

Preamble

<http://bit.ly/2yZWVpX>

First 10 minutes will be spent ensuring everyone has

1. `git` installed on their computer.
2. `Github` account

Please sit in front of room if you haven't yet setup your environment

Please help your neighbors if you can

Intro to Git

<http://bit.ly/2yZWVpX>

This talk will not cover, or expect knowledge of, programming languages

1. We will introduce vocabulary
2. Understand Simplest Workflow
3. Attendants will contribute to collaborative demo

Your Project!

- After I assign you a letter-line pair,
- add them to a file `README.md`
- belonging to an **existing repository**
- in **alphabetical order**.
- Finally, share your changes

```
A is for Alice who fell down the stairs  
B is for Basil assaulted by bears  
C is for Clara who wasted away  
...  
Z is for Zillah who drank to much gin
```

What is Git?

- Source and version control
- Ledger of work
- Collaboration tool
- Workflow management software

competes with : **hg**, **svn**, **cvs**

What is Github?

- Git service provider
- Account management and access control
- Hosting platform
- Ticket tracker / project management tool

competes with : **GitLab**, **bitbucket**, [**coding.net**](https://www.coding.net)

What to store (Github)?

- source code (language ambiguous)
- markdown / Jupyter / pdf
- small or static images & data-sets

What NOT to store?

- PASSWORDS, access tokens, secrets, or private keys
- compiled binaries
- large images & data-sets

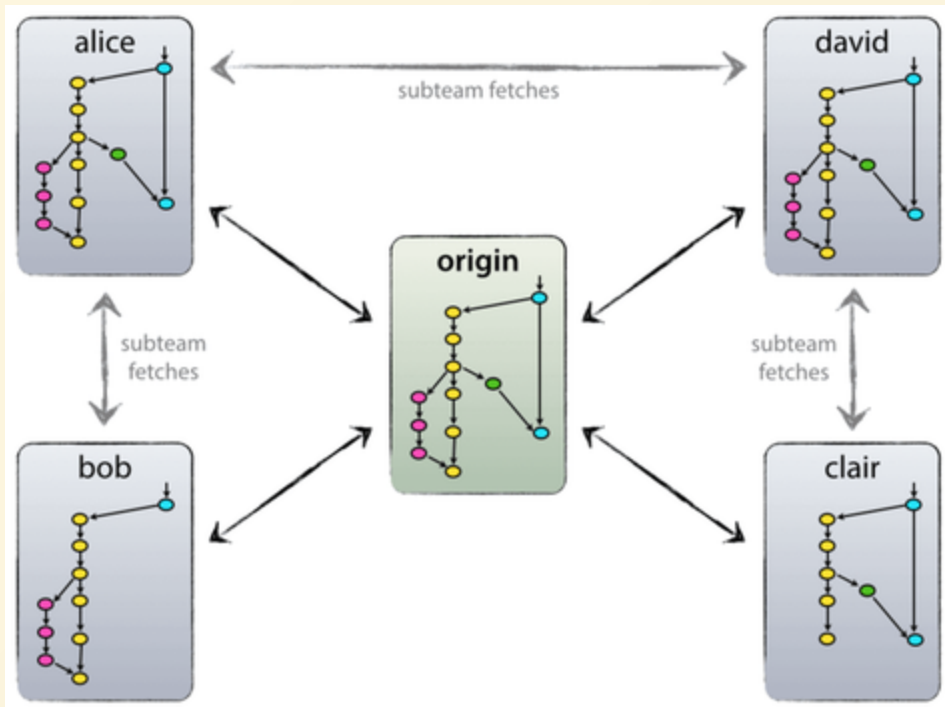
Passwords

```
$ cat secrets.json # this file should not be committed  
{  
    "password": "MySuperNeatoPassword!#"   
}
```

```
import json  
  
# this file should be committed  
  
with open('secrets.json') as fd:  
    pwd = json.load(fd)['password']  
  
print(pwd)
```

