DN 4.0 JAVA FSE SOLUTIONS – WEEK 8

Skill: GIT

Hands-On 1

Objective

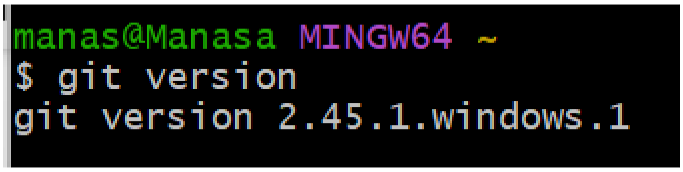
This document outlines the steps taken to complete the Git lab exercise, which includes configuring Git, integrating Notepad++ as a default editor, and adding a file to a remote source code repository on GitLab.

Step 1: Setup your machine with Git Configuration

This section details the setup of the Git client on the local machine and the creation of the remote repository on GitLab.

- **Check Git Version:** To confirm Git is installed correctly, open Git Bash and execute the following command.
  - **Command:**
  - git --version

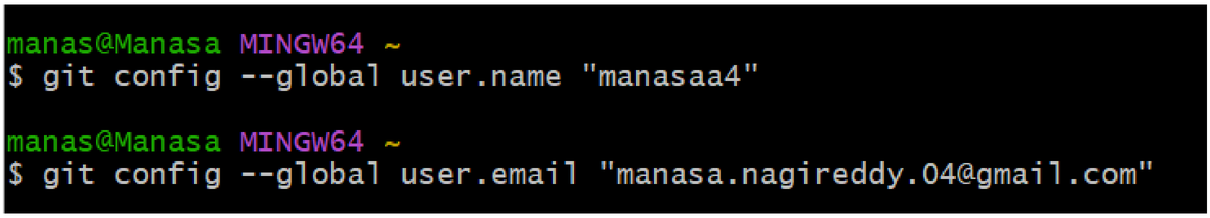
  Output:



```
manas@Manasa MINGW64 ~
$ git version
git version 2.45.1.windows.1
```

- **Configure User Information:** To configure the user ID and email ID for all your Git repositories, execute the following commands, replacing the placeholders with your information.
  - **Commands:**
  - git config --global user.name "Your Name"
  - git config --global user.email your.email@example.com

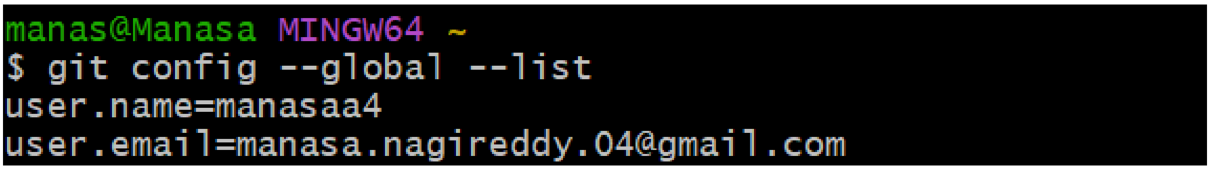
Output:



```
manas@Manasa MINGW64 ~
$ git config --global user.name "manasaa4"

manas@Manasa MINGW64 ~
$ git config --global user.email "manasa.nagireddy.04@gmail.com"
```

- **Verify Configuration:** To check if the configuration is properly set, execute the following command.
  - **Command:**
  - git config --global --list

Output:



```
manas@Manasa MINGW64 ~
$ git config --global --list
user.name=manasaa4
user.email=manasa.nagireddy.04@gmail.com
```

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

Notepad++ was configured to be used as the default text editor for Git commands.

