Data Warehousing on AWS Training

Duration: **3 Day**

BILGINC IT Academy
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Overview

The **{*training}** course provides the knowledge and hands-on experience required to design, build, and manage modern, scalable, and high-performance **data warehouse solutions** on AWS. The course focuses on **Amazon Redshift**, AWS's petabyte-scale cloud data warehouse service, while covering the key components of end-to-end data analytics architectures.

Participants will learn how to use services such as**Amazon Redshift**, **Amazon S3**, **Amazon DynamoDB**, **Amazon EMR**, **Amazon Kinesis**, and **Amazon QuickSight** to collect, integrate, store, process, analyse, and visualise data. The course also explores AWS best practices for data modelling, performance optimisation, security, and data lifecycle management.

Through hands-on labs and real-world scenarios, learners will gain practical experience building enterprise-scale data warehouse solutions, managing large-scale analytical workloads, and transforming data into actionable business insights.

Prerequisites

Participants should have:

- Completed **AWS Technical Essentials** or possess equivalent AWS experience
- Familiarity with relational databases
- Understanding of database design concepts

Who Should Attend

This course is designed for:

- **Database Architects**
- **Database Administrators (DBAs)**
- **Database Developers**
- **Data Engineers**
- **Data Analysts**
- **Data Scientists**
- **Business Intelligence (BI) Professionals**
- Technical teams responsible for analytics and data warehouse solutions

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What You Will Learn

By the end of this {*training}, you will have gained knowledge and skills in the following areas:

- Design cloud-based data warehouse solutions using**Amazon Redshift**.
- Select appropriate data warehousing strategies and architectures.
- Integrate multiple data sources into AWS analytics environments.
- Load, process, and manage large-scale datasets.
- Optimise query performance and data warehouse efficiency.
- Monitor, audit, and maintain data warehouse environments.
- Build business intelligence dashboards and reports.
- Leverage AWS analytics services to support data-driven decision making.

Outline

Day 1

Course Introduction

- Data Warehousing Fundamentals
- Modern Data Architectures
- AWS Analytics Ecosystem

Introduction to Amazon Redshift

- **Amazon Redshift Architecture**
- Redshift Components and Resources
- Data Warehouse Infrastructure Design

Launching an Amazon Redshift Cluster

- Cluster Deployment
- Configuration Options
- Security Settings

Day 2

Choosing a Data Warehousing Approach

- Data Warehousing Strategies
- Data Modelling Principles
- Enterprise Analytics Architectures

Identifying Data Sources and Requirements

- Data Source Analysis
- Integration Requirements
- ETL and Data Preparation Processes

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Architecting the Data Warehouse

- Scalable Data Warehouse Design
- AWS Analytics Service Integration
- High-Performance Architecture Patterns

Loading Data into the Data Warehouse

- Amazon Redshift Data Loading Methods
- **Amazon S3 Integration**
- Data Transfer Strategies

Day 3

Query Optimisation and Performance Tuning

- Query Performance Improvement
- Data Distribution Strategies
- Workload Optimisation

Monitoring and Auditing the Data Warehouse

- System Monitoring
- Performance Metrics
- Security and Compliance Auditing

Maintaining the Data Warehouse

- Operational Maintenance
- Data Lifecycle Management
- Best Practices for Data Operations

Analysing and Visualising Data

- **Amazon QuickSight**
- Dashboard Design
- Business Intelligence Reporting
- Data-Driven Decision Making

AWS Analytics Services Covered

Throughout the course, participants will work with:

- **Amazon Redshift**
- **Amazon DynamoDB**
- **Amazon EMR**
- **Amazon Kinesis**
- **Amazon S3**
- **Amazon QuickSight**