

Administration • Security • Performance • Cost Optimization • Disaster Recovery

Mr. Sai Phanindra | 20+ Years of Experience

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LIVE Instructor-Led • Hands-On Training • 20 Chapters + Project

Suggested duration: 25 hours | 20% Theory + 80% Practical

Course objectives

Develop practical Snowflake administration skills to manage enterprise cloud data platforms, with emphasis on implementation, monitoring, security, troubleshooting and real-world administrative scenarios.

Training schedule overview

Module	Chapters	Hours
Fundamentals	1–4	4
Security & Access	5–9	5
Governance & Integration	10–13	4
Monitoring, Performance & Cost	14–17	4
Recovery & Enterprise Administration	18–20	3
Real-time project	Practical	5
Total	20 + Project	25

Module 1 | Fundamentals & Environment Setup



01 | Snowflake Architecture & Administration

- Snowflake cloud data platform overview
- Storage, Compute and Cloud Services layers
- Snowflake editions, cloud providers and regions
- Micro-partitions and columnar storage
- Snowflake Admin vs. traditional DBA responsibilities
- Snowflake administration tools

Practical: Create a Snowflake account and explore Snowsight.

02 | Account Setup & Configuration

- Snowflake organization and account management
- Account identifiers and connection URLs
- Account-level, user-level and session-level parameters
- Configuring time zones and session settings
- Snowflake CLI installation and configuration
- Connecting through Python and client applications

Practical: Configure a Snowflake environment and establish client connections.

03 | Virtual Warehouse Administration

- Creating and managing virtual warehouses
- Warehouse types and sizes
- Auto-suspend and auto-resume
- Scaling up vs. scaling out
- Multi-cluster warehouses and scaling policies
- Warehouse permissions and workload isolation

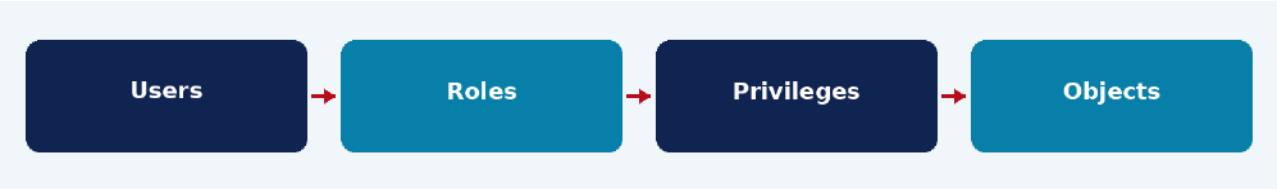
Practical: Configure separate warehouses for development, ETL and reporting workloads.

04 | Database & Storage Administration

- Creating and managing databases and schemas
- Permanent, transient and temporary tables
- Managed access schemas
- Table retention settings
- Database and schema ownership
- Storage utilization and object dependencies
- Object lifecycle management

Practical: Implement a departmental database environment.

Module 2 | Security & Access Management



05 | User Administration

- Creating and managing Snowflake users
- Human users vs. service users
- Default roles, warehouses and namespaces
- User activation and deactivation
- Password reset and account recovery
- User login monitoring
- User onboarding and offboarding

Practical: Create and configure users for multiple departments.

06 | Roles & Access Control Management

- Role-Based Access Control (RBAC)
- System-defined roles: ORGADMIN, ACCOUNTADMIN, SECURITYADMIN, USERADMIN, SYSADMIN and PUBLIC
- Custom roles and role hierarchies
- Account roles vs. database roles
- Primary and secondary roles
- Least-privilege access implementation

Practical: Implement an enterprise-level role hierarchy.

07 | Privileges & Permission Management

- Object-level and account-level privileges
- GRANT and REVOKE permissions
- Future grants
- Ownership transfer
- Managed access schema permissions
- Delegating administrative responsibilities
- Auditing existing grants
- Troubleshooting permission errors

Practical: Configure read-only, developer, data engineer and administrator roles.

