# Build a Strong MERN Foundation

# Online Banking Web Application

# Planning Project with Agile and Git

# You Already Know

Before we begin, let’s recall what we have covered till now:



# Recap

**Agile**

It is an iterative approach used to manage the development of a software project.

**Git**

It is a distributed version control system used to handle software projects.

**GitHub**

It is a web-based platform for version control and collaboration, allowing users to store, manage, and track changes to their code projects.

# A Day in the Life of a MERN Stack Developer

As a MERN stack web developers, our key role is to develop full-stack web applications using MongoDB, Express.js, React.js, and Node.js.

As developers, our given task is to develop an online banking application using React.js and Node.js with Express.js as the web framework.

In order to persist the data, the NoSQL database, MongoDB will be used.

# A Day in the Life of a MERN Stack Developer

To begin with our project, we need to plan it properly. We will employ the Agile methodology.

First, we will create user stories for the epics, a web admin dashboard for bank authorities, and a web app for the end user.

We will thereafter see how to use Trello and plan the project with our stories. Finally, we will create the project structure and sync the code to GitHub.

# Learning Objectives

By the end of this lesson, you will be able to:

- Implement the Agile methodologies, such as Scrum or Kanban, in the planning and execution of web application projects
- Design a comprehensive Agile strategy for a web application project
- Develop a Git workflow strategy for a team-based web application project
- Assess the use of Git in managing branches and merging code

# Task 1: Plan the Project Using Agile Methodologies

# Create a Kanban Board

Create admin user stories as the requirements of the project:

- Admin can do the signup for the dashboard with his/her credential.
- Admin can view all customer details.
- Admin can approve new customers to create the account.
- Admin can lock the account.
- Admin can search customer details based on email ID, account number, or phone number.
- Admin can provide special interest for special customer.

# Create a Kanban Board

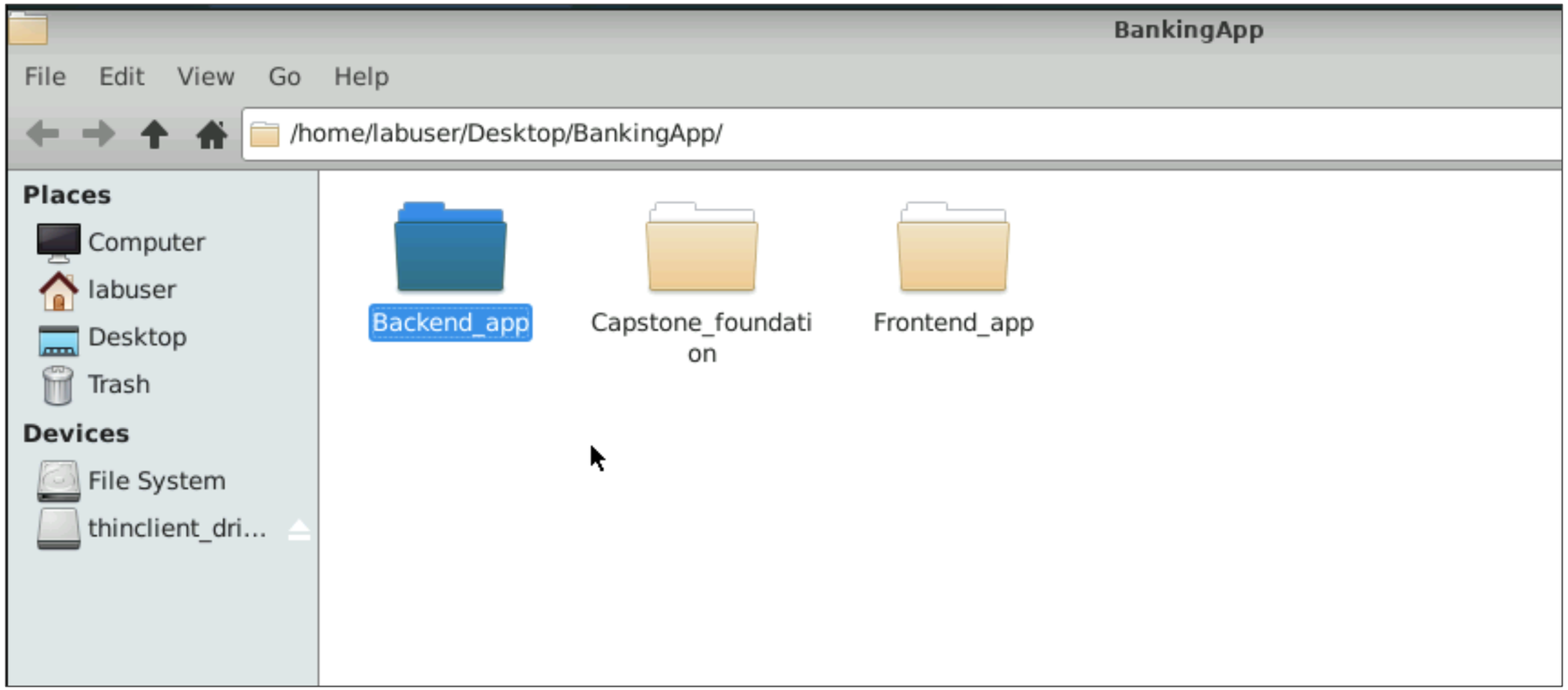
Create customer user stories as the requirements of the project:

- Customer can sign up for the account
- Customer can sign into the account.
- Customer can request admin to activate or deactivate the account.
- Customer can do the signup for the net banking.
- Customer can view their account details.
- Customer can transfer the amount
- Customer can withdraw the amount
- Customer can deposit the amount

# Task 2: Create Project and Sync Code to GitHub

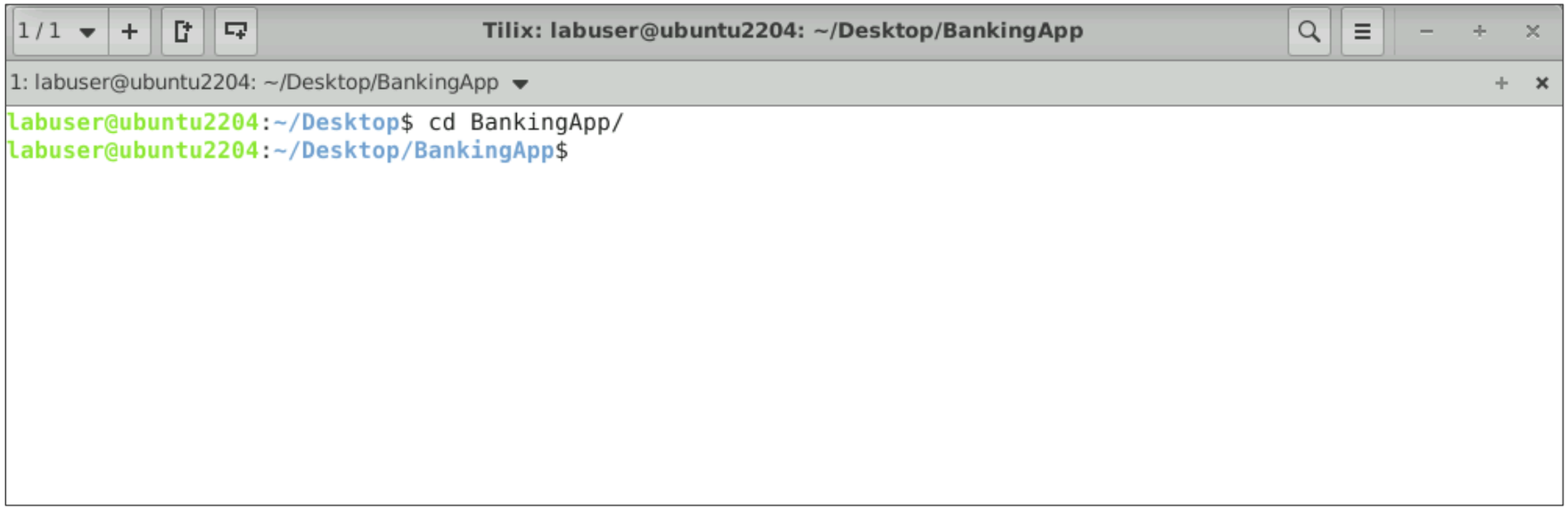
# Create the Project Structure

Create a folder named **BankingApp** and three sub-folders named **Capstone_foundation**, **Frontend_app**, and **Backend_app**



