

Objectives

Familiar with Git commands like git init, git status, git add, git commit, git push, and git pull.

Step 1: Setup your machine with Git Configuration

To create a new repository, signup with GitLab and register your credentials

Login to GitLab and create a "GitDemo" project

1. To check if Git client is installed properly: Open Git bash shell and execute

```
$ git version
git version 2.21.0.windows.1
```

If output shows Git with its version information that indicates, that Git Client installs properly.

2. To configure user level configuration of user ID and email ID execute

```
$ git config --global user.name "username"
$ git config --global user.email "username@cognizant.com"
```

3. To check if the configuration is properly set, execute the following command.

```
$ git config --global --list
user.name=username
user.email=username@cognizant.com
```

Output:

```
SUBHUNDU@DESKTOP-GRPMM05 MINGW64 ~/OneDrive/Desktop (master)
$ git config --global user.name "Tithighosh18"

SUBHUNDU@DESKTOP-GRPMM05 MINGW64 ~/OneDrive/Desktop (master)
$ git config --global user.email "tithighosh047@gmail.com"

SUBHUNDU@DESKTOP-GRPMM05 MINGW64 ~/OneDrive/Desktop (master)
$ git config --global --list
user.email=tithighosh047@gmail.com
user.name=Tithighosh18
safe.directory=D:/

SUBHUNDU@DESKTOP-GRPMM05 MINGW64 ~/OneDrive/Desktop (master)
$
```

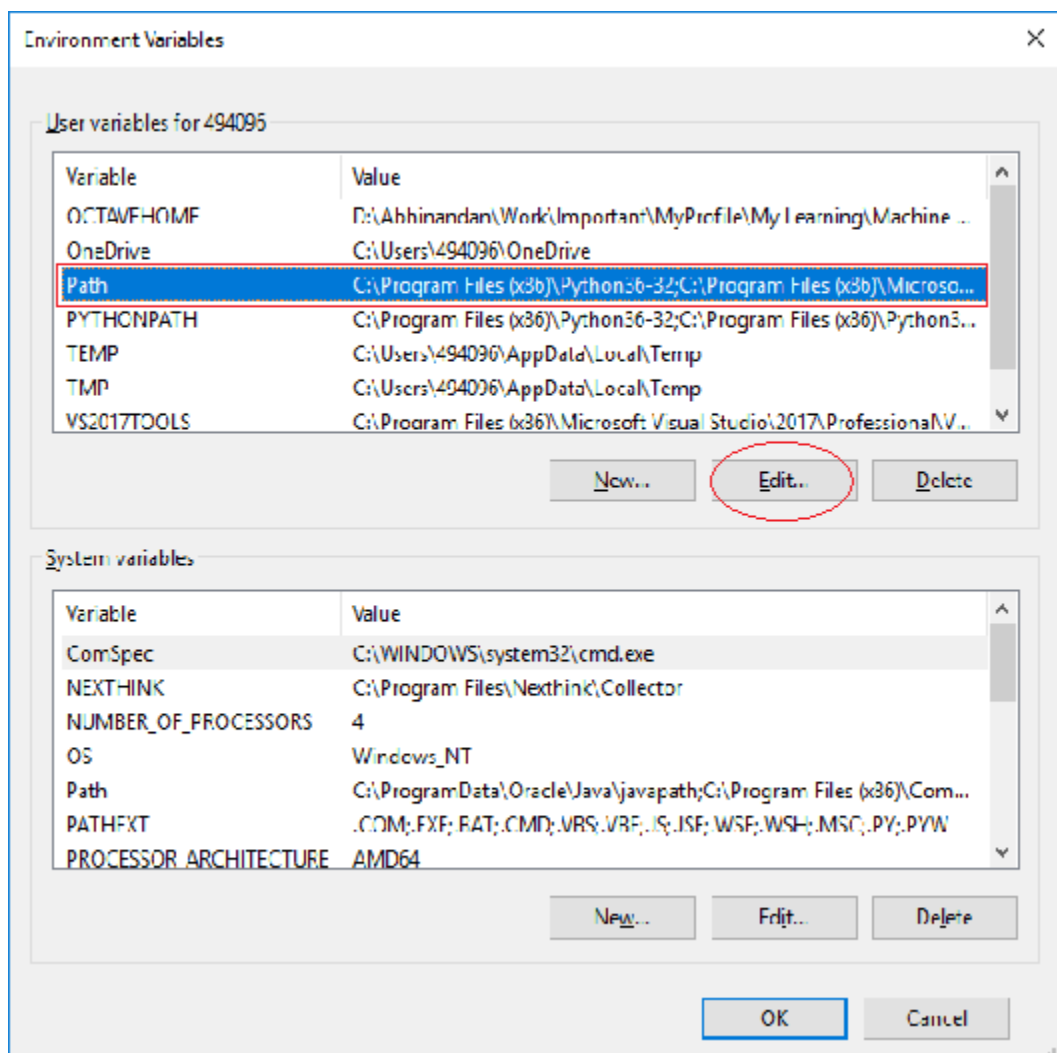
Step 2: Integrate notepad++.exe to Git and make it a default editor

1. To check, if notepad++.exe execute from Git bash

```
$ notepad++  
bash: notepad++: command not found
```

If Git bash could not able to recognize notepad++ command that implies notepad++.exe is not added to the environment path variable.

