



SNOWPRO™ CORE EXAM STUDY GUIDE COF-C02

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SNOWPRO™ STUDY GUIDE OVERVIEW

This is a self-learning study guide which highlights concepts that may be covered on Snowflake's SnowPro™ Core Certification exams.

This study guide does not guarantee certification success.

For an overview and more information on the SnowPro™ Core Certification exam, please navigate [here](#).

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SNOWPRO™ CORE CERTIFICATION OVERVIEW

This exam will validate knowledge to apply specific core expertise implementing and migrating to Snowflake. A SnowPro Core Certified individual has a thorough understanding of the Snowflake Cloud Data Platform, and has the knowledge necessary to develop, and manage secure, scalable Snowflake solutions to drive business objectives.

The candidate is expected to have knowledge of:

- Data Loading and Transformation in Snowflake
- Virtual Warehouse Performance and Concurrency
- DDL and DML Queries
- Using Semi-Structured and Unstructured Data
- Cloning and Time Travel
- Data Sharing
- Snowflake Account Structure and Management

Target Audience:

We recommend that individuals have at least 6 months of knowledge using the Snowflake Platform prior to attempting this exam. Familiarity with basic ANSI SQL is recommended.

- Solution Architects
- Data Engineers
- Snowflake Account Administrators
- Database Administrators
- Data Scientists
- Data Analysts
- Application Developers

SNOWPRO™ CORE SUBJECT AREA BREAKDOWN

This exam guide includes test domains, weightings, and objectives. It is not a comprehensive listing of all the content that will be presented on this examination. The table below lists the main content domains and their weighting ranges.

Domain	Estimated Percentage Range
1. Snowflake Cloud Data Platform Features and Architecture	25-30%
2. Account Access and Security	20-25%
3. Performance Concepts	15-20%
4. Data Loading and Unloading	10-15%
5. Data Transformations	20-25%
6. Data Protection and Data Sharing	10-15%

CORE PREREQUISITE KNOWLEDGE

The exam does not cover cloud fundamentals or basics of SQL syntax, but some questions on the exam assume knowledge of these concepts. If you need assistance learning these concepts, we recommend you review some additional resources.

Database Basic Concepts

- Basic Terminology Related to Databases and SQL
- Tables and Data Types
- Selecting and Manipulating Data
- Views, Store Procedures, Functions
- Security (Authentication & Authorization)

Basics of Cloud Fundamentals

- Types of Cloud Computing and Benefits
- Types of Cloud Services
- Cloud Computing Architecture (Storage & Compute)

RECOMMENDATIONS FOR USING THIS GUIDE

This guide will show the Snowflake topics covered on the exam, each topic will be hyperlinked to their location in the Snowflake Documentation where you can review the topic in more depth. Following the topics will be additional resources consisting of videos, documents, blogs or exercises to help you understand Snowflake.

Estimated length of study guide: 8 – 12 hours

Some links may have more value than others, depending on your experience, the same amount of time should not be spent on each link.

Prior to reviewing the study guide, please make sure you complete the following configurations:

- o [Snowflake University \(using your Community log in\)](#)
- o [Snowflake 30-day free trial Account for Hands-On Lab](#)

SNOWFLAKE OVERVIEW

Below is a list of documents, videos, and training modules about Snowflake:

Snowflake Overview

- o [Data Cloud Overview: Frank Sloodman](#)
- o [Introduction to the Snowflake Data Cloud](#)
- o [Data Goes Around The World in 80 Seconds With Snowflake](#)
- o [What is Snowflake? 8 Minute Demo](#)
- o [Introduction to Snowflake - Key Concepts & Architecture](#)
- o [Snowflake Getting Started](#)
- o [Before You Begin](#)

[Getting Started with Snowflake](#) is a resource of 12 modules designed to help you get familiar with Snowflake. We recommend you complete all of the modules, but the individual topics are linked to the exam content areas.

SNOWPRO CORE DOMAINS & OBJECTIVES

This exam outline includes test domains, weightings, and objectives. It is not a comprehensive listing of all the content that will be presented on the examination.

