Data Warehousing on AWS

Course code: AWSDW

Data Warehousing on AWS introduces you to concepts, strategies, and best practices for designing a cloud-based data warehousing solution using Amazon Redshift, the petabyte-scale data warehouse in AWS. This course demonstrates how to collect, store, and prepare data for the data warehouse by using other AWS services such as Amazon DynamoDB, Amazon EMR, Amazon Kinesis Firehose, and Amazon S3. Additionally, this course demonstrates how to use business intelligence tools to perform analysis on your data.

Who is the course for

- Database architects
- Database administrators
- Database developers
- Data analysts and scientists

What we teach you

- Discuss the core concepts of data warehousing.
- Evaluate the relationship between Amazon Redshift and other big data systems.
- Evaluate use cases for data warehousing workloads and review case studies that demonstrate implementation of AWS data and analytic services as part of a data warehousing solution.
- Choose an appropriate Amazon Redshift node type and size for your data needs.
- Discuss security features as they pertain to Amazon Redshift, such as encryption, IAM permissions, and database permissions.
- Launch an Amazon Redshift cluster and use the components, features, and functionality to implement a data warehouse in the cloud.
- Use other AWS data and analytic services, such as Amazon DynamoDB, Amazon EMR, Amazon Kinesis Firehose, and Amazon S3, to contribute to the data warehousing solution.
- Evaluate approaches and methodologies for designing data warehouses.
- Identify data sources and assess requirements that affect the data warehouse design.
- Design the data warehouse to make effective use of compression, data distribution, and sort methods.
- Load and unload data and perform data maintenance tasks.
- Write queries and evaluate query plans to optimize query performance.
- Configure the database to allocate resources such as memory to query queues and define criteria to route certain types of queries to your configured query queues for improved processing.
- Use features and services, such as Amazon Redshift database audit logging, Amazon CloudTrail, Amazon CloudWatch, and Amazon Simple Notification Service (Amazon SNS), to audit, monitor, and receive event notifications about activities in the data warehouse.
- Prepare for operational tasks, such as resizing Amazon Redshift clusters and using snapshots to back up and restore clusters.
- Use a business intelligence (BI) application to perform data analysis and visualization tasks against your data.

Required skills

- Courses taken: AWS Technical Essentials (or equivalent experience with AWS)
- Familiarity with relational databases and database design concepts

Course outline

Day 1

Course Introduction

Introduction to Data Warehousing

Introduction to Amazon Redshift

Understanding Amazon Redshift Components and Resources

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Data Warehousing on AWS

Launching an Amazon Redshift Cluster

Day 2

Reviewing Data Warehousing Approaches

Identifying Data Sources and Requirements

Designing the Data Warehouse

Loading Data into the Data Warehouse

Day 3

Writing Queries and Tuning Performance

Maintaining the Data Warehouse

Analyzing and Visualizing Data

Course Summary

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