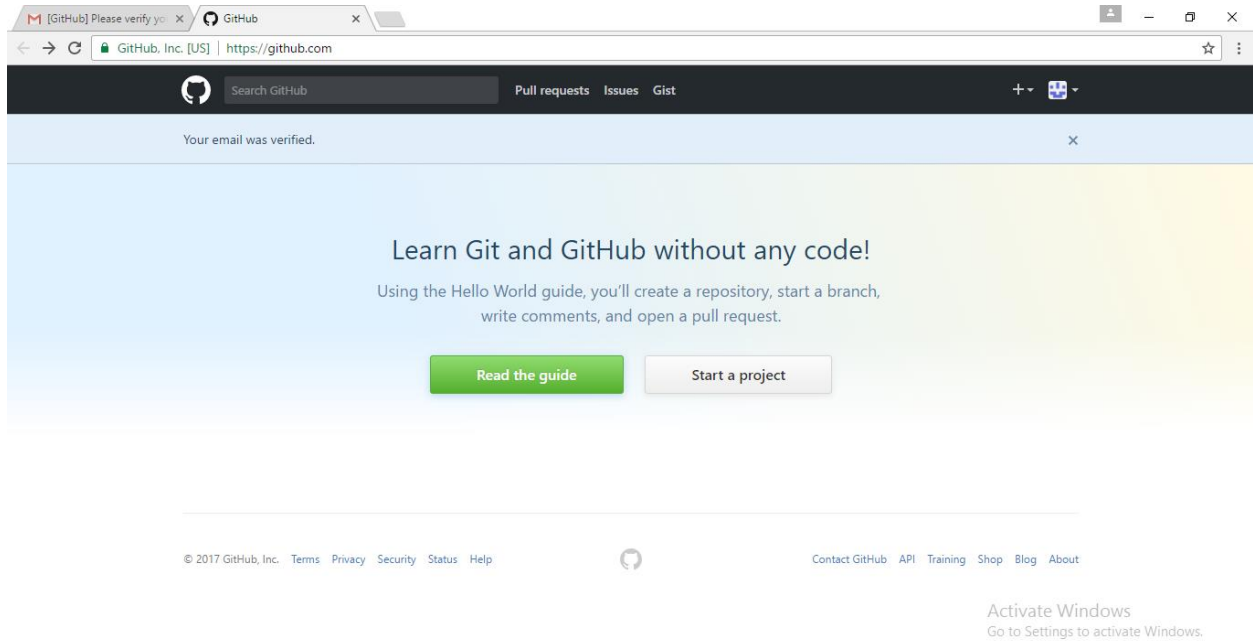




For Remote repository

- Create online Account <https://github.com/> and get your account verified by Email



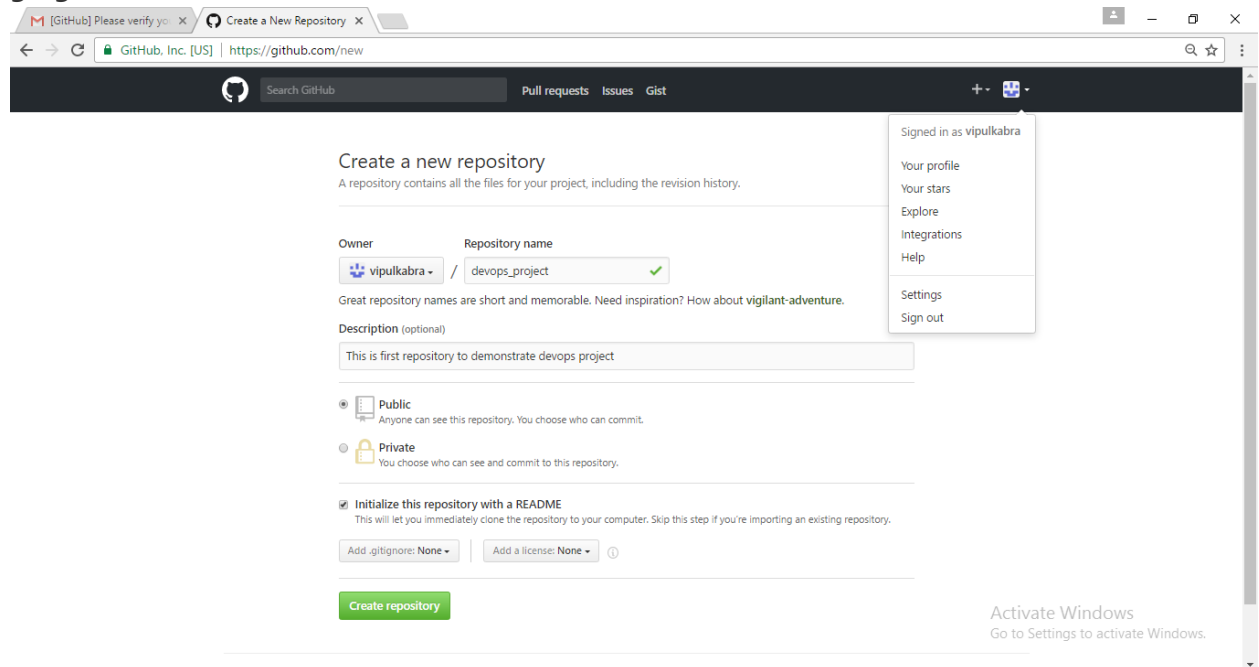
Click on **“Start a Project”** and create repository

Provide name for repository and small description

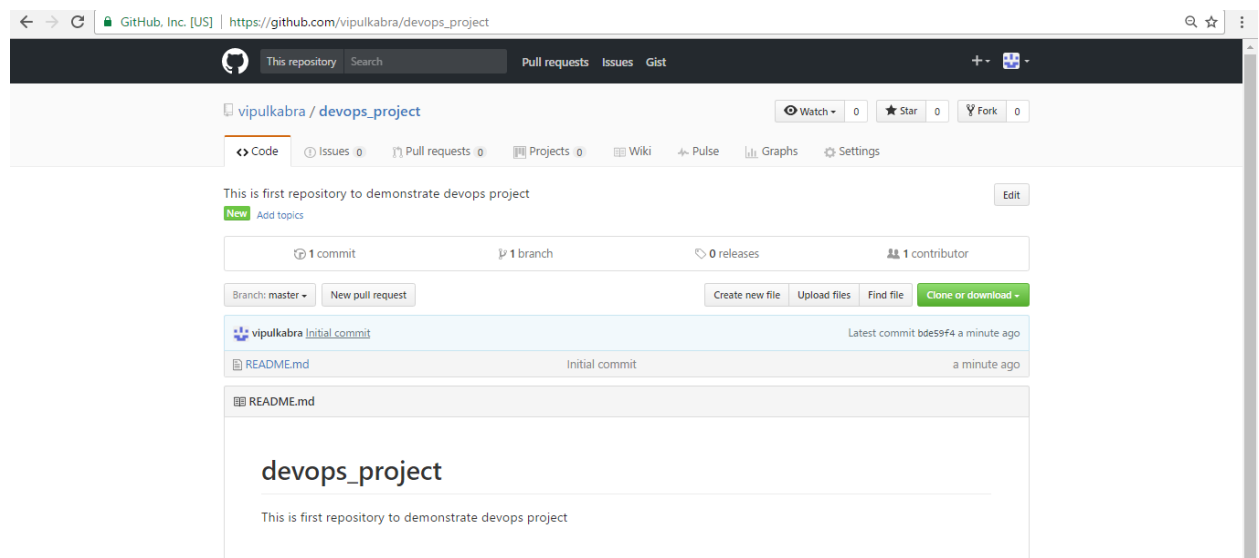
Choose Private or Public (Public will be open to all will be free, Private will be paid one)

