Data Quality Framework

SERVICE DEFINITION

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Service Overview

The **Data Quality Framework (DQF)** is an automated, configuration-driven service that ensures data accuracy, completeness, and consistency across data migration, ETL/ELT pipelines, and production environments. It validates data using business rules, anomaly detection, and multi-level aggregation checks, integrating seamlessly with enterprise databases, cloud platforms, files, and APIs. By leveraging JSON configurations and source-to-target mappings, DQF eliminates manual scripting, operates within customer-owned environments, and delivers scalable, real-time quality insights—significantly reducing effort, cost, and time to market while improving trust in enterprise data.

Service Scope – Platform Capabilities

- Config-Driven Validation: Template configurations and mapping documents define rules and thresholds—no code changes.
- Multi-Stage Coverage: Migrated data, ETL/ELT pipelines, and production datasets.
- Rule Types: Referential, completeness, uniqueness, conformity, business rule checks, anomaly/outlier detection.
- Multi-Level Aggregation Matching: Cross-hierarchy reconciliations for large datasets.
- Connectivity: Files, APIs, SQL/NoSQL, data lakes, cloud warehouses.
- Execution Engine: Scalable distributed processing (e.g., PySpark/Trino), parallelized workloads.
- Observability: Run logs, exception captures, data drift indicators, and quality scores.
- Reporting: Real-time dashboards and exportable reports; audit-ready evidence.
- Security: RBAC, least-privilege access, audit trails; data processed in customer environment.

Service Scope – Operational Services

- Onboarding & Setup: Environment readiness checks, connector setup, RBAC, and CI/CD enablement.
- Configuration & Rule Authoring: Source-to-target mappings, threshold design, test data selection.
- Execution & Monitoring: Scheduled/rule-based runs; alerting and incident creation.
- Triage & Remediation: Root cause analysis, fix strategies, and controlled re-runs.
- Quality Governance: Scorecards, trend analysis, defect backlogs, and change control.
- Performance & Cost Optimization: Tuning of partitions, concurrency, and cache strategies.
- Documentation: Runbooks, configuration catalogs, and data quality standards.

Out of Scope

- New product feature development unrelated to DQF usage.
- Business-side data cleansing/remediation in source systems.
- Ongoing L3 application development for upstream/downstream platforms.
- Non-agreed custom integrations, major refactors, or cross-platform re-engineering.
- Historical backfills at scale unless explicitly contracted.
- Compliance sign-off on behalf of the customer (we provide evidence; customer owns attestation).

Customer Responsibilities

- Provide secured access to environments, data sources/targets, service accounts, and credentials.
- Supply accurate mapping documents, business rules, sample datasets, and acceptance criteria.
- Assign a product owner and SME(s) for decisions, clarifications, and sign-offs.
- Maintain change governance for upstream/downstream systems impacting DQF.
- Ensure network/firewall, identity, and data classification policies are in place.

- Validate remediation outcomes and approve production promotions.

Service Process

- Discover: Confirm objectives, data domains, SLAs, and compliance needs.
- Design: Finalize mappings, rules, thresholds, and scheduling.
- Configure: Implement connectors, RBAC, and JSON configs; set dashboards.
- Validate: Dry runs, calibration, and performance tuning.
- Operate: Scheduled executions, monitoring, alerts, and incident handling.
- Improve: Trend reviews, backlog grooming, rule optimization, and automation.

Support Hours

- Standard: 9×5 local business hours
- Extended/Premium (Optional): 12×5 or 24×7; customization available.

Support Process

- Intake: Ticket raised via portal/email; auto-logged with metadata.
- Severity Assignment: Initial severity by reporter; validated against definitions.
- Response & Triage: Acknowledge within SLA; identify workaround, isolate impact.
- Fix & Verify: Implement correction; customer validates; runbooks/KB updated.
- RCA (for P1/P2): Document cause, corrective and preventive actions.
- Closure: Evidence attached; acceptance recorded.

Defect Severity Levels (and Typical Targets)

- Severity 1: Service unavailable, critical compliance impact
- Severity 2: Major functionality impaired, workaround available
- Severity 3: Minor issues, no regulatory impact
- Severity 4: Cosmetic or enhancement requests

Note: Feature requests/enhancements are not covered by support SLAs and follow the change process.

Training & Enablement

- Workshops: Admin and practitioner training on configuration, rule design, and operations.
- Artifacts: Playbooks, runbooks, rule catalogs, and dashboard user guides.
- Knowledge Transfer: Shadow-to-lead handover, recorded sessions, FAQs, and office hours.
- Optional: Certification paths, governance templates, and CoE setup guidance.