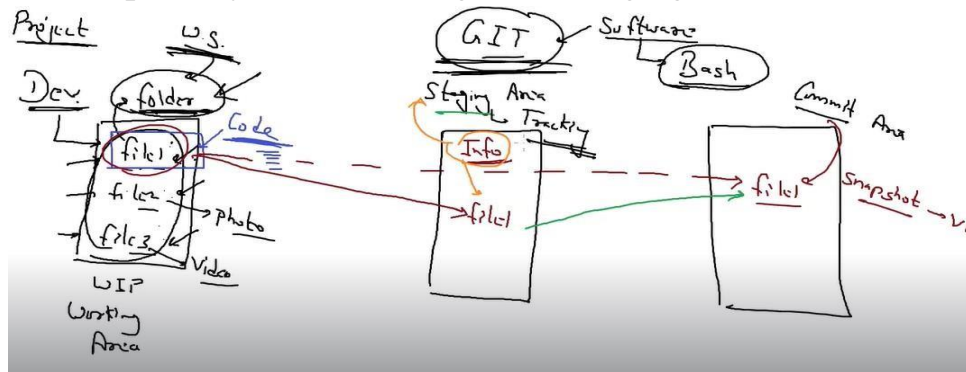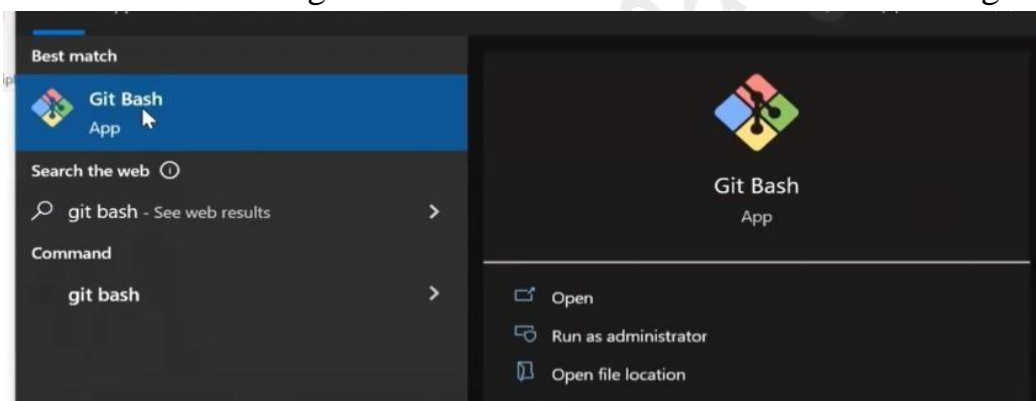# Git And GitHub Session No.03

Summary 26-02-2022

● A Git repository has-> working area + staging area + commit area

● To use this terminal go to the Windows search bar and search the git bash

● Click on the git bah and open the terminal git bash gives some Linux command

- **#git init** - To initialize a git repository

```
Vimal Daga@DESKTOP-3E1AGGT MINGW64 ~/gittraining2022/firstproj
$ git init
Initialized empty Git repository in C:/Users/Vimal Daga/gittraining2022
j/.git/
```

- **#git status** -> It shows us the status of our git repository, it tells which files currently git is tracking.

```
$ git status
On branch master

No commits yet

Untracked files:
  (use "git add <file>..." to include in what will be committed)
        file.mp4
        file.png
        file1
        hello.c
```

- **#vim file1.txt** -> "*Hello Git learners*" - Created a file with data

- **#git add file1.txt** -> It will add the file in the staging area

```
Vimal Daga@DESKTOP-3E1AGGT MINGW64 ~/gittra
$ git add hello.c
```

- **#git ls-files** -> It shows all the files in the staging area

```
Vimal Daga@DESKTOP-3E1AGGT MINGW64 ~/gittraining2022/firstproj (master)
$ git ls-files
hello.c
```

- **#ls** - it will show all the files in the working area

```
Vimal Daga@DESKTOP-3E1AGGT MINGW64 ~/gittraining2022/firstproj (mast
$ ls
file.mp4  file.png  file1  hello.c
```

- **#git show** -> It shows all files in the commit area.

```
Vimal Daga@DESKTOP-3E1AGGT MINGW64 ~/gittraining2022/firstproj (master)
$ git show
fatal: your current branch 'master' does not have any commits yet
```

- **#git commit file1.txt -m "committing the first time"** -> it will commit the file in "Commit Area" with the given message

```
Vimal Daga@DESKTOP-3E1AGGT MINGW64 ~/gittraining2022/firstproj (master)
$ git commit  hello.c  -m  "first time doing commit"
[master (root-commit) 3df088e] first time doing commit
 1 file changed, 0 insertions(+), 0 deletions(-)
 create mode 100644 hello.c
```

