Forum on Women in Tech

Jona Azizaj
FLOSS Advocate

Workshop: Introduction to Git

What is a VCS?

Version Control System (VCS) is a software that helps software developers to work together and maintain a complete history of their work.

Git History

- Originally written for Linux kernel development.
- All Linux kernel developers used to be able to use the proprietary Bitkeeper version control system for free.
- In 2005 there were further restrictions put on Bitkeeper so that it wasn’t as free as it used to be.
- Linus Torvalds was uneasy with the situation and decided to write his own tool.

Git Design

- Distributed development
- Scalable up to thousands of developers
- Fast and efficient
- Maintain integrity and privacy
- Support and promote development with branches
- Clean design
- Free as in freedom

Basic Git commands and concepts

- Git config
- Git init
- Git status
- Git branch
- Git checkout <filename>
- Git log
- Git add, git commit
- Git push, git pull
- Git clone

- Repository
- Branches, master
- Pull Request
- Merge
- Fork
- .gitignore
- etc

Configure Git

- Git confg
- Important for the history of a flee Who made a change and when?

```
$ git confg   global user.name "Your name"
$ git confg   global user.email "Your Email"
$ git confg   list
```

Create a local git repository

```
$ mkdir introductiontogit
$ cd introductiontogit
$ git init
```

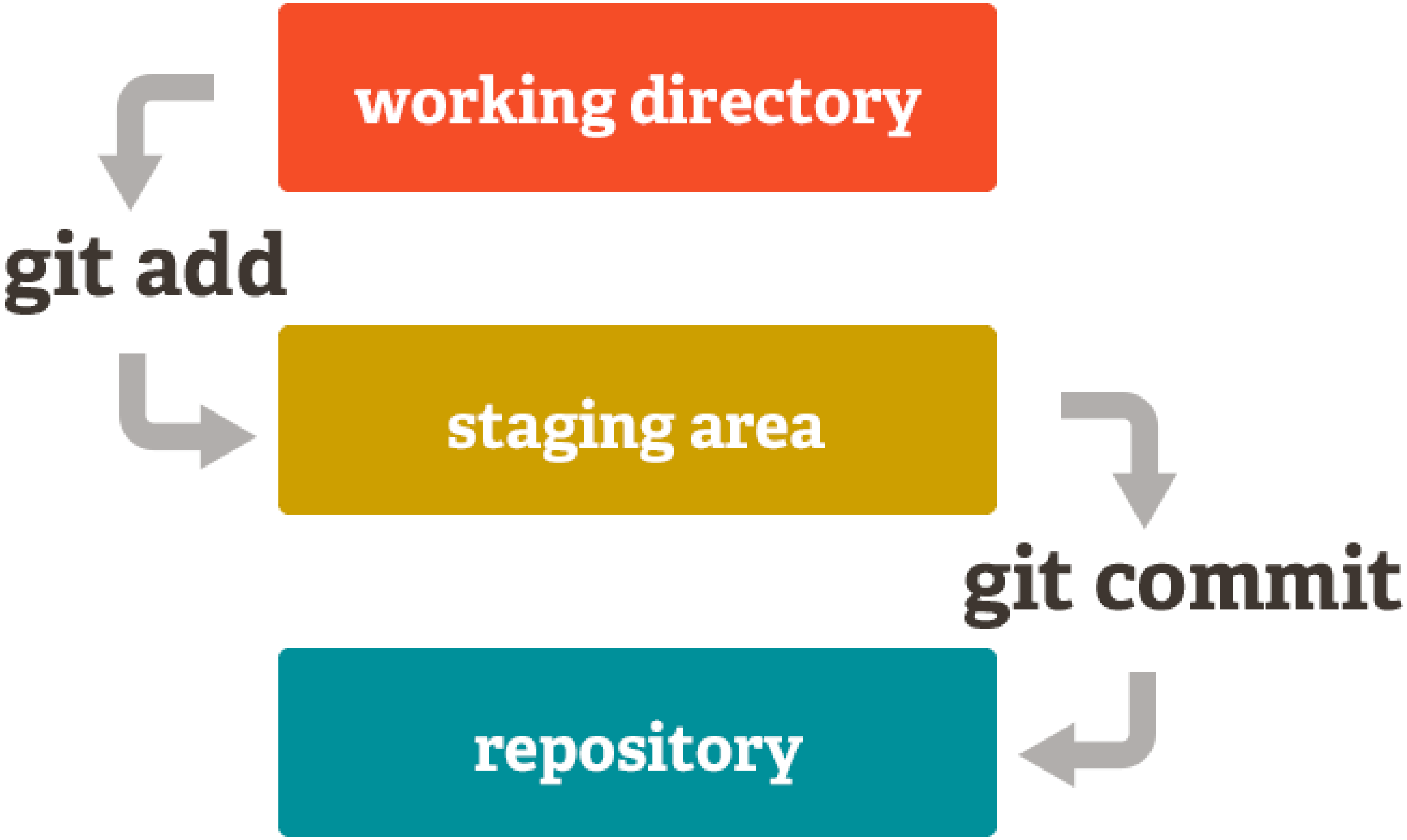
Add a new file to the repo

```
$ touch text.txt
```

```
$ git status
```

