

2017

Git and Github Guide

Setting up Git on Ubuntu machine and sync with Github

This document contains commands for git setup on Ubuntu and commands to sync with github for beginners

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1. Installation

The *git* version control system is installed with the following command

```
sudo apt install git
```

2. Configuration

Every git user should first introduce himself to git, by running these two commands:

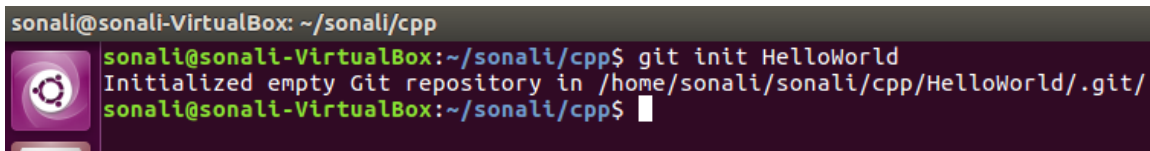
```
git config --global user.email "you@example.com"  
git config --global user.name "Your Name"
```

3. Creating a local repository

Create a folder in your system. This will serve as a local repository which will later be pushed onto the GitHub website. Use the following command:

```
git init Repo-Name
```

Example:

A terminal window screenshot showing the execution of the 'git init' command. The prompt is 'sonali@sonali-VirtualBox: ~/sonali/cpp'. The command entered is 'git init HelloWorld'. The output is 'Initialized empty Git repository in /home/sonali/sonali/cpp/HelloWorld/.git/'.

```
sonali@sonali-VirtualBox: ~/sonali/cpp  
sonali@sonali-VirtualBox:~/sonali/cpp$ git init HelloWorld  
Initialized empty Git repository in /home/sonali/sonali/cpp/HelloWorld/.git/  
sonali@sonali-VirtualBox:~/sonali/cpp$
```

4. Creating a README file to describe the repository

Now create a README file and enter some. The README file is generally used to describe what the repository contains or what the project is all about.

```
gedit README
```

You can use any other text editors.

5. Adding repository files to an index

Create HelloWorld.c file and write a sample program.

```
#include<stdio.h>
```

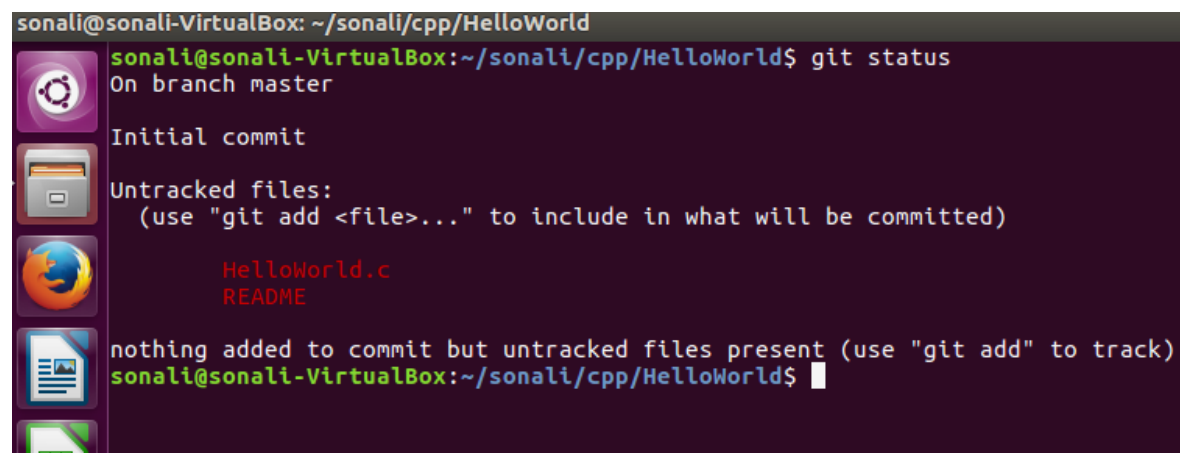
```
void main(){  
  
printf("hello world");  
  
}
```

You can add existing files also.

