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Make Technology Work
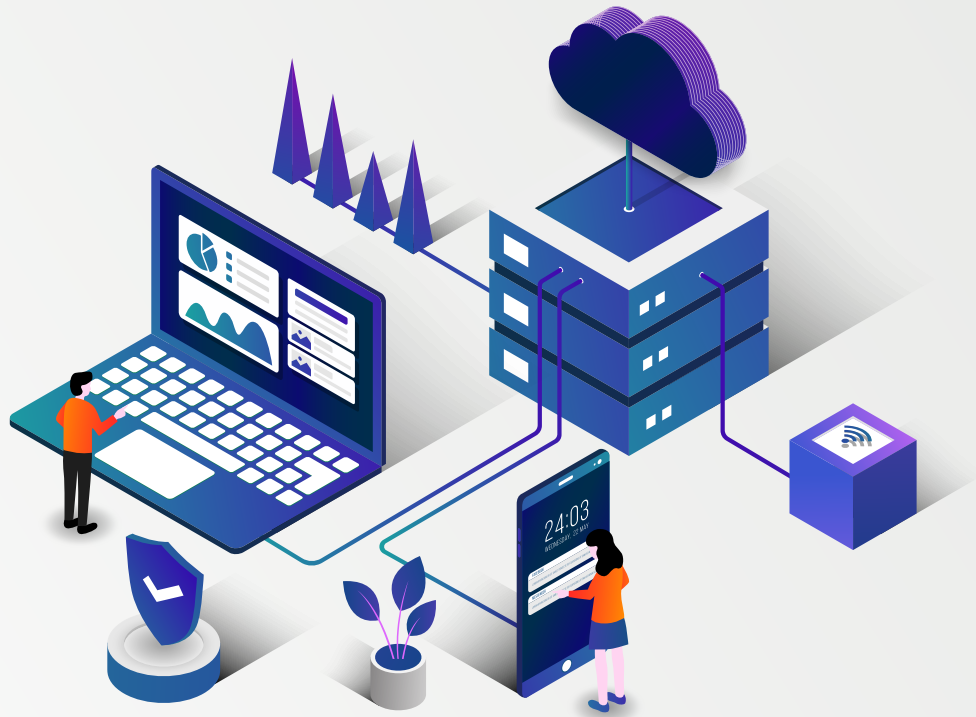

ETL DATA PIPELINE DEVELOPMENT USING STREAMLIT ON GCP

PROJECT OVERVIEW

To manage enterprise data for Reporting and Analytics, the client wants to set up an ETL pipeline. Analysis of Sales performance, Supply chain and Stock management, Credit Services, and Delivery agent activity should be driven by the ETL solution.

CLIENT DOMAIN

Retail & Supply Chain

SOLUTION DELIVERED

Data Engineering

KEY HIGHLIGHTS

- 60% reduction in ETL process runtime.

- 20% Increase in Performance efficiency

- 15-20% reduction in delivery charges after implementing delivery planning methods and visualization

ABOUT CLIENT

The Client is an African retail supply chain transformation company enabling small shops and retailers to adopt the digital economy through mobile ordering & distribution systems, and enterprise services. The client holds a large B2B eCommerce network across Africa.

BUSINESS REQUIREMENTS

Indium developed a solution to set up an ETL pipeline to manage enterprise data for Reporting and Analytics. The ETL solution will drive analysis of Sales performance, Supply chain and Stock management, Credit Services, and monitor Delivery agent's activities.

- Build and manage the entire ETL (Extraction, Transformation & Loading) data pipeline and ETL integration with the client's existing ERP system, FMCG process, and Loan application process.
- Develop Reports and Analytics to monitor Delivery agent's performance, Vehicle Utilization, Credit Services, and Sales activities.
- The transition of existing environment (Java & Postgres) to Big data platform.

SOLUTION HIGHLIGHTS

- Developed and implemented ETL pipeline to manage the data using Big Query and Google Cloud Platform (Google Data Flow and Apache Beam).
- Owned the end-to-end data activities to develop Reports and Dashboards, using Tableau.
- Integrated QuickBooks ERP, Loan Management System, and the Client's Existing Customer App/ Backend Applications into the ETL Pipeline (BigQuery - GCP) for Analytics & Reporting.
- Automated reports with self-service functions for daily/ weekly/ monthly tracking using Python & Streamlit.

BUSINESS IMPACT

- Achieved 60% reduction in ETL process runtime for transition to a cloud Big Data ecosystem.
- 20% increase in performance efficiency with the developed solution that created visibility into business activities and performance metrics for each category.
- 15-20% reduction in delivery costs after implementation of delivery planning methods and visualization through Reports and Insights.

TECH STACK

PySpark · Apache Beam · python · Streamlit · tableau

ABOUT INDIUM

Indium is a Digital Engineering Services leader and Full Spectrum Integrator that helps customers embrace and navigate the Cloud-native world with Certainty. With deep expertise across Applications, Data & Analytics, AI, DevOps, Security and Digital Assurance we "Make technology work" and accelerate business value, while adding scale and velocity to customer's digital journey on AWS.

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