Team ID : 241759

BOOK-E-SELL

A PROJECT REPORT

Submitted By

DASHRATH KANZARIYA

190200107060

In partial fulfilment for the award of the degree of

BACHELOR OF ENGINEERING

In

Computer Engineering

Government Engineering College Rajkot

Gujrat Technological University, Ahmedabad

July, 2022

Government Engineering College Rajkot

Rajkot, Gujarat

CERTIFICATE

This is to certify that the project report submitted along with the project entitled **BOOK-E-SELL** has been carried out by **DASHRATH KANZARIYA**(**190200107060**) under my guidance in partial fulfilment for the degree of Bachelor of Engineering in Computer Engineering, 7th Semester of Gujarat Technological University, Ahmedabad during the academic year 2022-23.

Asst. Prof. Mahesh Titiya

Internal Guide

Prof. Sanjaykumar Shah

Head of the Department

Completion Certificate

TatvaSoft
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Outsourcing • Custom Software Development • Web Application & eBusiness Solution

Summer Internship Certificate

Date 12/07/2022

This is to certify that Dashrath Kanzariya undergone summer internship from 20th June 2022 to 8th July 2022. Details of the project is as under

Name of project: Book-e-sell E-commerce website

Technology: .net/postgres/reactJs

We wish him/her grand success for the future.

Authorized Signatory

TatvaSoft, Ahmedabad

Ground Floor, Tatva House, Behind Rajpath Club Road,Opp-Golf Academy, Bodakdev, Ahmedabad-380054, Gujarat, India. Website: www.tatvasoft.com, E-mail: Info@tatvasoft.com; Phone: +91 9601421472.

Government Engineering College Rajkot

Rajkot, Gujarat

DECLARATION

We hereby declare that the Internship / Project report submitted along with the Internship / Project entitled **BOOK-E-SELL** submitted in partial fulfilment for the degree of Bachelor of

Engineering in Computer Engineering to Gujarat Technological University, Ahmedabad, is a bonafide record of original project work carried out by me at **TATVASOFT** under the supervision of **Asst. Prof. MAHESH TITIYA** and that no part of this report has been directly copied from any student's reports or taken from any other source, without providing due reference

Name of Student   Sign of Student

DASHRATH KANZARIYA

Team ID : 241759

ACKNOWLEDGEMENT

I have taken many efforts in this project. However, it would not have been possible without the kind support and help of many individuals and organizations. I would like to extend my sincere thanks to all of them.

I am highly indebted to Asst. Prof. MAHESH TITIYA for their guidance and constant supervision as well as for providing necessary information regarding the Summer Internship Project Titled "BOOK-E-CELL". I would like to express my gratitude towards our Head of the Department and other staff members of the Computer

Engineering Department.

I even thank and appreciate my colleague in developing the project and the people who have willingly helped me out with their abilities.

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DASHRATH KANZARIYA

(190200107060)

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Team ID : 241759

ABSTRACT

The Company:

TatvaSoft is Ahmedabad, India, based Consumer Custom Software Development company delivering splendid business IT Solutions and related services to customers across the globe. Their development services are led by their dedicated and passionate team to provide best industry practices combined with technology expertise and business domain knowledge to drive digital transformation. Our proficiency in understanding business challenges and professional competence allows them to create a better experience for their customers.

They excel in delivering the best-suited solution as per the custom needs, be it small start-ups in their ideation phase or mid-size businesses focusing on growth or large enterprises actively optimizing processes across varied industries like Fintech & Insurance, Oil & Gas, Mining, Education, Retail & Ecommerce, Energy and Utilities, Logistics & Distribution, Healthcare, Travel & Hospitality, Media & Entertainment, Public Sector.

Tatvasoft design and implement advanced custom software solutions and mobile apps to simplify your business problems. Focussing on latest technologies, agile methodologies & DevOps, they offer cost-effective digital solutions for you to innovate and optimize your business performance.

Methodology:

This Project is Small E-Book selling website using HTML, CSS, JS, ReactJS, TypeScript, ASP.net, PostgreSQL. It is a website to buy/sell books. It has various functionalities like login, registration, Addition of book to cart, buying of book, etc…

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CHAPTER 1 INTERNSHIP OBJECTIVES

- Internships are generally thought of to be reserved for college students looking to gain experience in a particular field. However, a wide array of people can benefit from Training Internships in order to receive real world experience and develop their skills.

- An objective for this position should emphasize the skills you already possess in the area and your interest in learning more.

- Internships are utilized in a number of different career fields, including architecture, engineering, healthcare, economics, advertising and many more.

- Some internship is used to allow individuals to perform scientific research while others are specifically designed to allow people to gain first-hand experience working.

- Utilizing internships is a great way to build your resume and develop skills that can be emphasized in your resume for future jobs.

CHAPTER 2 WEEKLY OVERVIEW OF ACTIVITIES

WEEK - 1

DATE	DAY	NAME OF THE TOPIC
20/06/22	Monday	React basics, file structure and components of react
21/06/22	Tuesday	TypeScript and React with Typescript
22/06/22	Wednesday	Formik and Hooks in React
23/06/22	Thursday	Asp.Net Core Web API Tutorial
24/06/22	Friday	PostgreSQL Basics

Table 1.1 Week 1 Activities Table

WEEK - 2

DATE	DAY	NAME OF THE TOPIC
27/06/22	Monday	Backend .net Core API for Registration
28/06/22	Tuesday	Backend .net Core API for Login
29/06/22	Wednesday	Backend .net Core API for Category Master
30/06/22	Thursday	Backend .net Core API for Book Master
01/07/22	Friday	Backend .net Core API for Cart

Table 1.2 Week 2 Activities Table

WEEK - 3

DATE	DAY	NAME OF THE TOPIC
04/07/22	Monday	Frontend ReactJS Registration module with API Integration
05/07/22	Tuesday	Frontend ReactJS Login module with API Integration
06/07/22	Wednesday	Frontend ReactJS Book Listing module with API Integration
07/07/22	Thursday	Frontend ReactJS Global Search module with API Integration
08/07/22	Friday	Frontend ReactJS Cart module with API Integration

Table 1.3 Week 3 Activities Table

CHAPTER 3 LEARNING TECHNOLOGIES

As a part of this internship I have learnt mainly four technologies. I have been told to first learn the concept from the resources that are shared by the company and after learning the implementation phase was started.

