**Lab 01 Creating an Account, a Repository, and Using Core Git Commands**

**Objective**

* Create a personal GitHub account.
* Initialize a local repository, add files, commit changes, and push them to the remote repository on GitHub.
* Understand the basic Git workflow (add → commit → push) and the relationship between a local clone and the remote repository.

**Current Lab Learning Outcomes (LLO)**

By completion of the lab the students should be able to

1. Register for a free GitHub account and set up a new repository.
2. Clone a remote repository to a local machine using git clone.
3. Initialize a repository with git init and add files with git add.
4. Record snapshots with git commit.
5. Transfer local commits to GitHub with git push.
6. Verify the uploaded files through the GitHub web UI.

**Lab Requirements**

* Git client (latest version) installed on the workstation.
* Any Operating System (OS) that supports Git (Windows, macOS, Linux).
* Internet access for account creation, cloning, and pushing.
* Any plain‑text editor (e.g., VS Code, Notepad++, Sublime).

**Lab Assessment**

In lab practical exercise. Students must show the lab instructor a screenshot of their GitHub repository showing the uploaded files and the commit history.

**Lab Description**

The lab introduces the **fork-based workflow** (creating a personal copy of a project) and the **basic Git commands** used for everyday development [4][2]. Students will start from a brand-new GitHub account, create a repository, and then perform the full round-trip from local changes to a remote host.

* **Create a GitHub Account**

1. **Create a GitHub Account**
   1. Open a web browser and navigate to https://github.com/.
   2. Click **or** Sign up and follow the wizard (username, email, password).
   3. Verify the account via the confirmation e-mail sent by GitHub.
2. **Create a New Repository on GitHub**
   1. After logging in, click the **+** button in the top-right corner → **New repository**.
   2. Fill in:
      1. **Repository name**: my-first-lab
      2. **Description** (optional).
      3. **Public** (or Private, if you prefer).
      4. **Initialize** this repository with a **README** (optional, you can also start empty).
   3. Click **Create repository**.
3. **Clone the Repository Locally**

This copies the remote repository to your machine

1. **Add a File Locally**
   1. Open your *my-first-lab* folder in your text editor.
   2. Create a file called index.html with the following minimal HTML code:



1. **Stage the New File**
2. **Commit the change**
3. **Push the Commit to GitHub**

After authentication (username + personal access token if 2-FA enabled), the commit appears on GitHub.

1. **Verify the Upload**

* Open the repository page ([https://github.com/<your-username>/my-first-lab](https://github.com/%3cyourusername%3e/my-first-lab)).
* You should see index.html listed, and the commit message “Add initial index.html page” in the history.

1. **(Optional) Fork an Existing Project and Contribute**

* Navigate to any public repository (e.g., https://github.com/randomsort/practical-git-students).
* Click Fork to create a personal copy.
* Clone your fork, make a change, commit, and push back to your fork.
* Open a Pull Request from your fork to the upstream repository (the original project).

**Note:**

* If you have enabled two-factor authentication on GitHub, you must generate a Personal Access Token and use it as the password for git push.
* The workflow demonstrated here (clone → add → commit → push) is the foundation for more advanced collaboration patterns such as feature branches, fork-based contributions, and pull-request reviews.