

GIT TO DA REPO!

VERSION CONTROL,

GITLAB, AND ISU

Tony Brook & Nathan Stien

August 2nd, 2016

WHAT IS VERSION CONTROL

(And why should you care?)

- Shared workspace for multiple collaborators
- Tracking history of documents (usually code or config)
- Ability to view and restore any past version of a document
- Compare changes between versions ("diffing")

WHAT IS VERSION CONTROL

(And why should you care?)

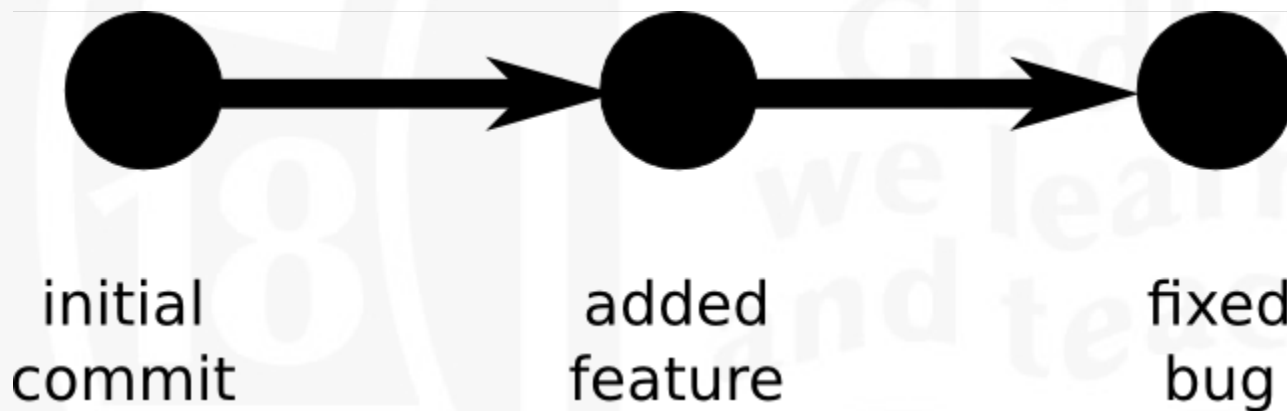
- Only allow authorized changes
- Who changed what?
- and WHY?
- Ideally note every change for future reference
- Create documentation as you go

The background of the slide features a large, light gray watermark of the University of Illinois seal. The seal is circular and contains a central shield with a lamp of knowledge, an open book, and a sheaf of wheat. The text "UNIVERSITY OF ILLINOIS" is written around the top and bottom of the seal, and "1818" is on the left side. The motto "Gladly we learn and teach" is written across the shield.

VERSION CONTROL: BASIC CONCEPTS

COMMITS

Commits are moments in the history of your documents where you saved.



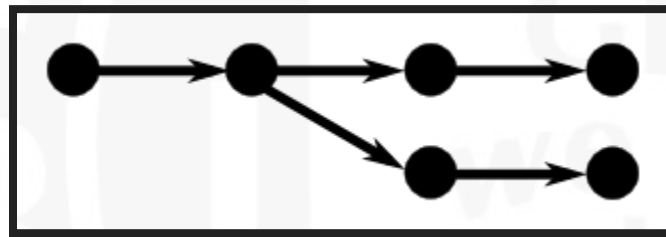
Each commit has a timestamp, an author, a change description, and file content.

WHAT IS "DIFFING?"

32	32	<code><!-- our title slide --></code>	
33	33	<code><section data-background="media/ilstu-cit-white-bg.jpg"></code>	
34	-	<code><h2>Title Slide and Stuff</h2></code>	
35	-	<code>Tony Brook & Nathan Stien</code>	
	34	<code><h1>Git to da Repo!</h1></code>	
	35		<code><h2>Version Control,</h2></code>
	36		<code><h2>GitLab, and ISU</h2></code>
	37		<code>Tony Brook & Nathan Stien<p></code>
	38		<code>August 2nd, 2016</code>
36	39	<code></section></code>	

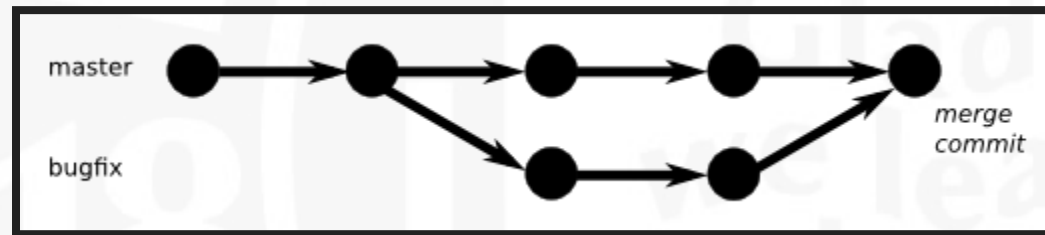
- Compare two or more commits (versions of a document)
- Highlight additions, deletions, changes in a line

WHAT ARE BRANCHES?



