|  |
| --- |
| Github Tutorial prepared by SMita |
| GitHub, it is a file or code-sharing service to collaborate with different people.  GitHub is a highly used software that is typically used for version control. It is helpful when more than just one person is working on a project. Say for example, a software developer team wants to build a website and everyone has to update their codes simultaneously while working on the project. In this case, Github helps them to build a centralized repository where everyone can upload, edit, and manage the code files.   **GitHub Repository** A repository is a storage space where your project lives. It can be local to a folder on your computer, or it can be a storage space on GitHub  or another online host. You can keep code files, text files, images or any kind of a file in a repository. You need a GitHub repository when you have done some changes and are ready to be uploaded. This GitHub repository acts as your remote repository. So let me make your task easy, just follow these simple steps to create a GitHub repository:   * Go to the link: <https://github.com/> . Fill the sign up form and click on “Sign up for Github”. * Click on “Start a new project”.        * Enter any repository name and click on “Create Repository”. You can also give a description to your repository (optional).     Now, if you noticed by default a GitHub repository is public which means that anyone can view the contents of this repository whereas in a private repository, you can choose who can view the content. Also, private repository is a paid version. Also, if you refer the above screenshot, initialize the repository with a README file. This file contains the description of the file and once you check this box, this will be the first file inside your repository.   **Create Branches and Perform Operations** Branching: Branches help you to work on different versions of a repository at one time.  Branches allow you to move back and forth between the different states/versions of a project. you can create a new branch and test the new feature without affecting the main branch. Once you are done with it, you can merge the changes from new branch to the main branch. Here the main branch is the master branch, which is there in your repository by default.    To create a branch in GitHub, follow the below steps:   * Click on the dropdown “Branch: master” * As soon as you click on the branch, you can find an existing branch or you can create a new one. In my case, I am creating a new branch with a name “readme- changes”.     Once you have created a new branch, you have two branches in your repository now i.e. read-me (master branch) and readme- changes. The new branch is just the copy of master branch. **GitHub: Operations****Commit Command:** This operation helps you to save the changes in your file. When you commit a file, you should always provide the message, just to keep in the mind the changes done by you. Though this message is not compulsory but it is always recommended so that it can differentiate the various versions or commits you have done so far to your repository. These commit messages maintain the history of changes which in turn help other contributors to understand the file better. Now let’s make our first commit, follow the below steps:   * Click on “readme- changes” file which we have just created. * Click on the “edit” or a pencil icon in the righmost corner of the file. * Once you click on that, an editor will open where you can type in the changes or anything. * Write a commit message which identifies your changes. * Click commit changes in the end.    **Pull Command** It tell the changes done in the file and request other contributors to view it as well as merge it with the master branch. Once the commit is done, anyone can pull the file and can start a discussion over it. Once its all done, you can merge the file. Pull command compares the changes which are done in the file and if there are any conflicts, you can manually resolve it. Now let us see different steps involved to pull request in GitHub.   * Click the ‘Pull requests’ tab. * Click ‘New pull request’. * Once you click on pull request, select the branch and click ‘readme- changes’ file to view changes between the two files present in our repository. * Click “Create pull request”. * Enter any title, description to your changes and click on “Create pull request”.      **Merge Command** Used to merge the changes into the main master branch. We saw the changes in pink and green color, now let’s merge the “readme- changes” file with the master branch/ read-me. Go through the below steps to merge pull request.   * Click on “Merge pull request” to merge the changes into master branch. * Click “Confirm merge”. * You can delete the branch once all the changes have been incorporated and if there are no conflicts.    **Cloning and Forking GitHub Repository** Cloning: Before I actually talk about cloning a GitHub repository, first let us understand why do we need to clone a repository. The answer is simple! Suppose you want to use some code which is present in a public repository, you can directly copy the contents by cloning or downloading.    **Forking:** First, let us talk about why do we need forking. Suppose, you need some code which is present in a public repository, under your repository and GitHub account. For this, we need to fork a repository.  Before we get started with forking, there are some important points which you should always keep in mind.   * Changes done to the original repository will be reflected back to the forked repository. * If you make a change in forked repository, it will not b reflected to the original repository until and unless you have made a pull request.   Now let’s see how can you want to fork a repository. For that, follow the below steps:   * Go to Explore and search for public repositories. * Click “fork”. Note that this “tangent” repository is already forked 27 times and it is under “google” account. Refer the below image for better understanding.     As soon as you click on “Fork”, it will take some time to fork the repository. Once done you will notice that the repository name is under your account. |
| Reference : https://www.edureka.co/blog/how-to-use-github/ |