

# Workflow With Git

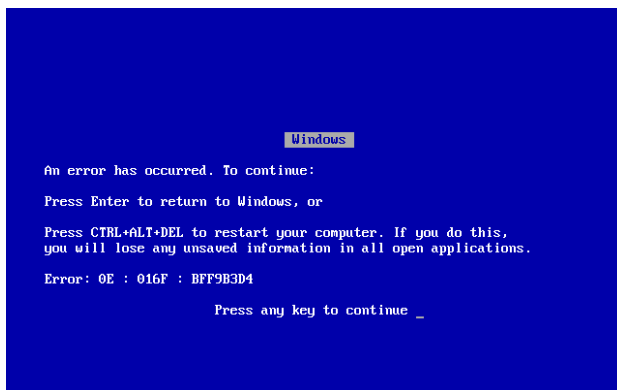
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ECRuby Meeting—April 8, 2010

## Summary

Regardless of what language you prefer, version-control is an essential tool for getting things done - especially when collaborating with others. Git, an open-source tool, has quickly become one of the most widely-used versioning systems, mainly thanks to the ability to branch and merge with relative ease. We'll take a look at how you can begin to integrate Git into your current workflow.

## Remember Windows 95?



# Archives



## Diff

```
*** /path/to/original ''timestamp''
--- /path/to/new      ''timestamp''
*****
*** 1,3 ****
--- 1,9 ----
+ This is an important
+ notice! It should
+ therefore be located at
+ the beginning of this
+ document!
...
```

## Primitive Version Control

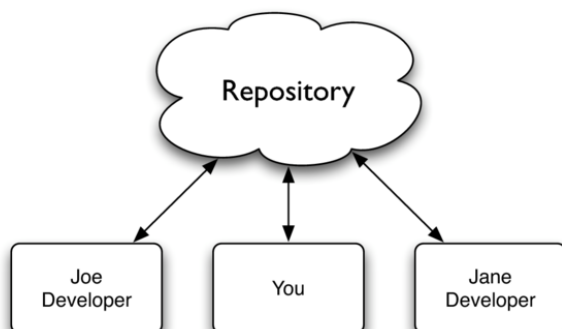
- BitKeeper
- CVS
- Subversion

## Beginnings of Git

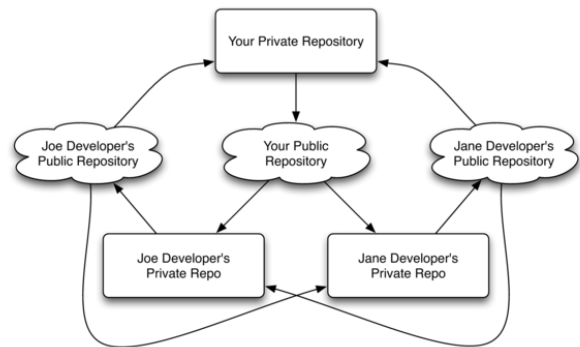


- Linus Torvalds
- 1.0 release on December 21, 2005
- Managed Linux kernel

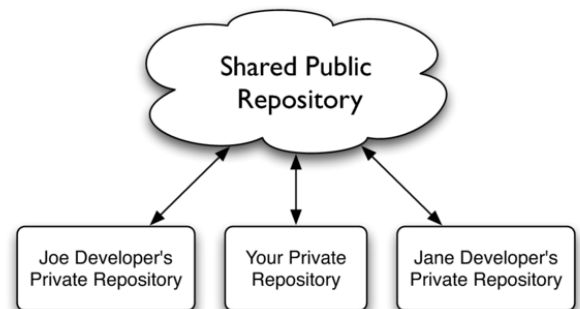
## Centralized Versioning



## Decentralized Versioning



## Git in Practice



## Let's Create a Repository!

```
:$> ls  
about.html  contact.html  index.html  st
```

```
:$> git init  
Initialized empty Git repository in /hom
```

---

## Adding initial files

---

```
:$> git add .
```

```
:$> git commit -m "Initial Commit"
```

```
Created initial commit ed3ec5b: Initial commit
0 files changed, 0 insertions(+), 0 deletions(-)
create mode 100644 about.html
create mode 100644 contact.html
create mode 100644 index.html
create mode 100644 style.css
```

---

## Git Add

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Git add doesn't do what you think it does!

```
:$> echo "<p>Hello, world</p>" > index.html
:$> git commit -m "Added initial text to index page"
# On branch master
# Changed but not updated:
#   (use "git add <file>..." to update what will be committed)
#
#       modified:   index.html
#
no changes added to commit (use "git add" and/or "git commit -a")
```

---

## Git Add and Commit

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Automatically add changes to files that are currently tracked:

```
$:> git commit -a -m "Added initial text to index page"
Created commit 94bc6d3: Added initial text to index page
1 files changed, 1 insertions(+), 0 deletions(-)
```

---

## Ignoring files

---

```
:$> ls
```

```
about.html ~about.html contact.html index.html style.css test.html
```

```
.gitignore
```

```
~*.html
```

```
test.html
```

---

## Git Revisions

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Revision names:

- HEAD - the latest commit
- HEAD~ - the second-to-last-commit
- HEAD~2 - you get the idea

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## Explicit Git Revisions

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```
:$> git log
```

```
commit fa8db86872c83fa62efa420548d8afe36
Author: Kevin W. Gisi <=>
Date:   Thu Apr 8 04:35:06 2010 -0500
```

Adjusted index to display standards-

```
commit e4e43f114f9c441ae20d51bf5277044d3
Author: Kevin W. Gisi <=>
Date:   Thu Apr 8 04:34:26 2010 -0500
```

Added help.html file to display usage

---

## Reverting a Commit

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```
:$> git revert HEAD
```

Create a new commit which undoes the changes most recently made.

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## Tagging a Release

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It's release time!

```
:$> git tag 1.0
```

Show current tags

```
:$> git tag
```

```
1.0
```

---

## Feature Branches

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```
:$> git branch html5
:$> git checkout html5
Switched to branch "html5"
:$> git mv index.html start.html
:$> git commit -am "Moved index.html to start.html"
Created commit 9c56488: Moved index.html to start.html
1 files changed, 0 insertions(+), 1 deletion(-)
rename index.html => start.html (100%)
```

Push any new commits in our master branch to the remote origin

Pull any new commits on the remote origin into our master branch

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## Master Stays Untouched

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```
:$> git checkout master
Switched to branch "master"
:$> ls
about.html  contact.html  help.html
```

---

## Merging Branches

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Navigate to the branch you want to work on

```
:$> git merge html5
```

Merge the other branch into the current branch.

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## Remote Repositories

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Often, we want to push our commits to another repository. We need to register the repository first.

```
:$> git remote add origin git@github.com:gisikw/sample-application.git
```

We tell Git a local name to call the remote, and the url where it can be accessed.

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## Pushing and Pulling from Remotes

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Push any new commits in our master branch to the remote origin

```
:$> git push origin master
```

Pull any new commits on the remote origin into our master branch

```
:$> git pull origin master
```

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## Additional Resources

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The Pragmatic  
Programmers

### Pragmatic Version Control Using Git



Travis Swicegood

Edited by Susannah Davidson Pfalzer

- Pragmatic Version Control Using Git by Travis Swicegood
- <http://help.github.com>
- [gisikw/sample-application.git](http://gisikw/sample-application.git)
- GitCasts

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## Thanks!

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