

# A Small Git Introduction

*Computing Online Meeting*

13 January 2014 | Andreas Herten

# Motivation

- ROOT switched from SVN to Git last year
- FairRoot will also move to Git (eventually)

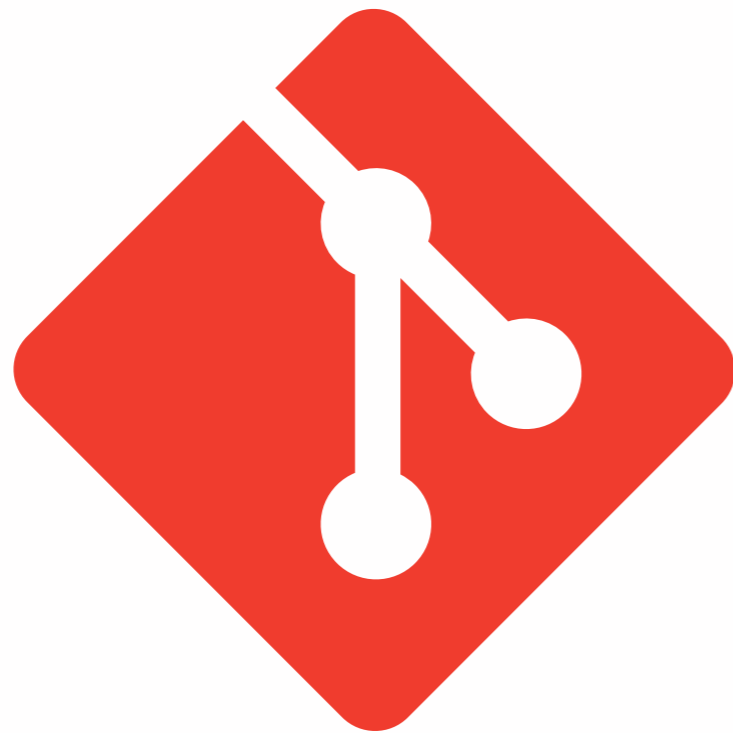
*Announced at last Collaboration Meeting*

→ WTF is Git!?

# Disclaimer

- I worked a bit with Git
- I am by no means an expert
- Think of this talk as an appetizer





# git



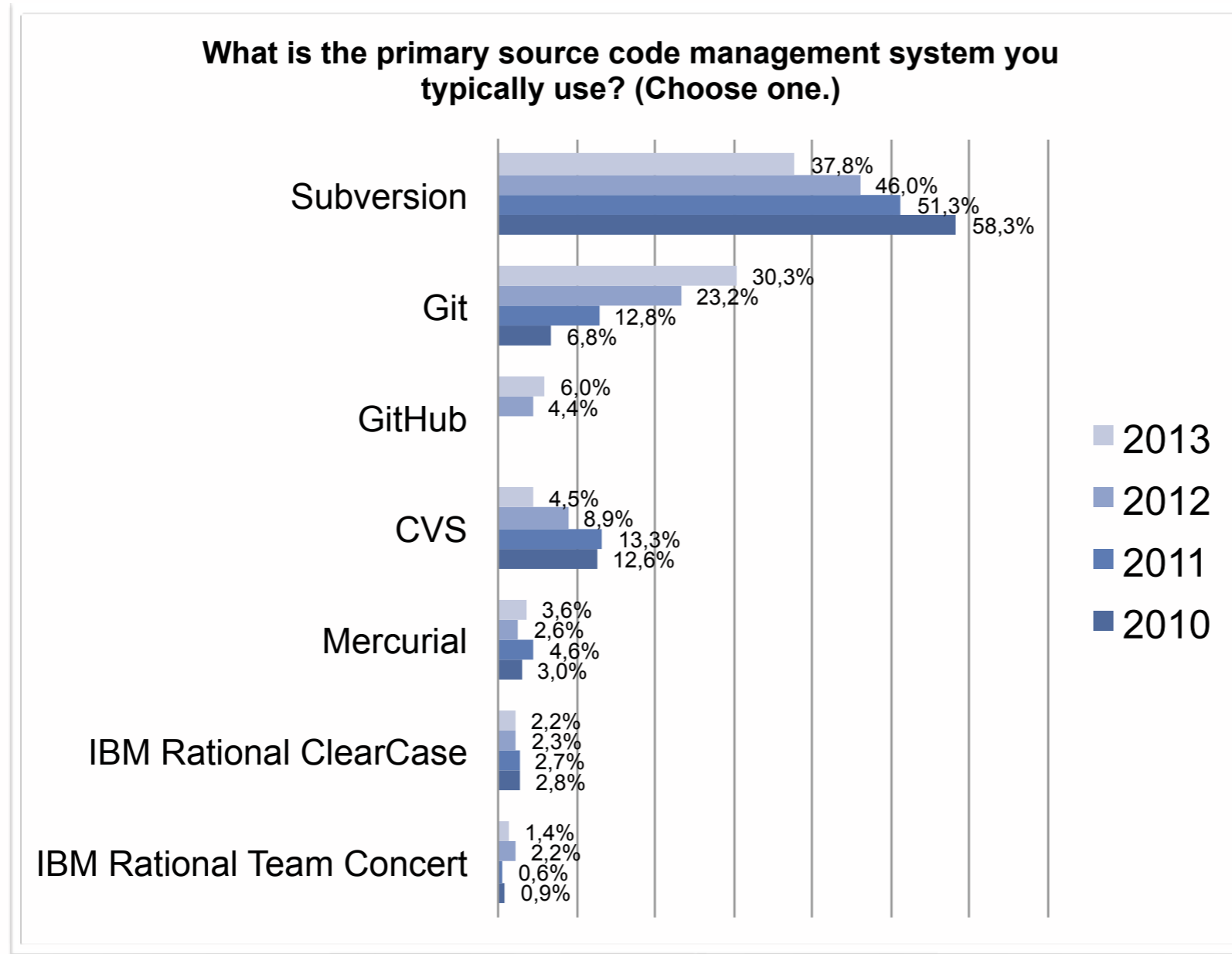
- \* 2005 by Linus Torvalds for development of Linux kernel
- Git is a...
  - ... modern
  - ... distributed version control,
  - ... designed for speed and efficiency.
- Inspired by CVS (like SVN), but

*Take CVS as an example of what not to do; if in doubt, make the exact opposite decision.*



- Used by
  - Linux Kernel
  - GNOME
  - GNU (Autoconf, Automake, core utils)
  - Perl
  - QT
  - Many smaller Open Source projects
  - Publicity through [github.com](https://github.com)
  - *Not: Python, Facebook (Mercurial)*

- Used by



Eclipse IDE survey 2013

	2010	2013
<b>SVN</b>	60,0 %	40,0 %
<b>Git</b>	7,0 %	36,0 %

# **git** — Main Features/Benefits

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  - ... modern
  - ... distributed version control,
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Learned from CVS / SVN / BitKeeper / Monotone  
Compatibility to existing protocols:  
HTTP, FTP, rsync, ssh, *SVN*  
Cryptographic authentication of history (SHA-1)  
Open Source

... distributed  
version  
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- ... distributed  
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Every developer has (complete) local copy  
→ work offline!  
Every clone = backup  
Non-linearity: Branching, merging

- ... designed for  
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Fast!  
Never lose data  
Lots of shorthands  
Deltas

# git — Git vs. SVN

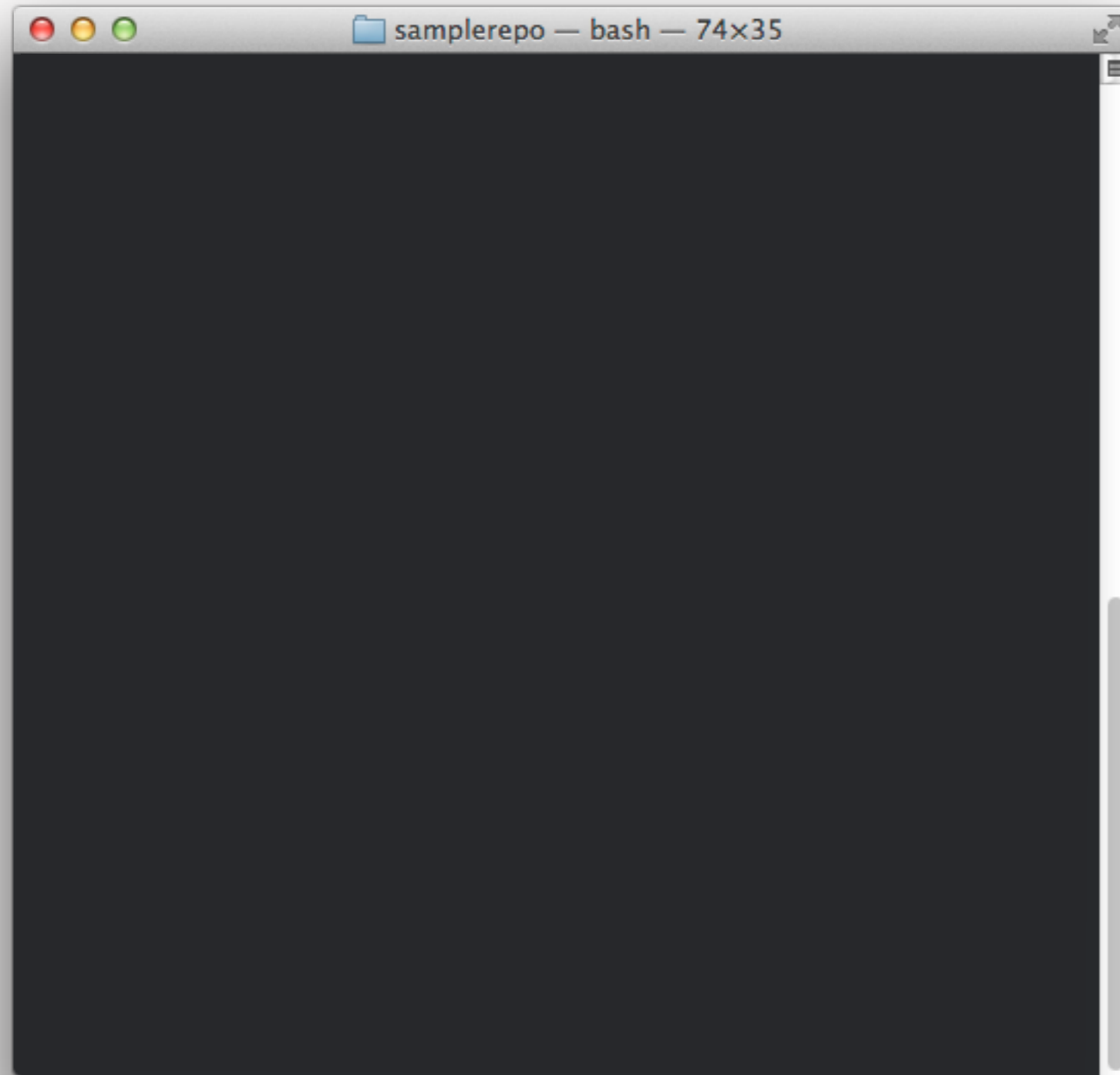
- Git:
  - Local working area is also repository
  - [0..N] remote repositories to push files to (*and files from*)
  - Commits are identified by their SHA-1 hashes, not continuous numbers; navigate with shorthands
  - Branches (/tags) are commits and easily changeable (deltas!), not copies of a certain stage of the repo

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SVN	Git
svn checkout <a href="http://abc.de/fg/">http://abc.de/fg/</a>	git clone <a href="http://abc.de/fg/">http://abc.de/fg/</a>
svn update	git pull
svn add	git add
svn commit -m "Panda"	git commit -m "Panda" & git push
svn diff   less	git diff
svn status	git status
svn copy <a href="svn://svn.abc.de/oldbranch">svn://svn.abc.de/oldbranch</a> <a href="svn://svn.abc.de/newbranch">svn://svn.abc.de/newbranch</a>	git branch oldbranch newbranch
	git commit --amend
	git svn dcommit