The staging environment, the commit, and you

- A commit is a record of what files you have changed since the last time you made a commit.
- So, how do you tell git which files to put into a commit? This is where the staging environment or index come in.
- Commits allow you to go back to the state of a project at any point.



working directory

git add

staging area

git commit

repository

Add a file to the staging environment

```
$ git add text.txt
```

```
$ git add .
```

. to add all the files

Create a commit

```
$ git commit  m "new fle added"
```

```
$ git log
```

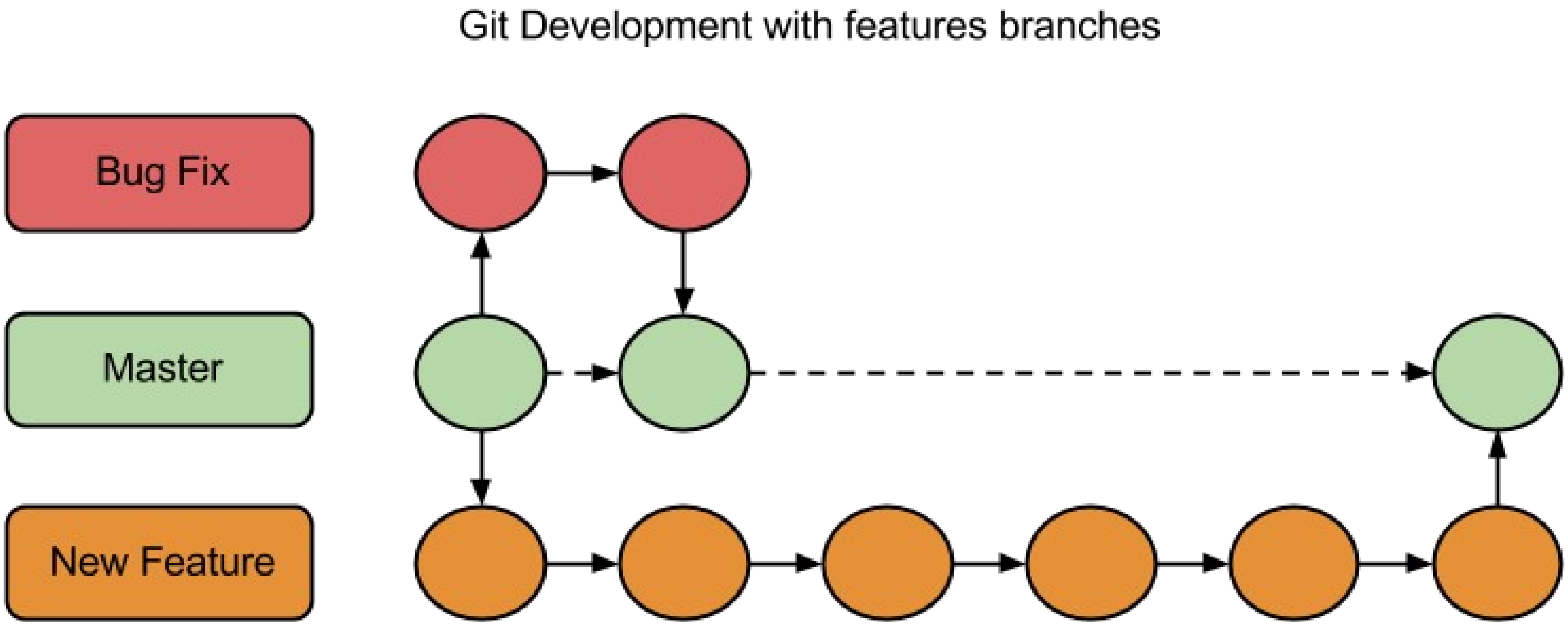
to see all git commits history

MAKING GIT COMMINTS
FEELING MORE ORGANIZED
memegen.com

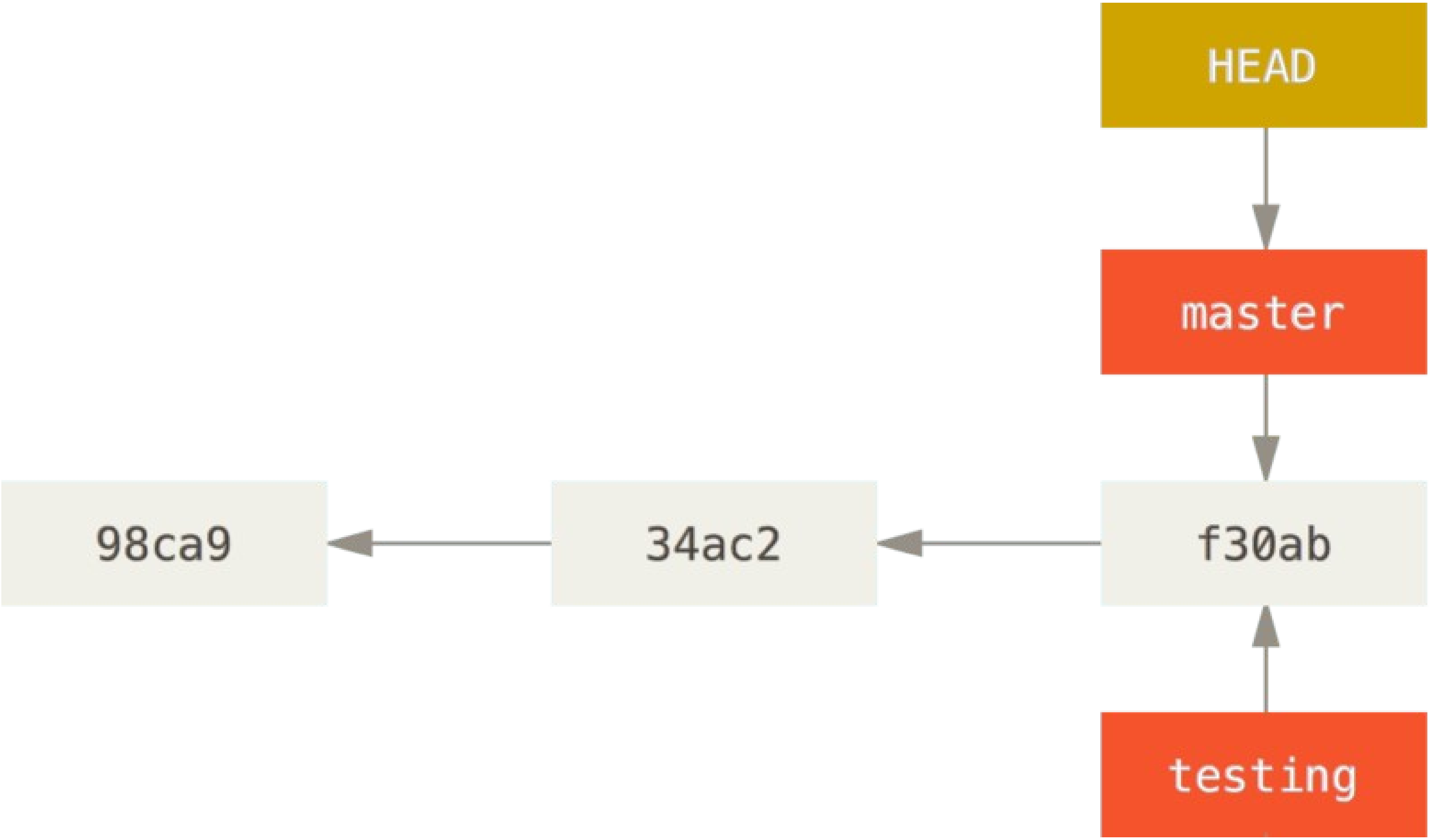
Create a new branch

```
$ git branch branchname
$ git branch
$ git checkout branchname
$ git branch  d branchname
```

