BA TOOLKIT · SQL

# 7 SQL Checks Before UAT Sign-off

Row counts, totals, duplicates, orphans, nulls, allowed values and record tracing. Copy-ready queries that catch the data problems screen testing misses.

SQL data validation | Data quality | UAT | Migrations

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Free download: github.com/prachitparikh/ba-toolkit

## Before you run them

Screens can look right while the data underneath is wrong. These seven checks are the ones I run against the test environment before anyone trusts a report or signs off UAT.

> Table and column names are examples, so replace them with your own. Syntax is ANSI-style. DATE_TRUNC works in PostgreSQL, Snowflake and Redshift (use FORMAT or DATEFROMPARTS in SQL Server).

## 1 Row counts: did everything arrive?

Compare what left the source with what landed in the target for the same load. A mismatch means rows were dropped or duplicated somewhere in between.

```sql
SELECT 'source' AS side, COUNT(*) AS row_count
FROM staging.orders
WHERE load_date = '2026-10-30'
UNION ALL
SELECT 'target', COUNT(*)
FROM dw.fact_orders
WHERE load_date = '2026-10-30';
```

## 2 Totals that should tie out, by month

Row counts can match while amounts don't. Totals by month should tie to a number the business already trusts, such as the finance close.

```sql
SELECT DATE_TRUNC('month', order_date) AS month,
       SUM(order_amount) AS total_amount
FROM dw.fact_orders
GROUP BY 1
ORDER BY 1;
```

## 3 Duplicates on the business key

Every order number should appear once. Copies inflate totals quietly and survive most screen testing.

```
SELECT order_number, COUNT(*) AS copies
FROM dw.fact_orders
GROUP BY order_number
HAVING COUNT(*) > 1
ORDER BY copies DESC;
```

## 4 Orphans: records pointing at nothing

An order whose customer doesn't exist will vanish from any report that joins to customers.

```
SELECT o.order_number, o.customer_id
FROM dw.fact_orders o
LEFT JOIN dw.dim_customer c
       ON c.customer_id = o.customer_id
WHERE c.customer_id IS NULL;
```

## 5 Nulls in mandatory fields

Check the fields the business marked as required. One query shows every gap at once.

```
SELECT COUNT(*) AS total_rows,
  SUM(CASE WHEN region IS NULL THEN 1 ELSE 0 END)       AS missing_region,
  SUM(CASE WHEN product_code IS NULL THEN 1 ELSE 0 END) AS missing_product,
  SUM(CASE WHEN order_amount IS NULL THEN 1 ELSE 0 END) AS missing_amount
FROM dw.fact_orders;
```

## 6 Values outside the allowed list

Coded fields should only hold agreed values. Anything else usually means a mapping rule missed a source code.

```
SELECT status, COUNT(*) AS rows_with_status
FROM dw.fact_orders
WHERE status NOT IN ('Open', 'Shipped', 'Cancelled', 'Returned')
   OR status IS NULL
GROUP BY status;
```

## 7 Trace real records end to end

Pick five records the business knows well and follow them through. People spot wrong data in records they recognize much faster than in totals.

```
SELECT o.order_number, o.order_date, o.status, o.order_amount,
       c.customer_name, c.region
FROM dw.fact_orders o
JOIN dw.dim_customer c ON c.customer_id = o.customer_id
WHERE o.order_number IN ('SO-10001', 'SO-10457', 'SO-11020',
                         'SO-11234', 'SO-11999');
```

## Log every result

A check you can't show later didn't happen. Keep one row per check per cycle.

| Check | Query file | Expected | Actual | Pass / fail | Defect ID |
|---|---|---|---|---|---|
| 1. Row counts | *[checks.sql #1]* | *[source = target]* | *[ ]* | *[ ]* | *[ ]* |
| 2. Monthly totals | | *[ties to finance close]* | | | |
| 3. Duplicates | | *[0 rows]* | | | |

# About Prachit Parikh

Prachit Parikh is a business analyst. Most of his work sits where requirements, data and testing meet.

He takes what stakeholders say they need and turns it into requirements and user stories a team can build and test. Each one has acceptance criteria and a clear line to the test that proves it. He checks the data behind them in SQL and Excel, builds reports in Power BI, and plans UAT so a change goes live the way the business expected.

He was a business analyst at Banking Circle, working on data validation, traceability and UAT planning. Before that he worked in customer care at Elevance Health and did business systems analysis on an employee portal and an inventory system at Saklax Manufacturing.

He writes about AI, data and the future of business analysis, and makes short animated explainer videos on YouTube.

### Related reading

1. 7 SQL checks I run before UAT sign-off (Dev.to)
2. What a good UAT plan actually looks like (Substack)
3. Data mapping document template (Hashnode)

> Spotted a gap or have a template that saved a project? Open an issue or pull request on the toolkit repo. Real-world examples (anonymized) are welcome.

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