Project Overview

The Inventory Management System was developed as part of Virtual Company 1 (VC1), where I served as both **Scrum Master and Developer**. The system is designed to manage inventory efficiently by allowing users to track materials, suppliers, and stock levels. Built using PHP with MVC architecture and MySQL for the database, the system features a responsive and user-friendly front-end interface enhanced with JavaScript, SASS, and Chart.js.

This project was completed over **54 hours** between **March 10th, 2025** and **April 2nd, 2025**, with a team of **five members**. We followed Agile methodologies and managed our tasks using **Jira**, while **GitHub** was used for version control and collaboration.

♣□ My Role

- **Scrum Master**: Facilitated sprint planning, daily stand-ups, and retrospectives.
- Developer: Built core features using PHP, implemented database logic in MySQL, and handled part of the front-end development using CSS, SASS, and JavaScript.

↑ Key Features Implemented

- Material tracking with stock level management
- Supplier management with CRUD functionality
- In Stock visualization using **Chart.js**
- External API integration for supplier data and real-time updates
- □ Reporting module for daily and monthly summaries
- — Authentication and user roles (admin, staff)
- Responsive UI for desktop and mobile users

□ Tools & Technologies Used

- PHP (MVC) Backend architecture
- MySQL Database integration

- JavaScript Interactive UI logic
- **SASS/CSS** UI styling and responsiveness
- Chart.js Visual representation of stock trends
- **REST APIs** Integrated for third-party data and automated tasks
- Jira Agile planning and sprint management
- GitHub Version control and team collaboration

Cloud Hosting & Deployment

To deploy the system online, we used **AWS EC2** and linked it with a **custom domain from GoDaddy**:

■ Hosting on AWS EC2

- Launched and configured a Linux EC2 instance (LAMP stack: Linux, Apache, MySQL, PHP)
- Used **Git** to clone and deploy the source code from GitHub
- Installed Certbot (Let's Encrypt) to enable HTTPS
- Configured firewall rules and auto-start services

Domain & HTTPS

- Registered domain with GoDaddy
- Managed DNS using GoDaddy dashboard, pointing the domain to the EC2 public IP
- Used Let's Encrypt to secure the domain with an SSL certificate (HTTPS)

✓ Remote Server Management

- Used MobaXterm for SSH access to the EC2 instance
- Transferred files, updated permissions, restarted services with terminal commands

What I Learned

This project gave me valuable hands-on experience in both leadership and development:

- How to manage an Agile team using Scrum practices.
- Deepened understanding of PHP MVC structure and MySQL query optimization.
- Built dynamic and interactive charts with **Chart.js** to enhance data readability.

- Successfully integrated **APIs** to fetch supplier information and automate inventory updates.
- Improved team communication using Jira boards and GitHub issues/pull requests.

Project Summary

Description Item

Role Scrum Master & Developer

5 Members **Team Size**

Duration 54 hours

Date March 10 - April 2, 2025

Type Inventory Management System

Technologies PHP (MVC), MySQL, JavaScript, CSS, SASS, Chart.js, REST API, Jira, GitHub