08 | Authentication & Identity Management

- Multi-Factor Authentication (MFA)
- Password policies
- Authentication and session policies
- Key-pair authentication and key rotation
- Single Sign-On (SSO) with Microsoft Entra ID
- OAuth and SCIM integration

- Workload identity federation
- Programmatic access tokens

Practical: Configure key-pair authentication for service users.

Module 3 | Network Security & Governance

09 | Network Security & Data Protection

- Network policies and network rules
- IP address restrictions
- Account-level and user-level network security
- Ingress policies overview
- Azure Private Link and AWS PrivateLink
- Data encryption at rest and in transit
- Customer-managed encryption keys overview
- Security configuration best practices

Practical: Implement and test network access restrictions.

10 | Data Governance & Sensitive Data Protection

- Dynamic data masking
- Row access policies
- Object tagging
- Sensitive data classification
- Tag-based masking policies
- Secure views
- Access History and data lineage
- Snowflake Horizon Catalog overview

Practical: Protect confidential employee and customer information using security policies.

11 | Stages & Cloud Storage Integration

- Internal and external stages
- User, table and named stages
- File formats and directory tables
- Storage integrations
- Connecting Snowflake with Azure ADLS Gen2
- AWS S3 storage integration
- External stage permissions
- Troubleshooting storage connectivity

Practical: Configure external cloud storage integration and load files into Snowflake.

12 | Data Loading & Snowpipe Administration

- Bulk data loading using COPY INTO
- Loading and unloading data
- COPY_HISTORY and LOAD_HISTORY
- Error handling and validation
- Snowpipe configuration

- Automated data ingestion
- Snowpipe Streaming overview
- Monitoring and troubleshooting failed loads

Practical: Configure and monitor an automated ingestion pipeline.

Module 3 | Automation

13 | Streams, Tasks & Dynamic Tables Administration

- Change Data Capture using Streams
- Stream types and stream staleness
- Creating and scheduling Tasks
- Serverless vs. warehouse-based Tasks
- Task dependencies and task graphs
- Dynamic Tables and target lag
- Task and refresh history monitoring
- Troubleshooting failed executions

Practical: Implement and administer an automated incremental data pipeline.

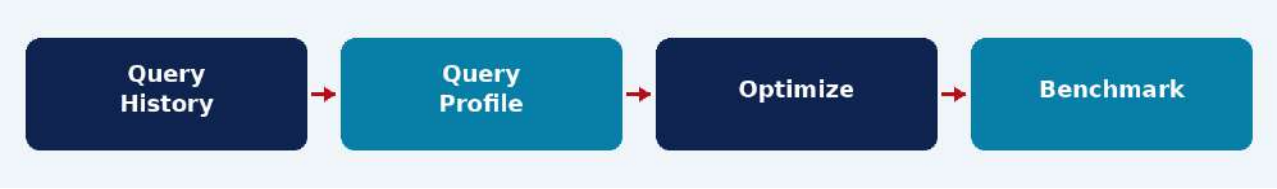
Module 4 | Monitoring, Performance Optimizations

14 | Account Monitoring & Administrative Reports

- Snowflake ACCOUNT_USAGE views
- INFORMATION_SCHEMA views and functions
- ORGANIZATION_USAGE overview
- QUERY_HISTORY and LOGIN_HISTORY
- WAREHOUSE_LOAD_HISTORY
- METERING_HISTORY
- DATABASE_STORAGE_USAGE_HISTORY
- Monitoring users, roles and privileges
- Monitoring long-running queries

Practical: Develop SQL scripts for daily Snowflake health checks.

Module 4 | Performance Optimization



15 | Query Performance Tuning

- Query Profile analysis
- Query execution statistics
- Micro-partition pruning
- Result cache and warehouse cache
- Data spilling and query queuing
- Identifying expensive SQL queries

- Query Acceleration Service
- Warehouse sizing for performance
- Performance troubleshooting techniques

Practical: Identify, analyze and optimize poorly performing queries.

16 | Advanced Performance Optimization

- Clustering keys
- Automatic Clustering
- Clustering depth and distribution
- Search Optimization Service
- Materialized views
- Performance vs. cost considerations
- Workload management
- Performance benchmarking

Practical: Compare query performance before and after optimization.

