Git

Super Basics

GIT SUPER BASICS
THE STANDARD FOR VCS

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What is Git?

- Version Control System (VCS)

- Successor to SVN in the Drupal eco-system

- A tool

Common Use Cases

- Store incremental changes of files locally

- Share your files and changes with others

- Compare changes between file versions

Basic Tasks

- Initialize a repository

- Adding and staging files

- Committing changes

- Removing files

Basic Tasks

- Initialize a repository

```
$ mkdir test
$ cd test
$ git init
Initialized empty Git repository in
/Applications/MAMP/htdocs/test/.git/
```

Basic Tasks

- Adding and staging files

```
$ ls
helloworld.txt
$ git add helloworld.txt
$ git status
# On branch master
#
# Initial commit
#
# Changes to be committed:
#    (use "git rm --cached <file>..." to unstage)
#
#    new file:   helloworld.txt
#
```

Basic Tasks

- Committing changes

```
$ git commit -m"initial commit"

[master (root-commit) 6b53e5d] initial commit
 1 file changed, 2 insertions(+)
 create mode 100644 helloworld.txt
```

Basic Tasks

- Removing files
  - Deleting a file

```
$ git rm helloworld.txt
```

  - Untracking a file (removing a file from git)

```
$ git rm --cache helloworld.txt
```

The Git Log and Reverting

- What is the git log?

- Comprehending the git log

- What can we do with the git log knowledge?

```
$ git log
  1 commit 6b53e5d04a13085f5924e99cd736bb086c7dde87
  2 Author: Vid <vid@uoregon.edu>
  3 Date:    Fri Oct 19 23:20:11 2012 -0700
  4
  5  initial commit
```

The Git Log and Reverting

```
$ git log --graph --decorate --pretty=format:'%Cgreen%h%Creset %s %Cred%an%Creset %ar'
1 * f60c3f4 added new files Vid 29 hours ago
2 *   14637af Merge branch 'screenshots' of https://github.com/theMusician/riddlegames into screenshots Max Bronsema 10 days ago
3 |\
4 | * 631e900 adding riddles back in Vid 10 days ago
5 * |   b488fed Merge branch 'screenshots' of https://github.com/theMusician/riddlegames into screenshots Max Bronsema 10 days ago
6 |\ \
7 | |/
8 | *   fce0201 Merge branch 'screenshots' of github.com:theMusician/riddlegames into screenshots Vid 10 days ago
9 | |\
10 | * | 2e23e0a creating new branch with images folder Vid 10 days ago
11 * | | 33a7e95 Adding screenshots for project creation. Max Bronsema 10 days ago
12 | |/
13 |/|
14 * | 9fcbc71 creating new branch with images folder Vid 10 days ago
15 |/
16 * 024ac95 Updated README with inspiration URL Vid 10 days ago
17 * 7582e6f Ignore the .project file and start off HTML5 goodness Max Bronsema 11 days ago
18 * d25b8ee Initial commit theMusician 11 days ago
```

Branches

- What is a branch?
- Why to use branches
- Create a branch

```
$ git branch mars
```

- Switching between branches

```
$ git checkout mars
```

- Example: Checkout a prior commit

```
$ git checkout -b pluto d0f4aa3
```

Diffing

- What is a diff?
- Reading diff output
- ●

```
 1 diff --git a/README.md b/README.md
 2 index 27a3509..65beabf 100644
 3 --- a/README.md
 4 +++ b/README.md
 5 @@ -1,4 +1,8 @@
 6   riddlegames
 7   ===========
 8
 9 -Hobbit Riddle Game examples
10 \ No newline at end of file
11 +Hobbit Riddle Game
12 +
13 +
14 +Inspiration:
15 +This project is inspired by the Riddles in the Dark
```

Patches

- Create a patch

```
$ git checkout -b emailwording

$ git diff 8.x

$ git -am "Patch to fix issue 950534."

$ git diff 8.x > consistent_email_950534_08.patch
```

Patches

- Apply a patch

```
$ git apply --check -v /path/to/patch

$ git apply --stat /path/to/patch

$ git -am "Patch to fix issue 950534."

$ git apply -v /path/to/patch
```

Merging

- Merging branches

```
$ git checkout master

$ git merge styles
Auto-merging riddles.html
Merge made by the 'recursive' strategy.
 riddles.html |    1 +
 1 file changed, 1 insertion(+)
```

Working with Remotes

- SSH Keys

```
$ ssh-keygen -t rsa -C "your_email@youremail.com"
```

- Pull

```
$ git push origin master
```

- Push

```
$ git pull origin master
```

- Clone

```
$ git clone --recursive --branch 8.x http://git.
drupal.org/project/drupal.git
```

Relax Your Brain

- Thank You
- Questions?
- Links: 2012.pnwdrupalsummit.org/sessions/git-super-basics

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