#### 1 GIT SETUP

https://git-scm.com/downloads

## 2)INITIATE GIT AND CONFIGURE

Git init – to initiate git in local repository

Git config –global user.name "Raghava"

Git config –global user.email "raghavadamodar@gmail.com

# 3. Creating branches and merging them

Now Create 3 files file1, file2, file3 in master branch and create new branch fea1 in it.

Now create new file name f1 in fea1

Now Merge them in master branch by "git merge" command

By giving git log ,you can see commits

```
PM NOWANGE Color Micropia Color Mic
```

## **GIT REVERT AND RESET**

GIT REVERT – creates a new commit that reverses the changes made by a specific commit

GIT RESET - we can move one branch to other branch by soft, mixed, hard resets.

```
commit dbd612b1048ee0c7df72ac54d019e72fae9
Author: raghava <raghavadamodar@gmail.com>
Date: Sat Aug 3 11:19:45 2024 +0530
      adding file4
commit fdd5f357b1fdaa68d51427cd5c72ebbac23ccdaf
Author: raghava <raghavadamodar@gmail.com>
Date: Sat Aug 3 10:46:35 2024 +0530
      adding file1
commit bd5d1a829c617edc7fe402dd236d7c26ee45849b (fea1)
Author: raghava <raghavadamodar@gmail.com>
Date: Sat Aug 3 10:29:55 2024 +0530
      adding f1
commit 13a48e0151438c043418d40068c2d7c17be95587
Author: raghava <raghavadamodar@gmail.com>
Date: Sat Aug 3 10:06:40 2024 +0530
 aghava@NarsingPcLegion MINGW64 ~/Desktop/git new assi (master)
git reset --mixed HEAD~1
Raghava@NarsingPcLegion MINGW64 ~/Desktop/git new assi (master)
$ git log
commit fdd5f357b1fdaa68d51427cd5c72ebbac23ccdaf (HEAD -> master)
Author: raghava <raghavadamodar@gmail.com>
Date: Sat Aug 3 10:46:35 2024 +0530
      adding file1
 commit bd5dla829c617edc7fe402dd236d7c26ee45849b (feal) withor: raghava <raghavadamodar@gmail.com> sate: Sat Aug 3 10:29:55 2024 +0530
      adding f1
commit 13a48e0151438c043418d40068c2d7c17be95587
Author: raghava <raghavadamodar@gmail.com>
Date: Sat Aug 3 10:06:40 2024 +0530
      adding all files
             @NarsingPcLegion MINGW64 ~/Desktop/git new assi (master)
  git status
n branch master
ntracked files:
(use "git add <file>..." to include in what will be committed)
nothing added to commit but untracked files present (use "git add" to track)
 aghava@NarsingPcLegion MINGW64 ~/Desktop/git new assi (master)
```

```
Raghava@NarsingPcLegion MINGW64 ~/Desktop/git new assi (master)

$ git status
On branch master
Changes to be committed:
    (use "git restore --staged <file>..." to unstage)
        new file: f1

Untracked files:
    (use "git add <file>..." to include in what will be committed)
        file4

Raghava@NarsingPcLegion MINGW64 ~/Desktop/git new assi (master)

$ git log
commit 13a48e0151438c043418d40068c2d7c17be95587 (HEAD -> master)
Author: raghava <raghavadamodar@gmail.com>
Date: Sat Aug 3 10:06:40 2024 +0530

adding all files
```