Check box **Initialize this repository with a README** this will add readme file when repository is created

If you want to add any file that need to be not checked in and check out add them in **gitignore**



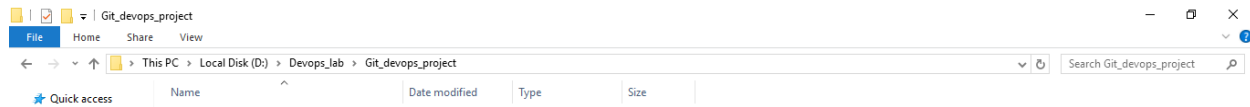
- Click on Create repository which will create repository for you with readme file



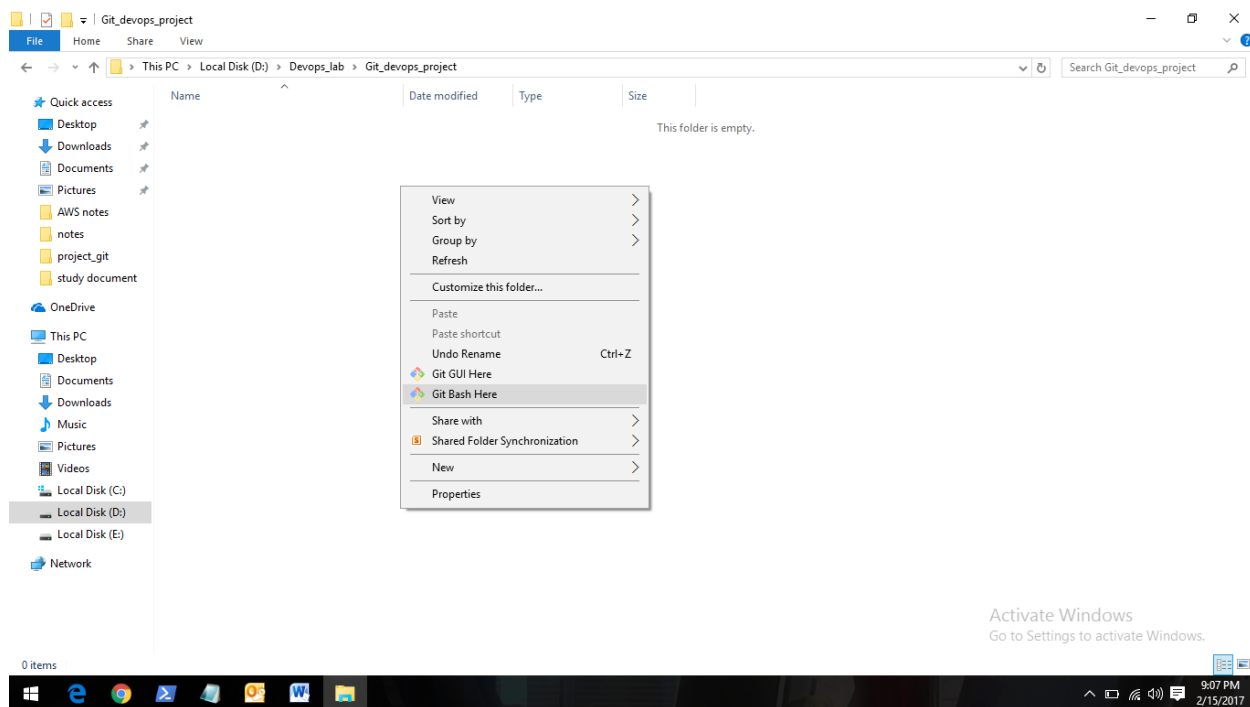
For Local repository

- Create a directory where you need to maintain Git Local repository

In this case **D:/Devops_lab/Git_devops_project**



Right Click and select Git Bash

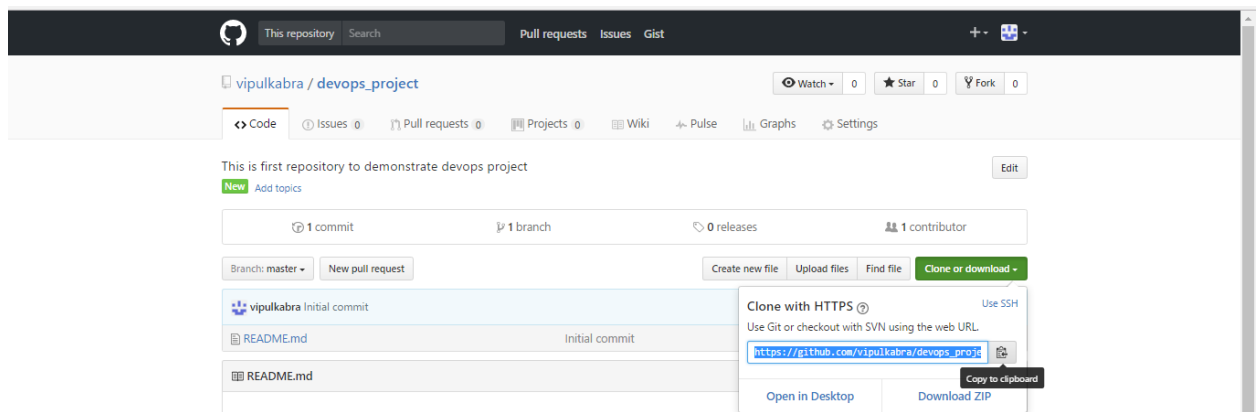


- Once you are in GIT bash to create repository you need to provide below command

