

INTERNSHIP ON WEB APPLICATION AND DEVELOPMENT

BY

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This Report Presented in Partial Fulfillment of the Requirements for the
Degree of Bachelor of Science in Computer Science and Engineering

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DAFFODIL INTERNATIONAL UNIVERSITY

DHAKA, BANGLADESH

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APPROVAL

This "Internship on Web Application and Development" was submitted by Md. Rubel Islam to the Department of Computer Science and Engineering, Daffodil International University, has been accepted as satisfactory for the partial fulfilment of the requirements for the degree of B.Sc. in Computer Science and Engineering and approved as to its style and contents. The presentation was held on 19 January, 2023

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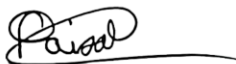
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DECLARATION

As a result, I declare that we have done this project under the supervision of **Md. Sazzadur Ahamed, Assistant Professor, Department of CSE** Daffodil International University. We also advise that neither this project nor any part of this project has been submitted elsewhere for awarding any degree or diploma.

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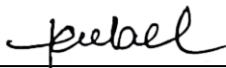
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I want to express my gratitude and deep debt of gratitude to Md. Sazzadur Ahamed, an assistant professor in the CSE department at Daffodil International University in Dhaka. Our supervisor has an extensive understanding of and a great interest in Internship to complete this job. This project was made possible by his never-ending patience, academic leadership, constant encouragement, constant and energetic supervision, constructive criticism, insightful counsel, reading numerous subpar versions, and fixing them at all levels.

I want to express our heartiest gratitude to **Professor Dr Touhid Bhuiyan, Head,** Department of CSE, for his kind help in finishing our project and to other faculty members and the staff of the CSE department of Daffodil International University.

I want to thank our entire course mates at Daffodil International University, who participated in this discussion while completing the course work.

Finally, I must acknowledge with respect the constant support and patients of our parents.

ABSTRACT

An internship that provides students with practical, relevant work related to their academic subject of study or job of interest is a professional learning opportunity. The internship's main goal was to teach participants how to create websites at a professional level. Typically, we design and construct websites using a variety of computer languages. There are two components to web applications: the front end and the back end. The front-end, sometimes referred to as the UI design, uses tools like HTML, CSS, Bootstrap, etc. We use a variety of computer languages, including PHP, java, python, JavaScript, etc., to make the UI dynamic. However, frameworks are increasingly extensively utilized to create websites quickly. One kind of structure that can aid in the development of software is a framework. ASP.NET MVC, Laravel, Django, React, Kotlin, Odoo, Flask, and other frameworks are now in use. We can re-create ourselves in part by using the Framework. While I was an intern at BASIS Institute of Technology & Management, my skills and knowledge were increased, which will help me advance in my web development career. I collaborated with experienced developers to create a new web application while working on actual tasks. This report will describe the complete process of creating a web application and highlight the knowledge I gained from my internships.

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CHAPTER 1

INTRODUCTION

1.1 Introduction

Microsoft designed and developed the ASP.NET web framework. It is used to create websites, web apps, and online services. The Framework Class Library, a collection of many class libraries included with this Framework (FCL). The programs are run in the CLR execution environment of the .NET programming language (Common Language Runtime). These make up the fundamental and most important parts of the .NET Framework. As of November 2022, Microsoft has made the most recent Dot Net version, 4.8.1, available. The relational database management system known as Microsoft SQL Server was developed by Microsoft. It is a piece of software called a database server. When other software applications, which may run on the same computer or a different machine over a network, need data, their primary duty is to store and retrieve it (including the Internet). Microsoft provides at least a dozen other SQL Server editions aimed at different clients. It is capable of handling a wide range of workloads, from small single-machine programs to enormous Internet-facing apps with several concurrent users. As of April 2022, Microsoft SQL Server 2019 version 15.0.2 is the most recent version.

1.2 Motivation

Through internships, I can focus on a particular task while applying my knowledge in the actual world. Learning more about web development and the working environment at IT organizations is the aim of this internship. Because web design and development piques my interest and showcases my ingenuity, web application development is the ideal vocation for me. Making a website is straightforward, but comprehending and utilizing interactive, challenging web apps requires work expertise with IT companies. To learn more about interaction, I enrolled as an intern at the BASIS Institute of Technology & Management (BITM). Building a website with HTML5, CSS, Asp.net, and Framework are fun if you follow the development process precisely with assistance from a professional.