Git Branches



How does Git know what branch you’re currently on?



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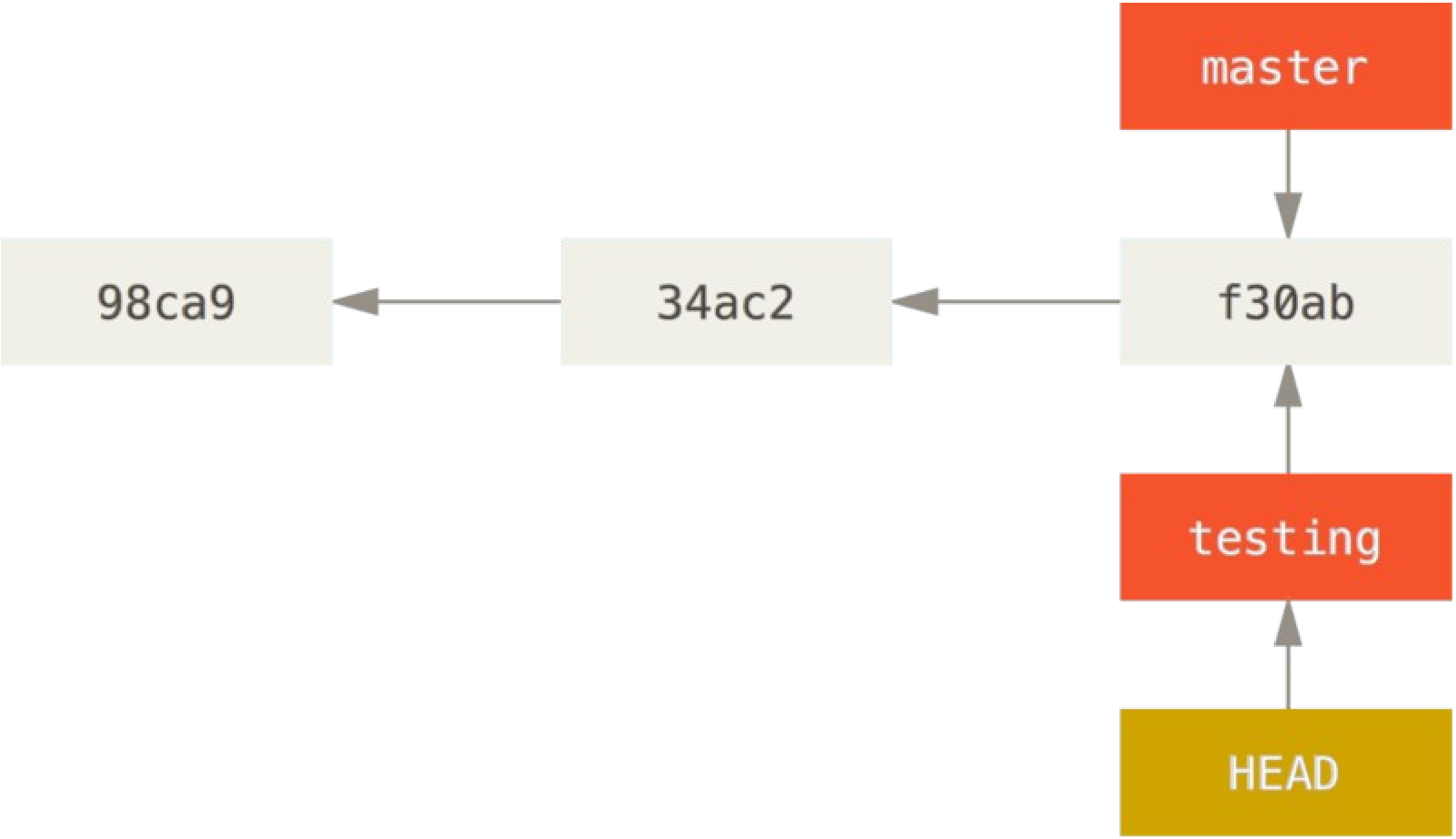