Check the status.

```
git status
```

Example:

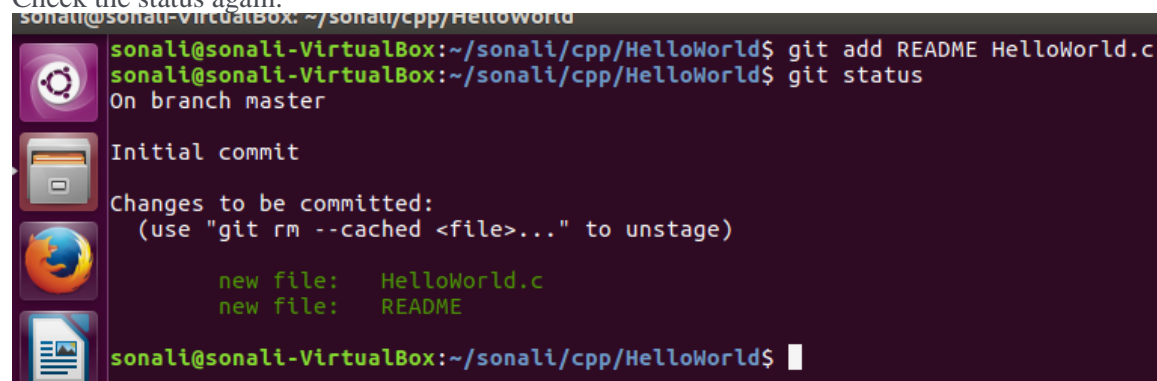


```
sonali@sonali-VirtualBox: ~/sonali/cpp/HelloWorld  
sonali@sonali-VirtualBox:~/sonali/cpp/HelloWorld$ git status  
On branch master  
  
Initial commit  
  
Untracked files:  
  (use "git add <file>..." to include in what will be committed)  
  
      HelloWorld.c  
      README  
  
nothing added to commit but untracked files present (use "git add" to track)  
sonali@sonali-VirtualBox:~/sonali/cpp/HelloWorld$
```

Add it to the index by using the following commands:

```
git add README  
  
git add HelloWorld.c
```

Check the status again.



```
sonali@sonali-VirtualBox: ~/sonali/cpp/HelloWorld  
sonali@sonali-VirtualBox:~/sonali/cpp/HelloWorld$ git add README HelloWorld.c  
sonali@sonali-VirtualBox:~/sonali/cpp/HelloWorld$ git status  
On branch master  
  
Initial commit  
  
Changes to be committed:  
  (use "git rm --cached <file>..." to unstage)  
  
      new file:   HelloWorld.c  
      new file:   README  
  
sonali@sonali-VirtualBox:~/sonali/cpp/HelloWorld$
```

Note that the "git add" command can be used to add any number of files and folders to the index.

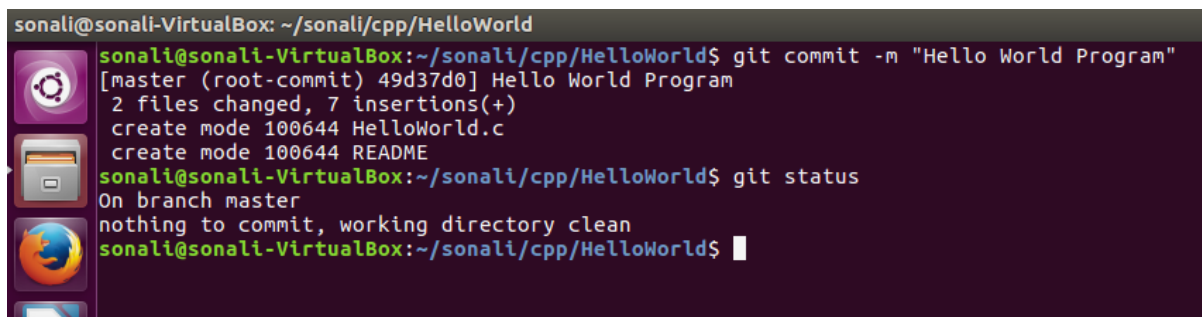
6. Committing changes made to the index

Once all the files are added, we can commit it. This means that we have finalized what additions and/or changes have to be made and they are now ready to be uploaded onto our repository. Use the command :

```
git commit -m "some_message"
```

"some_message" in the above command can be any simple message like "my first commit" or "hello world program", etc.

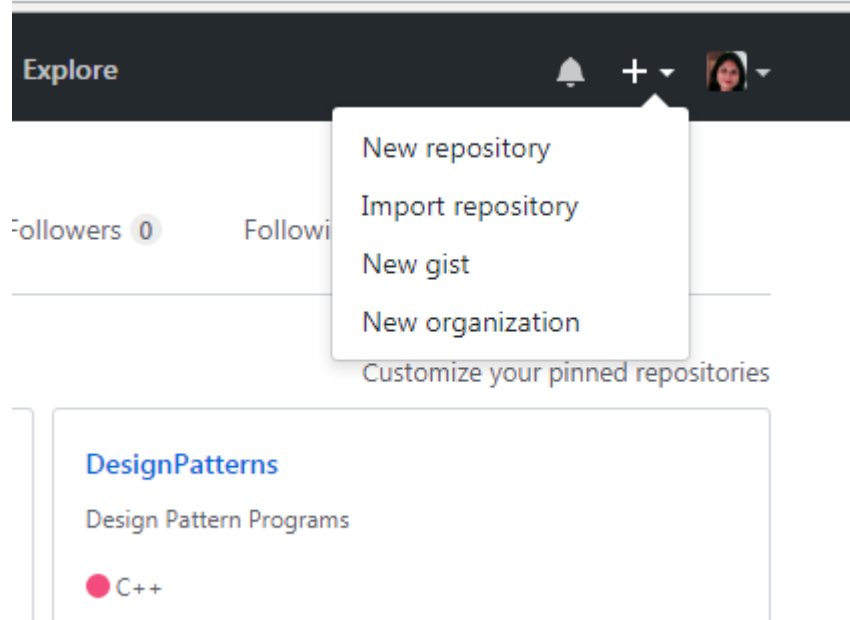
Example:



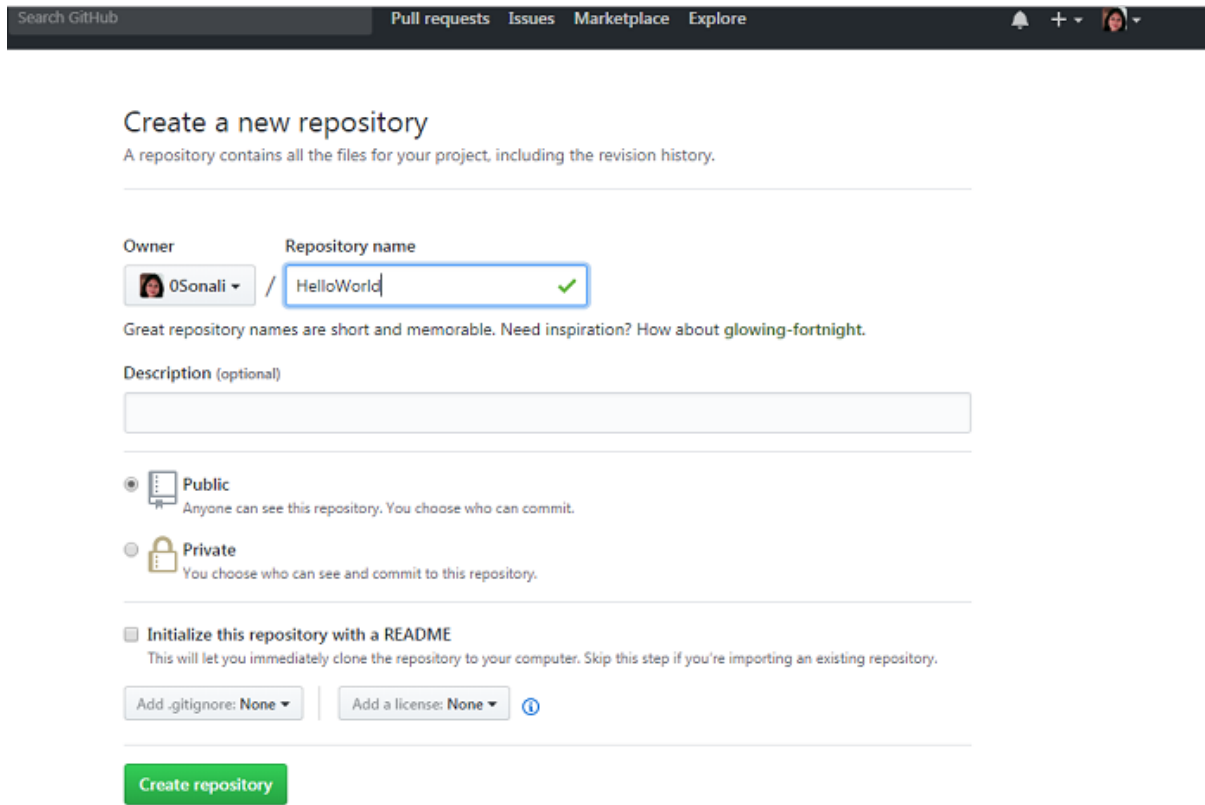
```
sonali@sonali-VirtualBox: ~/sonali/cpp/HelloWorld
sonali@sonali-VirtualBox:~/sonali/cpp/HelloWorld$ git commit -m "Hello World Program"
[master (root-commit) 49d37d0] Hello World Program
2 files changed, 7 insertions(+)
create mode 100644 HelloWorld.c
create mode 100644 README
sonali@sonali-VirtualBox:~/sonali/cpp/HelloWorld$ git status
On branch master
nothing to commit, working directory clean
sonali@sonali-VirtualBox:~/sonali/cpp/HelloWorld$
```

7. Creating a repository on GitHub

Create account on github.com and create new repository.



