

Extend Oracle To Snowflake With Confidence

By Denis O'Sullivan and Amit Parikh

The Migration Challenge

Migrating Data? The Real Challenge Isn't Movement, It's Understanding.





The Modern Data Architectures

Common Problems You May Be Facing





without proper data modeling, snowflake turns into an expensive, hard-to-govern data swamp with unpredictable costs.

"Honestly, our data warehouse is a mess. We spent a fortune on it, but it's so slow and complex that nobody wants to use it. We're basically back to using spreadsheets." - r/dataengineering

"Databricks is powerful, but it's also complex. We're finding it difficult to manage and maintain, and our team is spending a lot of time troubleshooting issues." **- r/databricks**

"We implemented a l bells and whistles, bu Data quality is all ove anything useful is like haystack." - r/bigdat

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83% fail or exceed budget

control if you're not careful. We're constantly trying to optimize our queries and storage to keep the bills down." - r/snowflake

"We're struggling with data governance in Snowflake. It's hard to keep track of all the different users and roles, and we're worried about data breaches." - r/dataengineering

expected from nd we're not sure how

>rm X] promised us a unified data platform, but it's been a nightmare. Integration is a pain, and we're constantly running into compatibility issues." r/dataengineering

"We're locked into [Platform Y], and it's holding us back. It's expensive, inflexible, and doesn't support the latest technologies." - r/cloudcomputing



Model Move Monitor

A Smarter Approach to Realizing Value From Your Data Lake Initiatives



O1 Model

Blueprint for design Automate schema creation Well-governed data structures

02 Move

Accelerate migration Real-time Secure Disruption free

03 Monitor

Monitor workloads Optimize performance Manage Cost



Migrating data without a clear plan can lead to significant risks





Where Next Meets Now.

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Why is data modeling important before migration?





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SharePlex Architecture





Integration | Replication





Migrating would have caused about 20 hours of downtime if we'd done it manually. We were able to reduce this time window to just 40 minutes with SharePlex.

Sunil Nookala Senior IT Manager, Dell Database Practice



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SharePlex Deployment Options Data Integration



Datasource:o.online_store Target:s.snowflake_db

Mapping Tables from Oracle to Snowflake

ONLINE_STORE.CATEGORIES	ONLINE_STORE.CATEGORIES
ONLINE_STORE.CUSTOMERS	ONLINE_STORE.CUSTOMERS
ONLINE_STORE.INVENTORY	ONLINE_STORE.INVENTORY
ONLINE_STORE.INVOICES	ONLINE_STORE.INVOICES
ONLINE_STORE.ORDERS	ONLINE_STORE.ORDERS
ONLINE_STORE.ORDER_ITEMS	ONLINE_STORE.ORDER_ITEMS
ONLINE_STORE.PAYMENTS	ONLINE_STORE.PAYMENTS
ONLINE_STORE.PRODUCTS	ONLINE_STORE. PRODUCTS
ONLINE_STORE.SHIPMENTS	ONLINE_STORE.SHIPMENTS
ONLINE_STORE.SUPPLIERS	ONLINE_STORE.SUPPLIERS
ONLINE_STORE.SUPPLIER_PRODU	CTS ONLINE_STORE.SUPPLIER_PRODUCTS
ONLINE STORE.WAREHOUSES	ONLINE STORE.WAREHOUSES

Breakdown:

- Datasource:o.online_store → Defines the Oracle source schema as ONLINE_STORE
- Target:s.snowflake_db → Defines the Snowflake target database
- Table Mapping → Each table from ONLINE_STORE schema is replicated 1:1 to Snowflake.

Additional Considerations:

- Data Type Mismatches → Oracle and Snowflake handle data types differently (e.g., NUMBER in Oracle vs. DECIMAL in Snowflake).
- Case Sensitivity → Snowflake stores identifiers in uppercase unless quoted.
- Replication Strategy → You might need Post-Processing scripts to handle data transformations before loading into Snowflake.

Example Post-Processing ELT Script

This script:

- 1. Extracts data from Oracle (using cx_Oracle).
- 2. Loads data into Snowflake (using snowflake-connector-python).
- 3. Transforms data (adjust data types, formats and structures).



