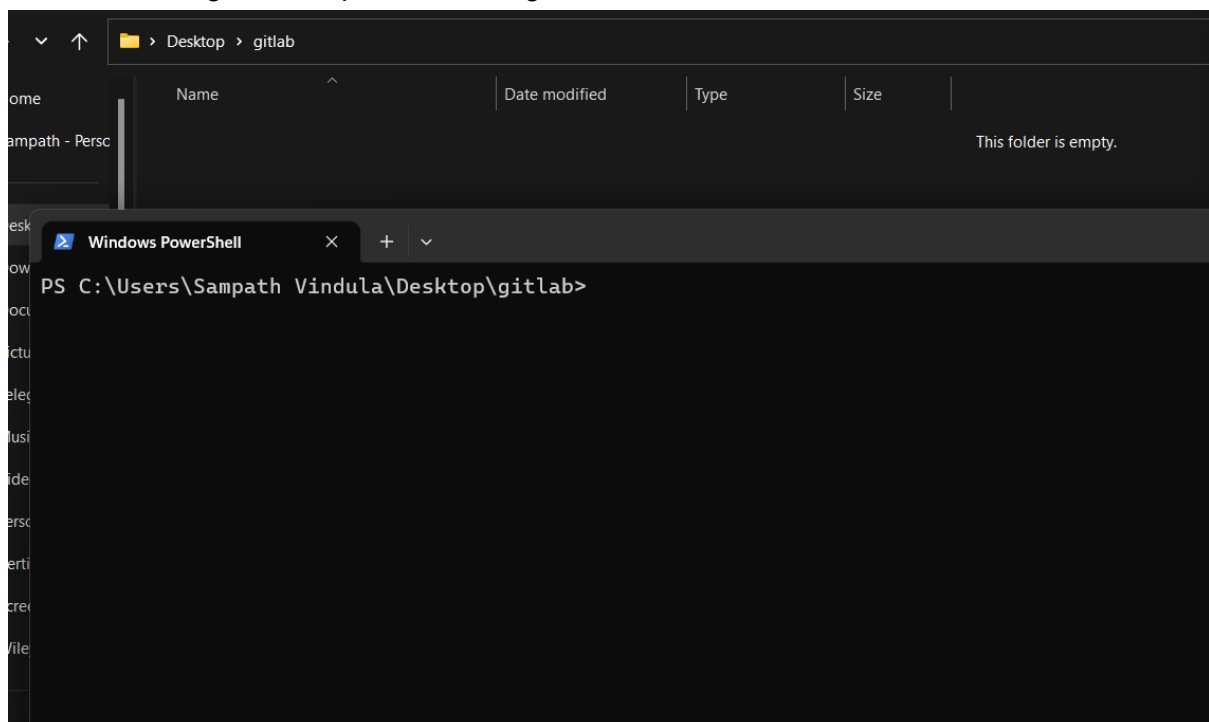


Comparing in version control

Create a folder gitlab and press shift + rightclick —> click on Windows Powershell



Configuring user name and email



Mark current directory as git directory using init

```
PS C:\Users\Sampath Vindula\Desktop\gitlab> #next step is mark current directory as git directory or in other words we want git to start monitoring current directory
PS C:\Users\Sampath Vindula\Desktop\gitlab> git init
Initialized empty Git repository in C:/Users/Sampath Vindula/Desktop/gitlab/.git/
PS C:\Users\Sampath Vindula\Desktop\gitlab>
PS C:\Users\Sampath Vindula\Desktop\gitlab>
PS C:\Users\Sampath Vindula\Desktop\gitlab>
```

Track changes using git status

```
PS C:\Users\Sampath Vindula\Desktop\gitlab> #to track changes in current directory use command git status
PS C:\Users\Sampath Vindula\Desktop\gitlab> git status
On branch master

No commits yet

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

nothing added to commit but untracked files present (use "git add" to track)
PS C:\Users\Sampath Vindula\Desktop\gitlab>
```

