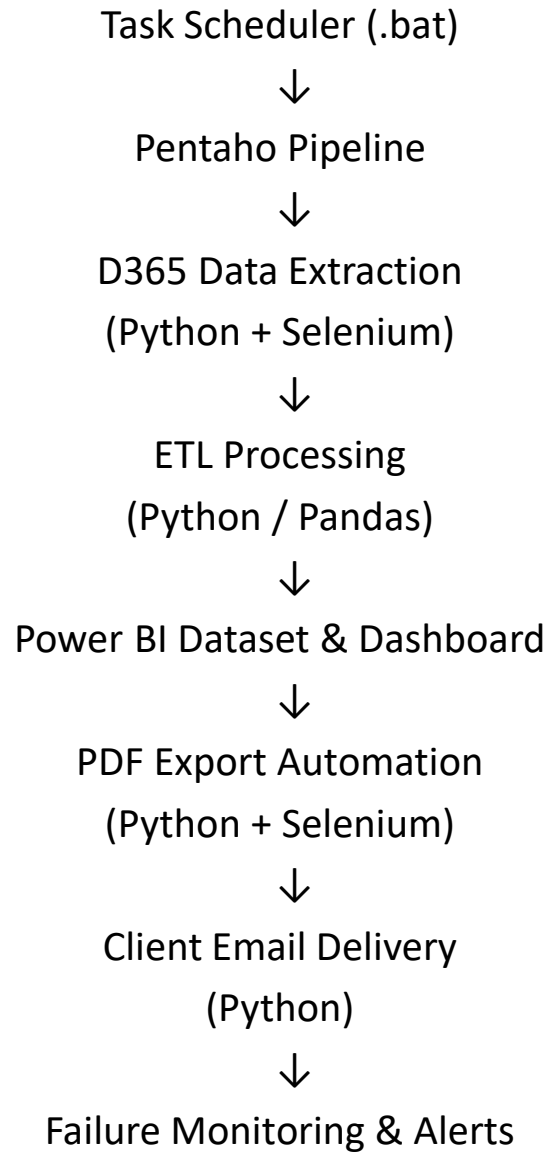# Automated Financial Reporting Pipeline (D365 → Power BI → Client)

- End-to-end automation of financial reporting using Python, Power BI, and Pentaho

Tools:

- 🐍 Python - Selenium, Pandas, Numpy, Openpyxl
- 🏢 D365
- 📊 Power BI
- 🧩 Pentaho

Architecture Flow

Task Scheduler (.bat)

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Pentaho Pipeline

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D365 Data Extraction

(Python + Selenium)

↓

ETL Processing

(Python / Pandas)

↓

Power BI Dataset & Dashboard

↓

PDF Export Automation

(Python + Selenium)

↓

Client Email Delivery

(Python)

↓

Failure Monitoring & Alerts

ETL Logic

- Extracted financial data from multiple D365 including Daybook transactions, Ledger Master, and Ledger Mapping files (CSV and Excel).

- Filtered and isolated bank and cash-related transactions using ledger primary group classification.

- Standardized date formats and derived Month–Year fields to support period-based financial reporting.

- Normalized transaction amounts by converting values into Lakhs and applying consistent sign conventions.

- Removed duplicate transactions using GUID-based deduplication to ensure data accuracy.

- Integrated opening balances into transactional data to maintain complete cashflow continuity.

- Processed contra vouchers separately and applied correct accounting treatment to avoid double counting.

- Classified transactions into bank account and non-bank categories for structured analysis.

- Enriched transactions using ledger-to-cost-center mapping, including automatic detection and handling of missing ledger mappings.

- Loaded validated, analytics-ready datasets into structured multi-sheet Excel outputs for reporting and BI consumption.

Automation & Scheduling

- Pentaho orchestrates full pipeline

- Python scripts modularized

- Windows Task Scheduler triggers execution

- Power BI refresh scheduled per client

Error Handling & Failure Mailer

- • Monitors failures at each stage

- • Automated failure email with stage & logs

- • Ensures reliability & fast resolution

Business Impact

- • 90% reduction in manual effort

- • Daily on-time reports

- • Improved accuracy & scalability

- • Zero manual intervention