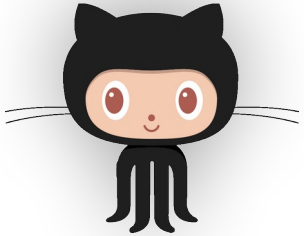


GIT AND GITHUB

Bringing the world together

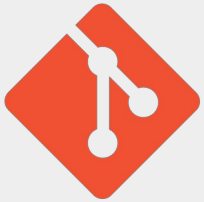
BY : Prashant Joshi.

VERSION CONTROL SYSTEM

- A version control system (VCS) is like a smart tool that helps people work together on projects, especially computer programs.
- It keeps track of changes made to files, kind of like saving different versions of a document.
- It's like having a time machine for your work!

Presented By : Prashant Joshi

WHAT IS GIT?

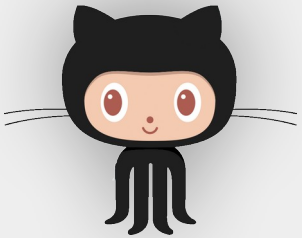


- GIT is a CLI (Command Line Interface) based tool which is used for taking snapshots of each and every version of your code.
- GIT is like an all rounder in a team , if you mess up GIT is there to cover up.
- GIT can go back in time , can save your work repeatedly and many more. It is by far most used tools by the developers.

DID YOU KNOW?

GIT

!=



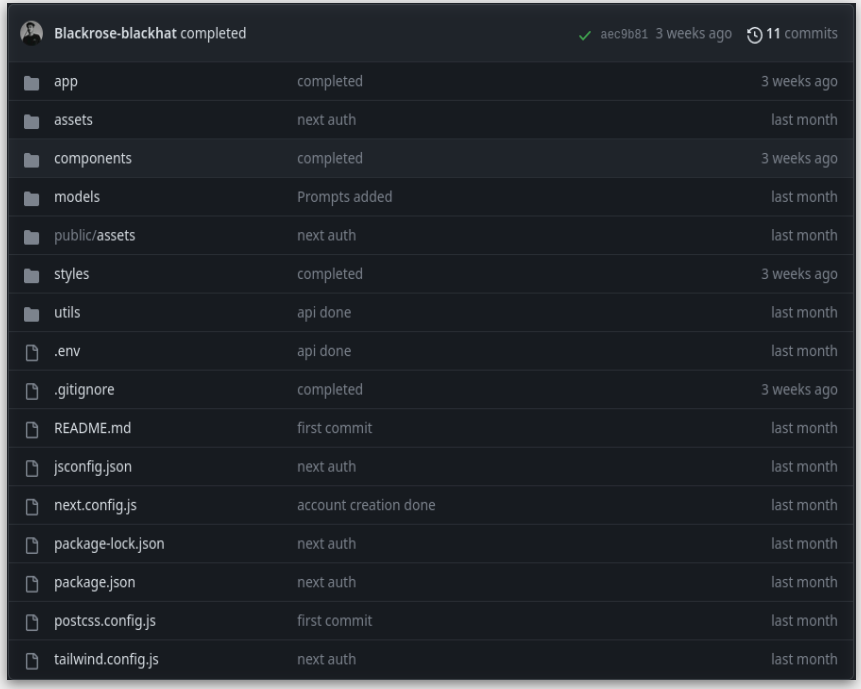
GITHUB

+

= a *better* workflow

REPOSITORIES

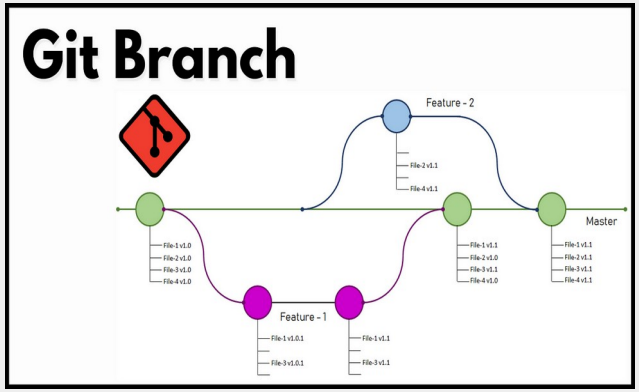
- Repo = Repository.
- A folder like Structure containing all your necessary files .
- Can contain folders,images,files, etc. , anything you want.



BRANCH

- The branch concept in GIT is like You can create a branch to work on new features or fix issues without disrupting the main code.