Git Init



- To link local repository to remote repository
Go to Git Hub remote repository and get url link and copy the same as shown below



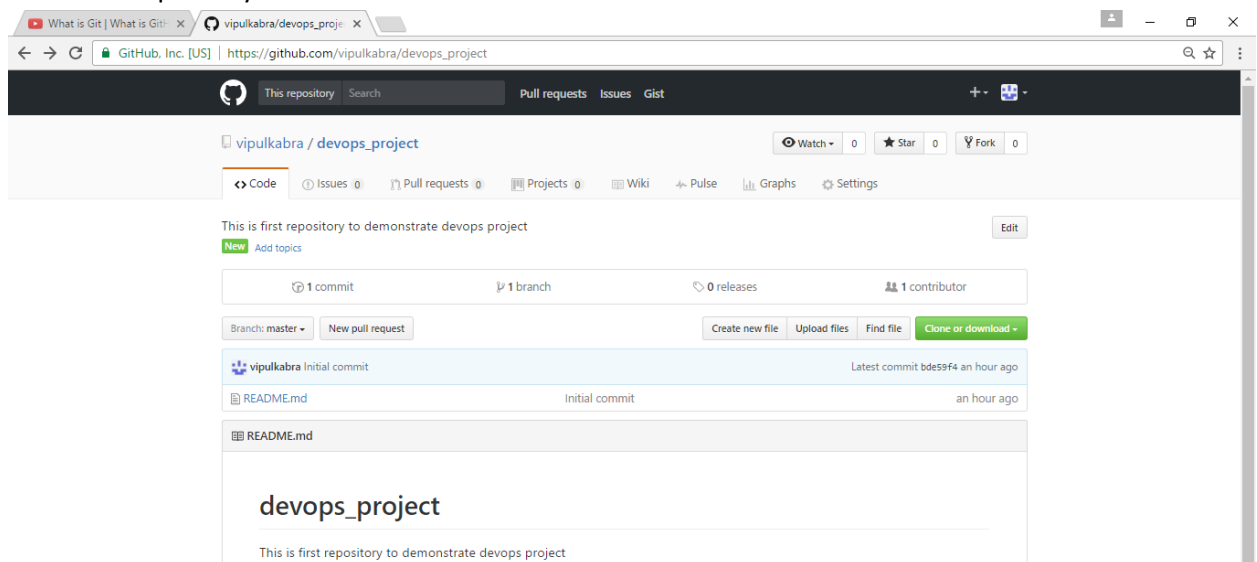
Give below command

Git remote add origin "https://github.com/vipulkabra/devops_project.git"

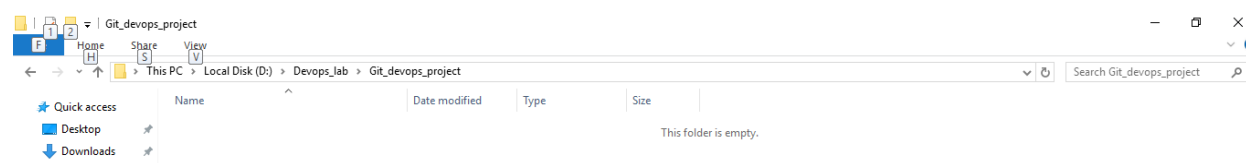


This will link your local and remote repository

- To get all files from remote repository added to your local repository we use pull command
In remote repository we have readme file as shown below



Whereas local repository is blank as shown below

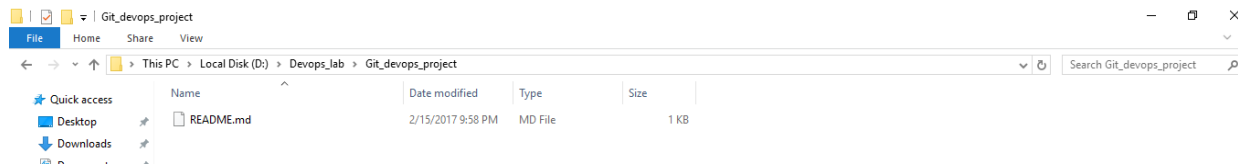


To add remote repository all file to local repository in this case Readme file we use below command

Git pull origin master

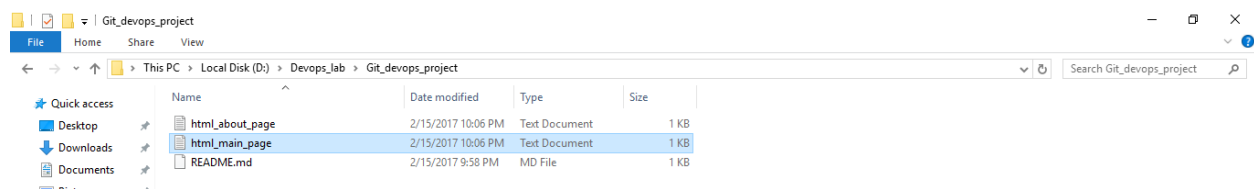
```
vipul@vipul MINGW64 /d/Devops_lab/Git_devops_project (master)
$ git pull origin master
remote: Counting objects: 3, done.
remote: Compressing objects: 100% (2/2), done.
remote: Total 3 (delta 0), reused 0 (delta 0), pack-reused 0
Unpacking objects: 100% (3/3), done.
From https://github.com/vipulkabra/devops_project
* branch      master       -> FETCH_HEAD
* [new branch] master       -> origin/master
vipul@vipul MINGW64 /d/Devops_lab/Git_devops_project (master)
$
```

Now in local repository you will find readme file has been added as shown below



 **Git operation on changes (add, status, commit)**

Create some file in local repository (html_main_page, html_about_page) add some text to it



To check the Git status use below command this will display what new file been added highlighted in red.