# git — Git Walkthrough (I)



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samplerepo — bash — 74x35  
Andi at MacandIR in ~/samplerepo
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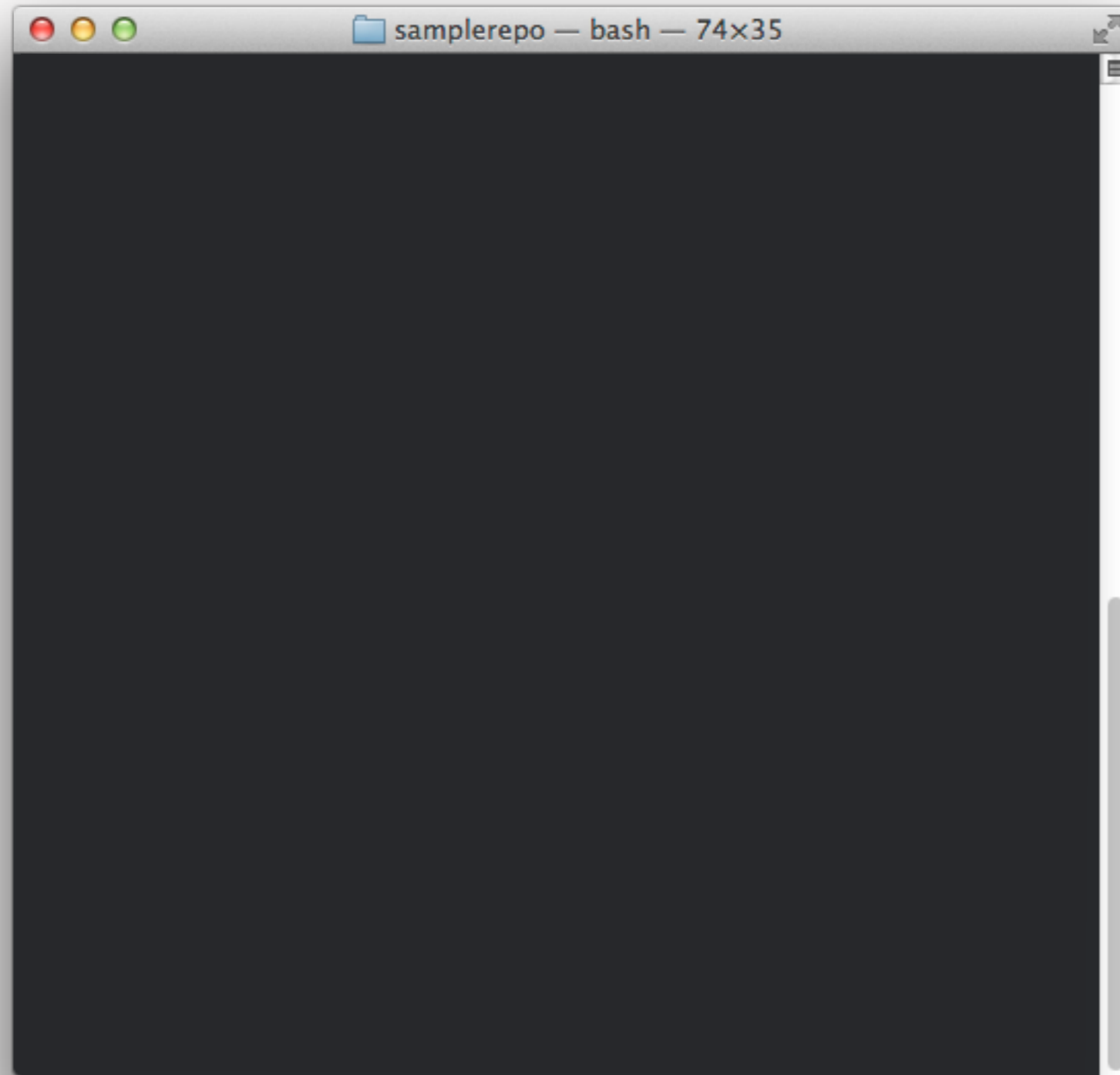
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$ git status
# On branch master
#
# Initial commit
#
# Changes to be committed:
#   (use "git rm --cached <file>..." to unstage)
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#   new file:   panda.txt
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Andi at MacandiR in ~/samplerepo
$ git commit -m "Initial Panda"
[master (root-commit) 1ac7db6] Initial Panda
1 file changed, 1 insertion(+)
create mode 100644 panda.txt
```

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# git — Git Walkthrough (I)

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commit ca9be0af4cf653edd31940cbb80fe3f2b3c12077
Author: AndiH <a.herten+github@gmail.com>
Date: Sat Jan 11 17:24:07 2014 +0100

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$ more .git/HEAD
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$ git status
# On branch master
# Changes not staged for commit:
#   (use "git add <file>..." to update what will be
#    committed)
#   (use "git checkout -- <file>..." to discard changes in
#    working directory)
#
#   modified:   panda.txt
#
no changes added to commit (use "git add" and/or "git commit
-a<<")
Andi at MacandIR in ~/samplerepo on master*
```

```
$ tree .git/
.git/
├── COMMIT_EDITMSG
├── HEAD
├── config
├── hooks
│   ├── applypatch-msg
│   ├── commit-msg
│   ├── post-applypatch
│   └── [...]
├── hooks.original
├── index
├── logs
│   ├── HEAD
│   └── refs
│       └── heads
│           └── master
├── objects
│   ├── 2e
│   │   └── 7b167eeb01dc76e7a69e2d8dd5f52279c73938
│   └── ca
│       ├── 9be0af4cf653edd31940cbb80fe3f2b3c12077
│       └── dee9cb855b71059b4a7da8d1eb83134ed87429
├── info
├── pack
├── refs
│   ├── heads
│   │   └── master
│   └── tags
```

# git — Git Walkthrough (I)

```
samplerepo — bash — 74x35
Andi at MacandiR in ~/samplerepo on master*
$ git status
# On branch master
# Changes not staged for commit:
#   (use "git add <file>..." to update what will be
#    committed)
#   (use "git checkout -- <file>..." to discard changes in
#    working directory)
#
#   modified:   panda.txt
#
no changes added to commit (use "git add" and/or "git commit
-a<<")
Andi at MacandiR in ~/samplerepo on master*
$ git commit -a -m "Added question"
```

```
$ tree .git/
.git/
├── COMMIT_EDITMSG
├── HEAD
├── config
├── hooks
│   ├── applypatch-msg
│   ├── commit-msg
│   ├── post-applypatch
│   └── [...]
├── hooks.original
├── index
├── logs
│   ├── HEAD
│   └── refs
│       ├── heads
│       └── master
├── objects
│   ├── 2e
│   │   └── 7b167eeb01dc76e7a69e2d8dd5f52279c73938
│   ├── ca
│   │   ├── 9be0af4cf653edd31940cbb80fe3f2b3c12077
│   │   └── dee9cb855b71059b4a7da8d1eb83134ed87429
│   ├── info
│   └── pack
├── refs
│   ├── heads
│   └── master
└── tags
```

# git — Git Walkthrough (I)

```
samplerepo — bash — 74x35
Andi at MacandiR in ~/samplerepo on master*
$ git status
# On branch master
# Changes not staged for commit:
#   (use "git add <file>..." to update what will be
#    committed)
#   (use "git checkout -- <file>..." to discard changes in
#    working directory)
#
#   modified:   panda.txt
#
no changes added to commit (use "git add" and/or "git commit
-a<<)
Andi at MacandiR in ~/samplerepo on master*
$ git commit -a -m "Added question"
[master e1ace33] Added question
 1 file changed, 1 insertion(+)
Andi at MacandiR in ~/samplerepo on master*
```

```
$ tree .git/
.git/
├── COMMIT_EDITMSG
├── HEAD
├── config
├── hooks
│   ├── applypatch-msg
│   ├── commit-msg
│   ├── post-applypatch
│   └── [...]
├── hooks.original
├── index
├── logs
│   ├── HEAD
│   └── refs
│       └── heads
│           └── master
├── objects
│   ├── 2e
│   │   └── 7b167eeb01dc76e7a69e2d8dd5f52279c73938
│   ├── ca
│   │   ├── 9be0af4cf653edd31940cbb80fe3f2b3c12077
│   │   └── dee9cb855b71059b4a7da8d1eb83134ed87429
│   ├── info
│   └── pack
├── refs
│   ├── heads
│   │   └── master
│   └── tags
```



# git — Git Walkthrough (I)

```
samplerepo — bash — 74x35
Andi at MacandiR in ~/samplerepo on master*
$ git status
# On branch master
# Changes not staged for commit:
#   (use "git add <file>..." to update what will be
#    committed)
#   (use "git checkout -- <file>..." to discard changes in
#    working directory)
#
#   modified:   panda.txt
#
no changes added to commit (use "git add" and/or "git commit
-a<<")
Andi at MacandiR in ~/samplerepo on master*
$ git commit -a -m "Added question"
[master e1ace33] Added question
 1 file changed, 1 insertion(+)
Andi at MacandiR in ~/samplerepo on master*
$ git log
```

```
$ tree .git/
.git/
├── COMMIT_EDITMSG
├── HEAD
├── config
├── hooks
│   ├── applypatch-msg
│   ├── commit-msg
│   ├── post-applypatch
│   └── [...]
├── hooks.original
├── index
├── logs
│   ├── HEAD
│   └── refs
│       └── heads
│           └── master
├── objects
│   ├── 2e
│   │   └── 7b167eeb01dc76e7a69e2d8dd5f52279c73938
│   └── ca
│       ├── 9be0af4cf653edd31940cbb80fe3f2b3c12077
│       └── dee9cb855b71059b4a7da8d1eb83134ed87429
├── info
├── pack
├── refs
│   ├── heads
│   │   └── master
│   └── tags
```

# git — Git Walkthrough (I)

```
samplerepo — bash — 74x35
Andi at MacandiR in ~/samplerepo on master*
$ git status
# On branch master
# Changes not staged for commit:
#   (use "git add <file>..." to update what will be
#    committed)
#   (use "git checkout -- <file>..." to discard changes in
#    working directory)
#
#   modified:   panda.txt
#
no changes added to commit (use "git add" and/or "git commit
-a<<)
Andi at MacandiR in ~/samplerepo on master*
$ git commit -a -m "Added question"
[master e1ace33] Added question
 1 file changed, 1 insertion(+)
Andi at MacandiR in ~/samplerepo on master*
$ git log
commit e1ace3386caacbd40ed181bc527ba05bb9eba76e
Author: AndiH <a.herten+github@gmail.com>
Date:   Sat Jan 11 17:26:25 2014 +0100

    Added question

commit ca9be0af4cf653edd31940cbb80fe3f2b3c12077
Author: AndiH <a.herten+github@gmail.com>
Date:   Sat Jan 11 17:24:07 2014 +0100

    Initial Panda
```

```
$ tree .git/
.git/
├── COMMIT_EDITMSG
├── HEAD
├── config
├── hooks
│   ├── applypatch-msg
│   ├── commit-msg
│   ├── post-applypatch
│   └── [...]
├── hooks.original
├── index
├── logs
│   ├── HEAD
│   └── refs
│       └── heads
│           └── master
├── objects
│   ├── 2e
│   │   └── 7b167eeb01dc76e7a69e2d8dd5f52279c73938
│   └── ca
│       ├── 9be0af4cf653edd31940cbb80fe3f2b3c12077
│       └── dee9cb855b71059b4a7da8d1eb83134ed87429
├── info
├── pack
├── refs
│   ├── heads
│   │   └── master
└── tags
```

# git — Git Walkthrough (I)

```
samplerepo — bash — 74x35
```

```
$ tree .git/
.git/
├── COMMIT_EDITMSG
├── HEAD
├── config
├── hooks
│   ├── applypatch-msg
│   ├── commit-msg
│   ├── post-applypatch
│   └── [...]
├── hooks.original
├── index
├── logs
│   ├── HEAD
│   └── refs
│       └── heads
│           └── master
├── objects
│   ├── 2e
│   │   └── 7b167eeb01dc76e7a69e2d8dd5f52279c73938
│   ├── ca
│   │   ├── 9be0af4cf653edd31940cbb80fe3f2b3c12077
│   │   └── dee9cb855b71059b4a7da8d1eb83134ed87429
│   ├── info
│   └── pack
├── refs
│   ├── heads
│   │   └── master
│   └── tags
```

# git — Git Walkthrough (I)

```
samplerepo — bash — 74x35
Andi at MacandIR in ~/samplerepo on master*
```

```
$ tree .git/
.git/
├── COMMIT_EDITMSG
├── HEAD
├── config
├── hooks
│   ├── applypatch-msg
│   ├── commit-msg
│   ├── post-applypatch
│   └── [...]
├── hooks.original
├── index
├── logs
│   ├── HEAD
│   └── refs
│       └── heads
│           └── master
├── objects
│   ├── 2e
│   │   └── 7b167eeb01dc76e7a69e2d8dd5f52279c73938
│   ├── ca
│   │   ├── 9be0af4cf653edd31940cbb80fe3f2b3c12077
│   │   └── dee9cb855b71059b4a7da8d1eb83134ed87429
│   ├── info
│   └── pack
├── refs
│   ├── heads
│   │   └── master
│   └── tags
```

# git — Git Walkthrough (I)

```
samplerepo — bash — 74x35
Andi at MacandiR in ~/samplerepo on master*
$ head -n +1 panda.txt > tmpPnd.txt; mv tmpPnd.txt panda.txt;
echo "How are you doing?" >> panda.txt
Andi at MacandiR in ~/samplerepo on master*
```

```
$ tree .git/
.git/
├── COMMIT_EDITMSG
├── HEAD
├── config
├── hooks
│   ├── applypatch-msg
│   ├── commit-msg
│   ├── post-applypatch
│   └── [...]
├── hooks.original
├── index
├── logs
│   ├── HEAD
│   └── refs
│       └── heads
│           └── master
├── objects
│   ├── 2e
│   │   └── 7b167eeb01dc76e7a69e2d8dd5f52279c73938
│   ├── ca
│   │   ├── 9be0af4cf653edd31940cbb80fe3f2b3c12077
│   │   └── dee9cb855b71059b4a7da8d1eb83134ed87429
│   ├── info
│   └── pack
├── refs
│   ├── heads
│   │   └── master
│   └── tags
```

# git — Git Walkthrough (I)

```
samplerepo — bash — 74x35
Andi at MacandiR in ~/samplerepo on master*
$ head -n +1 panda.txt > tmpPnd.txt; mv tmpPnd.txt panda.txt;
echo "How are you doing?" >> panda.txt
Andi at MacandiR in ~/samplerepo on master*
$ cat panda.txt
```

```
$ tree .git/
.git/
├── COMMIT_EDITMSG
├── HEAD
├── config
├── hooks
│   ├── applypatch-msg
│   ├── commit-msg
│   ├── post-applypatch
│   └── [...]
├── hooks.original
├── index
├── logs
│   ├── HEAD
│   └── refs
│       └── heads
│           └── master
├── objects
│   ├── 2e
│   │   └── 7b167eeb01dc76e7a69e2d8dd5f52279c73938
│   ├── ca
│   │   ├── 9be0af4cf653edd31940cbb80fe3f2b3c12077
│   │   └── dee9cb855b71059b4a7da8d1eb83134ed87429
│   ├── info
│   └── pack
├── refs
│   ├── heads
│   │   └── master
│   └── tags
```