1.3 Objectives

An internship that gives students real-world experience relevant to their academic or career goals is a professional learning opportunity. Through an internship, a student can explore and develop a profession while picking up new skills. Employers may develop talent, bring in new ideas and energy, and build a potential pipeline for future full-time employees..

- Gives a detailed explanation of the work or project for the experience.
- Introduces the student towards the company, its culture, and the suggested job project.
- Assists in achieving learning and development objectives.
- Give us continuous feedback on how our work is going.

1.4 Report Layout

Report layout describe brief of all parts of the report.

- Chapter 1: This is the begin are of the project reports. Its include the introduction to my internship and the motivation behind it.
- Chapter 2: I have added company details and other necessary information of internship and the company structures.
- Chapter 3: In this chapter I have describe the rules and responsibility I have serve to the company during my internship period.
- Chapter 4: This chapter give the overview of what I have learn so far during my internship period.
- Chapter 5: This chapter described the framework and programming language I have learn during my work at the company.

CHAPTER 2

ENTERPRISE OF THE INTERNSHIP

2.1 Company Information.

The country's major trade association for the software and IT-enabled services industry is called the Bangladesh Association of Software and Information Services (BASIS). The organization has been working to create a strong software and IT service sector in the country since its inception in 1997. The majority of the nation's software and IT service industry today consists of more than 800 BASIS members.

The IT institute for BASIS is called BITM. BITM is collaborating with the IT industry to understand the HR requirement gap.

2.1.1 Head Office.

Address: 3rd Floor, BDBL Bhaban, East 12, Dhaka 1215

Phone: 09612-342486

E-mail: info@bitm.org.bd

2.1.2 Programming Languages.

C#, OOP, HTML, CSS

2.1.3 Databases Systems.

My SQL 2016.

2.1.4 Server Platforms

Windows, Visual Studio 2019.

2.1.5 Frameworks

Dot net, MVC5.

CHAPTER 3

ROLES AND RESPONSIBILITY OF AN INTERNSHIP

3.1 Introduction.

It is crucial to adhere to the company's policies and guidelines. They have given you a task; finish it. I'll outline my responsibilities from my Internship in this chapter.

3.2 Training Attended.

Using C# and other programming languages to create a project is necessary.

C#, C++, among many more. The server compiles the outcomes and carries out

Data in C # codes can include text, graphics, and other types. C #code is usable.

Using a command-line interface (CLI) to launch separate graphical apps

The following summarizes my BITM training:

- C#
- MVC5
- C++
- HTML
- CSS
- Bootstrap
- My SQL 2016

3.3 Delegated Responsibilities.

It's hard to accept responsibility for any change. Being a leader and developer requires us to accept accountability. We took on a lot of responsibility while doing our internships.

- Web design

Typically, HTML, CSS, and Bootstrap are utilized when creating a website.

- Front-end development

A website is often developed using HTML, CSS, and Bootstrap.

- Database Design.

A challenging aspect of development is designing databases since we need to comprehend the entire development cycle.

- Back-end Development

Back-end development is the process of using programming to interact with a database. For this, I utilized C#.

- Enhancing Code Structure

Developers may add superfluous or undesirable code when working on a project.

Design Improvement

Updating the design to reflect client preferences is critical because this is how developments are made.

3.4 The Environment of Work

Front-end Develop:

Web developer, front-end web application developer's primary responsibility is to use HTML, CSS, and BOOTSTRAP to create all of the web pages that users can view.

Back-end Developer:

Back-end developer the main task of a back-end developer is to provide the API that connects the database with the front-end, allowing users to read or write data on the server or interact with the website. Back-end developers typically work with high-level programming languages like C# and JavaScript.

Among the developer's profiles are the following:

- Front-end of an application.
- Back-end of an application.
- Developed an application
- Analyzing Data and Developing Layout.
- Senior application analyzer.
- Web Application Marketing Analyzer.

Performed Task:

The project I was tasked with creating and developing was the software company's website with the help of my instructor, Md. Abdulla Mamun, Lead BITM Trainer, I built the entire website. The term "Company Website" refers to all websites that the firm owns, administers, hosts, or through which it conducts business (including those that are run using the company's domain names).

Web Pages Details

We have created a website for the School Management System and Blood Bank. We need to design numerous pages for one company. Various types of information are shown on each page to represent the business to a client.

- About us
- Services
- Gallery
- Contact

Each of the abovementioned characteristics is crucial for a business to describe its role and effectiveness. Below are descriptions of each feature in detail.

