DevOps Handouts

1. Working with GIT, checking status and committing in local machine.

```
->4mca@MCALAB-009 MINGW64 ~/Desktop/DevOps (main)
$ git init
Initialized empty Git repository in C:/Users/4mca/Desktop/DevOps/.git/
4mca@MCALAB-009 MINGW64 ~/Desktop/DevOps (master)
$ cat>>abc.txt
RIT
4mca@MCALAB-009 MINGW64 ~/Desktop/DevOps (master)
$ 1s
abc.txt
4mca@MCALAB-009 MINGW64 ~/Desktop/DevOps (master)
$ git status
On branch master
No commits yet
Untracked files:
 (use "git add <file>..." to include in what will be committed)
    abc.txt
nothing added to commit but untracked files present (use "git add" to track)
4mca@MCALAB-009 MINGW64 ~/Desktop/DevOps (master)
$ git add abc.txt
warning: in the working copy of 'abc.txt', LF will be replaced by CRLF the next time Git
touches it
4mca@MCALAB-009 MINGW64 ~/Desktop/DevOps (master)
$ git commit -m "created for a practice purpose"
[master (root-commit) 4d570c3] created for a practice purpose
1 file changed, 1 insertion(+)
create mode 100644 abc.txt
4mca@MCALAB-009 MINGW64 ~/Desktop/DevOps (master)
$ git status
On branch master
nothing to commit, working tree clean
2.Adding multiple files in local machine.
4mca@MCALAB-009 MINGW64 ~/Desktop/DevOps (main)
$ git init
```

```
Initialized empty Git repository in C:/Users/4mca/Desktop/DevOps/.git/
4mca@MCALAB-009 MINGW64 ~/Desktop/DevOps (master)
$ cat>>a.txt
HII
4mca@MCALAB-009 MINGW64 ~/Desktop/DevOps (master)
$ cat>>b.txt
Hello
4mca@MCALAB-009 MINGW64 ~/Desktop/DevOps (master)
$ 1s
a.txt b.txt
4mca@MCALAB-009 MINGW64 ~/Desktop/DevOps (master)
$ git status
On branch master
No commits yet
Untracked files:
 (use "git add <file>..." to include in what will be committed)
    a.txt
    b.txt
nothing added to commit but untracked files present (use "git add" to track)
4mca@MCALAB-009 MINGW64 ~/Desktop/DevOps (master)
$ git add -A
warning: in the working copy of 'a.txt', LF will be replaced by CRLF the next time Git
warning: in the working copy of 'b.txt', LF will be replaced by CRLF the next time Git
touches it
4mca@MCALAB-009 MINGW64 ~/Desktop/DevOps (master)
$ git commit -a -m"added"
[master (root-commit) edbdd8b] added
2 files changed, 2 insertions(+)
create mode 100644 a.txt
create mode 100644 b.txt
4mca@MCALAB-009 MINGW64 ~/Desktop/DevOps (master)
$ 1s
a.txt b.txt
3. Creating a new branch add texts in that and merge that files with master.
```