Schema: ONLINE_STORE — Transformation Breakdown

Table	Likely Transformations	Best Location	Why
CATEGORIES	Rename columns, enrich with hierarchy or tags	Snowflake model (view)	Simple logic, can be handled in view or joined with lookup tables
CUSTOMERS	Mask PII, format dates, validate emails	Post-processing	PII masking and validation often need scripting or external libraries
INVENTORY	Normalize units, ensure SKU validity	Snowflake model	Lookup/validation logic can be embedded in SQL or views
INVOICES	Recalculate tax, convert currency, derive totals	Post-processing	Business logic is complex, needs math, currency rates, etc.
ORDERS	Derive order status, delivery estimates	Snowflake model	Use calculated fields or views for dynamic data
ORDER_ITEMS	Join with PRODUCTS for price data	Snowflake model (view)	Standard view join
PAYMENTS	Mask card info, validate payment types	Post-processing	Card data masking must follow PCI compliance
PRODUCTS	Translate descriptions, enrich metadata (e.g., Al tagging)	Post-processing	Al tagging, NLP-based enrichments require Python or ML tools
SHIPMENTS	Calculate delivery windows, format tracking URLs	Snowflake model (task/view)	Time calculations are SQL-friendly
SUPPLIERS	Normalize contact info, deduplicate	Post-processing	De-duping logic can be more efficient in a script
SUPPLIER_PRODUCTS	Merge product metadata from PRODUCTS	Snowflake model	SQL joins can easily handle this
WAREHOUSES	Geolocation, capacity calculation	Post-processing	Needs external API or geospatial functions not native in Snowflake

One advantage of using Shareplex for data migration is the ability to ensure high availability and minimal downtime during the process





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Data Collection (JDBC)	OS Collections	Data Submission	Ad-hoc Queries	Other
SQL Server 1433 (Default) Oracle 1521 DB2 50000 Sybase 5000 Analysis Services 2382/2383	Windows WMI 135 Windows WinRM 5985 (HTTP), 5986 (HTTPS)	HTTP 8080 HTTPS 8443	SQL Server 3235 Oracle 3723 DB2 3725	PI Data Submission 1433 Ad-hoc PI Queries 1433 PI Data Roll up 1433

How does observability in performance impact the success of a data migration?





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Favourites

Show My Favourites

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erwin Data Intelligence

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★ ☆ ☆ ☆ ☆ & Above

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Show My Favourites



Other Information

Purpose of Harvesting

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Created By					
Denis O'Sullivan on 02-04-2025 19:39:24					
Last Modified By					
Denis O'Sullivan on 07-04-2025 13:07:02					
Explore Environments	Search				
On-Premises					
Cloud					
Logical Models					

Mindmap 🕆 Lineage 🔅 Impact

🚱 Add Task 🧪 Update < ShareLink

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Lineage Report - Dual Combined View

Online Store

Dual Lineage: Online Store





Online Store Logical Models On-Premises Cloud > III ONLINE_STORE.PAYMENTS > D D ONLINE_STORE.WAREHOUSES > E ONLINE_STORE.WAREHOUSES > D D ONLINE_STORE.ORDER_ITEMS > E ONLINE_STORE.INVENTORY > D D ONLINE_STORE.SHIPMENTS > E ONLINE_STORE.ORDER_ITEMS ONLINE_STORE.CUSTOMERS > D D ONLINE_STORE.CUSTOMERS > ONLINE_STORE.PRODUCTS > D D ONLINE_STORE.INVOICES > ONLINE_STORE.SHIPMENTS > D D ONLINE_STORE.PAYMENTS > ONLINE_STORE.CATEGORIES > > I ONLINE_STORE.CATEGORIES > ONLINE_STORE.ORDERS > D D ONLINE_STORE.PRODUCTS > ONLINE_STORE.SUPPLIERS > D III ONLINE_STORE.ORDERS > ONLINE_STORE.INVOICES > D DILINE_STORE.INVENTORY ONLINE_STORE.SUPPLIER_PRODUCTS > > ONLINE_STORE.SUPPLIERS

How do you validate data integrity, as well as ensure data security and compliance post migration?









Model Before You Move to Snowflake

Model before you move: Use erwin to understand your source data and prevent those costly surprises.

Use real-time replication: SharePlex minimizes downtime and ensure data integrity during the migration process.

Monitor everything: Implement robust monitoring with Foglight to ensure a smooth transition and ongoing performance.

Validate and optimize: Use Toad Data Studio to ensure data integrity and maximize query performance in your new environment.



=oglight by Quest