Git status

```
MINGW64/d/Devops_lab/Git_devops_project
vipul@vipul MINGW64 /d/Devops_lab/Git_devops_project (master)
$ git status
On branch master
Untracked files:
  (use "git add <file>..." to include in what will be committed)

    html_about_page.txt
    html_main_page.txt

nothing added to commit but untracked files present (use "git add" to track)
vipul@vipul MINGW64 /d/Devops_lab/Git_devops_project (master)
$
```

Now say out of this 2 files you need one to be added to staging area we use below command

Git add html_main_page.txt

Also we will check the status since out of 2 we have added 1 file only so will use below command to check status as we did earlier

Git Status

```

vipul@vipul MINGW64 /d/Devops_lab/Git_devops_project (master)
$ git status
On branch master
Untracked files:
  (use "git add <file>..." to include in what will be committed)
        html_about_page.txt
        html_main_page.txt

nothing added to commit but untracked files present (use "git add" to track)
vipul@vipul MINGW64 /d/Devops_lab/Git_devops_project (master)
$ git add html_about_page.txt
vipul@vipul MINGW64 /d/Devops_lab/Git_devops_project (master)
$ git status
On branch master
Changes to be committed:
  (use "git reset HEAD <file>..." to unstage)
        new file:   html_about_page.txt

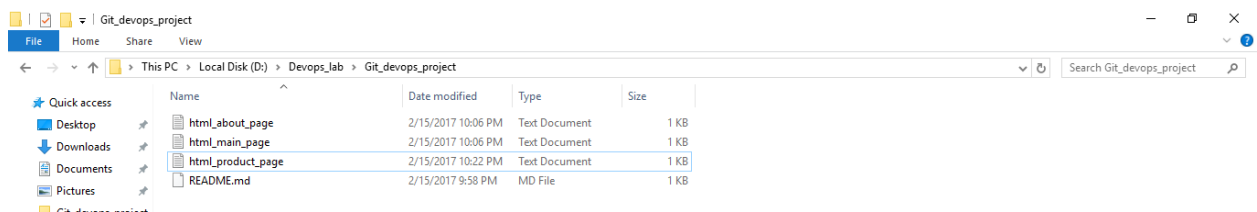
Untracked files:
  (use "git add <file>..." to include in what will be committed)
        html_main_page.txt

vipul@vipul MINGW64 /d/Devops_lab/Git_devops_project (master)

```

We have seen before adding 2 files where in red when we gave Git status command. After adding 1 file and checking status, it has shown added file in green and one which we have not added is still in red. This means the one showing in green is ready to commit.

Now let's see how to add multiple files. So far we have one file which needs to be added. We will create one more text file so we have 2 files and will add both in one go. We have added `html_product_page` here.



Let us give Git status to see if we have multiple files ready to add in staging area.

Git status

```

MINGW64/d/Devops_lab/Git_devops_project
vipul@vipul MINGW64 /d/Devops_lab/Git_devops_project (master)
$ git status
On branch master
Changes to be committed:
  (use "git reset HEAD <file>..." to unstage)
        new file:   html_about_page.txt

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

vipul@vipul MINGW64 /d/Devops_lab/Git_devops_project (master)
$

```

We can see here new product file added and along with earlier main page in red, so these 2 files are ready to move in staging area. Let's add now multiple files in one command to staging area.

Use below command to do so:

Git add -A (Use A in capital here)

To check if file added, we will again use Git status

```

MINGW64/d/Devops_lab/Git_devops_project
vipul@vipul MINGW64 /d/Devops_lab/Git_devops_project (master)
$ git status
On branch master
Changes to be committed:
  (use "git reset HEAD <file>..." to unstage)

    new File:   html_about_page.txt

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

    html_main_page.txt
    html_product_page.txt

vipul@vipul MINGW64 /d/Devops_lab/Git_devops_project (master)
$ git add -A

vipul@vipul MINGW64 /d/Devops_lab/Git_devops_project (master)
$ git status
On branch master
Changes to be committed:
  (use "git reset HEAD <file>..." to unstage)

    new File:   html_about_page.txt
    new File:   html_main_page.txt
    new File:   html_product_page.txt

vipul@vipul MINGW64 /d/Devops_lab/Git_devops_project (master)
$ |

```

We could see those 2 file have been added in staging area along with one we gave at initial so have all the 3 added here

Let's see how to commit and move all 3 file from staging area to local repository

Use below commit command to do so

Git commit -a -m "first commit for main,about,product"

```

vipul@vipul MINGW64 /d/Devops_lab/Git_devops_project (master)
$ git status
On branch master
Changes to be committed:
  (use "git reset HEAD <file>..." to unstage)

    new File:   html_about_page.txt
    new File:   html_main_page.txt
    new File:   html_product_page.txt

vipul@vipul MINGW64 /d/Devops_lab/Git_devops_project (master)
$ git commit -a -m "first commit for main,product,about"
[master 488d5dc] first commit for main,product,about
Committer: Vipul Kabra <Vipul Kabra>
Your name and email address were configured automatically based
on your username and hostname. Please check that they are accurate.
You can suppress this message by setting them explicitly. Run the
following command and follow the instructions in your editor to edit
your configuration file:

    git config --global --edit

After doing this, you may fix the identity used for this commit with:

    git commit --amend --reset-author

3 files changed, 3 insertions(+)
create mode 100644 html_about_page.txt
create mode 100644 html_main_page.txt
create mode 100644 html_product_page.txt

vipul@vipul MINGW64 /d/Devops_lab/Git_devops_project (master)
$ git status
On branch master
nothing to commit, working tree clean

vipul@vipul MINGW64 /d/Devops_lab/Git_devops_project (master)
$ |

```

Your all 3 files has been committed and when we give status it says nothing to commit

You can check logs and track all commit that you made by using below command

Git Log



```

MINGW64/d/Devops_lab/Git_devops_project
vipul@vipul MINGW64 /d/Devops_lab/Git_devops_project (master)
$ git log
commit 488d5dc9558ca399ec8227a5c6ad068e8a261e57
Author: Vipul Kabra <vipul.kabra@gmail.com>
Date:   Wed Feb 15 22:48:48 2017 +0530

    first commit for main,product,about

commit bde59f4c7367927f798ac36cfa0c3dfe277fae6
Author: Vipul Kabra <vipul.kabra@gmail.com>
Date:   Wed Feb 15 20:52:57 2017 +0530

    Initial commit
vipul@vipul MINGW64 /d/Devops_lab/Git_devops_project (master)
$
  
```

Creating Branch and Switching Branch

To create branch and switch to new branch use below command

Git branch finance

Git checkout finance



```

MINGW64/d/Devops_lab/Git_devops_project
vipul@vipul MINGW64 /d/Devops_lab/Git_devops_project (master)
$ git branch finance
vipul@vipul MINGW64 /d/Devops_lab/Git_devops_project (master)
$ git checkout finance
Switched to branch 'finance'
vipul@vipul MINGW64 /d/Devops_lab/Git_devops_project (finance)
$
  