->4mca@MCALAB-009 MINGW64 ~/Desktop/DevOps (main)

```
$ git init
Initialized empty Git repository in C:/Users/4mca/Desktop/DevOps/.git/
4mca@MCALAB-009 MINGW64 ~/Desktop/DevOps (master)
$ cat>>a.txt
hii
4mca@MCALAB-009 MINGW64 ~/Desktop/DevOps (master)
$ cat>>b.txt
hello
4mca@MCALAB-009 MINGW64 ~/Desktop/DevOps (master)
$ git status
On branch master
No commits yet
Untracked files:
 (use "git add <file>..." to include in what will be committed)
    a.txt
    b.txt
nothing added to commit but untracked files present (use "git add" to track)
4mca@MCALAB-009 MINGW64 ~/Desktop/DevOps (master)
$ git add -A
warning: in the working copy of 'a.txt', LF will be replaced by CRLF the next time Git
warning: in the working copy of 'b.txt', LF will be replaced by CRLF the next time Git
touches it
4mca@MCALAB-009 MINGW64 ~/Desktop/DevOps (master)
$ git commit -a -m "added"
[master (root-commit) ee44bf0] added
2 files changed, 2 insertions(+)
create mode 100644 a.txt
create mode 100644 b.txt
4mca@MCALAB-009 MINGW64 ~/Desktop/DevOps (master)
$ git status
On branch master
nothing to commit, working tree clean
4mca@MCALAB-009 MINGW64 ~/Desktop/DevOps (master)
$ 1s
a.txt b.txt
4mca@MCALAB-009 MINGW64 ~/Desktop/DevOps (master)
$ git branch firstbranch
```

```
4mca@MCALAB-009 MINGW64 ~/Desktop/DevOps (master)
$ git checkout firstbranch
Switched to branch 'firstbranch'
4mca@MCALAB-009 MINGW64 ~/Desktop/DevOps (firstbranch)
$ 1s
a.txt b.txt
4mca@MCALAB-009 MINGW64 ~/Desktop/DevOps (firstbranch)
$ cat>>c.txt
namaste
4mca@MCALAB-009 MINGW64 ~/Desktop/DevOps (firstbranch)
$ 1s
a.txt b.txt c.txt
4mca@MCALAB-009 MINGW64 ~/Desktop/DevOps (firstbranch)
$ git add c.txt
warning: in the working copy of 'c.txt', LF will be replaced by CRLF the next time Git
touches it.
4mca@MCALAB-009 MINGW64 ~/Desktop/DevOps (firstbranch)
$ git commit -m "added c.txt"
[firstbranch 9a1b11a] added c.txt
1 file changed, 1 insertion(+)
create mode 100644 c.txt
4mca@MCALAB-009 MINGW64 ~/Desktop/DevOps (firstbranch)
$ 1s
a.txt b.txt c.txt
4mca@MCALAB-009 MINGW64 ~/Desktop/DevOps (firstbranch)
$ git checkout master
Switched to branch 'master'
4mca@MCALAB-009 MINGW64 ~/Desktop/DevOps (master)
$ 1s
a.txt b.txt
4mca@MCALAB-009 MINGW64 ~/Desktop/DevOps (master)
$ git checkout firstbranch
Switched to branch 'firstbranch'
4mca@MCALAB-009 MINGW64 ~/Desktop/DevOps (firstbranch)
a.txt b.txt c.txt
```

```
4mca@MCALAB-009 MINGW64 ~/Desktop/DevOps (firstbranch)
$ git checkout master
Switched to branch 'master'
4mca@MCALAB-009 MINGW64 ~/Desktop/DevOps (master)
$ git merge firstbranch
Updating ee44bf0..9a1b11a
Fast-forward
c.txt | 1 +
1 file changed, 1 insertion(+)
create mode 100644 c.txt
4mca@MCALAB-009 MINGW64 ~/Desktop/DevOps (master)
a.txt b.txt c.txt
4. Renaming a branch, pull the data from GitHub make changes and then push to
GitHub.
->
4mca@MCALAB-009 MINGW64 ~/Desktop/DevOps (main)
$ git init
Initialized empty Git repository in C:/Users/4mca/Desktop/DevOps/.git/
4mca@MCALAB-009 MINGW64 ~/Desktop/DevOps (master)
$ git branch -m main
Create new repository ->name->public->add a read readMe file
Modify in github if needed(adding content)
4mca@MCALAB-009 MINGW64 ~/Desktop/DevOps (main)
$ git remote add origin "https://github.com/VasanthaNagaraj/VN.git"
4mca@MCALAB-009 MINGW64 ~/Desktop/DevOps (main)
$ git pull origin main
remote: Enumerating objects: 7, done.
remote: Counting objects: 100% (7/7), done.
remote: Compressing objects: 100% (3/3), done.
remote: Total 7 (delta 0), reused 0 (delta 0), pack-reused 0
Unpacking objects: 100% (7/7), 1.74 KiB | 98.00 KiB/s, done.
From https://github.com/VasanthaNagaraj/VN
* branch
              main
                       -> FETCH HEAD
* [new branch]
                 main
                         -> origin/main
Make changes in local machine
4mca@MCALAB-009 MINGW64 ~/Desktop/DevOps (main)
$ git add.
4mca@MCALAB-009 MINGW64 ~/Desktop/DevOps (main)
$ git commit -m"changed"
```

[main 18877d7] changed 1 file changed, 1 insertion(+)

4mca@MCALAB-009 MINGW64 ~/Desktop/DevOps (main)

\$ git status
On branch main
nothing to commit, working tree clean

4mca@MCALAB-009 MINGW64 ~/Desktop/DevOps (main)

\$ git push origin main

Enumerating objects: 5, done.