3.1 Learning REACTJS & TypeScript

On the first day of internship, I have been told to learn the basic concepts of ReactJS and the file structure and components in a react project. I've been provided with the link to the videos from which I've learnt basics of React.
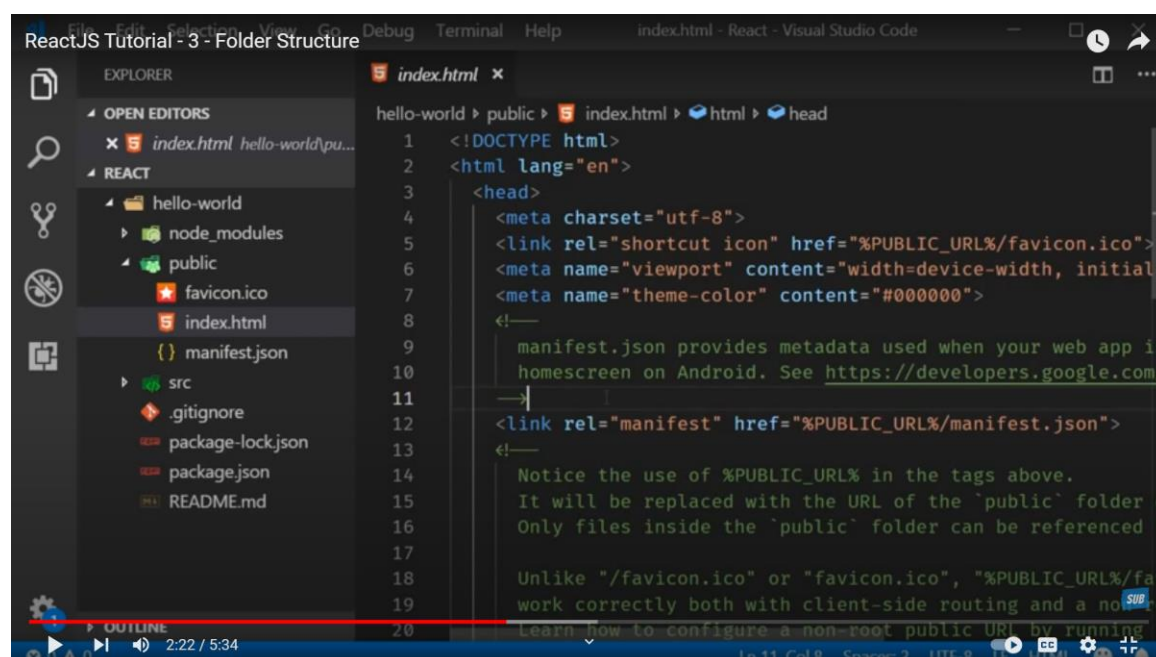
Fig 1.1 React File Structure

After that I've started with Typescript and use of TypeScript over JavaScript. For that I've given the link of the playlist which covers all the basics of TypeScript. After watching the videos I've implemented all the concepts on my own in my setup to get better understanding of the concepts.
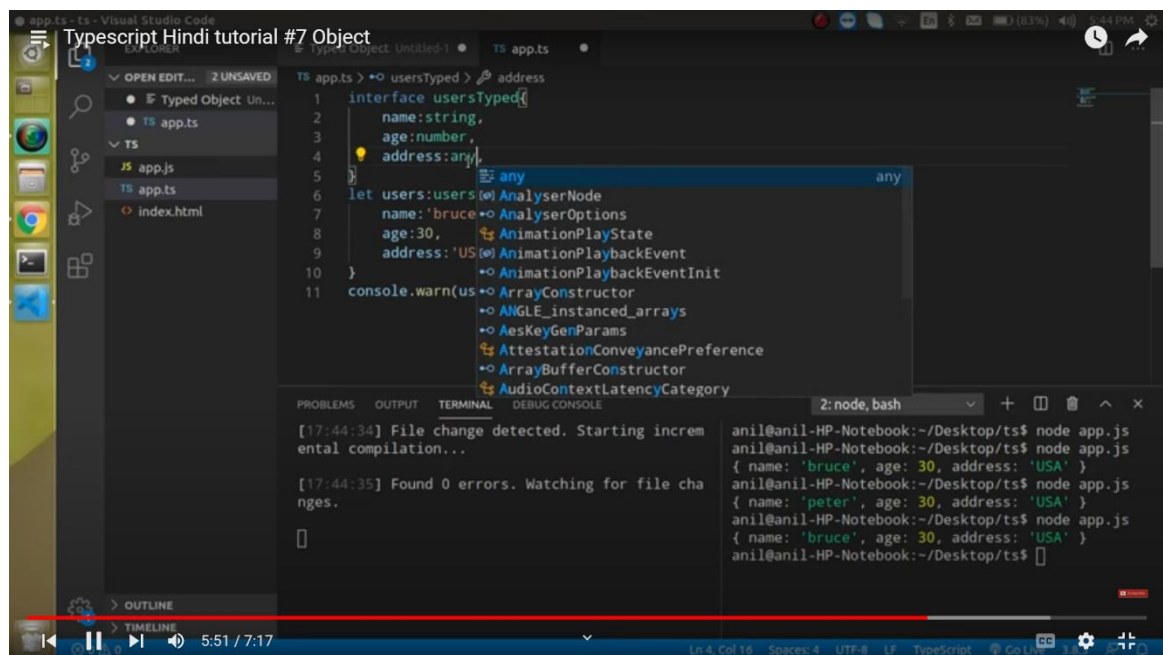
Fig 1.2 Type Script
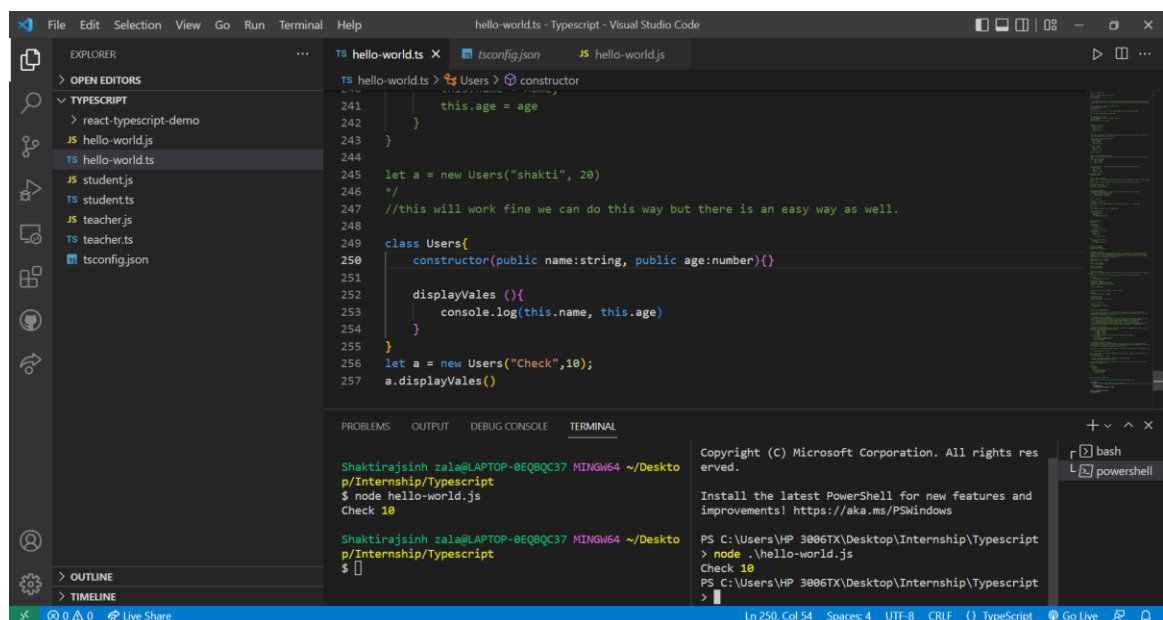
Fig 1.3 Implementation of Type Script