To add path of notepad++.exe to environment variable, go to control panel -> System -> Advanced System settings. Go to Advanced tab -> Environment variables -> Add path of notepad++.exe to the path user variable by clicking on "Edit"



2. Exit Git bash shell, open bash shell and execute

```
$ notepad++
```

Now, notepad++ will open from Git bash shell

3. To create an alias command for notepad++.exe, execute

```
$ notepad++.exe bash -profile
```

It will open notepad++ from bash shell, and create a user profile by adding the line in notepad++

```
alias npp='notepad++.exe -multiInst -nosession'
```

4. To configure the editor, execute the command

```
$ git config --global core.editor "notepad++.exe -multiInst -nosession"
```

5. To verify if notepad++ is the default editor, execute the command

```
$ git config --global -e  
hint: Waiting for your editor to close the file... _
```

Here '-e' option implies editor

It will show the entire global configuration as shown below,

```
[user]  
  name = username  
  email = username@cognizant.com  
[core]  
  editor = notepad++.exe -multiInst -nosession
```

Output:

```
SUBHUNDU@DESKTOP-GRPMM05 MINGW64 ~/OneDrive/Desktop (master)  
$ git config global --core.editor "notepad++.exe -multiInst -nosession"  
error: key does not contain a section: global  
  
SUBHUNDU@DESKTOP-GRPMM05 MINGW64 ~/OneDrive/Desktop (master)  
$ git config --global core.editor "notepad++.exe -multiInst -nosession"  
  
SUBHUNDU@DESKTOP-GRPMM05 MINGW64 ~/OneDrive/Desktop (master)  
$ git config --global e  
error: key does not contain a section: e  
  
SUBHUNDU@DESKTOP-GRPMM05 MINGW64 ~/OneDrive/Desktop (master)  
$ git config --global -e  
hint: Waiting for your editor to close the file...
```

Step 3: Add a file to source code repository

1. Open Git bash shell and create a new project “**GitDemo**” by executing the command

```
$ git init GitDemo
Initialized empty Git repository in D:/Development_Avecto/GitDemo/.git/
```

OUTPUT:

```
SUBHUNDU@DESKTOP-GRPMM05 MINGW64 ~ (master)
$ git init GitDemo
Initialized empty Git repository in C:/Users/SUBHUNDU/GitDemo/.git/

SUBHUNDU@DESKTOP-GRPMM05 MINGW64 ~ (master)
$ ls -al
```

2. Git bash initializes the “**GitDemo**” repository. To verify, execute the command

```
$ ls -al
total 8
drwxr-xr-x 1          1049089 0 Jan 13 11:54 ./
drwxr-xr-x 1          1049089 0 Jan 13 11:54 ../
drwxr-xr-x 1          1049089 0 Jan 13 11:54 .git/
```

OUTPUT:

```
SUBHUNDU@DESKTOP-GRPMM05 MINGW64 ~ (master)
$ ls -al
total 209767
drwxr-xr-x 1 SUBHUNDU 197121      0 Aug  7 08:56 ./
drwxr-xr-x 1 SUBHUNDU 197121      0 Dec  4 2022 ../
drwxr-xr-x 1 SUBHUNDU 197121      0 Nov 18 2024 .VirtualBox/
-rw-r--r-- 1 SUBHUNDU 197121    95 Apr  7 22:10 .accessibility.properties
drwxr-xr-x 1 SUBHUNDU 197121      0 Feb  1 2023 .android/
drwxr-xr-x 1 SUBHUNDU 197121      0 Apr 26 21:16 .arduino-create/
drwxr-xr-x 1 SUBHUNDU 197121      0 Apr 26 22:00 .arduinoIDE/
-rw-r--r-- 1 SUBHUNDU 197121 2813 Aug  7 00:34 .bash_history
drwxr-xr-x 1 SUBHUNDU 197121      0 Jun 12 2023 .cache/
drwxr-xr-x 1 SUBHUNDU 197121      0 Aug 26 2024 .conda/
-rw-r--r-- 1 SUBHUNDU 197121    25 Jul 27 2023 .condarc
drwxr-xr-x 1 SUBHUNDU 197121      0 Jul  3 21:59 .config/
drwxr-xr-x 1 SUBHUNDU 197121      0 Jul 27 2023 .continuum/
drwxr-xr-x 1 SUBHUNDU 197121      0 Jun 20 19:45 .eclipse/
drwxr-xr-x 1 SUBHUNDU 197121      0 May 13 11:16 .git/
-rw-r--r-- 1 SUBHUNDU 197121   138 Aug  6 21:33 .gitconfig
drwxr-xr-x 1 SUBHUNDU 197121      0 Sep 18 2023 .idlerc/
drwxr-xr-x 1 SUBHUNDU 197121      0 Apr  2 21:35 .ipynb_checkpoints/
drwxr-xr-x 1 SUBHUNDU 197121      0 Jul 27 2023 .ipython/
drwxr-xr-x 1 SUBHUNDU 197121      0 Jul 27 2023 .jupyter/
drwxr-xr-x 1 SUBHUNDU 197121      0 Jul  1 18:46 .jupyter/
```