CHAPTER 4

INTERNSHIP OUTCOMES

4.1 Problems and Their Solutions

Software development takes experience and time. Therefore, it is a complicated surgery. When a developer creates hundreds of lines of code, mistakes are rather easy to make. As we evolve, we will make fewer mistakes and move through the process more rapidly.

4.1.1 Problems

I had a lot of problems utilizing CSS. Although it is quite simple, there are times when it doesn't live up to my expectations and has to be positioned in the appropriate spot. Web. It requires further design work. It takes a lot of imagination, vision, teamwork, and personality to deliver a unique web design. A site designer is constantly faced with a variety of difficulties. To satisfy the target market and clients, only sustainable development and web design based on repetitive thinking are conceivable. Because of this, website design is a challenging field.

Web designers, on the other hand, face greater difficulties. The website needs to be kept accessible and sensitive enough to be used for this activity on all phones. Making websites load quickly is one of the most difficult sites of web design for offering a great user experience. Sometimes it may take a while for a website to load. There is yet one more problem that comes up frequently. Customers complain about website problems to the developer. However, when engineers look at a website, they find it to be very modest. Inadequate updates to obsolete web servers or clients can cause these issues. The developer must deal with this problem every day, and it can get some time to identify the root cause.

4.1.2 Solutions.

For me, web development is fascinating and demanding at the same time. I will learn and comprehend a number of phrases with interest during my internship training in order to understand web development after studying. This will excite me more than learning any other language, in my opinion. During my training, I fixed problems with OOP, C++, C#, and other things. Clean software removes unexpected errors that might shorten the time it takes for a website to launch.

Thanks to automatic website monitoring solutions, developers may regularly check the live websites of their clients and set up notifications for any errors. As a result, developers are able to alert customers to problems as well as resolve a number of issues before they have an impact on the customer's business.

4.2 Outcomes of Learning

This internship has allowed us to expand our programming language skills. Some, like HTML, CSS, and Bootstrap, are used for design, while others, including C#, OOP, JavaScript, etc., are used for programming and data-binding.

4.2.1 HTML

- Basic HTML5 (HTML tagging, CSS insertion into HTML, Bootstrap insertion, external CSS, and internal CSS)
- A fundamental knowledge of the Client-Server Communication protocol, HTTP, and HTTPS
- HTML5 Forms (Input Field, Text Field, Button etc.)
- HTML additional properties

4.2.2 CSS

- How to add bootstrap and use its properties at an advanced level of CSS and Bootstrap (internal and external CSS)
- The advanced CSS properties border-radius, opacity, cursor, layers, position, display, float, gradient, and multiple-column
- Having a working knowledge of menus and other properties
- Advanced HTML, CSS, and Bootstrap are used in the template design.

4.2.3 Bootstrap

- Setup Procedure
- How to Add a Grid System
- Include typography
- Form Buttons and a Table
- Base UP Drop-down
- Element Setup and Element Navigation
- Bootstrap plugin

4.2.4 C# Basic

- C# Programming Language
- OOP in C#
- C# dot net Core and MVC and Some Advance Properties
- C# Variable, String, Syntax and Function etc.
- Dot Net Core with MVC5.

4.3 Challenges

It's challenging to develop. For developers, we were running across issues while creating is pretty standard. As we've grown, we've faced a lot of challenges. When we first started writing, we made silly mistakes like misspellings, grammatical errors, and omissions of commas and colons, among other things.

After a while, we stopped making silly errors, but we ran into severe issues like database errors, string issues, design box issues with the correct place, etc.

I've listed a few typical issues below.

- Syntax mistake.
- Fatal mistake
- Fix Design.
- String error
- Requirement Analysis
- Time Maintain

CHAPTER 5

PROGRAMMING LANGUAGE, FRAMEWORKS AND DATABASE

5.1 Programming language C# and OOP.

Asp.Net is a platform for developing web-based applications. it lets you create a sophisticated web application that can interact with users

• Object Orientation OOP.

ASP.NET is, by nature, object-oriented. Suppose one has experience with object-oriented programming languages like C++ or JAVA and is conversant in computer programming. The advantages are evident right away.

The ability to utilize the extensive library of pre-defined classes known as the .NET Framework is a crucial appeal of Asp.Net object orientation.

Classes in the .NET Framework that represent controls like text boxes, radio buttons, and drop-down lists, for instance, are created mainly to interact with ASP.NET.