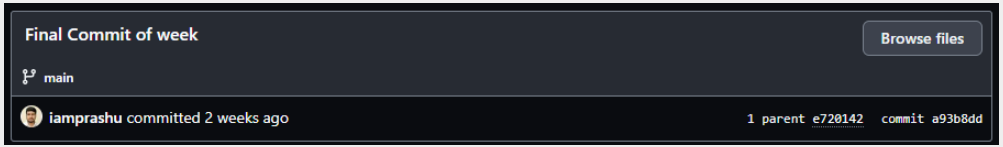
- If your changes in the branch are good, you can merge them into the main code. If not, you can make improvements without affecting the main codebase.




```
iampr@iamprashu MINGW64 /d/Programming and DSA/Python2024 (main)
$ git checkout New_Function
error: pathspec 'New_Function' did not match any file(s) known to git

iampr@iamprashu MINGW64 /d/Programming and DSA/Python2024 (main)
$ git checkout -b New_Function
Switched to a new branch 'New_Function'

iampr@iamprashu MINGW64 /d/Programming and DSA/Python2024 (New_Function)
$ git checkout main
Switched to branch 'main'
Your branch is up to date with 'origin/main'.

iampr@iamprashu MINGW64 /d/Programming and DSA/Python2024 (main)
$ git checkout New_Function
Switched to branch 'New_Function'
```

COMMIT

- A commit is a snapshot of the changes made to the files in the repository at a specific point in time.
- Commits store information about what was changed, who made the change, and when it was made.




```
iampr@iamprashu MINGW64 /d/Programming and DSA/Python2024 (main)
$ git commit -m "New Push"
[main cb53a5d] New Push
 3 files changed, 152 insertions(+), 30 deletions(-)
 create mode 100644 DutchFlagAlgo.py
 create mode 100644 RotateImage.ipynb
```

PUSH

- The **git push** command is used in Git to upload your local commits and changes to a remote repository.
- It's like uploading your work to the cloud so that your teammates or collaborators can access it.

```
iampr@iamprashu MINGW64 /d/Programming and DSA/Python2024 (main)
$ git push
Enumerating objects: 7, done.
Counting objects: 100% (7/7), done.
Delta compression using up to 12 threads
Compressing objects: 100% (5/5), done.
Writing objects: 100% (5/5), 1.57 KiB | 802.00 KiB/s, done.
Total 5 (delta 1), reused 0 (delta 0), pack-reused 0 (from 0)
remote: Resolving deltas: 100% (1/1), completed with 1 local object.
To github.com:iamprashu/Python2024.git
   68438bf..cb53a5d  main -> main
```

PULL

- The **git pull** command is used in Git to synchornize the changes made by others in your code.
- It’s like merging two codespaces in one.

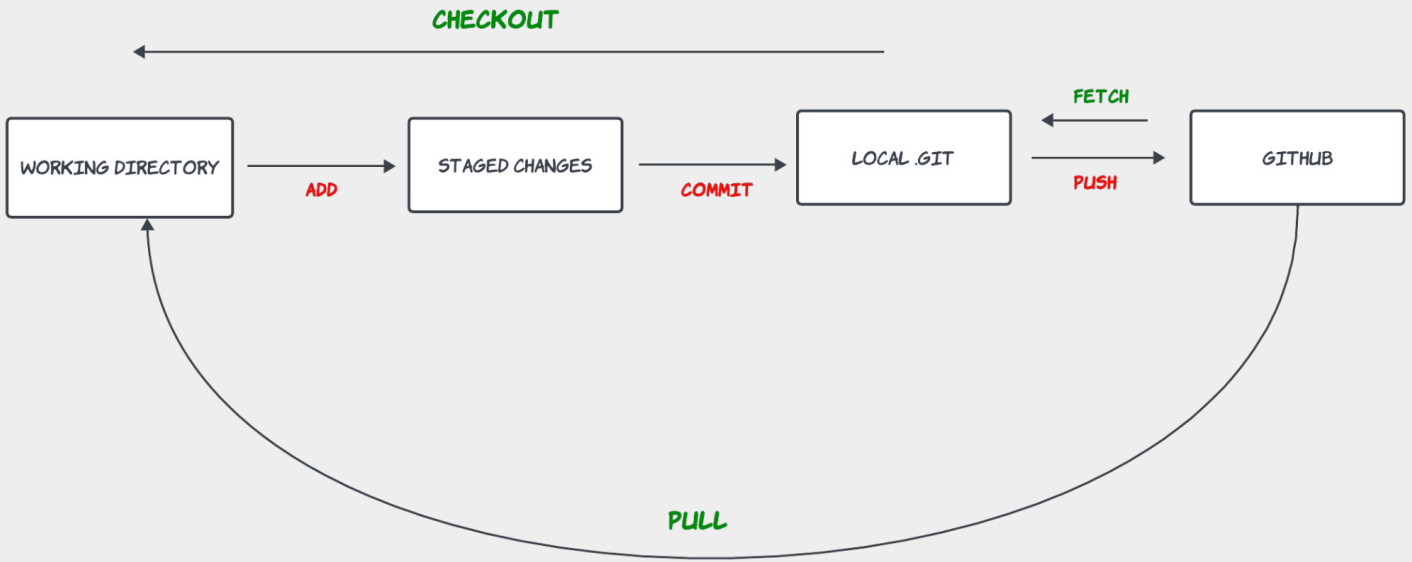
```
iampr@iamprashu MINGW64 /d/Programming and DSA/Python2024 (main)
$ git status
On branch main
Your branch is up to date with 'origin/main'.

nothing to commit, working tree clean

iampr@iamprashu MINGW64 /d/Programming and DSA/Python2024 (main)
$ git pull
remote: Enumerating objects: 5, done.
remote: Counting objects: 100% (5/5), done.
remote: Compressing objects: 100% (3/3), done.
remote: Total 3 (delta 2), reused 0 (delta 0), pack-reused 0
Unpacking objects: 100% (3/3), 988 bytes | 197.00 KiB/s, done.
From github.com:iamprashu/Python2024
   5e441dc..c6a4146  main       -> origin/main
Updating 5e441dc..c6a4146
Fast-forward
 CheckPrime.py | 3 ++-
 1 file changed, 2 insertions(+), 1 deletion(-)

iampr@iamprashu MINGW64 /d/Programming and DSA/Python2024 (main)
$
```