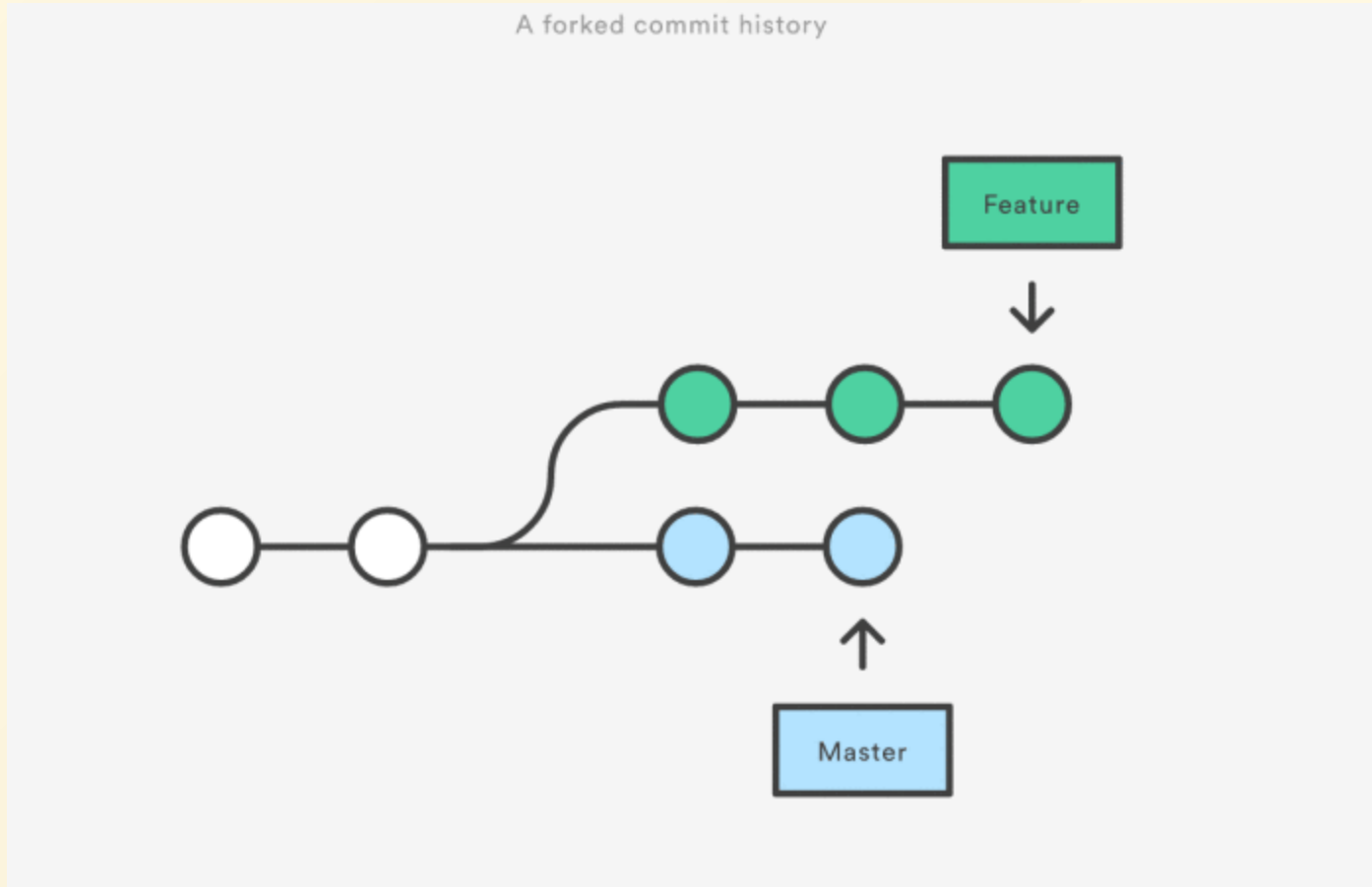
Vocabulary (I)

- **remote**
remote labels alias another location



Vocabulary (II)

