

Beginners guide to Git & GitHub

Presented by Hetav Pandya

Your friendly neighborhood GitHub Campus Expert



— **WHO IS THIS
GUY?**

@pandyah5



What we will cover today





- Git – What & Why
- Git Workflow
- Git Commands
- Collaboration
- Good practices
- Open discussion on advanced topics










Git – What & Why

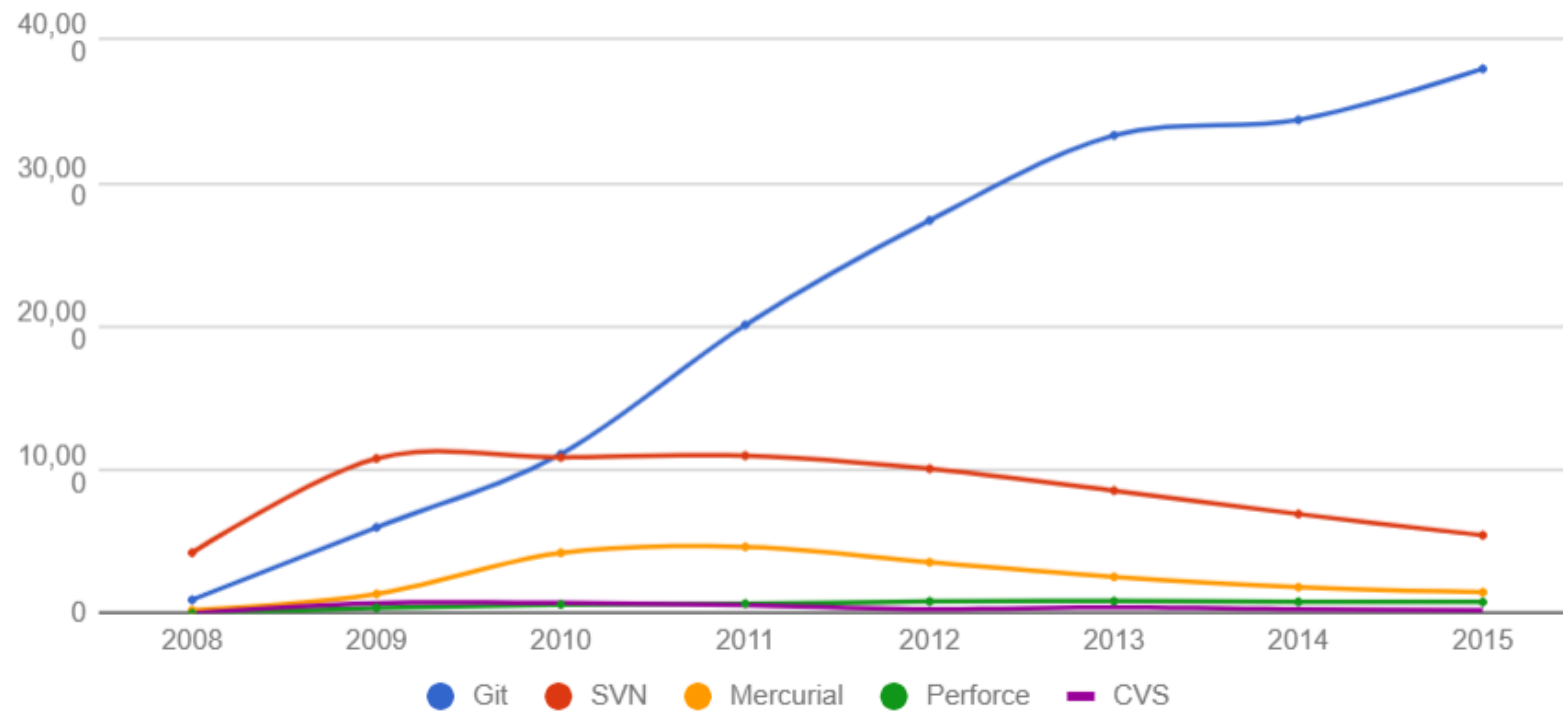


Version Control System.

