

# Introduction into Git

November 10, 2014

# setting up your environment

Let git know who you are...

```
git config --global user.name "Max Mustermann"  
git config --global user.mail "max.m@example.org"
```

# git config

## aliases

```
git config alias.st=git status
```

## highlighting

```
git config --global color.ui=always
```

# lets start...

```
mkdir my_new_project; cd my_new_project  
git init
```

or...getting local copy of repository that already exist.

```
git clone https://github.com/blastmaster/ta-git-intro.git
```

# What is a git repository?

Repository on the internet or network.

remote

Local repository that contains complete history.

Local Repository

Snapshot of the working tree for next commit.

Staging Area

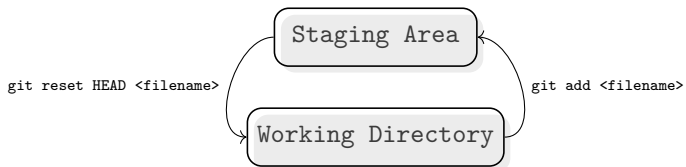
A place to hide modification if you need a clean workspace.

Stash

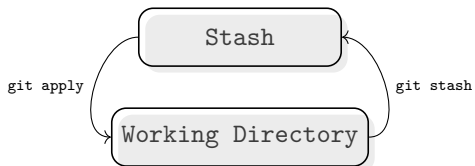
The directories and files on your filesystem.

Working Directory

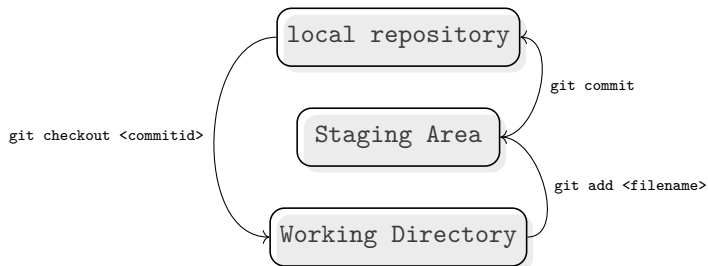
# Staging files



# Stashing

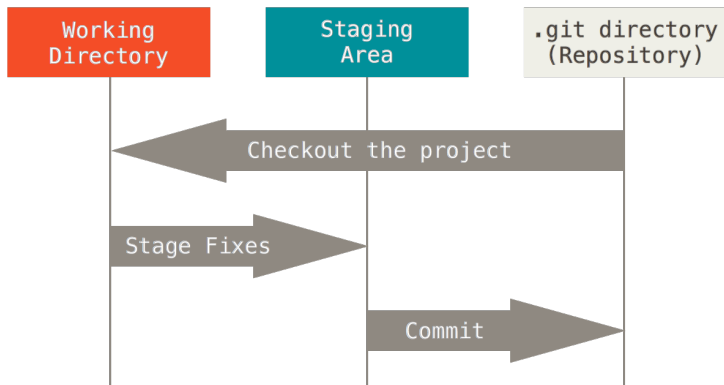


# committing changes

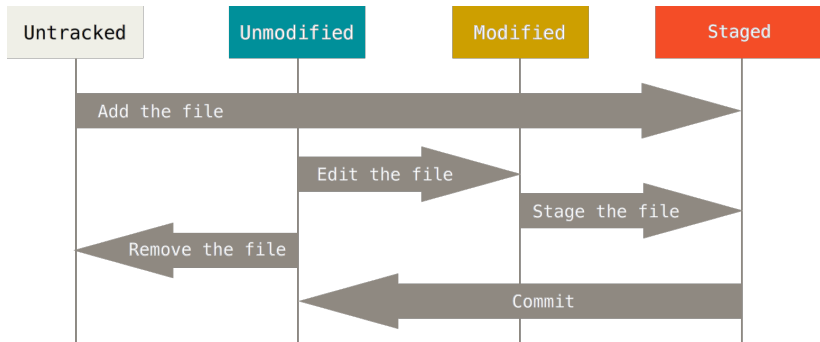




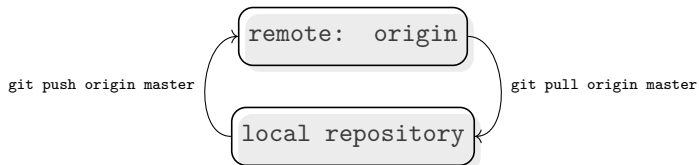
# version control is local



# Lifecycle of our files



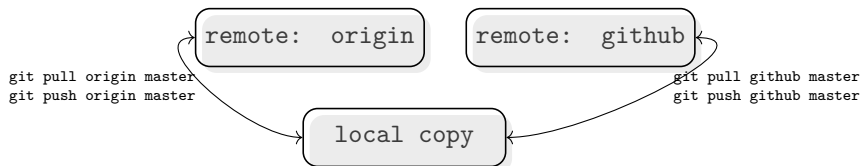
# remote



```
{master//git} » git remote -v
origin  git://git.kernel.org/pub/scm/git/git.git (fetch)
origin  git://git.kernel.org/pub/scm/git/git.git (push)
{master//git} »
```

