INDUSTRIAL ATTACHMENT REPORT

AT

EUCL/ICT UNIT AT HEAD OFFICE

Submitted by:

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On 1st November 2021

DECLARATION

I, Moise BISHOBOKERUWIZEYE with registration number 18RP08488, Final year student in RP/IPRC Tumba, I declare that the work presented in this industrial attachment report conducted from Monday 6th September 2021 to Friday 29th October 2021 in Energy Utility Corporation Limited (EUCL) / ICT Unit at Head Office in Business Application Section under the supervision of Sandrine MAHORO NIKUZE IT Business Analyst in Business Application Section, It's my original work and has never been presented in any previous academic year at this college or any other university or any of higher learning institution in Rwanda.

During my industrial attachment in Energy Utility Corporation Limited (EUCL) / ICT Unit at Head Office in Business Application Section, I had gained different skills about computer programming language and I developed my communication skills in programming.

Prepared by:
Moise BISHOBOKERUWIZEYE

Signature: ……...

Date …… / 11 /2021

Supervisor:
Sandrine MAHORO NIKUZE

Signature: ……...

Date …… / 11 / 2021

ABSTRACT

This report contains all activities that took place during industrial attachment of 8 weeks in Energy Utility Corporation Limited (EUCL) / ICT Unit at Head Office in Business Application Section from 6th September 2021 to 29th October 2021 where I performed in different skills in computer programming language.

In this day's technology is moving up by the provision of computer, that's why in all activities done in different institution, companies, enterprises, or schools shall be computerized web based application for making their services better and fast.

This report consists of Three parts. Chapter one is composed with the general introduction, company profile, and objectives. Chapter two is composed with activities carried out and experience gained. Chapter three includes appreciation, conclusion and recommendation.

This practical training based on programming helps me to improve my knowledge about programming and put in practice some theories learnt from lectures in class as well as having an idea about what happens in work environment, and beneficiate from the free internet, and It provides company an opportunity to assess the future employees. While for the university, the industrial attachment is one of the modules to assess the students.

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CHAPTER ONE: GENERAL INTRODUCTION

1.1 INTRODUCTION

Generally, in some countries, internships for school children are called work experience. Internships may be paid or unpaid, and are usually under stood to be temporary positions. Generally, an internship consists of an exchange of services for experience between the student and an organization. Students also have an interest in a particular career, create a network of contacts, or gain school credit. Some interns find permanent job.

1.2 COMPANY PROFILE

The Energy Utility Corporation Limited (EUCL) was incorporated to have devoted attention in providing energy utility services in the Country through operations and maintenance of existing generation plants, transmission and distribution network and retail of electricity to end-users.

1.3 OBJECTIVES OF INDUSTRIAL ATTACHMENT

1.3.1 General objectives

The major aim of industrial attachment is to help students to increase their practical knowledge from theoretical lessons learnt during classes and to be familiar with real tools.

1.3.2 Specific objectives

The specific objectives of industrial attachment are:

- To develop skills and techniques directly applicable to their careers.
- To build the strength, teamwork spirit and self-confidence in students' life.
- To gain practical oriented work experience
- To learn from professionals and experts

CHAPTER TWO: ACTIVITIES CARRIED OUT AND GAINED EXPERIENCES

2.1 INTRODUCTION

This chapter contains the activities summary in industrial attachment, gained experiences, what learnt, problems faced and how solved and also how I will use my experience in future works.

2.2 WHAT LEARNT AND GAINED

There are many things learnt in this industrial attachment where I practiced the computer programming language I learnt in class like JavaScript where I cover Spring Boot, REST API, Hibernate mappings, JSON, and Vanilla JavaScript.

2.2.1 Spring Boot

Java Spring Boot is a tool that makes developing web application and micro services with Spring Framework faster and easier through three core capabilities: Auto configuration, An opinionated approach to configuration, and The ability to create standalone applications.

2.2.2 REST API

A REST API (also known as RESTful API) REST stands for **Re**presentational **S**tate is an application programming interface (API or web API) that conforms to the constraints of REST architectural style and allows for interaction with RESTful web services.

2.2.3 Hibernate mappings

Hibernate mappings are one of the key features of hibernate. They establish the relationship between two database tables as attributes in your model. that allows you to easily navigate the associations in your model and criteria queries. Ex ... one to one — it represents the one to one relationship between two tables.

