



SNOWFLAKE 
DATA ENGINEERING

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Snowflake is a **data warehouse built on top of the Amazon Web Services or Microsoft Azure cloud infrastructure**. There's no hardware or software to select, install, configure, or manage, so it's ideal for organizations that don't want to dedicate resources for setup, maintenance, and support of in-house servers.

Snowflake **enables data storage, processing, and analytic solutions** that are faster, easier to use, and far more flexible than traditional offerings. The Snowflake data platform is not built on any existing database technology or "big data" software platforms such as Hadoop.

Unlike previous technologies where we save data in rows and columns, **Snowflake stores data in blocks by compressing the data**. This allows query processing to be much faster compared to fetching rows.

WHY QUALITY THOUGHT

Quality Thought has been a pioneer in the IT training industry for 12 years now, with a motto to upskill graduates and professionals fulfilling their dream IT jobs. With a team of highly dedicated and motivated Trainers, it ensures excellent quality and output for thier training programs.

WHAT IS THE BENEFIT OF USING SNOWFLAKE?

The Snowflake architecture **allows storage and compute to scale independently**, so customers can use and pay for storage and computation separately. And the sharing functionality makes it easy for organizations to quickly share governed and secure data in real time

WHY SNOWFLAKE IS SO POPULAR?

First, let's talk about why Snowflake is gaining momentum as a **top cloud data warehousing solution**: ... It serves a wide range of technology areas, including data integration, business intelligence, advanced analytics, and security & governance. It provides support for programming languages like Go, Java

DOES SNOWFLAKE HAVE A FUTURE?

Snowflake will likely remain the dominant data cloud company for the foreseeable future. Though it will probably not turn profitable over the next year, it should benefit from massive growth. However, the increases will not likely justify the stock's triple-digit sales multiple.

WHAT ARE THE PREREQUISITES TO LEARN SNOWFLAKE?

This tutorial requires a **database, table, and virtual warehouse** to load and query data. Creating these Snowflake objects requires a Snowflake user with a role with the necessary access control permissions. In addition, SnowSQL is required to execute the SQL statements in the tutorial.



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Who can Learn?

1. Testing Engineers
2. ETL Testing Engineers
3. DWH Engineers
4. DB Testers
5. Passion to work on Cloud
6. Working Professionals

COURSE DURATION
1 MONTH

SESSION HOURS
30 HOURS



SNOWFLAKE TRAINING

ABOUT TRAINER

SnowPro, AWS & Azure Certified with 12 years of experience in data warehousing & Cloud technologies

TRAINING OBJECTIVE

This training aims at mastering the Fundamental Snowflake concepts & acquire the necessary skills to start implementing Snowflake based solutions.

Training Prerequisites

Familiarity with database & data warehousing concepts
Familiarity with SQL

TRAINING DESCRIPTION

This training provides Snowflake concepts & hands on expertise to help get you started on implementing solutions using Snowflake. This training reinforces the learning through hands on labs, assignments & quizzes.

DETAILED COURSE CONTENT

Section 1: Introduction

- ✓ Introduction
- ✓ What is a data warehouse?
- ✓ Why cloud computing?
- ✓ The Snowflake Story

Section 2: Getting Started with Snowflake

- ✓ Signup for Snowflake
- ✓ Creating our first Database & Table
- ✓ Load Data into our first table
- ✓ Snowflake Pricing Overview
- ✓ Setting up Required Snowflake tools
- ✓ Assignment 1: Create, load & query a table

Section 3: Snowflake Concepts

- ✓ Snowflake Architecture
- ✓ Virtual Warehouse & Scalability
- ✓ Snowflake Pricing
- ✓ Assignment 2: Creating a new Virtual Warehouse
- ✓ Quiz 1: Quiz - Snowflake Concepts



Section 4: Getting data into Snowflake

- ✓ Ingestion / Loading Methods
- ✓ Steps to Managing Loads
- ✓ Preparing your data
- ✓ Staging your data
- ✓ Loading from an S3 stage
- ✓ Loading JSON data - high level steps
- ✓ Loading JSON data - hands on lab
- ✓ Assignment 3: Load JSON data from an S3 bucket
- ✓ What is Snowpipe?
- ✓ Loading data via Snowpipe - high level steps
- ✓ Loading data via Snowpipe - hands on lab
- ✓ Quiz 2: Quiz - Data Ingestion Quiz



Section 5: Performance Optimization

- ✓ Performance Optimization in Snowflake
- ✓ Using Dedicated Virtual Warehouses
- ✓ Lab: Using Dedicated Virtual Warehouses
- ✓ Scale up/down the virtual warehouse
- ✓ Multi-cluster virtual warehouse or Scaling Out
- ✓ Lab: Multi-cluster virtual warehouse
- ✓ Maximize Cache usage
- ✓ Lab: Query Caching in Action
- ✓ Clustering large tables & improve partition elimination
- ✓ Lab: Cluster keys for large tables
- ✓ Quiz 3: Performance Optimization Quiz