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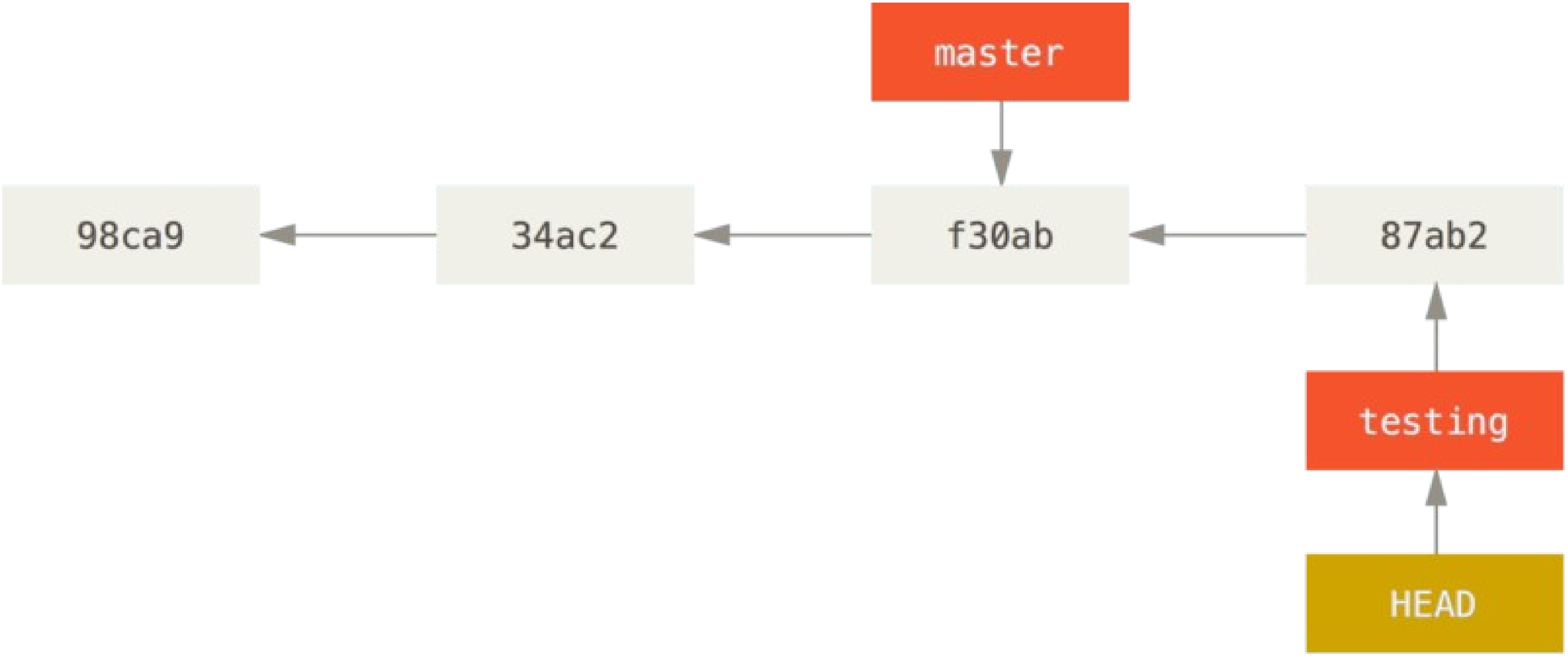

