PKI, Git and SVN

Presented by
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Agenda

- Why git

- Getting started

- Branches

- Commits

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Why?

- "Saved Games"
- Craft Patches
- Multitasking
- Code Reviews
- Lose nothing
- Trust

No, really, why?

- If I didn't do this first, I'd spend the whole time in the next presentation explaining what I was doing

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But we use Subversion!

- SVN is a remote repository

- Git for local revision control

- Git can work with multiple remotes

- To Git, Subversion is just another remote protocol

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Is it going to change what I currently do?

- Different set of commands, but they have a straightforward mapping to SVN

- Different set of tools

- Both have large communities with lots of wisdom.

- This talk focuses on using git to augment your SVN interactions

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How do I get started?

git svn clone \

http://svn.fedorahosted.org/svn/pki \

--prefix svn/ \

 -T trunk -b branches -t tags

- -T -b -t are svn specific

- --stdlayout

- --prefix lets us name the remote repo

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You messed up!

My checkout was from:

svn+ssh://admiyo@svn.fedorahosted.org/svn

   /pki/trunk/pki

- Note the /pki at the end
- My git commits won't get accepted by the above repo
- Push to SVN as "commit cleaning" method
- Resort to patches if necessary

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That is Slow! I SVN checkout all the time!

- This got the entire history, all branches, all commits

- You will do this only once!

- Incremental changes are **fetch**ed

- Git has a really good protocol for ensuring things stay in sync.

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Why is there nothing inside the pki directory?

- Nothing has been checked out from the local repository
  - List all branches: git branch -a
  - List all remote branches: git branch -r
  - Right now they are the same
- To work with Trunk
  - $ git checkout -b trunk svn/trunk
- To work with PKI_8_BRANCH
  - git checkout -b svn/PKI_8_BRANCH PKI_8_BRANCH
- To go back to trunk

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What did that do?

- man git checkout

- -b creates a new branch

- First unamed param is local branch name

- Second unnamed param is the start point

- Without -b and branch point, it uses a local branch

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But I only work with one Branch at at time!

- Git makes a local repository in .git/objects

- Git branches are Cheap

- Git branches are local

- You can checkout branches from your local repository and **FAST**!

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I need to make a change for the trunk.

- git checkout -b branchname svn/trunk
- Edit code
- git add .
- git commit -m "commit message"

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Uh Oh. I just messed up

- git commit –amend
- git reset HEAD~1
  - --soft : keeps your changes
  - --hard : clean slate
- git reflog

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I am not ready to commit it!

- Commit goes to local repository
- In git terms, you **push** to a remote repository
- git svn dcommit

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I need to create a patch for code review.

- git format-patch -M -C --patience --full-index
- I have scripted around this to use data out of the .git/config

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Someone checked in changes. How do I merge?

- What you want is rebase, not merge.

git svn fetch

git rebase svn/trunk

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How would I do a code review?

- Commit the changes for what you are working on

- Create a branch off of master

- Apply the patch to that branch
  - git am code_to_review.patch

- git difftool HEAD~1 HEAD

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I really don't want to commit, but I don't want to lose my changes

git stash.

- Stack of changes, you can push and pop
- When you pop, they will be applied to the current branch where-ever you are

How do I back up my work?

- Git works with multiple repositories
- Create an external git repo
- git push

ssh://admiyo@fedorapeople.org/home/fedora/admiyo /public_git/pki.git

git push admiyo mywork:mywork

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I looked in .git. What is that stuff?

- Files are stored by a hash of their content

- objects think hashtable

- Refs: anything named

  - Tags: tags (Der!)

  - Remotes: Cached info about remote repositories

  - Heads: local branches

- HEAD: what is currently checked out

- Logs: just another series of Hashes

- A branch is just the name of a a bunch of files

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I can't remember all this!

- http://cheat.errtheblog.com/s/git

- http://www.jukie.net/~bart/blog/svn-branches-in-git

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