Engineer Data

Engineered 600 PL/pgSQL ETL/ELT pipelines

Engineered 600 PL/pgSQL-based ETL/ELT pipelines to streamline complex data processing workflows across multiple PostgreSQL development and production environments.

2022 – 2024

600

ETL pipelines engineered in PL/pgSQL

Situation. The organization was managing large volumes of transactional and analytical data across multiple PostgreSQL development and production environments. The existing data pipelines were fragmented, lacked consistency, and were causing performance bottlenecks, leading to delays in business-critical reporting and decision-making.

Task. The task was to design and implement robust, scalable, and efficient ETL/ELT pipelines using PL/pgSQL to streamline complex data ingestion, transformation, and loading workflows. A key objective was to improve query performance and ensure data integrity across all environments.

Action. Over 600 PL/pgSQL-based ETL/ELT pipelines were engineered to automate the extraction, transformation, and loading of data from various sources. Key technical implementations included:

- Leveraged partitioned tables and materialized views to optimize read performance for large datasets.
- Applied primary and foreign key constraints to maintain referential integrity during transformations.
- Designed unique and composite indexes to speed up JOIN operations and complex filtering criteria.
- Incorporated exception handling and transactional control to ensure fault tolerance and rollback in case of failures.

- Enabled incremental loads using change data capture (CDC) mechanisms and timestamp-based deltas.
- Developed automated logging and auditing procedures to track pipeline execution, monitor anomalies, and facilitate debugging.

Result. The achievement record reports 600 PL/pgSQL ETL/ELT pipelines across PostgreSQL development and production environments. The delivered work includes transformation logic, constraints, incremental loading and execution logging. Performance and data-quality improvements were objectives; no comparative benchmark or error-rate calculation is established by this record.

Bring this experience to your project

Use “Engineered 600 PL/pgSQL ETL/ELT pipelines” as a starting point for a similar challenge in your organisation. The services behind this work are available for your project. Somebody responsible for the thing the whole company rests on: it is up, it is backed up, and it is not quietly rotting.

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Look behind the result

Read the situation, decisions and result in this example. We can discuss which parts transfer to your constraints and which need another approach. Engineered 600 PL/pgSQL ETL/ELT pipelines — 600 ETL pipelines engineered in PL/pgSQL

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Complex data workflows to untangle?

Talk through your project with the engineer responsible for delivery. We agree the scope, price basis and handover in writing before work begins.

Role context: Data Analyst. It draws on Databases, PostgreSQL, SQL, Data Engineering, Data Pipelines (ETL/ELT), Data Governance, Automation & CI/CD and Performance Tuning. And while you are here, we are rather good at Database Administration (DBA), Data Pipeline Development (ETL/ELT) and Data Governance & Quality.

Get in touch Explore our services

One piece of **a longer record** — and it is all on this site.

Every entry is written the same way: the situation, the task, what we did and what changed.

See the whole record

Define the improvement you need

Bring a representative dataset, the questions it must answer and the current bottleneck. We can agree how to measure quality, throughput and recovery.

See what it costs Get in touch →

Complex data workflows to untangle?

Ask about the decisions behind “Engineered 600 PL/pgSQL ETL/ELT pipelines”. You will speak with the people who can explain the work and assess your own project.

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