Counting objects: 100% (5/5), done.

Writing objects: 100% (3/3), 251 bytes | 251.00 KiB/s, done.

Total 3 (delta 0), reused 0 (delta 0), pack-reused 0 To https://github.com/VasanthaNagaraj/VN.git

b5e5f9a..18877d7 main -> main

5. When you want to merge with master then checkout to master(MERGE CONFLICT).

->

91733@DESKTOP-VF5T9OD MINGW64 ~/Desktop/Vasantha (firstbranch)

\$ git init

Initialized empty Git repository in C:/Users/91733/Desktop/Vasantha/.git/

91733@DESKTOP-VF5T9OD MINGW64 ~/Desktop/Vasantha (master)

\$ cat>>a.txt

Hello

91733@DESKTOP-VF5T9OD MINGW64 ~/Desktop/Vasantha (master)

\$ cat>>b.txt

Hii

91733@DESKTOP-VF5T9OD MINGW64 ~/Desktop/Vasantha (master)

\$ git add.

warning: in the working copy of 'a.txt', LF will be replaced by CRLF the next time Git touches it

warning: in the working copy of 'b.txt', LF will be replaced by CRLF the next time Git touches it

91733@DESKTOP-VF5T9OD MINGW64 ~/Desktop/Vasantha (master)

\$ git commit -m "created two text files"
[master (root-commit) 7805c87] created two text files
2 files changed, 2 insertions(+)
create mode 100644 a.txt
create mode 100644 b.txt

91733@DESKTOP-VF5T9OD MINGW64 ~/Desktop/Vasantha (master)

\$ cat a.txt

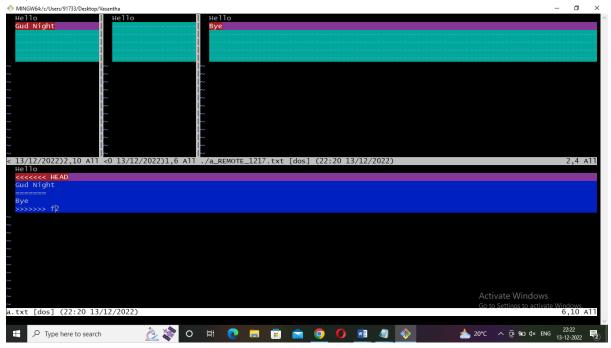
Hello

```
91733@DESKTOP-VF5T9OD MINGW64 ~/Desktop/Vasantha (master)
$ git branch f1
91733@DESKTOP-VF5T9OD MINGW64 ~/Desktop/Vasantha (master)
$ git branch f2
91733@DESKTOP-VF5T9OD MINGW64 ~/Desktop/Vasantha (master)
$ git checkout f1
Switched to branch 'f1'
91733@DESKTOP-VF5T9OD MINGW64 ~/Desktop/Vasantha (f1)
$ cat a.txt
Hello
91733@DESKTOP-VF5T9OD MINGW64 ~/Desktop/Vasantha (f1)
$ git add.
warning: in the working copy of 'a.txt', LF will be replaced by CRLF the next time Git
touches it
91733@DESKTOP-VF5T9OD MINGW64 ~/Desktop/Vasantha (f1)
$ git commit -m"changed a.txt in f1"
[f1 892ae42] changed a.txt in f1
1 file changed, 1 insertion(+)
91733@DESKTOP-VF5T9OD MINGW64 ~/Desktop/Vasantha (f1)
$ cat a.txt
Hello
Gud Night
91733@DESKTOP-VF5T9OD MINGW64 ~/Desktop/Vasantha (f1)
$ git checkout master
Switched to branch 'master'
91733@DESKTOP-VF5T9OD MINGW64 ~/Desktop/Vasantha (master)
$ cat a.txt
Hello
91733@DESKTOP-VF5T9OD MINGW64 ~/Desktop/Vasantha (master)
$ git merge f1
Updating 7805c87..892ae42
Fast-forward
a.txt | 1 +
1 file changed, 1 insertion(+)
91733@DESKTOP-VF5T9OD MINGW64 ~/Desktop/Vasantha (master)
$ cat a.txt
Hello
Gud Night
91733@DESKTOP-VF5T9OD MINGW64 ~/Desktop/Vasantha (master)
$ git checkout f2
```

```
Switched to branch 'f2'
91733@DESKTOP-VF5T9OD MINGW64 ~/Desktop/Vasantha (f2)
$ cat a.txt
Hello
91733@DESKTOP-VF5T9OD MINGW64 ~/Desktop/Vasantha (f2)
$ git add.
91733@DESKTOP-VF5T9OD MINGW64 ~/Desktop/Vasantha (f2)
$ git commit -m"changed a.txt in f2"
[f2 5557927] changed a.txt in f2
1 file changed, 1 insertion(+)
91733@DESKTOP-VF5T9OD MINGW64 ~/Desktop/Vasantha (f2)
$ cat a.txt
Hello
Bye
91733@DESKTOP-VF5T9OD MINGW64 ~/Desktop/Vasantha (f2)
$ git checkout master
Switched to branch 'master'
91733@DESKTOP-VF5T9OD MINGW64 ~/Desktop/Vasantha (master)
$ cat a.txt
Hello
Gud Night
91733@DESKTOP-VF5T9OD MINGW64 ~/Desktop/Vasantha (master)
$ git merge f2
Auto-merging a.txt
CONFLICT (content): Merge conflict in a.txt
Automatic merge failed; fix conflicts and then commit the result.
RESOLVING BY MERGE TOOL
91733@DESKTOP-VF5T9OD MINGW64 ~/Desktop/Vasantha (master|MERGING)
$ git mergetool
This message is displayed because 'merge.tool' is not configured.
See 'git mergetool --tool-help' or 'git help config' for more details.
'git mergetool' will now attempt to use one of the following tools:
opendiff kdiff3 tkdiff xxdiff meld tortoisemerge gvimdiff diffuse diffmerge ecmerge p4merge
araxis bc codecompare smerge emerge vimdiff nvimdiff
Merging:
a.txt
Normal merge conflict for 'a.txt':
 {local}: modified file
 {remote}: modified file
Hit return to start merge resolution tool (vimdiff):
```

