

WIPRO NGA Program – .Net FullStack

Capstone Project Presentation – 14-06-2025

Project Title Here - BUG TRACKING SYSTEM (MVC - Single Controller)

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Capstone Project: Bug Tracking System (MVC - Single Controller)

Project Overview:

Create a basic bug tracker where users can log software bugs/issues. The system allows tracking bug status, severity, and assignee in a clean interface.

Table of Contents

1. Features:

- Add a new bug report
- View list of all bugs
- Edit bug details (e.g., status, severity)
- Delete bug entries
- View individual bug detail

Capstone Project: Bug Tracking System (MVC - Single Controller)

2. Technologies Used

ASP.NET Core MVC

Entity Framework Core

SQL Server

Razor Views + Bootstrap

Azure App Service (Deployment)

Git for version control

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3. Database Schema:

Bug Table

Field Name	Type
Id	int (PK)
Title	string
Description	string
Severity	string (Low, Medium, High)
Status	string (Open, In Progress, Closed)
Assignee	string
ReportedDate	DateTime

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4. Controller

- BugsController.cs

Handles:

Index() – Show list of all bugs

Create() – Submit a new bug

Edit(id) – Update bug details (e.g., status/severity)

Details(id) – View bug details

Delete(id) – Delete bug record

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5. Views Views/Bugs/

- Index.cshtml
- Create.cshtml
- Edit.cshtml
- Details.cshtml
- Delete.cshtml

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6. Folder Structure

```
BugTrackingSystem/  
|— Controllers/  
|   |— BugsController.cs  
|— Models/  
|   |— Bug.cs  
|— Views/  
|   |— Bugs/  
|— Data/  
|   |— ApplicationDbContext.cs
```

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7. Deployment

- Push to GitHub

- Deploy to Azure App Service

- Use Azure SQL Database

- Configure appsettings.json with cloud DB connection

8. Documentation

- Setup and usage instructions

- Screenshot of the bug list and form

- Deployment steps

Introduction

Bug tracking systems are a crucial part of any software development team. Without a good bug tracking systems, you may find it difficult to track the progress of your projects, identify and fix bugs quickly, and provide a quality product to your customers.

What is Bug Tracking?

Bug tracking is the process of documenting and managing the issues that occur while using a software application. Bugs can be categorized as functional, nonfunctional, or unknown.

Functional bugs refer to problems with the user interface or functionality of the application. Nonfunctional bugs refer to problems with how the application behaves, such as errors or crashes. Unknown bugs are those that have not been assigned a particular bug category.

Introduction

What is Bug Tracking System ?

A Bug Tracking System is a software application that helps you track issues and bugs in your software. It can help you to resolve issues quickly and efficiently, and it can also help you to improve the quality of your software.

There are a few different types of bug tracking systems, but the most reliable one is probably Disbug. Disbug offers a chrome extension and a website feedback widget which smoothes the entire process of bug reporting, and it is used by hundreds of software teams all over the world.

Bug tracking systems are essential for any software company, and they can help you to improve your product quality, customer support, and overall profitability.

Common types of Bugs

- Syntax bugs: Breaking the rules of the programming language.
- Logical bugs: Code runs without errors but produces incorrect results.
- Runtime errors: Crashes during execution (e.g., null references, division by zero).
- UI bugs: Elements not displaying or behaving correctly.
- Integration bugs: Issues when different systems or modules interact.
- Performance Bugs: Slow execution, excessive memory or CPU usage, lagging user interactions—often due to inefficient algorithms, memory leaks, or poor caching/practices
- Compatibility Bugs: Software works in one environment (browser, OS, device) but fails or behaves unexpectedly in others—think CSS issues across browsers or OS-specific behaviors .

Benefits of using a bug tracking system

Bug tracking systems have many benefits that can make your life as a software developer or software tester much easier. Here are just a few of the most important ones:

1. Bug tracking systems help you stay organized. Since you can track all the bugs that are related to a specific project, you will be able to identify and fix them faster. This will save you time and keep your codebase clean and tidy.
2. Bug tracking systems help you track the progress of projects. By knowing which bugs have been fixed and which ones are still pending, you will be able to better measure the success or failure of a project. This is especially important if you are working on a project that has deadlines attached to it.

Benefits of using a bug tracking system

3. Bug tracking systems help you findbugs quickly. Since all the bugs related to a particular project are stored in one place, it will be easy to find the bug that you're looking for. This can save you a lot of time and hassle when trying to track down a bug that is causing problems in your codebase.

4. Bug tracking systems provide feedback to developers and testers. By automatically sending notifications whenever a bug is fixed or new bugs are found, bug tracking systems help developers and testers receive feedback as soon as possible. This helps them to better understand the issues that they're facing and resolves them faster - saving both time and money in the process.

What should a bug tracking system include?

A bug tracking system is a great way to keep track of all the bugs that are reported by your users. It ensures that the issues that are reported are properly documented, tracked, and resolved as quickly as possible. Here are a few features that a good bug tracking system should have:

1. A user-friendly interface - The interface should be easy to use and intuitive, so that everyone in the company can access it.
2. Automatic email notification - Whenever a bug is reported or resolved, the system should send an email notification to all involved parties. This will help keep everyone informed and focused on the issues at hand.

What should a bug tracking system include?

3. Detailed reports - The reports should include all the information necessary to understand the bug history, such as the date, time, user information, and more. This will help you track trends and make informed decisions about how to handle future issues.
4. Automated resolution workflow - The system should have an automated resolution workflow so that all bugs are resolved as quickly as possible. This will help to prevent any major delays or disruptions in your workflow and ensure that your users are always happy and satisfied with your product.

Steps to follow for doing the Project:

Step-1: Open the Visual Studio 2022 and click on Create New Project.

Create the new project names with PROJECTS.

Step-2 : In model create a class with Bug.cs and define the fields in that.

Step-3 : Create a controller.

Step-4 : In package manager console run the below commands.

Add-Migration InitialCreate

Update-Database

Step-5 :Run the controller a basic web application will run in the browser.

Steps to follow for doing the Project:

Step-6 : Add the style part to the code for

Views/Bugs/Index.cshtml

Views/Bugs/Edit.cshtml

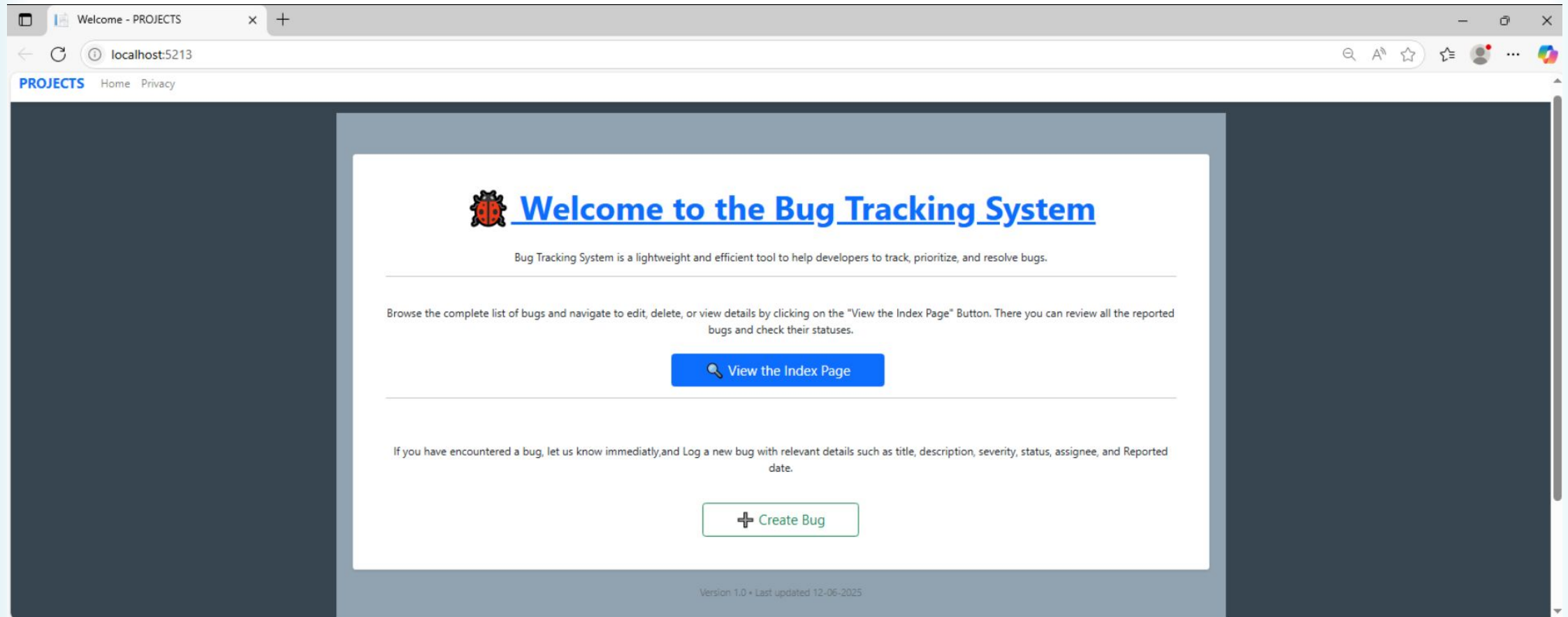
Views/Bugs/Details.cshtml

Views/Bugs/Create.cshtml

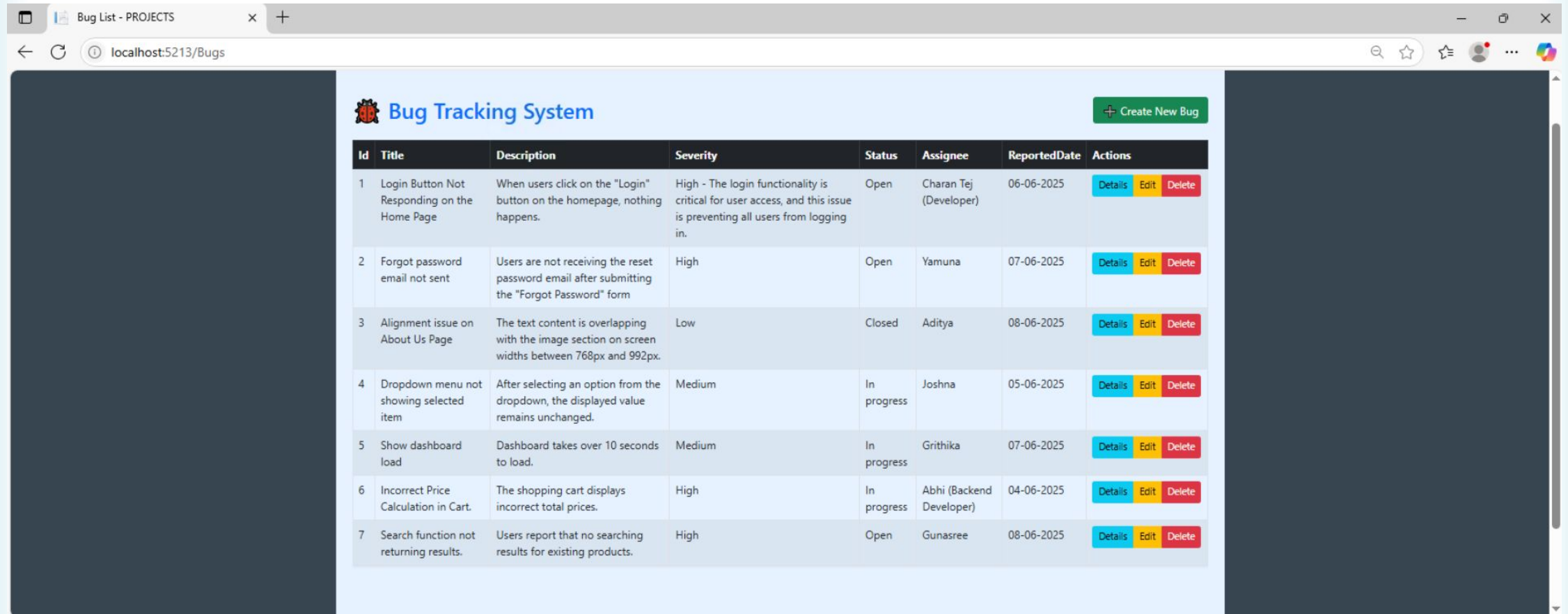
Views/Bugs/Delete.cshtml

Step-7 : Modify the code for Views/Home/Index.cshtml, then run the code.

Home page - Output

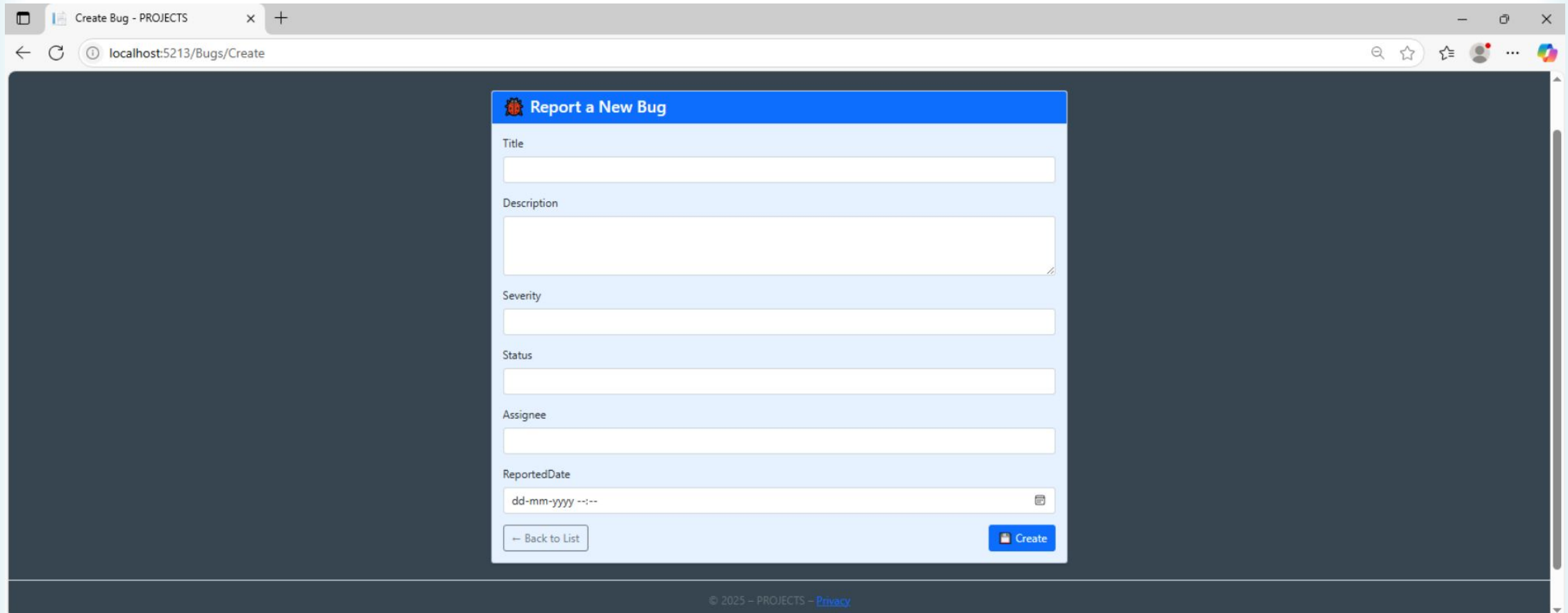


Index Page



Bug Tracking System + Create New Bug							
Id	Title	Description	Severity	Status	Assignee	ReportedDate	Actions
1	Login Button Not Responding on the Home Page	When users click on the "Login" button on the homepage, nothing happens.	High - The login functionality is critical for user access, and this issue is preventing all users from logging in.	Open	Charan Tej (Developer)	06-06-2025	Details Edit Delete
2	Forgot password email not sent	Users are not receiving the reset password email after submitting the "Forgot Password" form	High	Open	Yamuna	07-06-2025	Details Edit Delete
3	Alignment issue on About Us Page	The text content is overlapping with the image section on screen widths between 768px and 992px.	Low	Closed	Aditya	08-06-2025	Details Edit Delete
4	Dropdown menu not showing selected item	After selecting an option from the dropdown, the displayed value remains unchanged.	Medium	In progress	Joshna	05-06-2025	Details Edit Delete
5	Show dashboard load	Dashboard takes over 10 seconds to load.	Medium	In progress	Grithika	07-06-2025	Details Edit Delete
6	Incorrect Price Calculation in Cart.	The shopping cart displays incorrect total prices.	High	In progress	Abhi (Backend Developer)	04-06-2025	Details Edit Delete
7	Search function not returning results.	Users report that no searching results for existing products.	High	Open	Gunasee	08-06-2025	Details Edit Delete

Create page



The screenshot shows a web browser window with the title 'Create Bug - PROJECTS'. The address bar displays 'localhost:5213/Bugs/Create'. The main content area features a dark blue background with a light blue form titled 'Report a New Bug'. The form contains the following fields:

- Title: A single-line text input field.
- Description: A multi-line text area.
- Severity: A single-line text input field.
- Status: A single-line text input field.
- Assignee: A single-line text input field.
- ReportedDate: A date input field with a placeholder 'dd-mm-yyyy --:--' and a calendar icon.

