

Introduction To Programming

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What Is The Command Line?

The command line is the ability to interface with a device (computer, server, smart phone, main frame, etc) via text messages.

You can use these text messages to control your computer such as creating files, running programs, and more!

```
[root@localhost ~]# ping -q fa.wikipedia.org
PING text.pmtpa.wikimedia.org (208.80.152.2) 56(84) bytes of data.
^C
--- text.pmtpa.wikimedia.org ping statistics ---
1 packets transmitted, 1 received, 0% packet loss, time 0ms
rtt min/avg/max/mdev = 540.528/540.528/540.528/0.000 ms
[root@localhost ~]# pwd
/root
[root@localhost ~]# cd /var
[root@localhost var]# ls -la
total 72
drwxr-xr-x. 18 root root 4096 Jul 30 22:43 .
drwxr-xr-x. 23 root root 4096 Sep 14 20:42 ..
drwxr-xr-x.  2 root root 4096 May 14 00:15 account
drwxr-xr-x. 11 root root 4096 Jul 31 22:26 cache
drwxr-xr-x.  3 root root 4096 May 18 16:03 db
drwxr-xr-x.  3 root root 4096 May 18 16:03 empty
drwxr-xr-x.  2 root root 4096 May 18 16:03 games
drwxrwx--T.  2 root gdm  4096 Jun  2 18:39 gdm
drwxr-xr-x. 38 root root 4096 May 18 16:03 lib
drwxr-xr-x.  2 root root 4096 May 18 16:03 local
lrwxrwxrwx.  1 root root   11 May 14 00:12 lock -> ../run/lock
drwxr-xr-x. 14 root root 4096 Sep 14 20:42 log
lrwxrwxrwx.  1 root root   10 Jul 30 22:43 mail -> spool/mail
drwxr-xr-x.  2 root root 4096 May 18 16:03 nis
drwxr-xr-x.  2 root root 4096 May 18 16:03 opt
drwxr-xr-x.  2 root root 4096 May 18 16:03 preserve
drwxr-xr-x.  2 root root 4096 Jul  1 22:11 report
lrwxrwxrwx.  1 root root   6 May 14 00:12 run -> ../run
drwxr-xr-x. 14 root root 4096 May 18 16:03 spool
drwxrwxrwt.  4 root root 4096 Sep 12 23:50 tmp
drwxr-xr-x.  2 root root 4096 May 18 16:03 yp
[root@localhost var]# yum search wiki
Loaded plugins: langpacks, presto, refresh-packagekit, remove-with-leaves
rpmfusion-free-updates                                | 2.7 kB    00:00
rpmfusion-free-updates/primary_db                    | 206 kB    00:04
rpmfusion-nonfree-updates                             | 2.7 kB    00:00
updates/metalink                                      | 5.9 kB    00:00
updates                                                | 4.7 kB    00:00
updates/primary_db                                   73% [=====] | 62 kB/s | 2.6 MB    00:15 ETA
```

GUI vs Command

A Graphical User Interface (GUI) is a visual interface for communicating with a computer, server, phone, etc. It often will make command line calls.



Common Command Line Commands

- mv
- mkdir
- cp
- rm
- touch
- nano
- ls
- cd
- pwd

LS - List

List all the files in a directory. A directory is a folder, and a folder contains files.

Examples:

```
$ ls
```

```
$ ls -la
```

```
$ ls /some/directory
```

CD - Change Directory

Move to another directory.

Examples

```
$ cd /path/to/directory
```

```
$ cd ..
```

Mkdir - Make directory

Makes a new directory or folder. Remember the `-p` command.

Examples:

```
$ mkdir afoldername
```

```
$ mkdir -p /path/to/a/folder
```

Touch - Create File

Touch will create an empty file.

Examples:

```
$ touch filename.text
```

```
$ touch /path/to/new/file.txt
```


Nano

Nano is an editor for going into files and updating its content.

Example:

```
nano filename.text
```

MV - Move

Moves a file or folder to another directory. Remember the -R.

Examples:

```
$ mv file1.txt file2.txt
```

```
$ mv file2.txt /path/to/different/folder/file2.txt
```

```
$ mv -R folder1 folder2
```

CP - Copy

Copies a file or directory. Remember the -R.

Examples:

```
$ cp file1.txt file2.txt
```

```
$ cp file1.txt /different/directory/file2.txt
```

```
$ cp -R folder1 folder2
```

RM - Delete

Deletes either a file or directory.