Domain 1.0: Snowflake Cloud Data Platform Features and Architecture

1.1 Outline key features of the Snowflake Cloud Data Platform.

- Elastic Storage
- Elastic Compute
- Snowflake's three distinct layers
- Data Cloud/ Data Exchange/ Partner Network
- Cloud partner categories

1.2 Outline key Snowflake tools and user interfaces.

- Snowflake User Interfaces (UI)
- Snowsight
- Snowflake connectors
- Snowflake drivers
- SQL scripting
- Snowpark

1.3 Outline Snowflake's catalog and objects.

- Databases
- Schemas
- Tables Types
- View Types
- Data types
- User-Defined Functions (UDFs) and User Defined Table Functions (UDTFs)
- Stored Procedures
- Streams
- Tasks
- Pipes
- Shares
- Sequences

1.4 Outline Snowflake storage concepts.

- Micro partitions
- Types of column metadata clustering
- Data Storage Monitoring
- Search Optimization Service

Domain 1.0: Snowflake Cloud Data Platform Features and Architecture Study Resources

Snowflake University On Demand Trainings

[Snowflake University, LevelUp: Snowflake's Key Concepts](#)

[Snowflake University, Level Up: Snowflake Ecosystem](#)

Getting Started With Snowflake

[Module 2: Prepare your Lab Environment](#)

[Module 3: The Snowflake User Interface & Lab Story](#)

Additional Assets

[Quick Tour of the Web Interface \(Document + Video\)](#)

Snowflake Documentation Links

[Caching in Snowflake Data Warehouse](#)

[Classic Web Interface](#)

[Constraints](#)

[CREATE SEQUENCE](#)

[CREATE STAGE](#)

[CREATE STREAM](#)

[CURRENT_CLIENT](#)

[Data Storage Considerations](#)

[Data Types](#)

[Database, Schema, & Share DDL](#)

[Databases, Tables & Views](#)

[DROP STAGE](#)

[Installing SnowSQL](#)

[Introduction to Snowflake](#)

[Introduction to Snowpipe](#)

[Introduction to Tasks](#)

[LIST](#)

[Overview of Access Control](#)

[Overview of Views](#)

[Semi-structured Data](#)

[SnowCD \(Connectivity Diagnostic Tool\)](#)

[Snowflake High Availability for Data Applications](#)

[Snowflake Information Schema](#)

[Snowflake Scripting](#)

[Snowsight: The Snowflake Web Interface](#)

[SQL Variables](#)

[Tabular SQL UDFs \(UDTFs\)](#)

[UDFs \(User-Defined Functions\)](#)

[Understanding Snowflake Table Structures](#)

[Using Persisted Query Results](#)

[Virtual Warehouses](#)

Domain 2.0: Account Access and Security

2.1 Outline security principles.

- Network security and policies
- Multi-Factor Authentication (MFA)
- Federated authentication
- Single Sign-On (SSO)

2.2 Define the entities and roles that are used in Snowflake.

- Outline how privileges can be granted and revoked
- Explain role hierarchy and privilege inheritance

2.3 Outline data governance capabilities in Snowflake.

- Accounts
- Organizations
- Databases
- Secure views
- Information schemas
- Access history and read support

Domain 2.0: Account Access and Security Study Resources

Snowflake University On Demand Trainings

[Snowflake University, LevelUp: Accounts & Assurances](#)

[Snowflake University, Level Up: Container Hierarchy](#)

Getting Started With Snowflake

[Module 9: Working with Roles, Account Admin & Account Usage](#)

Additional Assets

[Crucial Security Controls for Your Cloud Data Warehouse \(Video\)](#)

[Quickly Visualize Snowflake's Roles, Grants and Privileges \(Article\)](#)

[Snowflake Security Overview \(Video\)](#)

Snowflake Documentation Links

[Access Control in Snowflake](#)

[Account Usage](#)

[Authentication](#)

[CREATE TASK](#)

[Database Replication Considerations](#)

[GRANTS_TO_USERS View](#)

[GRANT OWNERSHIP](#)

[GRANT <privileges> ... TO ROLE](#)

Introduction to Organizations
LOGIN_HISTORY View
Network Policies
Overview of Views
SHOW GRANTS
Snowflake Information Schema
Summary of Governance Features
Summary of Security Features
USE SECONDARY ROLES
User Management
Using the Search Optimization Service
Working with Secure Views

Domain 3.0: Performance Concepts

- 3.1 Explain the use of the Query Profile.
 - Explain plans
 - Data spilling
 - Use of the data cache
 - Micro-partition pruning
 - Query history
- 3.2 Explain virtual warehouse configurations.
 - Multi-clustering
 - Warehouse sizing
 - Warehouse settings and access
- 3.3 Outline virtual warehouse performance tools.
 - Monitoring warehouse loads
 - Query performance
 - Scaling up compared to scaling out
 - Resource monitors
- 3.4 Optimize query performance.
 - Describe the use of materialized views
 - Use of specific SELECT commands