At the bottom of the form, there are two buttons: a light blue button labeled 'Back to List' and a dark blue button labeled 'Create'.

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Details page

PROJECTS Home Privacy

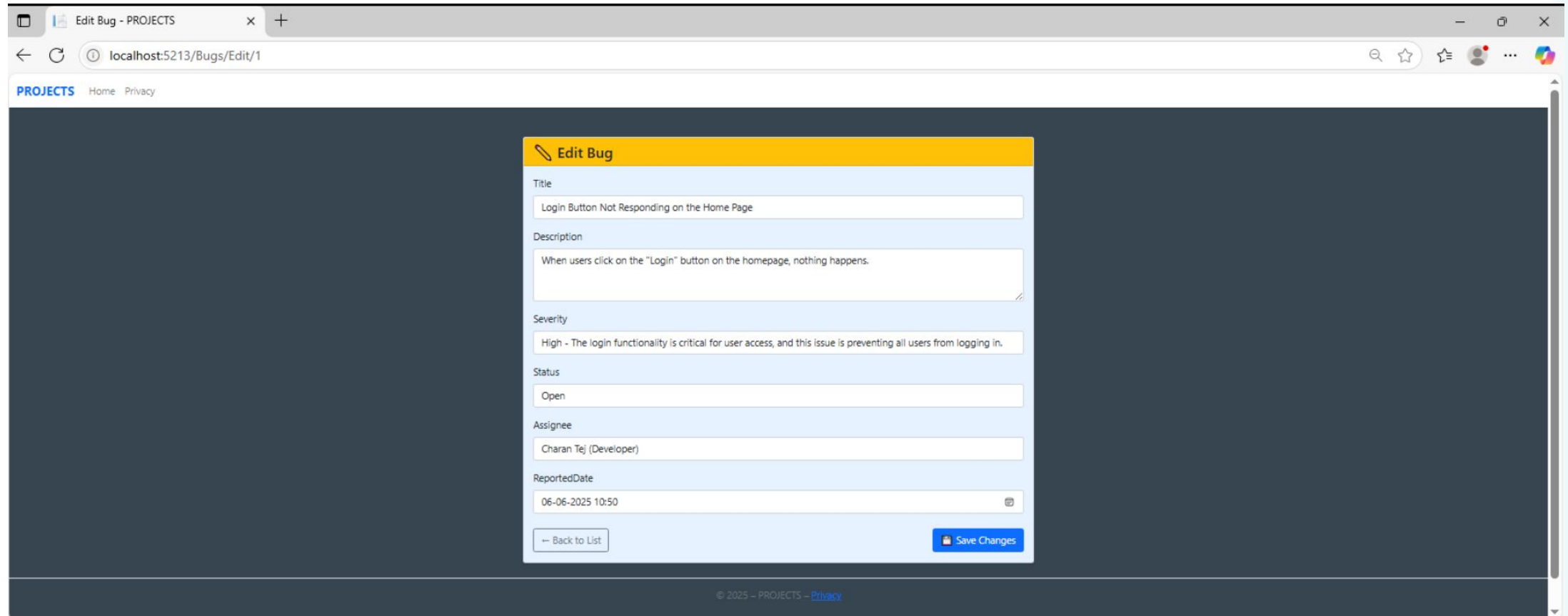
Bug Details

Id	1
Title	Login Button Not Responding on the Home Page
Description	When users click on the "Login" button on the homepage, nothing happens.
Severity	High - The login functionality is critical for user access, and this issue is preventing all users from logging in.
Status	Open
Assignee	Charan Tej (Developer)
ReportedDate	06-06-2025 10:50:00

[← Back to List](#) [Edit](#)

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Edit page

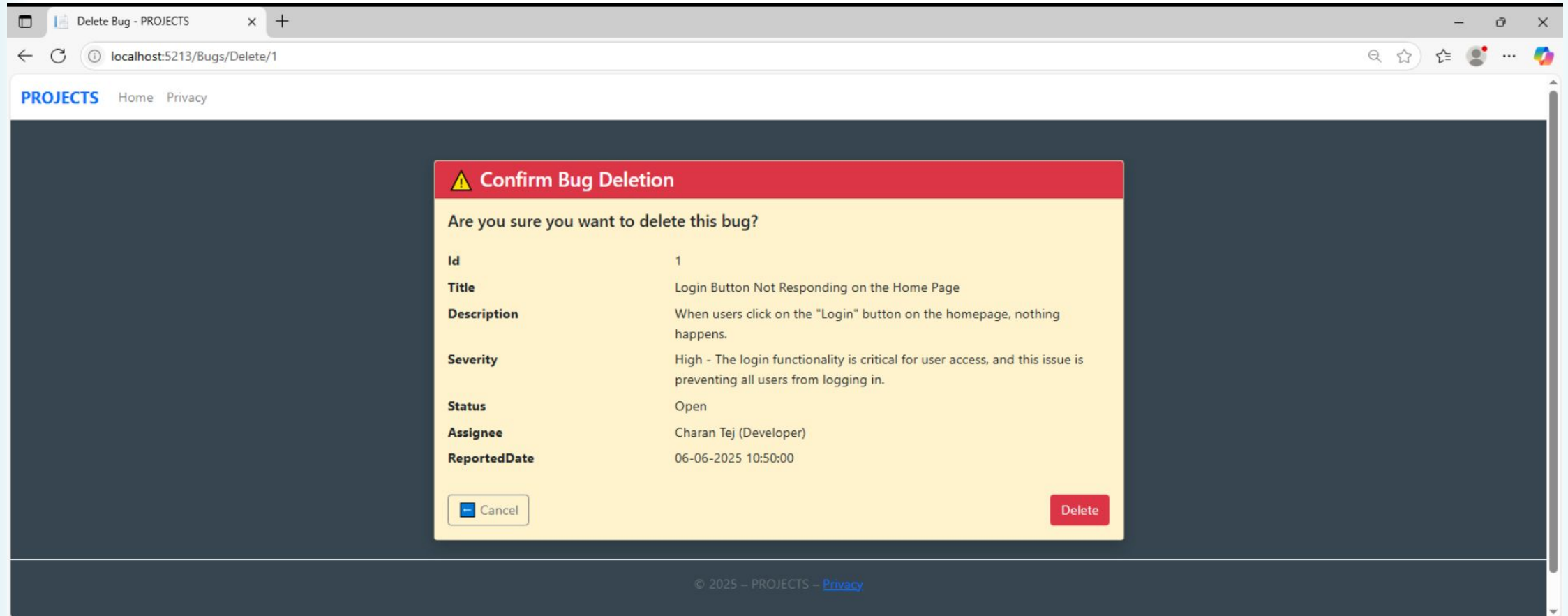


The screenshot shows a web browser window with the address bar displaying 'localhost:5213/Bugs/Edit/1'. The browser tab is labeled 'Edit Bug - PROJECTS'. The page has a dark blue header with the 'PROJECTS' logo and links for 'Home' and 'Privacy'. The main content area is a light blue box titled 'Edit Bug' with a pencil icon. It contains a form with the following fields:

- Title:** Login Button Not Responding on the Home Page
- Description:** When users click on the "Login" button on the homepage, nothing happens.
- Severity:** High - The login functionality is critical for user access, and this issue is preventing all users from logging in.
- Status:** Open
- Assignee:** Charan Tej (Developer)
- ReportedDate:** 06-06-2025 10:50

At the bottom of the form, there are two buttons: 'Back to List' and 'Save Changes'.

