Data Vault QA Automation Guide

YOUR HANDBOOK FOR AUTOMATING
VALIDATAR'S DATA VAULT TEST PLAN

Validatar

Automation: Your Missing DV Link

There's a persistent, costly gap in many Data Vault implementations.

A gap that quietly erodes trust, slows delivery, and inflates project budgets: automation.

Your Data Vault hubs, links, and satellites are generated from metadata, your tests should be too.

Pattern-driven architecture demands pattern-driven automation.

With teams deploying changes daily or even hourly, manual quality checks become a bottleneck, and a risk.

The only solution for fast, efficient scaling of your Data Vault?

Automation.

This guide explores the core Validatar concepts that enable the Validatar Platform and our Data Vault Test Pack to save 1,000's of hours for your QA team.

We help teams eliminate manual effort and automate end-to-end QA of their Data Vault in days and weeks

Ready to start automating? **Schedule a Demo**

Data Quality designed for Data Vault

Validatar delivers continuous, metadata-driven data quality so every Hub, Link, & Satellite is trustworthy from day one - and stays that way.

Patented technology enables even the most complex test cases at scale with Validatar's metadata-powered templates.

AUTOMATED TESTING

- Testing Recommendations
- Test Case Management
- Automated Test Execution
- Analysis & Reporting
- Notifications & Alerts

COMPREHENSIVE MONITORING

- Integrate with ETL Processes
- Track Quality Metrics
- Detect & Report Data Anomalies
- Monitor Security & Compliance
- Shareable, Auditable Reports

Full-lifecycle data quality delivered, with flexible & powerful solutions, for data teams big & small.

Automation at every step of your data's journey.

Data Vault Test Plan

The testing framework designed to prevent Data Vault failures.

Data Vault's insert-only, append-only architecture is a powerful strength but also creates unique testing challenges.

Errors don't get overwritten. They compound.

A bad hash in a hub cascades into every link, satellite, and mart downstream. A broken timeline in a satellite corrupts every point-in-time query that depends on it. By the time a problem surfaces in a report, it may have been there for weeks.

The Validatar Data Vault Test Plan gives teams a principled framework for catching the right problems at the right layer — before they travel downstream.

A Test Plan tailored to Data Vault

Every layer has a unique failure mode

Staging fails differently than hubs. Hubs fail differently than satellites. The test plan is designed layer by layer, not as a one-size-fits-all checklist.

Not all failures warrant the same response

Some failures should stop a production load. Others belong on the backlog. A clear severity-framework means teams always know what to do next.

Coverage grows with your team

Start with the highest-risk layers and the most critical tests. Expand coverage incrementally as your testing maturity grows. There's no big-bang implementation required.

Test Plan Overview

What's Covered | Why It Matters

With 70+ Data Vault specific test templates ready to implement, the test plan follows your data's journey from source to consumption, with specific guidance at every stop.

Click here to download the Test Plan

Coverage Areas

Source & Staging
Verify that data arrives complete, on time, and structurally intact — before it ever touches the vault.

Hubs & Links
Confirm that business keys are unique, hash keys are correct, and every relationship resolves to a valid parent — the foundation everything else depends on.

Satellites
Validate the temporal history that makes Data Vault powerful: no overlapping timelines, no missing versions, and change detection that actually detects changes.

Business Vault
Ensure that PITs, bridges, and computed satellites accurately reflect the raw vault beneath them — so your acceleration layer doesn't introduce its own errors.

Data Mart & Presentation
Check that facts reconcile to source, dimensions are historically correct, and the data consumers see matches the data the vault holds.

Late-Arriving & Multi-Source Data
Address the scenarios that break generic test tools: data that arrives out of order, business keys that converge from multiple systems, and schema changes mid-flight.

Every test in this Test Plan maps directly to the Validatar Data Vault Test Pack, turning this blueprint into a deployed, automated QA suite in days, not months.

Five Steps to Automated Data Vault QA

1

Validatar Setup:

Connect your source systems, staging layer, and Data Vault (Raw and Business Vault) to Validatar. Configure metadata extraction including entity types (Hubs, Links, Satellites), hash key algorithms, business key definitions, and load date/sequence tracking.

2

Deploy the Validatar Data Vault Test Pack:

From the Validatar Marketplace, deploy the Data Vault Test Pack with pre-configured tests for DV 2.0 entities.