A branch is an 'alternate timeline' of versions for a set of files.

WHAT IS MERGING?



Separate branches of development can be merged back together

PRIMITIVE FORMS OF VERSION CONTROL

- Manual Zip / storage
- Backups
- Network Shares

ISSUES WITH PRIMITIVE VCS

- Scalability
- Poor or no tracking of who did what, when
- Cannot conveniently see what changed (diffing)
- Recovery is usually painful
- Collaboration is hard
- What's the "Master" version?"
- How many copies are floating around?

The background of the slide features a large, light gray watermark of the Iowa State University seal. The seal is circular and contains a central shield with a torch, an open book, and a plant. The text "IOWA STATE UNIVERSITY" is written around the perimeter of the seal, and the motto "Gladly we learn and teach" is inscribed on the book within the shield.

MODERN VCS AT ISU

SHAREPOINT!

- Allows collaboration
- Track changes (who/what/when)
- Built-in security

DOWNSIDERS OF SHAREPOINT FROM A CODE/CONFIG ANGLE

- Poor Diff support
- Cannot track multiple versions of the same file at once (known as branching)
- Inappropriate for Programming Work

SUBVERSION

- Designed natively for code and config files
- Easily display the differences between any older versions of the file ("diffing")
- Supports Branching features
- AT has a 12 year history of Subversion for older projects

Downsides of Subversion

- Subversion doesn't have a cool web interface (Only CLI or TortoiseSVN)
- Poor Discoverability of projects (no search, etc)
- Hard for non-developers to use and explore
- As a result, few teams AT have used SVN (mainly web developers & automation people)
- Not set up for access control - all or nothing access

ENTER GIT

Story time!

In 2005, Linus Torvalds locked himself in his office one weekend and emerged with git

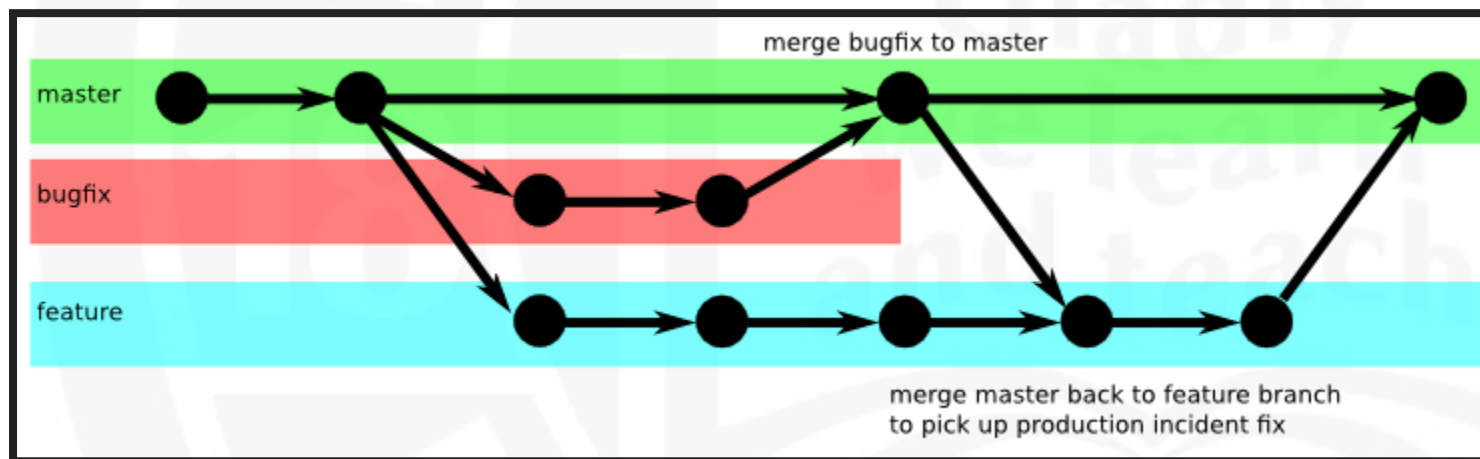
WHY DOES AT USE GIT?

