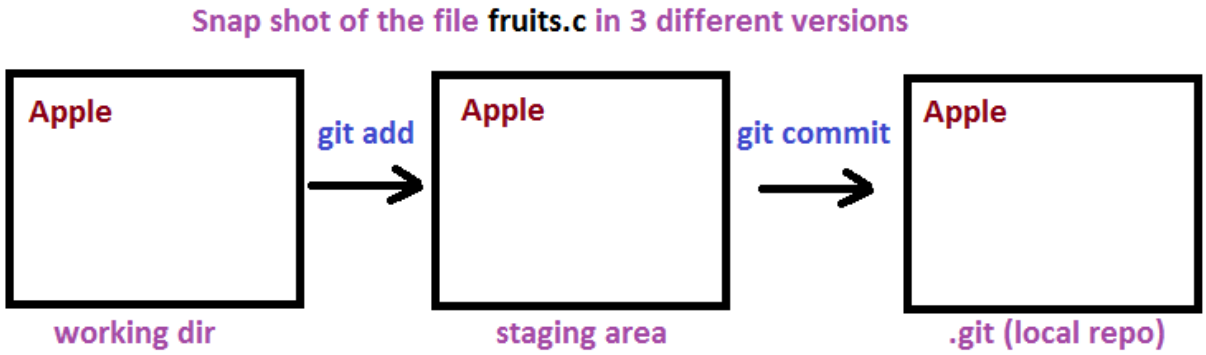
Let us push our first commit to github.

Before that, we will play with a couple of git commands to understand the staging area and local repo concepts.

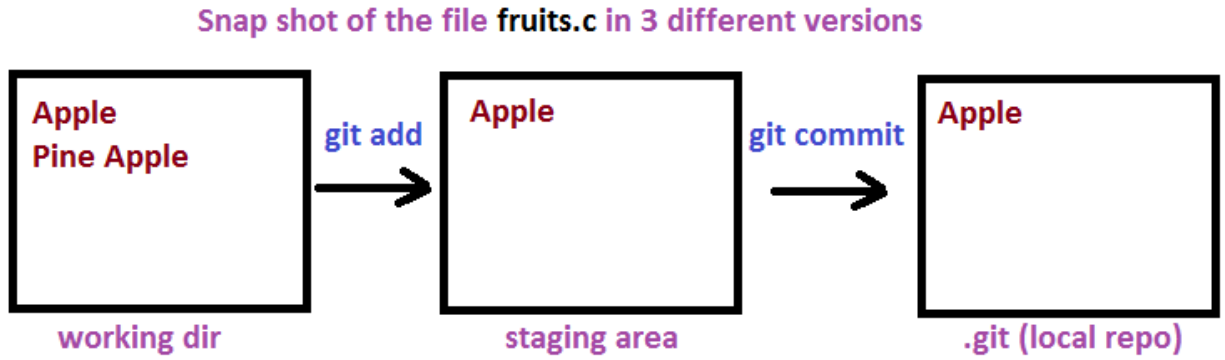
Our current file looks like this after our first commit.




```
fms@git_practice:~/dev_fruits$ ls
fruits.c
fms@git_practice:~/dev_fruits$ cat fruits.c
Apple
fms@git_practice:~/dev_fruits$

fms@git_practice:~/dev_fruits$ git status
On branch master
nothing to commit, working tree clean
fms@git_practice:~/dev_fruits$
```

Now, we will modify the same file and check the status

```
fms@git_practice:~/dev_fruits$ vi fruits.c
fms@git_practice:~/dev_fruits$ cat fruits.c
Apple
Pine Apple
fms@git_practice:~/dev_fruits$
fms@git_practice:~/dev_fruits$ git status
On branch master
Changes not staged for commit:
  (use "git add <file>..." to update what will be committed)
  (use "git checkout -- <file>..." to discard changes in working directory)
    modified:   fruits.c
no changes added to commit (use "git add" and/or "git commit -a")
fms@git_practice:~/dev_fruits$
```