5.1.1 Frameworks dot net and MVC5

The Model-View-Controller (MVC) architectural pattern divide an application three main components: the model, the view, and the controller. The ASP.NET MVC framework provide an alternative to the ASP.NET Web Forms method for creating MVC-based Web applications. As with Web Forms-based applications, the ASP.NET MVC framework provides a compact, highly testable presentation framework paired with already-existing ASP.NET capabilities like master pages and membership-based authentication. The System defines the MVC framework. The WEB.MVC namespace is a fundamental, supported component of the System.

Developers frequently employ the MVC design pattern. A variety of online applications will benefit from the MVC framework. Others will continue to use the standard ASP.NET application model based on Web Forms.

5.1.2 Web Application page.

Computer software that contains interactive features and capabilities is called a web application, or simply a web app. It is built using traditional web technologies, but it also stores data and manipulates it in accordance with user needs..

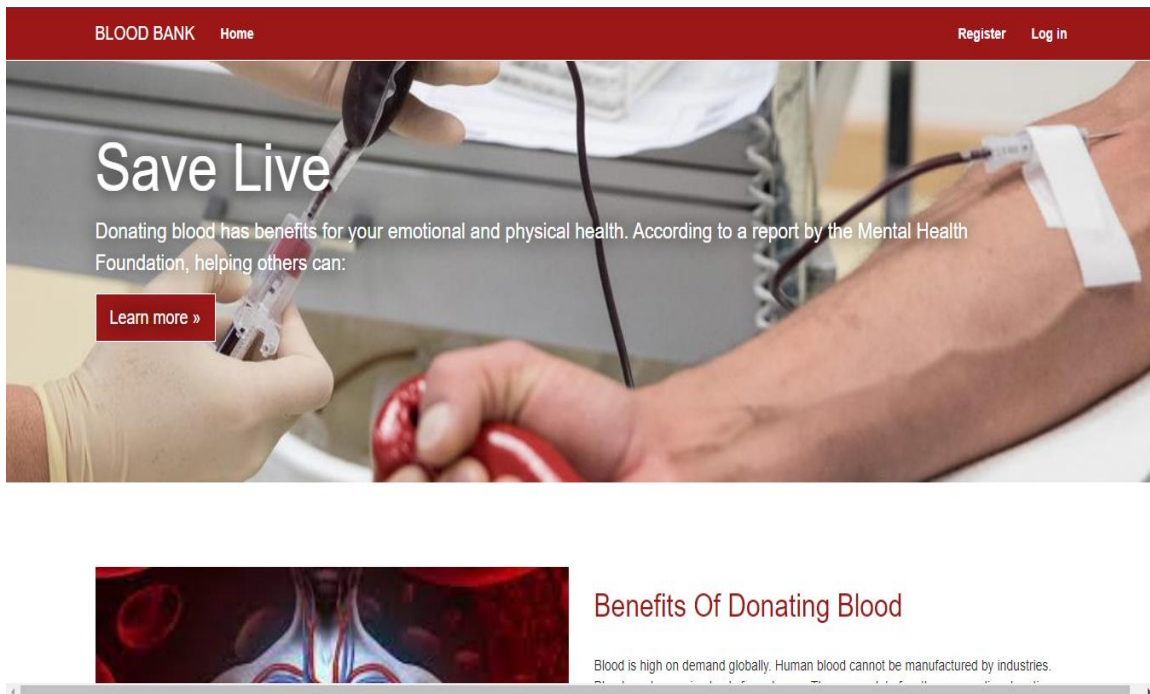


Figure: 5.1.2.1 Web Application page.

5.1.3 Dot net Master page.

Thanks to ASP.NET master pages, the pages in your application can have a consistent design. Your application should have a single master page that sets the desired style and anticipated behavior for each page (or collection of pages). You may then build separate content pages once you have the stuff you want to display. When users request content pages, the master page joins with them to provide output that combines the content from the requested pages with the layout from the master page.