Python2024 / CheckPrime.py in main

Edit | Preview | Code 55% faster with GitHub Copilot

```python
number = input("Please Enter Number Here :> ")
number = int(number)

if(number==1 or number==0):
    print("Not Prime")
elif(number==2):
    print("Yess it is Prime !")

for i in range(2,number):
    if(number%i==0):
        print("Not a Prime !")
        break
    else:
        print("Yes It is Prime !!!!!!!!!")
        break
        # I have added this line to pull changes
```

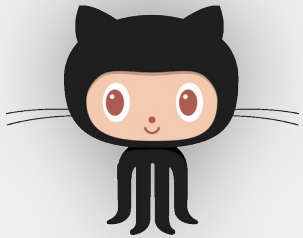
WORKFLOW OF GITHUB



WORKFLOW OF GITHUB

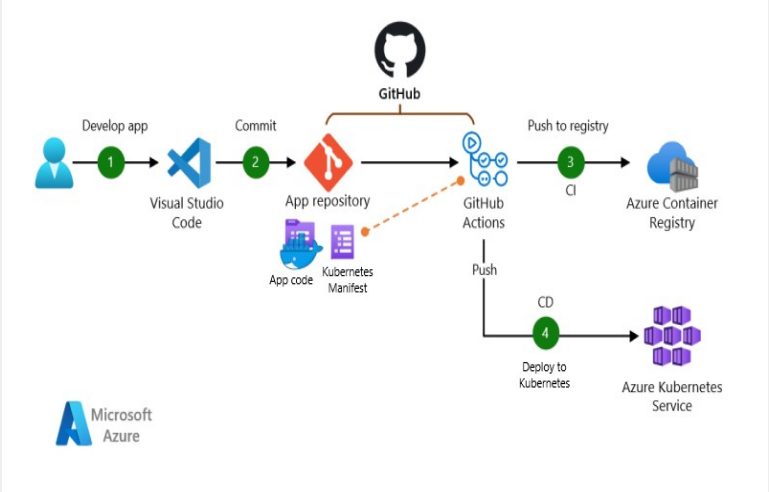
Presented By : Prashant Joshi

GITHUB

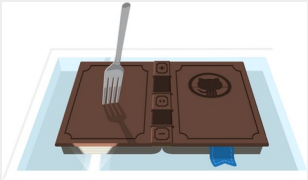


- Github is a web based platform that provides a space where we can collaborate on different projects.

- We can suggest changes to a repo and also we can take references for our own code.



FORK



- **Fork** is making a copy of a repository into your own GitHub account.
- You can then do any changes or experiments in that code , that won't be reflected in the original code .
- If you think that your code is better than the original code you can create a **PULL REQUEST (PR)** to the original code.

PULL REQUESTS (PR)

- A **pull request** is like asking your team to look at the changes you've made in your separate version of the project and consider adding those changes to the main project if they're good and ready.
- If they feel good about your work they can merge your code with theirs.
- If they don’t like it they can discard and close the **PULL REQUEST (PR)**

THANK YOU