

AWS Cloud Essentials – 40 Hours

Course Overview:

This hands-on course provides a practical introduction to the Amazon Web Services (AWS) cloud platform, focusing on real-world usage of core cloud services for data platforms, applications, and infrastructure. Participants will gain experience working with the AWS Console and CLI, designing scalable and secure cloud architectures, and building cloud-based data pipelines and application backends. The course covers key AWS services for storage, compute, databases, serverless, messaging, and data integration, while emphasizing architectural best practices, security fundamentals, and cost considerations. By the end of the course, participants will be able to design, deploy, and operate modern cloud-based solutions on AWS and confidently support cloud adoption initiatives within their teams or organizations.

What Participants Gain?

- Confident usage of AWS Console and CLI
- Ability to design and operate cloud storage and Data Lake solutions using S3
- Deploying and managing databases on AWS (RDS, Aurora)
- Building basic ETL pipelines using AWS Glue
- Developing serverless functions with AWS Lambda and exposing APIs
- Integrating messaging and streaming services (SQS, Kinesis)
- Deploying and managing compute resources (EC2, ECS)
- Understanding cloud security, scaling, and architecture best practices

Prerequisites

- Basic understanding of computing infrastructure and networking concepts
- General experience with software development or data systems
- Familiarity with databases and SQL – advantage
- No prior AWS experience required

Target Audience

- Data Engineers and Analytics Engineers working with cloud-based data platforms
- Software Developers building applications on cloud infrastructure
- BI and Analytics professionals integrating cloud data sources
- DevOps and IT professionals starting their AWS journey
- Technical teams transitioning on-premise workloads to AWS

Course Contents:

- **Cloud Deployment Models**
 - Service models:
 - Infrastructure as a service (IaaS)
 - Platform as a service (PaaS)
 - Software as a service (SaaS)
- **Fundamentals Overview**
 - Storage
 - Networking and security
 - Compute
 - Virtualization and Containers
 - Managed services
 - Databases – Relational and NoSQL
- **Amazon and AWS History & Region**
- **AWS Management Console**
- **AWS Command Line Interface**
- **Amazon S3**
 - What is a Big Data Data-Lake S3
 - Amazon S3 Integration
 - Data Lake on S3 Use-Cases
- **Amazon RDS**
 - What is Amazon RDS
 - Supported Database Engines
 - Features and Advantages
 - Creation Method
 - Database Engine Type & Instance Sizes
 - Amazon RDS Storage Types
 - Setting the Availability
 - RDS Parameter Groups
 - Amazon Aurora
- **Amazon Redshift**
 - What is Amazon Redshift
 - Amazon Redshift and S3 Integration

- Architecture
- Performance Optimization
- Managing and Query Methods
- Amazon Redshift SQL Editor
- Settings and Configuration
- Amazon Redshift Lab
- **Amazon Athena**
 - Features and Advantages
 - Athena SQL Engine
 - Data model for Athena & Partitioning
 - Athena Table Definitions and Schema
 - Cost Considerations
 - Amazon Athena AWS Services Integrations
 - Amazon Athena Real World Projects
- **Amazon Glue**
 - What is AWS Glue
 - Features and Advantages
 - Main Concepts:
 - supported data Sources
 - supported data Targets
 - Main Components
 - Data Catalog
 - Crawlers and Classifiers
 - ETL Operations
 - Streaming ETL
 - Tables
 - Connections
 - Glue Use-Cases
- **Lambda & API Gateway**
 - Lambda Features and Advantages
 - Lambda Code Editor
 - Function Creation Options
 - Lambda Considerations
 - Exposure Rest API and handle events
 - Integration with sources and targets Lab
- **Message Queues**
 - Introduction to message queues
 - Simple Queue Service (SQS)
 - Kinesis Services
 - Kinesis Data Streams Use-Cases



- Amazon Kinesis Pricing Method