

Project Test Result Report

Background Information Information needed to assess the effectiveness of the testing process and the current state of the project.

Purpose To provide the key information about the testing process and testing results.

Scope Testing process description, test results, metrics, timetable, recommendations.

Audience file Management staff, QA team, project team.

1. **Summary**

This report summarizes the results of comprehensive testing conducted on data warehouse (DWH) system. The testing covered various aspects including database structure verification, data integrity checks, and performance evaluation across different layers of the DWH architecture.

1. **Test Team**

Data Engineer Lead -Mariam Dzindzibadze

QA Specialist

DWH Architect

Business Intelligence Analyst

1. **Testing Process Description**

testing process followed a structured approach, divided into three main categories:

1. Smoke Tests:

 **C672** - Verifying that database exists

 **C673** - Verifying that schemas exist

 **C674** - Verifying that tables exist in all schemas

 **C675** - Checking that columns exist in all schemas

 **C676** - Verifying existence of sequences

1. Critical Path Tests:

 **C677** - Verifying all columns on landing layer should be varchar(256)

 **C678** - Verifying full data load of tables in landing schema

 **C679** - Verify full data load on DWH schema

 **C680** - Verifying full data load in DM schema

 **C681** - Verify PK and FK integrity in landing layer

 **C682** - Verify PK and FK integrity in DWH layer

 **C683** - Verify PK integrity in DM layer

1. Extended Path Tests:

 **C684** - Verify that the ETL process performs efficiently when loading large datasets into each layer

 **C685** - Verify that historical data is correctly stored, tracked, and remains accessible in the DWH or DM layer, even after updates or deletions in the source system

Each test case was executed sequentially, with results documented and any issues immediately flagged for further investigation.

Link to the testrail: https://dqwce24.testrail.io/index.php?/suites/view/24&group\_by=cases:section\_id&group\_order=asc&display\_deleted\_cases=0&group\_id=65

1. New Defects Statistic

The bugs that was found are reported on jira.

Defects include:

* Incorrect column name in lnd\_s1\_channels

<https://dq-wca-team-pkh8n8gm.atlassian.net/browse/SCRUM-707>

* Incorrect column name for the dwh\_clients

<https://dq-wca-team-pkh8n8gm.atlassian.net/browse/SCRUM-708>

* Incorrect column name for the table dm\_main\_dashboard

<https://dq-wca-team-pkh8n8gm.atlassian.net/browse/SCRUM-709>

* Data type mismatch for the lnd\_s1\_product table

<https://dq-wca-team-pkh8n8gm.atlassian.net/browse/SCRUM-710>

* Data type mismatch for the lnd\_s2\_locations table

<https://dq-wca-team-pkh8n8gm.atlassian.net/browse/SCRUM-711>

* Sequences does not exist for the table

https://dq-wca-team-pkh8n8gm.atlassian.net/browse/SCRUM-712

* Dwh\_sales should have not null constraint on several columns but they don’t have it

https://dq-wca-team-pkh8n8gm.atlassian.net/browse/SCRUM-714

* Not fully load fo the data on the landing layer

<https://dq-wca-team-pkh8n8gm.atlassian.net/browse/SCRUM-715>

* Data is not fully loaded from landing layer to dwh layer

<https://dq-wca-team-pkh8n8gm.atlassian.net/browse/SCRUM-716>

* Not correct datatype in dwh\_location

<https://dq-wca-team-pkh8n8gm.atlassian.net/browse/SCRUM-717>

* Not correct data type in dwh\_channel table

https://dq-wca-team-pkh8n8gm.atlassian.net/browse/SCRUM-718

* Not correct data type in dwh\_client table

<https://dq-wca-team-pkh8n8gm.atlassian.net/browse/SCRUM-719>

* Not correct data type in dm\_main\_dashboard table

<https://dq-wca-team-pkh8n8gm.atlassian.net/browse/SCRUM-720>

* Incorrect is\_valid values for rows with valid\_to dates before januaery 20, 2021

<https://dq-wca-team-pkh8n8gm.atlassian.net/browse/SCRUM-721>

1. new defect statistics

**Total Tests:** 14

**Passed:** 11

**Failed:** 3 (C676, C678, C679)

**Success rate:** 78.57%

1. Recommendations:

**Fix Data Load Issues:**

There were problems with test cases **C678** and **C679**, showing that some data isn’t loading correctly at the landing and DWH layers. It's a good idea to check the data pipelines for these steps to ensure everything is flowing as expected. Adding some extra validation after the data is loaded could help catch these issues earlier.

**Handle Missing Sequences:**

Test case **C676** failed because some sequences were missing in the database. Make sure all sequences are properly set up and linked to the right tables, especially for tables with auto-increment fields. Automating sequence creation during schema changes will help prevent this from happening again.

**Check Data Type Consistency:**

We found several issues with mismatched data types (like in **SCRUM-717**, **SCRUM-718**, and **SCRUM-719**). To avoid this in the future, consider using automated tools to check that data types are consistent across the landing, DWH, and DM layers. This can help catch problems before they cause bigger issues.

**Improve ETL Performance Monitoring:**

Even though **C684** passed, it’s important to keep an eye on the performance of the ETL process, especially when working with large datasets. Setting up automated monitoring and alerts will help catch any performance issues early, and ensure that resources are being used efficiently.

7.attachements