3

Establish Your QA Baseline:

Run the initial test suite across all Data Vault layers.
Set trust score targets for each entity type (Hubs, Links, Satellites) and document expected patterns. Run the initial test suite & set trust score targets for your vault components.

4

Integrate with Your Pipeline:

Integrate testing into your Data Vault development and management lifecycles.
Pre-Production: Build CICD integrations for rapid iteration and automated deployment
Production: Integrate runtime testing into ETL processes to manage critical error events.
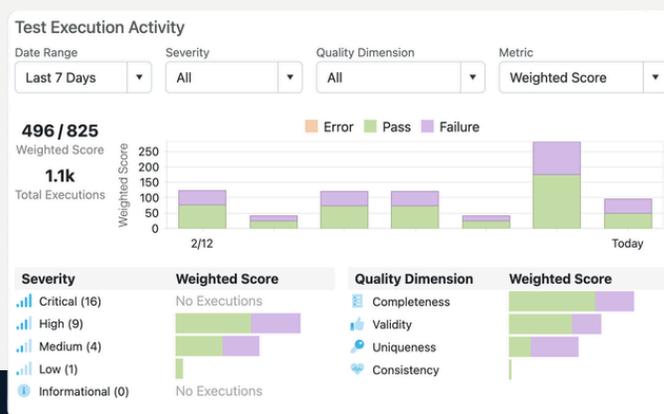
5

Operationalize & Scale:

Enable metadata-driven test generation and set up automated reporting for ongoing quality assurance.

Centralized & Connected

The Validatar Platform centralizes all aspects of data quality, beyond Data Vault testing and monitoring. Scaling Data QA becomes easy when everything is centralized & connected.

- Data Quality Rules
- Definitions & Documentation
- Metrics & Reports
- Quality Dimensions

Test Execution Activity

Date Range	Severity	Quality Dimension	Metric
Last 7 Days ▼	All ▼	All ▼	Weighted Score ▼

496 / 825
Weighted Score

1.1k
Total Executions

Error Pass Failure

Weighted Score: 250 200 150 100 50 0

2/12   Today

Severity	Weighted Score	Quality Dimension	Weighted Score
Critical (16)	No Executions	Completeness	
High (9)		Validity	
Medium (4)		Uniqueness	
Low (1)		Consistency	
Informational (0)	No Executions		

Any data, any format, any source- all can be connected, profiled, tested & monitored.

Seamlessly connect with existing data pipelines, databases, and tools for accuracy and integrity across all your data assets.

- ⊕ Databases, files, reports, API's

- ⊕ Cloud platorms to legacy mainframes

- ⊕ Rich connectors include pre-built quick tests & macros for easy implementation for standard data sources

- ⊕ Open, customizable python framework enables connecting to custom APIs and file types

- ⊕ Easily access on-prem data with Validatar's data agent for comprehensive QA.

Built-in QA = Built-in Trust

Validatar's built-in data catalog drives trust & action with integrated data quality & governance.

DATA CATALOG

- Metadata discovery & documentation
- Automated profiling
- Integrated data quality metrics & reports
- Notifications & alerts
- Customizable tagging and glossary

TRUST & QUALITY METRICS

- Calculate & track trust + data quality scores
- Fully configurable: manage coverage rules, severity levels, quality dimensions and more
- Set targets & easily share results for actionable insights

