Create a new repository on GitHub :

* Go to the GitHub website and log in to your account.
* Click on the "+" icon in the top right corner of the page and select "New repository."
* Fill in the repository name, description, and other options as needed.
* Choose whether the repository will be public or private.
* Click on the "Create repository" button

Clone the repository to your local machine:

* Open a terminal or command prompt on your local machine.
* Use the git clone command followed by the URL of the repository you just created on GitHub.

Make some changes to a file:

* Navigate to the directory where the repository was cloned.
* Modify any file within the repository using your preferred text editor.

Commit the changes to the repository:

* Once you've made your changes, add the modified files to the staging area using the git add command.
* Commit the changes to the repository using the git commit command. Be sure to include a meaningful commit message describing the changes

Push the changes back to the repository on GitHub:

* Push the committed changes to the remote repository on GitHub using the git push command.

Once you've completed these steps, the changes you made locally will be pushed back to the repository on GitHub. You can verify this by refreshing the GitHub repository page in your web browser and checking if your changes are reflected there.

**Runners in Github:**

Runners are the machines that execute jobs in a GitHub Actions workflow. For example, a runner can clone your repository locally, install testing software, and then run commands that evaluate your code. GitHub provides runners that you can use to run your jobs, or you can host your own runners.

**Actions:**

GitHub Actions usage is free for standard GitHub-hosted runners in public repositories, and for self-hosted runners. For private repositories, each GitHub account receives a certain amount of free minutes and storage for use with GitHub-hosted runners, depending on the account's plan.

**Cloning a public repo:**

you can clone a public Git repository. A public repository is a repository that anyone can access and view. To clone a public repository, you will need the URL of the repository. You can find this URL on the repository's homepage.

Once you have the URL, you can clone the repository using the following command:

git clone <URL>

This command will create a copy of the repository on your local machine

**Cloning a private repo:**

Cloning a private repository can be a little bit tricky and is only possible if these conditions are met: The cloner is cloning from a personal account. The repository is from an organization of which the cloner is a member.

you can clone a private repository using a personal Git token. Here's an example:

* git clone <https://your-username:your-token@github.com/organization-name/your-private-repo.git>
* You can also use SSH keys to connect your local device with GitHub using a secure channel over an unsecured network

**SSH Keys:**

SSH keys are a pair of public and private keys that are used to authenticate and establish an encrypted communication channel between a client and a remote machine over the internet.

Using the SSH protocol, you can connect and authenticate to remote servers and services. With SSH keys, you can connect to GitHub without supplying your username and personal access token at each visit.

* Open Git GUI.
* Go to the Help menu and select Show SSH Key.
* Click Generate Key.
* Enter a name for your key and click OK.
* Git GUI will generate the key and display it in the Key field.
* Copy the key and paste it into the SSH Keys field on your GitHub account settings page.
* Click Add Key.

Once you've added your SSH key to your GitHub account, you can use it to clone and push repositories without having to enter your password each time.

The Secure Shell (SSH) protocol is a method for securely sending commands to a computer over an unsecured network. SSH uses cryptography to authenticate and encrypt connections between devices.