- Every time we do a commit, It gets a unique ID from git, that "id" is called as "**commit id**"

```
$ git show
commit 3df088eff5184c045d889cab7fdd8cfe90b03540 (HEAD -> master)
Author: Vimal Daga <vimal.linuworld@gmail.com>
Date:    Sat Feb 26 10:27:43 2022 +0530
```

- **#git log** - It will give details of our commit, like author name, date, time

```
$ git log
commit 3df088eff5184c045d889cab7fdd8cfe90b03540 (HEAD -> master)
Author: Vimal Daga <vimal.linuworld@gmail.com>
Date:    Sat Feb 26 10:27:43 2022 +0530

    first time doing commit
```

- **#git log --oneline**

```
AzureAD+SudhanshuPandey@DESKTOP-0NU1RKK MINGW64 /c/my_projects/gitsummary (master)
$ git log --oneline
30a5f91 (HEAD -> master) commiting first time
```

- **#vim file1** -> "*Hi hello*"

- **#git add.** - It will add all the files in the staging area

```
Vimal Daga@DESKTOP-3E1AGGT MINGW04 ~/gittraining2022/firstpr
$ git add file1
warning: LF will be replaced by CRLF in file1.
The file will have its original line endings in your working
```

- **#git restore --staged file1** -It will restore the "file1" from the staging area back to the working area

```
Vimal Daga@DESKTOP-3E1AGGT MINGW64 ~/gittraining2022/firstpro
$ git restore  --staged file1
```

- **# git show <first 5 letters of commit id>** -> It will show info about that

```
MINGW64:/c/my_projects/gitsummary

AzureAD+SudhanshuPandey@DESKTOP-0NU1RKK MINGW64 /c/my_projects/gitsummary (master)
$ git show 30a5f91
commit 30a5f91abadabdfe934b2205b8e72d0ee3b9ac02 (HEAD -> master)
Author: sudhanshunilever <sudhanshu.pandey@audviklabs.com>
Date:    Thu Aug 4 11:04:08 2022 +0530

    commiting first time

diff --git a/file1 b/file1
new file mode 100644
index 0000000..32f95c0
--- /dev/null
+++ b/file1
@@ -0,0 +1 @@
+hi
\ No newline at end of file
```

particular commit, and also will tell what difference it has from the previous version

- **#git show** -> By default it shows the details of the latest commit.

```
$ git show
commit a56d6bc298b2f389b951e6f29c96c28705c55fab (HEAD -> master)
Author: Vimal Daga <vimal.linuworld@gmail.com>
Date:   Sat Feb 26 10:43:52 2022 +0530

    new file added name file1

diff --git a/file1 b/file1
new file mode 100644
index 0000000..fe263d8
--- /dev/null
+++ b/file1
```

- **#git ls-tree –name-only HEAD** -> It will show all the files in the commit area till the "HEAD Commit"

```
AzureAD+SudhanshuPandey@DESKTOP-ONU1RKK MINGW64 /c/my_projects/gitsummary (master)
$ git ls-tree --name-only HEAD
.gitignore
file1
x.txt
```

- **HEAD** - Git has given a nickname to the latest commit as the HEAD
- **#git show HEAD** - It will show details about the latest commit.

```
$ git show HEAD
commit a56d6bc298b2f389b951e6f29c96c28705c55fab (HEAD ->
Author: Vimal Daga <vimal.linuworld@gmail.com>
Date:   Sat Feb 26 10:43:52 2022 +0530

    new file added name file1

diff --git a/file1 b/file1
new file mode 100644
index 0000000..fe263d8
--- /dev/null
+++ b/file1
@@ -0,0 +1,3 @@
```

- **#git show HEAD~2** - it will show details of the previous commit of the "HEAD" commit

```
$ git show HEAD~2
commit 3df088eff5184c045d889cab7fdd8cfe90b03540
Author: Vimal Daga <vimal.linuworld@gmail.com>
Date:   Sat Feb 26 10:27:43 2022 +0530

    first time doing commit

diff --git a/hello.c b/hello.c
new file mode 100644
index 0000000..e69de29
```

- **#git diff \<commid id 1\> \<commit id 2\>** -> It will show the code difference between both the commits

```
$ git diff f46b    3df0
diff --git a/hello.c b/hello.c
index 08fe272..e69de29 100644
--- a/hello.c
+++ b/hello.c
@@ -1 +0,0 @@
-first line
```