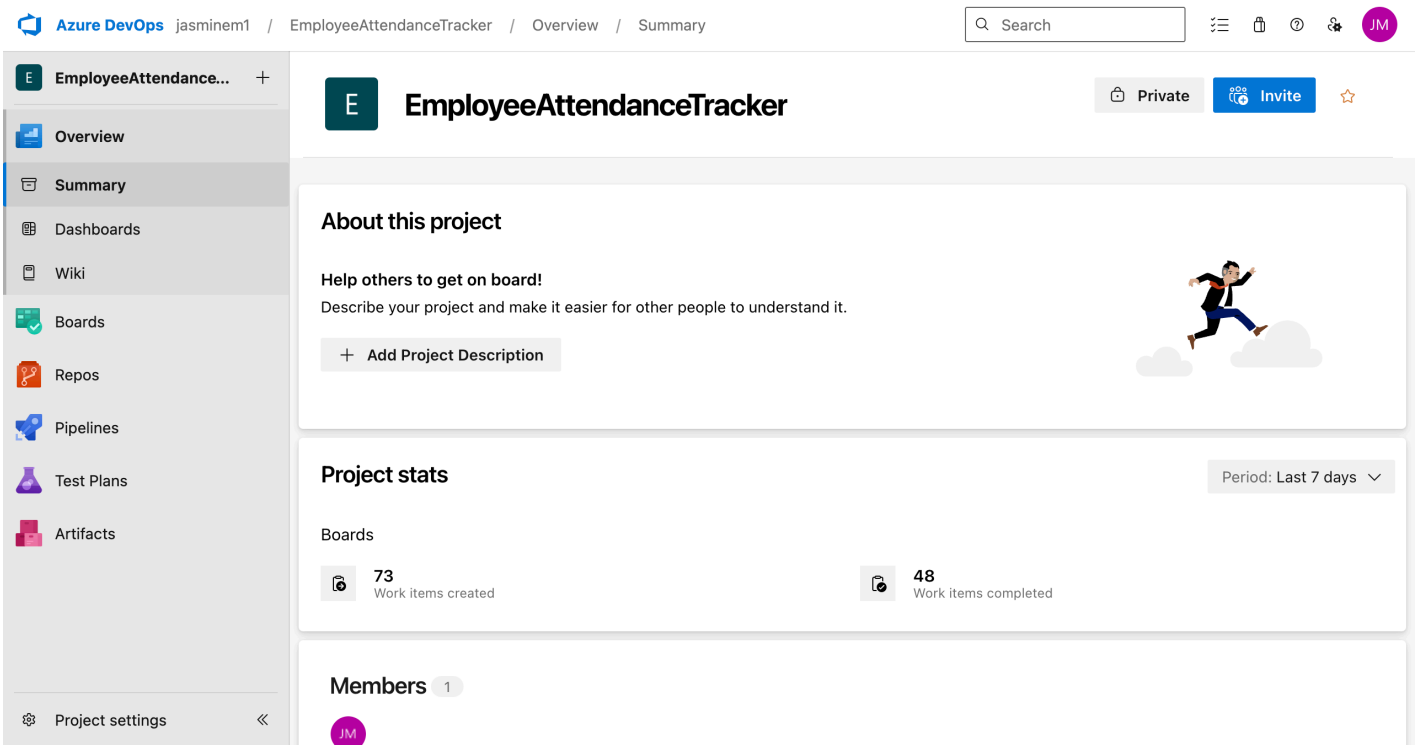
OVERVIEW FOR EMPLOYEE ATTENDANCE TRACKER

Objective:

Build a lightweight system to track employee attendance and productivity across departments. The goal is to collect data, identify patterns (like frequent absenteeism or underperformance), and generate reports for HR



Epic:

Employee Attendance and Productivity Tracker

Features:

- Employee Data Management
- Attendance Tracking
- Task & Productivity Monitoring
- Feedback & Notes Storage
- Attendance Analysis & Reporting
- Productivity Analysis
- Department-Level Metrics
- ETL & Data Integration

- Automated HR Reporting

User Stories:

Employee Data Management
- MySQL Employee Table
- MySQL Attendance Table
- MySQL Task Table

Attendance Tracking
- Clock-In Operation
- Clock-Out Operation
- View Attendance History

Task & Productivity Monitoring
- Log Task Completion
- Calculate Productivity Score
- Track Work Hours

Feedback & Notes Storage
- Store Task Feedback (MongoDB)
- Store Employee Notes (MongoDB)

Attendance Analysis & Reporting
- Identify Frequent Absentees
- Detect Late Logins
- Calculate Total Working Hours

Productivity Analysis
- Identify Top Performers
- Identify Underperformers
- Calculate Department Productivity

Department-Level Metrics
- Average Work Hours by Department
- Productivity Trends by Department

ETL & Data Integration
- Combine Attendance & Task Data (Databricks)
- Create Department KPI Tables

Automated HR Reporting
- Schedule Weekly Analysis Pipeline (Azure DevOps)
- Generate Automated Attendance Reports