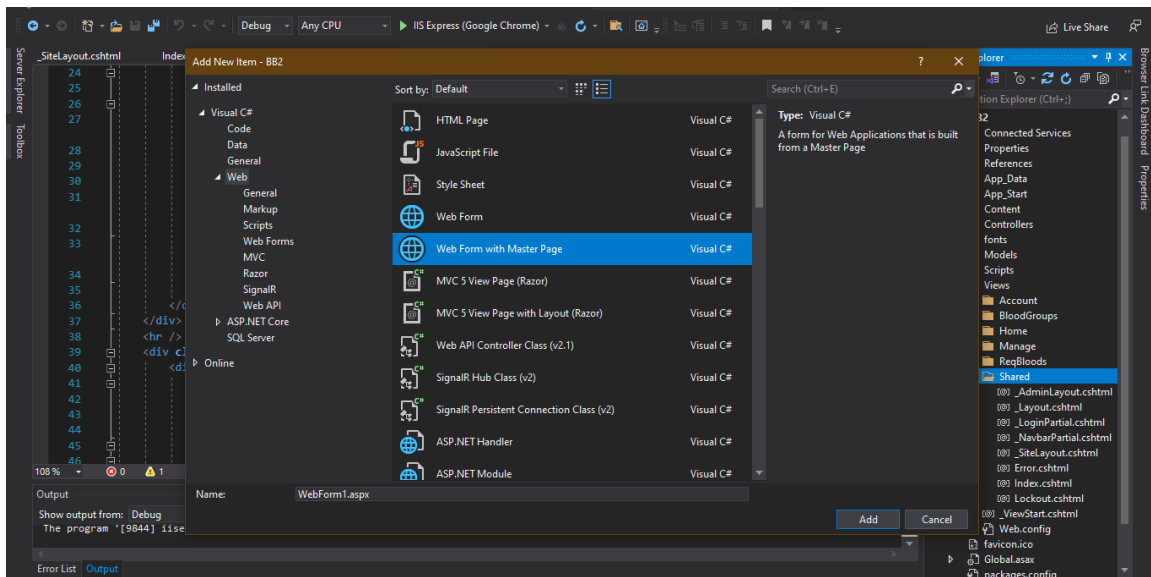


Figure: 5.1.3.1 Dot net Master page.

5.1.4 MVC Web application Page

The ASP.NET MVC framework is a small, highly testable presentation framework that connects Web Forms-based applications with current ASP.NET capabilities like master pages and membership-based authentication. The MVC architecture is specified by the system. Web.

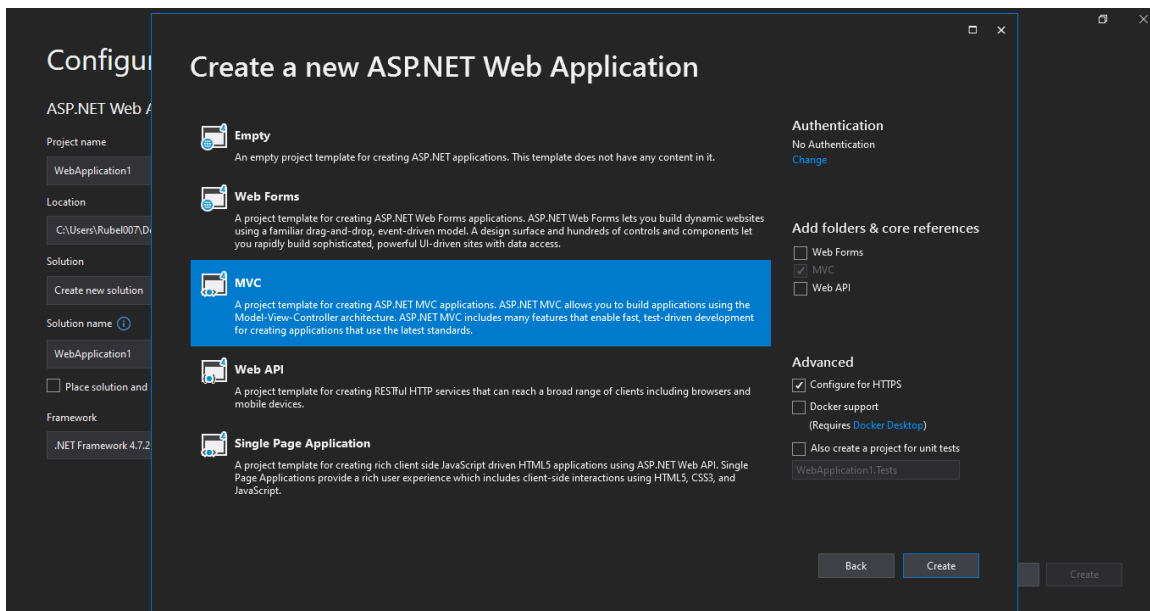
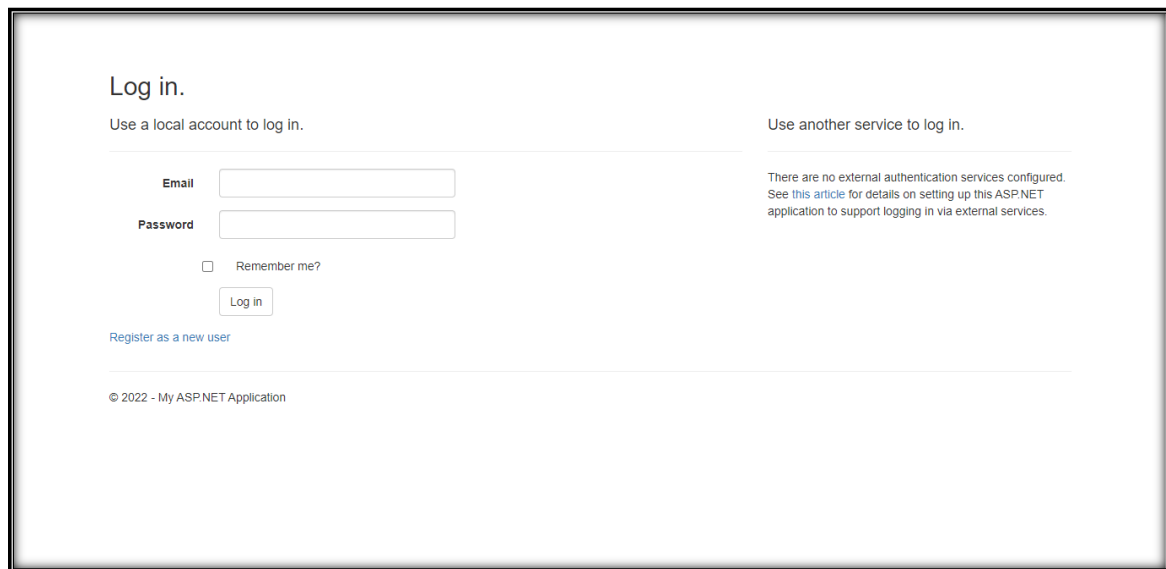


