NETWORKING

- a) Describe the basic concepts of networking
- b) Describe the difference between public and private networking resources

- c) Explain a virtual private gateway using a real life scenario
- d) Explain a virtual private network (VPN) using a real life scenario
- e) Describe the benefit of AWS Direct Connect
- f) Describe the benefit of hybrid deployments
- g) Describe the layers of security used in an IT strategy
- h) Describe which services are used to interact with the AWS global network

MODULE 5: STORAGE AND DATABASES

- a) Summarize the basic concept of storage and databases
- b) Describe benefits of Amazon Elastic Block Store (Amazon EBS)
- c) Describe benefits of Amazon Simple Storage Service (Amazon S3)
- d) Describe the benefits of Amazon Elastic File System (Amazon EFS)
- e) Summarize various storage solutions
- f) Describe the benefits of Amazon Relational Database Service (Amazon RDS)
- g) Describe the benefits of Amazon DynamoDB
- h) Summarize various database services

OUTLINE OF TOPICS FOR DAY 2

MODULE 6: INTRODUCTION TO DEVOPS

- a) What is DevOps?
- b) The Amazon journey to DevOps
- c) Foundations for DevOps

MODULE 7: INFRASTRUCTURE AUTOMATION

- a) Introduction to Infrastructure Automation
- b) Diving into the AWS CloudFormation template
- c) Modifying an AWS CloudFormation template

MODULE 8: AWS TOOLKITS

- a) Configuring the AWS CLI
- b) AWS Software Development Kits (AWS SDKs)
- c) AWS SAM CLI
- d) AWS Cloud Development Kit (AWS CDK)
- e) AWS Cloud9

**MODULE 9: CONTINUOUS INTEGRATION /
CONTINUOUS DELIVERY (CI/CD)**

- a) CI/CD Pipeline and Dev Tools

OUTLINE OF TOPICS FOR DAY 3

MODULE 10: DESIGN SECURE ARCHITECTURES

- a) Design secure access to AWS resources.
- b) Access controls and management across multiple accounts
- c) AWS federated access and identity services
- d) AWS global infrastructure
- e) AWS security best practices
- f) The AWS shared responsibility model

**MODULE 11: DESIGN SECURE WORKLOADS AND
APPLICATIONS**

- a) Application configuration and credentials security
AWS service endpoints
- b) Control ports, protocols, and network traffic on AWS
- c) Secure application access
- d) Security services with appropriate use cases
- e) Threat vectors external to AWS

MODULE 12: DESIGN RESILIENT ARCHITECTURES

- a) API creation and management
 - b) AWS managed services with appropriate use cases
 - c) Caching strategies
 - d) Design principles for microservices
 - e) Event-driven architectures
 - f) Horizontal scaling and vertical scaling
 - g) How to appropriately use edge accelerators
 - h) How to migrate applications into containers
 - i) Load balancing concepts
 - j) Multi-tier architectures
 - k) Queuing and messaging concepts
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