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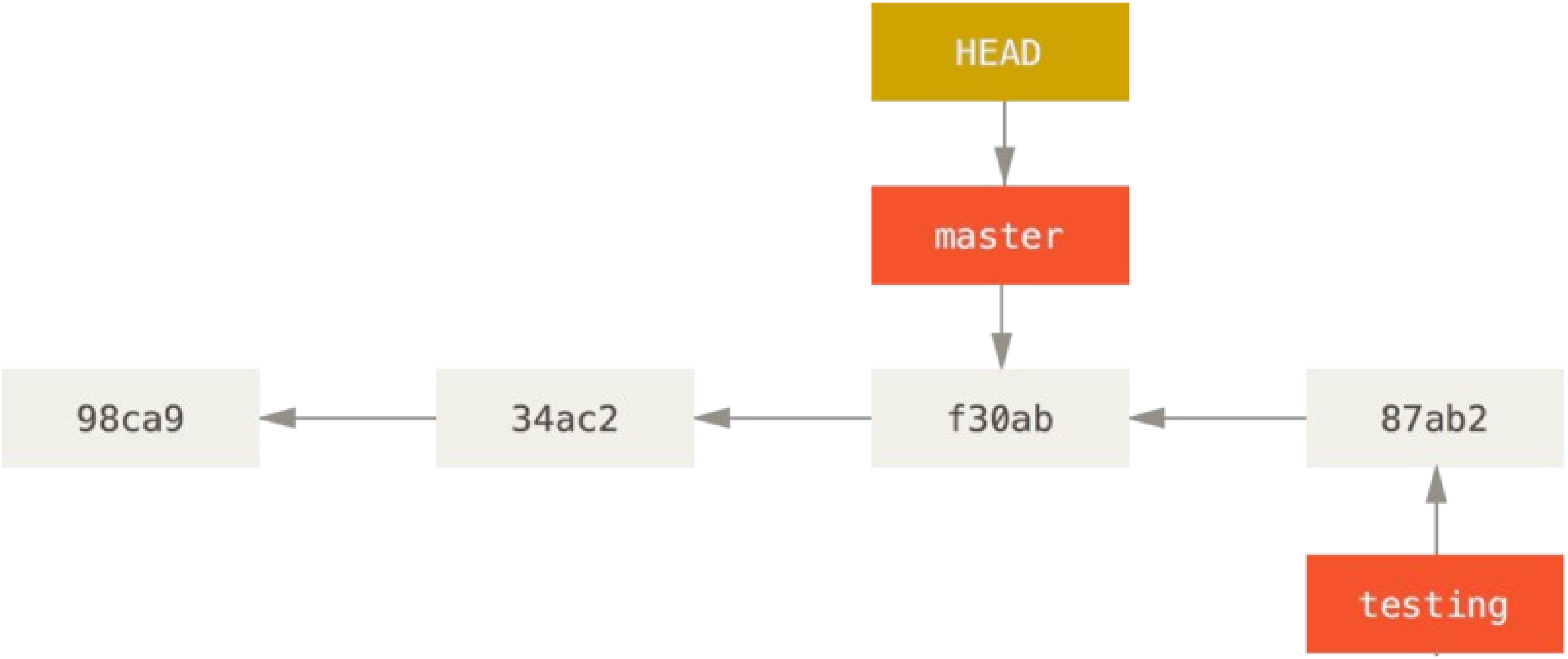


Create a new repository on GitHub

```
$ git remote add origin
httpse//github.com/user/repo.git
```

```
#set a new remote
```

```
$ git remote  v
```

```
#verify the new remote
```

Push a branch to GitHub

```
$ git push origin branchname
```

NEVER PUSH TO MASTER!