4 files to edit

ENTER



Remove <<<head using i then shift + then :wq enter do this process three times

91733@DESKTOP-VF5T9OD MINGW64 ~/Desktop/Vasantha (master|MERGING)

\$ git status

On branch master

All conflicts fixed but you are still merging.

(use "git commit" to conclude merge)

Changes to be committed:

modified: a.txt

Untracked files:

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

a.txt.orig

91733@DESKTOP-VF5T9OD MINGW64 ~/Desktop/Vasantha (master|MERGING) \$ git add .

91733@DESKTOP-VF5T9OD MINGW64 ~/Desktop/Vasantha (master|MERGING)

\$ git commit -m "Resolved merge conflict" [master dc0b00b] Resolved merge conflict

91733@DESKTOP-VF5T9OD MINGW64 ~/Desktop/Vasantha (master)

\$ git merge f2

Already up to date.

91733@DESKTOP-VF5T9OD MINGW64 ~/Desktop/Vasantha (master)

\$ cat a.txt

Hello

Gud Night

Bye

```
6. How to revert back to the previous version.
```

->

91733@DESKTOP-VF5T9OD MINGW64 ~/Desktop/VN (master)

\$ git init

Reinitialized existing Git repository in C:/Users/91733/Desktop/VN/.git/

91733@DESKTOP-VF5T9OD MINGW64 ~/Desktop/VN (master)

\$ cat >>a.txt

Hii

91733@DESKTOP-VF5T9OD MINGW64 ~/Desktop/VN (master)

\$ git add.

warning: in the working copy of 'a.txt', LF will be replaced by CRLF the next time Git touches it

91733@DESKTOP-VF5T9OD MINGW64 ~/Desktop/VN (master)

\$ git commit -m"added"

[master (root-commit) 3b6acb0] added

1 file changed, 3 insertions(+)

create mode 100644 a.txt

91733@DESKTOP-VF5T9OD MINGW64 ~/Desktop/VN (master)

\$ cat a.txt

Hii

Vasantha

91733@DESKTOP-VF5T9OD MINGW64 ~/Desktop/VN (master)

\$ git log

commit 3b6acb087c1b6e234003ddfb8f7de59cc7ac8398 (HEAD -> master)

