

Retail Inventory & Sales Performance Tracker

Screenshots:

Objective:

Build a data-driven system that monitors product inventory levels, analyzes sales performance, and provides actionable retail insights — using MySQL, MongoDB, Python, PySpark, Azure Databricks (executed in Google Colab), and Azure DevOps.

Epic:

Retail Inventory & Sales Performance Tracker

Azure DevOps

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343 Retail Inventory & Sales Performance Tracker

JM JAS M

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Backend

Database

Python

PySpark

NoSQL

Data Processing

+

State

New

Area

RetailInventorySalesPerformanceTracker

Reason

New

Iteration

RetailInventorySalesPerformanceTracker

Updated by JAS M: 58m ago

Details

History

Comments 8

Links 0

Click to add Description.

Discussion

Priority 1

Risk 1 - High

Effort

Business Value

Time Criticality

Start Date 10/29/2025 12:00 AM

Target Date 11/10/2025 12:00 AM

To track releases associated with this work item, go to [Releases](#) and turn on deployment status reporting for Boards in your pipeline's Options menu. [Learn more about deployment status reporting](#)

Development

Add link

Link an Azure Repos [commit](#), [pull request](#) or [branch](#) to see the status of your development.

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Features:

- Product, Sales & Inventory Data Management
- CRUD Operations for Retail Data
- Low-Stock Alert & Reporting
- Customer & Supplier Feedback Storage
- Sales & Inventory Data Cleaning & Analysis
- Regional & Category Sales Trend Analysis
- ETL Pipeline & Data Integration
- Automated Reporting & Dashboarding

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351	🍷 Automated Reporting & Dashboarding	JAS M	New	RetailInvent
350	🍷 ETL Pipeline & Data Integration	JAS M	New	RetailInvent
349	🍷 Regional & Category Sales Trend Analysis	JAS M	New	RetailInvent
348	🍷 Sales & Inventory Data Cleaning & Analysis	JAS M	New	RetailInvent
347	🍷 Customer & Supplier Feedback Storage	JAS M	New	RetailInvent
345	🍷 CRUD Operations for Retail Data	JAS M	New	RetailInvent
344	🍷 Product, Sales & Inventory Data Management	JAS M	New	RetailInvent
346	🍷 Low-Stock Alert & Reporting	JAS M	New	RetailInvent

User Stories:

Product, Sales & Inventory Data Management

- MySQL Product Table
- MySQL Sales Table
- MySQL Inventory Table

CRUD Operations

- Add, edit, and delete product data
- Add, edit, and delete sales data

Low-Stock Alert & Reporting

- Stored procedure to identify low-stock items

Customer & Supplier Feedback Storage

- Store unstructured feedback in MongoDB
- Efficient feedback search by product_id

Sales & Inventory Data Cleaning & Analysis

- Clean sales and inventory data from CSV/API
- Calculate monthly sales and inventory turnover metrics

Regional & Category Sales Trend Analysis

- Join product, sales, and inventory data in PySpark
- Group sales data by region and product category
- Export aggregated sales trend data

ETL Pipeline & Data Integration

- Load cleaned data into Databricks (simulated in Google Colab)
- Run ETL pipeline to update sales and inventory data
- Save processed data as Delta-like or CSV files

Automated Reporting & Dashboarding

- Execute SQL-style queries to identify top selling products
- Schedule and automate report generation via Azure DevOps pipeline

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367	Execute SQL-style queries to identify top selling products	JAS M	New	RetailInventr
366	Save processed data as Delta-like or CSV files	JAS M	New	RetailInventr
365	Run ETL pipeline to update sales and inventory data	JAS M	New	RetailInventr
364	Load cleaned data into Databricks (simulated in Google Colab)	JAS M	New	RetailInventr
363	Group sales data by region and product category	JAS M	New	RetailInventr
362	Join product, sales, and inventory data in PySpark	JAS M	New	RetailInventr
361	Calculate monthly sales and inventory turnover metrics	JAS M	New	RetailInventr
360	Clean sales and inventory data from CSV/API	JAS M	New	RetailInventr
359	Efficient feedback search by product_id	JAS M	New	RetailInventr

https://dev.azure.com/jasminem1/RetailInventorySalesPerformanceTracker/_workitems/edit/364/ feedback in MongoDB