Tracking the file

```
PS C:\Users\Rajan's PC\OneDrive\Desktop\gitLabs> # to track the file write the below command
PS C:\Users\Rajan's PC\OneDrive\Desktop\gitLabs>
PS C:\Users\Rajan's PC\OneDrive\Desktop\gitLabs> git add .\todo.txt
PS C:\Users\Rajan's PC\OneDrive\Desktop\gitLabs>
PS C:\Users\Rajan's PC\OneDrive\Desktop\gitLabs> # if in case you have many files , there is no need to add each file individually
PS C:\Users\Rajan's PC\OneDrive\Desktop\gitLabs> # u can write
PS C:\Users\Rajan's PC\OneDrive\Desktop\gitLabs>
PS C:\Users\Rajan's PC\OneDrive\Desktop\gitLabs> git add .
PS C:\Users\Rajan's PC\OneDrive\Desktop\gitLabs>
PS C:\Users\Rajan's PC\OneDrive\Desktop\gitLabs>
```

First change

```
PS C:\Users\Sampath Vindula\Desktop\gitlab> git add .
PS C:\Users\Sampath Vindula\Desktop\gitlab> git status
On branch master

No commits yet

Changes to be committed:
  (use "git rm --cached <file>..." to unstage)
        new file:   todo.txt

PS C:\Users\Sampath Vindula\Desktop\gitlab> #to save changes
PS C:\Users\Sampath Vindula\Desktop\gitlab> git commit -m "This is First change by Sampath"
[master (root-commit) 5a01c5b] This is First change by Sampath
 1 file changed, 3 insertions(+)
 create mode 100644 todo.txt
PS C:\Users\Sampath Vindula\Desktop\gitlab> git status
On branch master
nothing to commit, working tree clean
PS C:\Users\Sampath Vindula\Desktop\gitlab>
```

Restore changes made using git restore filename

```
PS C:\Users\Sampath Vindula\Desktop\gitlab> #made changes in vscode file
PS C:\Users\Sampath Vindula\Desktop\gitlab> git status
On branch master
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:   todo.txt

no changes added to commit (use "git add" and/or "git commit -a")
PS C:\Users\Sampath Vindula\Desktop\gitlab> #i dont wish to incorporate changes, the changes effected my project neagatively
PS C:\Users\Sampath Vindula\Desktop\gitlab> git restore
fatal: you must specify path(s) to restore
PS C:\Users\Sampath Vindula\Desktop\gitlab> git restore .\todo.txt
PS C:\Users\Sampath Vindula\Desktop\gitlab>
```

Todo.txt back to original

To do list:

1.Hands on learning with git

Making my second changes

```
PS C:\Users\Sampath Vindula\Desktop\gitlab> git add .
PS C:\Users\Sampath Vindula\Desktop\gitlab> git commit -m "this is second change"
[master 1bcb0c8] this is second change
 1 file changed, 5 insertions(+), 1 deletion(-)
PS C:\Users\Sampath Vindula\Desktop\gitlab>
```

Without using add command we add and commit in single command using -a

```
PS C:\Users\Rajan's PC\OneDrive\Desktop\gitLabs> git commit -a -m " this is my third commit"
On branch master
nothing to commit, working tree clean
PS C:\Users\Rajan's PC\OneDrive\Desktop\gitLabs> |
```