Examples

```
$ rm file1.txt
```

```
$ rm -rf folder1
```

Pwd - Current Working Directory

Get the current working directory

Examples

```
$ pwd
```

Git & GitHub

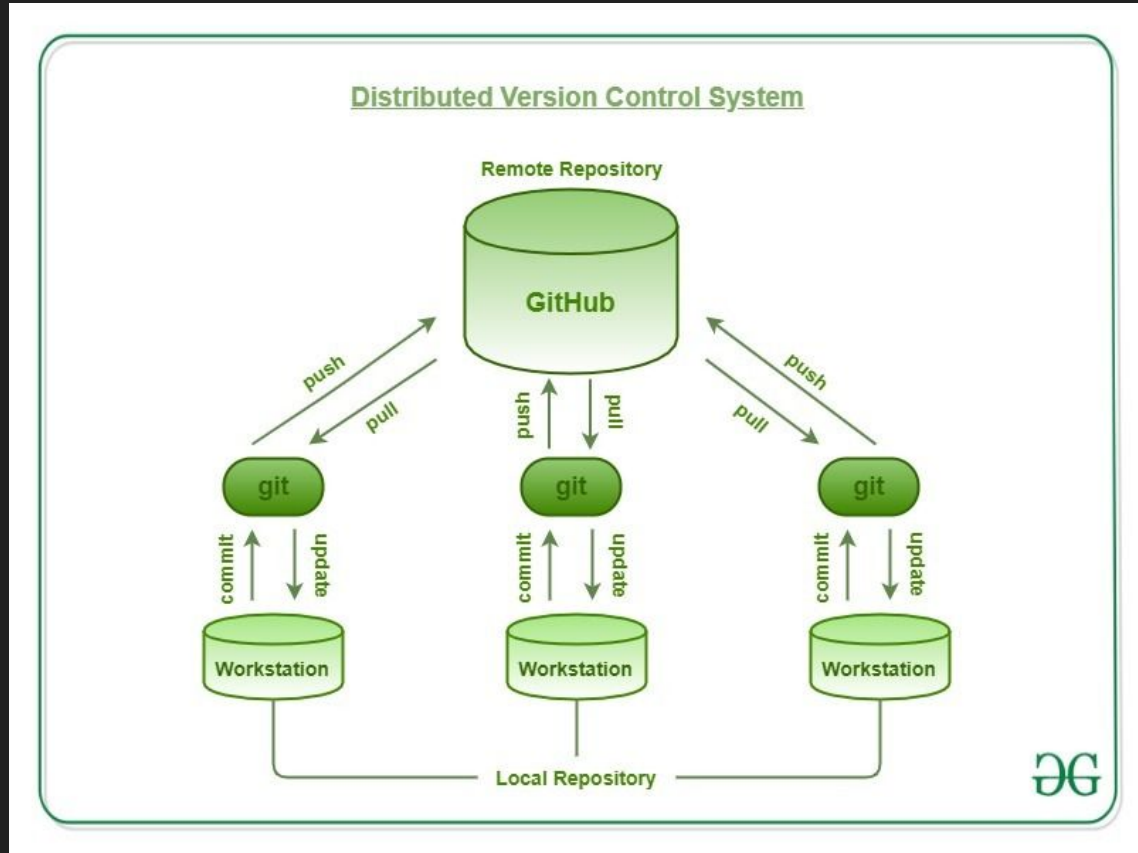
What is Git?

Git is a command line program that handles version control. Version control means every change you make is backed up in a log. So you can always go back in time to view how your code has changed.

Version history				
Delete All Versions				
No. ↓	Modified	Modified By	Size	Comments
3.0	10/4/2018 2:56 PM ▾	<input type="checkbox"/> Megan Bowen	339.5 KB	Updated title and intro
2.0	9/26/2018 12:50 PM	<input type="checkbox"/> Megan Bowen	339.1 KB	Copy edit
1.0	5/18/2018 1:23 PM	<input type="checkbox"/> Megan Bowen	338.2 KB	

What Is Github

Github is a website that a GUI (Graphical User Interface) for GIT. Using Github, you can create what is known as repositories. You will upload your projects and store them in github.



Git Commands

- **git init** - Initializes a new git repo
- **git add -A** - Puts all the files to be staged
- **git commit** - Adds a commit message. A commit message details what was changed
- **git push** - Pushes code that has been committed to the repository. This can be thought as “saving” a version of your code.
- **git pull** - Pulls down the last code from the repository to your local computer. Think of this as saving.