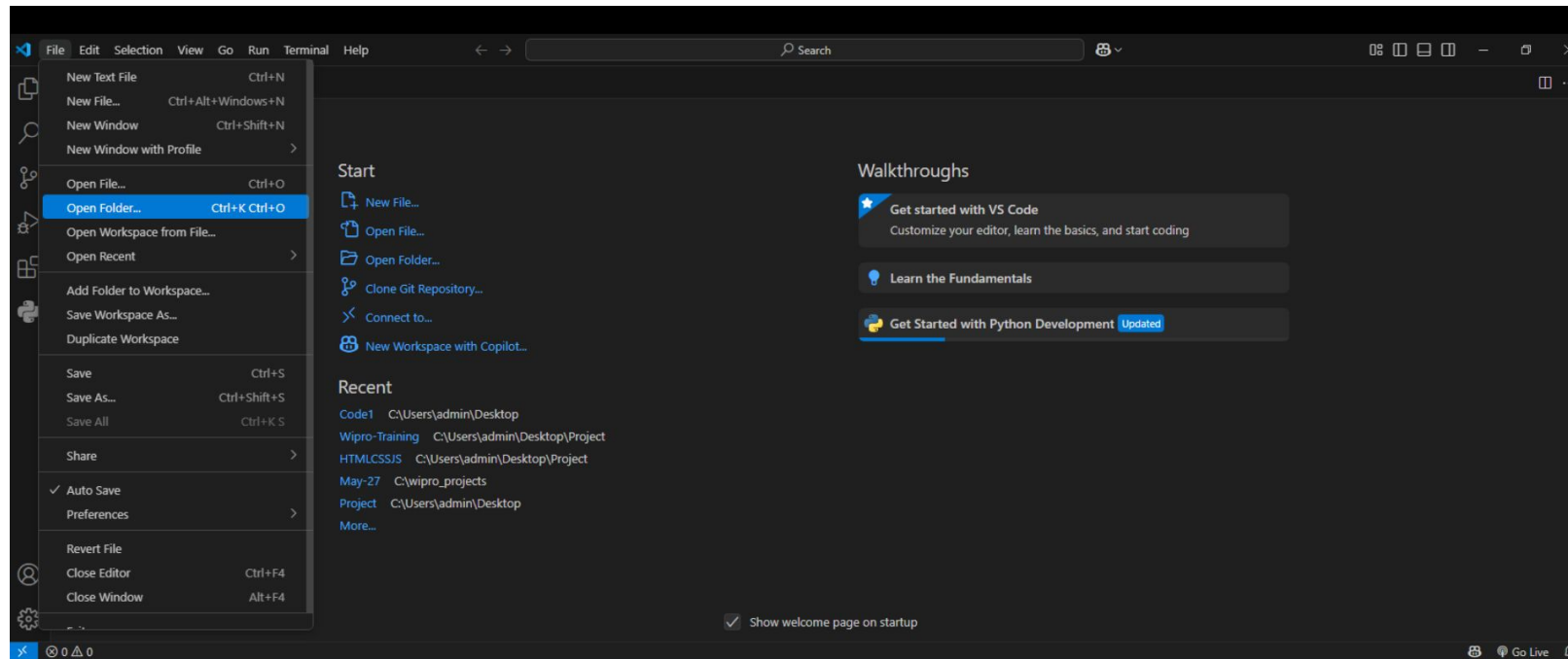
Delete page



Deployment Steps

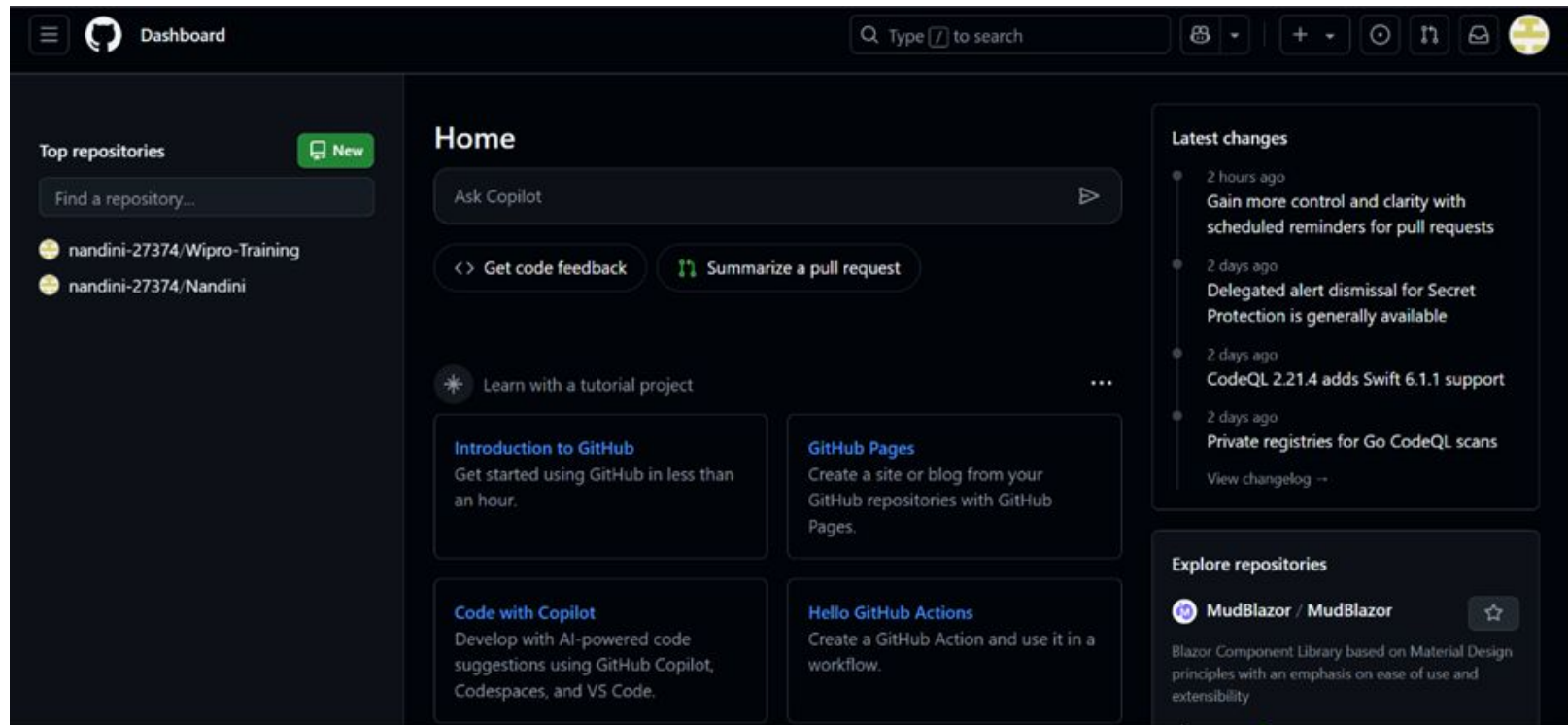
Step-1 : Create a folder in the File Explorer.

Step-2 : Open that folder in Visual Studio Code.