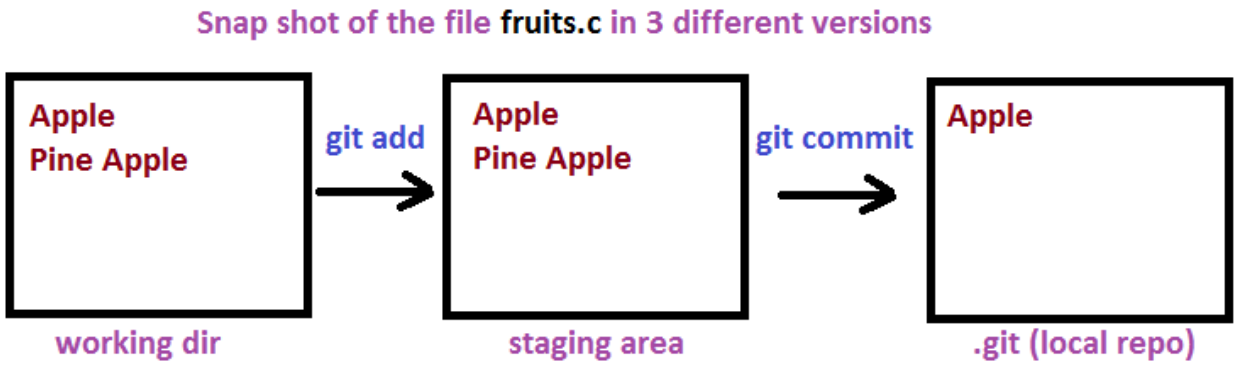
The file got modified. We will add the file to staging area.

fms@git_practice:~/dev_fruits$ **git add fruits.c**
fms@git_practice:~/dev_fruits$

fms@git_practice:~/dev_fruits$ **git status**
On branch master
Changes to be committed:
  (use "git reset HEAD <file>..." to unstage)

    modified: fruits.c

fms@git_practice:~/dev_fruits$



Without commiting the changes, modify the file again.

fms@git_practice:~/dev_fruits$ **vi fruits.c**
fms@git_practice:~/dev_fruits$

fms@git_practice:~/dev_fruits$ **cat fruits.c**
Apple
Pine Apple
Custard Apple

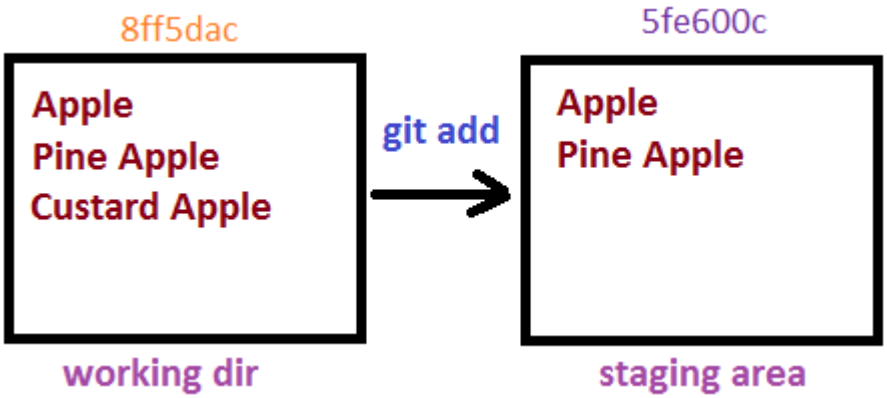
```
fms@git_practice:~/dev_fruits$
fms@git_practice:~/dev_fruits$ git status
On branch master
Changes to be committed:
  (use "git reset HEAD <file>..." to unstage)

    modified:   fruits.c

Changes not staged for commit:
  (use "git add <file>..." to update what will be committed)
  (use "git checkout -- <file>..." to discard changes in working directory)

    modified:   fruits.c
fms@git_practice:~/dev_fruits$
```

Snap shot of the file **fruits.c** in 3 different versions

It is very clear that the same file exists in three versions.
How to get the difference of this file versions?

```
fms@git_practice:~/dev_fruits$ git diff
diff --git a/fruits.c b/fruits.c
index 5fe600c..8ff5dac 100644
--- a/fruits.c
+++ b/fruits.c
@@ -1,2 +1,3 @@
 Apple
 Pine Apple
+Custard Apple
fms@git_practice:~/dev_fruits$
```

git diff gives the difference between the working directory (physical file in file system) with the file in staging area)



