

SQL Server vs Oracle vs Snowflake Cheat Sheet

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1. Function map

Task	SQL Server	Oracle	Snowflake
Current timestamp	SYSDATETIME()	SYSTIMESTAMP	CURRENT_TIMESTAMP()
Add days	DATEADD(day,7,d)	d + 7	DATEADD(day,7,d)
Days between	DATEDIFF(day,a,b)	b - a	DATEDIFF(day,a,b)
Truncate to month	DATETRUNC(month,d) (2022+)	TRUNC(d,'MM')	DATE_TRUNC('month',d)
Replace null	ISNULL / COALESCE	NVL / COALESCE	IFNULL / COALESCE
Concatenate	+ or CONCAT()		
Aggregate text	STRING_AGG()	LISTAGG()	LISTAGG()
Limit rows	TOP (n) / FETCH	FETCH FIRST n ROWS ONLY	LIMIT n
JSON path	JSON_VALUE(c,'\$.a')	JSON_VALUE(c,'\$.a')	c:a::string

2. Ten porting traps

#	Trap	Test row to run
1	Row limit: ROWNUM applies before ORDER BY on old Oracle	Top-N with ORDER BY
2	DATEDIFF counts midnights; Oracle subtraction gives elapsed days	23:50 to 00:10 stay
3	Oracle treats empty string as NULL	Null row and empty row
4	Snowflake CONCAT/ returns NULL on any NULL; Oracle ignores NULL	Null middle name
5	Integer division: SQL Server truncates	5 / 2
6	Case: SQL Server usually insensitive; Oracle and Snowflake sensitive	Upper vs mixed case status
7	LISTAGG overflow on Oracle	Encounter with many diagnoses
8	MERGE with duplicate source keys	Two source rows, one key
9	Temp tables and variables behave differently	Scheduled rerun
10	Snowflake does not enforce PK/FK/unique	Duplicate key insert

3. Choosing a platform

- [] 1. Transactions or vendor-bound reporting? Use the vendor-supported engine.
- [] 2. No vendor constraint? Microsoft-stack skills: SQL Server. PL/SQL estate: Oracle.
- [] 3. Analytics, many users, uneven load, cloud approved, BAA signed? Snowflake.
- [] 4. Cloud not approved? Reporting copy on SQL Server or Oracle on premises.
- [] 5. Always ask who runs it after go-live, and who watches the cost.

4. Common rewrites

Average that survives all three platforms

```
-- Cast before dividing, normalize text, filter on a range
SELECT UPPER(unit) AS unit, COUNT(*) AS discharges,
       ROUND(1.0 * SUM(los_days) / COUNT(*), 1) AS avg_los
FROM   encounters
WHERE  disch_time >= :start AND disch_time < :end
      AND UPPER(status_name) = 'DISCHARGED'
GROUP BY UPPER(unit);
-- los_days: DATEDIFF(day,...) on SQL Server and Snowflake;
--          TRUNC(disch) - TRUNC(admit) on Oracle
```

Snowflake cost guard

```
CREATE RESOURCE MONITOR bi_monitor WITH CREDIT_QUOTA = 100 FREQUENCY = MONTHLY
  START_TIMESTAMP = IMMEDIATELY TRIGGERS ON 80 PERCENT DO NOTIFY ON 100 PERCENT DO SUSPEND;
ALTER WAREHOUSE bi_wh SET WAREHOUSE_SIZE='SMALL' AUTO_SUSPEND=60 AUTO_RESUME=TRUE
  RESOURCE_MONITOR = bi_monitor;
```

Warehouse credits per hour (verify current rates): X-Small 1, Small 2, Medium 4, Large 8, X-Large 16.

5. Platform selection worksheet

Area	Question	Answer / owner
Workload	Transactional, reporting, or both? Peak concurrent users?	
Data	Volume now and in 3 years? JSON or logs?	
Compliance	PHI included? BAA signed?	
Skills	T-SQL, PL/SQL, Python?	
Cost	Who pays and who watches the bill?	
Exit	How would we leave, and how long?	

6. Porting checklist

Step	Evidence	Owner	Done
Inventory queries, views, procedures	List with owners	BA	
Sign metric definitions	Signed definition	BA and business owner	
Annotate the ten traps in each object	Code review	Analyst	
Compare count, sum, average for a fixed period	Tie-out per report	QA	
Test null, empty, case, midnight rows	Test results	QA	
Run a parallel period	Every difference traced	QA and business owner	

Sources: Oracle SQL Language Reference; Snowflake SQL reference; Microsoft Learn T-SQL reference; HHS HIPAA Security Rule summary.