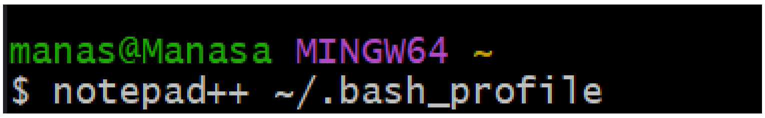
- **Check if Notepad++ is in PATH:** To check if notepad++.exe is recognized by Git Bash, execute the command below. If it fails, you will need to add its directory to your system's PATH environment variable as described in the lab notes.
  - **Command:**
  - notepad++

- **Open from Git Bash:** To confirm Notepad++ can now be opened from Git Bash, execute the command again.
  - **Command:**

    - notepad++

- **Create Alias:** To create a shorthand command for Notepad++, open your user profile in Git Bash and add the alias line.
    - **Command:**
    - notepad++ ~/.bash_profile

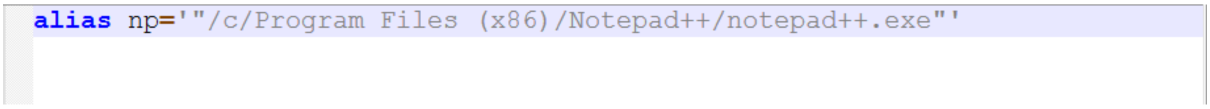
    Output:



```
manas@Manasa MINGW64 ~
$ notepad++ ~/.bash_profile
```

    - **Alias added to file:**
    - alias np='"/c/Program Files (x86)/Notepad++/notepad++.exe"'

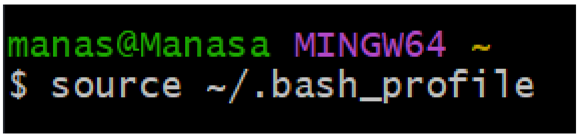
    Output:



```
alias np='"/c/Program Files (x86)/Notepad++/notepad++.exe"'
```

    - **Reload profile:**
    - source ~/.bash_profile

    Output:

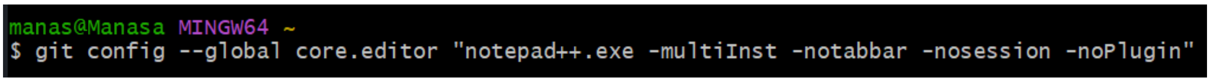


```
manas@Manasa MINGW64 ~
$ source ~/.bash_profile
```

- **Configure Git Editor:** To configure Notepad++ as the default editor for Git, execute the command.
    - **Command:**

- ○ git config --global core.editor "notepad++.exe -multiInst -notabbar -nosession -noPlugin"

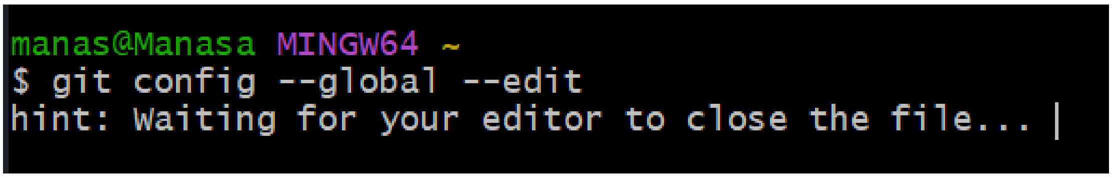
Output:



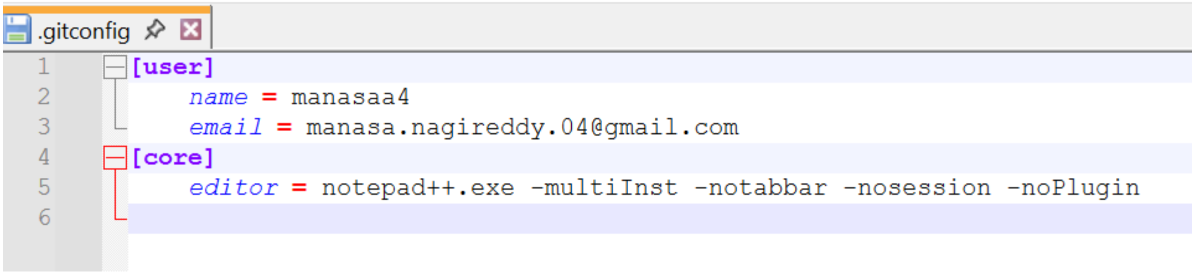
```
manas@Manasa MINGW64 ~
$ git config --global core.editor "notepad++.exe -multiInst -notabbar -nosession -noPlugin"
```