Figure: 5.1.4.1 MVC Web application Page

5.1.5 MVC Login Page

This is an MVC Login Page



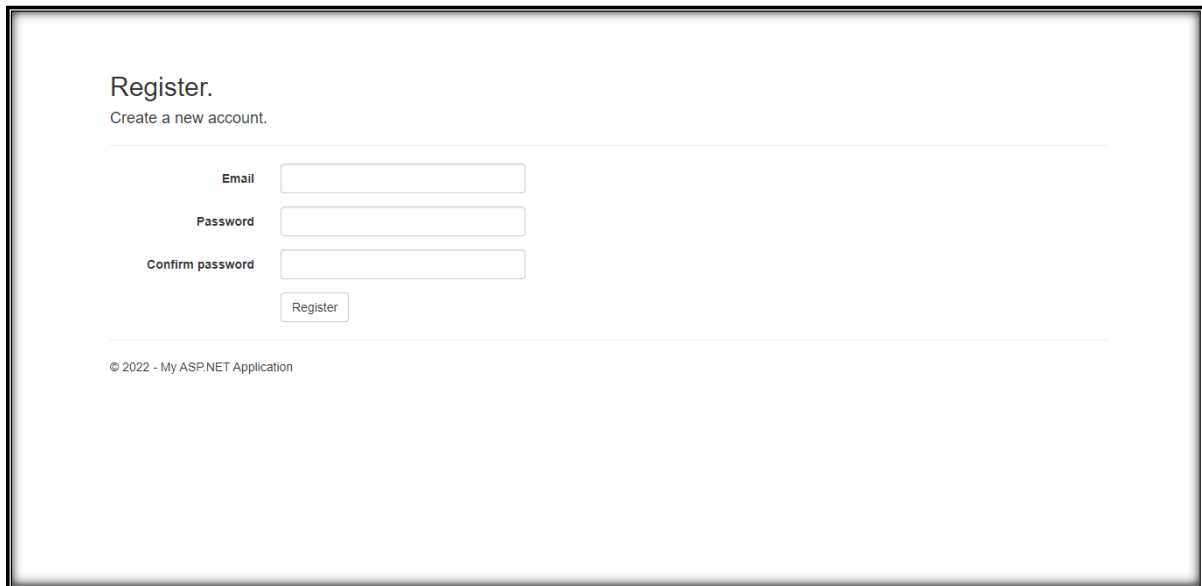
The screenshot displays the MVC Login Page. At the top, it says "Log in." Below this, there are two main sections: "Use a local account to log in." and "Use another service to log in." The local account section contains input fields for "Email" and "Password", a "Remember me?" checkbox, and a "Log in" button. Below these fields is a link that says "Register as a new user". The "Use another service to log in." section contains a message stating "There are no external authentication services configured. See [this article](#) for details on setting up this ASP.NET application to support logging in via external services." At the bottom of the page, there is a copyright notice: "© 2022 - My ASP.NET Application".