Section 6: Time Travel, Failsafe & Zero Copy Clones

- ✓ Back to the future with Snowflake
- ✓ Travel to a specific time or before a query
- ✓ Assignment 4: Time Travel to a point in time
- ✓ Undrop databases, schema & tables
- ✓ Assignment 5: Un-drop tables, schemas & databases
- ✓ Assignment 6: Test drive the time travel
- ✓ Failsafe in Snowflake
- ✓ Lab: View storage used by Fail-safe
- ✓ Assignment 7: Understanding storage used by Fail-safe
- ✓ Zero Copy Clone
- ✓ Cloning with Time Travel
- ✓ Quiz 4: Quiz - Time Travel, Zero Copy Clones



Section 7: Secure Data Sharing

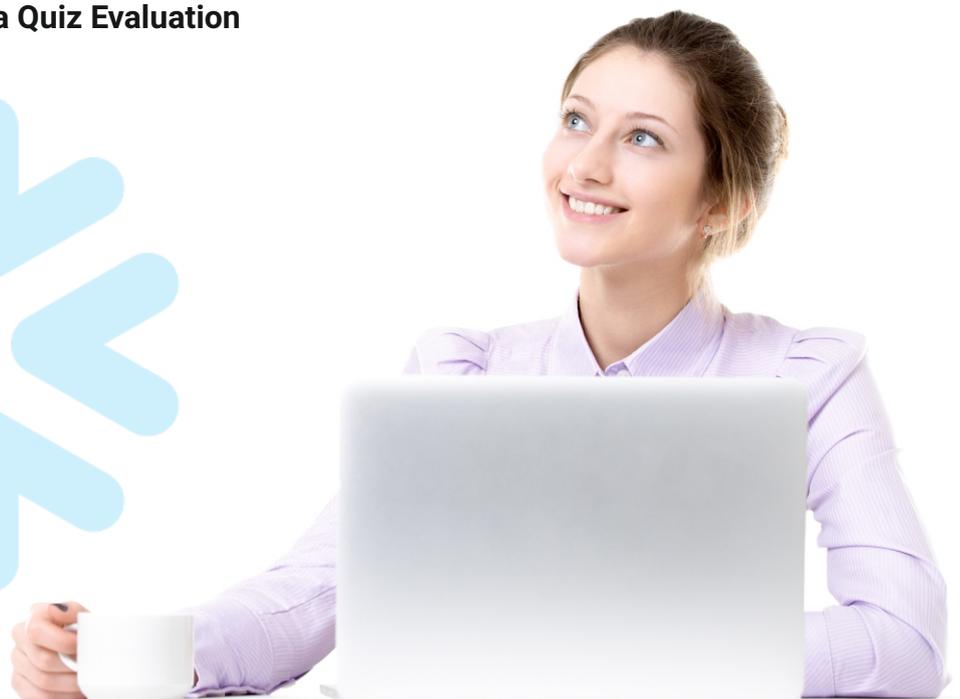
- ✓ Secure Data Sharing in Snowflake
- ✓ Sharing with other Snowflake users
- ✓ Assignment 8: Share a table with another Snowflake user
- ✓ Sharing - who's compute is used?
- ✓ Sharing - Data always up-to-date
- ✓ What is a Share?
- ✓ Sharing with non Snowflake Users
- ✓ Lab: Sharing with non Snowflake Users
- ✓ Assignment 9: Share a table with a non-Snowflake user
- ✓ Lab: Sharing entire schemas & databases
- ✓ Lab: Sharing views
- ✓ Assignment 10: Share a view, combining data from multiple tables
- ✓ Quiz 5: Quiz - Secure Data Sharing



Section 8: Snowflake Access Management

- ✓ Snowflake Approach to Access Control & Key Concepts
- ✓ Out of the Box Snowflake Roles
- ✓ Role Hierarchy in Snowflake
- ✓ ACCOUNTADMIN role
- ✓ Outline of the IAM hands on lectures
- ✓ SECURITYADMIN role
- ✓ SYSADMIN role
- ✓ Custom roles
- ✓ PUBLIC role
- ✓ Lab: Demonstrating different roles
- ✓ Assignment 11: Assign privileges through a new custom role
- ✓ Assignment 12: Assign a default role to a user (using SQL)
- ✓ Quiz 6: Quiz - Snowflake Access Management

Section 9: Conclusion & Mega Quiz Evaluation



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