```

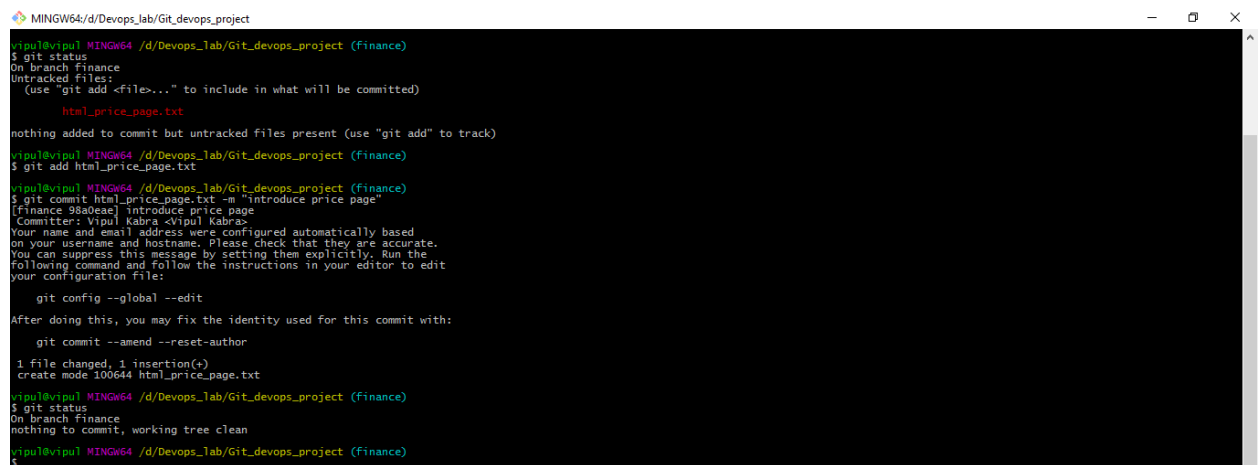
Introducing file in new branch lets add one file say html_price_page in finance branch

Let us add and commit this file using below command

Git status

Git add html_price_page

Git commit html_price_page -m "introduce price page"



```

MINGW64/d/Devops_lab/Git_devops_project
vipul@vipul MINGW64 /d/Devops_lab/Git_devops_project (finance)
$ git status
On branch finance
Untracked files:
  (use "git add <file>..." to include in what will be committed)

    html_price_page.txt

nothing added to commit but untracked files present (use "git add" to track)
vipul@vipul MINGW64 /d/Devops_lab/Git_devops_project (finance)
$ git add html_price_page.txt
vipul@vipul MINGW64 /d/Devops_lab/Git_devops_project (finance)
$ git commit -m "introduce price page"
[finance 98a8eac] introduce price page
Committer: Vipul Kabra <vipul.kabra@gmail.com>
Your name and email address were configured automatically based
on your username and hostname. Please check that they are accurate.
You can suppress this message by setting them explicitly. Run the
following command and follow the instructions in your editor to edit
your configuration file:

    git config --global --edit

After doing this, you may fix the identity used for this commit with:

    git commit --amend --reset-author

1 file changed, 1 insertion(+)
create mode 100644 html_price_page.txt
vipul@vipul MINGW64 /d/Devops_lab/Git_devops_project (finance)
$ git status
On branch finance
nothing to commit, working tree clean
vipul@vipul MINGW64 /d/Devops_lab/Git_devops_project (finance)
$
  
```


What has happen now is the new branch you created and file added will be shown in new branch and not in master branch however new branch will show files of master branch as well

Let's switch branch to Master and LS to see what all you see using below command

Git checkout Master

Ls

A terminal window titled 'MINGW64/d/Devops_lab/Git_devops_project' showing the following commands and output:

```
vipul@vipul MINGW64 /d/Devops_lab/Git_devops_project (finance)
$ git checkout master
Switched to branch 'master'

vipul@vipul MINGW64 /d/Devops_lab/Git_devops_project (master)
$ ls
html_about_page.txt  html_main_page.txt  html_product_page.txt  README.md

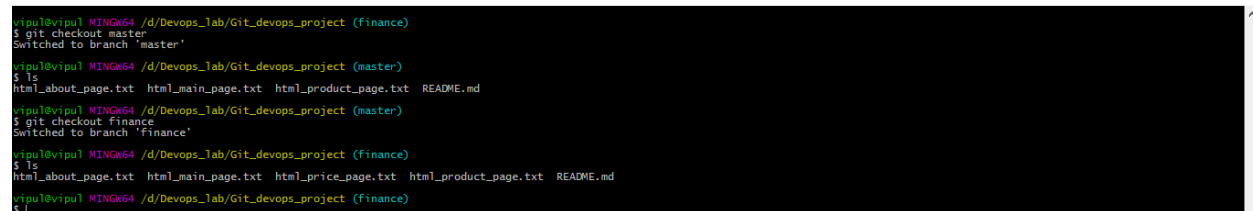
vipul@vipul MINGW64 /d/Devops_lab/Git_devops_project (master)
$ |
```

Here you cannot see the file that we added in new branch as html_price_page.txt

Lets switch back to finance branch and list what we have using below command

Git checkout Finance

Ls

A terminal window titled 'MINGW64/d/Devops_lab/Git_devops_project' showing the following commands and output:

```
vipul@vipul MINGW64 /d/Devops_lab/Git_devops_project (finance)
$ git checkout master
Switched to branch 'master'

vipul@vipul MINGW64 /d/Devops_lab/Git_devops_project (master)
$ ls
html_about_page.txt  html_main_page.txt  html_product_page.txt  README.md

vipul@vipul MINGW64 /d/Devops_lab/Git_devops_project (master)
$ git checkout finance
Switched to branch 'finance'

vipul@vipul MINGW64 /d/Devops_lab/Git_devops_project (finance)
$ ls
html_about_page.txt  html_main_page.txt  html_price_page.txt  html_product_page.txt  README.md

vipul@vipul MINGW64 /d/Devops_lab/Git_devops_project (finance)
$ |
```

You will see here you have html_price_page.txt whereas same was not present in main branch.

Merging Branch

In order to merge branch you have to be in main branch and give below command in our case we have to be in Master branch to merge finance branch.

