**Project Flow Financial Reporting Automation System**

**1. Data Extraction**

* **Task**: Extract raw financial data from SQL Server.
* **Tool**: Azure Data Factory (ADF).
* **Steps**:
  + Created ADF pipelines to connect to SQL Server.
  + Extracted structured data (e.g., transactions, balances) required for reporting.

**2. Data Loading**

* **Task**: Load the extracted data into ADLS Gen 2 for scalable storage.
* **Tool**: Azure Data Factory.
* **Steps**:
  + Configured ADLS Gen 2 as the destination.
  + Ensured proper folder structure and file partitioning for efficient querying and retrieval.

**3. Data Transformation and Validation**

* **Task**: Transform raw financial data and validate its accuracy.
* **Tool**: Azure Databricks (using PySpark).
* **Steps**:
  + Processed data to clean, aggregate, and normalize it as per reporting requirements.
  + Applied PySpark scripts to handle complex transformations like currency conversion, balance adjustments, and multi-source data joins.
  + Validated data integrity using Python scripts, checking for inconsistencies or missing entries.

**4. Workflow Scheduling and Dependencies**

* **Task**: Manage execution schedules and dependencies for the ETL process.
* **Tool**: Azure Data Factory and Databricks Jobs.
* **Steps**:
  + Configured workflows to execute sequentially (e.g., data loading before transformations).
  + Added error handling and automated failure alerts for critical steps.

**5. Report Generation**

* **Task**: Automate financial report generation.
* **Tool**: Python and Visualization Tools (e.g., Power BI, Excel).
* **Steps**:
  + Integrated Python scripts to generate reports in desired formats (CSV, Excel, or direct feed to visualization tools).
  + Linked processed data to visualization dashboards for stakeholders to access real-time insights.

**6. Stakeholder Collaboration**

* **Task**: Ensure alignment with the finance team's requirements.
* **Steps**:
  + Worked closely with stakeholders to define key metrics and report formats.
  + Gathered feedback on dashboards and iterated for improvements.

**Outcome**

* **Benefits**:
  + Increased reporting accuracy by reducing manual errors.
  + Improved speed of report generation and delivery.
  + Automated end-to-end workflows, allowing the finance team to focus on analysis rather than manual tasks.