

Date: 25-08-2021

Batch: T13/38

Experiment No.3

Aim: To understand various commands in Git and use GitHub to create a remote copy of our local code.

Creating a local repository:

- i) Initialize the repository using the git init command.
- ii) The git status command is used to know the status of files in the current working directory.

There are 4 basic types of files in any repository which git status command tells us about:

- a) Untracked Files: These are newly created files in the repository folder which are not yet added to the repository.
- b) Added Files: All files which are not ignored by git using .gitignore file are a part of this group. These are called the staged files.
- c) Modified Files: These are files which are already added to git repository but have been modified since and are so are not in the latest version of the repository.
- d) .gitignore: This file usually tell repository to ignore files of a certain pattern. For e.g. JetBrains IDE often create .idea files, etc. which do not need to be part of our code repository.

- iii) The git add command is used to add files in current working directory to our repository.

The git add . command adds all the untracked files in current working directory to the repository.

- iv) Now, our added files are in the staging area and to make these changes a permanent checkpoint to where we can revert our repository in case we find bugs in latest version of our code, we use the git commit command.

As we see, after committing changes, our working tree is clean and now we have a checkpoint where we can revert to in-case we need to.

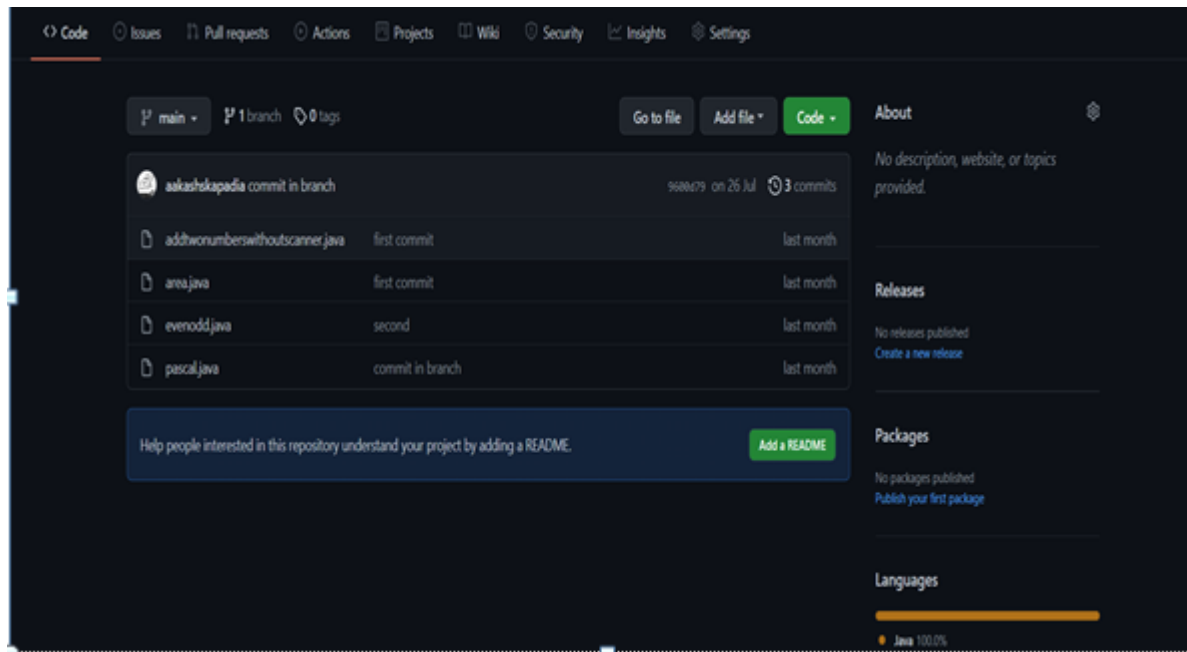
- v) Now, adding these changes to a remote hosted repository on GitHub, we create a new repository.

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vi) The git pull command is used to pull the changes from the remote repository.

vii) The git push command is used to push the changes from local repository to remote repository

Repository :



Commands & Their Execution: (copy pasted from cmd)

```
DELL@DESKTOP-5S274C1 MINGW64 ~/Desktop/Git Pracs
$ git -- version
unknown option: --
usage: git [--version] [--help] [-C <path>] [-c <name>=<value>]
      [--exec-path[=<path>]] [--html-path] [--man-path] [--info-path]
      [-p | --paginate] [-P | --no-pager] [--no-replace-objects] [--bare]
      [--git-dir=<path>] [--work-tree=<path>] [--namespace=<name>]
      [--super-prefix=<path>] [--config-env=<name>=<envvar>]
      <command> [<args>]
```

```
DELL@DESKTOP-5S274C1 MINGW64 ~/Desktop/Git Pracs
$ git --version
git version 2.32.0.windows.2
```

```
DELL@DESKTOP-5S274C1 MINGW64 ~/Desktop/Git Pracs
$ git config --global user.name"DELLh"
git: 'config' is not a git command. See 'git --help'.
```