- It's Fast (noticably faster than Subversion)
- Local Branches (track history even if offline)
- Local Repositories (no server needed at all)
- **Network Effects** (everyone else uses it now)

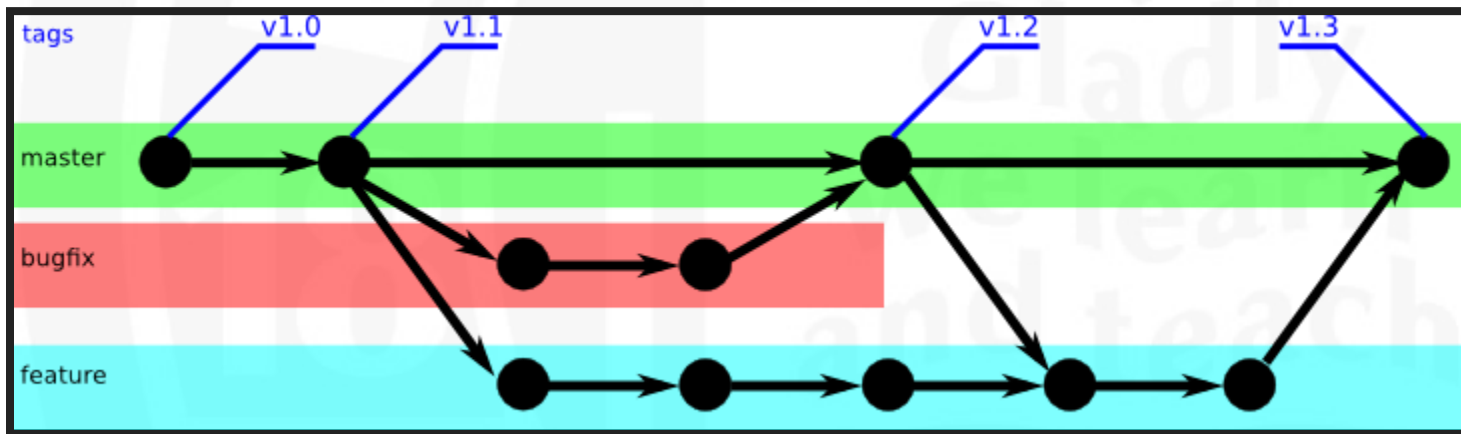
HOW DOES AT USE GIT?

- We use git for all custom software work and some configuration management
- The Java team has adopted standard workflows for branching and merging
- Many servers use `etckeeper` to manage system configuration file history

TYPICAL BRANCH & MERGE WORKFLOW IN AT



VERSION TAGS



















WHAT IS GITLAB, THEN?



WHAT IS GITLAB?

- Central source code and configuration repository
- Shared through all of AT (& WEB & elsewhere!)
- Secured with overall and per-project access control
- Searchable
- Organized into teams/groups
- Supports personal repositories - anyone can create their own or "fork" existing for tinkering

	rmirman / peoplesoft-security-import-esb	★ 0 
	APPS web team / PeoplesoftSecurityImport Import new employees into an LDAP group to allow iPeople access	★ 0 
	ESB / Degree Verification NSC Degree Verification File Mover for National Student Clearinghouse	★ 0 
	Endpoint Support / WindowsPowerShell	★ 0 
	AT Identity / OIMUserPolicyEval A script for updating users at an increment set by the script, to avoid overloading the "Evaluate ...	★ 0 
	Ellucian Colleague / Unidata-Config The configuration files for the Unidata structure, stored in either /usr/ud72/include or /usr/ud73/...	★ 0 
	Srikanth Bireddy / Bireddy_TestProject Testing Git credentials	★ 0 
	rmirman / Account Self-service	★ 0 

master

account-self-service / src / main / webapp / **template.jsp**



fix(Login): remove ngRoute dependency to work around IE redirect issue ...