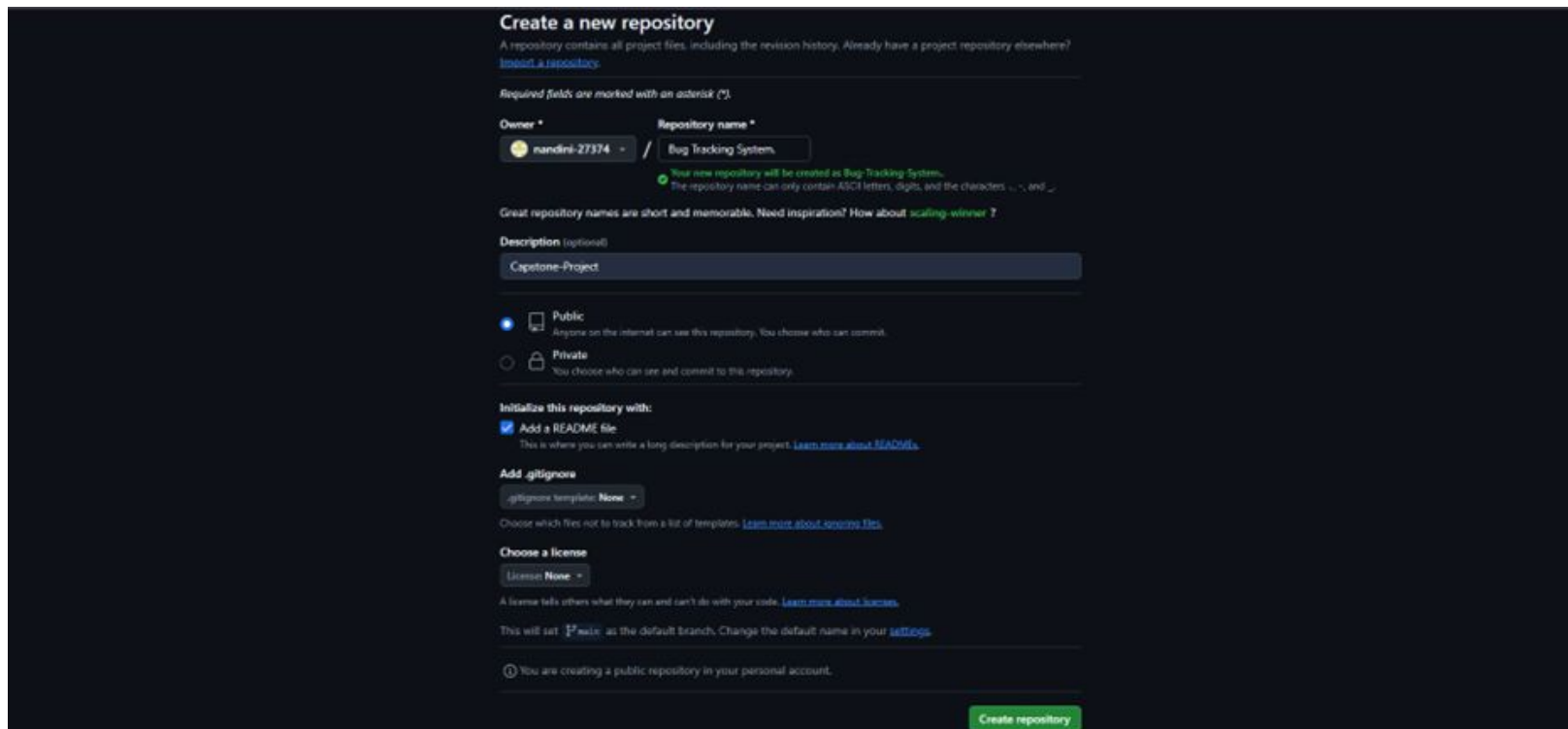
Deployment Steps

Step-3 : Go to the Git Hub home page



Deployment Steps

There we can see the “New” ,click on it it will navigate to another page.



The screenshot shows the GitHub 'Create a new repository' page. At the top, it says 'Create a new repository' and provides a brief explanation of what a repository is. Below this, there are two required fields: 'Owner' (set to 'nandini-27374') and 'Repository name' (set to 'Bug Tracking System'). A green checkmark indicates that the repository name is valid. Below the name field, there is a note about repository naming rules. The 'Description' field is optional and contains the text 'Capstone-Project'. The 'Visibility' section has two options: 'Public' (selected) and 'Private'. The 'Initialize this repository with:' section has three options: 'Add a README file' (selected), 'Add .gitignore', and 'Choose a license'. The 'Add .gitignore' section shows a dropdown menu with 'None' selected. The 'Choose a license' section shows a dropdown menu with 'None' selected. At the bottom right, there is a green 'Create repository' button.

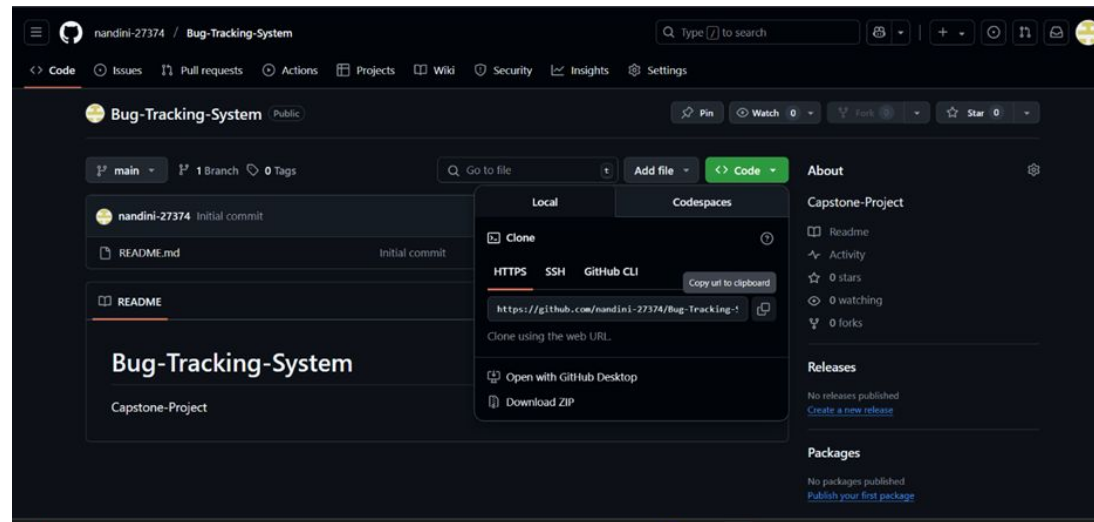
Deployment Steps

Step-4 : It will ask for Repository name after that, Description is optional.

Here Repository name is “Bug Tracking System” and Description as “Capstone-Project”.

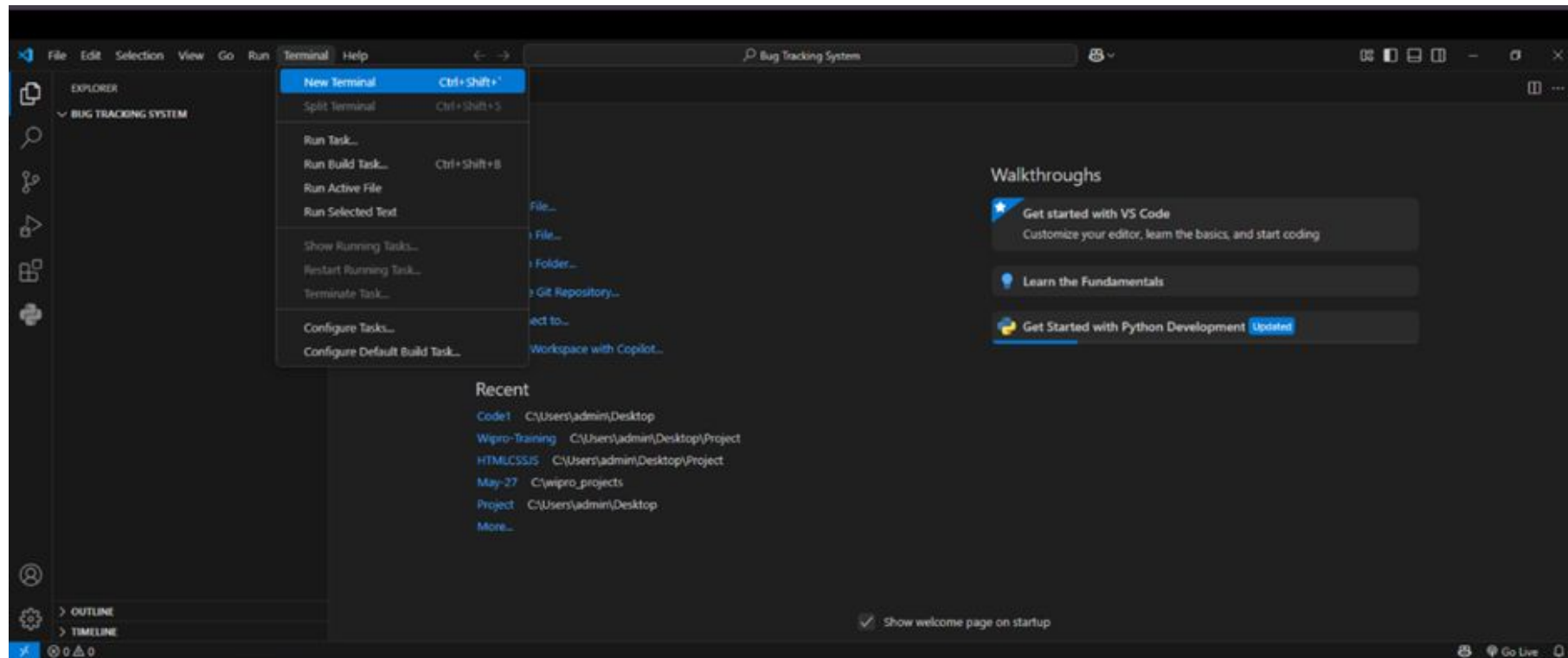
Step-5 : Select the Public and README file, then Click on “Create Repository”.

A new repository is created with name Bug Tracking System.