# git — Git Walkthrough (I)

```
samplerepo — bash — 74x35
Andi at MacandiR in ~/samplerepo on master*
$ head -n +1 panda.txt > tmpPnd.txt; mv tmpPnd.txt panda.txt;
echo "How are you doing?" >> panda.txt
Andi at MacandiR in ~/samplerepo on master*
$ cat panda.txt
Hello Panda Computing guys
How are you doing?
Andi at MacandiR in ~/samplerepo on master*
```

```
$ tree .git/
.git/
├── COMMIT_EDITMSG
├── HEAD
├── config
├── hooks
│   ├── applypatch-msg
│   ├── commit-msg
│   ├── post-applypatch
│   └── [...]
├── hooks.original
├── index
├── logs
│   ├── HEAD
│   └── refs
│       └── heads
│           └── master
├── objects
│   ├── 2e
│   │   └── 7b167eeb01dc76e7a69e2d8dd5f52279c73938
│   ├── ca
│   │   ├── 9be0af4cf653edd31940cbb80fe3f2b3c12077
│   │   └── dee9cb855b71059b4a7da8d1eb83134ed87429
│   ├── info
│   └── pack
├── refs
│   ├── heads
│   │   └── master
│   └── tags
```

# git — Git Walkthrough (I)

```
samplerepo — bash — 74x35
Andi at MacandiR in ~/samplerepo on master*
$ head -n +1 panda.txt > tmpPnd.txt; mv tmpPnd.txt panda.txt;
echo "How are you doing?" >> panda.txt
Andi at MacandiR in ~/samplerepo on master*
$ cat panda.txt
Hello Panda Computing guys
How are you doing?
Andi at MacandiR in ~/samplerepo on master*
$ git commit -a --amend
[master b82f014] Added question
 1 file changed, 1 insertion(+)
Andi at MacandiR in ~/samplerepo on master*
```

```
$ tree .git/
.git/
├── COMMIT_EDITMSG
├── HEAD
├── config
├── hooks
│   ├── applypatch-msg
│   ├── commit-msg
│   ├── post-applypatch
│   └── [...]
├── hooks.original
├── index
├── logs
│   ├── HEAD
│   └── refs
│       └── heads
│           └── master
├── objects
│   ├── 2e
│   │   └── 7b167eeb01dc76e7a69e2d8dd5f52279c73938
│   ├── ca
│   │   ├── 9be0af4cf653edd31940cbb80fe3f2b3c12077
│   │   └── dee9cb855b71059b4a7da8d1eb83134ed87429
│   ├── info
│   └── pack
├── refs
│   ├── heads
│   │   └── master
│   └── tags
```



# git — Git Walkthrough (I)

```
samplerepo — bash — 74x35
Andi at MacandiR in ~/samplerepo on master*
$ head -n +1 panda.txt > tmpPnd.txt; mv tmpPnd.txt panda.txt;
echo "How are you doing?" >> panda.txt
Andi at MacandiR in ~/samplerepo on master*
$ cat panda.txt
Hello Panda Computing guys
How are you doing?
Andi at MacandiR in ~/samplerepo on master*
$ git commit -a --amend
[master b82f014] Added question
 1 file changed, 1 insertion(+)
Andi at MacandiR in ~/samplerepo on master*
$ git log
commit b82f01496c3568520212580bb722cee878b47017
Author: AndiH <a.herten+github@gmail.com>
Date: Sat Jan 11 17:26:25 2014 +0100

    Added question

commit ca9be0af4cf653edd31940cbb80fe3f2b3c12077
Author: AndiH <a.herten+github@gmail.com>
Date: Sat Jan 11 17:24:07 2014 +0100

    Initial Panda
```

```
$ tree .git/
.git/
├── COMMIT_EDITMSG
├── HEAD
├── config
├── hooks
│   ├── applypatch-msg
│   ├── commit-msg
│   ├── post-applypatch
│   └── [...]
├── hooks.original
├── index
├── logs
│   ├── HEAD
│   └── refs
│       └── heads
│           └── master
├── objects
│   ├── 2e
│   │   └── 7b167eeb01dc76e7a69e2d8dd5f52279c73938
│   ├── ca
│   │   ├── 9be0af4cf653edd31940cbb80fe3f2b3c12077
│   │   └── dee9cb855b71059b4a7da8d1eb83134ed87429
│   ├── info
│   └── pack
├── refs
│   ├── heads
│   │   └── master
│   └── tags
```

```
samplerrepo — bash — 74x35
Andi at MacandIR in ~/samplerrepo on master*
$ head -n +1 panda.txt > tmpPnd.txt; mv tmpPnd.txt panda.txt;
echo "How are you doing?" >> panda.txt
Andi at MacandIR in ~/samplerrepo on master*
$ cat panda.txt
Hello Panda Computing guys
How are you doing?
Andi at MacandIR in ~/samplerrepo on master*
$ git commit -a
[master b82f014]
1 file changed
Andi at MacandIR in ~/samplerrepo on master*
$ git log
commit b82f01496...
Author: AndiH <andi@panda-juelich.de>
Date: Sat Jan 15 14:58:12 2016

    Added question to panda.txt

commit ca9be0af4...
Author: AndiH <andi@panda-juelich.de>
Date: Sat Jan 15 14:57:51 2016

    Initial Panda Computing guys
```

```
$ tree .git/
.git/
├── COMMIT_EDITMSG
├── HEAD
├── config
├── description
├── hooks
├── index
├── logs
├── objects
├── refs
├── templates
└── worktrees
```

```
59e2d8dd5f52279c73938
940cbb80fe3f2b3c12077
a7da8d1eb83134ed87429
```

→ CONTINUE?

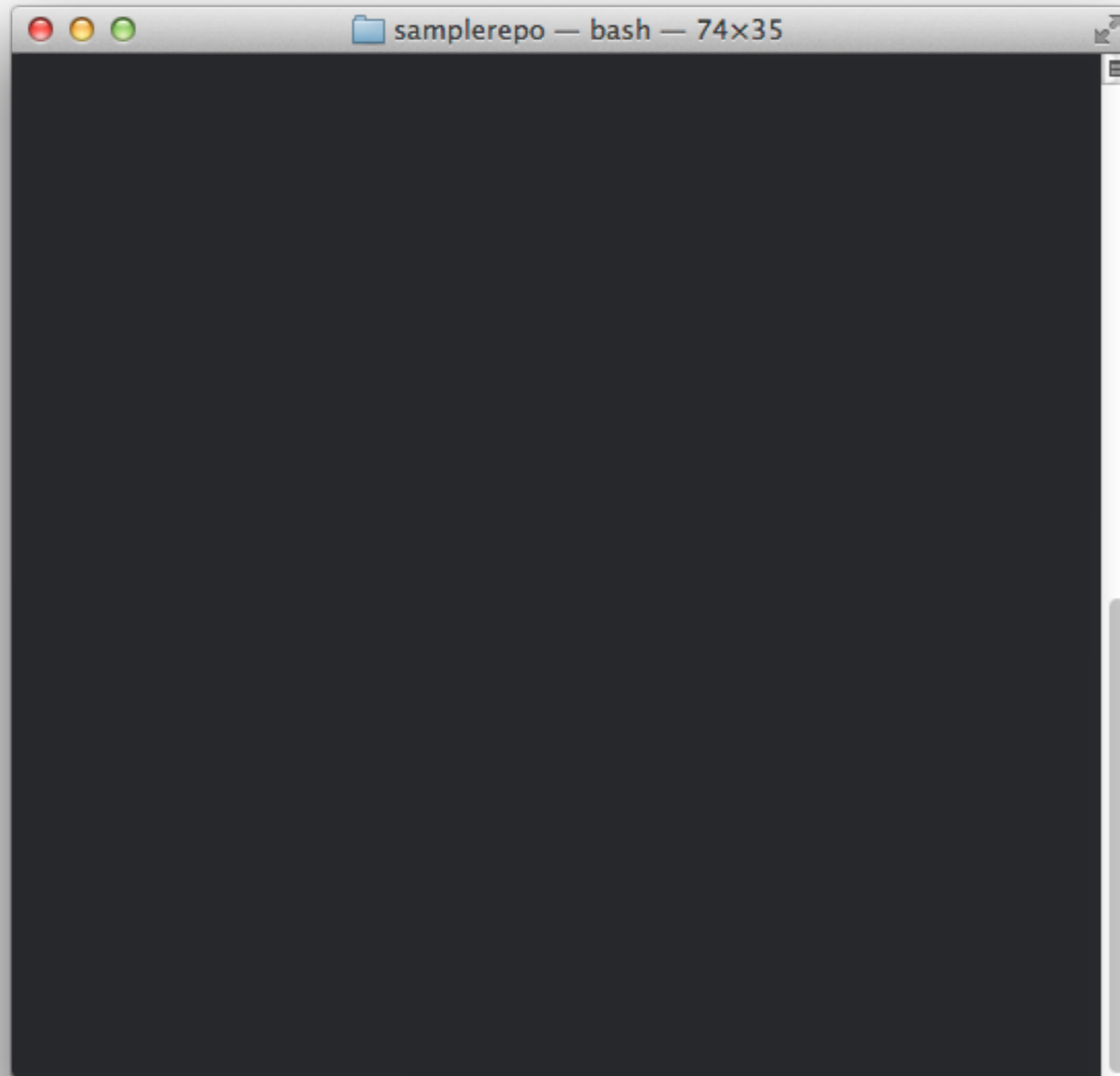
## Git Walkthrough II: Branching

→ END?



# git

## — Git Walkthrough (II: Branching)



```
$ tree .git/
.git/
├── COMMIT_EDITMSG
├── HEAD
├── config
├── hooks
│   ├── applypatch-msg
│   ├── commit-msg
│   ├── post-applypatch
│   └── [...]
├── hooks.original
├── index
├── logs
│   ├── HEAD
│   └── refs
│       └── heads
│           └── master
├── objects
│   ├── 2e
│   │   └── 7b167eeb01dc76e7a69e2d8dd5f52279c73938
│   ├── ca
│   │   ├── 9be0af4cf653edd31940cbb80fe3f2b3c12077
│   │   └── dee9cb855b71059b4a7da8d1eb83134ed87429
│   ├── info
│   └── pack
├── refs
│   ├── heads
│   │   └── master
│   └── tags
```



# git

## — Git Walkthrough (II: Branching)

```
samplerrepo — bash — 74x35
Andi at MacandIR in ~/samplerrepo on master*
```

```
$ tree .git/
.git/
├── COMMIT_EDITMSG
├── HEAD
├── config
├── hooks
│   ├── applypatch-msg
│   ├── commit-msg
│   ├── post-applypatch
│   └── [...]
├── hooks.original
├── index
├── logs
│   ├── HEAD
│   └── refs
│       └── heads
│           └── master
├── objects
│   ├── 2e
│   │   └── 7b167eeb01dc76e7a69e2d8dd5f52279c73938
│   ├── ca
│   │   ├── 9be0af4cf653edd31940cbb80fe3f2b3c12077
│   │   └── dee9cb855b71059b4a7da8d1eb83134ed87429
│   ├── info
│   └── pack
├── refs
│   ├── heads
│   │   └── master
│   └── tags
```



# git

## — Git Walkthrough (II: Branching)

```
samplerepo — bash — 74x35
Andi at MacandIR in ~/samplerepo on master*
$ git branch bug
Andi at MacandIR in ~/samplerepo on master*
```

```
$ tree .git/
.git/
├── COMMIT_EDITMSG
├── HEAD
├── config
├── hooks
│   ├── applypatch-msg
│   ├── commit-msg
│   ├── post-applypatch
│   └── [...]
├── hooks.original
├── index
├── logs
│   ├── HEAD
│   └── refs
│       └── heads
│           └── master
├── objects
│   ├── 2e
│   │   └── 7b167eeb01dc76e7a69e2d8dd5f52279c73938
│   ├── ca
│   │   ├── 9be0af4cf653edd31940cbb80fe3f2b3c12077
│   │   └── dee9cb855b71059b4a7da8d1eb83134ed87429
│   ├── info
│   └── pack
├── refs
│   ├── heads
│   │   └── master
│   └── tags
```



# git

## — Git Walkthrough (II: Branching)

```
samplerepo — bash — 74x35
Andi at MacandIR in ~/samplerepo on master*
$ git branch bug
Andi at MacandIR in ~/samplerepo on master*
$ git checkout bug
```

```
$ tree .git/
.git/
├── COMMIT_EDITMSG
├── HEAD
├── config
├── hooks
│   ├── applypatch-msg
│   ├── commit-msg
│   ├── post-applypatch
│   └── [...]
├── hooks.original
├── index
├── logs
│   ├── HEAD
│   └── refs
│       └── heads
│           └── master
├── objects
│   ├── 2e
│   │   └── 7b167eeb01dc76e7a69e2d8dd5f52279c73938
│   ├── ca
│   │   ├── 9be0af4cf653edd31940cbb80fe3f2b3c12077
│   │   └── dee9cb855b71059b4a7da8d1eb83134ed87429
│   ├── info
│   └── pack
├── refs
│   ├── heads
│   │   └── master
│   └── tags
```