<input type="checkbox"/> Name	Date modified	Type	Size
▼ Today			
 essay_assignement.txt	8/21/2023 1:51 PM	Text Document	1 KB
 essay_assignement_final.txt	8/21/2023 1:51 PM	Text Document	2 KB
 essay_assignement_final_final.txt	8/21/2023 1:52 PM	Text Document	3 KB
 essay_assignement_final_final_i_swear_final.txt	8/21/2023 1:52 PM	Text Document	5 KB

<input type="checkbox"/> Name	Date modified	Type	Size
▼ Today			
 essay_assignement.txt	8/21/2023 1:51 PM	Text Document	1 KB
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 essay_assignement_final_final_i_swear_final.txt	8/21/2023 1:52 PM	Text Document	5 KB
 essay_assignement_final_final_i_swear_final_Cassandra's copy.txt	8/21/2023 1:52 PM	Text Document	5 KB
 essay_assignement_final_final_i_swear_final_Dalia's copy with better editing.txt	8/21/2023 1:52 PM	Text Document	5 KB
 essay_assignement_final_final_i_swear_final_Nick's copy with better grammar.txt	8/21/2023 1:52 PM	Text Document	5 KB

Questions on Stack Overflow, by Year





Git Workflow



Initialize your repository.

Repository = Folder that is tracked by Git

—

Write some code/text/nonsense.



Track your changes.



Create a checkpoint.



Repeat.



Git Commands

git init

Initialize your repository.

```
HetavPandya@Encrypted MINGW64 ~/Downloads/to_del/trial/test
$ git init
Initialized empty Git repository in C:/Users/Hetav Pandya/Downloads/to_del/trial/test/.git/
```

```
HetavPandya@Encrypted MINGW64 ~/Downloads/to_del/trial/test (master)
$
```


Make changes

Write some code/text/nonsense.

Note: touch is a Linux command, not a Git command. It is responsible for creating a file.

```
HetavPandya@Encrypted MINGW64 ~/Downloads/to_del/trial/test
$ git init
Initialized empty Git repository in C:/Users/Hetav Pandya/Downloads/to_del/trial/test/.git/

HetavPandya@Encrypted MINGW64 ~/Downloads/to_del/trial/test (master)
$ touch my_file.txt

HetavPandya@Encrypted MINGW64 ~/Downloads/to_del/trial/test (master)
$
```

git add <file>

Track your changes.

```
HetavPandya@Encrypted MINGW64 ~/Downloads/to_del/trial/test
$ git init
Initialized empty Git repository in C:/Users/Hetav Pandya/Downloads/to_del/trial/test/.git/

HetavPandya@Encrypted MINGW64 ~/Downloads/to_del/trial/test (master)
$ touch my_file.txt

HetavPandya@Encrypted MINGW64 ~/Downloads/to_del/trial/test (master)
$ git add my_file.txt

HetavPandya@Encrypted MINGW64 ~/Downloads/to_del/trial/test (master)
$
```

git commit -m “ ”

Create a checkpoint.

```
HetavPandya@Encrypted MINGW64 ~/Downloads/to_del/trial/test
$ git init
Initialized empty Git repository in C:/Users/Hetav Pandya/Downloads/to_del/trial/test/.git/

HetavPandya@Encrypted MINGW64 ~/Downloads/to_del/trial/test (master)
$ touch my_file.txt

HetavPandya@Encrypted MINGW64 ~/Downloads/to_del/trial/test (master)
$ git add my_file.txt

HetavPandya@Encrypted MINGW64 ~/Downloads/to_del/trial/test (master)
$ git commit -m "Added my first file"
[master (root-commit) 93d6e29] Added my first file
1 file changed, 0 insertions(+), 0 deletions(-)
create mode 100644 my_file.txt

HetavPandya@Encrypted MINGW64 ~/Downloads/to_del/trial/test (master)
$
```

git log

Check your history.

```
HetavPandya@Encrypted MINGW64 ~/Downloads/to_del/trial/test
$ git init
Initialized empty Git repository in C:/Users/Hetav Pandya/Downloads/to_del/
/test/.git/
```

```
HetavPandya@Encrypted MINGW64 ~/Downloads/to_del/trial/test (master)
$ touch my_file.txt
```

```
HetavPandya@Encrypted MINGW64 ~/Downloads/to_del/trial/test (master)
$ git add my_file.txt
```

```
HetavPandya@Encrypted MINGW64 ~/Downloads/to_del/trial/test (master)
$ git commit -m "Added my first file"
[master (root-commit) 93d6e29] Added my first file
1 file changed, 0 insertions(+), 0 deletions(-)
create mode 100644 my_file.txt
```

```
HetavPandya@Encrypted MINGW64 ~/Downloads/to_del/trial/test (master)
$ git log
commit 93d6e29f14122e12c19dc322d85b300360a16c7a (HEAD -> master)
Author: pandyah5 <pandyahetav1@gmail.com>
Date: Tue Aug 22 00:47:31 2023 -0400
```

