

# Amazon Redshift Training

## *COURSE CONTENT*

### GET IN TOUCH



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## About Multisoft

Train yourself with the best and develop valuable in-demand skills with Multisoft Systems. A leading certification training provider, Multisoft collaborates with top technologies to bring world-class one-on-one and certification trainings. With the goal to empower professionals and business across the globe, we offer more than 1500 training courses, which are delivered by Multisoft's global subject matter experts. We offer tailored corporate training; project Based Training, comprehensive learning solution with lifetime e-learning access, after training support and globally recognized training certificates.

## About Course

Amazon Redshift training by Multisoft Systems is a comprehensive program designed to help professionals master the skills required to work with one of the most popular cloud-based data warehousing solutions.

## Module 1: Introduction to Amazon Web services

- ✓ Amazon Web Services Stack
- ✓ Introduction to Amazon DATABASE

## Module 2: Introduction to AWS Redshift

- ✓ AWS Redshift – Data Warehouse-as-a-Service
- ✓ Features
- ✓ Pricing

## Module 3: Redshift Architecture Overview

- ✓ Clusters
- ✓ Leader and Compute Nodes
- ✓ Node Slices
- ✓ Columnar Storage for performance
- ✓ Economics of Redshift
- ✓ Key differentiators
- ✓ Common Use cases

## Module 4: Up and Running with AWS Redshift – Hands On

- ✓ Launch a new Redshift Cluster
- ✓ Modifying a Cluster – resize, showdown, delete, reboot.
- ✓ Security Groups.
- ✓ Parameter groups.
- ✓ Database Encryption.
- ✓ Backup and recovery – creating manual snapshot and automatic snapshots.
- ✓ Authorize access to Cluster
- ✓ Getting Information about Cluster Configuration.
- ✓ Database Audit Logging

## Module 5: Accessing Amazon Redshift cluster – Hands On

- ✓ JDBC and ODBC interfaces
- ✓ Install and configure client SQL tools using JDBC and/or ODBC drivers
- ✓ Create Database, Users, user groups, permissions and access controls.
- ✓ Connect to Redshift Cluster
- ✓ Load sample data into cluster
- ✓ Create and test queries against the data

## Module 6: Monitor cluster performance – Hands On

- ✓ Analyzing cluster Performance data
- ✓ Analyze query execution
- ✓ Creating Alarm and working with performance metrics

## Module 7: Designing tables – Deep dive – Hands On

- ✓ DDL SQL – Creating Tables, Alter tables, Drop tables.
- ✓ LIMITATIONS and what is implemented differently.
- ✓ Selecting distribution Style and distribution keys.
- ✓ Selecting Sort Key.
- ✓ Choose best Distribution key covering various use cases
- ✓ Choosing best sort keys covering various use cases.
- ✓ Choosing a column compression type.
- ✓ Define constraints

## Module 8: Loading data – Deep Dive – Hands On

- ✓ Using Copy to Load data
- ✓ Loading data from S3
- ✓ Using a Manifest to Specify Data Files
- ✓ Loading Compressed Files
- ✓ Loading Fixed-Width Data

- ✓ Loading Multi-byte Data
- ✓ Loading Encrypted Data Files
- ✓ Loading from JSON files.

## Module 9: DML Operations

- ✓ Insert, Select, Update, Delete
- ✓ Deep Copy
- ✓ LIMITATIONS Troubleshooting
- ✓ S3ServiceException Errors
- ✓ System Tables for Troubleshooting Data Loads
- ✓ Multi-byte Character Load Errors
- ✓ Error Reference

## Module 10: Unloading Data

- ✓ Unloading Data to Amazon S3
- ✓ Unloading Encrypted Data Files
- ✓ Unloading Data in Delimited or Fixed-Width Format
- ✓ Reloading Unloaded Data

## Module 11: Performance Tuning – Hands On

- ✓ Query Processing
- ✓ Query Planning And Execution Workflow
- ✓ Reviewing Query Plan Steps
- ✓ Query Plan
- ✓ Factors Affecting Query Performance
- ✓ Analyzing and Improving Queries
- ✓ Query Analysis Workflow
- ✓ Reviewing Query Alerts
- ✓ Analyzing the Query Plan
- ✓ Analyzing the Query Summary

- ✓ Improving Query Performance
- ✓ Diagnostic Queries for Query Tuning
- ✓ Implementing Workload Management
- ✓ Defining Query Queues
- ✓ Modifying the WLM Configuration
- ✓ WLM Queue Assignment Rules
- ✓ Assigning Queries to Queues
- ✓ Dynamic and Static Properties
- ✓ Monitoring Workload Management
- ✓ Configuring WLM Queues to Improve Query Processing
- ✓ Troubleshooting Queries
- ✓ Building Admin queries from system tables to analyze performance.
- ✓ Migration of Existing BI Systems to Redshift
- ✓ Data Loading from OLTP databases to Redshift and Limitations.
- ✓ ETL and ELT on Redshift.
- ✓ Limitations from industry standard Integration and BI tools w.r.t Redshift.
- ✓ Build custom ETL and/or ELT framework from an OLTP db to Redshift
- ✓ Use Powershell /Python AWS SDK's for loading data from SQL Server/ORACLE/Postgres to Redshift through S3.
- ✓ Limitations and Best Practices for Redshift Data warehouse implementation.