2.2.4 JSON

JSON (JavaScript Object Notation) is a lightweight data-interchange format. It is easy for humans to read and write. It is easy for machines to parse and generate.
It is commonly used for transmitting data in web applications (e.g., sending some data from the server to the client, so it can be displayed on a web page, or vice versa).

2.2.5 Vanilla JavaScript

VanillaJS is a name to refer to using plain JavaScript without any additional libraries like jQuery back in the days. People use it as a joke to remind other developers that many things can be done nowadays without the need for additional JavaScript libraries.

2.3 PROJECT TIMELINE AND IMPLEMENTATION

In this industrial attachment with the help of my supervisor I have chosen simple project called “Restaurant Stock Management” to work on it after cover previous Spring Boot framework lesson.

2.3.1 Project timeline

So here is plan of how I develop and implement my simple project grouped in weeks.

Week One	Week Two	Week Three	Week Four
✓ Planning ✓ Requirement ✓ Use Case ✓ Class Diagram	✓ Site Map ✓ Git + UI ✓ HTML +CSS	✓ ERD ✓ Backend + Heroku	✓ JavaScript ✓ Integration

This small project is developed and implemented by using Spring Boot Framework

2.3.2 Tools used

- **Spring Tool Suite 4**: Is an IDE to develop Spring applications. It provides a ready-to-use environment to implement, run, deploy, and debug the application. It validates our application and provides quick fixes for the applications.
- **Postman API Platform**: is an API platform for building and using APIs. Postman simplifies each step of the API lifecycle and streamlines collaboration so you can create better APIs—faster.
- **MySQL workbench 8.0 CE**: is a unified visual tool for database architects, developers, and DBAs. provides data modeling, SQL development, and comprehensive administration tools for server configuration
- **Visual Studio Code**: is a source-code editor made by Microsoft for Windows and Linux.
- **MS Edge browser**: is the best browser for Windows. Sync your passwords, favorites, and settings across multiple devices.