Figure: 5.1.5.1 MVC Login Page

This is the login page. Only the registered user can use this page for login.

5.1.6 MVC Registration page

This is an MVC Registration page



The screenshot shows a web page titled "Register." with the subtitle "Create a new account." Below the title, there are three input fields labeled "Email", "Password", and "Confirm password". A "Register" button is positioned below the "Confirm password" field. At the bottom of the page, there is a copyright notice: "© 2022 - My ASP.NET Application".

Figure: 5.1.6.1 MVC Registration page

This is the registration page where users can register themselves by using a valid email and password.

5.2 Database My SQL 2016

Among the many technologies that make up the extensive data ecosystem, MySQL is one of the most well-known. Anyone working with enterprise data or general IT should strive for a basic understanding of MySQL, given that it is generally referred to as the most popular database and is currently being used extensively and productively across all industries. With MySQL, even those without prior knowledge of relational system development may quickly, effectively, and securely store data. Other well-liked query languages and structured data storage are easily accessible through MySQL's interfaces and programming syntax.

5.2.1 SQL Commands.

The "SQL" stands for Structured Query Language. SQL instructions are used as the communication protocol when a database needs to be contacted to perform operations, functions, or data inquiries. Using SQL instructions and other operations like creating tables, adding data, altering that data, and removing tables, the database can be searched.

5.2.2 My SQL query

A database query asks for a table or collection of tables in the database for data or information. This information may be generated using data-mining technologies such as Structured Query Language (SQL) results, images, graphs, or complex outputs, such as trend analysis.

5.2.3 Blood Group query

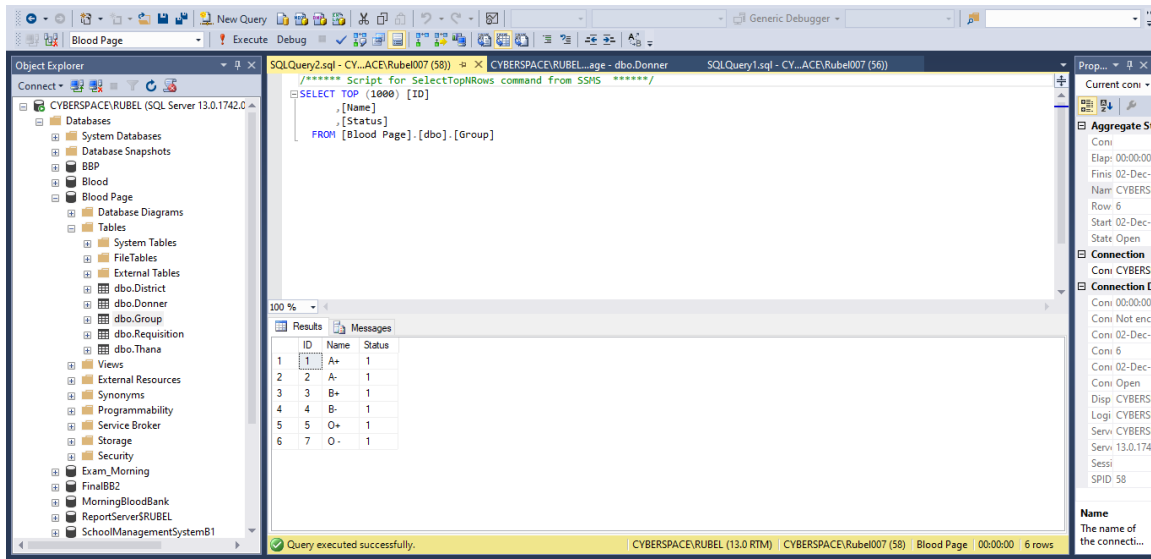


Figure: 5.2.3.1 Blood Group query

This is the basic MySQL query for differentiating blood groups.

5.2.3 Foreign key and primary critical Relational database

- **Foreign key**

A column or group of columns that link the data in two tables is known as a foreign key in relational databases. A column (or columns) alludes to the primary key column in another table.

- **Primary key**

To ensure that the data in a given column is unique, a primary key is used. A queue cannot include NULL values. Either a column from an existing table or one that the database purposefully constructs using a specified sequence.