Module 5 | Cost Management, Recovery

17 | Cost Management & Resource Monitoring

- Snowflake credit consumption
- Compute, storage and data transfer costs
- Warehouse metering
- Resource monitor configuration
- Credit quotas and notification thresholds
- Automatic warehouse suspension
- Snowflake Budgets
- Serverless service cost monitoring
- Department-wise cost allocation using tags
- Identifying unnecessary credit consumption

Practical: Implement resource monitors, budget alerts and cost reporting.

Resource monitors control supported warehouse consumption; Snowflake Budgets monitor spending across supported warehouse and serverless services.

18 | Backup, Recovery & Zero-Copy Cloning

- Snowflake data protection architecture
- Time Travel configuration
- Historical data recovery using AT and BEFORE
- Recovering dropped tables, schemas and databases
- UNDROP operations
- Fail-safe and its limitations
- Zero-copy cloning
- Creating development and testing environments
- Backup policies and backup sets overview
- Data retention management

Practical: Simulate accidental data deletion and implement recovery.

19 | Replication, Disaster Recovery & Secure Sharing

- Business continuity planning
- Recovery Point Objective (RPO) and Recovery Time Objective (RTO)
- Database replication
- Replication groups and failover groups
- Cross-region and cross-cloud replication
- Failover and failback operations
- Secure Data Sharing
- Provider, consumer and reader accounts
- Disaster recovery monitoring

Practical: Configure database replication and demonstrate a disaster recovery scenario, subject to account edition and access.

20 | Production Support & Advanced Administration

- DEV, TEST, UAT and PROD environments
- Environment refresh and deployment strategies
- Administrative automation using SQL and Python
- Snowflake CLI administration
- Alerts and notification integrations
- Production incident management
- Security auditing and compliance reporting
- Snowflake Trust Center overview
- Cortex AI access and cost governance
- Daily, weekly and monthly maintenance activities
- Production support tickets and troubleshooting
- Snowflake Admin interview scenarios

Practical: Implement a complete production administration checklist.

Enterprise Snowflake Administration & Monitoring

Scenario: A multinational organization uses Snowflake as its enterprise cloud data warehouse. Students implement a secure, cost-effective and monitored environment for multiple departments.



Project implementation

- Configure enterprise Snowflake environments
- Create users, roles and permission hierarchies
- Implement authentication and network security
- Protect sensitive data using masking policies
- Configure cloud storage integrations
- Manage automated data ingestion
- Implement warehouse and query monitoring
- Configure resource monitors and budgets

- Implement data recovery and cloning
- Develop administrative reports and support scripts

Training Outcomes & Career Path

Who can attend?

- SQL Server, Oracle and PostgreSQL DBAs
- SQL Developers
- Cloud Administrators
- Data Engineers
- ETL Administrators
- IT professionals transitioning into cloud database administration

Prerequisites: Basic SQL and database concepts. Prior Snowflake experience is not mandatory.

Training deliverables

- Concept-wise detailed notes
- Administration SQL scripts
- Chapter-wise practical assignments
- Real-time implementation scenarios and production support tickets
- Administrative checklists
- Concept-wise interview questions and mock interviews
- Real-time project documentation
- Resume preparation support
- SnowPro Core and Advanced Administrator certification guidance

Career opportunities

- Snowflake Administrator / Snowflake DBA
- Snowflake Security Administrator
- Snowflake Production Support Engineer
- Cloud Database Administrator
- Snowflake Platform Engineer
- Cloud Data Platform Administrator
- Data Platform Operations Engineer



Why Attend Our FREE Demo?

- Understand the complete Snowflake Admin learning roadmap.
- Experience our LIVE, hands-on training methodology.
- Explore real-world administration and production support scenarios.
- Interact directly with our expert trainer and clarify your doubts.
- Understand career opportunities and certification pathways.
- Choose your learning path with confidence before enrolling.

Learn from an Industry Expert

Mr. Sai Phanindra
Chief Mentor & Trainer | 20+ Years of Experience
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