2.4 PROJECT OVERVIEW

Figure 1 User Login for Manager and Supplier

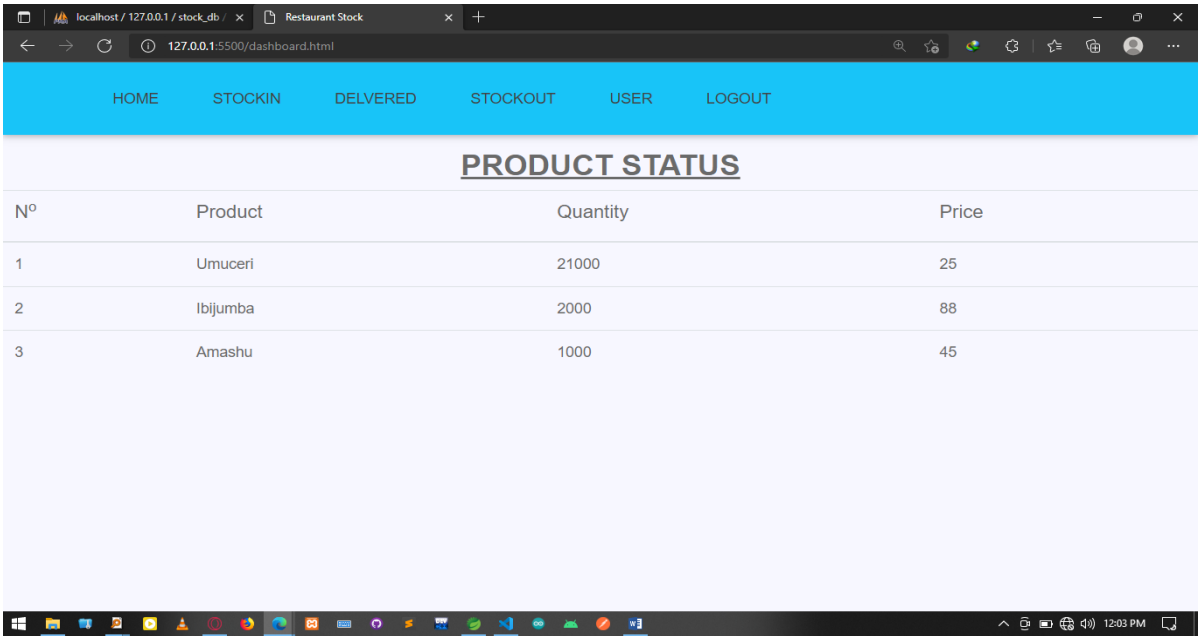

Figure 2 Product status

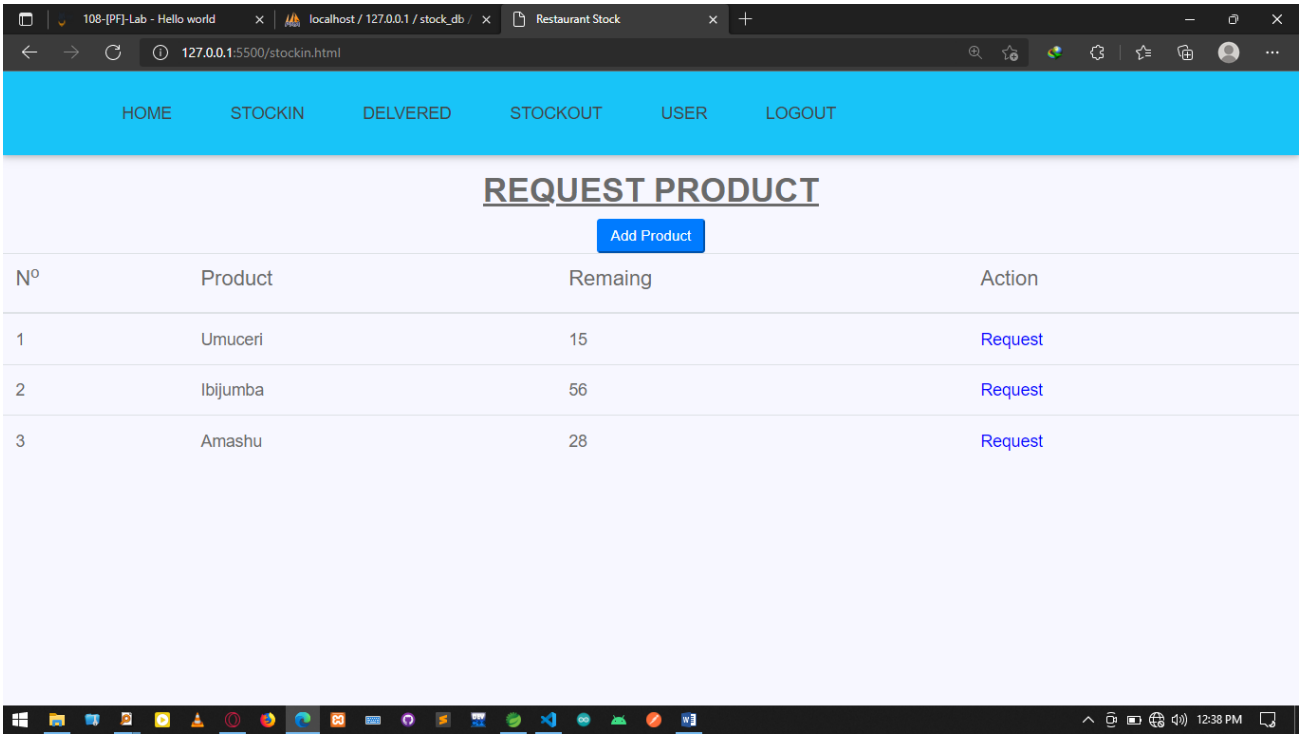

Figure 3 Request product to the Supplier

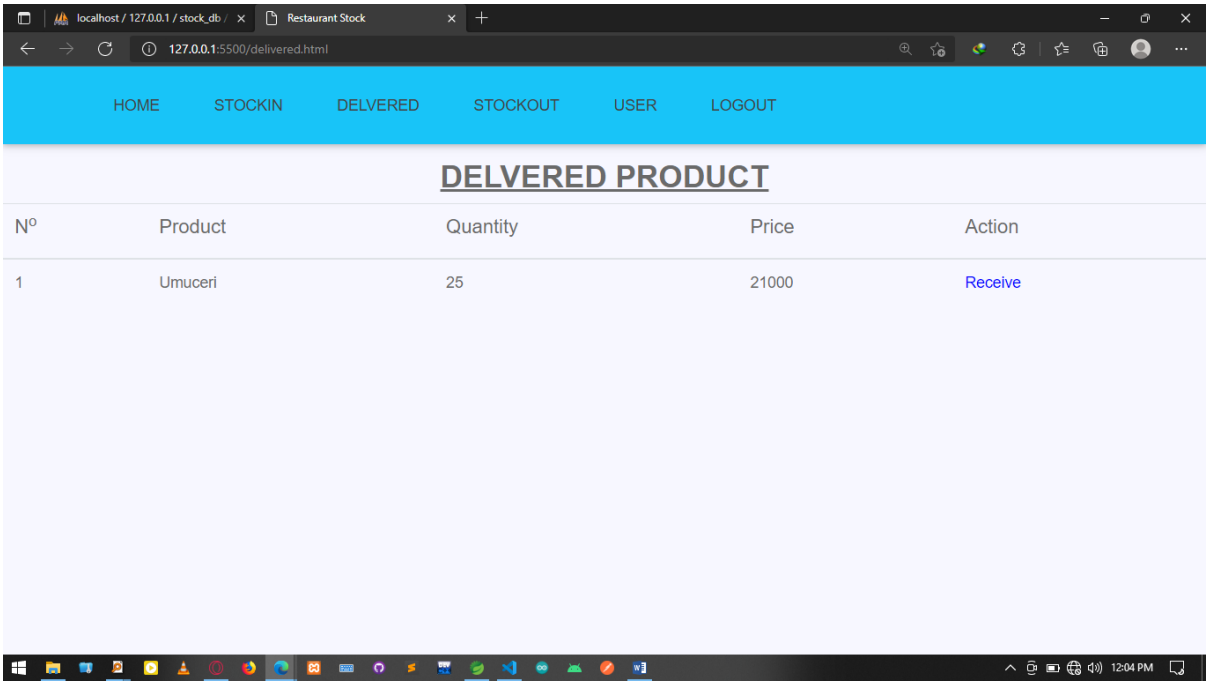

Figure 4 Delivered product from Supplier

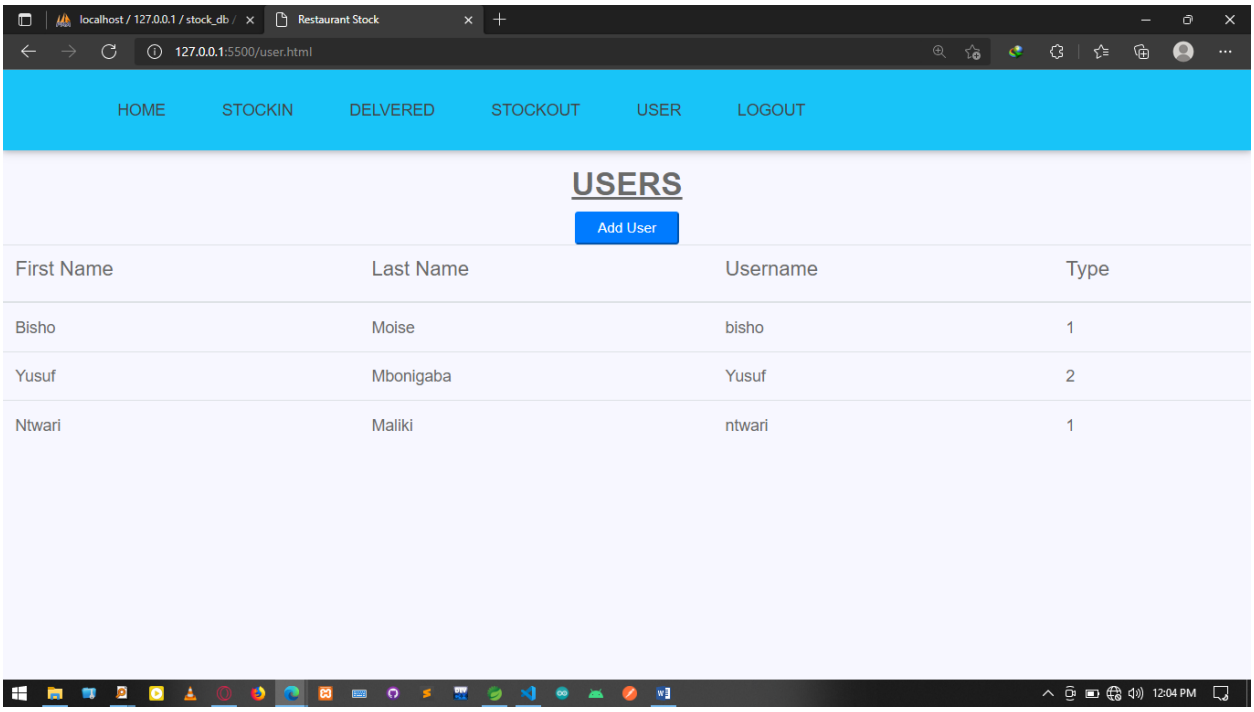

Figure 5 List of users

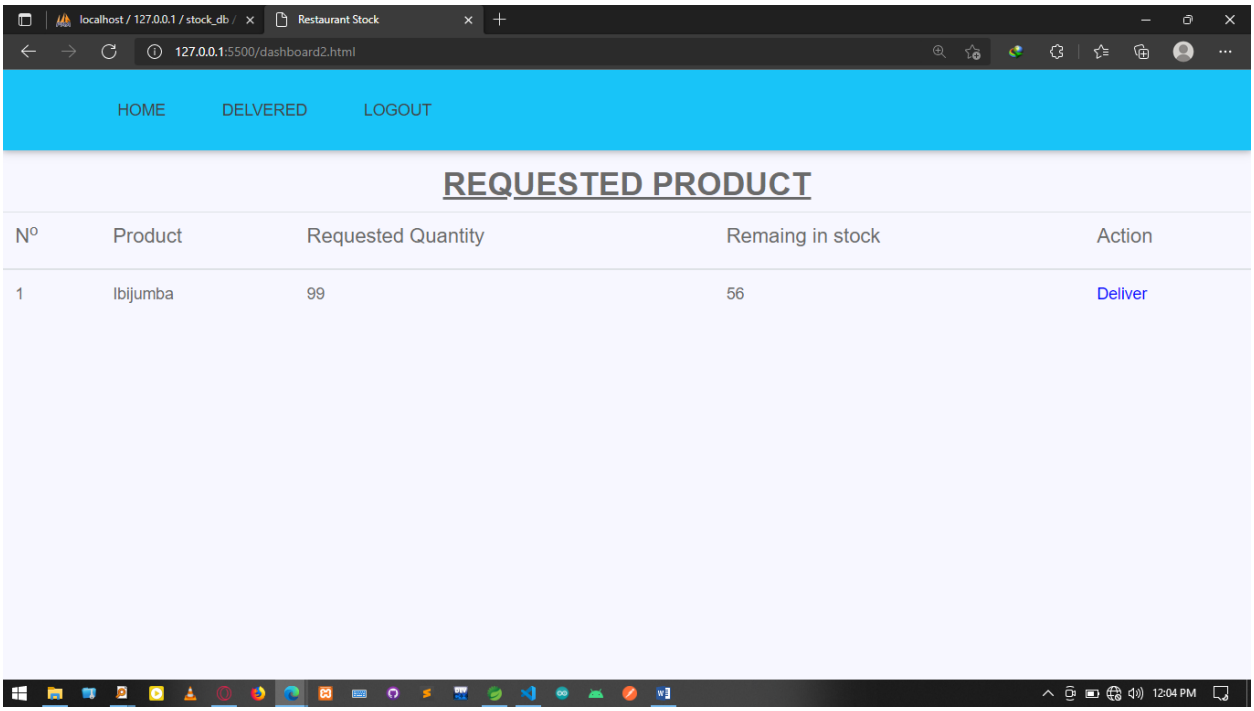

Figure 6 Requested product from Manager

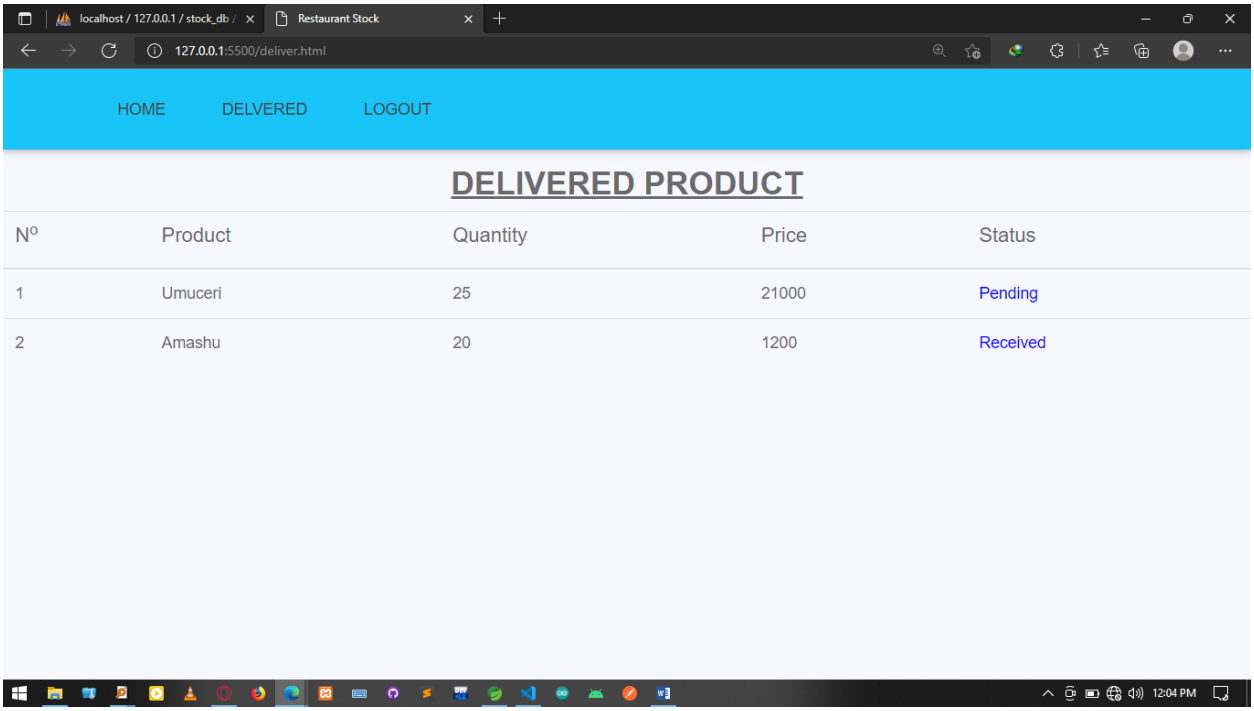

Figure 7 Delivered product to the Manager or in pending to be received

2.5 PROBLEM FACED AND THEIR SOLUTION

2.5.1 Problem