Git Branch

```
PS C:\Users\Rajan's PC\OneDrive\Desktop\gitLabs> # A Branch primarily refers to the Location which contains the
PS C:\Users\Rajan's PC\OneDrive\Desktop\gitLabs> # Project
PS C:\Users\Rajan's PC\OneDrive\Desktop\gitLabs> # we Create Branches to Create Separate Versions of the Same Project
PS C:\Users\Rajan's PC\OneDrive\Desktop\gitLabs> # you might wish to provide a copy of your project to
PS C:\Users\Rajan's PC\OneDrive\Desktop\gitLabs> # QA Team , to Deployment Team or so.
PS C:\Users\Rajan's PC\OneDrive\Desktop\gitLabs> # you create a new branch and provide access to other Team
PS C:\Users\Rajan's PC\OneDrive\Desktop\gitLabs>
PS C:\Users\Rajan's PC\OneDrive\Desktop\gitLabs>
PS C:\Users\Rajan's PC\OneDrive\Desktop\gitLabs>
PS C:\Users\Rajan's PC\OneDrive\Desktop\gitLabs>
PS C:\Users\Rajan's PC\OneDrive\Desktop\gitLabs> # To check ur current branch type
PS C:\Users\Rajan's PC\OneDrive\Desktop\gitLabs> git branch
* master
PS C:\Users\Rajan's PC\OneDrive\Desktop\gitLabs> # note * , it indicates current Branch.
PS C:\Users\Rajan's PC\OneDrive\Desktop\gitLabs>
```

Create branch and switch

```
PS C:\Users\Rajan's PC\OneDrive\Desktop\gitLabs> # to create a new branch and enter it side type
PS C:\Users\Rajan's PC\OneDrive\Desktop\gitLabs>
PS C:\Users\Rajan's PC\OneDrive\Desktop\gitLabs> git checkout -b production
Switched to a new branch 'production'
PS C:\Users\Rajan's PC\OneDrive\Desktop\gitLabs>
PS C:\Users\Rajan's PC\OneDrive\Desktop\gitLabs> # my current branch is
PS C:\Users\Rajan's PC\OneDrive\Desktop\gitLabs> git branch
  master
* production
PS C:\Users\Rajan's PC\OneDrive\Desktop\gitLabs> # -b creates the branch , checkout switches to the branch!
PS C:\Users\Rajan's PC\OneDrive\Desktop\gitLabs>
PS C:\Users\Rajan's PC\OneDrive\Desktop\gitLabs> git branch
  master
* production
PS C:\Users\Rajan's PC\OneDrive\Desktop\gitLabs> git checkout master
Switched to branch 'master'
PS C:\Users\Rajan's PC\OneDrive\Desktop\gitLabs>
PS C:\Users\Rajan's PC\OneDrive\Desktop\gitLabs> git branch
  master
* production
PS C:\Users\Rajan's PC\OneDrive\Desktop\gitLabs>
```