It will display all the hidden files in the Git “working directory”.

3. To create a file “**welcome.txt**” and add content to the file, execute the command

```
$ echo "Welcome to the version control" >> welcome.txt
```

OUTPUT:

```
SUBHUNDU@DESKTOP-GRPM05 MINGW64 ~ (master)
$ echo "Welcome to the Version Control" >> welcome.txt
```

4. To verify if the file "welcome.txt" is created, execute

```
$ ls -al
total 9
drwxr-xr-x 1 494096 1049089  0 Jan 13 12:02 ./
drwxr-xr-x 1 494096 1049089  0 Jan 13 11:54 ../
drwxr-xr-x 1 494096 1049089  0 Jan 13 12:01 .git/
-rw-r--r-- 1 494096 1049089 31 Jan 13 12:02 welcome.txt
```

OUTPUT:

```
lrwxrwxrwx 1 SUBHUNDU 197121      62 Dec  4 2022 'Start Menu' -> '/c/Users/SUBHUNDU/AppData/Local/Programs/Common-File-Types-Associations/Start Menu'
lrwxrwxrwx 1 SUBHUNDU 197121      61 Dec  4 2022 Templates -> /c/Users/SUBHUNDU/AppData/Local/Programs/Common-File-Types-Associations/Templates
drwxr-xr-x 1 SUBHUNDU 197121      0 Apr 12 10:53 Videos/
-rwxr-xr-x 1 SUBHUNDU 197121 157497056 Apr 26 21:37 arduino-ide_2.3.6_windows_64bit.exe
-rw-r--r-- 1 SUBHUNDU 197121   3980907 Oct  8 2023 ca638a36ffcdc9d611aff6564f27abc8.xa
-rw-r--r-- 1 SUBHUNDU 197121    4017 Oct 29 2024 description.csv
drwxr-xr-x 1 SUBHUNDU 197121      0 Nov 18 2024 'design thinking'/
-rw-r--r-- 1 SUBHUNDU 197121   4671 Oct 29 2024 diets.csv
drwxr-xr-x 1 SUBHUNDU 197121      0 Jun 20 19:30 eclipse/
drwxr-xr-x 1 SUBHUNDU 197121      0 Jun 27 09:25 eclipse-workspace/
-rw-r--r-- 1 SUBHUNDU 197121   4643 Oct 29 2024 medications.csv
drwxr-xr-x 1 SUBHUNDU 197121      0 Jan 24 2024 new/
-rw-r--r-- 1 SUBHUNDU 197121   6492160 Dec  4 2022 ntuser.dat.LOG1
-rw-r--r-- 1 SUBHUNDU 197121   3145728 Dec  4 2022 ntuser.dat.LOG2
-rw-r--r-- 1 SUBHUNDU 197121    20 Dec  4 2022 ntuser.ini
drwxr-xr-x 1 SUBHUNDU 197121      0 Aug 21 2022 python18/
drwxr-xr-x 1 SUBHUNDU 197121      0 Oct 23 2024 scikit_learn_data/
-rw-r--r-- 1 SUBHUNDU 197121    31 Aug  7 08:57 welcome.txt
```

5. To verify the content, execute the command

```
$ cat welcome.txt
Welcome to the version control
```

OUTPUT:

```
SUBHUNDU@DESKTOP-GRPM05 MINGW64 ~ (master)
$ cat welcome.txt
Welcome to the Version Control
```

6. Check the status by executing

```
$ git status
On branch master

No commits yet

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

    welcome.txt
```

Now the file “**welcome.txt**” is available in Git “working directory”

7. To make the file to be tracked by Git repository, execute the command

```
$ git add welcome.txt
warning: LF will be replaced by CRLF in welcome.txt.
The file will have its original line endings in your working directory
```

8. To add multi line comments, we are opening default editor to comment. Execute the command

```
$ git commit
```

Notepad++ editor will open and to add multi-line comment with default editor

9. To check if local and “Working Directory” git repository are same, execute git status

```
$ git status
On branch master
nothing to commit, working tree clean
```

welcome.txt is added to the local repository.