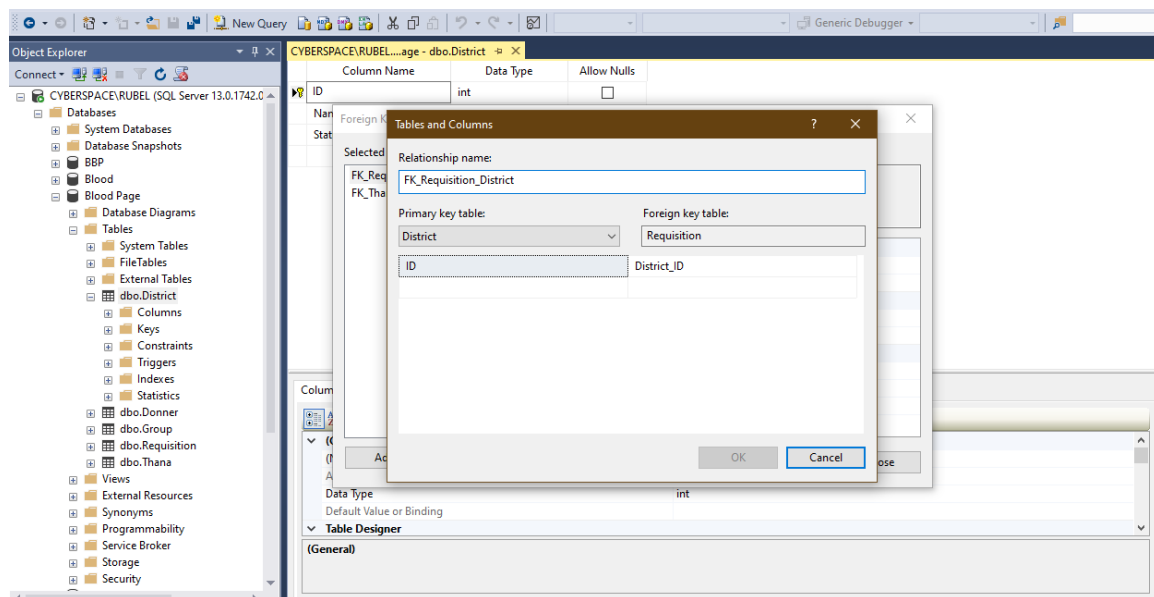
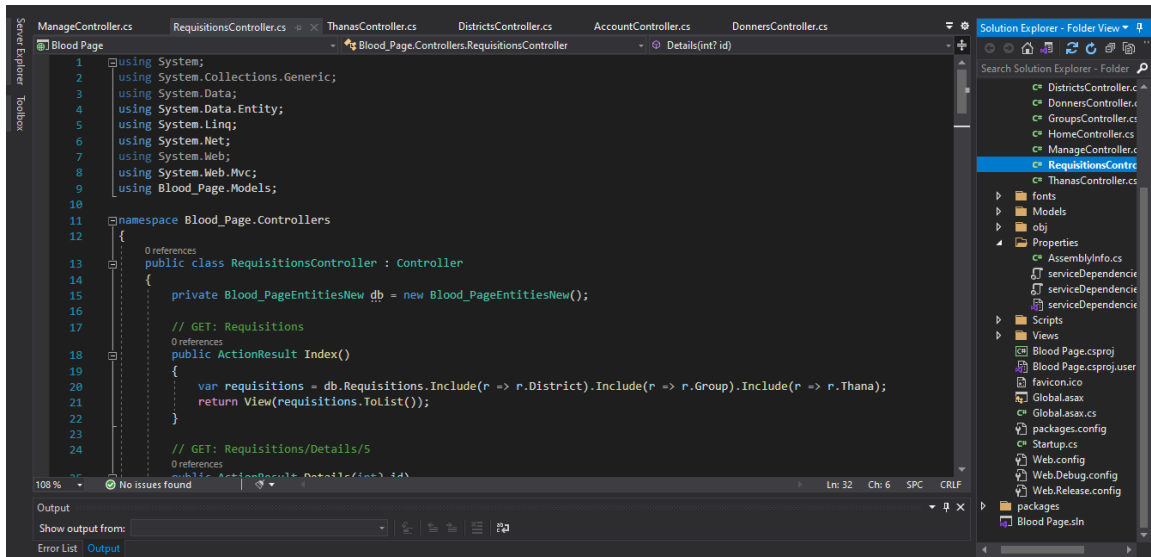


Figure: 5.2.3.1 Foreign key and primary critical Relational database

APPENDIX

INTERNSHIP REFLECTION

Project edit module



This page displays all project files, where I have successfully integrated my website with an e-learning system using Visual Studio Code capabilities.

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