The most similar command is
config

```
DELL@DESKTOP-5S274C1 MINGW64 ~/Desktop/Git Pracs
$ git config --global user.name"DELLh"
```

```
DELL@DESKTOP-5S274C1 MINGW64 ~/Desktop/Git Pracs
$ git config --global user.name
```

```
DELL@DESKTOP-5S274C1 MINGW64 ~/Desktop/Git Pracs
$ git config --global user.email"haniljain@gmail.com"
```

```
DELL@DESKTOP-5S274C1 MINGW64 ~/Desktop/Git Pracs
$ git config --global user.email
```

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```
DELL@DESKTOP-5S274C1 MINGW64 ~/Desktop/Git Pracs
$ git config --global user.name

DELL@DESKTOP-5S274C1 MINGW64 ~/Desktop/Git Pracs
$ git init
Initialized empty Git repository in C:/Users/DELL/Desktop/Git Pracs/.git/

DELL@DESKTOP-5S274C1 MINGW64 ~/Desktop/Git Pracs (master)
$ ls

DELL@DESKTOP-5S274C1 MINGW64 ~/Desktop/Git Pracs (master)
$ ls -lart
total 20
drwxr-xr-x 1 DELL 197609 0 Jul 26 13:23 ../
drwxr-xr-x 1 DELL 197609 0 Jul 26 13:33 ../
drwxr-xr-x 1 DELL 197609 0 Jul 26 13:33 .git/

DELL@DESKTOP-5S274C1 MINGW64 ~/Desktop/Git Pracs (master)
$ git status
On branch master

No commits yet

nothing to commit (create/copy files and use "git add" to track)

DELL@DESKTOP-5S274C1 MINGW64 ~/Desktop/Git Pracs (master)
$ git add area.java

DELL@DESKTOP-5S274C1 MINGW64 ~/Desktop/Git Pracs (master)
$ git add addtwonumberswithoutscanner.java

DELL@DESKTOP-5S274C1 MINGW64 ~/Desktop/Git Pracs (master)
$ git status
On branch master

No commits yet

Changes to be committed:
  (use "git rm --cached <file>..." to unstage)
    new file:   addtwonumberswithoutscanner.java
    new file:   area.java

DELL@DESKTOP-5S274C1 MINGW64 ~/Desktop/Git Pracs (master)
$ git status
On branch master

No commits yet

Changes to be committed:
  (use "git rm --cached <file>..." to unstage)
    new file:   addtwonumberswithoutscanner.java
    new file:   area.java

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

DELL@DESKTOP-5S274C1 MINGW64 ~/Desktop/Git Pracs (master)
$ git add area.java

DELL@DESKTOP-5S274C1 MINGW64 ~/Desktop/Git Pracs (master)
$ git status
On branch master

No commits yet

Changes to be committed:
  (use "git rm --cached <file>..." to unstage)
    new file:   addtwonumberswithoutscanner.java
    new file:   area.java

DELL@DESKTOP-5S274C1 MINGW64 ~/Desktop/Git Pracs (master)
```

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```
$ git status
On branch master
```

```
No commits yet
```

```
Changes to be committed:
  (use "git rm --cached <file>..." to unstage)
    new file:   addtwonumberswithoutscanner.java
    new file:   area.java
```

```
Changes not staged for commit:
  (use "git add <file>..." to update what will be committed)
  (use "git restore <file>..." to discard changes in working directory)
    modified:   addtwonumberswithoutscanner.java
```

```
DELL@DESKTOP-5S274C1 MINGW64 ~/Desktop/Git Pracs (master)
$ git add addtwonumberswithoutscanner.java
```

```
DELL@DESKTOP-5S274C1 MINGW64 ~/Desktop/Git Pracs (master)
$ git status
On branch master
```

```
No commits yet
```

```
Changes to be committed:
  (use "git rm --cached <file>..." to unstage)
    new file:   addtwonumberswithoutscanner.java
    new file:   area.java
```

```
DELL@DESKTOP-5S274C1 MINGW64 ~/Desktop/Git Pracs (master)
$ git commit -m "first commit"
Author identity unknown
```

```
*** Please tell me who you are.
```

```
Run
```

```
git config --global user.email "you@example.com"
git config --global user.name "Your Name"
```

```
to set your account's default identity.
Omit --global to set the identity only in this repository.
```

```
fatal: unable to auto-detect email address (got 'DELL@DESKTOP-5S274C1.(none)')
```

```
DELL@DESKTOP-5S274C1 MINGW64 ~/Desktop/Git Pracs (master)
$ ^C
```

```
DELL@DESKTOP-5S274C1 MINGW64 ~/Desktop/Git Pracs (master)
$ git config --global user.email "DELLhkapadia@hotmail.com"
```

```
DELL@DESKTOP-5S274C1 MINGW64 ~/Desktop/Git Pracs (master)
$ git config --global user.email
DELLhkapadia@hotmail.com
```

```
DELL@DESKTOP-5S274C1 MINGW64 ~/Desktop/Git Pracs (master)
$ git config --global user.name "DELLh"
```

```
DELL@DESKTOP-5S274C1 MINGW64 ~/Desktop/Git Pracs (master)
$ git config --global user.name
DELLh
```

```
DELL@DESKTOP-5S274C1 MINGW64 ~/Desktop/Git Pracs (master)
$ git status
On branch master
```

```
No commits yet
```

```
Changes to be committed:
  (use "git rm --cached <file>..." to unstage)
    new file:   addtwonumberswithoutscanner.java
    new file:   area.java
```

```
DELL@DESKTOP-5S274C1 MINGW64 ~/Desktop/Git Pracs (master)
```