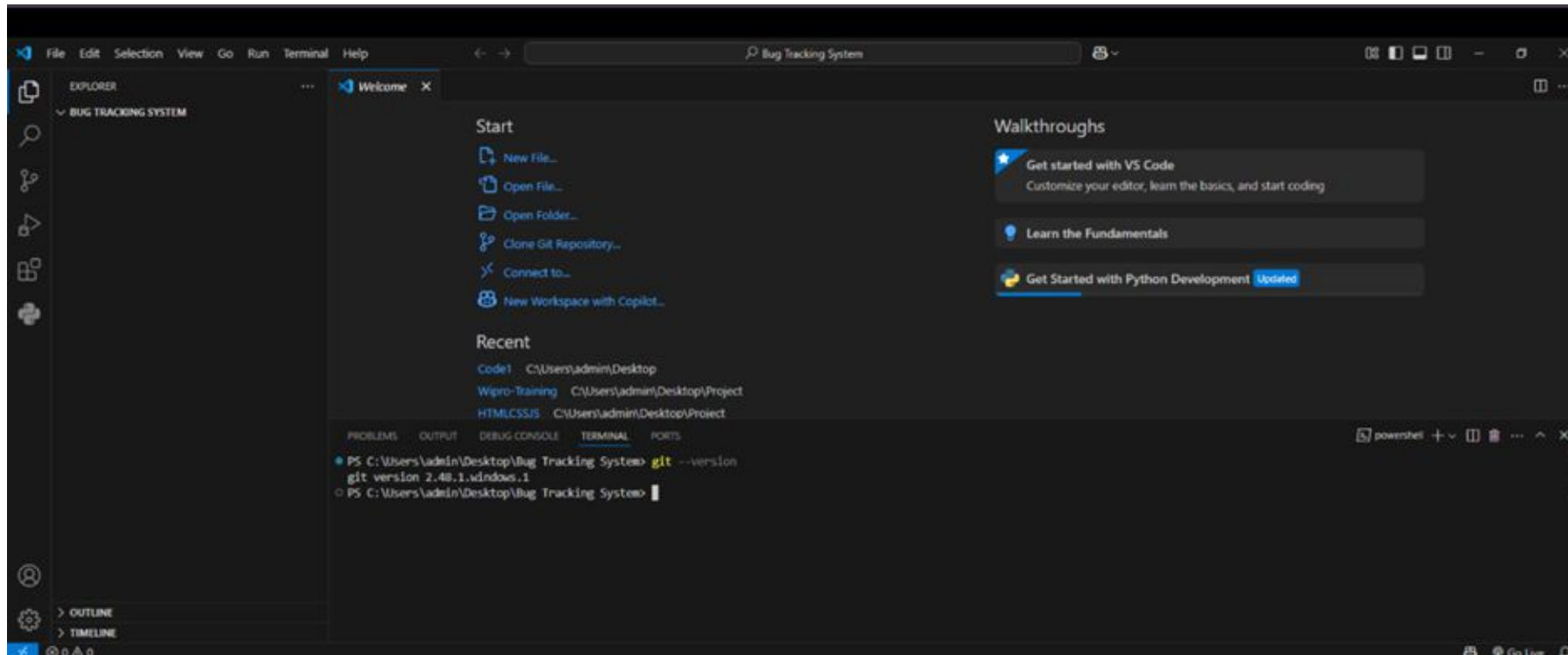
Deployment Steps

Step-6 : Go to the VS Code then open the new terminal



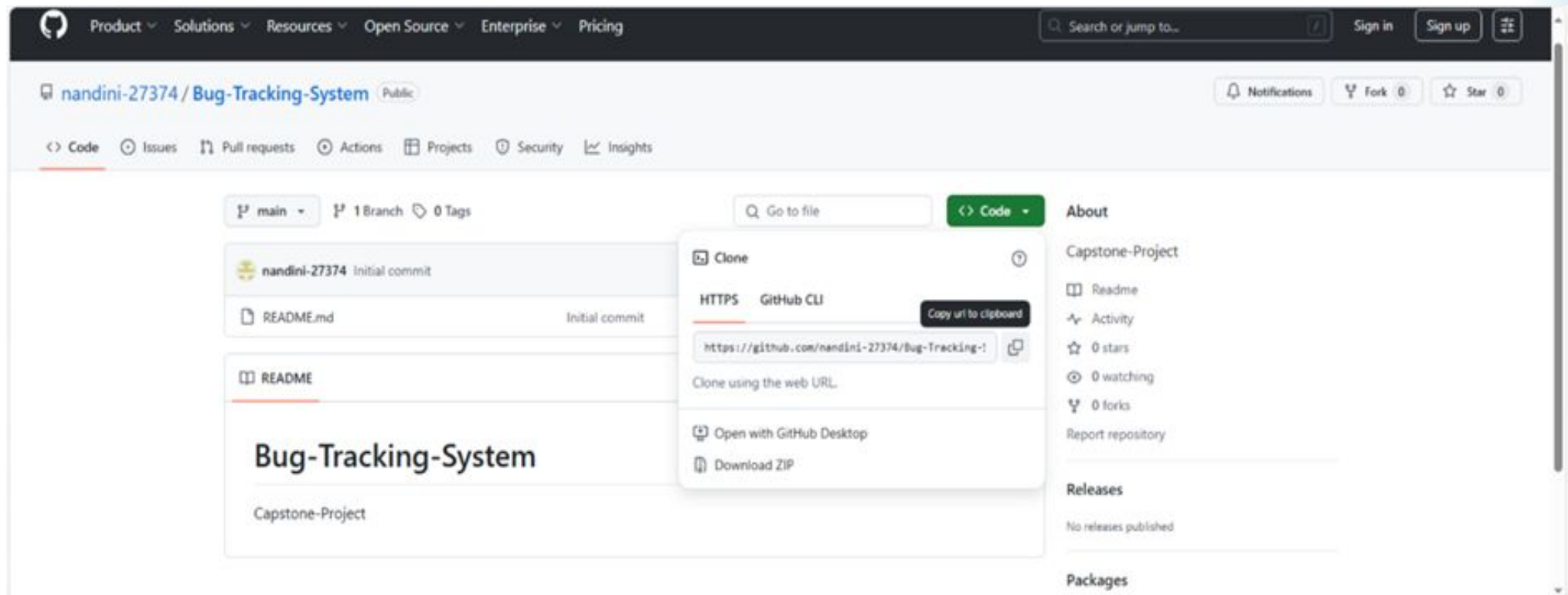
Deployment Steps

After clicking new terminal a new window will come.



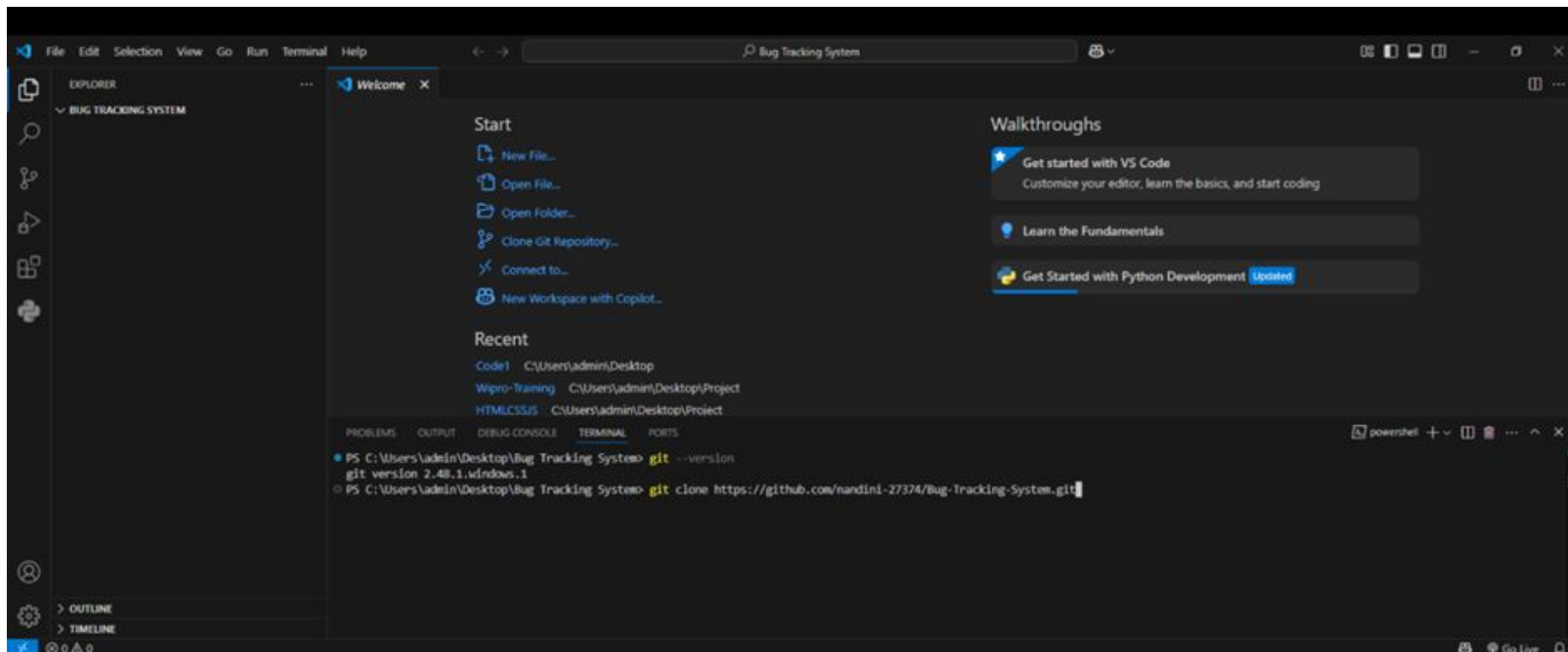
Deployment Steps

Step-7 : Go to the Git Hub newly created repository and copy that clone link.



