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## **Amazon Web Services with Certified Cloud Practitioner**

Format: Self-Pace Online / eLearning  
Program Duration: 6 Months  
Course Contact Hours: 375

### **Program Description**

This comprehensive program starts with foundational instruction on Amazon Web Services with coverage on cloud computing and available AWS services, as well as a guided hands-on look at using services such as EC2 (Elastic Compute Cloud), S3 (Simple Storage Service), and more. The Amazon Web Services (AWS) course is designed to provide a solid foundational understanding of the Amazon Web Services (AWS) infrastructure-as-a-service products. The program first covers concepts necessary to understand cloud computing platforms, working with virtual machines, storage in the cloud, security, high availability, and more.

This program continues with the fundamentals of cloud computing; AWS core services such as Amazon EC2, Amazon RDS, and Amazon S3; security; architecture design principles; best practices; and cost management. The AWS Certified Cloud Practitioner course is designed to help learners understand Amazon Web Services at a high level, introduce cloud computing concepts, and key AWS services, and prepare them for the exam according to the certification exam guide published by Amazon Web Services. More information about the AWS Certified Cloud Practitioner Exam.

The AWS Certified Cloud Practitioner content provides several hours of instruction that contain slides, audio descriptions, and video captures. Demonstrations of Amazon Web Services and third-party cloud solutions are included to provide a clear guide to understanding the services offered by Amazon Web Services and the needs those services meet.

### **Education and National Certifications**

- Students should have or be pursuing a high school diploma or GED.
- Students who complete this program will be eligible to sit for the **Amazon Web Services Certified Cloud Practitioner Exam**

### **Program Objectives**

At the conclusion of this program, students will be able to:

- Employ proper security and networking methods in Amazon Web Services (AWS)
- Understand computing in AWS

- Understand storage in AWS
- Use databases and employing analytics in AWS
- Use AWS developer and management tools
- Use AWS mobile and application services
- Understand high availability & fault tolerance
- Understand the AWS Certified Cloud Practitioner exam requirements, resources available for study, registration requirements and preparation
- Comprehend fundamentals of Cloud computing
- Understand various business needs and how AWS helps to address those needs
- Understand the fundamentals of AWS global infrastructure
- Network with Amazon Virtual Private Cloud (VPC) and Amazon EC2
- Use block storage with Amazon EBS
- Use object storage with Amazon S3
- Understand and employ instrumentation, scalability, content delivery, serverless computing, and database technologies
- Use AWS for additional key services in terms of automation and security
- Understand and employ strategies around the shared responsibility model, identity and access management, as well as key services and concepts in managing AWS accounts and credentials
- Understand and deploy the requirements of assurance programs like PCI and HIPAA
- Deploy pricing structures for various services for computing, databases and storage
- Use AWS calculators, tools for analyzing monthly billing and AWS support plans as applied to current and future cost allocation

## **AWS Certified Cloud Practitioner Program Detailed Student Objectives:**

### **AWS OVERVIEW**

- Understand "Cloud Computing"
- Understand the AWS Global Infrastructure in terms of Regions
- Understand the AWS Global Infrastructure in terms of Availability Zones
- Understand the AWS Global Infrastructure in terms of Edge Locations
- Determine the Scope of Services available via AWS
- Provide an overall service overview for AWS

### **SECURITY IN AWS**

- Understand Amazon Web Services (AWS) Identity and Access Management
- Create a User and Group
- Create Access Keys
- Dictate Permissions and Policies
- Understand Roles
- Create Roles
- Understand and Employ Federated Users
- Manage an MFA Device
- Understand Resource Policy

- Use Roles for Cross Account Access
- Employ Best Practices in AWS

**NETWORKING IN AWS**

- Understand Amazon Virtual Private Cloud (VPC)
- Create a VPC
- Add Subnets
- Understand Routing and Route to the Internet
- Understand Public, Private, and Hybrid Subnets
- Understand Network Access Control Lists (NACL)
- Understand Security Groups
- Create and apply an NACL
- Create a Security Group
- Understand VPC Peering and Related Scenarios
- Peer Two VPCs
- Understand and Employ VPN Access
- Understand AWS Direct Connect

**COMPUTING IN AWS**

- Understand and use Amazon Elastic Compute Cloud (EC2)
- Employ Amazon Machine Image (AMI)
- Launch a Linux Instance
- Understand and employ Key Pairs
- Utilize the Instance Metadata Service
- Employ bootstrapping with Userdata
- Launch a Windows Instance
- Stop and Terminate an Instance
- Understand Billing Options
- Employ Highly-Available Web Applications
- Understand and Employ AWS Lambda and Hello World in AWS Lambda
- Use Image Processing with AWS Lambda