After that I've learnt React JS with TypeScript means how to use ReactJS with TypeScript and learnt how component based execution works in ReactJS. After watch the videos I've implemented the same in my Visual Studio Code.
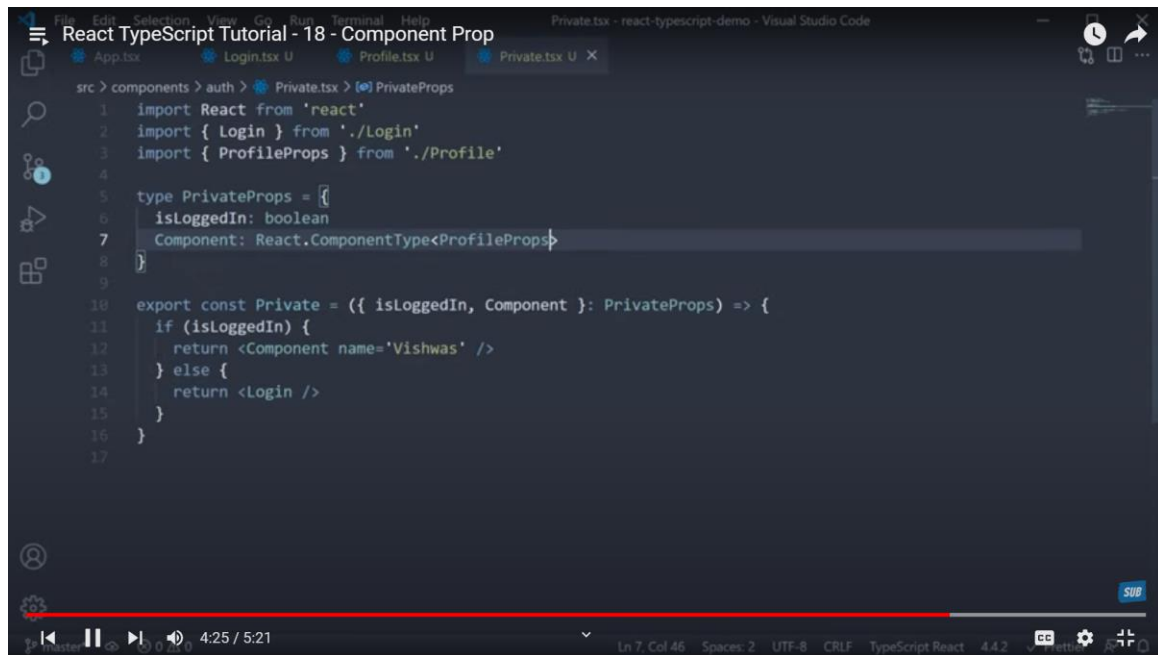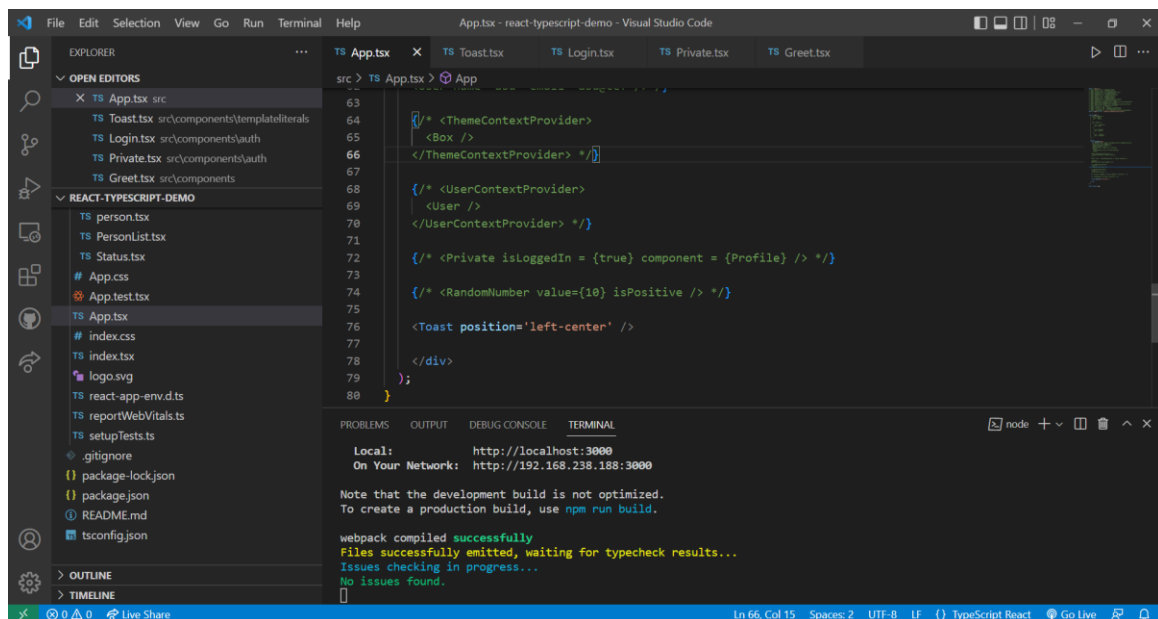
Fig 1.4 React Type Script

Fig 1.5 Implementation of React Type Script

Along with this learnt some Hooks in React which solve a wide variety of seemingly unconnected problems in react, because it's hard to write and maintain ten of thousands of components in big projects.

After that I've learnt Formik which is most popular open source form library for react and React Native.
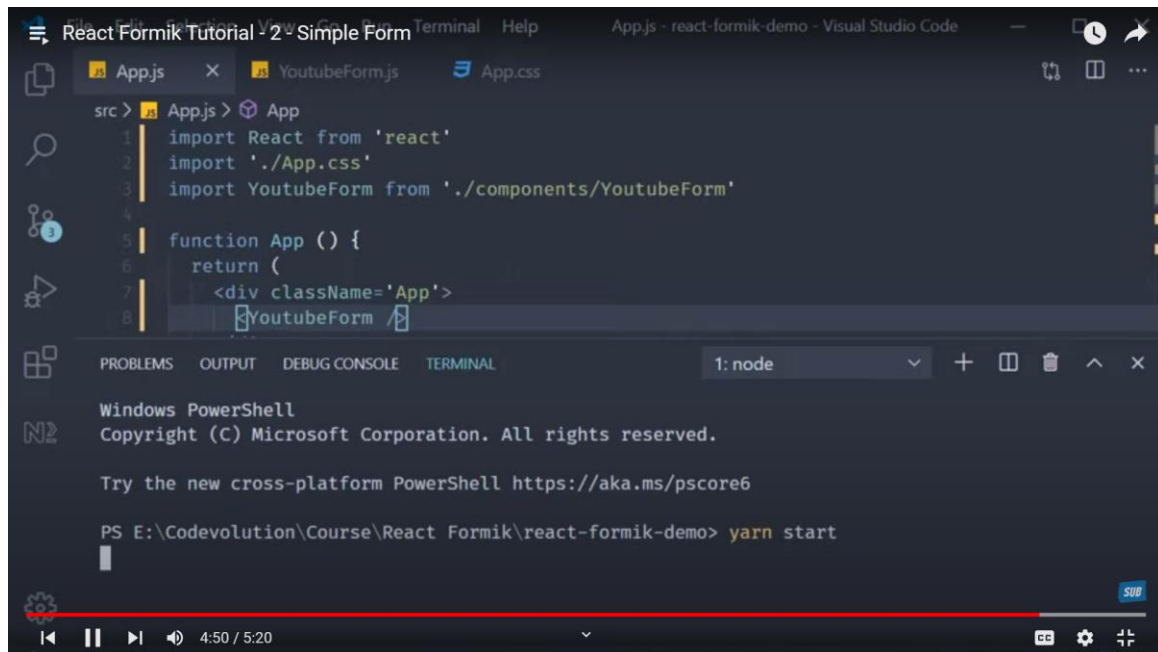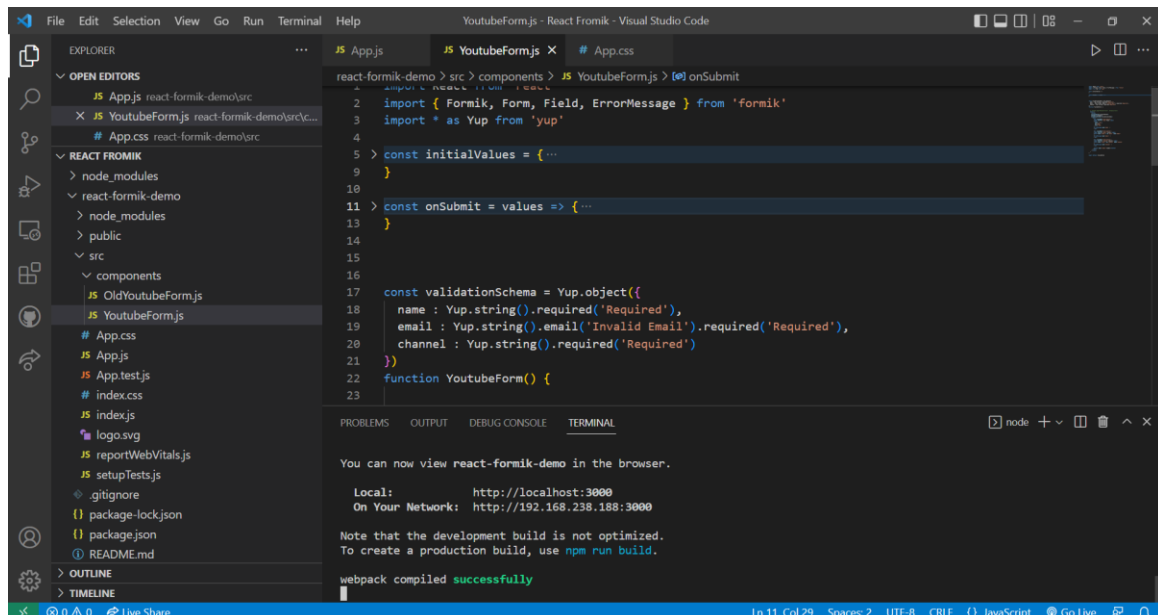