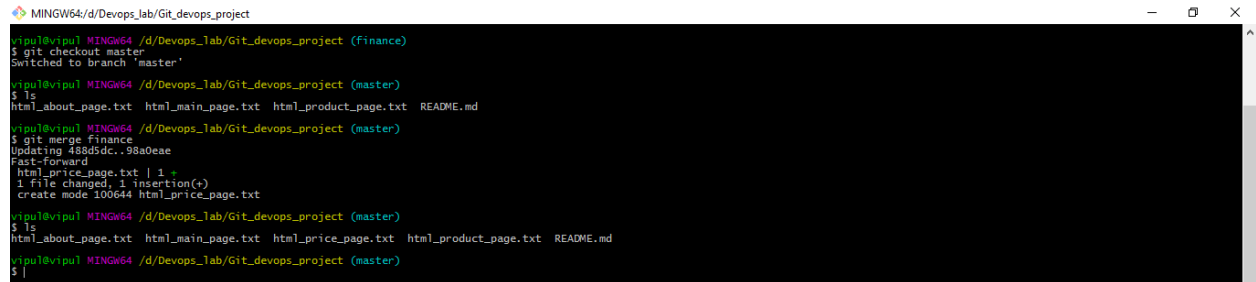
Use below command

```
git checkout master
```

```
ls
```

```
git merge finance
```

```
ls
```



```
MINGW64/d/Devops_lab/Git_devops_project
vipul@vipul MINGW64 /d/Devops_lab/Git_devops_project (finance)
$ git checkout master
Switched to branch 'master'
$ ls
html_about_page.txt  html_main_page.txt  html_product_page.txt  README.md
vipul@vipul MINGW64 /d/Devops_lab/Git_devops_project (master)
$ git merge finance
Updating 488d5dc..98a0eae
Fast-forward
  html_price_page.txt | 1 +
  1 file changed, 1 insertion(+)
  create mode 100644 html_price_page.txt
vipul@vipul MINGW64 /d/Devops_lab/Git_devops_project (master)
$ ls
html_about_page.txt  html_main_page.txt  html_price_page.txt  html_product_page.txt  README.md
vipul@vipul MINGW64 /d/Devops_lab/Git_devops_project (master)
$ |
```

✚ To Add all your work in remote repository

Produce ssh key using below command

Ssh-keygen (no space all continue for all other parameter just space enter)

```
MINGW64/d/Devops_lab/Git_devops_project
vipul@vipul MINGW64 /d/Devops_lab/Git_devops_project (master)
$ ssh-keygen
Generating public/private rsa key pair.
Enter file in which to save the key (/c/Users/vipul/.ssh/id_rsa):
Created directory /c/Users/vipul/.ssh.
Enter passphrase (empty for no passphrase):
Enter same passphrase again:
Your identification has been saved in /c/Users/vipul/.ssh/id_rsa.
Your public key has been saved in /c/Users/vipul/.ssh/id_rsa.pub.
The key fingerprint is:
SHA256:Gozk8VwKLetiEygYwddKv13+oPuq4Hab09/4HoHpauw vipul@vipul
The key's randomart image is:
---[RSA 2048]-----
  o . o .
  + +
  . + B O
  . o + + o .
  + . = o = S
  . + o =
  . = . o . o
  . o . B o . o .
  . . + E = =
  -----[SHA256]-----
vipul@vipul MINGW64 /d/Devops_lab/Git_devops_project (master)
$
```

To get SSH ket give below command

CAT /c/Users/vipul/.ssh/id_rsa.pub (Location will be found on above screen)

```
MINGW64/d/Devops_lab/Git_devops_project
vipul@vipul MINGW64 /d/Devops_lab/Git_devops_project (master)
$ ssh-keygen
Generating public/private rsa key pair.
Enter file in which to save the key (/c/Users/vipul/.ssh/id_rsa):
Created directory /c/Users/vipul/.ssh.
Enter passphrase (empty for no passphrase):
Enter same passphrase again:
Your identification has been saved in /c/Users/vipul/.ssh/id_rsa.
Your public key has been saved in /c/Users/vipul/.ssh/id_rsa.pub.
The key fingerprint is:
SHA256:Gozk8VwKLetiEygYwddKv13+oPuq4Hab09/4HoHpauw vipul@vipul
The key's randomart image is:
---[RSA 2048]-----
  o . o .
  + +
  . + B O
  . o + + o .
  + . = o = S
  . + o =
  . = . o . o
  . o . B o . o .
  . . + E = =
  -----[SHA256]-----
vipul@vipul MINGW64 /d/Devops_lab/Git_devops_project (master)
$ cat
vipul@vipul MINGW64 /d/Devops_lab/Git_devops_project (master)
$ cat /c/Users/vipul/.ssh/id_rsa.pub
ssh-rsa AAAAB3NzaC1yc2EAAAADAQABAAQDDv8Xl1tRRDGmF4tgoUn0HUS4zZFPEIrdmIrxemVZRea0mBW7Y
dRD38Yq3wnBuArb4nHDIZCzQ9IZKfQtWAYktyTlDYUEHHoxj6XYY/ySkDxFntA8nEasBtEbKSWFqEjX
Y2Jti49Wnu4d7n5JNaHm3cKc073AX1bjIREBzF4KLTLVMSGmyHoJwVK2VAKEiQ39CS6ggjuFy9oFb0Sc
2ebnk9PEdhy1VLyn16r6D5PviqVM86PNwUCjudFsbGidDobMCjfQFPhDN56hPPwhmexqoqYrpgdti8g
4pFbUtxNijAmc93d7q1PZWkX/POoREvCC0H2Rr+4iuEeYo7Lh5vSEQxl vipul@vipul
```

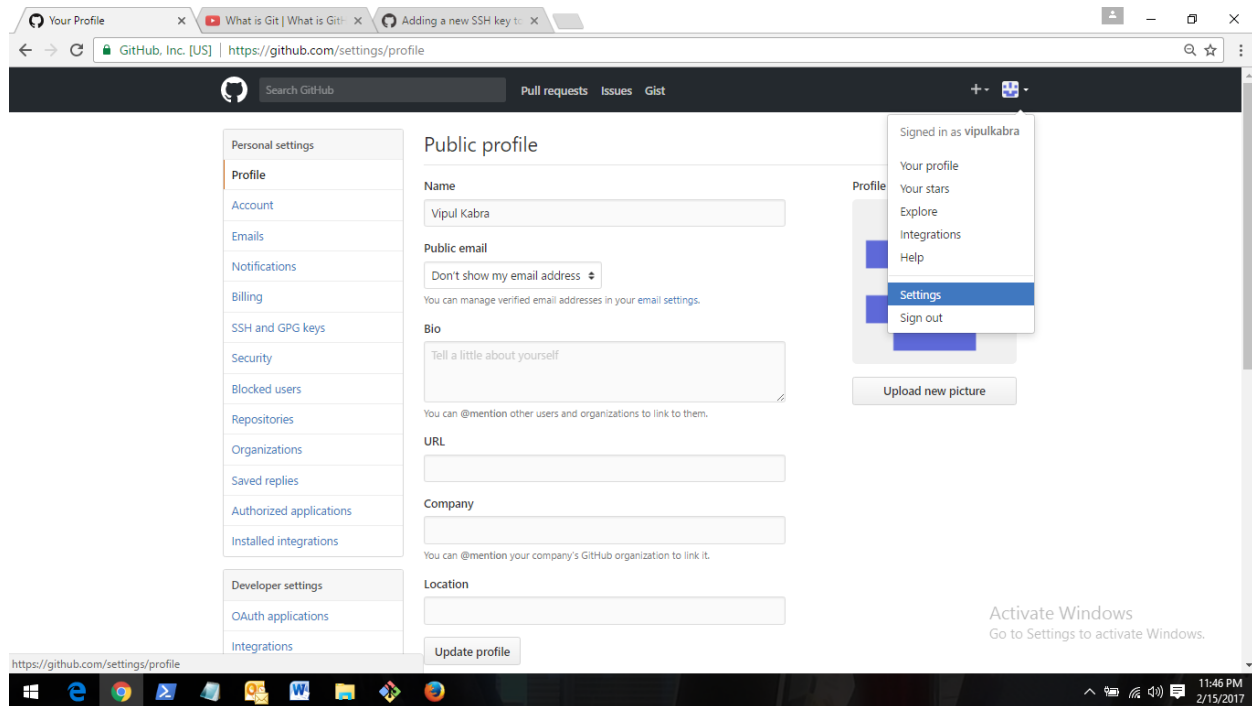
You will get SSH key which needs to be copied this is public ssh key