Author: Vasantha Nagaraj <vasanthajalaja4@gmail.com>

Date: Tue Dec 13 22:51:10 2022 +0530

added

91733@DESKTOP-VF5T9OD MINGW64 ~/Desktop/VN (master)

\$ git checkout 3b6acb08 a.txt

Updated 0 paths from 977fc1d

91733@DESKTOP-VF5T9OD MINGW64 ~/Desktop/VN (master)

\$ cat a.txt

Hii

Vasantha

7. Create a local branch (push the branch to GitHub) add on some file to it.

->

4mca@MCALAB-009 MINGW64 ~/Desktop/DevOps (main)

\$ git init

Initialized empty Git repository in C:/Users/4mca/Desktop/DevOps/.git/

```
4mca@MCALAB-009 MINGW64 ~/Desktop/DevOps (master)
$ git remote add origin "https://github.com/VasanthaNagaraj/VN.git"
4mca@MCALAB-009 MINGW64 ~/Desktop/DevOps (master)
$ git pull origin main
remote: Enumerating objects: 13, done.
remote: Counting objects: 100% (13/13), done.
remote: Compressing objects: 100% (5/5), done.
remote: Total 13 (delta 0), reused 3 (delta 0), pack-reused 0
Unpacking objects: 100% (13/13), 2.57 KiB | 119.00 KiB/s, done.
From https://github.com/VasanthaNagaraj/VN
* branch
              main
                      -> FETCH_HEAD
* [new branch]
                 main
                         -> origin/main
4mca@MCALAB-009 MINGW64 ~/Desktop/DevOps (master)
$ git branch feature
4mca@MCALAB-009 MINGW64 ~/Desktop/DevOps (master)
$ git checkout feature
Switched to branch 'feature'
4mca@MCALAB-009 MINGW64 ~/Desktop/DevOps (feature)
$ cat>>vn.txt
GOOD MORNING
4mca@MCALAB-009 MINGW64 ~/Desktop/DevOps (feature)
$ git add.
warning: in the working copy of 'vn.txt', LF will be replaced by CRLF the next time Git
touches it
4mca@MCALAB-009 MINGW64 ~/Desktop/DevOps (feature)
$ git commit -m"created vn.txt in feature branch"
[feature 10ff9cf] created vn.txt in feature branch
1 file changed, 1 insertion(+)
create mode 100644 vn.txt
4mca@MCALAB-009 MINGW64 ~/Desktop/DevOps (feature)
README.md vn.txt
4mca@MCALAB-009 MINGW64 ~/Desktop/DevOps (feature)
$ git checkout master
Switched to branch 'master'
4mca@MCALAB-009 MINGW64 ~/Desktop/DevOps (master)
README.md
```

4mca@MCALAB-009 MINGW64 ~/Desktop/DevOps (master)

\$ git checkout feature

Switched to branch 'feature'

4mca@MCALAB-009 MINGW64 ~/Desktop/DevOps (feature)

\$ git push origin feature

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), 287 bytes | 287.00 KiB/s, done.

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

remote:

remote: Create a pull request for 'feature' on GitHub by visiting: remote: https://github.com/VasanthaNagaraj/VN/pull/new/feature

remote:

To https://github.com/VasanthaNagaraj/VN.git

* [new branch] feature -> feature

In GitHub->compare and pull->merge pull request->confirm merge.

8. Cloning.

Cloning a repository gives you a copy of that repository and configures the original repository as a remote. Copying a repository just gives you a copy of that repository.

4mca@MCALAB-009 MINGW64 ~/Desktop/DevOps (main)

\$ git init

Initialized empty Git repository in C:/Users/4mca/Desktop/DevOps/.git/

4mca@MCALAB-009 MINGW64 ~/Desktop/DevOps (master)

\$ cat>>a.txt

hii

4mca@MCALAB-009 MINGW64 ~/Desktop/DevOps (master)

\$ cat>>b.txt

hello

4mca@MCALAB-009 MINGW64 ~/Desktop/DevOps (master)

\$ git add.

warning: in the working copy of 'a.txt', LF will be replaced by CRLF the next time Git touches it

warning: in the working copy of 'b.txt', LF will be replaced by CRLF the next time Git touches it

4mca@MCALAB-009 MINGW64 ~/Desktop/DevOps (master)