Fig 1.6 React Formik Tutorial
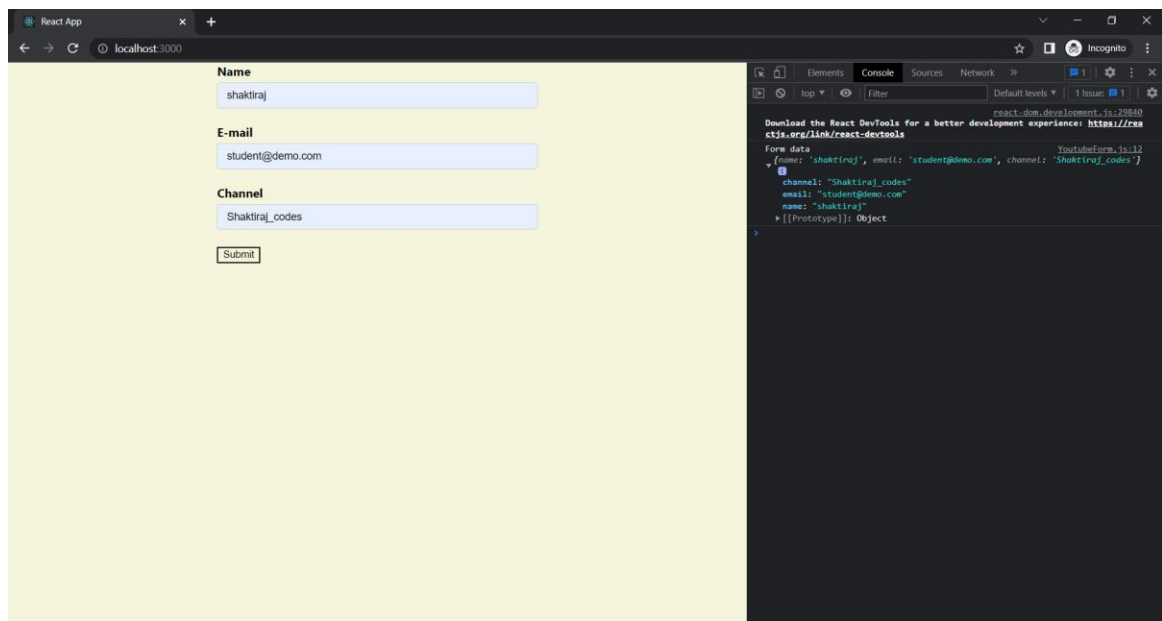

Fig 1.7 Implementation of React Formik

Fig 1.8 Output of Validation using React Formik Hook

3.2 Learning ASP.NET Core Web API

ASP.NET is Free, Cross-platform, Open Source framework for building web apps and services with .NET and C#. It is used to develop REST APIs for a range of clients, including browser and mobile devices.

Main Advantages of using ASP.NET are:

- Fast and Scalable
- Build secure apps
- Active community and open source
- Free hosting on Azure
- Many more…