10. Signup with GitLab and create a remote repository “**GitDemo**”
11. To pull the remote repository, execute

git pull origin master

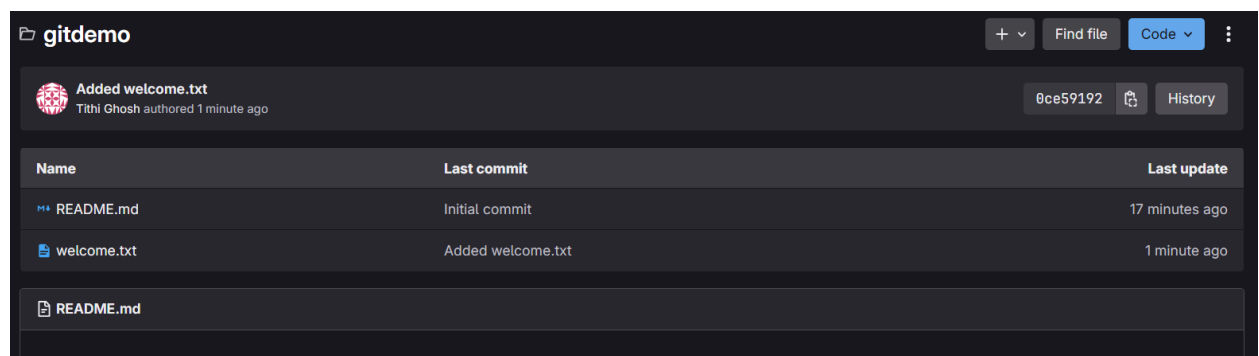
12. To push the local to remote repository, execute

git push origin master

OUTPUT:

```
SUBHUNDU@DESKTOP-GRPM05 MINGW64 ~ (master)
$ git pull origin master
remote: Enumerating objects: 3, done.
remote: Counting objects: 100% (3/3), done.
remote: Compressing objects: 100% (2/2), done.
remote: Total 3 (delta 0), reused 0 (delta 0), pack-reused 0 (from 0)
Unpacking objects: 100% (3/3), 2.74 KiB | 200.00 KiB/s, done.
From https://gitlab.com/tithighosh047-group/gitdemo
* branch            master       -> FETCH_HEAD
* [new branch]      master       -> origin/master
Auto packing the repository for optimum performance.
See "git help gc" for manual housekeeping.
Enumerating objects: 5, done.
Counting objects: 100% (5/5), done.
Delta compression using up to 4 threads
Compressing objects: 100% (2/2), done.
Writing objects: 100% (5/5), done.
Total 5 (delta 0), reused 0 (delta 0), pack-reused 0 (from 0)
SUBHUNDU@DESKTOP-GRPM05 MINGW64 ~ (master)
$
```

```
SUBHUNDU@DESKTOP-GRPM05 MINGW64 ~ (master)
$ git add welcome.txt
SUBHUNDU@DESKTOP-GRPM05 MINGW64 ~ (master)
$ git commit -m "Added welcome.txt"
master 0ce5919 Added welcome.txt
1 file changed, 2 insertions(+)
create mode 100644 welcome.txt
SUBHUNDU@DESKTOP-GRPM05 MINGW64 ~ (master)
$ git push origin master
Enumerating objects: 4, done.
Counting objects: 100% (4/4), done.
Delta compression using up to 4 threads
Compressing objects: 100% (3/3), done.
Writing objects: 100% (3/3), 321 bytes | 321.00 KiB/s, done.
Total 3 (delta 0), reused 0 (delta 0), pack-reused 0 (from 0)
remote:
remote: To create a merge request for master, visit:
remote:   https://gitlab.com/tithighosh047-group/gitdemo/-/merge_requests/new?merge_request%5Bsource_branch%5D=master
remote:
o https://gitlab.com/tithighosh047-group/gitdemo.git
0a9ca8c..0ce5919 master -> master
SUBHUNDU@DESKTOP-GRPM05 MINGW64 ~ (master)
$
```



Name	Last commit	Last update
README.md	Initial commit	17 minutes ago
welcome.txt	Added welcome.txt	1 minute ago