# git

## — Git Walkthrough (II: Branching)

```
samplerepo — bash — 74x35
Andi at MacandIR in ~/samplerepo on master*
$ git branch bug
Andi at MacandIR in ~/samplerepo on master*
$ git checkout bug
Switched to branch 'bug'
Andi at MacandIR in ~/samplerepo on bug*
```

```
$ tree .git/
.git/
├── COMMIT_EDITMSG
├── HEAD
├── config
├── hooks
│   ├── applypatch-msg
│   ├── commit-msg
│   ├── post-applypatch
│   └── [...]
├── hooks.original
├── index
├── logs
│   ├── HEAD
│   └── refs
│       └── heads
│           └── master
├── objects
│   ├── 2e
│   │   └── 7b167eeb01dc76e7a69e2d8dd5f52279c73938
│   ├── ca
│   │   ├── 9be0af4cf653edd31940cbb80fe3f2b3c12077
│   │   └── dee9cb855b71059b4a7da8d1eb83134ed87429
│   ├── info
│   └── pack
├── refs
│   ├── heads
│   │   └── master
│   └── tags
```



# git

## — Git Walkthrough (II: Branching)

```
samplerepo — bash — 74x35
Andi at MacandIR in ~/samplerepo on master*
$ git branch bug
Andi at MacandIR in ~/samplerepo on master*
$ git checkout bug
Switched to branch 'bug'
Andi at MacandIR in ~/samplerepo on bug*
$ git branch
```

```
$ tree .git/
.git/
├── COMMIT_EDITMSG
├── HEAD
├── config
├── hooks
│   ├── applypatch-msg
│   ├── commit-msg
│   ├── post-applypatch
│   └── [...]
├── hooks.original
├── index
├── logs
│   ├── HEAD
│   └── refs
│       └── heads
│           └── master
├── objects
│   ├── 2e
│   │   └── 7b167eeb01dc76e7a69e2d8dd5f52279c73938
│   ├── ca
│   │   ├── 9be0af4cf653edd31940cbb80fe3f2b3c12077
│   │   └── dee9cb855b71059b4a7da8d1eb83134ed87429
│   ├── info
│   └── pack
├── refs
│   ├── heads
│   │   └── master
│   └── tags
```





# git

## — Git Walkthrough (II: Branching)

```
samplerepo — bash — 74x35
Andi at MacandiR in ~/samplerepo on master*
$ git branch bug
Andi at MacandiR in ~/samplerepo on master*
$ git checkout bug
Switched to branch 'bug'
Andi at MacandiR in ~/samplerepo on bug*
$ git branch
* bug
  master
Andi at MacandiR in ~/samplerepo on bug*
```

```
$ tree .git/
.git/
├── COMMIT_EDITMSG
├── HEAD
├── config
├── hooks
│   ├── applypatch-msg
│   ├── commit-msg
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│   └── [...]
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│       └── heads
│           └── master
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│   │   └── 7b167eeb01dc76e7a69e2d8dd5f52279c73938
│   └── ca
│       ├── 9be0af4cf653edd31940cbb80fe3f2b3c12077
│       └── dee9cb855b71059b4a7da8d1eb83134ed87429
├── info
├── pack
├── refs
│   ├── heads
│   │   └── master
│   └── tags
```



# git

## — Git Walkthrough (II: Branching)

```
samplerepo — bash — 74x35
Andi at MacandiR in ~/samplerepo on master*
$ git branch bug
Andi at MacandiR in ~/samplerepo on master*
$ git checkout bug
Switched to branch 'bug'
Andi at MacandiR in ~/samplerepo on bug*
$ git branch
* bug
  master
Andi at MacandiR in ~/samplerepo on bug*
$ ll
```

```
$ tree .git/
.git/
├── COMMIT_EDITMSG
├── HEAD
├── config
├── hooks
│   ├── applypatch-msg
│   ├── commit-msg
│   ├── post-applypatch
│   └── [...]
├── hooks.original
├── index
├── logs
│   ├── HEAD
│   └── refs
│       └── heads
│           └── master
├── objects
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│   │   └── 7b167eeb01dc76e7a69e2d8dd5f52279c73938
│   ├── ca
│   │   ├── 9be0af4cf653edd31940cbb80fe3f2b3c12077
│   │   └── dee9cb855b71059b4a7da8d1eb83134ed87429
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│   └── pack
├── refs
│   ├── heads
│   │   └── master
│   └── tags
```



# git

## — Git Walkthrough (II: Branching)

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samplerepo — bash — 74x35
Andi at MacandiR in ~/samplerepo on master*
$ git branch bug
Andi at MacandiR in ~/samplerepo on master*
$ git checkout bug
Switched to branch 'bug'
Andi at MacandiR in ~/samplerepo on bug*
$ git branch
* bug
  master
Andi at MacandiR in ~/samplerepo on bug*
$ ll
total 8
-rw-r--r--  1 Andi  staff   21B Jan 11 17:40 panda.txt
Andi at MacandiR in ~/samplerepo on bug*
```

```
$ tree .git/
.git/
├── COMMIT_EDITMSG
├── HEAD
├── config
├── hooks
│   ├── applypatch-msg
│   ├── commit-msg
│   ├── post-applypatch
│   └── [...]
├── hooks.original
├── index
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│   ├── HEAD
│   └── refs
│       └── heads
│           └── master
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│   │   └── 7b167eeb01dc76e7a69e2d8dd5f52279c73938
│   └── ca
│       ├── 9be0af4cf653edd31940cbb80fe3f2b3c12077
│       └── dee9cb855b71059b4a7da8d1eb83134ed87429
├── info
├── pack
├── refs
│   ├── heads
│   └── master
└── tags
```



# git

## — Git Walkthrough (II: Branching)

```
samplerepo — bash — 74x35
Andi at MacandiR in ~/samplerepo on master*
$ git branch bug
Andi at MacandiR in ~/samplerepo on master*
$ git checkout bug
Switched to branch 'bug'
Andi at MacandiR in ~/samplerepo on bug*
$ git branch
* bug
  master
Andi at MacandiR in ~/samplerepo on bug*
$ ll
total 8
-rw-r--r-- 1 Andi  staff   21B Jan 11 17:40 panda.txt
Andi at MacandiR in ~/samplerepo on bug*
$ cat .git/HEAD
```

```
$ tree .git/
.git/
├── COMMIT_EDITMSG
├── HEAD
├── config
├── hooks
│   ├── applypatch-msg
│   ├── commit-msg
│   ├── post-applypatch
│   └── [...]
├── hooks.original
├── index
├── logs
│   ├── HEAD
│   └── refs
│       ├── heads
│       └── master
├── objects
│   ├── 2e
│   │   └── 7b167eeb01dc76e7a69e2d8dd5f52279c73938
│   ├── ca
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│   │   └── dee9cb855b71059b4a7da8d1eb83134ed87429
│   ├── info
│   └── pack
├── refs
│   ├── heads
│   └── master
└── tags
```



# git

## — Git Walkthrough (II: Branching)

```
samplerepo — bash — 74x35
Andi at MacandIR in ~/samplerepo on master*
$ git branch bug
Andi at MacandIR in ~/samplerepo on master*
$ git checkout bug
Switched to branch 'bug'
Andi at MacandIR in ~/samplerepo on bug*
$ git branch
* bug
  master
Andi at MacandIR in ~/samplerepo on bug*
$ ll
total 8
-rw-r--r--  1 Andi  staff   21B Jan 11 17:40 panda.txt
Andi at MacandIR in ~/samplerepo on bug*
$ cat .git/HEAD
ref: refs/heads/bug
Andi at MacandIR in ~/samplerepo on bug*
```

```
$ tree .git/
.git/
├── COMMIT_EDITMSG
├── HEAD
├── config
├── hooks
│   ├── applypatch-msg
│   ├── commit-msg
│   ├── post-applypatch
│   └── [...]
├── hooks.original
├── index
├── logs
│   ├── HEAD
│   └── refs
│       └── heads
│           └── master
├── objects
│   ├── 2e
│   │   └── 7b167eeb01dc76e7a69e2d8dd5f52279c73938
│   ├── ca
│   │   ├── 9be0af4cf653edd31940cbb80fe3f2b3c12077
│   │   └── dee9cb855b71059b4a7da8d1eb83134ed87429
│   ├── info
│   └── pack
├── refs
│   ├── heads
│   │   └── master
│   └── tags
```



# git

## — Git Walkthrough (II: Branching)

```
samplerepo — bash — 74x35
Andi at MacandIR in ~/samplerepo on master*
$ git branch bug
Andi at MacandIR in ~/samplerepo on master*
$ git checkout bug
Switched to branch 'bug'
Andi at MacandIR in ~/samplerepo on bug*
$ git branch
* bug
  master
Andi at MacandIR in ~/samplerepo on bug*
$ ll
total 8
-rw-r--r--  1 Andi  staff   21B Jan 11 17:40 panda.txt
Andi at MacandIR in ~/samplerepo on bug*
$ cat .git/HEAD
ref: refs/heads/bug
Andi at MacandIR in ~/samplerepo on bug*
```

```
$ tree .git/
.git/
├── COMMIT_EDITMSG
├── HEAD
├── config
├── hooks
│   ├── applypatch-msg
│   └── hooks.original
├── index
├── logs
│   ├── HEAD
│   └── refs
│       ├── heads
│       │   ├── bug
│       │   └── master
├── objects
│   ├── 15
│   │   └── 284e3caad4de7cb15f73bba4c908aed7f586f3
│   ├── 1a
│   │   └── 833f02850d668161a34b4a4d485fde71e2a664
│   ├── 2e
│   │   └── 7b167eeb01dc76e7a69e2d8dd5f52279c73938
│   ├── 41
│   │   └── 40ce8e7a6ca7c689fd8630c94c4ab3d1f847dc
│   ├── info
│   └── pack
├── refs
│   ├── heads
│   │   ├── bug
│   │   └── master
│   └── tags
```



# git

## — Git Walkthrough (II: Branching)

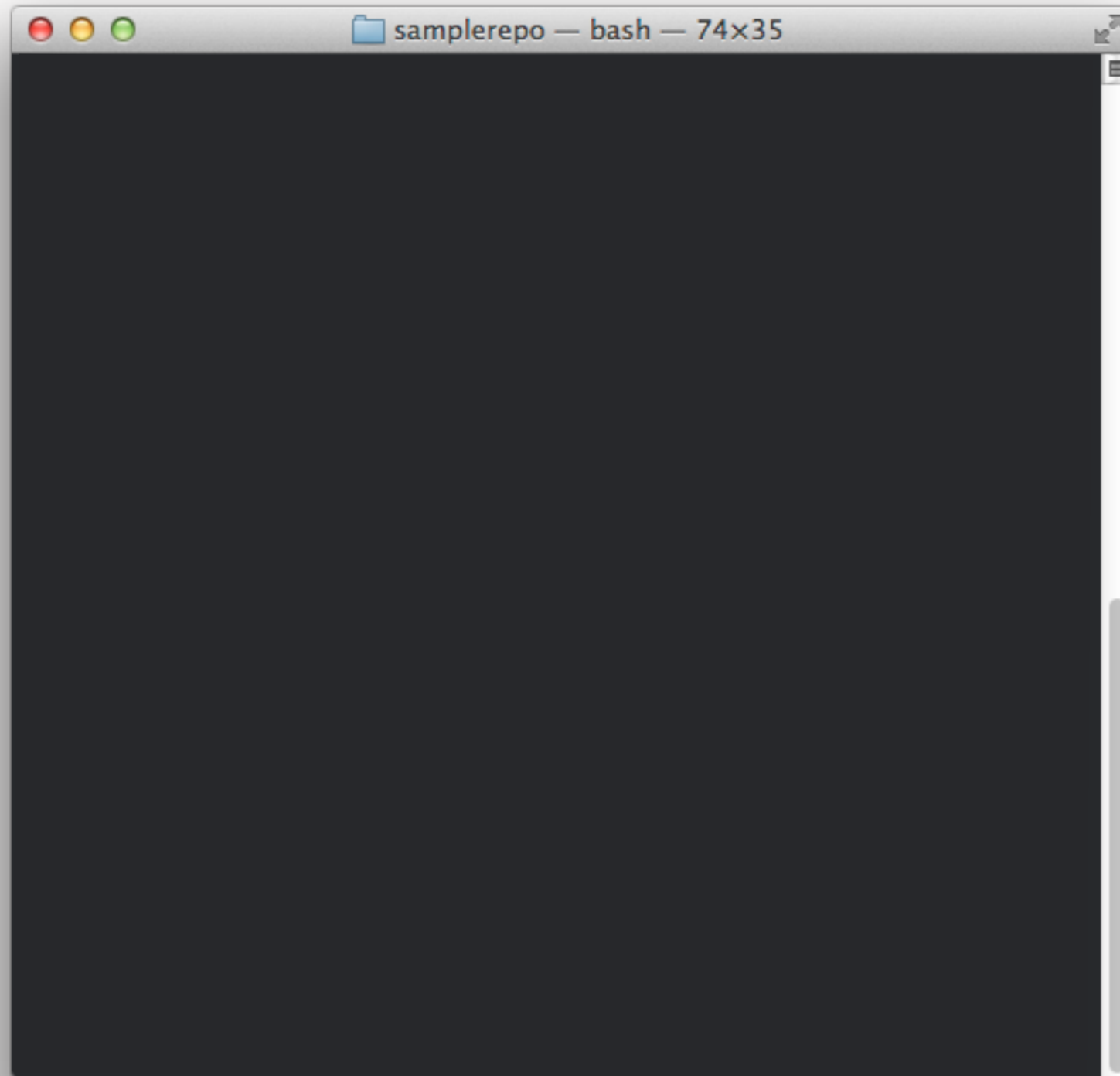
```
samplerepo — bash — 74x35
Andi at MacandIR in ~/samplerepo on master*
$ git branch bug
Andi at MacandIR in ~/samplerepo on master*
$ git checkout bug
Switched to branch 'bug'
Andi at MacandIR in ~/samplerepo on bug*
$ git branch
* bug
  master
Andi at MacandIR in ~/samplerepo on bug*
$ ll
total 8
-rw-r--r-- 1 Andi  staff   21B Jan 11 17:40 panda.txt
Andi at MacandIR in ~/samplerepo on bug*
$ cat .git/HEAD
ref: refs/heads/bug
Andi at MacandIR in ~/samplerepo on bug*
$ ll > dirlist.txt; echo "Superbug" >> panda.txt
Andi at MacandIR in ~/samplerepo on bug*
```