For learning ASP.NET I've provided with set of videos to watch and setup Visual studio to perform further implementation.
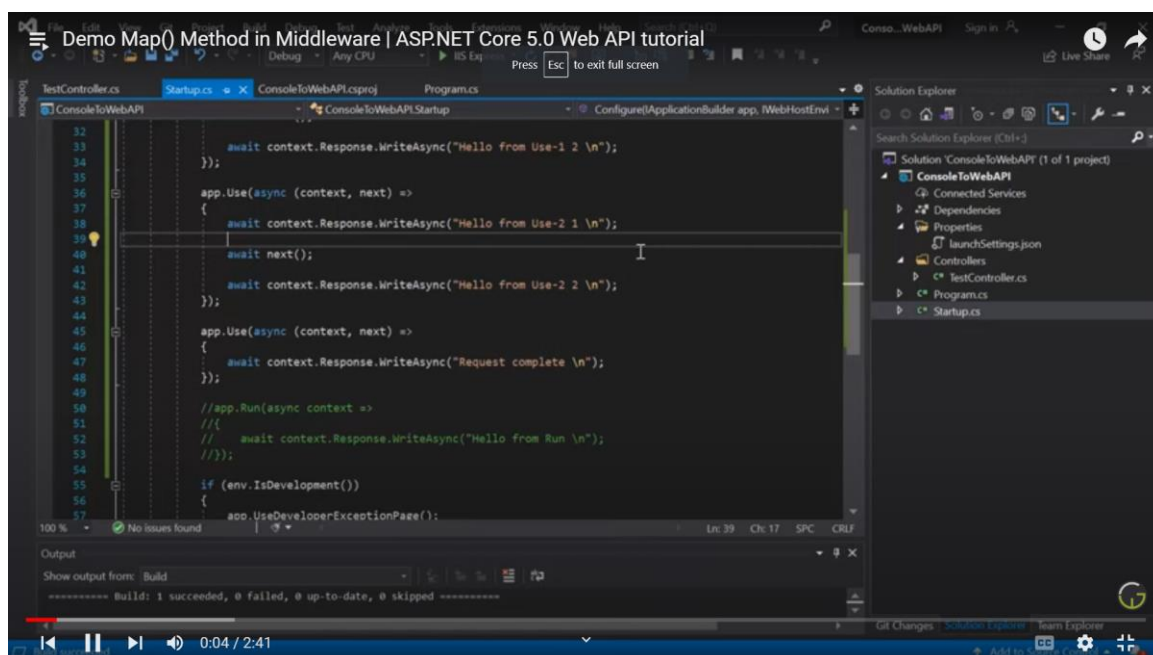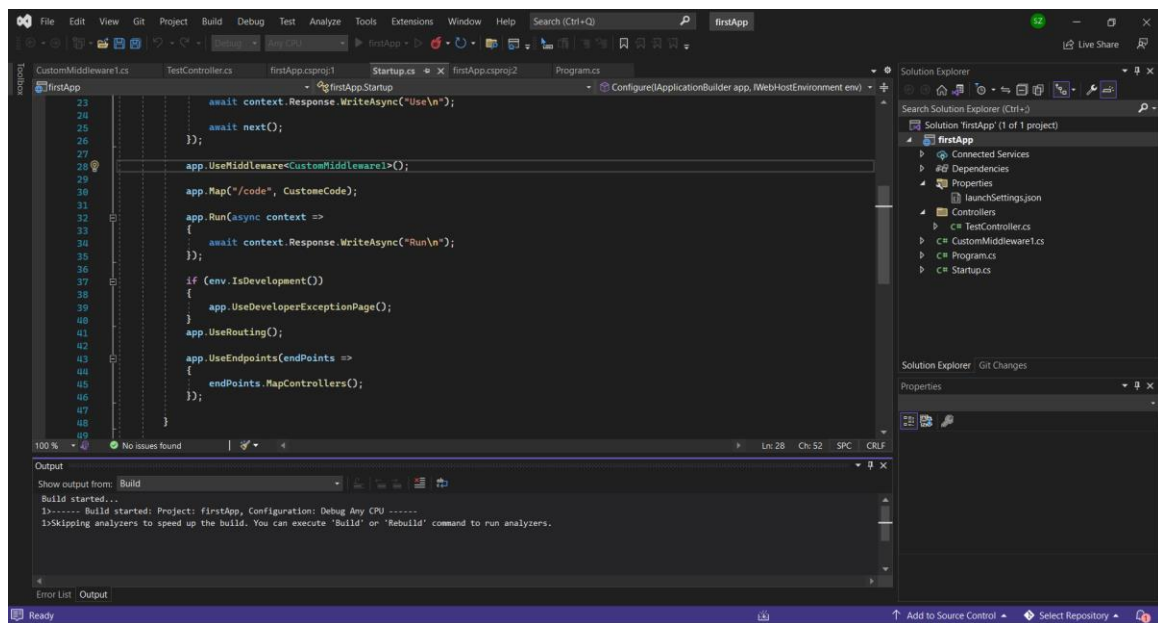

Fig 2.1 Learning Basics of ASP.NET

Fig 2.2 Setup and implementation of first ASP.NET app

3.3 Learning PostgreSQL

PostgreSQL is a powerful, open source object-relational database system with over 30 years of active development that has earned it a strong reputation for reliability, feature robustness, and performance.

For learning PostgreSQL to store and manipulate data I have given videos to watch and then after watching it creation of database and performed operation on the same. After this all i had given with the assignments to perform.
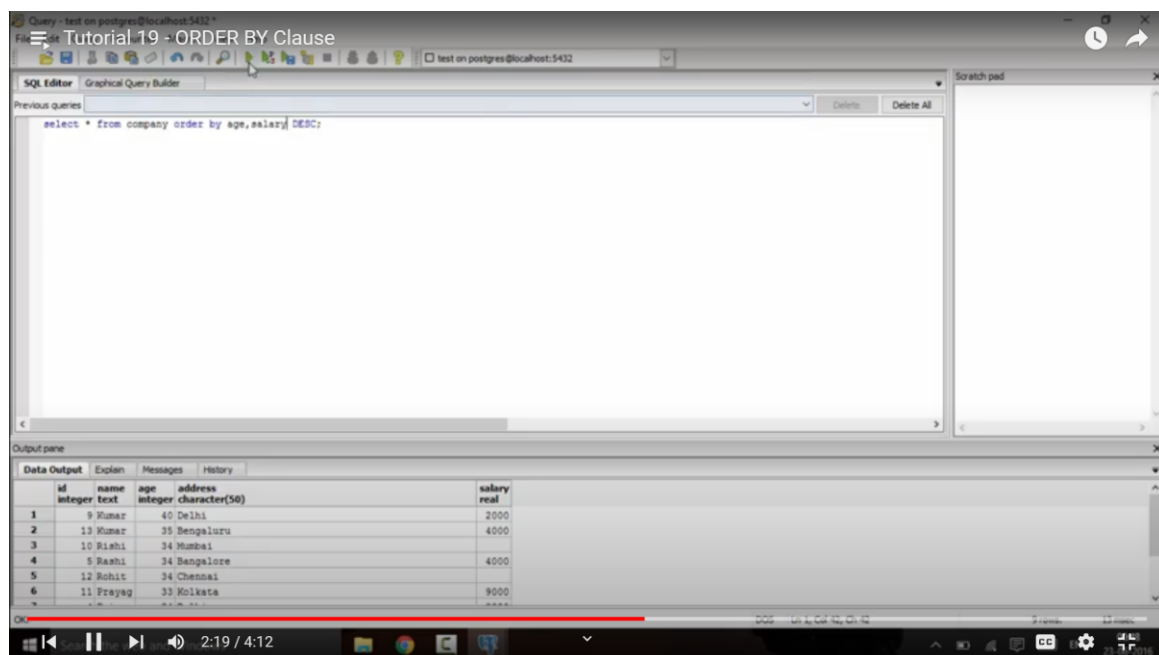

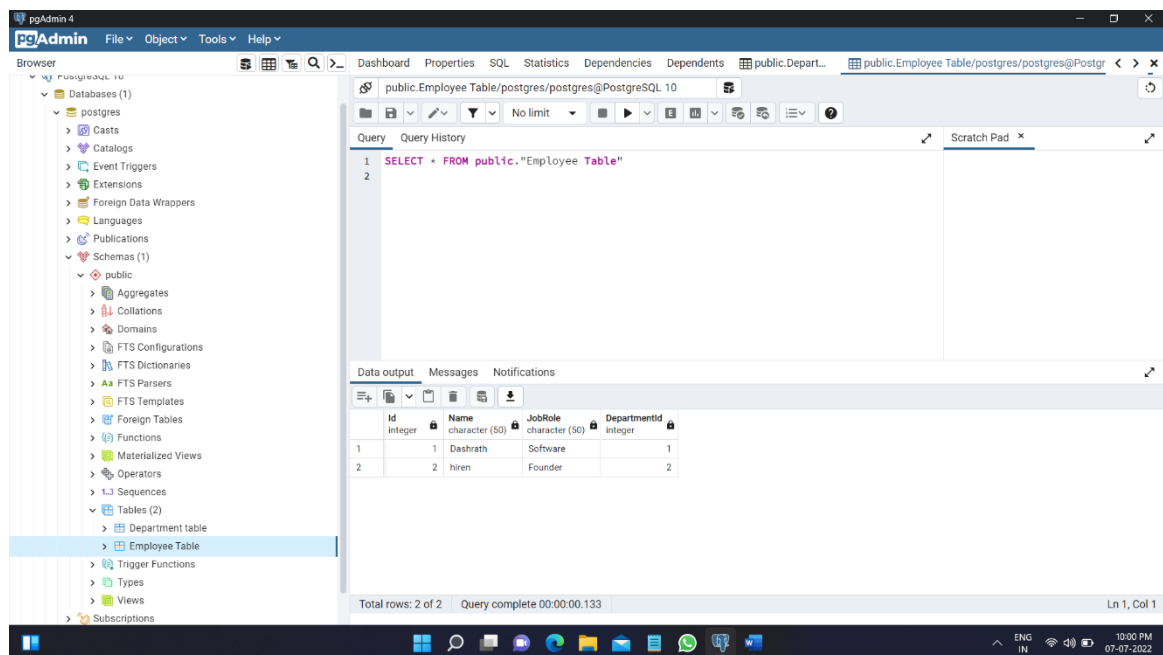Fig 3.1 Learning Basics of PostgreSQL

Fig 3.2 Set up of pgadmin and implementation of the work

CHAPTER 4 WORKING ON PROJECT

After learning these technologies for the week, I have been told to make a project from what I have learn till now. As I mentioned before I've to build an E-commerce book selling website it requires three parts the frontend of the website, the database and the APIs for communication between frontend and the database.