Provide name for repository same as one created on Ubuntu system.



Search GitHub Pull requests Issues Marketplace Explore

Create a new repository

A repository contains all the files for your project, including the revision history.

Owner: 0Sonali / Repository name: HelloWorld ✓

Great repository names are short and memorable. Need inspiration? How about glowing-fortnight.

Description (optional)

☒ Public
Anyone can see this repository. You choose who can commit.

☐ Private
You choose who can see and commit to this repository.

☒ Initialize this repository with a README
This will let you immediately clone the repository to your computer. Skip this step if you're importing an existing repository.

Add .gitignore: None Add a license: None ⓘ

Create repository

8. Connect to the repository on Github

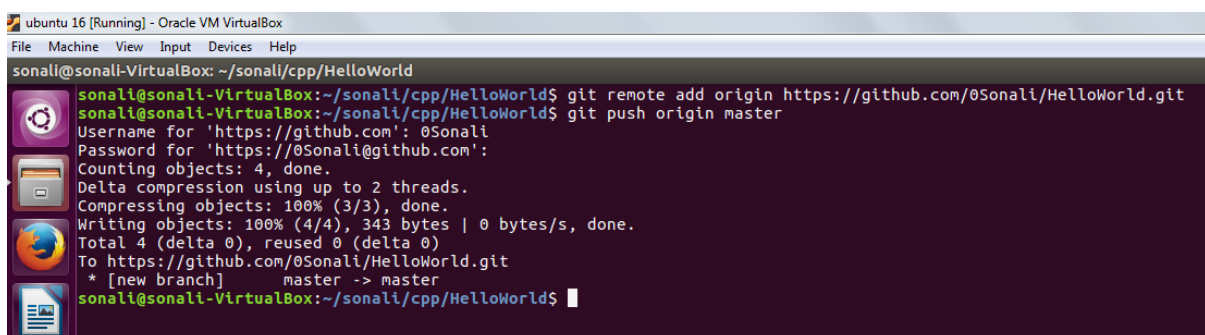
```
git remote add origin https://github.com/user_name/HelloWorld.git
```

9. Pushing files in local repository to Github repository

The final step is to push the local repository contents into the remote host repository (Github

```
git push origin master
```

Example:



```
ubuntu 16 [Running] - Oracle VM VirtualBox
File Machine View Input Devices Help
sonali@sonali-VirtualBox: ~/sonali/cpp/HelloWorld
sonali@sonali-VirtualBox:~/sonali/cpp/HelloWorld$ git remote add origin https://github.com/0Sonali/HelloWorld.git
sonali@sonali-VirtualBox:~/sonali/cpp/HelloWorld$ git push origin master
Username for 'https://github.com': 0Sonali
Password for 'https://0Sonali@github.com':
Counting objects: 4, done.
Delta compression using up to 2 threads.
Compressing objects: 100% (3/3), done.
Writing objects: 100% (4/4), 343 bytes | 0 bytes/s, done.
Total 4 (delta 0), reused 0 (delta 0)
To https://github.com/0Sonali/HelloWorld.git
 * [new branch]      master -> master
sonali@sonali-VirtualBox:~/sonali/cpp/HelloWorld$
```

Check the repository on github.

The screenshot shows the GitHub interface for a repository named 'OSonali / HelloWorld'. The top navigation bar includes 'This repository', 'Search', 'Pull requests', 'Issues', 'Marketplace', and 'Explore'. The repository name is displayed with options to 'Unwatch', 'Star', and 'Fork'. Below this, there are tabs for 'Code', 'Issues', 'Pull requests', 'Projects', 'Wiki', 'Insights', and 'Settings'. A message states 'No description, website, or topics provided.' with an 'Add topics' link and an 'Edit' button. A summary bar shows '1 commit', '1 branch', '0 releases', and '1 contributor'. Action buttons include 'Branch: master', 'New pull request', 'Create new file', 'Upload files', 'Find file', and 'Clone or download'. The file list shows 'HelloWorld.c' and 'README' as the only files. The 'README' file content is displayed as 'Hello World Program'.

OSonali / HelloWorld

Unwatch 1 Star 0 Fork 0

Code Issues 0 Pull requests 0 Projects 0 Wiki Insights Settings

No description, website, or topics provided. [Add topics](#) [Edit](#)

1 commit 1 branch 0 releases 1 contributor

Branch: master New pull request Create new file Upload files Find file Clone or download

OSonali Hello World Program Latest commit 49d37d0 4 minutes ago

HelloWorld.c	Hello World Program	4 minutes ago
README	Hello World Program	4 minutes ago

README

```
Hello World Program
```