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```
$ git commit -m "first commit"
[master (root-commit) 19b9ade] first commit
2 files changed, 94 insertions(+)
create mode 100644 addtwonumberswithoutscanner.java
create mode 100644 area.java
```

```
DELL@DESKTOP-5S274C1 MINGW64 ~/Desktop/Git Pracs (master)
$ git status
On branch master
Untracked files:
  (use "git add <file>..." to include in what will be committed)
        evenodd.java
```

nothing added to commit but untracked files present (use "git add" to track)

```
DELL@DESKTOP-5S274C1 MINGW64 ~/Desktop/Git Pracs (master)
$ git add .
```

```
DELL@DESKTOP-5S274C1 MINGW64 ~/Desktop/Git Pracs (master)
$ git status
On branch master
Changes to be committed:
  (use "git restore --staged <file>..." to unstage)
        new file:   evenodd.java
```

```
DELL@DESKTOP-5S274C1 MINGW64 ~/Desktop/Git Pracs (master)
$ git commit -m "second"
[master 47a3584] second
1 file changed, 19 insertions(+)
create mode 100644 evenodd.java
```

```
DELL@DESKTOP-5S274C1 MINGW64 ~/Desktop/Git Pracs (master)
$ ls
addtwonumberswithoutscanner.java  area.java  evenodd.java
```

```
DELL@DESKTOP-5S274C1 MINGW64 ~/Desktop/Git Pracs (master)
$ git log
commit 47a3584d42df970337f787f6e74fdce4661dee62 (HEAD -> master)
Author: DELLh <DELLhkapadia@hotmail.com>
Date:   Mon Jul 26 14:00:03 2021 +0530
```

second

```
commit 19b9ade29b10d49ab464df6a72e3d617e262a602
Author: DELLh <DELLhkapadia@hotmail.com>
Date:   Mon Jul 26 13:52:17 2021 +0530
```

first commit

```
DELL@DESKTOP-5S274C1 MINGW64 ~/Desktop/Git Pracs (master)
$ git checkout ^C
```

```
DELL@DESKTOP-5S274C1 MINGW64 ~/Desktop/Git Pracs (master)
$ git checkout 19b9ade29b10d49ab464df6a72e3d617e262a602
Note: switching to '19b9ade29b10d49ab464df6a72e3d617e262a602'.
```

You are in 'detached HEAD' state. You can look around, make experimental changes and commit them, and you can discard any commits you make in this state without impacting any branches by switching back to a branch.

If you want to create a new branch to retain commits you create, you may do so (now or later) by using -c with the switch command. Example:

```
git switch -c <new-branch-name>
```

Or undo this operation with:

```
git switch -
```

Turn off this advice by setting config variable advice.detachedHead to false

HEAD is now at 19b9ade first commit

```
DELL@DESKTOP-5S274C1 MINGW64 ~/Desktop/Git Pracs ((19b9ade...))
$ git switch -
Previous HEAD position was 19b9ade first commit
```

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Switched to branch 'master'

```
DELL@DESKTOP-5S274C1 MINGW64 ~/Desktop/Git Pracs (master)
$ git branch
* master
```

```
DELL@DESKTOP-5S274C1 MINGW64 ~/Desktop/Git Pracs (master)
$ git branch dev
```

```
DELL@DESKTOP-5S274C1 MINGW64 ~/Desktop/Git Pracs (master)
$ git checkout master
Already on 'master'
```

