

**Cloud Operations on AWS**

**Course Number:** AWS-104
**Duration:** 3 days

**Overview**

This Cloud Operations on AWS training course teaches attendees how to install, configure, automate, monitor, secure, and troubleshoot the AWS services necessary to support business applications.

Accelebrate is an AWS Training Partner (ATP) and this hands-on official AWS Classroom Training course is taught by an accredited Amazon Authorized Instructor (AAI).

**Prerequisites**

All students should have attended Accelebrate's [AWS Technical Essentials classroom training](file:////training/aws-technical-essentials) (or have the equivalent knowledge) and have:

* Background in either software development or systems administration
* Proficiency in maintaining operating systems at the command line, such as shell scripting in Linux environments or cmd/PowerShell in Windows
* Basic knowledge of networking protocols (TCP/IP, HTTP)

**Materials**

All AWS training students receive comprehensive courseware.

**Software Needed on Each Student PC**

A modern web browser and an Internet connection free of restrictive firewalls, so that the student can connect by SSH or Remote Desktop (RDP) into AWS virtual machines.

**Objectives**

* Identify the AWS services that support the different phases of Operational Excellence
* Manage access to AWS resources
* Maintain an inventory of in-use AWS resources
* Develop a resource deployment strategy
* Automate resource deployment by using AWS services
* Use AWS services to manage AWS resources through CloudOps lifecycle processes
* Configure a highly available cloud environment that uses AWS services
* Configure AWS Auto Scaling and Amazon EC2 Auto Scaling to scale out the cloud environment
* Use Amazon CloudWatch and associated features
* Manage permissions and track activity in the cloud environment
* Deploy resources to an Amazon Virtual Private Cloud (Amazon VPC)
* State the purpose, benefits, and appropriate use cases for mountable storage in the AWS Cloud environment

**Outline**

* Introduction to Cloud Operations on AWS
	+ Systems operations
	+ AWS Well-Architected Framework
	+ AWS Well-Architected Tool
* Access Management
	+ Access management
	+ Resources, accounts, and AWS Organizations
* System Discovery
	+ Methods to interact with AWS services
	+ Introduction to monitoring services
	+ Tools for automating resource discovery
	+ Inventory with AWS Systems Manager and AWS Config
	+ Troubleshooting scenario
	+ Auditing AWS Resources with AWS Systems Manager and AWS Config
* Deploy and Update Resources
	+ Systems operations in deployments
	+ Tagging strategies
	+ Deployment using Amazon Machine Images (AMIs)
	+ Deployment using AWS Control Tower
	+ Troubleshooting scenario
* Automate Resource Deployment
	+ Deployment using AWS CloudFormation
	+ Deployment using AWS Service Catalog
	+ Troubleshooting scenario
	+ Infrastructure as Code
* Manage Resources
	+ AWS Systems Manager
	+ Troubleshooting scenario
	+ Operations as Code
* Configure Highly Available Systems
	+ Distributing traffic with Elastic Load Balancing
	+ Amazon Route 53
* Automate Scaling
	+ Scaling with AWS Auto Scaling
	+ Scaling with Spot Instances
	+ Managing licenses with AWS License Manager
	+ Troubleshooting scenario
* Monitor and Maintain System Health
	+ Monitoring and maintaining healthy workloads
	+ Monitoring distributed applications
	+ Monitoring AWS infrastructure
	+ Monitoring your AWS account
	+ Troubleshooting scenario
	+ Monitoring Applications and Infrastructure
* Data Security and System Auditing
	+ Maintaining a strong identity and access foundation
	+ Implementing detection mechanisms
	+ Automating incident remediation
	+ Troubleshooting scenario
	+ Implementing IAM permissions boundaries
* Operate Secure and Resilient Networks
	+ Building a secure Amazon Virtual Private Cloud (Amazon VPC)
	+ Networking beyond the VPC
	+ Troubleshooting scenario
* Mountable Storage
	+ Configuring Amazon Elastic Block Storage (Amazon EBS)
	+ Sizing Amazon EBS volumes for performance
	+ Using Amazon EBS snapshots
	+ Using Amazon Data Lifecycle Manager to manage your AWS resources
	+ Creating backup and data recovery plans
	+ Configuring shared file system storage
* Object Storage
	+ Deploying Amazon Simple Storage Service (Amazon S3) with Access Logs, Cross-Region
	+ Replication and S3 Intelligent-Tiering
	+ Automating with AWS Backup for Archiving and Recovery
* Cost Reporting, Alerts, and Optimization
	+ Gaining AWS cost awareness
	+ Using control mechanisms for cost management
	+ Optimizing your AWS spend and usage
	+ Capstone lab for SysOps
* Conclusion