Connecting a Local Git Repository to a New GitHub Repository

Objective

The objective of this lab assignment is to guide students through the process of connecting a local Git repository to a new GitHub repository. By the end of this assignment, students will be able to:

1. Initialize a local Git repository.
2. Add files and make commits.
3. Create a new GitHub repository.
4. Connect the local repository to the GitHub repository.
5. Push local commits to the remote GitHub repository.

Prerequisites

1. Basic understanding of Git and GitHub.
2. Git installed on your local machine.
3. A GitHub account.

Instructions

Step 1: Open Terminal or Command Prompt

Open your terminal (on macOS or Linux) or Command Prompt (on Windows).

Step 2: Navigate to Your Local Repository

Use the `cd` command to navigate to the directory of your local project. For example:

cd path/to/your/local/repository

Step 3: Initialize Git in Your Repository

If Git is not already initialized in your project directory, initialize it by running:

git init

Example:

$ cd my-project

$ git init

Initialized empty Git repository in /path/to/my-project/.git/

Step 4: Add Your Files to the Repository

Add all your project files to the staging area using:

git add .

Example:

$ git add .

$ git status

On branch master

No commits yet

Changes to be committed:

(use "git rm --cached <file>..." to unstage)

new file: file1.txt

new file: file2.txt

Step 5: Commit the Files

Commit the added files with an initial commit message:

git commit -m "Initial commit"

Example:

$ git commit -m "Initial commit"

[master (root-commit) abcdef1] Initial commit

2 files changed, 2 insertions(+)

create mode 100644 file1.txt

create mode 100644 file2.txt

Step 6: Create a New Repository on GitHub

1. Go to GitHub and log in to your account.

2. Click on the "+" icon in the top-right corner and select "New repository".
3. Fill in the repository details (e.g., repository name, description) and click "Create repository".

Step 7: Copy the Repository URL

Once the repository is created, copy the URL provided by GitHub. It should look something like this:

https://github.com/your-username/your-repository.git

Step 8: Add the Remote Repository to Your Local Repository

Add the copied URL as a remote repository named `origin`:

git remote add origin <repository URL>

Replace `<repository URL>` with the URL you copied from GitHub.

Example:

$ git remote add origin https://github.com/your-username/your-repository.git

Step 9: Verify the Remote Repository

Verify that the remote repository has been added correctly:

git remote -v

Example:

$ git remote -v

origin https://github.com/your-username/your-repository.git (fetch)

origin https://github.com/your-username/your-repository.git (push)

Step 10: Push Your Local Repository to GitHub

Push your local commits to the remote GitHub repository:

git push -u origin master

Example:

$ git push -u origin master

Counting objects: 3, done.

Writing objects: 100% (3/3), 220 bytes | 220.00 KiB/s, done.

Total 3 (delta 0), reused 0 (delta 0)

To https://github.com/your-username/your-repository.git

 * [new branch] master -> master

Branch 'master' set up to track remote branch 'master' from 'origin'.