

Data Observability, Monitoring, and Data Quality (DOMaQ™)

Background

Exploding data sources and growing data insights consumption needs are making enterprise data pipelines complex. Business users, data analysts, data engineers, and data scientists want to use more data from a wider variety of sources, often on a real-time basis, to improve decision-making. Data teams struggle to build and architect systems that can meet such changing needs and at the same time ensure the best quality of data. Most enterprise data teams still spend the bulk of their time firefighting daily operational issues, which means that the quality of the data often takes a back seat. The problem gets worse as data volumes grow and data pipelines get increasingly complex.

Fresh Gravity's DOMaQ™ Solution

Fresh Gravity's DOMaQ™ tool enables business users, data analysts, data engineers, and data architects to detect, predict, prevent, and resolve issues, sometimes in an automated fashion, that would otherwise break production analytics and AI. It takes the load off from the enterprise data team by ensuring data is constantly monitored, data anomalies are automatically detected, and future data issues are proactively predicted without any manual intervention. This comprehensive data observability, monitoring, and data quality tool uses Spark engines (e.g. Databricks) for compute to ensure optimum scalability and use AI/ML algorithms extensively for accuracy and efficiency.

Key Features of Fresh Gravity's DOMaQ™ Tool

Comprehensive Data Monitoring & Data Observability

- Provides automated AI-driven data quality reports & out-of-the-box AI support for all automated and custom analysis such as custom metric analysis, custom validation rules analysis, and comparison analysis
- Determines whether the data is good or bad, explains why it is bad and provides recommendations on how to fix it
- Comes with 100+ out-of-the-box data quality metrics that cover column, length, frequency, pattern, and duplicity analysis, along with options for data drill down for further review. It also provides AI-driven actionable insights that help in root cause analysis
- Ability to define custom metrics tailored to unique business requirements
- Provides set alerts based on custom validation rules that makes it easy to test, validate, and notify data against the organization's business rules. It also shares reasons for the problems and helps data stewards make faster decisions
- Capable of bringing in multiple data sources and data quality metrics together to get a side-by-side comparison and/or capable of performing reconciliation
- Ability to create customizable reports that are generated on a pre-defined schedule with options to share and download
- A low-code/no-code data observability platform. It uses machine learning to infer and learn what your data looks like, proactively profile & identify data issues, assess its impact, and alert through integrations to common operations systems. It also allows root cause analysis and time series analysis

Seamless Data Management

- Ability to seamlessly connect to Snowflake, Redshift, BigQuery, & other popular OLAP & OLTP sources along with object stores like ADLS and S3
- Comes with auto-generated pipelines (both one-time & incremental) to pull data from various sources to avoid impacting source systems during data analysis
- Helps users keep their data quality dashboards relevant by executing them on the latest data
- Comes with a unique feature that allows data quality checks on data sets obtained by combining discrete data sources
- Easy and intuitive UI to dive deeper into the DQ reports along with a sample data download option
- Flexible and customizable deployment options that support both the client or Fresh Gravity-owned & managed deployments

- Provides granular access control mechanism to suit enterprise data security requirements
- AI/ML-based metadata classification that allows mapping the incoming data dynamically and intelligently to a canonical model
- Helps simulate data cleansing operations without impacting source systems
- Enables data SMEs to make more informed decisions before they decide to harmonize the cleansed data back to source systems

Self-Service UI that Encourages Collaboration

- Helps streamline day-to-day data operations for users through out-of-the-box task-based collaborative workflows
- Supports logically segregated work areas for individual users with options to share with the team for better collaboration
- Allows assigning data review tasks to dedicated teams for immediate attention to review/fix data anomalies
- Ensures optimum reusability by using features that allow sharing custom queries and rules across the team

Seamless Deployment & Best-in-Class Security

- DOMaQ™ can be seamlessly deployed across various cloud platforms, including AWS, GCP, and Azure within the customer-provided infrastructure. This ensures that all data remains securely within the customer's ecosystem
- Keeps customer data discrete across different data partners or customers
- Allows customer data to be accessed only via the platform by proper authentication through the user interface or through the DOMaQ™ API
- Data in REST is encrypted to AES-256-bit

encryption or hosting vendor encryption capabilities

- Follows RESTful architecture and utilizes secure electronic means to exchange data with customers using HTTPS
- Encrypted data is transmitted over the public internet using TLS 1.2
- DOMaQ™ REST API supports OAuth 2.0/OpenID Connect (OIDC) Single Sign-On (SSO)
- Comes with an automated operation monitoring that allows enterprises to focus only on the data exploration
- Supports no-impact, automated deployment and upgrade
- Provides options for row and column-level data masking in the application UI
- Maintains an activity log of all system activities including login, create, read, update, and delete activity
- Runs on auto scalable Spark-based engines (e.g. Databricks) and can be seamlessly scaled up and down based on data volume

About Fresh Gravity

Founded in 2015, Fresh Gravity helps businesses make data-driven decisions. We are driven by data and its potential as an asset to drive business growth and efficiency. Our consultants are passionate innovators who solve clients' business problems by applying best-in-class data and analytics solutions. To know more about us and our offerings, contact us at info@freshgravity.com.

US Corporate HQ – Dallas, TX

2201 Spinks Road, Suite 205
Flower Mound, TX 75022

Other Offices



USA
Santa Clara



Canada
Toronto



United Kingdom
London



India
Pune