# Git Steps to Create Local Repository

Open the terminal and navigate inside the project directory



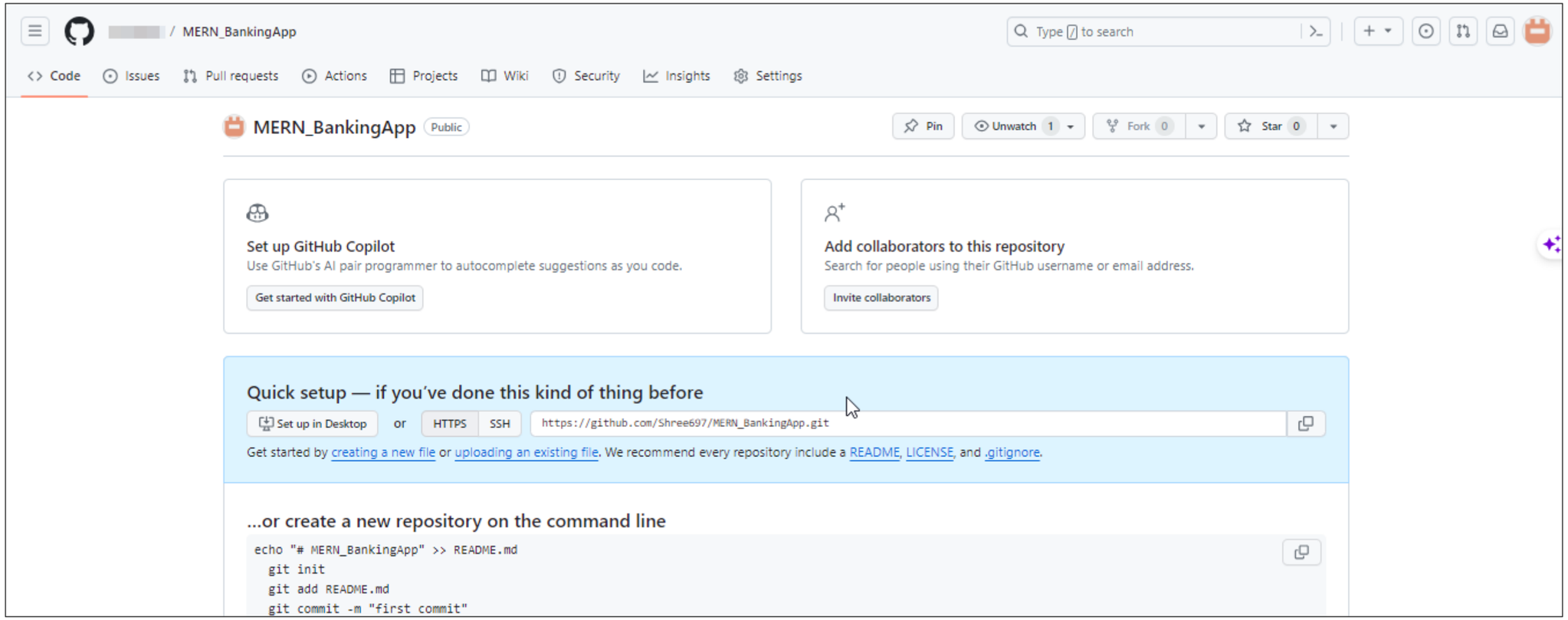
# Git Steps to Create Local Repository

Execute the following command to initialize the Git repository in the local repository: **git init**, **git add .** and **git commit -m “Project structure ready”**

```
1 / 1                                   Tilix: labuser@ubuntu2204: ~/Desktop/BankingApp
1: labuser@ubuntu2204: ~/Desktop/BankingApp
labuser@ubuntu2204:~/Desktop/BankingApp$ git init
hint: Using 'master' as the name for the initial branch. This default branch name
hint: is subject to change. To configure the initial branch name to use in all
hint: of your new repositories, which will suppress this warning, call:
hint:
hint:   git config --global init.defaultBranch <name>
hint:
hint: Names commonly chosen instead of 'master' are 'main', 'trunk' and
hint: 'development'. The just-created branch can be renamed via this command:
hint:
hint:   git branch -m <name>
Initialized empty Git repository in /home/labuser/Desktop/BankingApp/.git/
labuser@ubuntu2204:~/Desktop/BankingApp$ git commit -m "Project structure ready"
[master (root-commit) 465bc81] Project structure ready
 Committer: Ubuntu <labuser@ubuntu2204.2poyypvsiujuhb51bmx4t2lvqb.rx.internal.cloudapp.net>
Your name and email address were configured automatically based
on your username and hostname. Please check that they are accurate.
You can suppress this message by setting them explicitly. Run the
following command and follow the instructions in your editor to edit
your configuration file:

    git config --global --edit

After doing this, you may fix the identity used for this commit with:

    git commit --amend --reset-author

 3 files changed, 5 insertions(+)
 create mode 100644 Backend_app/Readme.txt
 create mode 100644 Capstone_foundation/Readme.txt
 create mode 100644 Frontend_app/Readme.txt
labuser@ubuntu2204:~/Desktop/BankingApp$
```