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361	Calculate monthly sales and inventory turnover metrics	JAS M	New	RetailInvent
360	Clean sales and inventory data from CSV/API	JAS M	New	RetailInvent
359	Efficient feedback search by product_id	JAS M	New	RetailInvent
358	Store unstructured feedback in MongoDB	JAS M	New	RetailInvent
357	Stored procedure to identify low-stock items	JAS M	New	RetailInvent
356	Add, edit, and delete sales data	JAS M	New	RetailInvent
355	Add, edit, and delete product data	JAS M	New	RetailInvent
354	MySQL Inventory Table	JAS M	New	RetailInvent
353	MySQL Sales Table	JAS M	New	RetailInvent
352	MySQL Product Table	JAS M	New	RetailInvent

Tasks:

MySQL Product Table

- Design and create Product table schema
- Implement CRUD operations for products

MySQL Sales Table

- Design and create Sales table schema
- Implement CRUD operations for sales

MySQL Inventory Table

- Design and create Inventory table schema

Low-Stock Alert

- Write stored procedure to identify low-stock products

MongoDB Feedback Storage

- Design JSON schema for customer/supplier feedback
- Insert sample feedback documents
- Create indexes for product_id for fast lookup

Data Cleaning & Processing (Python)

- Develop Python script to load and clean sales and inventory data
- Calculate monthly sales and inventory turnover with NumPy

Sales Trend Analysis (PySpark)

- Load and join sales, product, and inventory data using PySpark
- Group data by region and category
- Export results as CSV or Parquet

ETL Pipeline (Google Colab/Databricks)

- Load cleaned data into Colab (simulating Databricks)
- Build ETL pipeline for incremental data updates
- Save output in Delta-like or CSV format
- Execute SQL queries to identify top 5 best-selling products

Automated Reporting (Azure DevOps)

- Build YAML pipeline for scheduled execution
- Automate report generation and distribution
- Configure alerts for inventory and sales anomalies

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394	Configure alerts for inventory and sales anomalies	JAS M	New	RetailInvent
393	Automate report generation and distribution	JAS M	New	RetailInvent
392	Build YAML pipeline for scheduled execution	JAS M	New	RetailInvent
391	Execute SQL queries to identify top 5 best-selling products	JAS M	New	RetailInvent
390	Load cleaned data into Colab (simulating Databricks)	JAS M	New	RetailInvent
389	Save output in Delta-like or CSV format	JAS M	New	RetailInvent
388	Save output in Delta-like or CSV format	JAS M	New	RetailInvent
387	Build ETL pipeline for incremental data updates	JAS M	New	RetailInvent
386	Load cleaned data into Colab (simulating Databricks)	JAS M	New	RetailInvent
385	Export results as CSV or Parquet	JAS M	New	RetailInvent
384	Group data by region and category	JAS M	New	RetailInvent

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379	Insert sample feedback documents	JAS M	New	RetailInvent
378	Design JSON schema for customer/supplier feedback	JAS M	New	RetailInvent
377	Design and create Inventory table schema	JAS M	New	RetailInvent
376	Implement CRUD operations for sales	JAS M	New	RetailInvent
375	Design and create Sales table schema	JAS M	New	RetailInvent
374	Design and create Sales table schema	JAS M	New	RetailInvent
373	Design and create Sales table schema	JAS M	New	RetailInvent
372	Design and create Sales table schema	JAS M	New	RetailInvent
371	Design and create Sales table schema	JAS M	New	RetailInvent
370	Implement CRUD operations for products	JAS M	New	RetailInvent
369	Design and create Product table schema	JAS M	New	RetailInvent

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