Firstly, I've started with making the API part using ASP.NET, then I've done with the database using PostgreSQL and the connection of the database with the API. Then I've done the frontend using React, Typescript and then performed various authorization and dataflow tasks by connecting frontend components with the API.

4.1 API using ASP.NET

API decide the flow of the data among the frontend and the backend along with this it is used to apply condition on the flow of the data. For this website I've built APIs for various components for ex. Login, Register, Category, etc… so user provides the data to the frontend that data will be fetched by the API it perform the condition on that and then if true then fetch the data from the database.
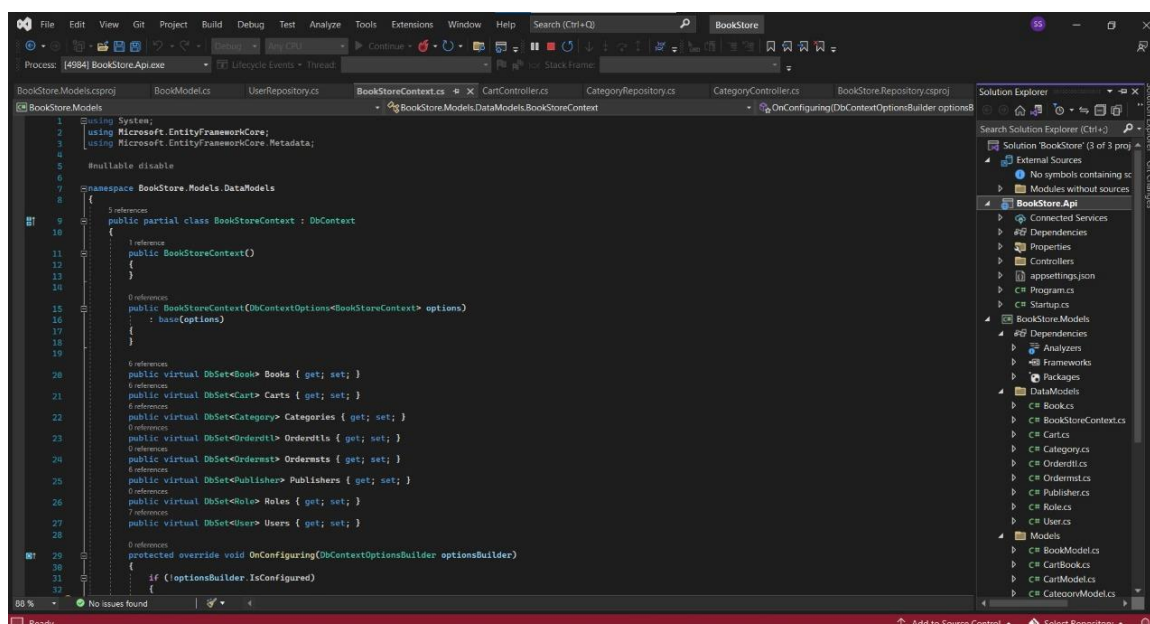

Fig 4.1 API code using ASP.NET in Visual Studio

For better understanding and visualisation of working of API we use swagger. Swagger Simplify API development for users, teams, and enterprises with the Swagger open source and professional toolset.

Fig 4.2 API output using swagger to visualize the result

So, this is how I've built the API for the website I've checked all the components of the API and tested them using swagger.

Why Swagger???

- API Design
- API Development
- API Documentation
- API Testing
- API Mocking and Virtualization
- API Governance
- API Monitoring
- OpenAPI & Swagger

These are the components of the backend of the website. let's see how these components will be executed when it is connected with the frontend.

In Frontend we've provided various endpoint link in the services section, that will redirect the page according to the condition of the user input. For ex. In login user enters the data and click on login then respective endpoint link of API will be called and it will confirm the user data components with the database then it will be loggedin and it will redirect to the Home Page of the Website so this is how API helps.

4.2 Making of Database

Now after API I have made the database and inserted the raw data which is provided to us by importing the given database in our PostgreSQL using pgadmin. Database used to store and manipulate the data in efficient way. Postgres is an relational database that stores the data in the form of the tables. After making of the tables we have to normalize it so that there will be no anomalies.

Fig 5.1 DATABASE

This way the database is created it has some raw data which is provided to us. Now I've connected the database with the API and tested the API components by using the swagger tools.