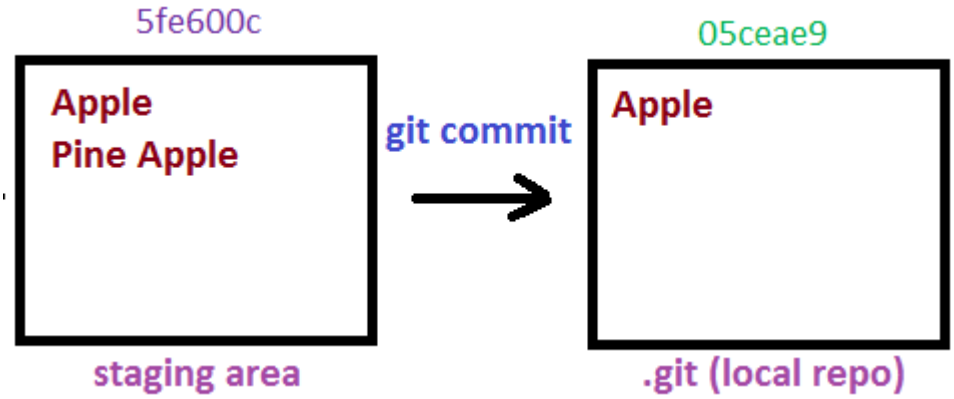
Here 5fe600c and 8ff5dac are the pointers to these two file revisions.

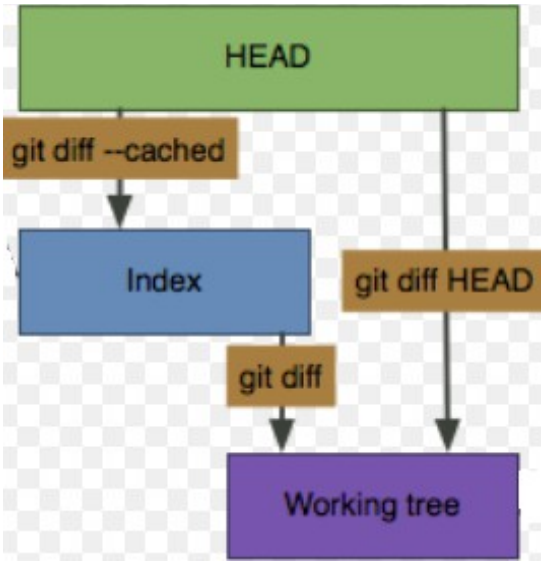
Use below command to get the difference between the staging area and the local .git repo

fms@git_practice:~/dev_fruits$ **git diff --cached**

```
diff --git a/fruits.c b/fruits.c
index 05ceae9..5fe600c 100644
--- a/fruits.c
+++ b/fruits.c
@@ -1 +1,2 @@
 Apple
+Pine Apple
```

fms@git_practice:~/dev_fruits$





Now we will push the changes we committed to github.

fms@git_practice:~/dev_fruits$ **git branch**
* master
fms@git_practice:~/dev_fruits$

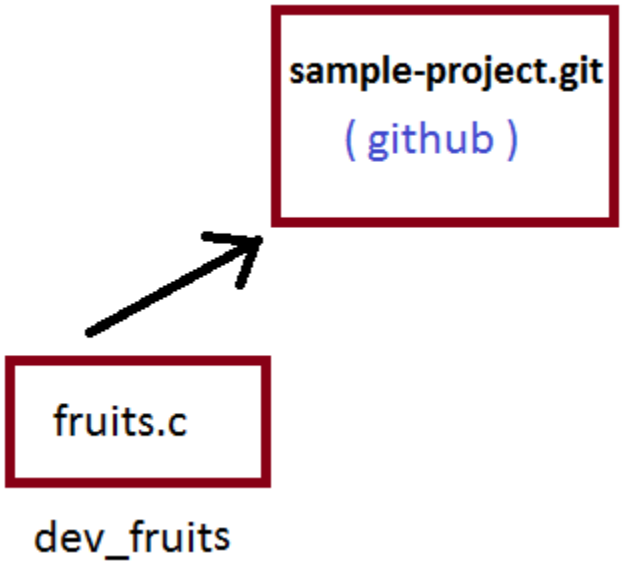
fms@git_practice:~/dev_fruits$ **git push**
fatal: No configured push destination.
Either specify the URL from the command-line or configure a remote repository using
    git remote add <name> <url>
and then push using the remote name
git push <name>
fms@git_practice:~/dev_fruits$