Josh Peters authored 2 years ago



f1ae95c5

Browse Files

template.jsp 8.24 KB

Raw

Blame

History








Permalink

Edit

Replace

Delete

```
1 <%@ page import="java.util.Calendar" %>
2 <%@ taglib prefix="c" uri="http://java.sun.com/jsp/jstl/core" %>
3 <%@ taglib prefix="togglz" uri="http://togglz.org/taglib" %>
4 <!DOCTYPE html>
5 <c:set var="userName"><%= request.getRemoteUser() %>
6 </c:set>
7 <c:set
8     var="isSupportUser"><%= request.isUserInRole( request.getServletContext().getAttribute( "supportRoleName" ).toString() ) %>
9 </c:set>
10 <c:set
11     var="canModifyFeatures"><%= request.isUserInRole( request.getServletContext().getAttribute( "featuresRoleName" ).toString() ) %>
12 </c:set>
13 <!--[if lt IE 8]>
14 <html lang="en-US" class="no-js ie-unsupported"><![endif]-->
15 <!--[if IE 8]>
16 <html lang="en-US" class="no-js ie8"> <![endif]-->
17 <!--[if gt IE 8]><!-->
18 <html lang="en-US" class='no-js'> <!--<![endif]-->
19 <head>
20     <meta charset="UTF-8"/>
21     <meta name="fragment" content="!">
22     <meta name="viewport" content="width=device-width, initial-scale=1.0">
23 <!--[if lt IE 8]>
```


Name	Last Update	Last Commit > f3eF5d5c – remove duplicate message entry containing old P...	History
 src	10 days ago	remove duplicate message entry containing old PDF link	
 .gitignore	2 years ago	Repair some confusions due to merge.	
 README.md	2 years ago	Expand the README with more setup info.	
 create_compressed.js.sh	2 years ago	chore: add production urls to create_compressed.js script	
 pom.xml	11 months ago	chore: next dev version	
 recaptcha.md	2 years ago	recaptcha support	
 README.md			
<h2>Account Self Service</h2> <hr/> <p>This is the self service interface for account management at ISU. It talks to OIM, and allows people to set passwords, set challenge questions, use challenge questions to recover a password, etc. It also permits new account registration and activation of inactive accounts.</p> <h3>Building</h3>			

