# Git Step-by-Step Guide and Assignment

### 1. Creating a Repository

* Navigate to GitHub and log in to your account.
* Click on **New Repository**
* Enter a repository name and description.
* Choose the visibility (public or private).
* Initialize with a README if desired.
* Click **Create Repository**

### 2. Cloning the Repository

* Copy the repository URL from GitHub.
* Open a terminal and run the following command:

**git clone https://github.com/your-username/repository-name.git**

* Navigate into the cloned directory:

**cd repository-name**

### 3. Branching and Merging

#### Creating a New Branch

* List existing branches:

**git branch**

* Create a new branch:

**git branch feature-branch**

* Switch to the new branch:

**git checkout feature-branch**

* Make changes, add, commit, and push:

**git add**

**git commit -m "Feature update"**

**git push origin feature-branch**

#### Merging Changes

* Switch to the main branch:

**git checkout main**

* Pull the latest changes:

**git pull origin main**

* Merge the feature branch:

**git merge feature-branch**

* Push updates to GitHub:

**git push origin main**

## Assignment

**Purpose**: Demonstrate your understanding of Git by completing the following steps.

### Task 1: Creating a Repository

1. Create a new repository on GitHub and name it `git-assignment`.

2. Clone the repository to your local machine.

### Task 2: Creating and Working with a Branch

1. Create a new branch called feature-update.

2. Switch to the **feature-update** branch.

3. Create a new file called **feature.txt** and add some content.

4. Add and commit the changes.

5. Push the **feature-update** branch to GitHub.

### Task 3: Merging the Branch

1. Switch back to the **main** branch.

2. Pull the latest changes from GitHub.

3. Merge the **feature-update** branch into **main**.

4. Push the updated **main** branch to GitHub.

### Task 4: Reflection Questions

1. What is the purpose of branching in Git?

2. What happens if there is a conflict during merging? How do you resolve it?

3. Why is it important to pull the latest changes before merging a branch?