Since git doesn't know where to push the changes, we have to add the path as below.

fms@git_practice:~/dev_fruits**$ git remote add**
origin **https://github.com/srivalli-projects/sample-project.git**
fms@git_practice:~/dev_fruits$

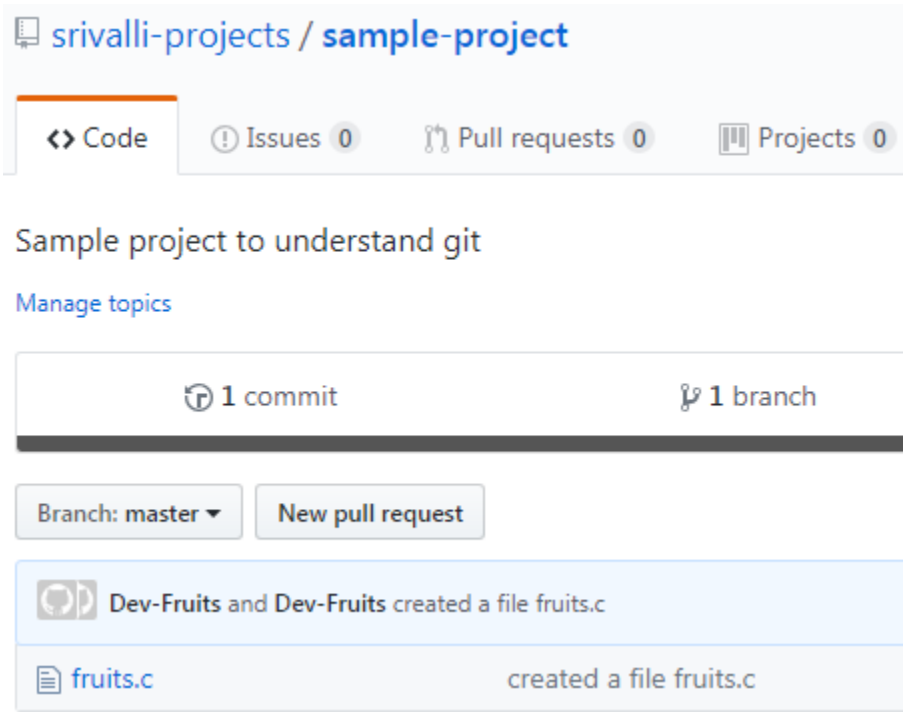
Now push the changes we did on local 'master' branch to the 'origin'.

We know that origin = **https://github.com/srivalli-projects/sample-project.git** and the commit we need to push is on branch 'master'



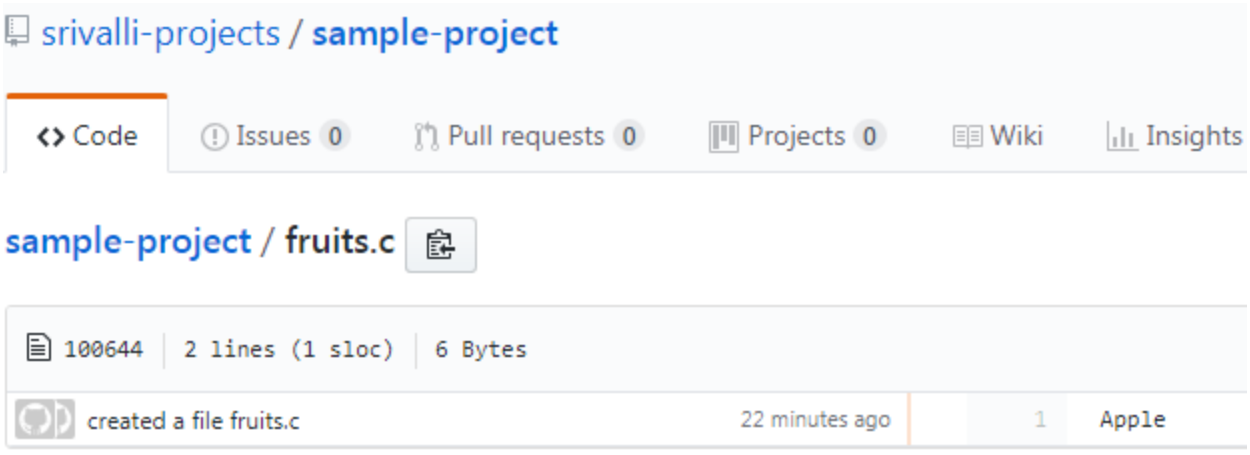
fms@git_practice:~/dev_fruits$ **git push -u origin master**
Username for 'https://github.com': srivalli-projects
Password for 'https://srivalli-projects@github.com':
Counting objects: 3, done.
Writing objects: 100% (3/3), 229 bytes | 229.00 KiB/s, done.
Total 3 (delta 0), reused 0 (delta 0)
remote:
remote: Create a pull request for 'master' on GitHub by visiting:
remote: https://github.com/srivalli-projects/sample-project/pull/new/master
remote:
To https://github.com/srivalli-projects/sample-project.git
 * [new branch] master -> master
Branch 'master' set up to track remote branch 'master' from 'origin'.
fms@git_practice:~/dev_fruits$