\$ git commit -a -m "added two text files"

[master (root-commit) 3cf09c8] added two text files

```
2 files changed, 2 insertions(+)
create mode 100644 a.txt
create mode 100644 b.txt
4mca@MCALAB-009 MINGW64 ~/Desktop/DevOps (master)
$ git status
On branch master
nothing to commit, working tree clean
4mca@MCALAB-009 MINGW64 ~/Desktop/DevOps (master)
$ 1s
a.txt b.txt
4mca@MCALAB-009 MINGW64 ~/Desktop/DevOps (master)
$ git branch vasantha
4mca@MCALAB-009 MINGW64 ~/Desktop/DevOps (master)
$ git clone "https://github.com/VasanthaNagaraj/MCA.git"
Cloning into 'MCA'...
remote: Enumerating objects: 10, done.
remote: Counting objects: 100% (10/10), done.
remote: Compressing objects: 100% (4/4), done.
remote: Total 10 (delta 0), reused 3 (delta 0), pack-reused 0
Receiving objects: 100% (10/10), done.
4mca@MCALAB-009 MINGW64 ~/Desktop/DevOps (master)
MCA/ a.txt b.txt
9.Fetch.
4mca@MCALAB-009 MINGW64 ~/Desktop/DevOps (main)
$ git init
Initialized empty Git repository in C:/Users/4mca/Desktop/DevOps/.git/
4mca@MCALAB-009 MINGW64 ~/Desktop/DevOps (master)
$ git fetch origin main
fatal: 'origin' does not appear to be a git repository
fatal: Could not read from remote repository.
Please make sure you have the correct access rights
and the repository exists.
4mca@MCALAB-009 MINGW64 ~/Desktop/DevOps (master)
$ git remote add origin "https://github.com/VasanthaNagaraj/VASANTHA.git"
4mca@MCALAB-009 MINGW64 ~/Desktop/DevOps (master)
$ git fetch origin main
remote: Enumerating objects: 13, done.
```

remote: Counting objects: 100% (13/13), done.

remote: Compressing objects: 100% (6/6), done.

remote: Total 13 (delta 0), reused 6 (delta 0), pack-reused 0 Unpacking objects: 100% (13/13), 2.26 KiB | 96.00 KiB/s, done.

From https://github.com/VasanthaNagaraj/VASANTHA

* branch main -> FETCH_HEAD * [new branch] main -> origin/main

4mca@MCALAB-009 MINGW64 ~/Desktop/DevOps (master)

\$ git merge origin/main Updating b4a2cc7..090c491 Fast-forward README.md | 1 +

1 file changed, 1 insertion(+)

4mca@MCALAB-009 MINGW64 ~/Desktop/DevOps (master)

\$ git log

commit 090c4916db182f6455b59b353290ce1fa5561d45 (HEAD -> master, origin/main)

Author: VasanthaNagaraj <112241640+VasanthaNagaraj@users.noreply.github.com>

Date: Wed Dec 14 15:56:37 2022 +0530

Update README.md

commit b4a2cc79b188569052efde996ddf2358a14bd1c0

Merge: 8a45f4a a47ba51

Author: VasanthaNagaraj <112241640+VasanthaNagaraj@users.noreply.github.com>

Date: Tue Dec 13 15:06:58 2022 +0530

Merge pull request #1 from VasanthaNagaraj/feature

created aa.txt in feature branch

commit a47ba51c520d53aedd1cccdee53edc7a4da5954e

Author: Bob

bob@gmail.com>

Date: Tue Dec 13 15:00:43 2022 +0530

created aa.txt in feature branch

commit 8a45f4a3f8bd039170be0f95dccf5bf8a539e4e7

Author: Bob

bob@gmail.com>

Date: Fri Dec 9 09:54:10 2022 +0530

changed in local

commit bea414e3f9bd2bf3544d614c39503fec5894672f

Author: VasanthaNagaraj <112241640+VasanthaNagaraj@users.noreply.github.com>

Date: Fri Dec 9 09:37:50 2022 +0530

CHANGES

commit 35f6aeba8931350ae16be8e75dfc14ecda633bde

Author: Vasantha Date: Fri Dec 9 (Nagaraj <112241640+VasanthaNagaraj@users.noreply.github.com> 09:37:29 2022 +0530	
Initial commit		