**STORAGE IN AWS**

- Understand Available AWS Storage Options
- Understand Amazon Simple Storage Service (S3)
- Create Buckets and Objects
- Understand and Employ Bucket Security with Resource Policies
- Create a Bucket Policy for Public Read
- Understand Amazon Glacier
- Add Lifecycle Rules
- Understand Instance Store Volumes
- Understand Amazon Elastic Block Store (EBS), Volume Types and Performance
- Create an EBS Volume
- Create an EBS Volume on Linux and on Windows
- Understand Amazon EBS Snapshots
- Create a Snapshot
- Employ Video Transcoding and Archival

**DATABASES IN AWS**

- Understand Available AWS Database Options
- Understand and Employ Amazon Relational Database Service (RDS)
- Understand Data Durability with Amazon RDS
- Launch an Amazon RDS Instance
- Understand Amazon DynamoDB and Data Models in Amazon DynamoDB
- Create an Amazon DynamoDB Table
- Scan and Query Operations
- Understand Amazon ElastiCache
- Understand Amazon Redshift
- Employ Database Objectives for E-Commerce

**ANALYTICS IN AWS**

- Understand Real-Time Stream Processing with Amazon Kinesis
- Employ Big Data Principles with Amazon Elastic MapReduce
- Employ AWS Data Pipeline
- Employ Video Subscription Service Business Intelligence

**DEVELOPER AND MANAGEMENT TOOLS**

- Monitoring Using Amazon Cloudwatch
- Log Collection with Amazon Cloudwatch Logs
- Develop Infrastructure as Code with AWS Cloudformation
- Create Resources with AWS Cloudformation
- Apply Management Services
- Launch an Application on AWS Elastic Beanstalk

**MOBILE AND APPLICATION SERVICES**

- Understand and Employ Amazon Simple Queue Service (SQS)
- Understand and Employ Amazon Simple Notification Service (SNS)
- Understand and Employ Amazon Simple Email Service (SES)
- Understand and Employ Amazon Cognito
- Understand and Employ Amazon Mobile Analytics

**HIGH AVAILABILITY AND FAULT TOLERANCE**

- Understand Elastic Load Balancing (ELB)
- Understand and Employ Listeners and SSL Certificates
- Employ Load Balancing Algorithms
- Create and ELB
- Understand and Employ Auto Scaling
- Understand and Employ Demand-Based Scaling
- Create an Auto Scaling Group

**AWS SUMMARY**

- Understand The Ideal
- Understand Best Practices
- Understand The Exam

**CLOUD CONCEPTS - AWS CLOUD PRACTITIONER CERTIFICATION EXAM**

- Understand the AWS Certified Cloud Practitioner exam requirements
- Gather and access exam preparation resources
- Gather tips for taking the exam

- Gather documentation and study material

**CLOUD CONCEPTS - FUNDAMENTAL CONCEPTS**

- Understand the fundamentals of Cloud Computing
- Understand and evaluate various business needs and cloud solutions available to meet them
- Understand and accurately convey the overall AWS Cloud value proposition

**TECHNOLOGY - BASIC CORE SERVICES**

- Network with Amazon VPC
- Employ Routing and Firewall strategies
- Use DNS, VPN, and Direct Connect controls
- Understand and employ proper network security
- Understand and employ Amazon Elastic Compute Cloud (EC2)
- Launch and EC2 Instance
- Understand and employ Amazon Elastic Block Store (EBS)
- Understand and employ Elastic Load Balancing
- Understand and employ Amazon Simple Storage Service (S3)

**TECHNOLOGY - ADVANCED CORE SERVICES**

- Understand and employ Amazon CloudWatch
- Understand and employ AWS Auto Scaling strategies
- Understand and employ Amazon CloudFront
- Explain the innerworkings of AWS Lambda
- Create and Invoke AWS Lambda Functions
- Explain the uses of Amazon Relational Database Services (RDS)
- Understand and employ Amazon DynamoDB
- Understand and employ Amazon Glacier
- Understand and employ Amazon Redshift
- Deploy eCommerce Strategies

**TECHNOLOGY - OTHER SERVICES**

- Explain the importance of automation
- Understand and employ AWS Elastic Beanstalk
- Understand and employ AWS CloudFormation
- Understand and employ AWS WAF
- Understand and employ AWS Shield

**SECURITY – SECURITY IN AWS**

- Explain the Shared Responsibility Model
- Explain Identity and Access Management constructs
- Manage users, groups, and roles
- Understand AWS Organizations structure
- Understand and employ AWS Assurance Programs
- Identify and explain Key Services for Auditing and Compliance
- Employ strategies around PCI DSS Regulated Workload
- Employ strategies around vulnerability and penetration testing

**BILLING AND PRICING – SERVICE PRICING**

- Explain and calculate Compute Pricing
- Explain and calculate Database Pricing

- Explain and calculate Storage Pricing

**BILLING AND PRICING – COST MANAGEMENT**

- Understand and Employ AWS Cost Calculators
- Understand and Employ Cost Management Tools
- Understand and Employ AWS Trusted Advisor
- Understand and Employ AWS Support