#### **GIT REVERT**

```
 MINGW64:/c/Users/Raghava/Desktop/git new assi
 aghava@NarsingPcLegion MINGW64 ~/Desktop/git new assi (master)
 git log
ommit ad21637164ba58d89707ebbbfdf3fd307a155662 (HEAD -> master)
Author: raghava <raghavadamodar@gmail.com>
       Sat Aug 3 13:18:39 2024 +0530
Date:
   addiding file4
ommit 13a48e0151438c043418d40068c2d7c17be95587
Author: raghava <raghavadamodar@gmail.com>
       Sat Aug 3 10:06:40 2024 +0530
   adding all files
aghava@NarsingPcLegion MINGW64 ~/Desktop/git new assi (master)
 git revert ad21637164ba58d89707ebbbfdf3fd307a155662
[master 4ab0933] reverting all the changes revert "addiding file4"
2 files changed, 0 insertions(+), 0 deletions(-)
delete mode 100644 f1
delete mode 100644 file4
 aghava@NarsingPcLegion MINGW64 ~/Desktop/git new assi (master)
 ٦s
ile1 file2 file3
aghava@NarsingPcLegion MINGW64 ~/Desktop/git new assi (master)
 git status
On branch master
nothing to commit, working tree clean
aghava@NarsingPcLegion MINGW64 ~/Desktop/git new assi (master)
 git log
 mmit 4ab09330423c90af2bf769ff9fb35a5cbed3ac48 (HEAD -> master)
Author: raghava <raghavadamodar@gmail.com>
       Sat Aug 3 13:20:42 2024 +0530
   reverting all the changes revert "addiding file4"
   This reverts commit ad21637164ba58d89707ebbbfdf3fd307a155662.
 ommit ad21637164ba58d89707ebbbfdf3fd307a155662
Author: raghava <raghavadamodar@gmail.com>
       Sat Aug 3 13:18:39 2024 +0530
ate:
   addiding file4
 ommit 13a48e0151438c043418d40068c2d7c17be95587
Author: raghava <raghavadamodar@gmail.com>
       Sat Aug 3 10:06:40 2024 +0530
ate:
   adding all files
aghava@NarsingPcLegion MINGW64 ~/Desktop/git new assi (master)
```

```
+./ c/ osers/ Nagriava/ Desktop/ git new ass
  aghava@NarsingPcLegion MINGW64 ~/Desktop/git new assi (master)
$ git log
commit 8130f107fbcf2e59
Merge: f0a8268 220222d
           .30f107fbcf2e59988f9e3d5d32fc3afe4cf463 (HEAD -> master)
Author: raghava <raghavadamodar@gmail.com>
Date: Sat Aug 3 14:53:30 2024 +0530
     merge Merge branch 'fea1'
   mit f0a8268d0cdd54a761f506e68b55b19d47342f6b
Author: raghava <raghavadamodar@gmail.com>
Date: Sat Aug 3 14:53:18 2024 +0530
     add t5
commit 220222dff9a6df40702a596a7a1d6da9d56a4b87 (fea1)
Author: raghava <raghavadamodar@gmail.com>
Date: Sat Aug 3 14:52:01 2024 +0530
     add t4
    mit 64b28ebc428c224d5d7cf905a230e3e889947006
Author: raghava <raghavadamodar@gmail.com>
Date: Sat Aug 3 14:51:27 2024 +0530
     add t3
  ommit a6fad705a9f30405b30727f957a9b795d9d60287
Author: raghava <raghavadamodar@gmail.com>
Date: Sat Aug 3 14:48:24 2024 +0530
     adding ten1
     nit 4ab09330423c90af2bf769ff9fb35a5cbed3ac48
Author: raghava <raghavadamodar@gmail.com>
Date: Sat Aug 3 13:20:42 2024 +0530
     reverting all the changes revert "addiding file4"
     This reverts commit ad21637164ba58d89707ebbbfdf3fd307a155662.
      it ad21637164ba58d89707ebbbfdf3fd307a155662
Author: raghava <raghavadamodar@gmail.com>
Date: Sat Aug 3 13:18:39 2024 +0530
     addiding file4
commit bd5d1a829c617edc7fe402dd236d7c26ee45849b
Author: raghava <raghavadamodar@gmail.com>
Date: Sat Aug 3 10:29:55 2024 +0530
     adding f1
      it 13a48e0151438c043418d40068c2d7c17be95587
Author: raghava <raghavadamodar@gmail.com>
Date: Sat Aug 3 10:06:40 2024 +0530
     adding all files
 aghava@NarsingPcLegion MINGW64 ~/Desktop/git new assi (master)
$ git rebase fea1
Successfully rebased and updated refs/heads/master.
 aghava@NarsingPcLegion MINGW64 ~/Desktop/git new assi (master)
$ git log
commit 09ab80a2fa7430b9ae73ef9731a1690d4952fcaa (HEAD -> master)
Author: raghava <raghavadamodar@gmail.com>
Date: Sat Aug 3 14:53:18 2024 +0530
    add t5
```

