

D&A TRANSFORMATION TALES

Unlocking Precise Data Predictions with Data Lakes



BACKGROUND

Our client is a leading banking and financial services provider. They approached Aspire to streamline their data platform that was receiving information from various third-party data sources via different APIs. The type of data ingested were also different as some were batch based and some stream based. The challenges they faced include:

- Corrupt, mis-formatted or incomplete data from third party or internal sources
- Failures connecting to or receiving information from third party sources
- Fragmented latent and throughput metrics from third party integrations and internal critical components



BACKGROUND

To overcome these challenges our data and analytics experts suggested streamlining their data challenges with Data Lakes that would serve as a central source of truth via Canonical forms from various consumers. This gave our client a seamless experience in their;

- General error handling, logging configuration and centralized log aggregation and analysis
- Alerts, dashboards and hooks for external log management
- Data validation of raw data received from different sources
- Future projections by using historical current state tables as data feed

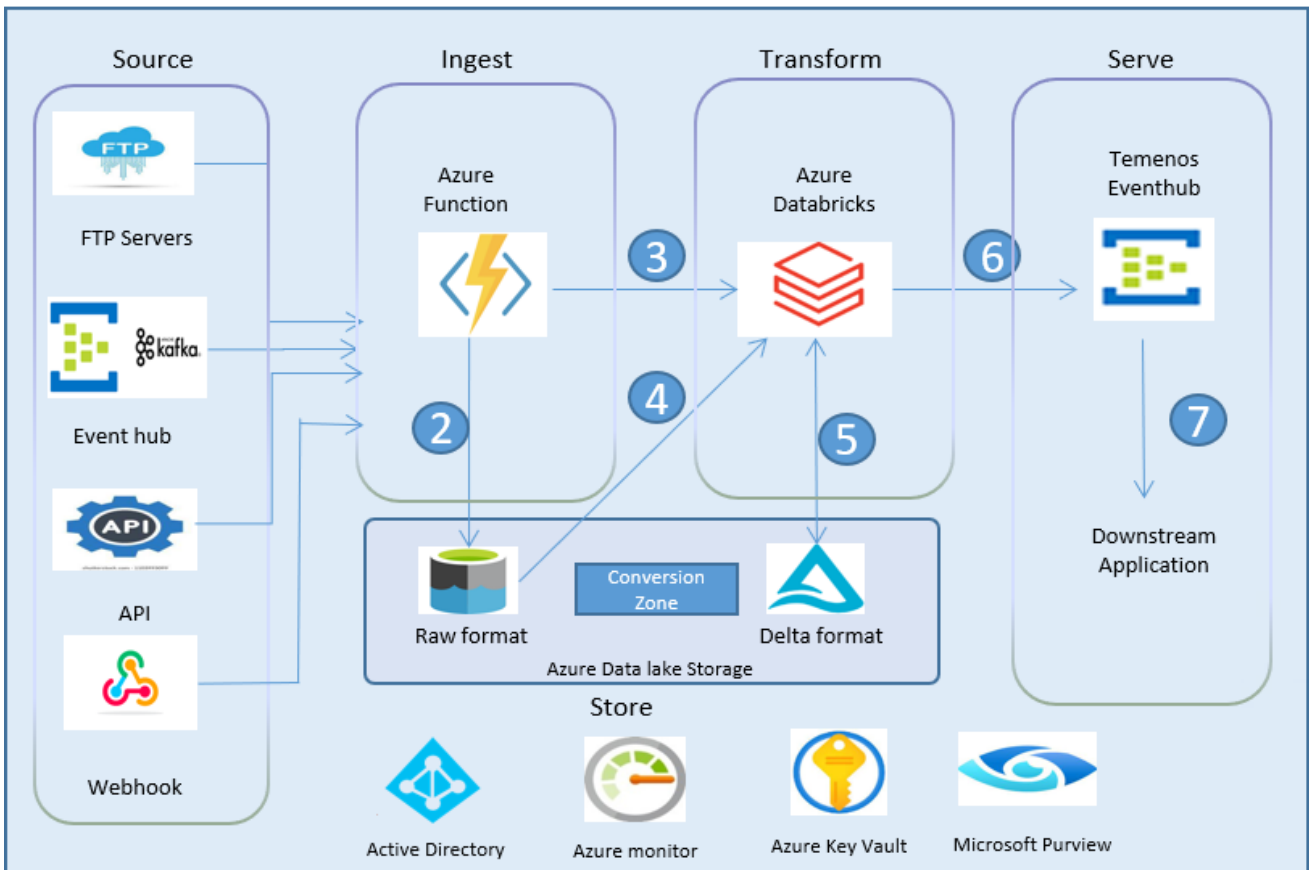




THE SOLUTION

After taking the client's needs and challenges into consideration, Aspire's Data and Analytics team curated a well-crafted plan to build and deploy Data Lake that would help the client process, store, clean, share, analyze, model and monetize their datasets using BI and ML solutions. The solution involved creating a:

- Data Lake to be leveraged in Azure Data Lake Storage (ADLS2) and Databricks Delta Lake in order to implement a highly scalable and durable storage layer.
- Raw zone where the data will be ingested from file share to Data Lake.
- Structure zone where the raw data will be converted to a structured format as Delta table
- Canonical zone that holds curated data where the data will be transformed to a format according to business needs
- Serving zone where the data will be pushed to core banking system in different formats like Avro, OFSML





TECHNOLOGY SNAPSHOT

- Enterprise Cloud Platform – Azure Cloud Platform
- **Azure Durable Functions** for Orchestration and data ingestion
- **Enterprise storage** – Data Lake storage for raw data and processed data sets
- **Databricks** for in-memory data transformation and processing and all CRUD Operations
- **Enterprise DWH** – Azure Synapse Database
- Cloud Identity and secure - AAD, Azure key vault
- Cloud monitor - Azure Monitor
- **Microsoft Purview** - Data governance, data discovery, sensitive data classification, and end-to-end data lineage



BUSINESS BENEFITS

- Involved heterogeneous sources to produce powerful reports in milli seconds.
- High return on investment with quality reports.
- Higher query performance and improved historical insight.
- Enhanced data quality and consistency.
- Increased the power and speed of data analytics





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