

UnRisk

UnRisk DATA FLOW

Empowering Dynamic Time Series Data Processing with Kubernetes and Apache Kafka



What is UnRisk DATA FLOW?

UnRisk DATA FLOW is an innovative framework designed for the configuration-based processing and transformation of time series data. A significant advantage is the tool's ability to automatically extract the data schema, which eliminates the necessity for prior data knowledge. The framework supports multiple state-of-the-art formats for schema extraction and processing, including JSON, XML, and Apache Avro, among others.

To provide a flexible, performant, and resilient system, UnRisk DATA FLOW ensures a scalable, high-performing, and robust system by using Kubernetes for container orchestration and Apache Kafka for asynchronous communication. The adoption of these open-source technolo-

gies not only enhances the system's capabilities but also allows for seamless expansion. Additional processing components can easily be integrated at various stages of the transformation process, making the framework highly adaptable and scalable.

Configurations within the system are capable of handling both continuous data streams and batch processing of historical data. Regardless of the method, the output of the transformation process can be either stored in a relational database or forwarded to a Kafka topic for further processing by existing legacy systems. This versatility makes UnRisk DATA FLOW a powerful tool for data management and analysis.

Key Functions

- Various data sources are supported out of the box (REST, Kafka Topics, etc.).
- Smart detection of data schemas and data types.
- Configuration-based data transformation.
- Supports both stream and batch processing scenarios.
- Persistence optimized for time series by supporting Timescale extension for PostgreSQL.
- Extend transformation process with custom processors.
- Perfect match for UnRisk ALGORITHM SERVICE.



Key Benefits

- ✓ The extendable architecture supports:
 - Integration of different data sinks through custom persistence processors.
 - Transformation of legacy data formats using custom transformation processors.
 - Embedding of custom algorithms directly into transformation stream.
- ✓ Smart schema extraction eliminates the need for specific format implementations, analyzing data efficiently upon reception.
- ✓ Asynchronous communication enhances the framework's scalability by allowing each component to be (dynamically) adjusted to meet specific requirements.

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