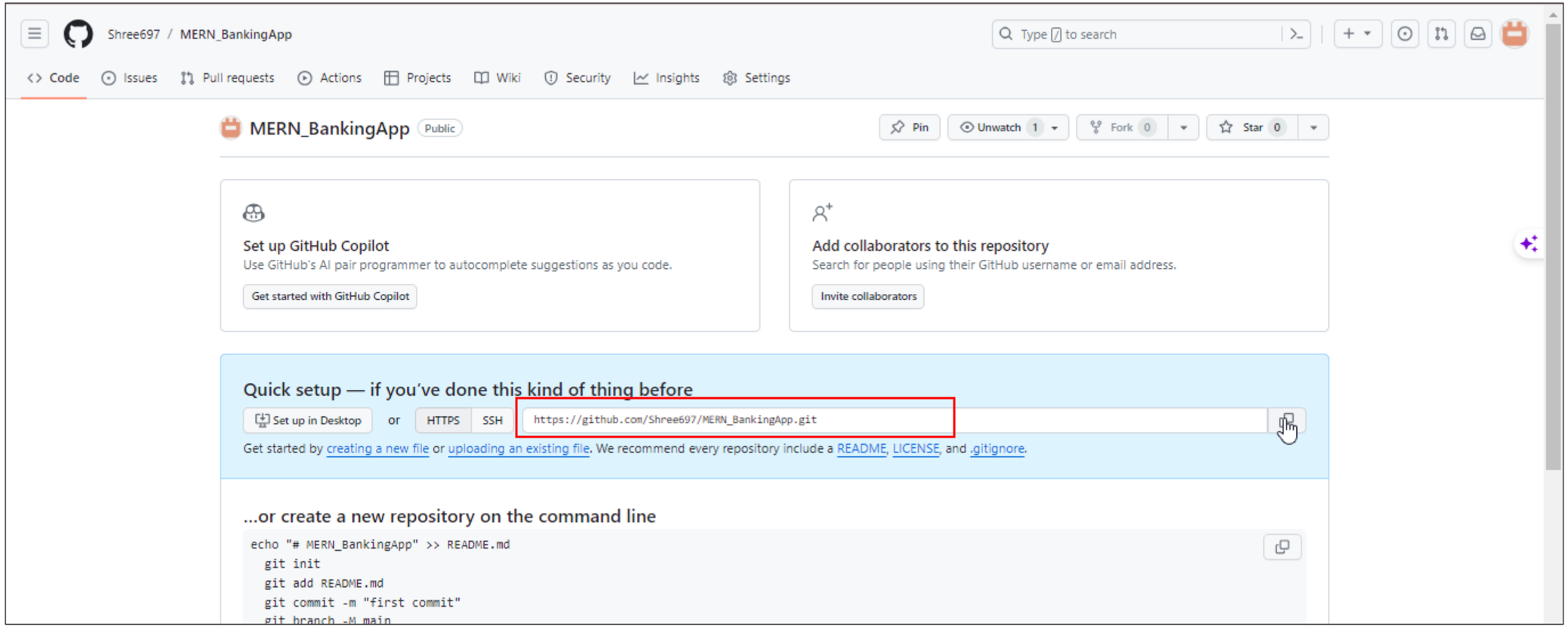
# Create a Remote Repository

Create a remote GitHub repository named **MERN_BankingApp**



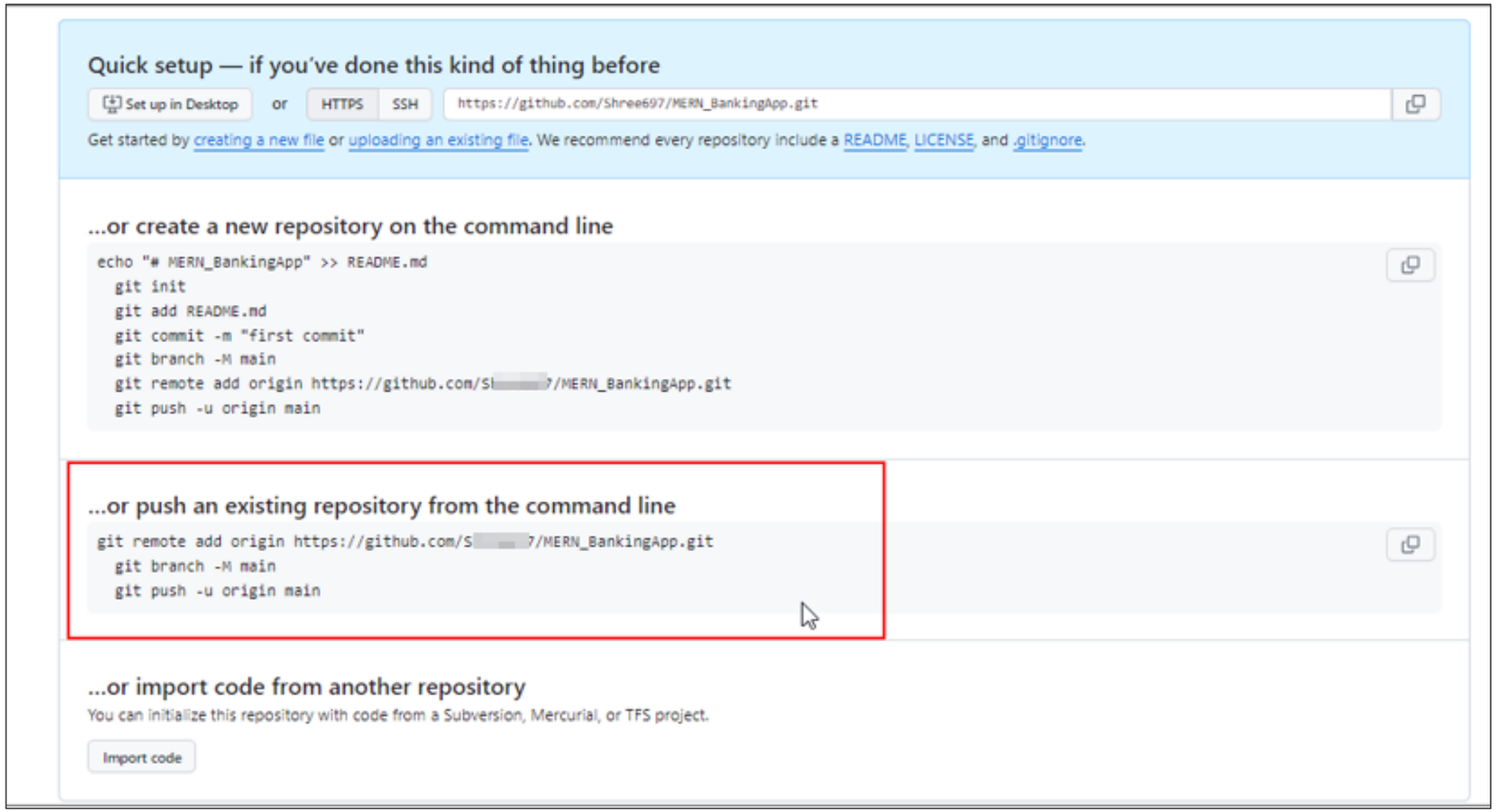
# Create a Remote Repository

Copy the HTTPS remote URL and save it



# Push the Project into the Remote Repository

Push the local project directory into the remote repository using the following commands:



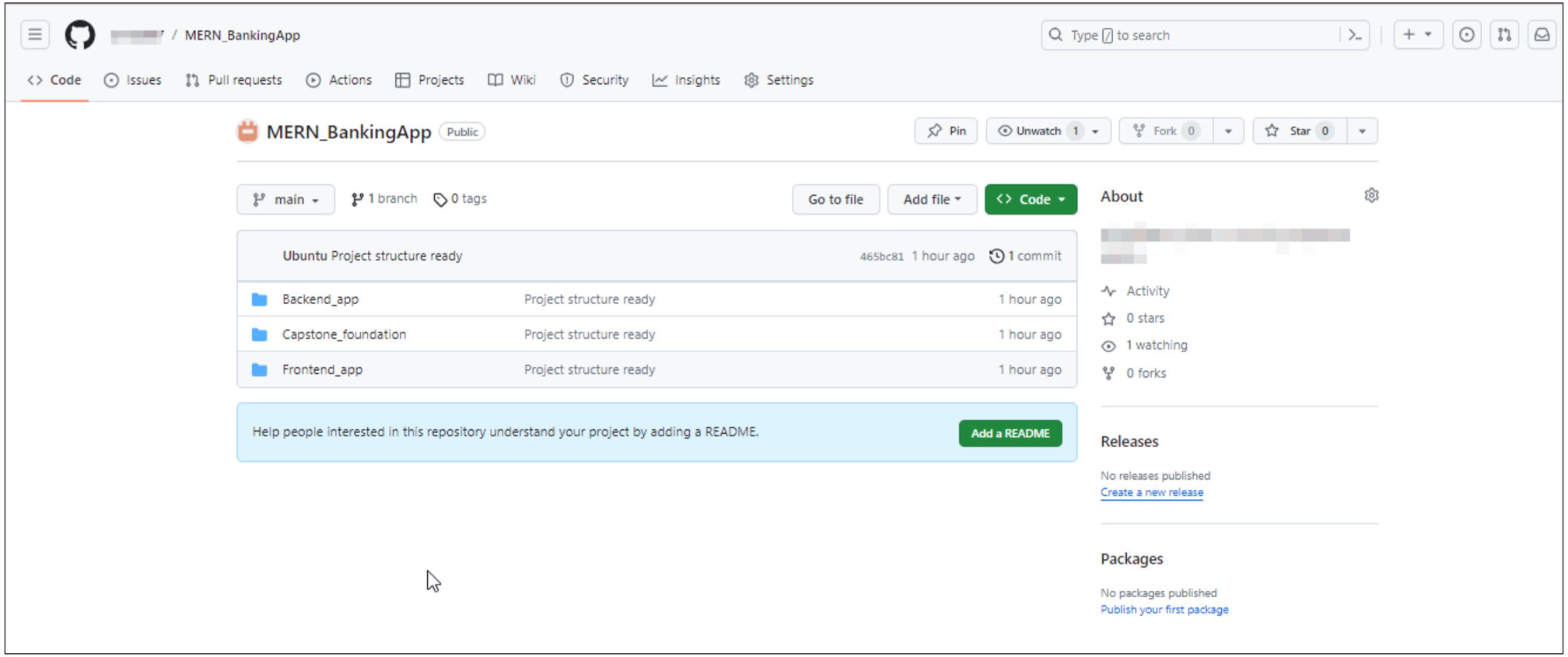
# Push the Project into the Remote Repository

Open the terminal and execute the push commands

```
Applications  BankingApp  Tilix: labuser@ubuntu22...
1/1   Tilix: labuser@ubuntu2204: ~/Desktop/BankingApp
1: labuser@ubuntu2204: ~/Desktop/BankingApp
labuser@ubuntu2204:~/Desktop/BankingApp$ git remote add origin https://github.com/S[redacted]7/M
ERN_BankingApp.git
labuser@ubuntu2204:~/Desktop/BankingApp$ git branch -M main
labuser@ubuntu2204:~/Desktop/BankingApp$ git push -u origin main
Username for 'https://github.com': S[redacted]
Password for 'https://S[redacted]@github.com':
Enumerating objects: 8, done.
Counting objects: 100% (8/8), done.
Delta compression using up to 2 threads
Compressing objects: 100% (3/3), done.
Writing objects: 100% (8/8), 626 bytes | 626.00 KiB/s, done.
Total 8 (delta 0), reused 0 (delta 0), pack-reused 0
To https://github.com/S[redacted]/MERN_BankingApp.git
 * [new branch]      main -> main
Branch 'main' set up to track remote branch 'main' from 'origin'.
labuser@ubuntu2204:~/Desktop/BankingApp$
```

# Push the Project into the Remote Repository

The project structure is pushed into the remote GitHub repository.



# Conclusion

By the end of the session, it is expected that:

- All the required user stories must be created for the admin and customer.
- All these user stories will give a clear picture of the project development process.
- A local Git repository must be created for all phases of the project development.
- A remote Git repository must be created which will be linked with the local Git repository of the project.
- This remote Git repository must be used for version control throughout the development process.

# Thank you