In general, I didn’t face any problem because my industrial attachment is based on computer programming language and It's my favorite carrier but some problem was facing with syntax when am developing backend.

2.5.2 Solution

I solve the problem by asking help to my supervisor or watching YouTube tutorials.

2.6 Experience Utilization

In this industrial attachment I got many experiences which will be most useful in everyday professional activities like developing web application using framework, communication skills and group works which leads to successful implementation of work.

Communication skills: got high quality of communication skills from this industrial attachment.

Group work: I learned the role of group works where you work together everyone perform different activity and you perform a big task at the final.

CHAPTER THREE: CONCLUSION AND RECOMMENDATION

3.1 RECOMMENDATIONS

3.1.1 Remarks and Suggestions to the company

The company treated me well during this industrial attachment and help me in practicing new programming framework in JavaScript what I learnt which lead me to the more experience.

My suggestion to them is that they can keep their practical skills because it is real useful and where possible they can transfer student in other activities according to their departments for improving their experiences.

3.1.2 Suggestion to my College

My Recommendations to IPRC Tumba is that they can grow the way students got industrial attachments from different companies because it is somehow not easy to students to find industrial attachment for his/herself and increase practices so that students will be familiar with work during industrial attachments.

3.2 CONCLUSION

I can conclude that you can put much energy in industrial attachment things because we really get much knowledge in industrial attachments and some of us get enough experience so that they can perform many different carrier activities.