Added my first file

```
HetavPandya@Encrypted MINGW64 ~/Downloads/to_del/trial/test (master)
$ !
```

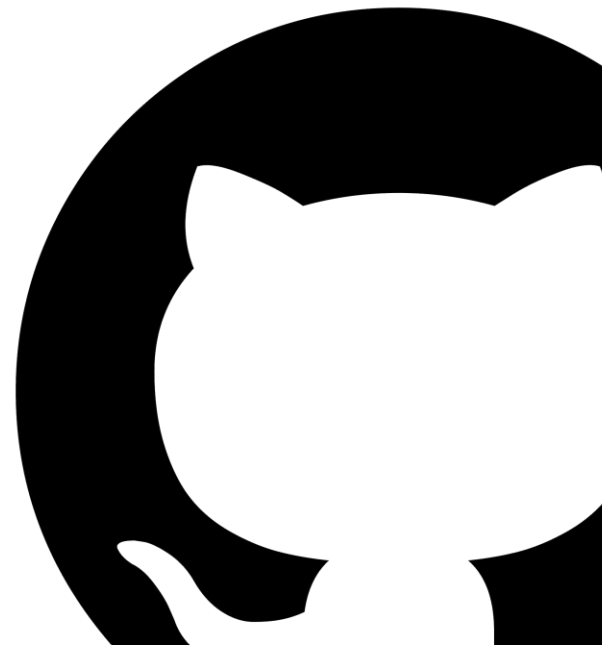


Local workspaces.



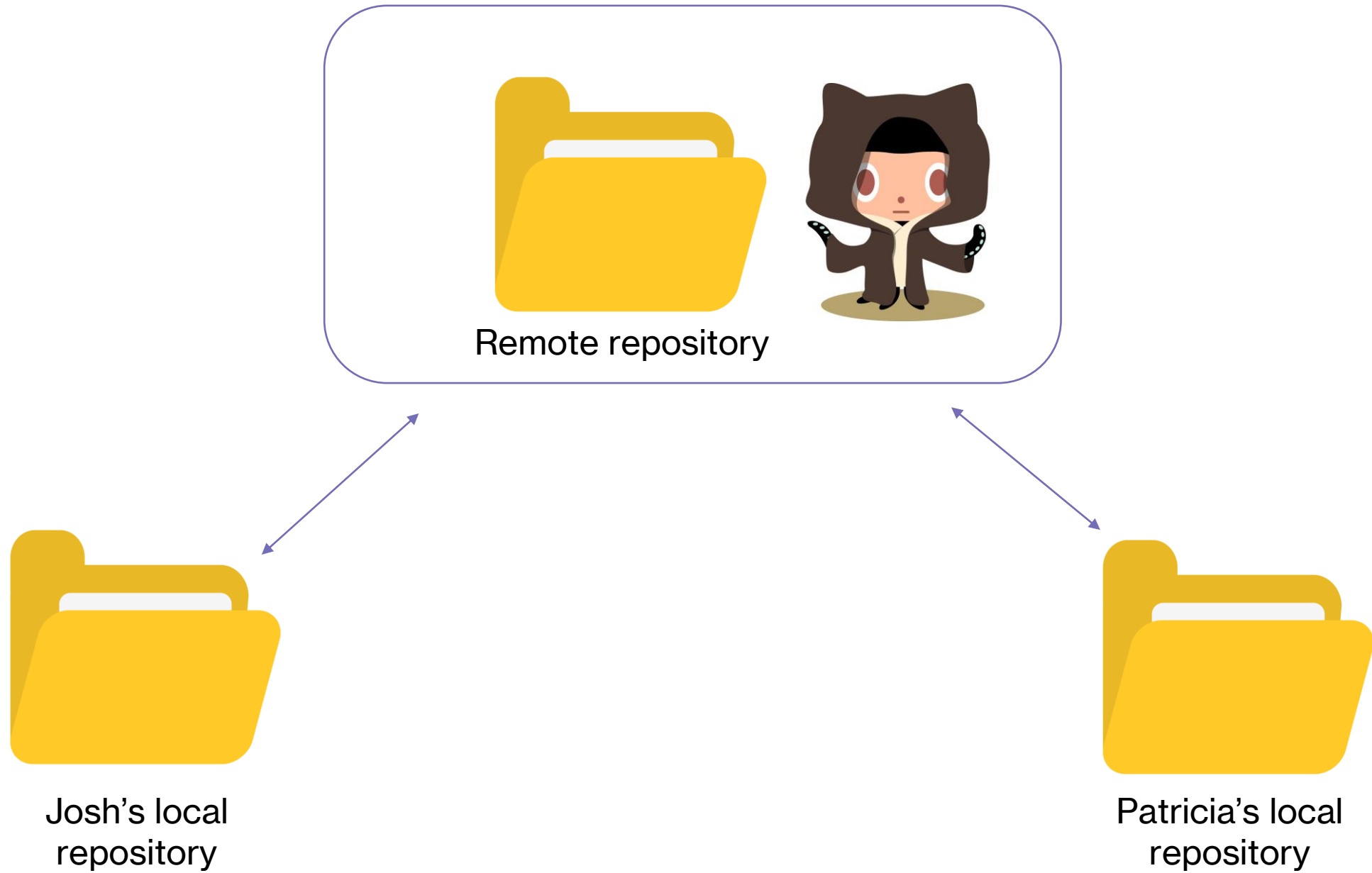
Hard to collaborate.