- **Verify Editor:** To verify if Notepad++ is the default editor, execute the command.
  - ○ **Command:**
  - ○ git config --global –edit

Output:



```
manas@Manasa MINGW64 ~
$ git config --global --edit
hint: Waiting for your editor to close the file... |
```



```
[user]
	name = manasaa4
	email = manasa.nagireddy.04@gmail.com
[core]
	editor = notepad++.exe -multiInst -notabbar -nosession -noPlugin
```

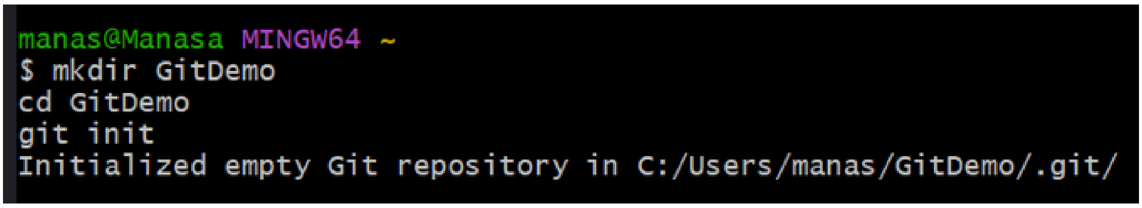
Step 3: Add a file to source code repository

A new local repository was created, a file was added and committed, and then pushed to a remote repository on GitLab.

- **Create and Initialize Repository:** Open Git Bash, create a new directory named GitDemo, and initialize a Git repository within it.
  - ○ **Commands:**
  - ○ mkdir GitDemo
  - ○ cd GitDemo

- git init

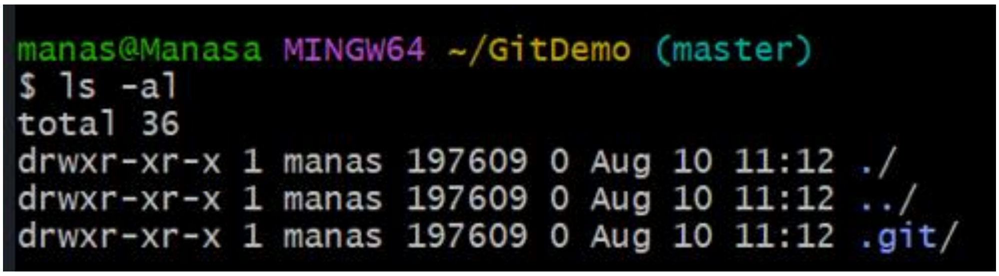
Output:



```
manas@Manasa MINGW64 ~
$ mkdir GitDemo
cd GitDemo
git init
Initialized empty Git repository in C:/Users/manas/GitDemo/.git/
```

- **Verify Initialization:** To display all the hidden files and confirm the .git folder was created, execute the command.
  - **Command:**
  - ls -a

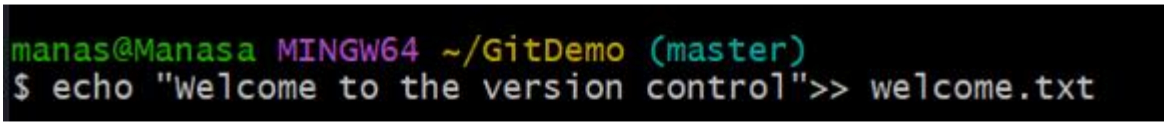
Output:



```
manas@Manasa MINGW64 ~/GitDemo (master)
$ ls -al
total 36
drwxr-xr-x 1 manas 197609 0 Aug 10 11:12 ./
drwxr-xr-x 1 manas 197609 0 Aug 10 11:12 ../
drwxr-xr-x 1 manas 197609 0 Aug 10 11:12 .git/
```

- **Create and Add File:** To create a file named welcome.txt and add content, execute the command.
  - **Command:**
  - echo "Welcome to the version control" > welcome.txt

Output:

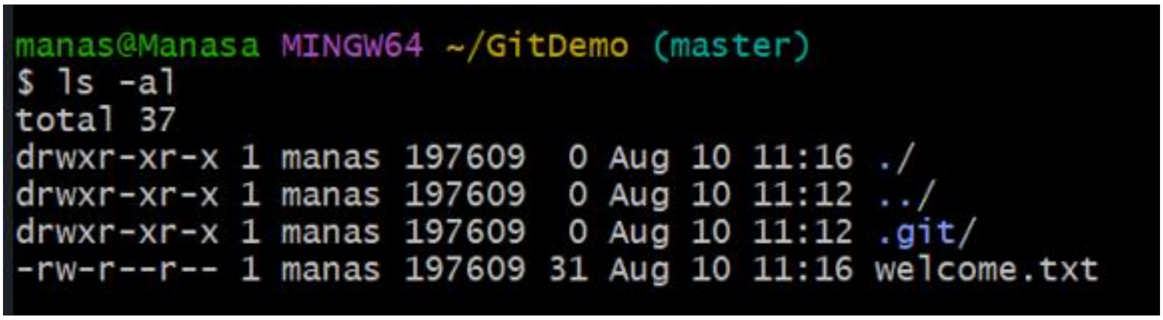


```
manas@Manasa MINGW64 ~/GitDemo (master)
$ echo "Welcome to the version control">> welcome.txt
```

- **Verify File Creation and Content:** To verify if the file was created and to view its content, execute the following commands.
  - **Commands:**

- ls
- cat welcome.txt

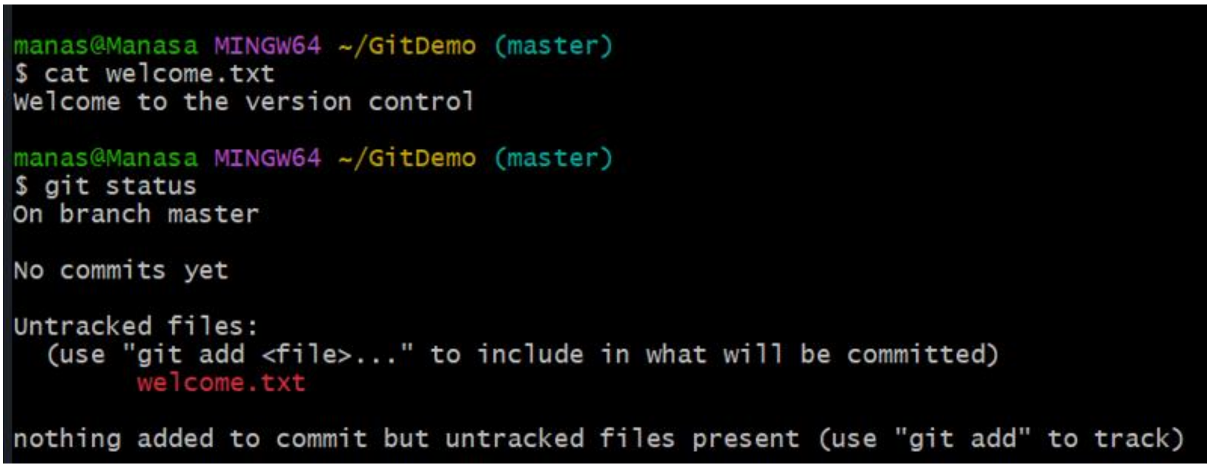
Output:



```
manas@Manasa MINGW64 ~/GitDemo (master)
$ ls -al
total 37
drwxr-xr-x 1 manas 197609  0 Aug 10 11:16 ./
drwxr-xr-x 1 manas 197609  0 Aug 10 11:12 ../
drwxr-xr-x 1 manas 197609  0 Aug 10 11:12 .git/
-rw-r--r-- 1 manas 197609 31 Aug 10 11:16 welcome.txt
```

- **Check Status:** To check the status of your working directory, execute the command. welcome.txt should be listed as an untracked file.
  - **Command:**
  - git status