ssh-rsa

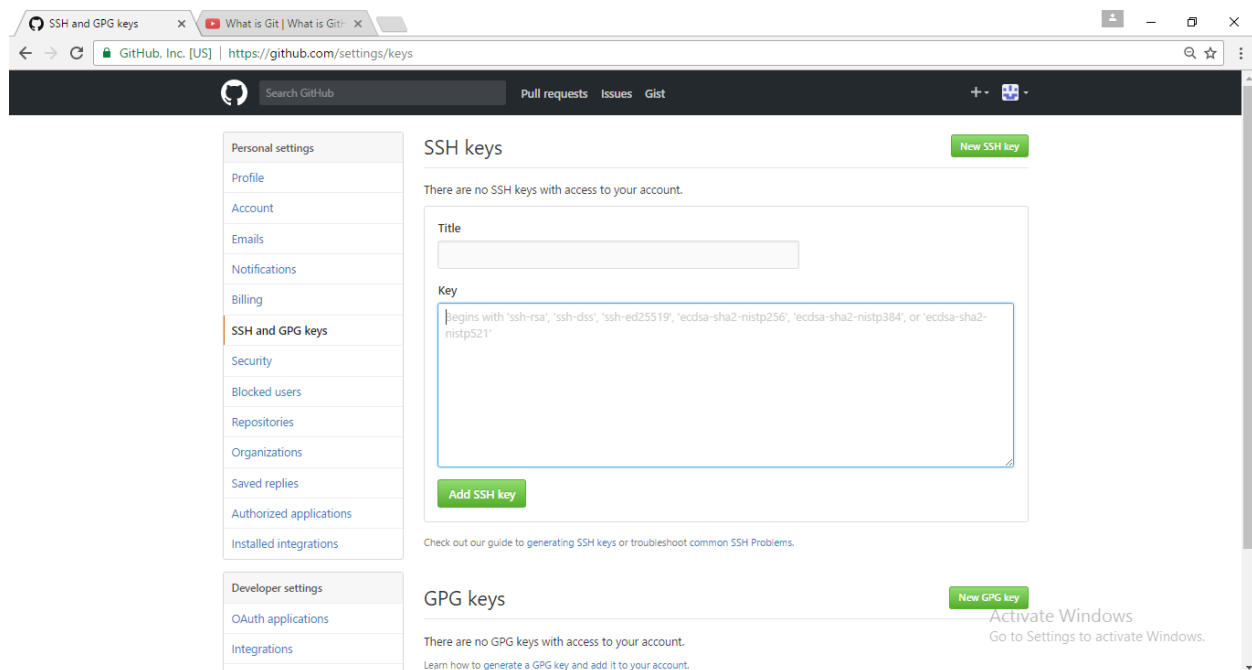
```
AAAAB3NzaC1yc2EAAAADAQABAAQDDv8Xl1tRRDGmF4tgoUn0HUS4zZFPEIrdmIrxemVZRea0mBW7Y
dRD38Yq3wnBuArb4nHDIZCzQ9IZKfQtWAYktyTlDYUEHHoxj6XYY/ySkDxFntA8nEasBtEbKSWFqEjX
Y2Jti49Wnu4d7n5JNaHm3cKc073AX1bjIREBzF4KLTLVMSGmyHoJwVK2VAKEiQ39CS6ggjuFy9oFb0Sc
2ebnk9PEdhy1VLyn16r6D5PviqVM86PNwUCjudFsbGidDobMCjfQFPhDN56hPPwhmexqoqYrpgdti8g
4pFbUtxNijAmc93d7q1PZWkX/POoREvCC0H2Rr+4iuEeYo7Lh5vSEQxl vipul@vipul
```