```
DELL@DESKTOP-5S274C1 MINGW64 ~/Desktop/Git Pracs (master)
$ git checkout dev
Switched to branch 'dev'
```

```
DELL@DESKTOP-5S274C1 MINGW64 ~/Desktop/Git Pracs (dev)
$ git checkout -b Ops
Switched to a new branch 'Ops'
```

```
DELL@DESKTOP-5S274C1 MINGW64 ~/Desktop/Git Pracs (Ops)
$ git switch -
Switched to branch 'dev'
```

```
DELL@DESKTOP-5S274C1 MINGW64 ~/Desktop/Git Pracs (dev)
$ git checkout Ops
Switched to branch 'Ops'
```

```
DELL@DESKTOP-5S274C1 MINGW64 ~/Desktop/Git Pracs (Ops)
$ git status
On branch Ops
nothing to commit, working tree clean
```

```
DELL@DESKTOP-5S274C1 MINGW64 ~/Desktop/Git Pracs (Ops)
$ git add area.java
```

```
DELL@DESKTOP-5S274C1 MINGW64 ~/Desktop/Git Pracs (Ops)
$ git status
On branch ops
Untracked files:
  (use "git add <file>..." to include in what will be committed)
    pascal.java
```

nothing added to commit but untracked files present (use "git add" to track)

```
DELL@DESKTOP-5S274C1 MINGW64 ~/Desktop/Git Pracs (Ops)
$ git add .
```

```
DELL@DESKTOP-5S274C1 MINGW64 ~/Desktop/Git Pracs (Ops)
$ git status
On branch Ops
Changes to be committed:
  (use "git restore --staged <file>..." to unstage)
    new file:   pascal.java
```

```
DELL@DESKTOP-5S274C1 MINGW64 ~/Desktop/Git Pracs (Ops)
$ git commit -m "commit in branch"
[Ops 9600d79] commit in branch
1 file changed, 33 insertions(+)
create mode 100644 pascal.java
```

```
DELL@DESKTOP-5S274C1 MINGW64 ~/Desktop/Git Pracs (Ops)
$ git log
commit 9600d79c2f807e19eb434121a2681981e839483e (HEAD -> Ops)
Author: DELLh <DELLhkapadia@hotmail.com>
Date:   Mon Jul 26 14:22:40 2021 +0530
```

commit in branch

```
commit 47a3584d42df970337f787f6e74fdce4661dee62 (master, dev)
Author: DELLh <DELLhkapadia@hotmail.com>
Date:   Mon Jul 26 14:00:03 2021 +0530
```

second

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commit 19b9ade29b10d49ab464df6a72e3d617e262a602

Author: DELLh <DELLhkapadia@hotmail.com>

Date: Mon Jul 26 13:52:17 2021 +0530

first commit

DELL@DESKTOP-5S274C1 MINGW64 ~/Desktop/Git Pracs (Ops)

\$ git checkout master

Switched to branch 'master'

DELL@DESKTOP-5S274C1 MINGW64 ~/Desktop/Git Pracs (master)

\$ git merge Ops

Updating 47a3584..9600d79

Fast-forward

pascal.java | 33 ++++++++++++++++++++++++++++++++++++++

1 file changed, 33 insertions(+)

create mode 100644 pascal.java

DELL@DESKTOP-5S274C1 MINGW64 ~/Desktop/Git Pracs (master)

\$ git status

On branch master

nothing to commit, working tree clean

DELL@DESKTOP-5S274C1 MINGW64 ~/Desktop/Git Pracs (master)

\$ ls

addtwonumberswithoutscanner.java area.java evenodd.java pascal.java

DELL@DESKTOP-5S274C1 MINGW64 ~/Desktop/Git Pracs (master)

\$ git remote -v

DELL@DESKTOP-5S274C1 MINGW64 ~/Desktop/Git Pracs (master)

\$ git remote add origin https://github.com/DELLhkapadia/Git-Pracs.git

DELL@DESKTOP-5S274C1 MINGW64 ~/Desktop/Git Pracs (master)

\$ git branch -M main

DELL@DESKTOP-5S274C1 MINGW64 ~/Desktop/Git Pracs (main)

\$ git push -u origin main

Enumerating objects: 10, done.

Counting objects: 100% (10/10), done.

Delta compression using up to 8 threads

Compressing objects: 100% (10/10), done.

Writing objects: 100% (10/10), 1.70 KiB | 580.00 KiB/s, done.

Total 10 (delta 3), reused 0 (delta 0), pack-reused 0

remote: Resolving deltas: 100% (3/3), done.

To https://github.com/DELLhkapadia/Git-Pracs.git

* [new branch] main -> main

Branch 'main' set up to track remote branch 'main' from 'origin'.

Conclusion:

Local and Global Repository implemented successfully.