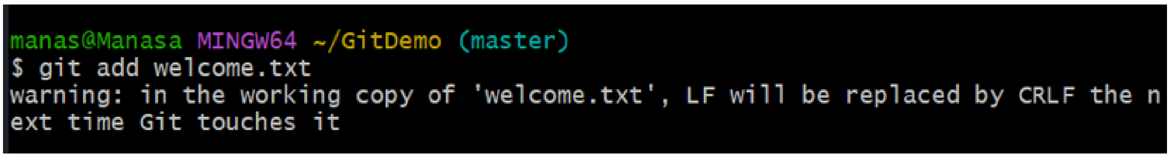
  Output:



```
manas@Manasa MINGW64 ~/GitDemo (master)
$ cat welcome.txt
Welcome to the version control

manas@Manasa MINGW64 ~/GitDemo (master)
$ git status
On branch master

No commits yet

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

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

- **Track File:** To add the file to the staging area so it can be tracked by Git, execute the command.
  - **Command:**
  - git add welcome.txt

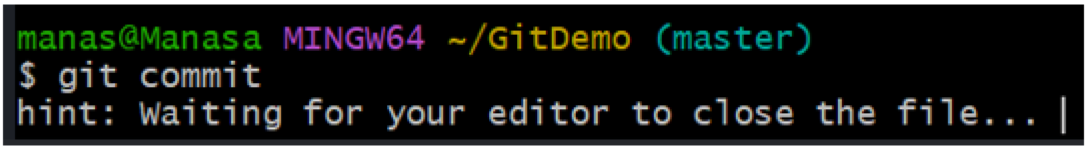
  Output:



```
manas@Manasa MINGW64 ~/GitDemo (master)
$ git add welcome.txt
warning: in the working copy of 'welcome.txt', LF will be replaced by CRLF the n
ext time Git touches it
```

- **Commit Changes:** To commit the staged file and open the default editor for a multi-line commit message, execute the command.
  - **Command:**
  - git commit

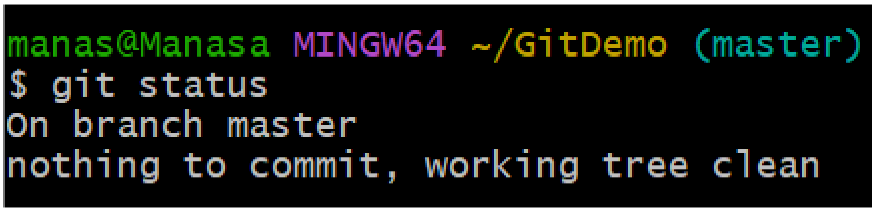
  Output:



```
manas@Manasa MINGW64 ~/GitDemo (master)
$ git commit
hint: Waiting for your editor to close the file... |
```

- **Check Status:** To verify that welcome.txt has been added to the local repository, execute the command.
  - **Command:**
  - git status

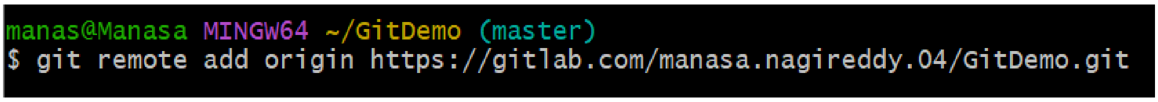
  Output:



```
manas@Manasa MINGW64 ~/GitDemo (master)
$ git status
On branch master
nothing to commit, working tree clean
```

- **Setup Remote Repository:** After signing up with GitLab and creating a remote repository named "GitDemo," you will link your local repository to it using the URL provided by GitLab.
  - **Command:**
  - git remote add origin https://gitlab.com/manasa.nagireddy.04/GitDemo.git

  Output:

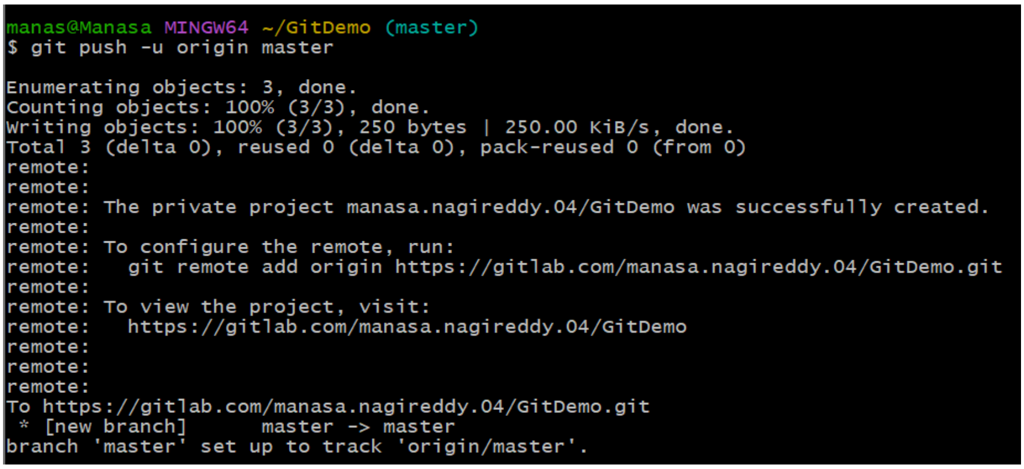


```
manas@Manasa MINGW64 ~/GitDemo (master)
$ git remote add origin https://gitlab.com/manasa.nagireddy.04/GitDemo.git
```

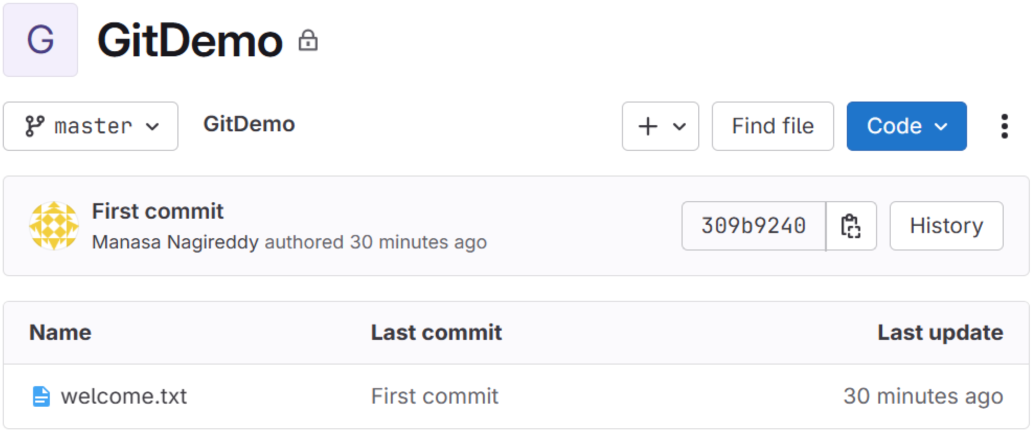
- **Pull from Remote:** To pull the remote repository, execute the command. This is especially important for syncing with a remote repository that may have a default README file.
    - **Command:**
    - git pull origin master

- **Push to Remote:** To push your local commits to the remote repository, execute the command.
    - **Command:**
    - git push origin master

  Output:



```
manas@Manasa MINGW64 ~/GitDemo (master)
$ git push -u origin master

Enumerating objects: 3, done.
Counting objects: 100% (3/3), done.
Writing objects: 100% (3/3), 250 bytes | 250.00 KiB/s, done.
Total 3 (delta 0), reused 0 (delta 0), pack-reused 0 (from 0)
remote:
remote:
remote: The private project manasa.nagireddy.04/GitDemo was successfully created.
remote:
remote: To configure the remote, run:
remote:   git remote add origin https://gitlab.com/manasa.nagireddy.04/GitDemo.git
remote:
remote: To view the project, visit:
remote:   https://gitlab.com/manasa.nagireddy.04/GitDemo
remote:
remote:
remote:
To https://gitlab.com/manasa.nagireddy.04/GitDemo.git
 * [new branch]      master -> master
branch 'master' set up to track 'origin/master'.
```



First commit
Manasa Nagireddy authored 30 minutes ago
309b9240

Name	Last commit	Last update
welcome.txt	First commit	30 minutes ago