Open **1** Closed **0** All **1**



Author



Assignee



Milestone



Label

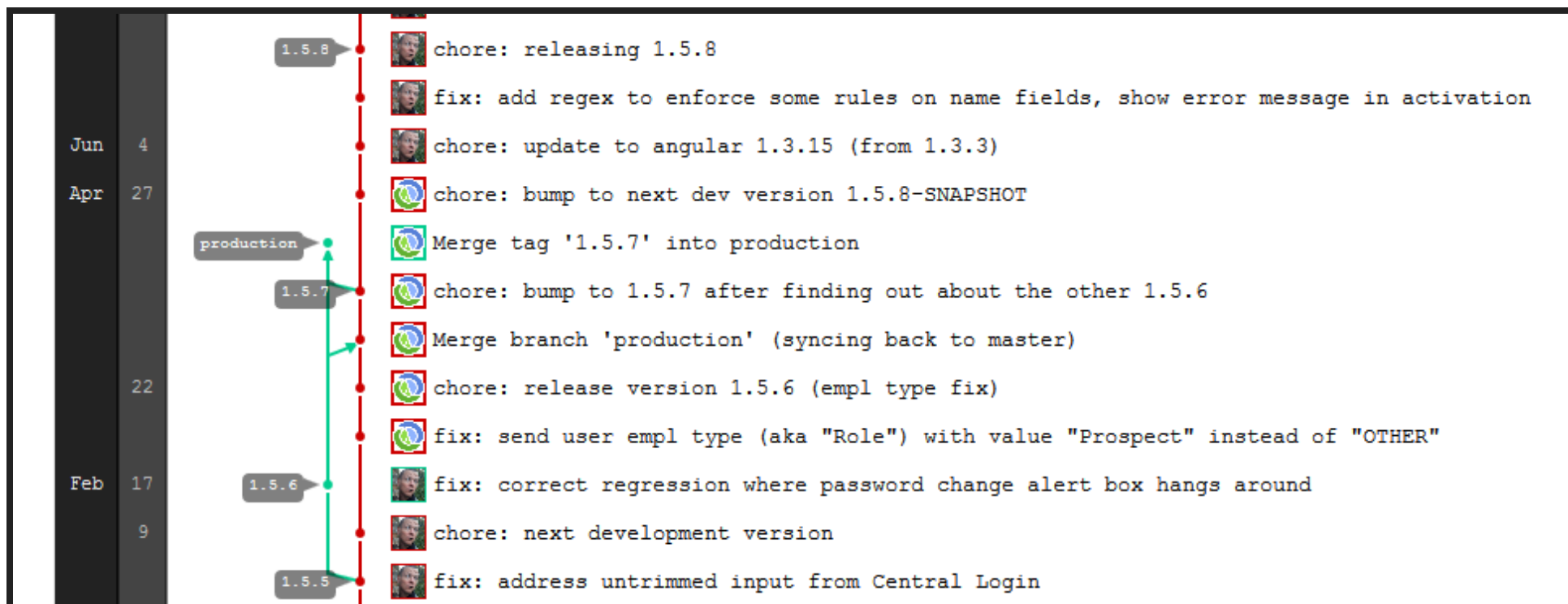


Weight



Enforce the CIT template backgrounds and such

#1 · opened 3 days ago by Nathan Stien





XSL Boilerplate

Christie, Ryan authored 2 months ago



Test PeopleCode Snippet

Tony Brook authored 2 months ago



andrew's m2 settings.xml

Andrew Thompson authored 2 months ago



2016-05-28 PersonLookup for the Post-LEAP Era?

Nathan Stien authored 2 months ago




2016-05-28 Account Self Service: What I'd Do Differently

Nathan Stien authored 2 months ago

Snippet \$190 created by  Tony Brook 2 months ago

Test PeopleCode Snippet

 test.java

```
1  /** 09/24/2014 Creation. Mike Dargatz. Iscript to create and send the YouPay form to allow for enrollment deposit payments
2  /** 10/23/2014 Incident 357882. Added code to handle situations where the emplid is not found. in that case, parse the uid from the
3  /** PSOPRDEFN.USERALIAS field. If that does not exist, issue a hard error with instructions.
4
5  Function iscript_Enroll_Deposit();
6      /* get user emplid */
7      SQLExec("Select EMPLID, EMAILID, USERIDALIAS FROM PSOPRDEFN WHERE OPRID = :1", %UserId, &emplid, &email, &useralias);
8
9      /* parse name and uid from psoperdefn table */
10     &uid = Substring(&useralias, 1, 9);
11     &alias_len = Len(&useralias);
12     &pos = Find(";", &useralias);
13     &name_len = &alias_len - &pos;
14     &alias_first_name = Substring(&useralias, &pos + 1, &name_len);
```

GITLAB VS. GITHUB

Why did we choose a paid repository product?

- Improved Security
- Local to ISU - proprietary code
- Auditing and Logging
- Advanced features
- Integration with other local tools

INTEGRATIONS, YOU SAY?

- Chatroom monitor of activity - custom to AT Devs, other integrations with Jabber and Slack available
- Jenkins & GitLab Continuous Integration (CI) for unit tests and faster deploys
- YouTrack for project level issue tracking and expanded visibility
- Growing the development pipeline across campus

PITFALLS AND GOTCHAS



CONTINUOUS DELIVERY(?)

Future Development will aim at Automation

- Code checked in
- Code reviewed for basic tests with CI
- Code updated in YouTrack for QA review
- Approval of CI and QA will allow code to be merged into master branch
- Merging into master branch will trigger notifications for admins to deploy
- Deploys can be rolled back quickly in case of an issue
- Faster turnaround!

WHERE CAN YOU LEARN MORE?

Homepage for Git project (This must be downloaded first!)

<https://git-scm.com>

Full documentation of the entire Git project (long and dry)

<https://git-scm.com/book>

GitHub training on Git CLI

<https://try.github.io>

Official Git Tutorial

<https://git-scm.com/docs/gittutorial>

WHERE CAN YOU LEARN MORE?

GitLab tutorial

<https://about.gitlab.com/2016/03/08/gitlab-tutorial-its-all-connected/>

Official Git download site (accept no substitutes!)

<https://git-scm.com/downloads>

Additional Tools that are useful

Atom - Git-integrated document editor: <https://atom.io>

Powershell git (posh-git) - <https://github.com/dahlbyk/posh-git>

GitLab blog - new features and uses: <https://about.gitlab.com/blog>

HOW DO I USE AT'S GITLAB?

AT's instance of GitLab is provided as a Service to the IT community of Illinois State University. It is covered by a Service Level Expectations that the system will be updated and running during normal business hours.

Requests for access should go through the Technology Support Center. Support is provided AS-IS; we are not anticipating training.

Access is tied to Active Directory Logins/Email for Security Control.



QUESTIONS?

COMMENTS?

TOMATOES?