We have successfully pushed our changes to github. Let us check that.



But which version of the file is pushed to git hub?

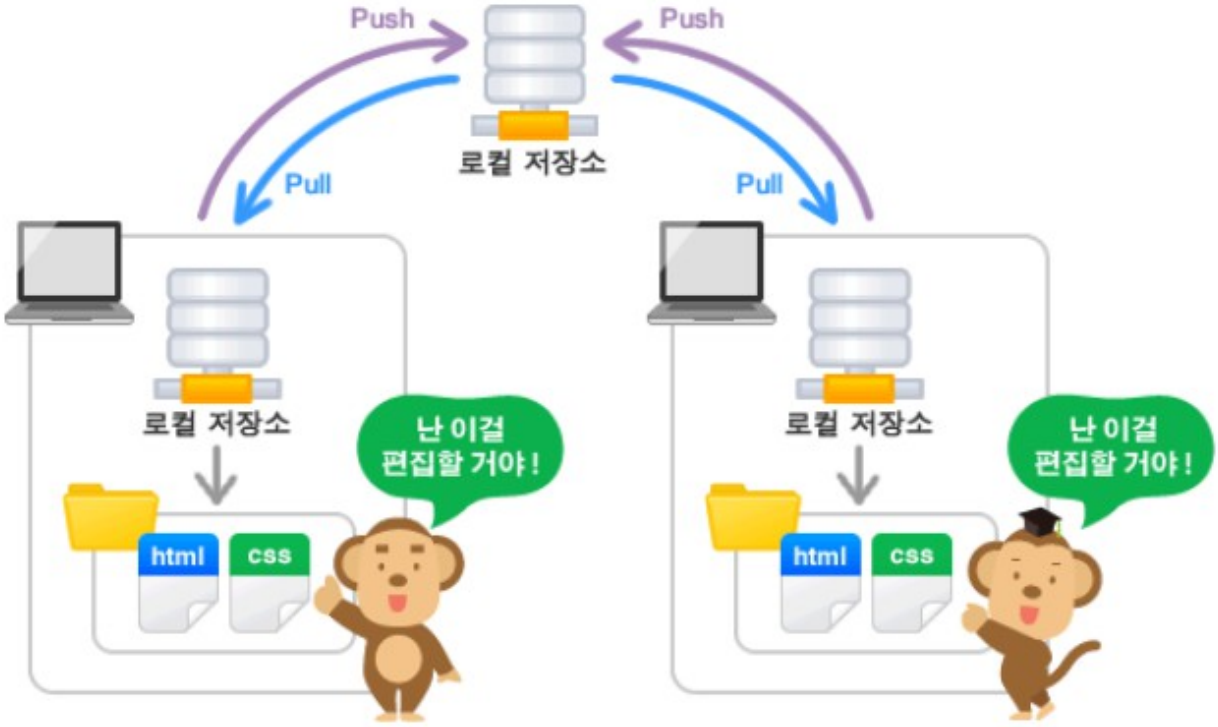
As we can see below, the file has only one line content.



Now it is clear that what ever we need to push to github should be first committed to .git

For us to make this commit, our code should be on a particular branch.

In this case, it is ‘master’ branch which is a default branch. That is why we have mentioned this branch name ‘master’ in git push command.



Git commands covered so far:

2. git add
3. git status
4. git config
5. git commit
6. git log
7. git diff
8. git remote
9. git branch
10. git push