```
$ tree .git/
.git/
├── COMMIT_EDITMSG
├── HEAD
├── config
├── hooks
│   ├── applypatch-msg
│   └── hooks.original
├── index
├── logs
│   ├── HEAD
│   └── refs
│       ├── heads
│       │   ├── bug
│       │   └── master
├── objects
│   ├── 15
│   │   └── 284e3caad4de7cb15f73bba4c908aed7f586f3
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│   ├── 2e
│   │   └── 7b167eeb01dc76e7a69e2d8dd5f52279c73938
│   ├── 41
│   │   └── 40ce8e7a6ca7c689fd8630c94c4ab3d1f847dc
│   ├── info
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│   ├── heads
│   │   ├── bug
│   │   └── master
│   └── tags
```



# git

## — Git Walkthrough (II: Branching)



```
$ tree .git/  
.git/  
├── COMMIT_EDITMSG  
├── HEAD  
├── config  
├── hooks  
│   ├── applypatch-msg  
│   └── hooks.original  
├── index  
├── logs  
├── refs  
│   ├── HEAD  
│   └── refs  
│       ├── heads  
│       │   ├── bug  
│       │   └── master  
├── objects  
│   ├── 15  
│   │   └── 284e3caad4de7cb15f73bba4c908aed7f586f3  
│   ├── 1a  
│   │   └── 833f02850d668161a34b4a4d485fde71e2a664  
│   ├── 2e  
│   │   └── 7b167eeb01dc76e7a69e2d8dd5f52279c73938  
│   └── 41  
│       └── 40ce8e7a6ca7c689fd8630c94c4ab3d1f847dc  
├── info  
├── pack  
└── refs  
    ├── heads  
    │   ├── bug  
    │   └── master  
    └── tags
```





# git

## — Git Walkthrough (II: Branching)

```
samplerepo — bash — 74x35
Andi at MacandIR in ~/samplerepo on bug*
```

```
$ tree .git/
.git/
├── COMMIT_EDITMSG
├── HEAD
├── config
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├── hooks.original
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│       ├── heads
│       │   ├── bug
│       │   └── master
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│   │   └── 284e3caad4de7cb15f73bba4c908aed7f586f3
│   ├── 1a
│   │   └── 833f02850d668161a34b4a4d485fde71e2a664
│   ├── 2e
│   │   └── 7b167eeb01dc76e7a69e2d8dd5f52279c73938
│   ├── 41
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│   │   └── master
│   └── tags
```



# git

## — Git Walkthrough (II: Branching)

```
samplerepo — bash — 74x35
Andi at MacandIR in ~/samplerepo on bug*
$ git status
```

```
$ tree .git/
.git/
├── COMMIT_EDITMSG
├── HEAD
├── config
├── hooks
│   └── applypatch-msg
├── hooks.original
├── index
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│       ├── heads
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│       │   └── master
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│   ├── heads
│   │   ├── bug
│   │   └── master
│   └── tags
```



# git — Git Walkthrough (II: Branching)

```
samplerrepo — bash — 74x35
Andi at MacandiR in ~/samplerrepo on bug*
$ git status
# On branch bug
# Changes not staged for commit:
#   (use "git add <file>..." to update what will be
#    committed)
#   (use "git checkout -- <file>..." to discard changes in
#    working directory)
#
#   modified:   panda.txt
#
# Untracked files:
#   (use "git add <file>..." to include in what will be
#    committed)
#
#   dirlist.txt
no changes added to commit (use "git add" and/or "git commit
-a«)
Andi at MacandiR in ~/samplerrepo on bug*
```

```
$ tree .git/
.git/
├── COMMIT_EDITMSG
├── HEAD
├── config
├── hooks
│   └── applypatch-msg
├── hooks.original
├── index
├── logs
│   ├── HEAD
│   └── refs
│       ├── heads
│       │   ├── bug
│       │   └── master
├── objects
│   ├── 15
│   │   └── 284e3caad4de7cb15f73bba4c908aed7f586f3
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│   │   └── 833f02850d668161a34b4a4d485fde71e2a664
│   ├── 2e
│   │   └── 7b167eeb01dc76e7a69e2d8dd5f52279c73938
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│   ├── info
│   └── pack
├── refs
│   ├── heads
│   │   ├── bug
│   │   └── master
└── tags
```



# git

## — Git Walkthrough (II: Branching)

```
samplerepo — bash — 74x35
Andi at MacandiR in ~/samplerepo on bug*
$ git status
# On branch bug
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#   (use "git add <file>..." to update what will be
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#   (use "git checkout -- <file>..." to discard changes in
#   working directory)
#
#   modified:   panda.txt
#
# Untracked files:
#   (use "git add <file>..." to include in what will be
#   committed)
#
#   dirlist.txt
no changes added to commit (use "git add" and/or "git commit
-a«)
Andi at MacandiR in ~/samplerepo on bug*
$ git add panda.txt dirlist.txt
Andi at MacandiR in ~/samplerepo on bug*
```

```
$ tree .git/
.git/
├── COMMIT_EDITMSG
├── HEAD
├── config
├── hooks
│   └── applypatch-msg
├── hooks.original
├── index
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│   ├── HEAD
│   └── refs
│       ├── heads
│       │   ├── bug
│       │   └── master
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│   │   └── 284e3caad4de7cb15f73bba4c908aed7f586f3
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│   ├── 2e
│   │   └── 7b167eeb01dc76e7a69e2d8dd5f52279c73938
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│   │   ├── bug
│   │   └── master
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```



# git

## — Git Walkthrough (II: Branching)

```
samplerepo — bash — 74x35
Andi at MacandiR in ~/samplerepo on bug*
$ git status
# On branch bug
# Changes not staged for commit:
#   (use "git add <file>..." to update what will be
#   committed)
#   (use "git checkout -- <file>..." to discard changes in
#   working directory)
#
#   modified:   panda.txt
#
# Untracked files:
#   (use "git add <file>..." to include in what will be
#   committed)
#
#   dirlist.txt
no changes added to commit (use "git add" and/or "git commit
-a«)
Andi at MacandiR in ~/samplerepo on bug*
$ git add panda.txt dirlist.txt
Andi at MacandiR in ~/samplerepo on bug*
$ git commit -m "Bugfixing"
```

```
$ tree .git/
.git/
├── COMMIT_EDITMSG
├── HEAD
├── config
├── hooks
│   └── applypatch-msg
├── hooks.original
├── index
├── logs
│   ├── HEAD
│   └── refs
│       ├── heads
│       │   ├── bug
│       │   └── master
├── objects
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│   │   └── 284e3caad4de7cb15f73bba4c908aed7f586f3
│   ├── 1a
│   │   └── 833f02850d668161a34b4a4d485fde71e2a664
│   ├── 2e
│   │   └── 7b167eeb01dc76e7a69e2d8dd5f52279c73938
│   ├── 41
│   │   └── 40ce8e7a6ca7c689fd8630c94c4ab3d1f847dc
│   ├── info
│   └── pack
├── refs
│   ├── heads
│   │   ├── bug
│   │   └── master
└── tags
```



# git — Git Walkthrough (II: Branching)

```
samplerepo — bash — 74x35
Andi at MacandiR in ~/samplerepo on bug*
$ git status
# On branch bug
# Changes not staged for commit:
#   (use "git add <file>..." to update what will be
#    committed)
#   (use "git checkout -- <file>..." to discard changes in
#    working directory)
#
#   modified:   panda.txt
#
# Untracked files:
#   (use "git add <file>..." to include in what will be
#    committed)
#
#   dirlist.txt
no changes added to commit (use "git add" and/or "git commit
-a«)
Andi at MacandiR in ~/samplerepo on bug*
$ git add panda.txt dirlist.txt
Andi at MacandiR in ~/samplerepo on bug*
$ git commit -m "Bugfixing"
[bug c76ef60] Bugfixing
 2 files changed, 4 insertions(+)
 create mode 100644 dirlist.txt
Andi at MacandiR in ~/samplerepo on bug*
```

```
$ tree .git/
.git/
├── COMMIT_EDITMSG
├── HEAD
├── config
├── hooks
│   └── applypatch-msg
├── hooks.original
├── index
├── logs
│   ├── HEAD
│   └── refs
│       ├── heads
│       │   ├── bug
│       │   └── master
├── objects
│   ├── 15
│   │   └── 284e3caad4de7cb15f73bba4c908aed7f586f3
│   ├── 1a
│   │   └── 833f02850d668161a34b4a4d485fde71e2a664
│   ├── 2e
│   │   └── 7b167eeb01dc76e7a69e2d8dd5f52279c73938
│   ├── 41
│   │   └── 40ce8e7a6ca7c689fd8630c94c4ab3d1f847dc
│   ├── info
│   └── pack
├── refs
│   ├── heads
│   │   ├── bug
│   │   └── master
└── tags
```



# git — Git Walkthrough (II: Branching)

```
samplerepo — bash — 74x35
Andi at MacandiR in ~/samplerepo on bug*
$ git status
# On branch bug
# Changes not staged for commit:
#   (use "git add <file>..." to update what will be
#    committed)
#   (use "git checkout -- <file>..." to discard changes in
#    working directory)
#
#   modified:   panda.txt
#
# Untracked files:
#   (use "git add <file>..." to include in what will be
#    committed)
#
#   dirlist.txt
no changes added to commit (use "git add" and/or "git commit
-a«)
Andi at MacandiR in ~/samplerepo on bug*
$ git add panda.txt dirlist.txt
Andi at MacandiR in ~/samplerepo on bug*
$ git commit -m "Bugfixing"
[bug c76ef60] Bugfixing
 2 files changed, 4 insertions(+)
 create mode 100644 dirlist.txt
Andi at MacandiR in ~/samplerepo on bug*
$ git checkout master
```

```
$ tree .git/
.git/
├── COMMIT_EDITMSG
├── HEAD
├── config
├── hooks
│   └── applypatch-msg
├── hooks.original
├── index
├── logs
│   ├── HEAD
│   └── refs
│       ├── heads
│       │   ├── bug
│       │   └── master
├── objects
│   ├── 15
│   │   └── 284e3caad4de7cb15f73bba4c908aed7f586f3
│   ├── 1a
│   │   └── 833f02850d668161a34b4a4d485fde71e2a664
│   ├── 2e
│   │   └── 7b167eeb01dc76e7a69e2d8dd5f52279c73938
│   ├── 41
│   │   └── 40ce8e7a6ca7c689fd8630c94c4ab3d1f847dc
│   ├── info
│   └── pack
├── refs
│   ├── heads
│   │   ├── bug
│   │   └── master
└── tags
```



# git — Git Walkthrough (II: Branching)

```
samplerepo — bash — 74x35
Andi at MacandiR in ~/samplerepo on bug*
$ git status
# On branch bug
# Changes not staged for commit:
#   (use "git add <file>..." to update what will be
#    committed)
#   (use "git checkout -- <file>..." to discard changes in
#    working directory)
#
#   modified:   panda.txt
#
# Untracked files:
#   (use "git add <file>..." to include in what will be
#    committed)
#
#   dirlist.txt
no changes added to commit (use "git add" and/or "git commit
-a«)
Andi at MacandiR in ~/samplerepo on bug*
$ git add panda.txt dirlist.txt
Andi at MacandiR in ~/samplerepo on bug*
$ git commit -m "Bugfixing"
[bug c76ef60] Bugfixing
 2 files changed, 4 insertions(+)
 create mode 100644 dirlist.txt
Andi at MacandiR in ~/samplerepo on bug*
$ git checkout master
Switched to branch 'master'
Andi at MacandiR in ~/samplerepo on master*
```