If we want to pick up only certain commits and add them to master branch then we use cherry-pick

```
rsingPcLegion MINGW64 ~/Desktop/git new assi (fea1)
   touch t7
 Raghava@NarsingPcLegion MINGW64 ~/Desktop/git new assi (fea1)
  git add t7
Raghava@NarsingPcLegion MINGW64 ~/Desktop/git new assi (feal)
$ git commit -m "add t7"
[feal 8bca724] add t7
1 file changed, 0 insertions(+), 0 deletions(-)
create mode 100644 t7
Raghava@NarsingPcLegion MINGW64 ~/Desktop/git new assi (feal)
$ git log --oneline
8bca724 (HEAD -> fea1) add t7
220222d add t4
64b28eb add t3
bd5d1a8 adding f1
13a48e0 adding all files
 Raghava@NarsingPcLegion MINGW64 ~/Desktop/git new assi (feal)
  git checkout master
Switched to branch 'master'
 Raghava@NarsingPcLegion MINGW64 ~/Desktop/git new assi (master)
[master b8cc6e3] add t7
Date: Sat Aug 3 19:03:10 2024 +0530
1 file changed, 0 insertions(+), 0 deletions(-) create mode 100644 t7
s git log
commit b8cc6e394e02532c8639368f492b2e667b0e905a (HEAD -> master)
Author: raghava <raghavadamodar@gmail.com>
Date: Sat Aug 3 19:03:10 2024 +0530
      add t7
commit 09ab80a2fa7430b9ae73ef9731a1690d4952fcaa
Author: raghava <raghavadamodar@gmail.com>
Date: Sat Aug 3 14:53:18 2024 +0530
      add t5
 ommit 73470298e94661a0906bdce3615e90b57d9cdc5c
Author: raghava <raghavadamodar@gmail.com>
Date: Sat Aug 3 14:48:24 2024 +0530
```

#### **GIT STASH**

This is the section of git where we can store the files and once files are stored in this section further command of git cannot touch the files until they are unstashed

This generally used for store unfinished or semifinished work and continue with some other function code

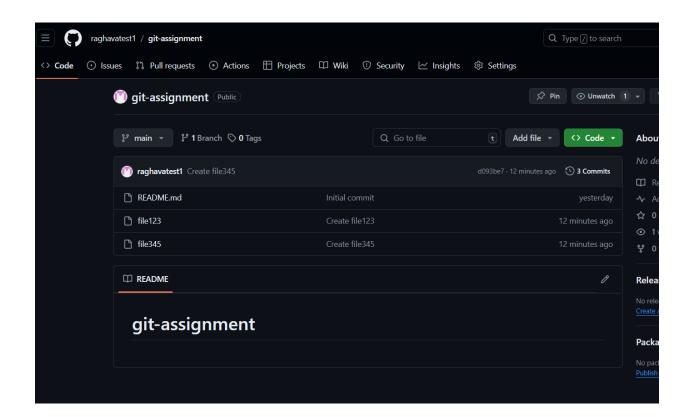
#### **GIT STASH**

```
Raghava@NarsingPcLegion MINGW64 ~/Desktop/git new assi (master)
$ touch rag

Raghava@NarsingPcLegion MINGW64 ~/Desktop/git new assi (master)
$ touch nan

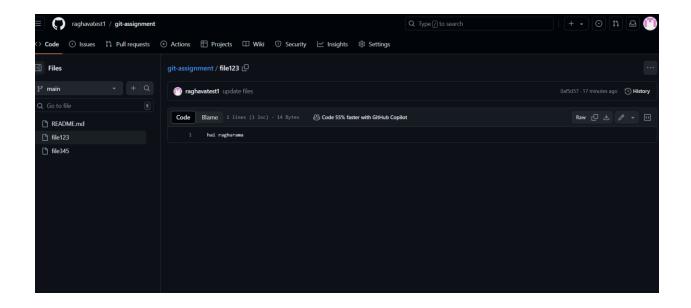
Raghava@NarsingPcLegion MINGW64 ~/Desktop/git new assi (master)
$ git stash
Saved working directory and index state WIP on master: b8cc6e3 add t7
```

```
$ git clone git@github.com:raghavatest1/git-assignment.git
Cloning into 'git-assignment'...
remote: Enumerating objects: 9, done.
remote: Counting objects: 100% (9/9), done.
remote: Compressing objects: 100% (5/5), done.
Receiving objects: 100% (9/9), done.
Resolving deltas: 100% (1/1), done.
remote: Total 9 (delta 1), reused 0 (delta 0), pack-reused 0
Raghava@NarsingPcLegion MINGW64 ~/Desktop/git new assi (master)
file1 file2 file3 git-assignment/ nan rag t3 t4 t5 t7 ten1
Raghava@NarsingPcLegion MINGW64 ~/Desktop/git new assi (master)
$ cd git-assignment
Raghava@NarsingPcLegion MINGW64 ~/Desktop/git new assi/git-assignment (main)
README.md file123 file345
Raghava@NarsingPcLegion MINGW64 ~/Desktop/git new assi/git-assignment (main)
$ ssh-keygen -t rsa
Generating public/private rsa key pair.
Enter file in which to save the key (/c/Users/Raghava/.ssh/id_rsa):
/c/Users/Raghava/.ssh/id_rsa already exists.
Overwrite (y/n)? y
Enter passphrase (empty for no passphrase):
Enter same passphrase again:
Your identification has been saved in /c/Users/Raghava/.ssh/id_rsa
Your public key has been saved in /c/Users/Raghava/.ssh/id_rsa.pub
The key fingerprint is:
SHA256:d/8cTK73u6rz5r0Zrw2nCjN9dT6kN7zlWmMPswPEZV4 Raghava@NarsingPcLegion
The key's randomart image is:
+---[RSA 3072]----+
                 o E
            + . =+%+
            +..o%X0
             oB@XOX
  ---[SHA256]----+
Raghava@NarsingPcLegion MINGW64 ~/Desktop/git new assi/git-assignment (main)
$ cat /c/Users/Raghava/.ssh/id_rsa.pub
ssh-rsa AAAAB3NzaC1yc2EAAAADAQABAAABgQDGjjJiUiW8tuJ5Xf9ZLHDBsTRGDq0QnGa9LkbVFtQ1
etr7UCfc+aOqWD7VjVCkQymXxYyITndqIbZThbnACTONNxH1Fu6/LAevbrEAOhUhex7+016PQvAgQ7p0
iSSFYtmc3IT6s0YH9J7whACZfNO2e5QeO2QB2OenyvwQc2Jg2gEnLbNn2Orn5an5muPgBSe+9TmFijnR
TpOobSTq/X6wEZ8zBrOUApTRCE/FBTJuKh0mwWkro98sGnwtTO/oCShTRODBeApDvWRwkaYgtpV6HMAH
NJfOtie9oEoH1lIrPQPY8eiwNyL4PJnnxc8nNa9Y4zVGrq25Lx++6m6Tw+gkAvYaGDu1DQbg/EawPc1I
eXUizCn0sAsmmWqK07d4d2U2yqdbcAY0cnwKpbGgeDBwicbRL24kDl1HqjN0xHL/jb0eiRMy8VNLA/1e
i9AY/AElhwaCXROK4hWxh31aMVwi8vQlnaN1lKmKyoOBHPTrzSagl2o7H3YUDuX/lNOjwsE= Raghava
@NarsingPcLegion
Raghava@NarsingPcLegion MINGW64 ~/Desktop/git new assi/git-assignment (main)
```



