Training: AWS
Building Data Analytics Solutions Using Amazon Redshift

TRAINING GOALS:

In this course, you will build a data analytics solution using Amazon Redshift, a cloud data warehouse service. The course focuses on the data collection, ingestion, cataloging, storage, and processing components of the analytics pipeline. You will learn to integrate Amazon Redshift with a data lake to support both analytics and machine learning workloads. You will also learn to apply security, performance, and cost management best practices to the operation of Amazon Redshift.

Course objectives

In this course, you will learn to:

- Compare the features and benefits of data warehouses, data lakes, and modern data architectures
- Design and implement a data warehouse analytics solution
- Identify and apply appropriate techniques, including compression, to optimize data storage
- Select and deploy appropriate options to ingest, transform, and store data
- Choose the appropriate instance and node types, clusters, auto scaling, and network topology for a particular business use case
- Understand how data storage and processing affect the analysis and visualization mechanisms needed to gain actionable business insights
- Secure data at rest and in transit
- Monitor analytics workloads to identify and remediate problems
- Apply cost management best practices

Intended audience

This course is intended for data warehouse engineers, data platform engineers, and architects and operators who build and manage data analytics pipelines.

CONSPECT:

- Module A: Overview of Data Analytics and the Data Pipeline
  - Data analytics use cases
  - Using the data pipeline for analytics

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- Module 1: Using Amazon Redshift in the Data Analytics Pipeline
  - Why Amazon Redshift for data warehousing?
  - Overview of Amazon Redshift
- Module 2: Introduction to Amazon Redshift
  - Amazon Redshift architecture
  - Interactive Demo 1: Touring the Amazon Redshift console
  - Amazon Redshift features
  - Practice Lab 1: Load and query data in an Amazon Redshift cluster
- Module 3: Ingestion and Storage
  - Ingestion
  - Interactive Demo 2: Connecting your Amazon Redshift cluster using a Jupyter notebook with Data API
  - Data distribution and storage
  - Interactive Demo 3: Analyzing semi-structured data using the SUPER data type
  - Querying data in Amazon Redshift
  - Practice Lab 2: Data analytics using Amazon Redshift Spectrum
- Module 4: Processing and Optimizing Data
  - Data transformation
  - Advanced querying
  - Practice Lab 3: Data transformation and querying in Amazon Redshift
  - Resource management
  - Interactive Demo 4: Applying mixed workload management on Amazon Redshift
  - Automation and optimization
  - Interactive demo 5: Amazon Redshift cluster resizing from the dc2.large to ra3.xlplus cluster
- Module 5: Security and Monitoring of Amazon Redshift Clusters
  - Securing the Amazon Redshift cluster
  - Monitoring and troubleshooting Amazon Redshift clusters
- Module 6: Designing Data Warehouse Analytics Solutions
  - Data warehouse use case review
  - Activity: Designing a data warehouse analytics workflow
- Module B: Developing Modern Data Architectures on AWS
  - Modern data architectures

REQUIREMENTS:

Students with a minimum one-year experience managing data warehouses will benefit from this

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course. We recommend that attendees of this course have:

- Completed either AWS Technical Essentials or Architecting on AWS
- Completed Building Data Lakes on AWS

Difficulty level

CERTIFICATE:

The participants will obtain certificates signed by AWS (course completion).

This course together with Building Data Lakes on AWS, also helps you prepare for the AWS Certified Data Analytics - Specialty DAS- C01exam and this way gain the AWS Certified Data Analytics - Specialty title – specialty level. AWS certification exams are offered at Pearson Vue test centers worldwide https://home.pearsonvue.com/Clients/AWS.aspx

TRAINER:

AWS Authorized Instructor (AAI)

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