**CAPSTONE PROJECT**

**INVENTORY MANAGEMENT SYSTEM**

**WEEK 5**

**1. Objective**

The purpose of this task is to automate a daily stock check using Azure DevOps pipelines. The system will run once per day, execute a Python script to check stock levels, generate a list of products that need to be reordered, and provide a daily report in CSV format.

**2. Scope of Work**

**a) Automate Daily Stock Check via Azure DevOps Pipeline**

* Configure an Azure DevOps YAML pipeline with a daily scheduled trigger (e.g., run every morning at 7:00 AM).
* The pipeline will:
  1. Checkout the repository containing the inventory scripts.
  2. Run a Python script that reads stock levels.
  3. Generate a reorder list for products below the threshold**.**

**b) Trigger Python Script & Export Reorder List**

* A Python script will be executed within the pipeline to:
  1. Fetch product stock data (from a database, CSV, or API).
  2. Apply threshold logic: identify products where stock\_quantity < reorder\_level.
  3. Save the filtered results as a reorder list.
  4. Format into a daily report file (CSV).

**c) Output Daily Report of Low-Stock Products**

* Once generated, the report will be:
  + Saved as a CSV log inside pipeline artifacts.
  + Optionally uploaded to a shared location (e.g., Azure Blob Storage, SharePoint, or Teams).
  + Accessible to procurement or inventory management teams for immediate action.
* The pipeline log will keep track of every execution for audit and monitoring.

**3. Deliverables**

1. **YAML Pipeline (Azure DevOps)**
   * Scheduled daily trigger.
   * Stages for setting up Python environment, executing the stock-check script, and publishing reports.
   * Fully automated, requiring no manual intervention.
2. **CSV Report (Daily Reorder List)**
   * Example file: daily\_reorder\_report.csv
   * Columns:
     + Product ID
     + Product Name
     + Current Stock
     + Reorder Level
     + Status (*“Reorder Needed”*)