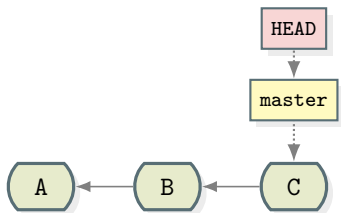
# adding a remote

```
git remote add github git@github.com:username/repo.git
```



# Tags

Tags are like bookmarks on commits.



**Figure:** lets create a tag for commit A

# Tags - Syntax

**create tag** `git tag -a <commitid>`

**delete tag** `git tag -d <tagname>`

**filter tag** `git tag -l <pattern>`

# Tags

```
git tag -a v0.1 A
```

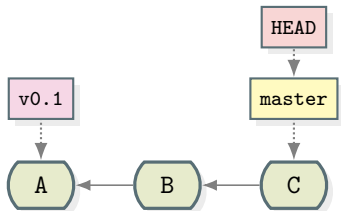


Figure: our brand new tag!

# Branching

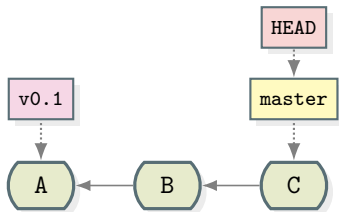


Figure: lets create a new branch



# Branch Syntax

## create new branch

- `git branch <branchname>`
- `git checkout -b <branchname>`

## delete branch

- `git branch -d <branchname>`

# Branching

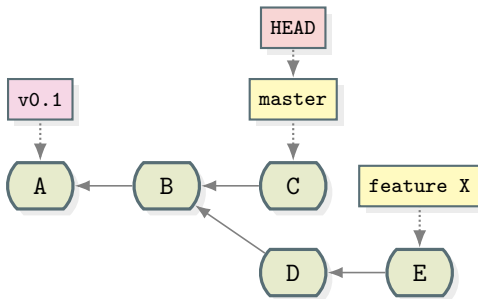
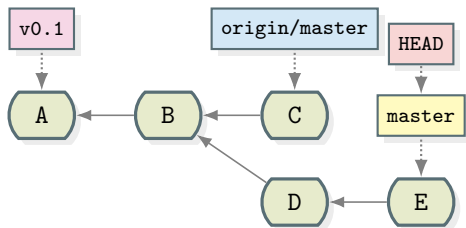
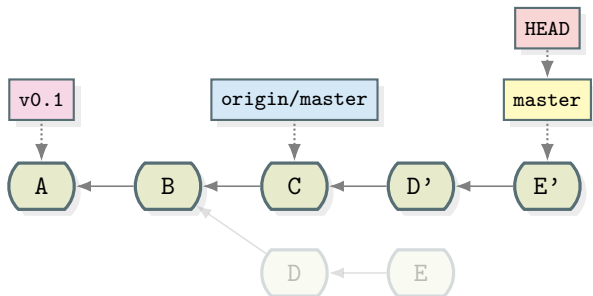


Figure: lets create a new branch

# Rebasing



# Rebasing



# merging

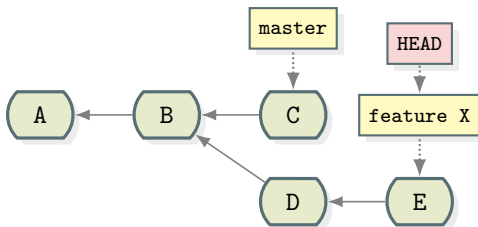


Figure: Before...

# merging

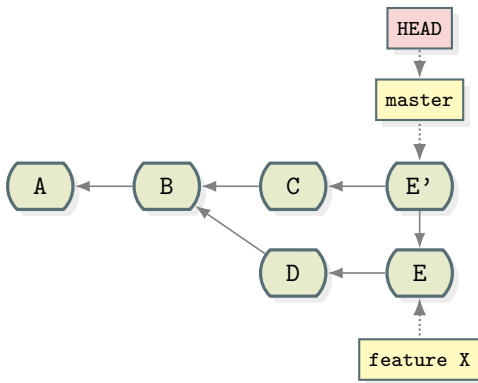


Figure: after: git merge feature X

# follow the changes

**what:** `git diff [- -staged]`

**when:** `git log`

**who:** `git blame`

# Reference

- <http://www.git-scm.com/docs>
- <http://www.git-scm.com/book/en/v2>
- <https://sandofsky.com/blog/git-workflow.html>
- <http://ndpsoftware.com/git-cheatsheet.html>