GIT
straight
to master
quickmeme.com

GIT PUSH -F ORIGIN
MASTER??
memegenerator.net

Get changes on GitHub back to your computer

```
$ git pull origin master
```

Fork a Repo

A fork is a copy of a repository. Forking a repository allows you to freely experiment with changes without affecting the original project

- Fork the repository.
- Make the fix.
- Submit a pull request to the project owner

Clone Repo

```
$ git clone
httpse//github.com/YOUR USERNAME/reponame
.git
```

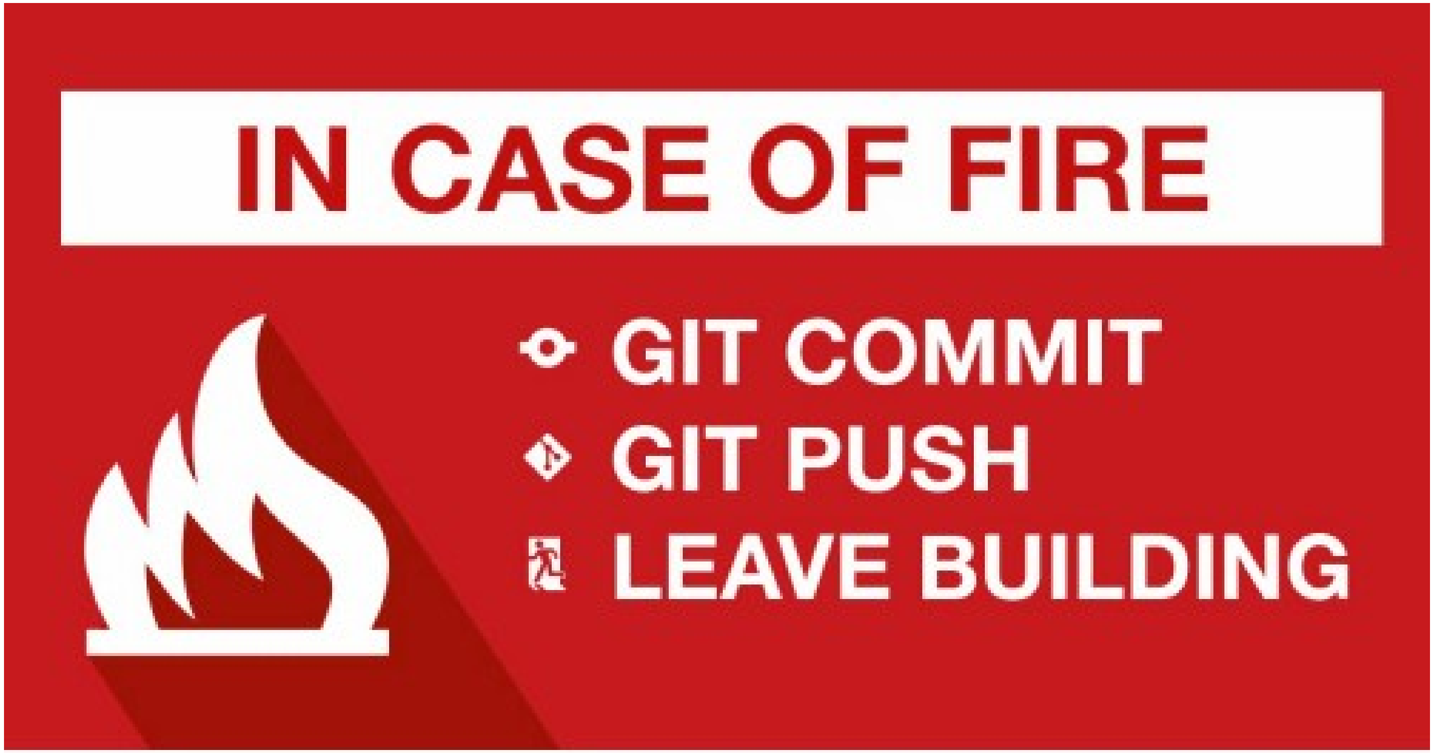
PR &MERGE

- **A pull request (or PR)** is a way to alert a repo's owners that you want to make some changes to their code. It allows them to review the code and make sure it looks good before putting your changes on the master branch.
- **MERGE:** This will merge your changes into the master branch.

GIT MERGE
NO CONFLICTS
quickmeme.com

Děkuji!

Contact me:
jona@azizaj.com



IN CASE OF FIRE

- GIT COMMIT
- GIT PUSH
- LEAVE BUILDING

🏃 RUN