### Git push

```
aghava@NarsingPcLegion MINGW64 ~/Desktop/git new assi/git-assignment (main)
  git add .
Raghava@NarsingPcLegion MINGW64 ~/Desktop/git new assi/git-assignment (main)
$ git commit -m "update files"
[main Oaf5d57] update files
2 files changed, 2 insertions(+), 2 deletions(-)
Raghava@NarsingPcLegion MINGW64 ~/Desktop/git new assi/git-assignment (main)
$ git push
git@github.com: Permission denied (publickey).
fatal: Could not read from remote repository.
Please make sure you have the correct access rights
and the repository exists.
Raghava@NarsingPcLegion MINGW64 ~/Desktop/git new assi/git-assignment (main)
Raghava@NarsingPcLegion MINGW64 ~/Desktop/git new assi/git-assignment (main)
 git push
Enumerating objects: 7, done.
Counting objects: 100% (7/7), done.
Delta compression using up to 8 threads
Compressing objects: 100% (2/2), done.
Writing objects: 100% (4/4), 327 bytes | 327.00 KiB/s, done.
Total 4 (delta 0), reused 0 (delta 0), pack-reused 0 (from 0)
To github.com:raghavatest1/git-assignment.git
   d093be7..0af5d57 main -> main
 kaghava@NarsingPcLegion MINGW64 ~/Desktop/git new assi/git-assignment (main)
```



### Git pull

```
$ Īs
README.md file123 file345
 kaghava@NarsingPcLegion MINGW64 ~/Desktop/new1/git-assignment (main)
 git pull
 remote: Enumerating objects: 5, done.
remote: Counting objects: 100% (5/5), done.
remote: Compressing objects: 100% (2/2), done.
remote: Total 3 (delta 0), reused 0 (delta 0), pack-reused 0
Unpacking objects: 100% (3/3), 974 bytes | 108.00 KiB/s, done.
 rom github.com:raghavatest1/git-assignment
Oaf5d57..7cd0469 main
Jpdating Oaf5d57..7cd0469
                                          -> origin/main
ast-forward
file123 | 1 +
 1 file changed, 1 insertion(+)
 Raghava@NarsingPcLegion MINGW64 ~/Desktop/new1/git-assignment (main)
 1s
README.md file123 file345
 aghava@NarsingPcLegion MINGW64 ~/Desktop/new1/git-assignment (main)
  vi file123
 aghava@NarsingPcLegion MINGW64 ~/Desktop/new1/git-assignment (main)
```