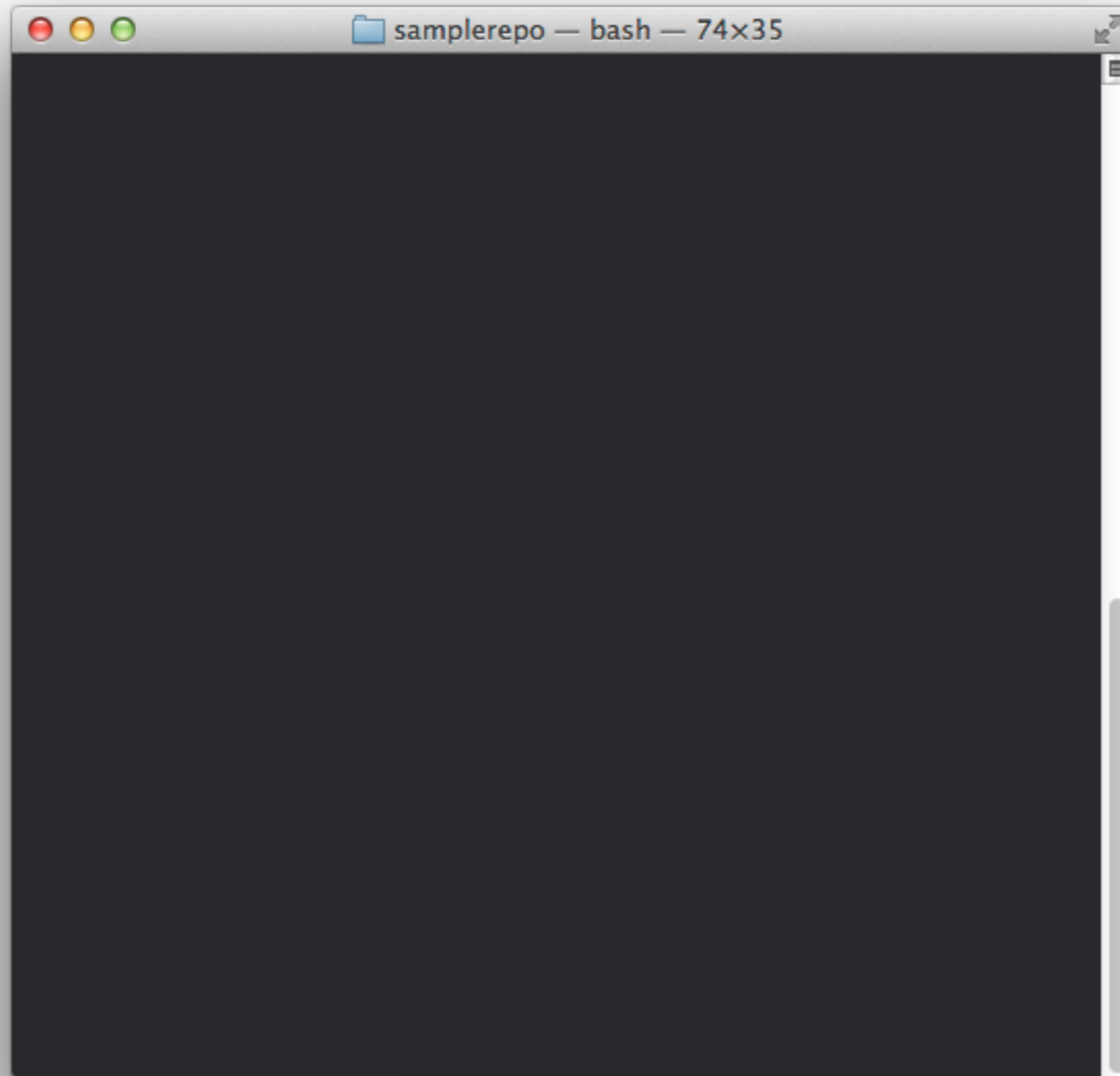
```
$ tree .git/
.git/
├── COMMIT_EDITMSG
├── HEAD
├── config
├── hooks
│   └── applypatch-msg
├── hooks.original
├── index
├── logs
│   ├── HEAD
│   └── refs
│       ├── heads
│       │   ├── bug
│       │   └── master
├── objects
│   ├── 15
│   │   └── 284e3caad4de7cb15f73bba4c908aed7f586f3
│   ├── 1a
│   │   └── 833f02850d668161a34b4a4d485fde71e2a664
│   ├── 2e
│   │   └── 7b167eeb01dc76e7a69e2d8dd5f52279c73938
│   ├── 41
│   │   └── 40ce8e7a6ca7c689fd8630c94c4ab3d1f847dc
│   ├── info
│   └── pack
├── refs
│   ├── heads
│   │   ├── bug
│   │   └── master
└── tags
```





# git

## — Git Walkthrough (II: Branching)



```
$ tree .git/
.git/
├── COMMIT_EDITMSG
├── HEAD
├── config
├── hooks
│   └── applypatch-msg
├── hooks.original
├── index
├── logs
├── refs
│   ├── HEAD
│   └── heads
│       ├── bug
│       └── master
├── objects
│   ├── 15
│   │   └── 284e3caad4de7cb15f73bba4c908aed7f586f3
│   ├── 1a
│   │   └── 833f02850d668161a34b4a4d485fde71e2a664
│   ├── 2e
│   │   └── 7b167eeb01dc76e7a69e2d8dd5f52279c73938
│   └── 41
│       └── 40ce8e7a6ca7c689fd8630c94c4ab3d1f847dc
├── info
├── pack
├── refs
│   ├── heads
│   │   ├── bug
│   │   └── master
│   └── tags
```



# git

## — Git Walkthrough (II: Branching)

```
samplerepo — bash — 74x35
Andi at MacandIR in ~/samplerepo on master*
```

```
$ tree .git/
.git/
├── COMMIT_EDITMSG
├── HEAD
├── config
├── hooks
│   └── applypatch-msg
├── hooks.original
├── index
├── logs
│   ├── HEAD
│   └── refs
│       ├── heads
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│       │   └── master
├── objects
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│   │   └── 284e3caad4de7cb15f73bba4c908aed7f586f3
│   ├── 1a
│   │   └── 833f02850d668161a34b4a4d485fde71e2a664
│   ├── 2e
│   │   └── 7b167eeb01dc76e7a69e2d8dd5f52279c73938
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│   ├── info
│   └── pack
├── refs
│   ├── heads
│   │   ├── bug
│   │   └── master
│   └── tags
```



# git

## — Git Walkthrough (II: Branching)

```
samplerepo — bash — 74x35
Andi at MacandIR in ~/samplerepo on master*
$ ll
```

```
$ tree .git/
.git/
├── COMMIT_EDITMSG
├── HEAD
├── config
├── hooks
│   └── applypatch-msg
├── hooks.original
├── index
├── logs
│   ├── HEAD
│   └── refs
│       ├── heads
│       │   ├── bug
│       │   └── master
├── objects
│   ├── 15
│   │   └── 284e3caad4de7cb15f73bba4c908aed7f586f3
│   ├── 1a
│   │   └── 833f02850d668161a34b4a4d485fde71e2a664
│   ├── 2e
│   │   └── 7b167eeb01dc76e7a69e2d8dd5f52279c73938
│   ├── 41
│   │   └── 40ce8e7a6ca7c689fd8630c94c4ab3d1f847dc
│   ├── info
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│   │   ├── bug
│   │   └── master
│   └── tags
```



# git

## — Git Walkthrough (II: Branching)

```
samplerepo — bash — 74x35
Andi at MacandiR in ~/samplerepo on master*
$ ll
total 8
-rw-r--r--  1 Andi  staff   40B Jan 11 17:44 panda.txt
Andi at MacandiR in ~/samplerepo on master*
```

```
$ tree .git/
.git/
├── COMMIT_EDITMSG
├── HEAD
├── config
├── hooks
│   └── applypatch-msg
├── hooks.original
├── index
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│       │   ├── bug
│       │   └── master
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│   ├── 1a
│   │   └── 833f02850d668161a34b4a4d485fde71e2a664
│   ├── 2e
│   │   └── 7b167eeb01dc76e7a69e2d8dd5f52279c73938
│   ├── 41
│   │   └── 40ce8e7a6ca7c689fd8630c94c4ab3d1f847dc
│   ├── info
│   └── pack
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│   ├── heads
│   │   ├── bug
│   │   └── master
└── tags
```



# git

## — Git Walkthrough (II: Branching)

```
samplerepo — bash — 74x35
Andi at MacandiR in ~/samplerepo on master*
$ ll
total 8
-rw-r--r--  1 Andi  staff   40B Jan 11 17:44 panda.txt
Andi at MacandiR in ~/samplerepo on master*
$ cat panda.txt
```

```
$ tree .git/
.git/
├── COMMIT_EDITMSG
├── HEAD
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```



# git

## — Git Walkthrough (II: Branching)

```
samplerepo — bash — 74x35
Andi at MacandiR in ~/samplerepo on master*
$ ll
total 8
-rw-r--r--  1 Andi  staff   40B Jan 11 17:44 panda.txt
Andi at MacandiR in ~/samplerepo on master*
$ cat panda.txt
Hello Panda Computing guys
How are you doing?
Andi at MacandiR in ~/samplerepo on master*
```

```
$ tree .git/
.git/
├── COMMIT_EDITMSG
├── HEAD
├── config
├── hooks
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└── tags
```



# git

## — Git Walkthrough (II: Branching)

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Andi at MacandiR in ~/samplerepo on master*
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total 8
-rw-r--r--  1 Andi  staff   40B Jan 11 17:44 panda.txt
Andi at MacandiR in ~/samplerepo on master*
$ cat panda.txt
Hello Panda Computing guys
How are you doing?
Andi at MacandiR in ~/samplerepo on master*
$ git merge bug
```

```
$ tree .git/
.git/
├── COMMIT_EDITMSG
├── HEAD
├── config
├── hooks
│   └── applypatch-msg
├── hooks.original
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│   ├── 1a
│   │   └── 833f02850d668161a34b4a4d485fde71e2a664
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│   │   ├── bug
│   │   └── master
└── tags
```



# git

## — Git Walkthrough (II: Branching)

```
samplerepo — bash — 74x35
Andi at MacandiR in ~/samplerepo on master*
$ ll
total 8
-rw-r--r--  1 Andi  staff   40B Jan 11 17:44 panda.txt
Andi at MacandiR in ~/samplerepo on master*
$ cat panda.txt
Hello Panda Computing guys
How are you doing?
Andi at MacandiR in ~/samplerepo on master*
$ git merge bug
Auto-merging panda.txt
CONFLICT (content): Merge conflict in panda.txt
Automatic merge failed; fix conflicts and then commit the
result.
Andi at MacandiR in ~/samplerepo on master*
```

```
$ tree .git/
.git/
├── COMMIT_EDITMSG
├── HEAD
├── config
├── hooks
│   └── applypatch-msg
├── hooks.original
├── index
├── logs
│   ├── HEAD
│   └── refs
│       ├── heads
│       │   ├── bug
│       │   └── master
├── objects
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│   │   └── 284e3caad4de7cb15f73bba4c908aed7f586f3
│   ├── 1a
│   │   └── 833f02850d668161a34b4a4d485fde71e2a664
│   ├── 2e
│   │   └── 7b167eeb01dc76e7a69e2d8dd5f52279c73938
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│   ├── info
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├── refs
│   ├── heads
│   │   ├── bug
│   │   └── master
└── tags
```





# git

## — Git Walkthrough (II: Branching)

```
samplerepo — bash — 74x35
Andi at MacandiR in ~/samplerepo on master*
$ ll
total 8
-rw-r--r--  1 Andi  staff   40B Jan 11 17:44 panda.txt
Andi at MacandiR in ~/samplerepo on master*
$ cat panda.txt
Hello Panda Computing guys
How are you doing?
Andi at MacandiR in ~/samplerepo on master*
$ git merge bug
Auto-merging panda.txt
CONFLICT (content): Merge conflict in panda.txt
Automatic merge failed; fix conflicts and then commit the
result.
Andi at MacandiR in ~/samplerepo on master*
$ cat panda.txt
```

```
$ tree .git/
.git/
├── COMMIT_EDITMSG
├── HEAD
├── config
├── hooks
│   └── applypatch-msg
├── hooks.original
├── index
├── logs
│   ├── HEAD
│   └── refs
│       ├── heads
│       │   ├── bug
│       │   └── master
├── objects
│   ├── 15
│   │   └── 284e3caad4de7cb15f73bba4c908aed7f586f3
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│   │   └── 833f02850d668161a34b4a4d485fde71e2a664
│   ├── 2e
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│   ├── 41
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│   ├── info
│   └── pack
├── refs
│   ├── heads
│   │   ├── bug
│   │   └── master
└── tags
```



# git

## — Git Walkthrough (II: Branching)

```
samplerepo — bash — 74x35
Andi at MacandiR in ~/samplerepo on master*
$ ll
total 8
-rw-r--r-- 1 Andi  staff   40B Jan 11 17:44 panda.txt
Andi at MacandiR in ~/samplerepo on master*
$ cat panda.txt
Hello Panda Computing guys
How are you doing?
Andi at MacandiR in ~/samplerepo on master*
$ git merge bug
Auto-merging panda.txt
CONFLICT (content): Merge conflict in panda.txt
Automatic merge failed; fix conflicts and then commit the
result.
Andi at MacandiR in ~/samplerepo on master*
$ cat panda.txt
Hello      guys
<<<<<<< HEAD
How are you doing?
=====
Superbug
>>>>>> bug
Andi at MacandiR in ~/samplerepo on master*
```

```
$ tree .git/
.git/
├── COMMIT_EDITMSG
├── HEAD
├── config
├── hooks
│   └── applypatch-msg
├── hooks.original
├── index
├── logs
│   ├── HEAD
│   └── refs
│       ├── heads
│       │   ├── bug
│       │   └── master
├── objects
│   ├── 15
│   │   └── 284e3caad4de7cb15f73bba4c908aed7f586f3
│   ├── 1a
│   │   └── 833f02850d668161a34b4a4d485fde71e2a664
│   ├── 2e
│   │   └── 7b167eeb01dc76e7a69e2d8dd5f52279c73938
│   ├── 41
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├── refs
│   ├── heads
│   │   ├── bug
│   │   └── master
└── tags
```