Tasks:

MySQL Employee Table
- Create MySQL Employee Table
- Add Employee CRUD Operations

MySQL Attendance Table
- Create Attendance Table Schema
- Add Attendance CRUD Operations
- Write Stored Procedure for Total Working Hours

MySQL Task Table
- Create Task Table Schema
- Implement Task CRUD Operations

Clock-In Operation
- Implement Clock-In Functionality
- Validate Clock-In/Out Logic (partial)

Clock-Out Operation
- Implement Clock-Out Functionality
- Validate Clock-In/Out Logic (partial)

Store Task Feedback (MongoDB)
- Design JSON Schema for Task Feedback
- Insert Sample Feedback Data
- Add Indexes for Fast Lookup

Store Employee Notes (MongoDB)
- Design JSON Schema for Task Feedback (reusable)
- Add Indexes for Fast Lookup

Calculate Total Working Hours
- Write Stored Procedure for Total Working Hours
- Calculate Work Hours and Break Times

Identify Frequent Absentees
- Write Python Script to Import Attendance Data
- Identify Frequent Absentees
- Filter for Late Logins and Absences

Detect Late Logins
- Filter for Late Logins and Absences

Calculate Productivity Score
- Calculate Productivity Scores (Pandas)

Identify Top Performers
- Identify Top Performers

Identify Underperformers

- Identify Top Performers (inverse logic)

Average Work Hours by Department

- Group by Department for Aggregations

Productivity Trends by Department

- Group by Department for Aggregations
- Create Department-Level KPI Summary Table

Combine Attendance & Task Data (Databricks)