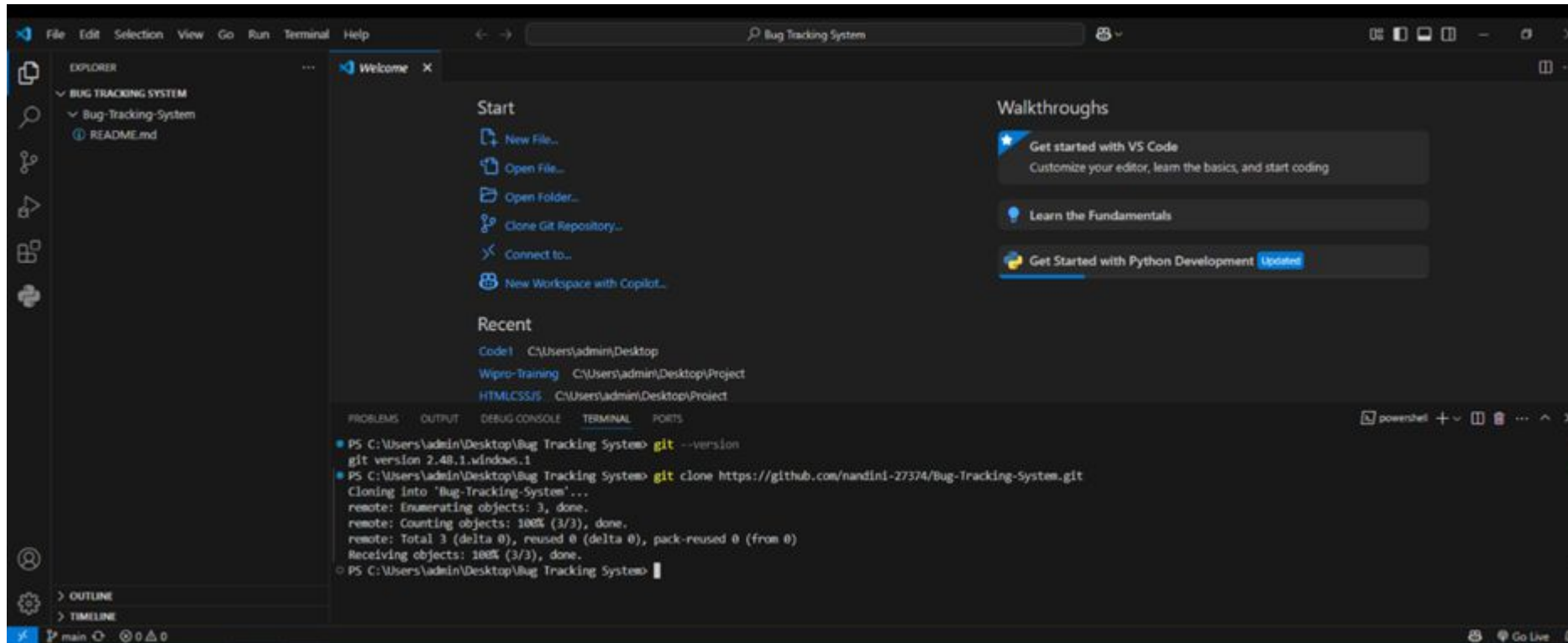
Deployment Steps

Step-8 : Now come to Visual Studio code , In terminal paste the link.



Deployment Steps

Now give enter.



The screenshot shows the Visual Studio Code interface with a dark theme. The Explorer panel on the left shows a project named 'BUG TRACKING SYSTEM' with a subfolder 'Bug-Tracking-System' containing a 'README.md' file. The main editor area displays the 'Welcome' page with options to 'Start' (New File, Open File, Open Folder, Clone Git Repository, Connect to, New Workspace with Copilot) and 'Walkthroughs' (Get started with VS Code, Learn the Fundamentals, Get Started with Python Development). The Terminal panel at the bottom shows the following commands and output:

```
PS C:\Users\admin\Desktop\Bug Tracking System> git --version
git version 2.40.1.windows.1
PS C:\Users\admin\Desktop\Bug Tracking System> git clone https://github.com/nandini-27374/Bug-Tracking-System.git
Cloning into 'Bug-Tracking-System'...
remote: Enumerating objects: 3, done.
remote: Counting objects: 100% (3/3), done.
remote: Total 3 (delta 0), reused 0 (delta 0), pack-reused 0 (from 0)
Receiving objects: 100% (3/3), done.
PS C:\Users\admin\Desktop\Bug Tracking System>
```


Deployment Steps

Now we can see at the left side corner we can see the “Bug Tracking System” which we have created in the Git Hub.

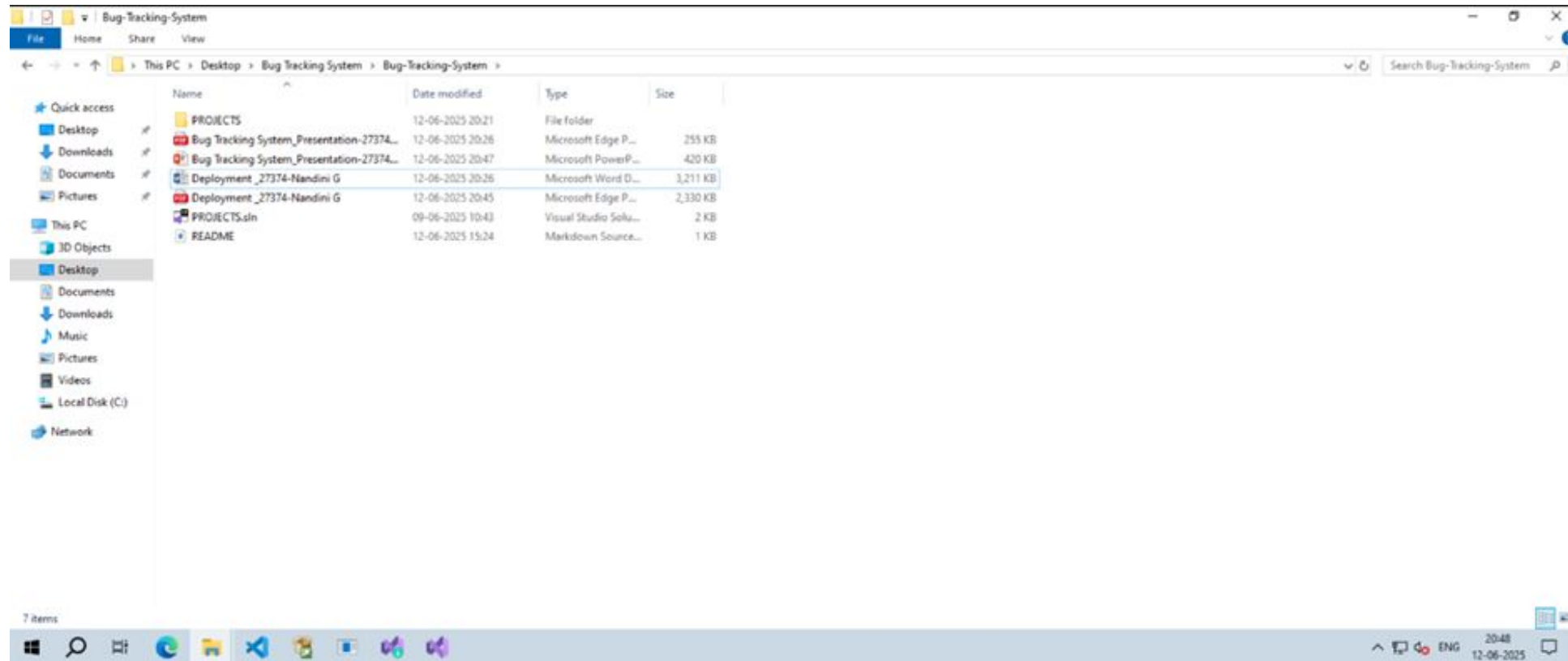
Step-9 : Copy the files that you want to push into the GIT Hub.