# git

## — Git Walkthrough (II: Branching)

```
samplerepo — bash — 74x35
Andi at MacandiR in ~/samplerepo on master*
$ ll
total 8
-rw-r--r--  1 Andi  staff   40B Jan 11 17:44 panda.txt
Andi at MacandiR in ~/samplerepo on master*
$ cat panda.txt
Hello Panda Computing guys
How are you doing?
Andi at MacandiR in ~/samplerepo on master*
$ git merge bug
Auto-merging panda.txt
CONFLICT (content): Merge conflict in panda.txt
Automatic merge failed; fix conflicts and then commit the
result.
Andi at MacandiR in ~/samplerepo on master*
$ cat panda.txt
Hello      guys
<<<<<<< HEAD
How are you doing?
=====
Superbug
>>>>>> bug
Andi at MacandiR in ~/samplerepo on master*
$ git commit
```

```
$ tree .git/
.git/
├── COMMIT_EDITMSG
├── HEAD
├── config
├── hooks
│   └── applypatch-msg
├── hooks.original
├── index
├── logs
│   ├── HEAD
│   └── refs
│       ├── heads
│       │   ├── bug
│       │   └── master
├── objects
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│   │   └── 284e3caad4de7cb15f73bba4c908aed7f586f3
│   ├── 1a
│   │   └── 833f02850d668161a34b4a4d485fde71e2a664
│   ├── 2e
│   │   └── 7b167eeb01dc76e7a69e2d8dd5f52279c73938
│   ├── 41
│   │   └── 40ce8e7a6ca7c689fd8630c94c4ab3d1f847dc
│   ├── info
│   └── pack
├── refs
│   ├── heads
│   │   ├── bug
│   │   └── master
└── tags
```



# git

## — Git Walkthrough (II: Branching)

```
samplerepo — bash — 74x35
Andi at MacandiR in ~/samplerepo on master*
$ ll
total 8
-rw-r--r-- 1 Andi  staff   40B Jan 11 17:44 panda.txt
Andi at MacandiR in ~/samplerepo on master*
$ cat panda.txt
Hello Panda Computing guys
How are you doing?
Andi at MacandiR in ~/samplerepo on master*
$ git merge bug
Auto-merging panda.txt
CONFLICT (content): Merge conflict in panda.txt
Automatic merge failed; fix conflicts and then commit the
result.
Andi at MacandiR in ~/samplerepo on master*
$ cat panda.txt
Hello      guys
<<<<<<< HEAD
How are you doing?
=====
Superbug
>>>>>> bug
Andi at MacandiR in ~/samplerepo on master*
$ git commit
[master ebcc2cc] Merge branch 'bug'
Andi at MacandiR in ~/samplerepo on master*
```

```
$ tree .git/
.git/
├── COMMIT_EDITMSG
├── HEAD
├── config
├── hooks
│   └── applypatch-msg
├── hooks.original
├── index
├── logs
│   ├── HEAD
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│       ├── heads
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│   │   └── 284e3caad4de7cb15f73bba4c908aed7f586f3
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│   ├── 2e
│   │   └── 7b167eeb01dc76e7a69e2d8dd5f52279c73938
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│   └── pack
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│   ├── heads
│   │   ├── bug
│   │   └── master
└── tags
```



# git

## — Git Walkthrough (II: Branching)

```

samplerrepo — bash — 74x35
Andi at MacandiR in ~/samplerrepo on master*
$ ll
total 8
-rw-r--r--  1 Andi  staff   40B Jan 11 17:44 panda.txt
Andi at MacandiR in ~/samplerrepo on master*
$ cat panda.txt
Hello Panda Computing guys
How are you doing?
Andi at MacandiR in ~/samplerrepo on master*
$ git merge bug
Auto-merging panda.txt
CONFLICT (content): Merge conflict in panda.txt
Automatic merge failed; fix conflicts and then commit the
result.
Andi at MacandiR in ~/samplerrepo on master*
$ cat panda.txt
Hello      guys
<<<<<<< HEAD
How are you doing?
=====
Superbug
>>>>>> bug
Andi at MacandiR in ~/samplerrepo on master*
$ git commit
[master ebcc2cc] Merge branch 'bug'
Andi at MacandiR in ~/samplerrepo on master*
$ git branch -d bug

```

```

$ tree .git/
.git/
├── COMMIT_EDITMSG
├── HEAD
├── config
├── hooks
│   └── applypatch-msg
├── hooks.original
├── index
├── logs
│   ├── HEAD
│   └── refs
│       ├── heads
│       │   ├── bug
│       │   └── master
├── objects
│   ├── 15
│   │   └── 284e3caad4de7cb15f73bba4c908aed7f586f3
│   ├── 1a
│   │   └── 833f02850d668161a34b4a4d485fde71e2a664
│   ├── 2e
│   │   └── 7b167eeb01dc76e7a69e2d8dd5f52279c73938
│   ├── 41
│   │   └── 40ce8e7a6ca7c689fd8630c94c4ab3d1f847dc
│   ├── info
│   └── pack
├── refs
│   ├── heads
│   │   ├── bug
│   │   └── master
└── tags

```



# git

## — Git Walkthrough (II: Branching)

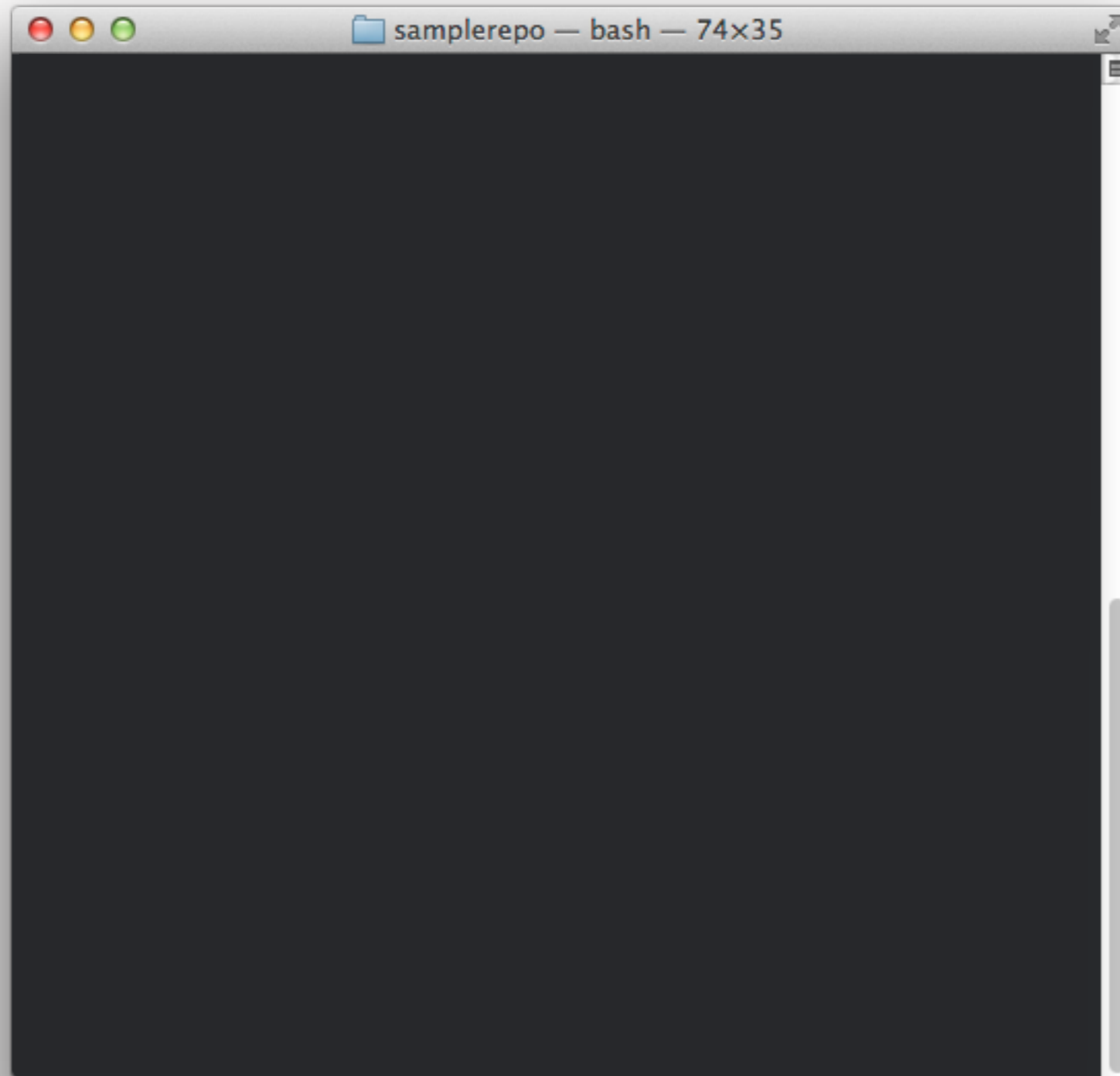
```
samplerepo — bash — 74x35
Andi at MacandiR in ~/samplerepo on master*
$ ll
total 8
-rw-r--r--  1 Andi  staff   40B Jan 11 17:44 panda.txt
Andi at MacandiR in ~/samplerepo on master*
$ cat panda.txt
Hello Panda Computing guys
How are you doing?
Andi at MacandiR in ~/samplerepo on master*
$ git merge bug
Auto-merging panda.txt
CONFLICT (content): Merge conflict in panda.txt
Automatic merge failed; fix conflicts and then commit the
result.
Andi at MacandiR in ~/samplerepo on master*
$ cat panda.txt
Hello      guys
<<<<<<< HEAD
How are you doing?
=====
Superbug
>>>>>> bug
Andi at MacandiR in ~/samplerepo on master*
$ git commit
[master ebcc2cc] Merge branch 'bug'
Andi at MacandiR in ~/samplerepo on master*
$ git branch -d bug
Deleted branch bug (was c76ef60).
Andi at MacandiR in ~/samplerepo on master*
```

```
$ tree .git/
.git/
├── COMMIT_EDITMSG
├── HEAD
├── config
├── hooks
│   └── applypatch-msg
├── hooks.original
├── index
├── logs
│   ├── HEAD
│   └── refs
│       ├── heads
│       │   ├── bug
│       │   └── master
├── objects
│   ├── 15
│   │   └── 284e3caad4de7cb15f73bba4c908aed7f586f3
│   ├── 1a
│   │   └── 833f02850d668161a34b4a4d485fde71e2a664
│   ├── 2e
│   │   └── 7b167eeb01dc76e7a69e2d8dd5f52279c73938
│   ├── 41
│   │   └── 40ce8e7a6ca7c689fd8630c94c4ab3d1f847dc
│   ├── info
│   └── pack
├── refs
│   ├── heads
│   │   ├── bug
│   │   └── master
└── tags
```



# git

## — Git Walkthrough (II: Branching)



```
$ tree .git/  
.git/  
├── COMMIT_EDITMSG  
├── HEAD  
├── config  
├── hooks  
│   ├── applypatch-msg  
│   └── hooks.original  
├── index  
├── logs  
├── refs  
│   ├── HEAD  
│   └── refs  
│       ├── heads  
│       │   ├── bug  
│       │   └── master  
├── objects  
│   ├── 15  
│   │   └── 284e3caad4de7cb15f73bba4c908aed7f586f3  
│   ├── 1a  
│   │   └── 833f02850d668161a34b4a4d485fde71e2a664  
│   ├── 2e  
│   │   └── 7b167eeb01dc76e7a69e2d8dd5f52279c73938  
│   ├── 41  
│   │   └── 40ce8e7a6ca7c689fd8630c94c4ab3d1f847dc  
│   ├── info  
│   └── pack  
├── refs  
│   ├── heads  
│   │   ├── bug  
│   │   └── master  
└── tags
```



# git

## — Git Walkthrough (II: Branching)

```
samplerepo — bash — 74x35
Andi at MacandIR in ~/samplerepo on master*
```

```
$ tree .git/
.git/
├── COMMIT_EDITMSG
├── HEAD
├── config
├── hooks
│   └── applypatch-msg
├── hooks.original
├── index
├── logs
│   ├── HEAD
│   └── refs
│       ├── heads
│       │   ├── bug
│       │   └── master
├── objects
│   ├── 15
│   │   └── 284e3caad4de7cb15f73bba4c908aed7f586f3
│   ├── 1a
│   │   └── 833f02850d668161a34b4a4d485fde71e2a664
│   ├── 2e
│   │   └── 7b167eeb01dc76e7a69e2d8dd5f52279c73938
│   ├── 41
│   │   └── 40ce8e7a6ca7c689fd8630c94c4ab3d1f847dc
│   ├── info
│   └── pack
├── refs
│   ├── heads
│   │   ├── bug
│   │   └── master
│   └── tags
```