- Upload Cleaned Data to Databricks
- Join Employee, Attendance, and Task Tables

Create Department KPI Tables

- Create Department-Level KPI Summary Table
- Export Results as Delta/CSV

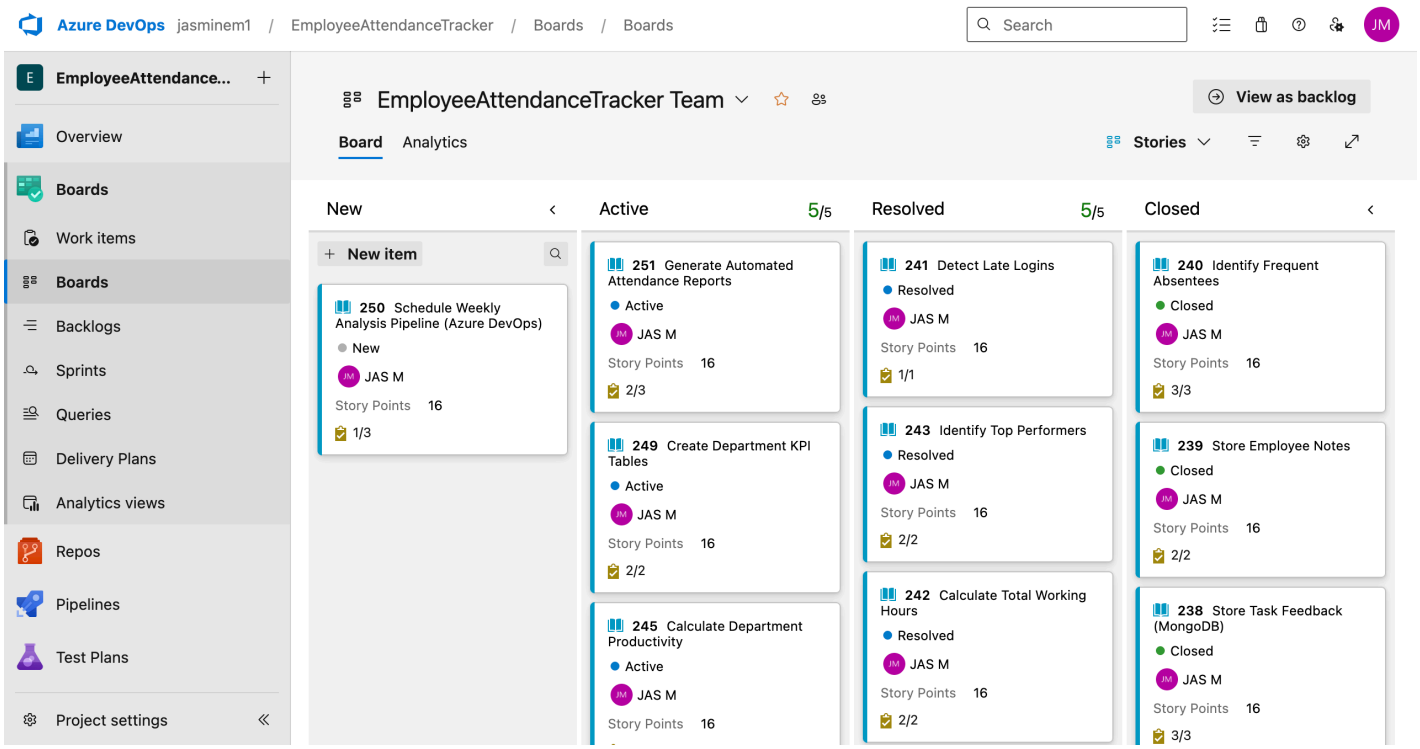
Schedule Weekly Analysis Pipeline

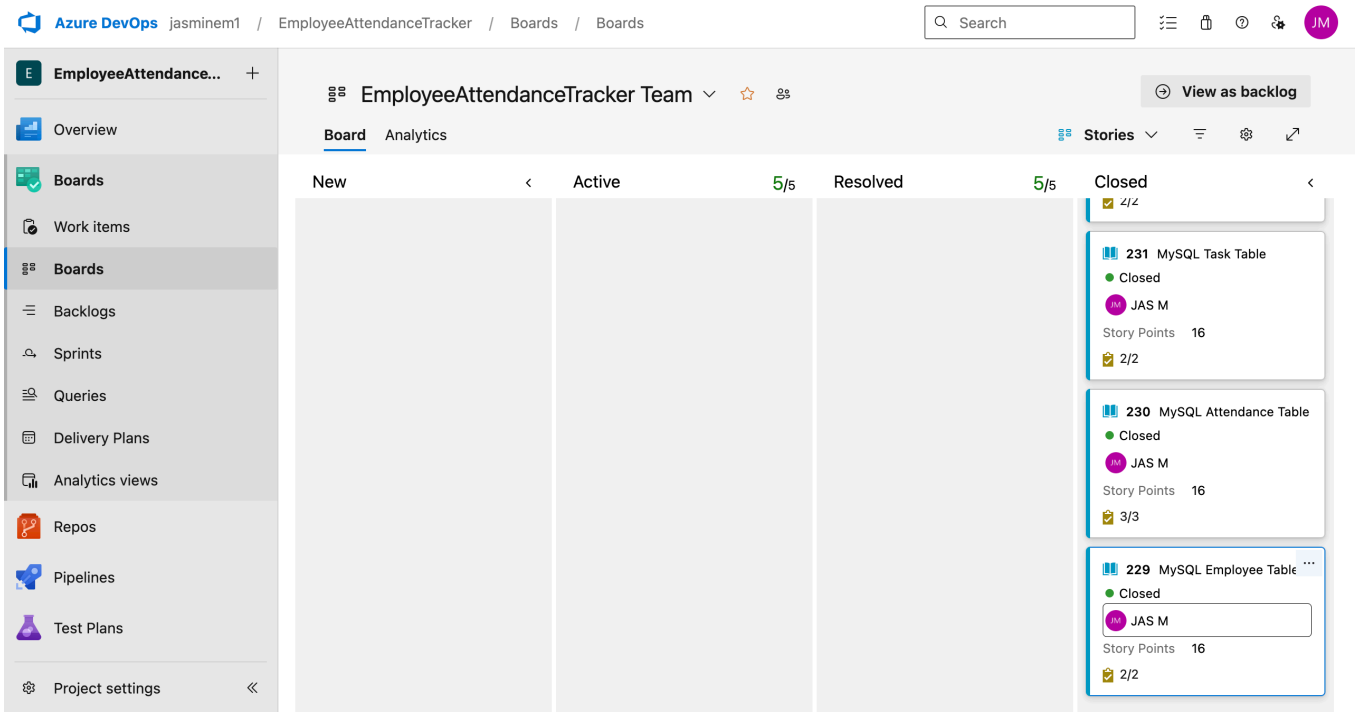
- Build YAML Pipeline for Weekly Execution
- Configure Pipeline Triggers and Schedule
- Implement Error Handling and Logging

Generate Automated Attendance Reports

- Generate Top 5 Absentees Report
- Generate Lowest Performing Departments Report
- Configure Alert Notifications

BOARDS:





This comprehensive breakdown provides clear traceability from epic to features to user stories to tasks, ensuring your Employee Attendance and Productivity Tracker project is well-organized and ready for development.

Summary:

This project is a modern workplace tool aimed at tracking employee attendance, productivity, and departmental trends. It provides a centralized platform for HR and management to monitor work hours, absences, and productivity metrics, using a combination of MySQL, MongoDB, Python, PySpark, Databricks, and Azure DevOps. The solution enables automated attendance recording (clock-in/clock-out), stores both structured and unstructured data (like feedback/notes), and automates the generation of weekly reports highlighting top/bottom performers and absence issues.

Major Features:

- Detailed recording of employee data and daily attendance with leave tracking
- Logging and assessment of tasks and employee productivity

- Unstructured storage of feedback and notes for HR insights
- Advanced analytics to spot absenteeism, late arrivals, and productivity trends
- Department-level metrics to identify workload imbalances
- Data integration and cleaning for unified reporting and dashboards
- Automated pipelines generating regular reports, helping HR act on workforce trends

This system supports efficient HR processes, ensures data-driven management, and brings transparency and automation to workplace attendance and productivity tracking.