4.3 Frontend of the Website

In frontend of the website, I've to build the login page, registration page, cart page, book listing or home page. I've used React with Typescript to build the frontend of the website. Main reason to use react is it's component based execution and architecture, and reason to use typescript is, it is easy to write, understand and debug as compared to JavaScript.
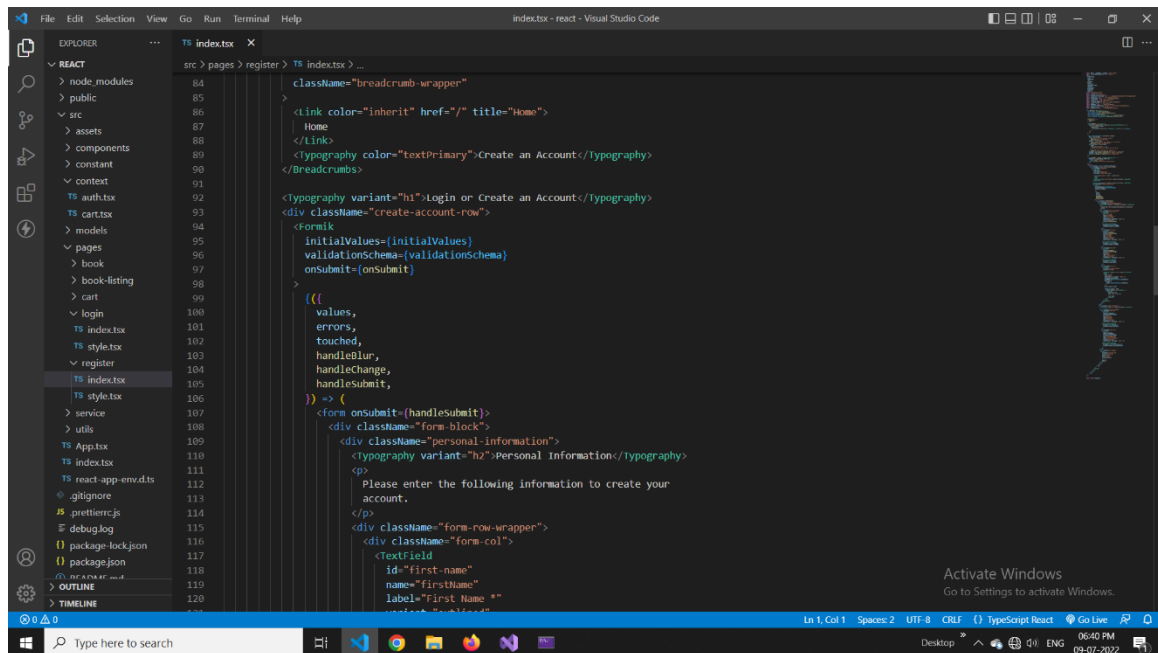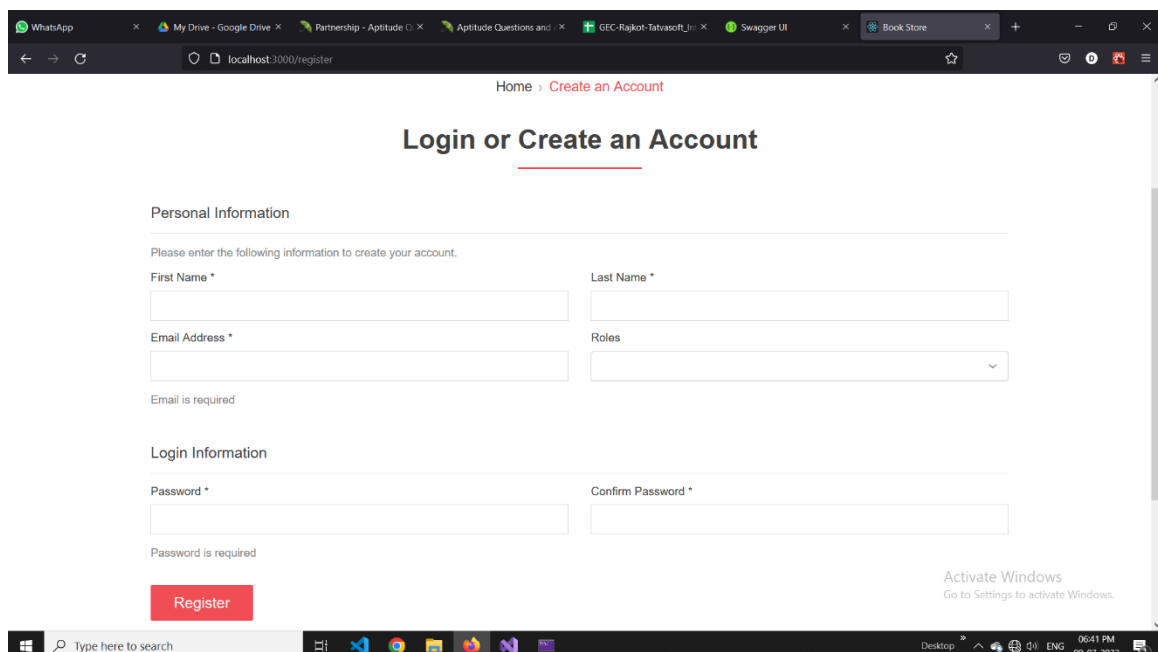

Fig 6.1 Code for frontend

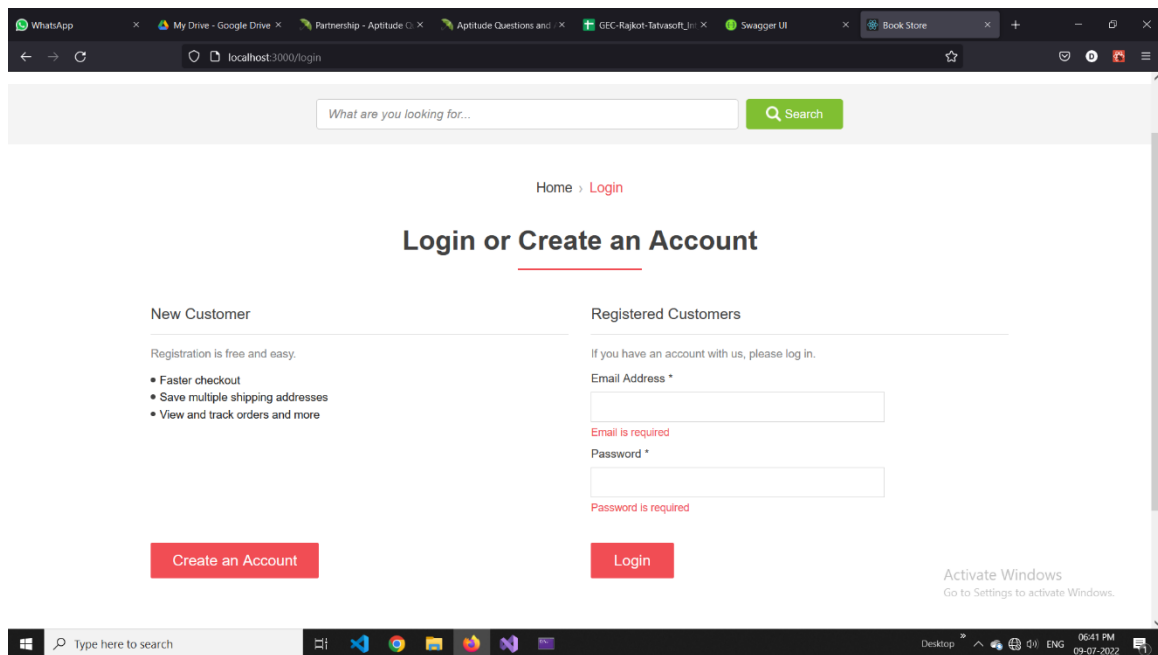
Fig 6.2 User Registration page
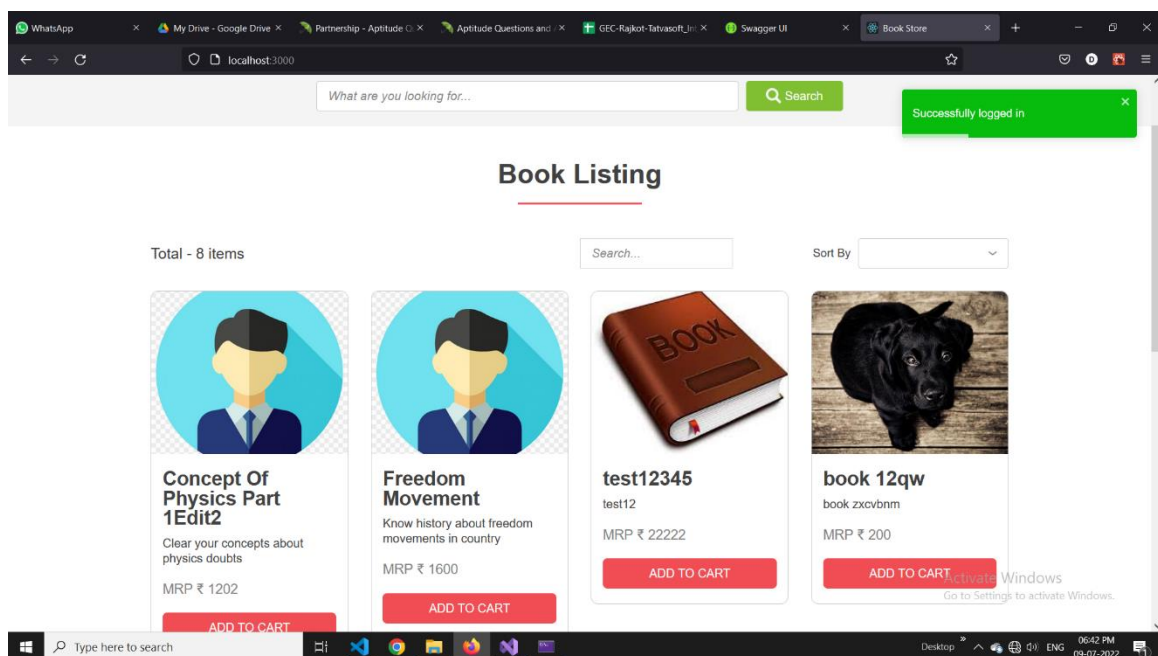
Fig 6.3 User Login Page