#### Git fetch

```
Raghava@NarsingPcLegion MINGW64 ~/Desktop/new1/git-assignment (main)
$ git fetch
remote: Enumerating objects: 5, done.
remote: Counting objects: 100% (5/5), done.
remote: Compressing objects: 100% (2/2), done.
remote: Total 3 (delta 0), reused 0 (delta 0), pack-reused 0 Unpacking objects: 100% (3/3), 982 bytes | 109.00 KiB/s, done.
From github.com:raghavatest1/git-assignment
   7cd0469..b6cb32c main
                                  -> origin/main
Raghava@NarsingPcLegion MINGW64 ~/Desktop/new1/git-assignment (main)
$ 1s
README.md file123 file345
Raghava@NarsingPcLegion MINGW64 ~/Desktop/new1/git-assignment (main)
$ vi file123
Raghava@NarsingPcLegion MINGW64 ~/Desktop/new1/git-assignment (main)
$ vi file123
Raghava@NarsingPcLegion MINGW64 ~/Desktop/new1/git-assignment (main)
$ git fetch origin
Raghava@NarsingPcLegion MINGW64 ~/Desktop/new1/git-assignment (main)
$ vi file123
Raghava@NarsingPcLegion MINGW64 ~/Desktop/new1/git-assignment (main)
$ git merge main
Already up to date.
Raghava@NarsingPcLegion MINGW64 ~/Desktop/new1/git-assignment (main)
$ vi file123
Raghava@NarsingPcLegion MINGW64 ~/Desktop/new1/git-assignment (main)
$ git merge origin
Updating 7cd0469..b6cb32c
Fast-forward
 file123 | 2 ++
 1 file changed, 2 insertions(+)
Raghava@NarsingPcLegion MINGW64 ~/Desktop/new1/git-assignment (main)
$ vi file123
Raghava@NarsingPcLegion MINGW64 ~/Desktop/new1/git-assignment (main)
```

```
aghava@NarsingPcLegion MINGW64 ~/Desktop/new1 (master)
 git clone git@github.com:raghavatest1/git-assignment.git
Cloning into 'git-assignment'...
remote: Enumerating objects: 39, done.
emote: Counting objects: 100% (39/39), done.
remote: Compressing objects: 100% (26/26), done.
remote: Total 39 (delta 3), reused 4 (delta 0), pack-reused 0
Receiving objects: 100% (39/39), 12.00 KiB | 1.33 MiB/s, done.
Resolving deltas: 100% (3/3), done.
Raghava@NarsingPcLegion MINGW64 ~/Desktop/new1 (master)
$ 1s
git-assignment/
 aghava@NarsingPcLegion MINGW64 ~/Desktop/new1 (master)
 cd git-assignment
Raghava@NarsingPcLegion MINGW64 ~/Desktop/new1/git-assignment (main)
README.md file123 file345 new
Raghava@NarsingPcLegion MINGW64 ~/Desktop/new1/git-assignment (main)
 git branch
kaghava@NarsingPcLegion MINGW64 ~/Desktop/new1/git-assignment (main)
$ git checkout -b branch1
Switched to a new branch 'branch1'
 aghava@NarsingPcLegion MINGW64 ~/Desktop/new1/git-assignment (branch1)
 touch f1
laghava@NarsingPcLegion MINGW64 ~/Desktop/new1/git-assignment (branch1)
  git add f1
Raghava@NarsingPcLegion MINGW64 ~/Desktop/new1/git-assignment (branch1)
 git commit -m "add f1"
[branch1 f4df385] add f1
1 file changed, 0 insertions(+), 0 deletions(-)
create mode 100644 f1
Raghava@NarsingPcLegion MINGW64 ~/Desktop/new1/git-assignment (branch1)
$ git push origin branch1
Enumerating objects: 4, done.
Counting objects: 100% (4/4), done.
Delta compression using up to 8 threads
Compressing objects: 100% (2/2), done.
Writing objects: 100% (3/3), 253 bytes | 253.00 KiB/s, done.
Total 3 (delta 1), reused 0 (delta 0), pack-reused 0 (from 0)
remote: Resolving deltas: 100% (1/1), completed with 1 local object.
emote:
emote: Create a pull request for 'branch1' on GitHub by visiting:
              https://github.com/raghavatest1/git-assignment/pull/new/branch1
emote:
To github.com:raghavatest1/git-assignment.git
   [new branch]
                       branch1 -> branch1
```