Transparent, Quality-Centric Data Governance

Governing your data requires knowing where it comes from and who is using it.
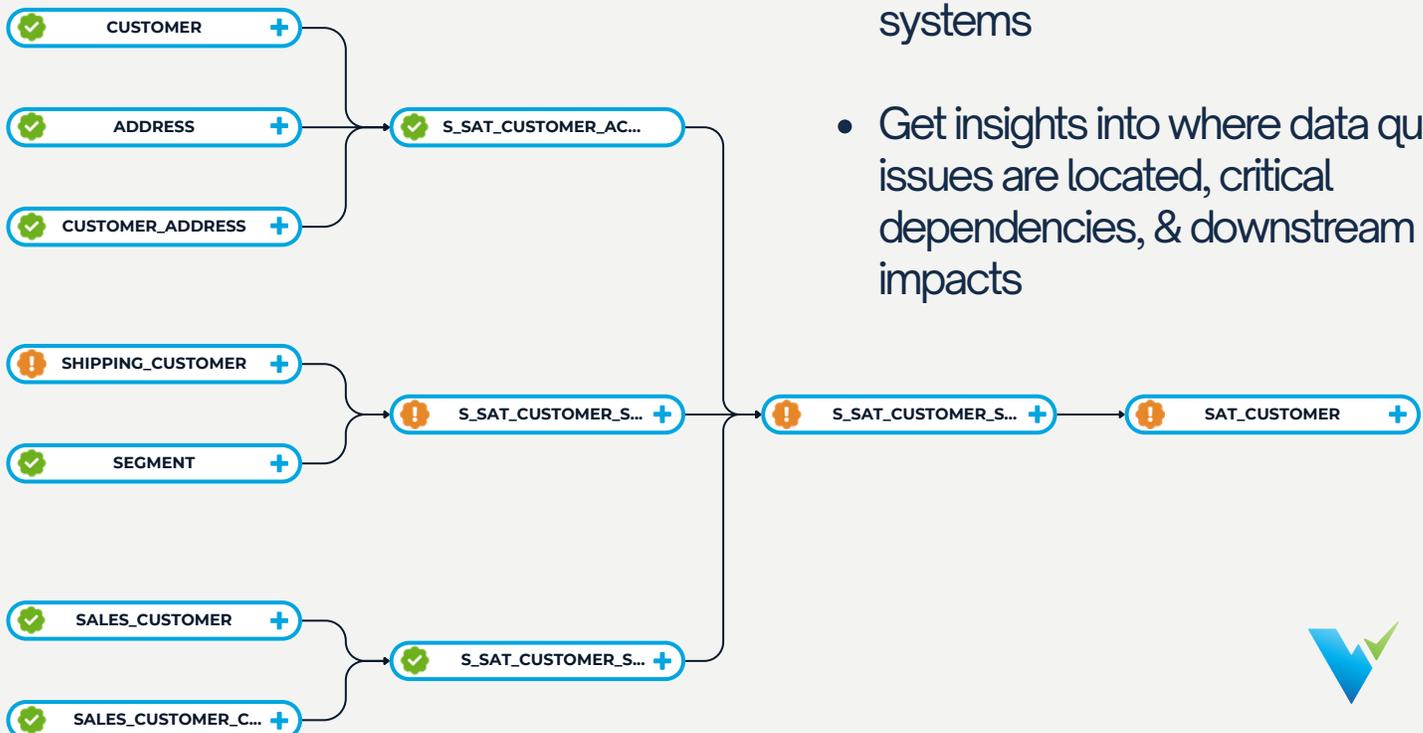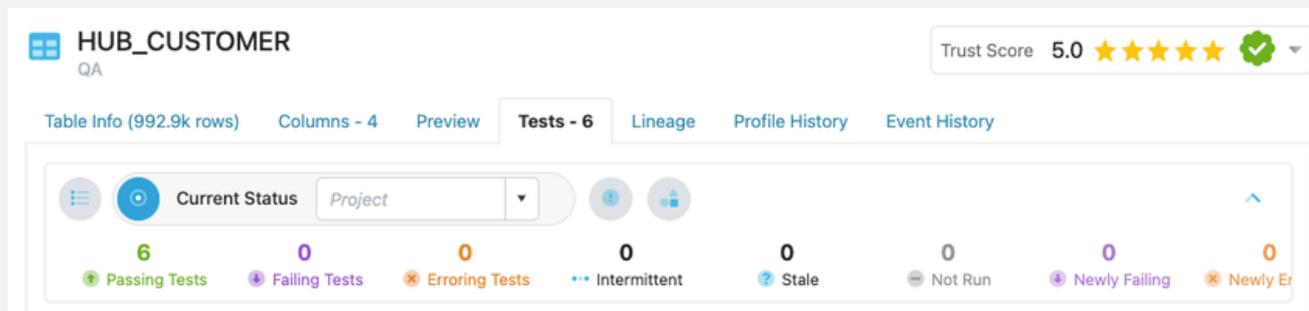
- Visualize data lineage across systems

- Get insights into where data quality issues are located, critical dependencies, & downstream impacts

Want to learn more?

Schedule a Demo

Discover how Validatar can help automate your Data Vault with a personalized demo