Domain 3.0: Performance Concepts Study Resources

Snowflake University On Demand Trainings

[Snowflake University, Level Up: Query History & Caching](#)

[Snowflake University, LevelUp: Query & Result](#)

[Snowflake University, LevelUp: Context](#)

[Snowflake University: LevelUp: Resource Monitoring](#)

[Snowflake University, Essentials - Data Warehousing Workshop](#)

Getting Started With Snowflake

[Module 6: Working with Queries, The Results Cache & Cloning](#)

Additional Assets

[Accelerating BI Queries with Caching in Snowflake \(Video\)](#)

[Caching in Snowflake Data Warehouse \(Article\)](#)

[How to: Understand Result Caching \(Article\)](#)

[Managing Snowflake's Compute Resources \(Blog\)](#)

[Performance Impact from Local and Remote Disk Spilling \(Article\)](#)

[Search Optimization: When & How to Use \(Article\)](#)

[Snowflake Materialized Views: A Fast, Zero-Maintenance Accurate Solution \(Blog\)](#)

[Snowflake Workloads Explained: Data Warehouse \(Video\)](#)

[Tackling High Concurrency with Multi-Cluster Warehouses \(Video\)](#)

[Tuning Snowflake \(Article\)](#)

[Using Materialized Views to Solve Multi-Clustering Performance Problems \(Article\)](#)

Snowflake Documentation Links

[Access Control Privileges](#)

[ALTER FILE FORMAT](#)

[ALTER WAREHOUSE](#)

[Analyzing Queries Using Query Profile](#)

[Clustering Keys & Clustered Tables](#)

[CREATE WAREHOUSE](#)

[LOGIN_HISTORY , LOGIN_HISTORY_BY_USER](#)

[Managing Cost in Snowflake](#)

[METERING_HISTORY View](#)

[Multi-cluster Warehouses](#)

[Queries](#)

[QUERY_HISTORY View](#)

[QUERY_HISTORY , QUERY_HISTORY_BY_*](#)

[Querying Semi-structured Data](#)

[RESOURCE_MONITORS View](#)

[Parameters](#)

[Understanding Snowflake Table Structures](#)

[Understanding Your Cost](#)

[Using Persisted Query Results](#)

[Using the Search Optimization Service](#)

[Virtual Warehouses](#)

Domain 4.0: Data Loading and Unloading

- 4.1 Define concepts and best practices that should be considered when loading data.
 - Stages and stage types
 - File size
 - File formats
 - Folder structures
 - Adhoc/bulk loading using the Snowflake UI
- 4.2 Outline different commands used to load data and when they should be used.
 - CREATE PIPE
 - COPY INTO
 - GET
 - INSERT/INSERT OVERWRITE
 - PUT
 - STREAM
 - TASK
 - VALIDATE
- 4.3 Define concepts and best practices that should be considered when unloading data.
 - File formats
 - Empty strings and NULL values
 - Unloading to a single file
 - Unloading relational tables
- 4.4 Outline the different commands used to unload data and when they should be used.
 - LIST
 - COPY INTO
 - CREATE FILE FORMAT
 - CREATE FILE FORMAT ... CLONE
 - ALTER FILE FORMAT
 - DROP FILE FORMAT
 - DESCRIBE FILE FORMAT
 - SHOW FILE FORMAT

Domain 4.0: Data Loading and Unloading Study Resources

Snowflake University On Demand Trainings
[Snowflake University, Level Up: Data Loading](#)
[Badge 1: Data Warehousing Workshop](#)

Getting Started With Snowflake
[Module 4: Preparing to Load Data](#)
[Module 5: Loading Data](#)

Additional Assets

[Best Practices for Data Unloading \(Article\)](#)
[Best Practices for Using Tableau with Snowflake \(White Paper, requires email for access\)](#)
[Building and Deploying Continuous Data Pipelines \(Video\)](#)
[Easily Loading and Analyzing Semi-Structured Data in Snowflake \(Video\)](#)
[How to Load Terabytes into Snowflake - Speeds, Feeds and Techniques \(Blog\)](#)

Snowflake Documentation Links

[Continuous Data Pipelines](#)
[COPY INTO <location>](#)
[COPY INTO <table>](#)
[CREATE PIPE](#)
[GET](#)
[LIST](#)
[Loading Data into Snowflake](#)
[Managing Snowpipe](#)
[OBJECT_CONSTRUCT](#)
[PUT](#)
[REMOVE](#)
[Unloading Data from Snowflake](#)
[VALIDATE](#)

