**Getting Started with Git on Windows and MacOS: Creating a Local Repository and Syncing with GitHub**

**Prerequisites**

* A GitHub account (https://github.com/)
* Git installed on your machine (https://git-scm.com/downloads)
* A text editor (e.g., Visual Studio Code, Notepad++, or built-in Notepad)

**Installing Git on Windows**

1. Download the Git installer from https://git-scm.com/downloads.
2. Run the installer and follow the setup wizard.
3. Ensure that you select the following options during installation:
   * "Git Bash Here" for easy command-line access.
   * "Use Git from the Windows Command Prompt" (optional but recommended).
   * "Use the OpenSSL library" for HTTPS connections.
4. Finish the installation and restart your computer if prompted.

**Installing Git on MacOS**

1. Open **Terminal**.
2. Check if Git is already installed by running:

git --version

1. If Git is not installed, install it using Homebrew:

brew install git

1. Verify the installation:

git --version

**Step 1: Configure Git**

Before creating a repository, configure Git with your name and email:

git config --global user.name "Your Name"

git config --global user.email "your-email@example.com"

You can check your configuration with:

git config --list

**Step 2: Create a Local Repository**

1. Open **Git Bash** (Windows) or **Terminal** (MacOS).
2. Navigate to the folder where you want to create your repository:
3. # Windows

cd C:\Users\YourName\Documents\YourProject

# MacOS

cd /Users/YourName/Documents/YourProject

1. Initialize a new Git repository:

git init

This creates a hidden .git folder that tracks changes.

**Step 3: Create a New File and Add It to Git**

1. Create a file (e.g., README.md) and open it in a text editor.
2. Add some content, save, and close the file.
3. Add the file to Git tracking:

touch README.md

1. Commit the changes with a message:

git commit -m "Initial commit"

**Step 4: Create a Remote Repository on GitHub**

1. Log in to your GitHub account.
2. Click the **+** icon in the top right and select **New repository**.
3. Enter a repository name and choose whether it's **Public** or **Private**.
4. Click **Create repository**.

**Step 5: Link Local Repository to GitHub**

1. Copy the repository URL from GitHub.
2. In Git Bash (Windows) or Terminal (MacOS), add the remote origin:

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

1. Verify the remote connection:

git remote -v

**Step 6: Push Local Repository to GitHub**

1. Push your local commits to GitHub:

git push -u origin main

If "main" branch does not exist, rename the default branch:

git branch -M main

Then push again:

git push -u origin main

**Additional Commands**

* **Check repository status**:

git status

* **View commit history**:

git log

* **Pull latest changes from GitHub**:

git pull origin main

* **Create a new branch**:

git checkout -b new-branch