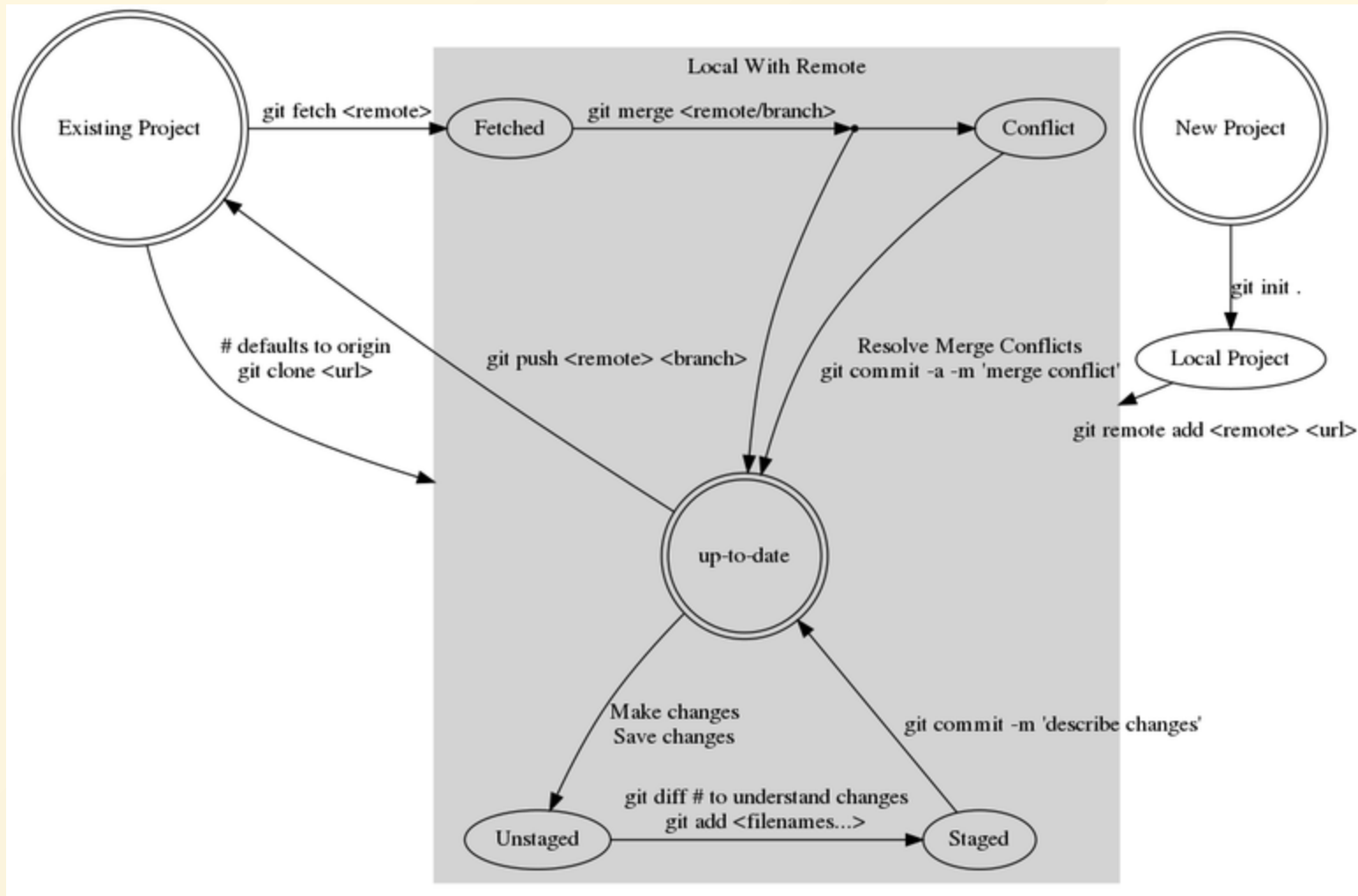
- branch



Vocabulary (III)

- `init` / `clone` - Starts Project
- `add` / `commit` and Commit History - Tracks Changes
- `fetch` / `merge` and Merge Conflicts
- `push` - Share Changes
- `diff`, `status`, `log` - What state am I in?

Workflow Map



**Give me your Username in
Exchange for A Ticket**

THE FATAL LOZENGE

by Edward Gorey



Rules of the Game

- 10 people per repository team {Red, Blue, Black}
- No more than 80 characters per line
- This poem is expected ordered alphabetically
- Each ticket represents one letter of short story
- Your team is done when the remote repository is complete
- 15 minutes

Git Commands

- `status`, `diff`
- `clone`, `init`
- `fetch`, `merge`, `commit`, `push`, `fetch`

```
$ git clone https://github.com/PortlandDataScienceGroup/ABC
Cloning into 'ABC' ...
remote: Counting objects: 500, done.
remote: Compressing objects: 100% (36/36), done.
remote: Total 500 (delta 27), reused 33 (delta 12), pack-re
Receiving objects: 100% (500/500), 6.72 MiB | 1.71 MiB/s, d
Resolving deltas: 100% (286/286), done.
Checking connectivity... done.
$
```

Github activities

- fork
- pull request
- Code reviews
- Create / destroy user and organization accounts
- Access control
- Create / destroy repository
- Issue creation / assignment / management
- Gists

Demo

Collaboration within a team is different than from outside, as a consequence of access control

Lets respond to a open source git issue

Steps

1. Identify an issue
2. `fork` issue on Github
3. `clone` repository to local directory
4. `branch` to encapsulate our edits
5. Edit files, save and `commit` changes
6. `push` changes to branch on forked repository
7. `pull request` fork-branch on original repository