

Topics - SQL

Section 1:

Introduction

Day Database, Schema, Database objects

DDL, DML, DCL, TCL, DQL

Aliasing Order of execution of clauses in SELECT

SQL clauses

Basic CASE statements

COALESCE() function

NULL handling and Wildcard search

Aggregate, System and Window functions

Section 2:

Operators

Views, CTEs and Inline views

IN/NOT IN, BETWEEN...AND...

Operators

SET Operators

Joins

Creating and maintaining indexes

Stored Procedures in SQL

Difference between UDF and Stored procedures

Miscellaneous (commit, rollback, save)

Topics - Snowflake

Section 1:

Introduction

What is a data warehouse?

What is cloud?

Advantages of cloud computing?

Types of cloud services

The Snowflake Story

Section 2:

Getting Started with Snowflake

Signup for Snowflake

Using Snowflake UI

Understanding Database objects

Container hierarchy Creating our first Database, Schema & Table

Load Data into our first table

Setting up command line interface – Snow sql

Assignment: Create, load & query a table

Section 3:

Snowflake Warehouse for Compute

Creating our first Virtual Warehouse

Virtual Warehouse sizes & Scalability

Warehouse Credits

Warehouse Suspend & Resume

Warehouse - Maximized vs Auto Scale

Multi-Cluster Warehouse Scaling policy's

Multi-cluster virtual warehouse or Scaling Out

Assignment: Creating a new Virtual Warehouse

Section 4:

Architecture, Features & Pricing

Key Concepts & Features

Shared disk vs Shared Nothing Architecture

Columnar storage & Micro Partitions

Multi Cluster Shared Data Architecture

Snowflake 3 layer Architecture

Supported Cloud Platforms & Regions

Snowflake Editions

Snowflake Releases

Snowflake Pricing

Data Integration configurations

Data Integration with ETL tools

Data Integration with reporting tools

Integration with Programming

Quiz: Snowflake Concepts

Section 5:

Loading & Unloading Structured Data

Ingestion / Loading Methods

Steps to Managing Loads

Preparing data for loading

File Format Object

Staging your data

Copy options & ON_ERROR

Loading data from an Internal stage

Working with rejected records

Different types of Internal stages

Unloading of data

Section 6:

Loading from AWS

Creating S3 bucket

Upload files in S3

Creating policy

Creating integration object

Loading from S3

Section 7:

Continuous Data Loading

What is Snowpipe?

Loading data via Snowpipe - high level steps

Storage Integration

Section 8:

Stage data transformations

Querying Data in Staged Files

Querying Metadata for Staged Files

Transforming Data During a Load

Section 9:

Semi Structured Data

File Formats

Loading JSON data

Handling nested data, array data, hierarchy data

Analytics on JSON data

Section 10:

Databases, Tables & Views

Working with Temporary, Transient & Permanent Tables

Working with External Tables

Overview of Views

Working with Materialized Views

Table Design Considerations

Section 11:

Time Travel, Failsafe & Zero Copy Clones

How Time Travel works

Travel to a specific time or before through a query

Undrop databases, schema & tables

Failsafe in Snowflake

Lab: View storage used by Fail-safe

Zero Copy Cloning

How cloning is different from copying

Cloning with Time Travel

Section 12:

Query & Cache Management

Types of Cache

Maximize Cache usage

Lab: Query Caching in Action

Query Profile

Query History

Query profile & Disk Spilling

Information Schema

Account Usage Schema

Section 13:

Performance Considerations

Impact of Data distribution in Micro-partitions

Clustering Keys

Clustering Depth

Clustering large tables & improve partition elimination

Lab: Cluster keys for large tables

Search Optimization

Benefits and Cost of Search Optimization

Section 14:

Secure Data Sharing

Secure Data Sharing in Snowflake

Sharing with other Snowflake users

Sharing - who's compute is used?

Sharing - Data always up-to date

Sharing with non-Snowflake Users

Section 15:

Snowflake Access Management

Snowflake Approach to Access Control & Key Concepts

Role Hierarchy in Snowflake

ACCOUNTADMIN role

SECURITYADMIN role

SYSADMIN role

Custom roles

PUBLIC role

Section 16:

Miscellaneous

Table Constraints

Maintaining referential integrity

Working with Resource Monitors

Change Tracking Using Table Streams

Schedule Using Tasks

Data Marketplace