Go to admin in the desktop there search for source from there you can find the
PROJECTS web application.

And also copy the word doc containing setup and usage instructions, Deployment steps,
Screenshots of the outputs also ppt .

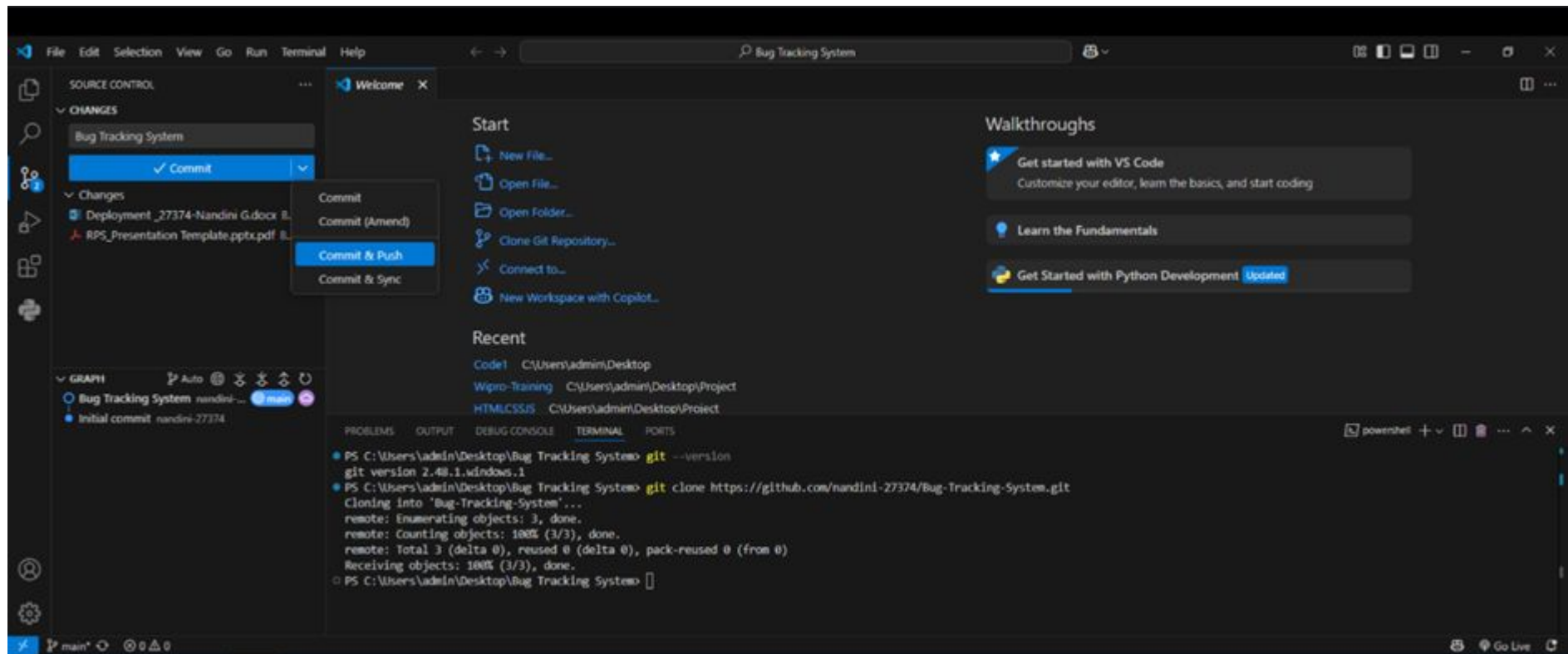
Paste into Bug Tracking System folder.

Deployment Steps



Deployment Steps

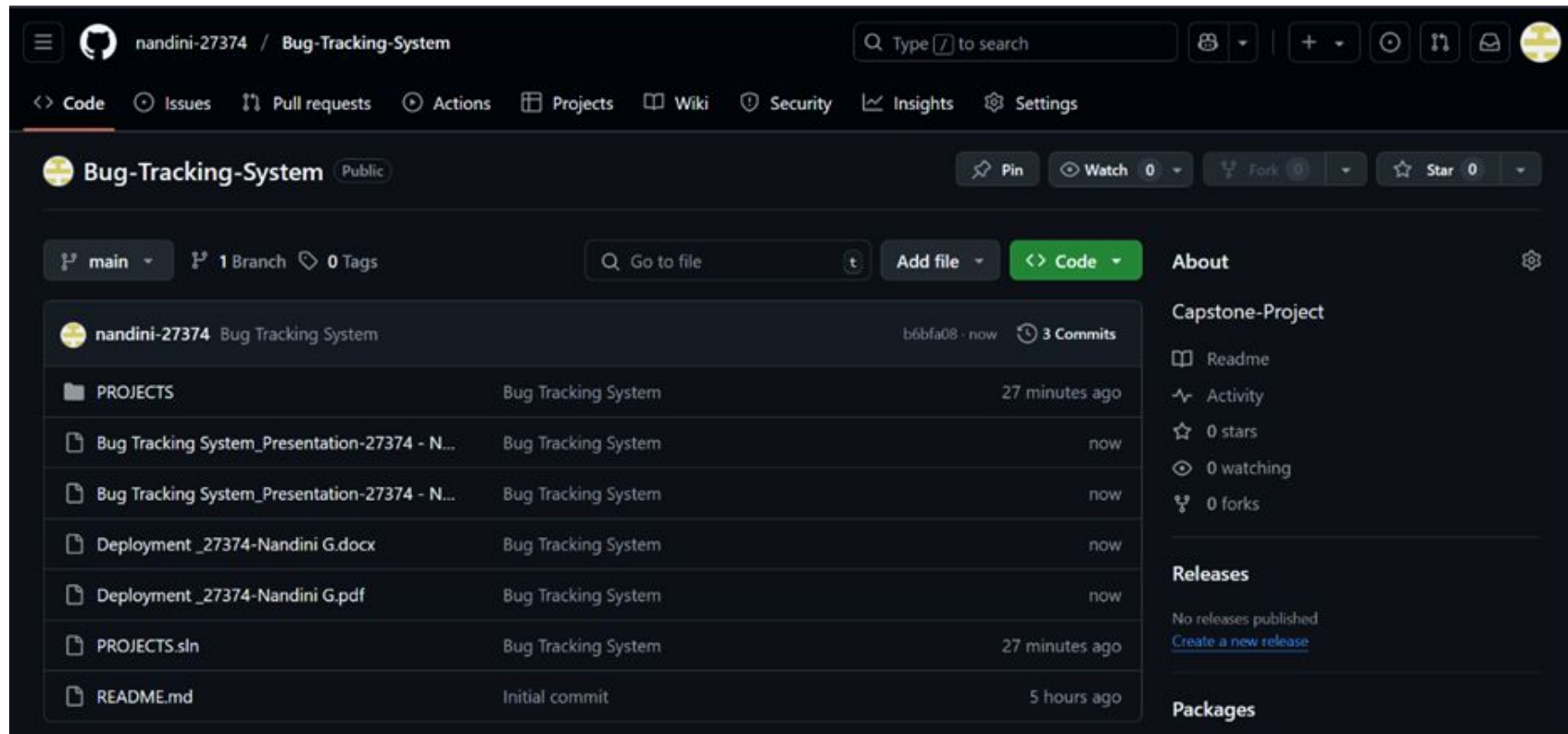
Step-10 : Go to visual studio code there you can see source control is having some action.



Deployment Steps

There give a commit and select commit & push.

Refresh the GIT Hub you can see the files there.



Conclusion

The whole process of tracking bugs is not easy, especially when it comes to managing hundreds of issues at the same time. Hence we have listed down everything that you need to know about bug-tracking systems as well as how and why they can help.

These solutions can keep your team focused on quality work and ensure timely resolution of all the issues you face. Thus, make sure not to skip a step in your bug-tracking journey. Keep reading our blog for more knowledge related articles.