Mastering SQL with AWS Query Editor

Course Objectives

- Understand the features and capabilities of AWS Query Editor within Amazon Web Services
- Build foundational to advanced SQL skills for cloud-based databases
- Learn to connect and manage databases hosted on Amazon RDS and Amazon Redshift
- Develop the ability to analyze and manipulate enterprise data efficiently
- Understand database security, permissions, and performance basics
- Work with real-world datasets including Salesforce data

Course Outcomes

By the end of this course, participants will be able to:

- Connect to and navigate AWS Query Editor confidently
- Write and execute SQL queries for data retrieval and filtering
- Perform data manipulation operations (INSERT, UPDATE, DELETE)
- Create and manage tables, schemas, and views
- Use advanced SQL features such as joins, aggregations, and subqueries
- Apply basic performance tuning techniques for optimized queries
- Manage database users, roles, and permissions securely
- Execute analytical queries to support reporting and business insights

1. **Introduction to AWS Query Editor**

- Overview of AWS Query Editor
- Supported databases (Amazon RDS, Amazon Redshift)
- Connecting to a database instance
- Navigating the Query Editor interface

2. **Database Basics**

- Creating and selecting databases
- Understanding schemas and tables
- Viewing and describing table structures

3. **Basic SQL Operations**

- SELECT statements (retrieving data)
- Filtering data with WHERE
- Sorting results with ORDER BY
- Limiting results with LIMIT

4. **Data Manipulation**

- Inserting data (INSERT)
- Updating data (UPDATE)
- Deleting data (DELETE)
- Bulk data loading (for Redshift: COPY command)

5. **Table Management**

- Creating tables (CREATE TABLE)
- Modifying tables (ALTER TABLE)
- Dropping tables (DROP TABLE)
- Data types and constraints

6. **Advanced SQL Queries**

- Aggregate functions (COUNT, SUM, AVG, MIN, MAX)
- GROUP BY and HAVING clauses
- Joining tables (INNER JOIN, LEFT JOIN, RIGHT JOIN, FULL OUTER JOIN)
- Subqueries and nested queries
- Views and materialized views

7. **Redshift/Aurora/RDS-Specific Features**

- Using Redshift distribution styles and sort keys
- Using Aurora/RDS MySQL/PostgreSQL features

- Performance tuning basics

8. **Security and Permissions**

- Managing users and roles
- Granting and revoking permissions
- Best practices for secure SQL scripting

9. **Exporting and Importing Data**

- Exporting query results from Query Editor
- Importing data into tables

10. **Real-World Scenarios and Projects**

- Sample analytics queries
- ETL (Extract, Transform, Load) basics
- Reporting and dashboarding with SQL

11. **Salesforce Database and Tables (SFDC)**

- Salesforce Data Dictionary
- List of Critical Tables and Columns
- Tables Relationship with Master and Primary Keys
- Practice session on SFDC data”