

MSU Code Repository

(aka MSU GitLab)

History

- Lone developer
- Version control best practice
- Lack of resources
- Cloud offerings

Cloud

- 2011 “Cloud” Services: Appropriate use of...
 - <http://goo.gl/0waZ4a>
- Intellectual Property “should not be placed in a cloud situation unless an appropriate contractual agreement can be negotiated between the University and the service provider.”
- “When individual users without such signature authority wish to use a cloud service for their University work and accept a click-through agreement, they are individually responsible and personally liable for any legal liabilities resulting from the use of the cloud service.”

Wanted

- Similar features to cloud offerings
- Low to no cost
- MSU NetID authentication
- Centrally supported
- Wider audience than just developers
 - Academics
 - Researchers

Features

- Uses git
- Project private by default
- Collaboration & sharing with individuals or teams
- Public projects
- Project issues & wiki
- Web-based editor
- API



Customization

- 100 project / user
- Soft-limit on disk space
- Protects IP - stays at MSU
- Provides version control for anyone to follow best practices
- MSU NetID Login



Customization

- Daily backup to tape
- Every four hours ZFS replication to HPCC
- Mailing list
<http://list.msu.edu>
- <https://gitlab.msu.edu/>



Current State

- 200 user accounts
- 252 projects
 - 42 public projects
<https://gitlab.msu.edu/public>
- Beta status
- Working on formal support

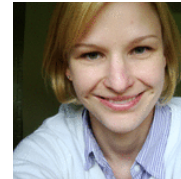


Brought to you by...



Andrew Tomaka

Puppet padawan, server admin, supports 20 programming languages, effectively slices digital things with vim.



Beth Bonsall

Communication pro, list maker, kickboxer, knows how to successfully use a semi-colon in a sentence.



Brendan Guenther

Visionary, future PhD, receives more email than anyone on the planet, keeps the digital resources flowing.



Greg Mason

The puppet master, speaks ZFS, wears an Indiana Jones hat, knows more Unix than you, watch out for his sockets.



Patrick Bills

Rides the rails with Ruby, herds grad students, speaks zoology, has a mechanical hyena. True story.



Troy Murray

Self-professed neophyte, project evangelist, likes reaching across silos and has almost melded into his Mac.

Leadership

- Contacted by others looking to do the same:
- Ohio State University (code.osu.edu)
- University System of Georgia

Sell Your By-Products

- Lumber industry
 - Waste : sawdust, chips, shredded wood
 - Sells : synthetic fireplace logs, concrete, ice strengtheners, mulch, particle board, fuel, livestock and pet bedding, winter road traction, weed killing, etc
- Two GitLab by-products to offer

GitLab Puppet Module

- Puppet module for configuring MSU GitLab
 - Reusable, customizable, open to others
 - Setup & run own GitLab
- <https://gitlab.msu.edu/git/puppet-msugitlab>

MSU OAuth

- OAuth 2.0 Framework (aka OAuth2)
 - Web-standard for user authentication
 - Simple HTTPS and GET / POST methods
- Used by: Google, Twitter, Facebook, GitHub
- Used for: web, desktop, and mobile applications

MSU OAuth

- Allows any personal MSU NetID to login*
- Returns first name, last name, uuid, msunet, email
- No server software to install
- No complicated setup or configuration
- Six customers actively using

MSU OAuth

"The functionality and easy installation compared to the previous Sentinel manipulation of the web.xml file was amazing. In just a few minutes, a couple of tweaks to the provided example code (from the MSU community hosted on the MSU Code Repository) and our site was up and running with very little problems. I plan to use OAuth service for all future servers."

- Joseph D Murray, Lyman Briggs College

MSU OAuth

"MSU's new OAuth Service saved us a tremendous amount of time and money by being able to utilize a standards based authentication system instead of the 'one-off' services that are currently offered (Shibboleth and Sentinel). OAuth also brings authentication into the application rather than forcing the web-server to deal with the authentication which reduces load, configuration and enhances security for load balanced / round-robin servers like the ones MSU Telecom is running.

Our first application that we launched was able to be configured to use OAuth in a matter of an hour rather than the normal 4 weeks of developer time that we would normally have to purchase from our vendors."

*- Nick Kwiatkowski, Infrastructure Planning and Facilities -
Telecommunications*

MSU OAuth

"At Residential and Hospitality Services, we create and maintain applications that are written in a variety of programming languages as well as provide integration support for third party software. Because of this diversity, we have often found it difficult to provide a means of authentication that works with the majority of our platforms and provides the convenience of not requiring yet another set of credentials for our users.

Because OAuth has experienced widespread adoption, it is quickly becoming a de facto industry standard and is therefore used by many of the outside services and products that RHS interacts with. We are excited to use the MSU OAuth 2.0 service to provide a common solution for our needs to authenticate users from the MSU Community and provide single sign on capabilities across our many applications."

- Peter Cole, Residential & Hospitality Services

MSU OAuth

"While working on the MSU Code Repository project, we ran into a stopping point with authenticating MSU NetIDs. There was no available software with Shibboleth or Kerberos support that provided the service that we needed. By implementing an OAuth 2 authentication service, the IDM team saved us days of integration work. Without this more universal provider, this project would not have been possible."

- Andrew Tomaka, IT Services - Teaching and Learning Support

Authentication Comparison

	OAuth	Sentinel	Shibboleth
Authenticate MSU NetID	Y	Y	Y
Open standard	Y	N	Y
Server software installation	N	Y	Y
Complicated Setup	N	Y	Y
Define Custom Security Group	Y	Y	Y
External User Login	N*	Y	Y
Time to Implement	1 hour	~2-4 weeks	~2-4 weeks

MSU OAuth

- No cost
- Get started => tech.msu.edu/oauth
 - Register application, receive unique tokens
- Implementation Documentation
 - techbase.msu.edu/article.asp?id=20611
- Sample applications available
 - <https://gitlab.msu.edu/public>

Questions

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