CTR-702 AWS Developer

Overview

Course Duration: 5 Days

About This Course

The AWS Developer course focuses on developing and deploying applications on the AWS platform. It covers various AWS services, SDKs, and best practices for building secure, scalable, and efficient cloud-native applications.

Audience Profile

This course is designed for software developers who are building or planning to build applications on AWS.

At Course Completion

- Develop, deploy, and troubleshoot applications on AWS.
- Use AWS SDKs to interact with AWS services from your applications.
- Implement security and optimization practices in your AWS-based applications.
- Prepare for the AWS Certified Developer – Associate exam.

Course Outline

Module 1: Introduction to AWS for Developers

- Overview of AWS and Its Benefits for Developers
- AWS Core Services Overview
- Setting Up the Development Environment (AWS SDKs, CLI, IDEs)
- Introduction to AWS IAM for Developers
- Hands-On Lab: Setting Up AWS CLI and SDKs

Module 2: AWS Compute Services for Developers

- Deep Dive into Amazon EC2 for Application Development
- Serverless Computing with AWS Lambda

- Containerization with Amazon ECS and EKS
- Elastic Beanstalk for Simplified Application Deployment
- Hands-On Lab: Building and Deploying a Simple Application on EC2

Module 3: AWS Storage Services for Developers

- Amazon S3: Object Storage, Versioning, and Lifecycle Policies
- Amazon EBS: Block Storage for Applications
- Amazon S3 Glacier for Data Archiving
- Data Management with AWS Storage Gateway
- Hands-On Lab: Integrating S3 with a Web Application

Module 4: Data and Database Services for Developers

- Amazon RDS: Managed Relational Databases
- Amazon DynamoDB: NoSQL Database Development
- Caching Strategies with Amazon ElastiCache
- Data Warehousing with Amazon Redshift
- Hands-On Lab: Developing a Data-Driven Application with DynamoDB

Module 5: Application Integration and Messaging

- Amazon SQS for Queue-Based Messaging
- Amazon SNS for Pub/Sub Messaging Patterns
- Event-Driven Architectures with Amazon EventBridge
- Integrating Microservices with AWS Step Functions
- Hands-On Lab: Building a Messaging System with SQS and SNS

Module 6: API Gateway and AWS Lambda Integration

- Introduction to Amazon API Gateway
- Creating, Deploying, and Securing APIs
- Integrating API Gateway with AWS Lambda
- CORS, Throttling, and Caching with API Gateway
- Hands-On Lab: Building and Deploying an API with API Gateway and Lambda

Module 7: Monitoring, Logging, and Security

- Monitoring Applications with Amazon CloudWatch
- Logging with CloudWatch Logs and AWS X-Ray
- Implementing Security Best Practices (IAM, KMS)
- Managing Secrets with AWS Secrets Manager
- Hands-On Lab: Setting Up Monitoring and Logging for an Application

Module 8: Developer Tools and CI/CD on AWS

- Overview of AWS Developer Tools (CodeCommit, CodeBuild, CodeDeploy, CodePipeline)
- Automating Builds and Deployments with CI/CD Pipelines
- Version Control with AWS CodeCommit
- Testing and Deploying Applications with AWS CodeDeploy
- Hands-On Lab: Creating a CI/CD Pipeline for an AWS Application

Module 9: Advanced Development Topics

- Building Scalable and Fault-Tolerant Applications
- Serverless Application Development with SAM (Serverless Application Model)
- Automating Infrastructure with AWS CloudFormation
- Performance Optimization and Cost Management
- Hands-On Lab: Deploying a Serverless Application Using SAM

Module 10: Real-World Applications and Exam Preparation

- Real-World AWS Development Use Cases
- Case Studies: Successful AWS Developer Projects
- Final Project: Developing and Deploying a Full AWS Application
- Review of Key Concepts for AWS Certified Developer Exam
- Course Summary and Next Steps in AWS Developer Path

work environment: AWS Management Console, AWS CLI, AWS SDKs, Amazon EC2, AWS Lambda, Amazon S3, Amazon RDS, Amazon API Gateway, AWS CodePipeline

Prerequisites

- Proficiency in at least one programming language.
- Basic understanding of cloud computing and AWS services.