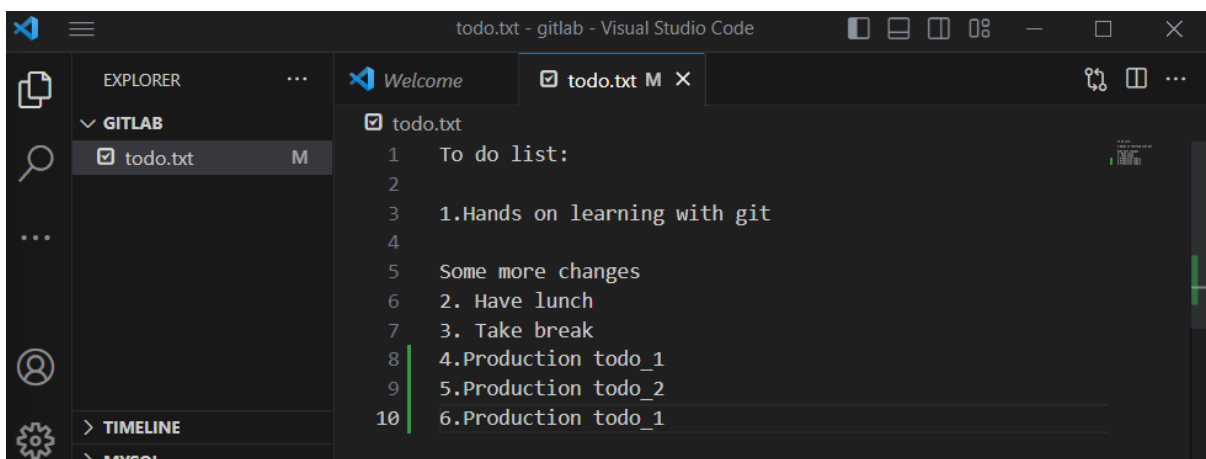
-b is to create new branch

Checkout is to switch

First production commit

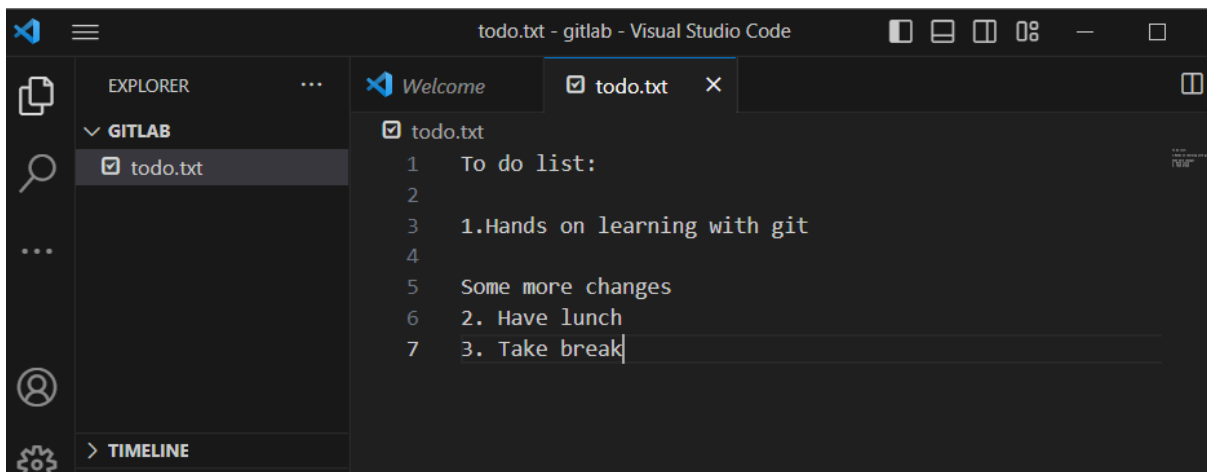
```
PS C:\Users\Sampath Vindula\Desktop\gitlab> git status
On branch production
Changes not staged for commit:
  (use "git add <file>..." to update what will be committed)
  (use "git restore <file>..." to discard changes in working directory)
        modified:   todo.txt

no changes added to commit (use "git add" and/or "git commit -a")
PS C:\Users\Sampath Vindula\Desktop\gitlab> git add .
PS C:\Users\Sampath Vindula\Desktop\gitlab> git commit -m "first production
n commit"
[production 4ec5e9f] first production commit
 1 file changed, 4 insertions(+), 1 deletion(-)
PS C:\Users\Sampath Vindula\Desktop\gitlab>
```



Now switch to master

```
no changes added to commit (use "git add" and/or "git commit -a")
PS C:\Users\Sampath Vindula\Desktop\gitlab> git add .
PS C:\Users\Sampath Vindula\Desktop\gitlab> git commit -m "first production commit"
[production 4ec5e9f] first production commit
1 file changed, 4 insertions(+), 1 deletion(-)
PS C:\Users\Sampath Vindula\Desktop\gitlab> git checkout master
Switched to branch 'master'
PS C:\Users\Sampath Vindula\Desktop\gitlab>
```



Git merge

```
PS C:\Users\Sampath Vindula\Desktop\gitlab> git branch
* master
  production
PS C:\Users\Sampath Vindula\Desktop\gitlab> git merge production
Updating 1bcb0c8..4ec5e9f
Fast-forward
 todo.txt | 5 ++++-
1 file changed, 4 insertions(+), 1 deletion(-)
PS C:\Users\Sampath Vindula\Desktop\gitlab> git branch
* master
  production
PS C:\Users\Sampath Vindula\Desktop\gitlab> git production
git: 'production' is not a git command. See 'git --help'.
PS C:\Users\Sampath Vindula\Desktop\gitlab> git status
On branch master
nothing to commit, working tree clean
PS C:\Users\Sampath Vindula\Desktop\gitlab>
```