To add this key

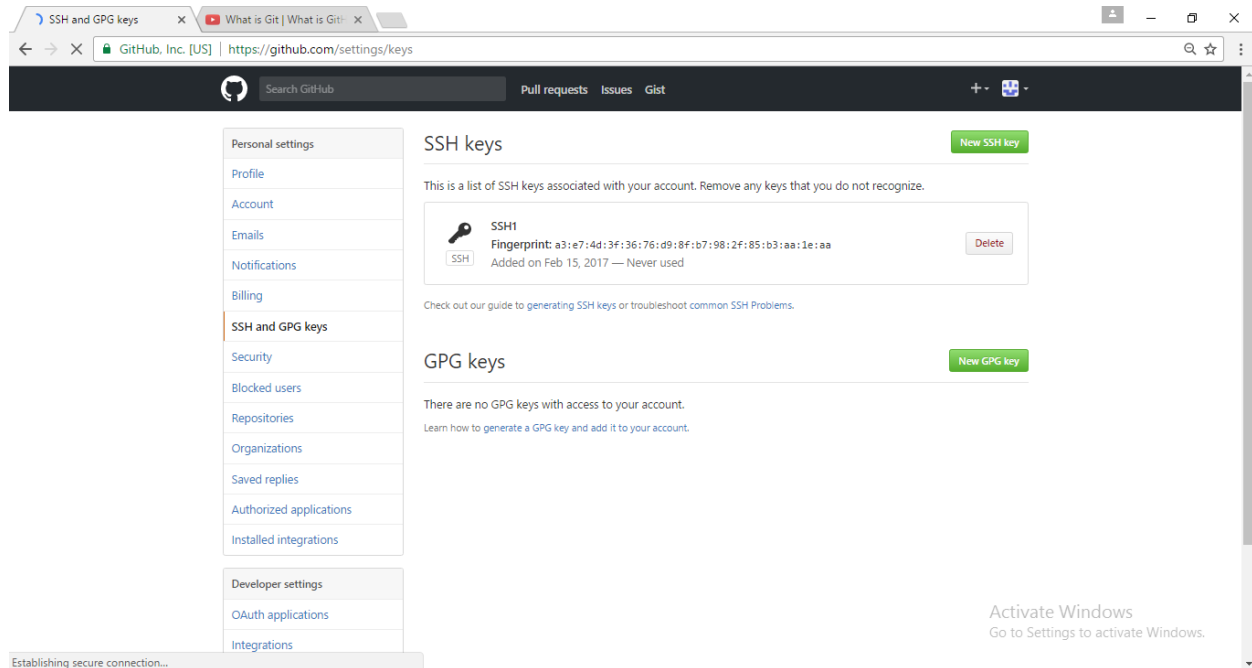
Go to Get Hub account →Setting



Select SSH and GPG key and select new to add on top right hand side



Provide SSH key title and paste key that we produced from Bash and select add SSH key this will add SSH key

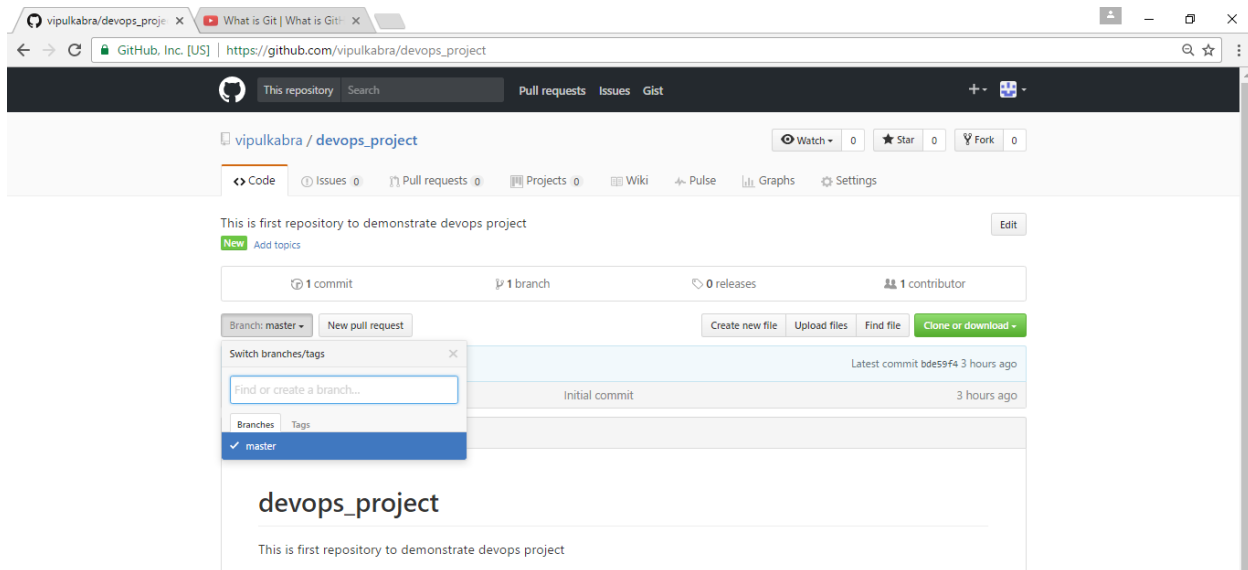


Go back to bash and give below command

Ssh -t git@github.com

To add your branch to remote repository

If you see in remote repository you don't have any branch added since they are in local at the moment



Git checkout finance

Git push origin finance

Pop up for Git hub user id and password provide the same

```
MINGW64/d/Devops_lab/Git_devops_project
vipul@vipul MINGW64 /d/Devops_lab/Git_devops_project (master)
$ git checkout finance
Switched to branch 'finance'

vipul@vipul MINGW64 /d/Devops_lab/Git_devops_project (finance)
$ git push origin finance
Counting objects: 8, done.
Delta compression using up to 4 threads.
Compressing objects: 100% (4/4), done.
Writing objects: 100% (8/8), 698 bytes | 0 bytes/s, done.
Total 8 (delta 1), reused 0 (delta 0)
remote: Resolving deltas: 100% (1/1), done.
To https://github.com/vipulkabra/devops_project.git
 * [new branch]      finance -> finance

vipul@vipul MINGW64 /d/Devops_lab/Git_devops_project (finance)
$ |
```

Check Git hub remote repository your all local file will be added with branch

This is first repository to demonstrate devops project

3 commits **2** branches **0** releases **1** contributor

Your recently pushed branches:

finance (2 minutes ago) [Compare & pull request](#)

Branch: **finance** [New pull request](#) [Create new file](#) [Upload files](#) [Find file](#) [Clone or download](#)

This branch is 2 commits ahead of master. [Pull request](#) [Compare](#)

File	Commit	Time
Vipul Kabra introduce price page	Latest commit 98a0eae	an hour ago
README.md	Initial commit	3 hours ago
html_about_page.txt	first commit for main,product,about	an hour ago
html_main_page.txt	first commit for main,product,about	an hour ago
html_price_page.txt	introduce price page	an hour ago
html_product_page.txt	first commit for main,product,about	an hour ago

devops_project

This is first repository to demonstrate devops project

Now your branch local repository is in sync with remote repository , you can do same for master as well

git checkout master

git push origin master

```

MINGW64/d/Devops_lab/Git_devops_project
vipul@vipul MINGW64 /d/Devops_lab/Git_devops_project (finance)
$ git checkout master
Switched to branch 'master'

vipul@vipul MINGW64 /d/Devops_lab/Git_devops_project (master)
$ git push origin master
Total 0 (delta 0), reused 0 (delta 0)
To https://github.com/vipulKabra/devops_project.git
bde59f4..98a0eae master -> master
  
```

This is first repository to demonstrate devops project

3 commits **2** branches **0** releases **1** contributor

Branch: **master** [New pull request](#) [Create new file](#) [Upload files](#) [Find file](#) [Clone or download](#)

This branch is 3 commits ahead of master. [Pull request](#) [Compare](#)

File	Commit	Time
Vipul Kabra introduce price page	Latest commit 98a0eae	an hour ago
README.md	Initial commit	3 hours ago
html_about_page.txt	first commit for main,product,about	an hour ago
html_main_page.txt	first commit for main,product,about	an hour ago
html_price_page.txt	introduce price page	an hour ago
html_product_page.txt	first commit for main,product,about	an hour ago

devops_project

This is first repository to demonstrate devops project