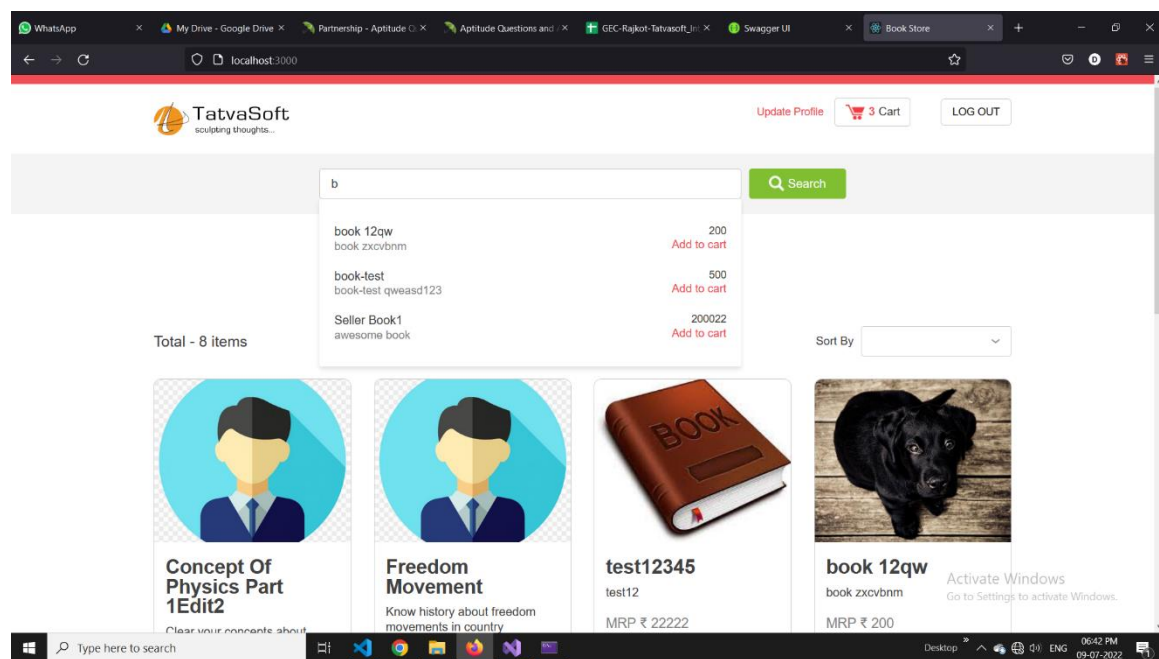Fig 6.4 Book Listing Page after login

Fig 6.5 Global Search and Sort By for books
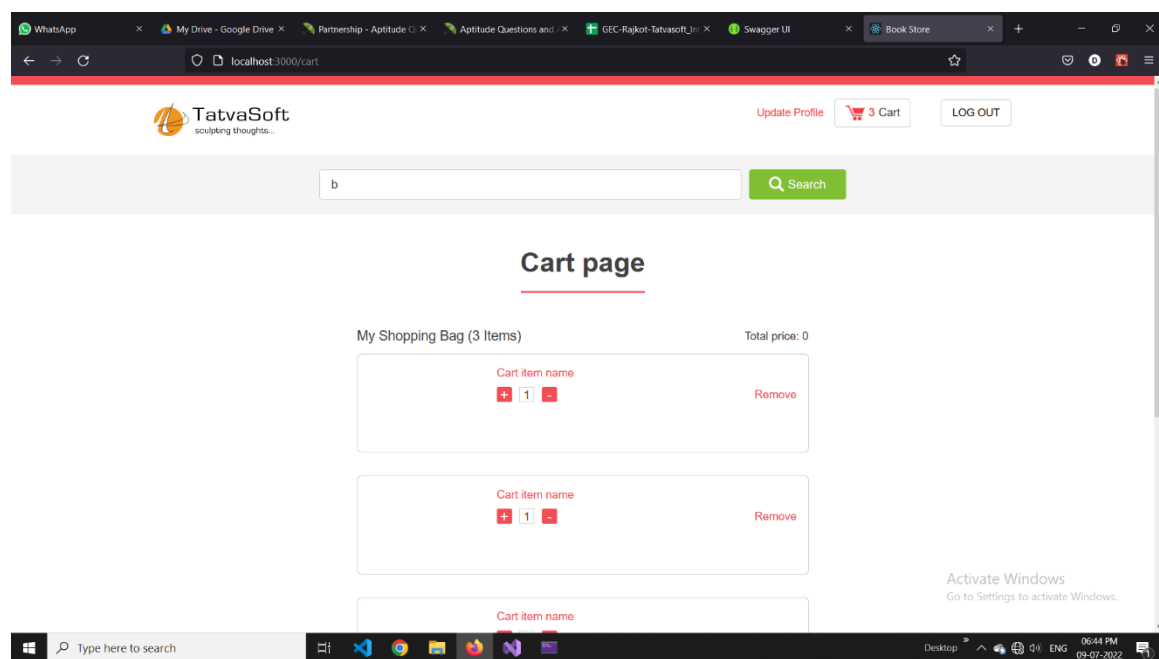

Fig 6.6 Cart Page

This is the webpages of the final website, so after making of these pages and linking them together will makes the frontend things done. As shown in the code file image the Endpoint will used to connect frontend with the API so we've provided the Endpoint URL so that flow of execution will go towards the API and after that API perform their task as seen before.

CHAPTER 5- CONCLUSION

To conclude, in these 15 days of Internship and making of the project I've learnt so many things and new technologies to work with. The project that I have made is working properly for buying, selling and addition of the books. And web development is the big demanding field of tech industry we can see that nowadays even small shop has its website to grow their sells. So, this will be the first step for me to starting and learning with these new technologies and now I'm feeling much confident to work with these technologies and build more practical projects that can help the society.

CHAPTER 6- WORK EXPERIENCE

Here I have come to the Small Ecommerce website and Book-e-sell, I would like to share my experience while doing this internship I learn many new things about the web development company at Tatvasoft PVT LTD and it was a wonderful learning experience for me while working on this internship.

This internship has developed my thinking skill and more interest in this subject. This internship gave me a real insight into the Ecommerce website.

A very special thanks to the Tatvasoft PVT LTD team for learning and enjoying every part of the work, I put into this internship. I do hope that my internship will be interesting and maybe even knowledgeable.

CHAPTER 7- FUTURE WORK

In the future I'll make more projects by using these technologies or maybe by using another latest technology. As of now from this internship I've learnt that how to learn a new technology in easy, efficient and fast way. So, this will help me to extend this project further and to build new as well.

In this project I've build the Buyer module of the website. So now I'm very excited to make the seller module as well to complete the full functional website. With the help of these team and learning environment I got a glimpse of how things work in a tech industry so this will help me further in my career.

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