

Designing and Implementing Storage on AWS

AWS Classroom Training

Course description

AWS offers a broad portfolio of storage services and solutions with diverse capabilities for storing, accessing, and protecting your data. In this course, you will learn where, how, and when to take advantage of these different service offerings. You will learn which services to consider when looking to solve your data storage challenges. You will learn how to best evaluate your options in selecting the appropriate AWS storage service to meet your use case and business requirements. You will also gain a better understanding of how to store, manage, and protect your data in the cloud. Through a series of hands-on exercises that demonstrate the ease and power of AWS platform, you will learn how to quickly provision powerful storage solutions in minutes.

- Course level: Intermediate
- Duration: 3 days

Activities

This course includes presentations, hands-on labs, demonstrations, and group exercises.

Course objectives

In this course, you will learn to:

- Describe the benefits of the core AWS storage services and identify some of their primary use cases
- Select and design an appropriate storage solution according to application and business requirements
- Configure storage resources to work with the broad array of AWS service offerings
- Select the right method to move data between on-premises workloads and the AWS Cloud
- Design storage solutions to protect data at rest and in transit
- Set up monitoring and observability for Cloud storage to gain insight into access patterns, utilization, and efficiency
- Design and optimize storage solutions according to cost, scalability, and performance requirements

Intended audience

This course is intended for:

- Solution Architects
- Cloud Storage Engineers
- Cloud Operations Specialists
- DevOps Engineers

Prerequisites

We recommend that attendees of this course have:

- Completed AWS Cloud Practitioner Essentials, AWS Technical Essentials, or equivalent real-world experience

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Course outline

Day 1

Module 1: Introduction to Cloud Storage

- Storage in the AWS cloud
- Designing Well Architected Storage Solutions
- Designing Durable and Available Storage Solutions
- Building Accessible and Secure Storage Solutions

Module 2: Designing Object Storage Solutions in AWS

- What is object storage?
- Planning and designing your Amazon S3 deployment
- Managing Amazon S3
- Access Control with Amazon S3
- Hands-On Lab: Exploring S3 Access Control and S3 Object Lambda

Module 3: Implementing Object Storage solutions with S3

- Cost management and the data lifecycle
- Managing data transfers into Amazon S3
- Data protection in Amazon S3
- Manage objects stored in Amazon S3 at scale
- Hands-on Lab: Multi-Part Uploads, Batch Operations, and Cross-Region Replication with Amazon S3

Module 4: Designing Block storage solutions in AWS

- Block storage fundamentals
- Amazon Elastic Block Store (Amazon EBS)
- Configuring EBS volume types
- EC2 and EBS encryption

Day 2

Module 5: Implementing Block Storage Solutions with Amazon EBS

- Creating EBS volumes
- Managing EBS volumes
- Managing EBS snapshots at scale
- Hands-On Lab: Managing EBS Volumes: Capacity, Performance, and Data Protection

Module 6: File Storage and Amazon EFS

- Cloud-based file storage
- Amazon EFS overview
- Accessing Amazon EFS
- Securing and protecting Amazon EFS file systems
- Hands-On Lab: Using Amazon EFS with AWS Lambda and Amazon ECS

Module 7: Cloud file storage with Amazon FSx

- Amazon FSx overview
- Amazon FSx for Windows File Server

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- Amazon FSx for NetAPP ONTAP
- Amazon FSx for OpenZFS
- Amazon FSx for Lustre
- Choosing an Amazon FSx service
- Hands-On Lab: Working with FSx for NetApp ONTAP and FSx for OpenZFS

Day 3

Module 8: Hybrid and Edge Cloud Storage

- Hybrid and edge cloud storage overview
- Introduction to AWS Storage Gateway
- AWS Storage Gateway architectures
- AWS Snow Family

Module 9: Moving data to AWS

- Moving data to AWS
- Working with AWS DataSync
- Implementing AWS Transfer Family
- Hands-On Lab: Moving Data with Storage Gateway and DataSync

Module 10: Backup and Disaster Recovery with AWS

- Designing a data protection strategy
- AWS Backup
- Creating backup plans
- Working with AWS DRS
- Hands-On Lab: Creating and Restoring Backups with AWS Backup

Module 11: Monitoring, Automating, and Optimizing your AWS Storage

- AWS Observability Services
- Amazon S3 Storage Lens
- Amazon CloudWatch
- AWS CloudTrail
- AWS Config
- AWS Compute Optimizer
- Hands-On Lab: Storage Monitoring, Automation, and Optimization