

git

because we like silly names

Sachin

Indian Institute of Technology, Bombay

May 27, 2014



What is git?

A programs that remembers the changes in your file(s)



Other version control systems

- Mercurial(hg)
- Subversion Control(svn)
- bazaar(bzr)



Why should I use git?

- Once you get familiar it will be a part of you life.
- Cleaner approach to file management



Usefulness

*I'm no coder or a developer, can I use **git**?*



Basic concept



Figure 1: life of a file



Installing git

Ubuntu(or Debian)

```
sudo apt-get install git
```

From source - Download and compile/install

<http://git-scm.com/downloads>



Basic setup

Your name

```
git config --global user.name "Sachin"
```

Your Email

```
git config --global user.email "isachin@iitb.ac.in"
```



Make a project

Make a directory/folder to store your file(s)

```
mkdir octo
```



Tell git to manage it

Initialize git

```
git init
```

at this time I want to know the status of my project

```
git status
```



Add file to your project

```
git add <FILE NAME>
```

for files with similar extensions

```
git add *.txt
```

to add everything

```
git add .
```



Check status of your project

```
git status
```



Commit it if your are happy :D

```
git commit -m "My message"
```



See changes w.r.t last commit

```
git diff
```

Difference w.r.t file

```
git diff <FILENAME>
```



Update modified file(s)

to update already committed file

```
git add -u
```

(do some more commits)



View commits

```
git log
```

```
git log --oneline
```

```
git log --graph --decorate --oneline
```



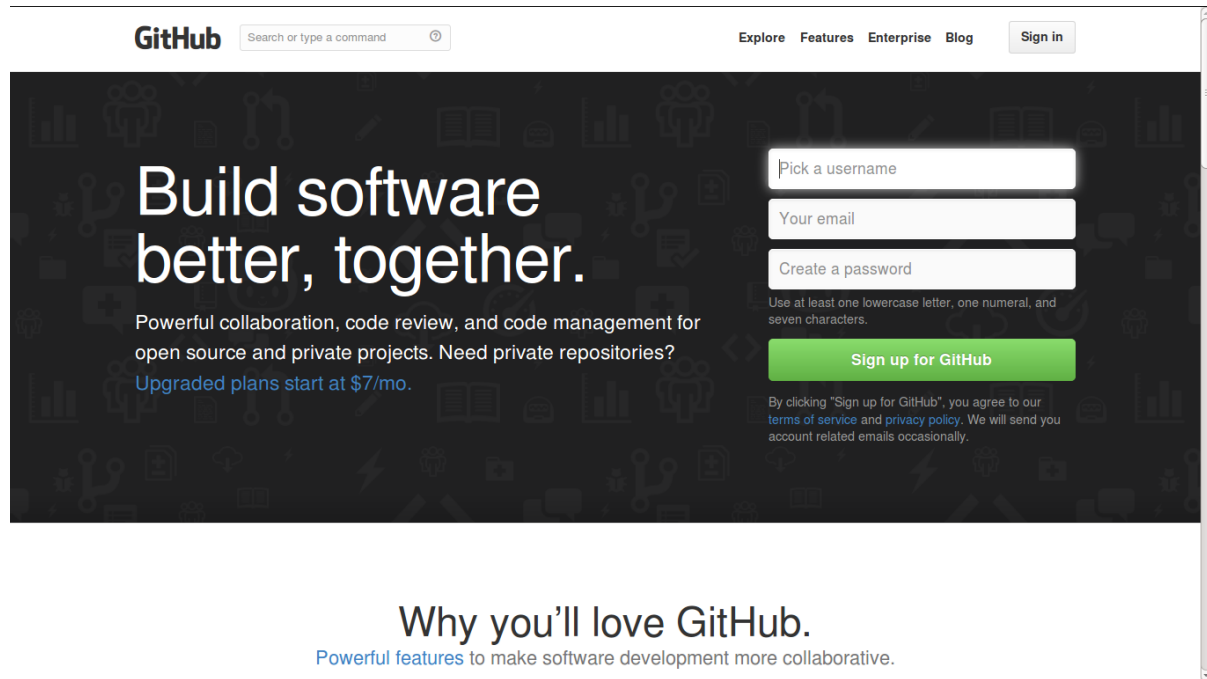
Get back to old commit

- With no history

```
git reset --hard <COMMIT HASH>
```



Hosting your code



The screenshot shows the GitHub homepage. At the top, there is a navigation bar with links: Explore, Features, Enterprise, Blog, and a Sign in button. Below the navigation bar, the main content area has a dark background with a pattern of small icons. The text 'Build software better, together.' is prominently displayed. Below this text, it says 'Powerful collaboration, code review, and code management for open source and private projects. Need private repositories? Upgraded plans start at \$7/mo.' To the right of this text is a sign-up form with three input fields: 'Pick a username', 'Your email', and 'Create a password'. Below the 'Create a password' field, there is a note: 'Use at least one lowercase letter, one numeral, and seven characters.' Below the form is a green button labeled 'Sign up for GitHub'. At the bottom of the form, there is a small disclaimer: 'By clicking "Sign up for GitHub", you agree to our terms of service and privacy policy. We will send you account related emails occasionally.'

GitHub

Search or type a command

Explore Features Enterprise Blog Sign in

Build software better, together.

Powerful collaboration, code review, and code management for open source and private projects. Need private repositories? Upgraded plans start at \$7/mo.

Pick a username

Your email

Create a password

Use at least one lowercase letter, one numeral, and seven characters.

Sign up for GitHub

By clicking "Sign up for GitHub", you agree to our terms of service and privacy policy. We will send you account related emails occasionally.

Why you'll love GitHub.

Powerful features to make software development more collaborative.

Figure 2: GitHub



Git branch: What is that?

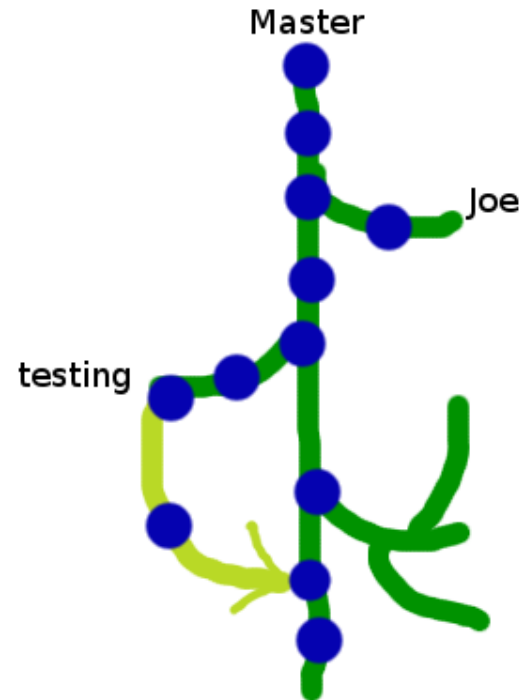


Figure 3: Git branches



Hosting sites

- github.com
- gitlab.com
- bitbucket.org





isachin@iitb.ac.in



Reference

- *Pro Git*

Links

- <http://git-scm.com/>