Collaboration and GitHub





Cloud workspace.





Fine tuned for collaboration.

Git commands to collaborate

`git clone <url>` create a copy of a repo in a new directory

`git remote` lists all remote git repos

`git pull <remote> <branch>` gets objects from the remote repo and merges the diffs

`git push <remote> <branch>` adds objects to merge the diffs in the remote git repo

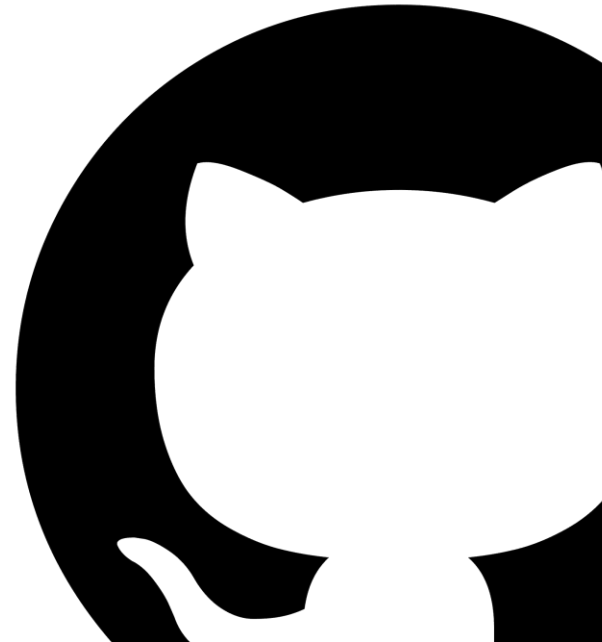
`git revert [<type>] [<commit>]` undo commits



Let's Git together!

Good Practices

Everyone like a dev with etiquettes.





Always have a README



Commit early and often.



Test before you commit.



Write descriptive commit messages.

Note: Any lazy folks can ask me later about using OpenCommit for the same.



Git is not a backup system!

OPEN DISCUSSION...

- How to version control your Resume?
- What are licenses and which ones should I use?
- How to host your website or blog on GitHub?
- How to automate testing in your repository?
- What is open-source community and how do I contribute to it?
- What are the major limitations of Git, and how to work around them?
- I don't like Git, how can I make my own custom version control system?

If I am not able to answer all your questions feel free to connect with me after the session.



@pandyah5



@Hetav Pandya