Domain 5.0: Data Transformations

- 5.1 Explain how to work with standard data.
 - Estimating functions
 - Sampling
 - Supported function types
 - User-Defined Functions (UDFs) and stored procedures
- 5.2 Explain how to work with semi-structured data.
 - Supported file formats, data types, and sizes
 - VARIANT column
 - Flattening the nested structure

5.3 Explain how to work with unstructured data.

- Directory tables
- SQL file functions
- Rest API
- Create User-Defined Functions (UDFs) for data analysis

Domain 5.0: Data Transformations Study Resources

Snowflake University On Demand Training

[Badge 2: Data Application Builders Workshop](#)

Getting Started With Snowflake

[Module 7: Working with Semi-Structured Data, Views & Joins](#)

Additional Assets

[Best Practices for Managing Unstructured Data \(E-book\)](#)

[Easily Loading and Analyzing Semi-Structured Data in Snowflake \(Video\)](#)

[Structured vs Unstructured vs Semi-Structured Data \(Blog\)](#)

[Understanding Unstructured Data With Language Models \(Blog\)](#)

Snowflake Documentation Links

[Constraints](#)

[CREATE <object> ... CLONE](#)

[External Functions](#)

[FLATTEN](#)

[LAST_QUERY_ID](#)

[PARSE_JSON](#)

[SAMPLE / TABLESAMPLE](#)

[Semi-structured Data](#)

[Semi-structured Data Types](#)

[Stored Procedures](#)

[Tutorial: JSON Basics](#)

[Unstructured Data](#)

Domain 6.0: Data Protection and Data Sharing

6.1 Outline Continuous Data Protection with Snowflake.

- Time Travel
- Fail-safe
- Data Encryption
- Cloning
- Replication

6.2 Outline Snowflake data sharing capabilities.

- Account types
- Data Marketplace and Data Exchange
- Private data exchange
- Access control options
- Shares

Domain 6.0: Data Protection and Data Sharing Study Resources

Snowflake University On Demand Trainings

[Snowflake University, Level Up: Container Hierarchy](#)

[Snowflake University, Level Up: Backup and Recovery](#)

[Snowflake University, Essentials - Sharing, Marketplace & Exchanges Workshop](#)

[Badge 3: Sharing, Marketplace, & Exchanges Workshop](#)

Getting Started With Snowflake

[Module 8: Using Time Travel](#)

[Module 10: Data Sharing](#)

Additional Assets

[Data Protection with Time Travel in Snowflake \(Video\)](#)

[Getting Started on Snowflake with Partner Connect \(Video\)](#)

[Meta Data Archiving with Snowflake \(Article\)](#)

[Snowflake Continuous Data Protection \(White Paper\)](#)

[Top 10 Cool Snowflake Features, #7: Snowflake Fast Clone \(Blog + Video\)](#)

Snowflake Documentation Links

[Cloning Considerations](#)

[Continuous Data Protection](#)

[CREATE <object> ... CLONE](#)

[Data Encryption](#)

[Data Storage Considerations](#)

[Database Replication Considerations](#)

[Key Pair Authentication & Key Pair Rotation](#)

[Parameters](#)

Sharing Data Securely in Snowflake
Snowflake Time Travel & Fail-safe
Snowflake Marketplace
Understanding Data Transfer Billing
UNDROP SCHEMA

SNOWFLAKE PRODUCT RELEASES

Make sure to stay up-to-date on current product releases:

[2022 Releases](#)

SNOWPRO CORE CERTIFICATION SAMPLE QUESTIONS

1. Which type of data integration tools leverage Snowflake's scalable compute for data transformation?
 - A. Database replication
 - B. ELT
 - C. ETL
 - D. Streaming
2. What is the maximum number of consumer accounts that can be added to a share object?
 - A. 1
 - B. 10
 - C. 100
 - D. Unlimited
3. What technique does Snowflake use to limit the number of micro-partitions scanned by each query?
 - A. Pruning
 - B. Indexing
 - C. Map Reduce
 - D. B-Tree
4. Which of the following are options when creating a virtual warehouse? (Select TWO).
 - A. Auto-suspend
 - B. Storage size
 - C. Auto-resume
 - D. Cache size
 - E. Default role
5. Which role in Snowflake allows a user to administer users and manage all database objects?
 - A. SYSADMIN
 - B. SECURITYADMIN
 - C. ACCOUNTADMIN
 - D. ROOT

Key to sample questions:

1: b, 2: d, 3: a, 4: a & c, 5: c

Ready to sign up for an exam? Navigate [here](#) to get started.

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