# git

## — Git Walkthrough (II: Branching)

```
samplerepo — bash — 74x35
Andi at MacandiR in ~/samplerepo on master*
$ git log
commit ebcc2cc8fb0c5f33fe5c9f4015e4fa5a545793b6
Merge: b82f014 c76ef60
Author: AndiH <a.herten+github@gmail.com>
Date: Sat Jan 11 17:46:53 2014 +0100

Merge branch 'bug'

* bug:
  Bugfixing

Conflicts:
  panda.txt

commit c76ef6039b3dfeb3cfe9277df9f2bdae46be00fc
Author: AndiH <a.herten+github@gmail.com>
Date: Sat Jan 11 17:43:45 2014 +0100

Bugfixing

commit b82f01496c3568520212580bb722cee878b47017
Author: AndiH <a.herten+github@gmail.com>
Date: Sat Jan 11 17:26:25 2014 +0100

Added question

commit ca9be0af4cf653edd31940cbb80fe3f2b3c12077
Author: AndiH <a.herten+github@gmail.com>
Date: Sat Jan 11 17:24:07 2014 +0100
```

```
$ tree .git/
.git/
├── COMMIT_EDITMSG
├── HEAD
├── config
├── hooks
│   ├── applypatch-msg
│   └── hooks.original
├── index
├── logs
│   ├── HEAD
│   └── refs
│       ├── heads
│       │   ├── bug
│       │   └── master
├── objects
│   ├── 15
│   │   └── 284e3caad4de7cb15f73bba4c908aed7f586f3
│   ├── 1a
│   │   └── 833f02850d668161a34b4a4d485fde71e2a664
│   ├── 2e
│   │   └── 7b167eeb01dc76e7a69e2d8dd5f52279c73938
│   ├── 41
│   │   └── 40ce8e7a6ca7c689fd8630c94c4ab3d1f847dc
│   ├── info
│   └── pack
├── refs
│   ├── heads
│   │   ├── bug
│   │   └── master
└── tags
```



# git — Git Walkthrough (II: Branching)

```

samplerrepo — bash — 74x35
Andi at MacandIR in ~/samplerrepo on master*
$ git log
commit ebcc2cc8fb0c5f33fe5c9f4015e4fa5a545793b6
Merge: b82f014 c76ef60
Author: AndiH <a.herten+github@gmail.com>
Date: Sat Jan 11 17:46:53 2014 +0100

Merge branch 'bugfixing'

* bugfixing:
Bugfixing

Conflicts:
panda.txt

commit c76ef6039...
Author: AndiH <a.herten+github@gmail.com>
Date: Sat Jan 11 17:46:53 2014 +0100

Bugfixing

commit b82f01490...
Author: AndiH <a.herten+github@gmail.com>
Date: Sat Jan 11 17:46:53 2014 +0100

Added question

commit ca9be0af4cf653edd31940cbb80fe3f2b3c12077
Author: AndiH <a.herten+github@gmail.com>
Date: Sat Jan 11 17:24:07 2014 +0100

```

```

$ tree .git/
.git/
├── COMMIT_EDITMSG
├── HEAD
├── config
├── ...
├── master
└── tags

```

→ CONTINUE?

*Git Walkthrough III: Collaboration*

→ END?

# git — Git Walkthrough (III: Collab.)

```
samplerrepo — bash — 52x35
Andi at MacandiR in ~
$ git clone ~/samplerrepo/ ~/anotherrepo
Cloning into '/Users/Andi/anotherrepo'...
done.
Checking connectivity... done
Andi at MacandiR in ~
$ cd anotherrepo/
Andi at MacandiR in ~/anotherrepo on master*
$ ll
total 16
-rw-r--r--  1 Andi  staff   122B Jan 13 09:14
dirlist.txt
-rw-r--r--  1 Andi  staff    53B Jan 13 09:14 panda.txt
Andi at MacandiR in ~/anotherrepo on master*
$ git rm dirlist.txt
rm 'dirlist.txt'
Andi at MacandiR in ~/anotherrepo on master*
$ git status
# On branch master
# Changes to be committed:
#   (use "git reset HEAD <file>..." to unstage)
#
#   deleted:    dirlist.txt
#
Andi at MacandiR in ~/anotherrepo on master*
$ git commit -m "deleted file"
[master 1c89873] deleted file
 1 file changed, 3 deletions(-)
 delete mode 100644 dirlist.txt
Andi at MacandiR in ~/anotherrepo on master*
$ ll
total 8
-rw-r--r--  1 Andi  staff    53B Jan 13 09:14 panda.txt
Andi at MacandiR in ~/anotherrepo on master*
```



# git — Git Walkthrough (III: Collab.)

```
samplerepo — bash — 52x35
Andi at MacandiR in ~
$ git clone ~/samplerepo/ ~/anotherrepo
Cloning into '/Users/Andi/anotherrepo'...
done.
Checking connectivity... done
Andi at MacandiR in ~
$ cd anotherrepo/
Andi at MacandiR in ~/anotherrepo on master*
$ ll
total 16
-rw-r--r--  1 Andi  staff   122B Jan 13 09:14
dirlist.txt
-rw-r--r--  1 Andi  staff    53B Jan 13 09:14 panda.txt
Andi at MacandiR in ~/anotherrepo on master*
$ git rm dirlist.txt
rm 'dirlist.txt'
Andi at MacandiR in ~/anotherrepo on master*
$ git status
# On branch master
# Changes to be committed:
#   (use "git reset HEAD <file>..." to unstage)
#
#    deleted:    dirlist.txt
#
Andi at MacandiR in ~/anotherrepo on master*
$ git commit -m "deleted file"
[master 1c89873] deleted file
 1 file changed, 3 deletions(-)
 delete mode 100644 dirlist.txt
Andi at MacandiR in ~/anotherrepo on master*
$ ll
total 8
-rw-r--r--  1 Andi  staff    53B Jan 13 09:14 panda.txt
Andi at MacandiR in ~/anotherrepo on master*
```

```
samplerepo — bash — 52x35
Andi at MacandiR in ~/anotherrepo on master*
$ ll
total 8
-rw-r--r--  1 Andi  staff    53B Jan 13 09:14 panda.txt
Andi at MacandiR in ~/anotherrepo on master*
$ ll ~/samplerepo/
total 16
-rw-r--r--  1 Andi  staff   122B Jan 11 18:31
dirlist.txt
-rw-r--r--  1 Andi  staff    53B Jan 11 18:31 panda.txt
Andi at MacandiR in ~/anotherrepo on master*
$ cd ~/samplerepo/
Andi at MacandiR in ~/samplerepo on master*
$ git pull ~/anotherrepo/ master
From /Users/Andi/anotherrepo
 * branch          master       -> FETCH_HEAD
Updating 0077828..1c89873
Fast-forward
 dirlist.txt | 3 ---
 1 file changed, 3 deletions(-)
 delete mode 100644 dirlist.txt
Andi at MacandiR in ~/samplerepo on master*
$ ll
total 8
-rw-r--r--  1 Andi  staff    53B Jan 11 18:31 panda.txt
Andi at MacandiR in ~/samplerepo on master*
```

# git — Git walkthrough

The screenshot shows the gitk GUI for a repository named 'samplerrepo'. The top left pane displays a commit graph with 'bug' and 'master' branches. The top right pane shows commit details for 'AndiH <a.herten+github@gmail.com>' with timestamps from 2014-01-11 17:24:07 to 17:48:32. The bottom left pane shows a diff for the 'bugfixing' commit, highlighting a new file mode and permissions. The bottom right pane shows a list of files: 'dirlist.txt' and 'panda.txt'. The interface includes a search bar, navigation buttons, and a commit selection dropdown.

gitk: samplerrepo

bug master test  
Merge branch 'bug'  
Bugfixing  
Added question  
Initial Panda

AndiH <a.herten+github@gmail.com>  
AndiH <a.herten+github@gmail.com>  
AndiH <a.herten+github@gmail.com>  
AndiH <a.herten+github@gmail.com>  
AndiH <a.herten+github@gmail.com>  
AndiH <a.herten+github@gmail.com>

2014-01-11 17:48:32  
2014-01-11 17:46:53  
2014-01-11 17:43:45  
2014-01-11 17:26:25  
2014-01-11 17:24:07

SHA1 ID: c76ef6039b3df9277df9f2bdae46be00fc

Row 3 / 5

Find next prev commit containing: Exact All fields

Search

Diff Old version New

bugfixing

```
new file mode 100644
index 0000000..2149e4a
@@ -0,0 +1,3 @@
+total 8
+-rw-r--r-- 1 Andi staff
+-rw-r--r-- 1 Andi staff
```

Comments  
dirlist.txt  
panda.txt

# git — Git Overview Example

**TripletFinder (Git)**

View | Commit | Checkout | Reset | Stash | Add | Remove | Add/Remove | Fetch | Pull | Push | Branch | Merge | Tag | Git Flow | Terminal | Settings

FILE STATUS: Working Copy

BRANCHES: master

TAGS

REMOTES: origin (HEAD, master)

STASHES

SUBMODULES

SUBTREES

Graph	Description	Commit	Author	Date
	<b>Uncommitted changes</b>	*	*	11.01.2014 17:51
	Small changes in summary.	d0a3d32	AndiH <a.herten...	10.01.2014 14:29
	some editorial changes, merged a couple of images	a6e0015	Andrew V. Adinet...	10.01.2014 14:13
	Changes in formulations, some todos	37f27da	AndiH <a.herten...	10.01.2014 11:42
	replaced missing figure with TF-sketch graphics	baecc3e	Andrew V. Adinet...	09.01.2014 19:04
	Changed picture of Triplet Finder sketch: Clearer colorkey and its now a vector graphics.	ecc55ea	AndiH <a.herten...	09.01.2014 19:02
	Merge branch 'master' of ssh://zam5001.zam.kfa-juelich.de/home/git/panda-iccs14	24e2536	AndiH <a.herten...	09.01.2014 19:01
	Merge branch 'master' of ssh://zam5001.zam.kfa-juelich.de/home/git/panda-iccs14	66dd209	Andrew V. Adinet...	09.01.2014 18:59
	editorial changes, paper cuts, subfigure re-alignment	582e7ad	Andrew V. Adinet...	09.01.2014 18:51
	Changes Marius email address	e6215c5	AndiH <a.herten...	09.01.2014 19:01
	Cleaned up subfigures.	1a3c5d3	AndiH <a.herten...	09.01.2014 18:48
	Changed figure to subfigures	026595b	AndiH <a.herten...	09.01.2014 16:41
	Changes concerning conclusion	bf260ed	AndiH <a.herten...	09.01.2014 16:41
	Merge branch 'master' of ssh://zam5001.zam.kfa-juelich.de/home/git/panda-iccs14 me...	9f854d0	Andrew V. Adinet...	09.01.2014 13:33
	Merged last version	43a5f58	AndiH <a.herten...	09.01.2014 11:20
	Added new sentence instaed of 270 GPUs. (+ some corrections yesterday forgotten at merge)	601fded	AndiH <a.herten...	09.01.2014 11:19
	added summary	8664ff7	Andrew V. Adinet...	09.01.2014 13:30
	added abstract, edited contributions	59f80b6	Andrew V. Adinet...	08.01.2014 19:11
	Merge branch 'master' of ssh://zam5001.zam.kfa-juelich.de/home/git/panda-iccs14 als...	daaf2bb	Andrew V. Adinet...	08.01.2014 16:19
	Merged Andrews and my concurrent changes.	05656e6	AndiH <a.herten...	08.01.2014 15:24
	Changes and added todos.	7b7d32f	AndiH <a.herten...	08.01.2014 14:49
	updated plots, added performance vs. bunch size, some text reorganization	e059677	Andrew V. Adinet...	08.01.2014 15:30

Commit: d0a3d32f92cd3b1eed8c96eb06a916a081bea47a [d0a3d32]

Parents: a6e001595b

6-summary.tex

Context: 3 Lines | Diff Parent | Show Whitespace | External Diff

6-summary.tex

Modified file, 9 lines added, 10 lines removed | Reverse

Hunk 1 : Lines 18-35 (previouslv 18-36)

Atlassian

# git — Resources

- Tutorials
  - man gittutorial (or, prettier, on [git-scm.com](http://git-scm.com))
  - Codeschool interactive Git tutorial: <http://gitreal.codeschool.com/>
  - Github interactive tryout: <http://try.github.io/>
  - Learn Git branching: <http://pcottle.github.io/learnGitBranching/>
  - Vogella Git tutorial: <http://www.vogella.com/>
- Git Book: <http://git-scm.com/doc>
- Scott Chacon's Git talks: <https://github.com/schacon/>
- ROOT
  - F. Rademakers slides on »[Moving ROOT from Subversion to Git](#)«
  - ROOT's Git Tips and Tricks: <http://root.cern.ch/>
- SVN:
  - <https://git.wiki.kernel.org/index.php/GitSvnCrashCourse>
  - <https://git.wiki.kernel.org/index.php/SvnMigration>

- Tutorials
  - man gittutorial (or, prettier, on [git-scm.com](http://git-scm.com))
  - Codeschool interactive Git tutorial: <http://gitreal.codeschool.com/>
  - Github interactive tryout: <http://try.github.io/>
  - Learn Git branching: <http://pcottle.github.io/learnGitBranching/>
  - Vogella Git tutorial: <http://www.vogella.com/>
- Git Book: <http://git-scm.com/doc>
- Scott Chacon's Git talks: <https://github.com/schacon/>
- ROOT
  - F. Rademakers slides on »[Moving ROOT from Subversion to Git](#)«
  - ROOT's Git Tips and Tricks: <http://root.cern.ch/>
- SVN:
  - <https://git.wiki.kernel.org/index.php/GitSvnCrashCourse>
  - <https://git.wiki.kernel.org/index.php/SvnMigration>

# THANKS