LEVEL0_Assignment_Overview_&_Tracker

Crayon Data Engineer Case Study | BTTF Logistics

Objective

Serve as the master documentation map for the BTTF Logistics assignment. This file helps track progress across deliverables, reference links to level-specific notes, and define the tooling and methodology used throughout.

Deliverables from Assignment PDF

1. **Solution Architecture Document (3–5 pages)**
   - High-level architecture diagram
   - Component descriptions and interactions
   - Technology selections with justifications
   - Scaling considerations
2. **Implementation Examples**
   - Script for weather data collection (local executable)
   - Data processing code (join & aggregate)
   - Data model schemas (SQL DDL)
3. **Presentation & Code Walkthrough (45 min)**
   - Architecture overview
   - Implementation approach walkthrough
   - Code demo
   - Discussion on business impact

LEVEL-WISE FILE ORGANIZATION

Level	Note File	Purpose
0	`LEVEL0_Crayon – DE Assignment TO-DO`	This file – overview, progress tracker, toolchain
1	`Solution_Architecture_Report`	Architecture diagram + component breakdown
2	`Weather Data Ingestion (Level 2)`	Python script for weather API, ETL logic, validation
3	`Data Modeling (Level 3)`	Shipment + City + Weather schema design
4	`Data Pipeline & Aggregations (Level 4)`	Transformation, joins, and KPI calculations
5	`Visualization Recommendations (Level 5)`	Tools, dashboard strategy, final metrics to expose

Tools & Stack

Tool/Service	Purpose
MacOS Terminal	Local environment + navigation
Obsidian	Documentation & knowledge management
Visual Studio Code	Python scripting
AWS (Conceptual Only)	Architecture planning: S3, Glue, MWAA, DMS, Athena
PostgreSQL + DBeaver	Local DB for testing models and joins
Draw.io	Architecture diagram building
Docker (Optional)	Reproducible local environment for bonus showcase

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Documentation Methodology

Each step and script will be documented using:

> What? Where? Why? How?

This structure ensures clarity, traceability, and reproducibility.

Current Status Snapshot

Deliverable	Status
Project directory initialized	✅
Vault + toolchain defined	✅
LEVEL 1 – Architecture Complete	✅
LEVEL 2 – Weather Integration	⏳ Next
LEVEL 3 – Data Model	❌ Pending
LEVEL 4 – Joins & Aggregations	❌ Pending
LEVEL 5 – Visualization	❌ Pending
Final PDF/Presentation export	⏳ Later

Next Planned Action

→ Proceed to design and document the **Solution Architecture** in LEVEL1_Solution Architecture_Report

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