

Galaxy tool shed

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Galaxy tool shed

- <http://usegalaxy.org/community>
- Introduced at Galaxy Community Conference 2010, so now 1 year old
- Enables sharing of Galaxy tools across the Galaxy community

How does it work?

- Allows uploading/downloading of tool archives (tar files) consisting of single tools or a suite of several tools
- Archives required to follow strict rules
- Single tool config includes name, id, version
- Tool suite config includes name, id, version of the suite, along with description of each tool in the suite.

Uploading

- Developer creates an archive that includes their Galaxy tool
- Developer uploads the archive to the Galaxy tool shed
- Galaxy tool shed administrator approves the tool archive for access by others
- Tool archive is now available for viewing, rating and downloading by others

Downloading

- Developer finds a tool archive in the tool shed that they can use
- Developer downloads the tool archive, extracts the files, and manually makes them available in their local Galaxy instance
- If the tool requires 3rd party dependencies, the developer must download and install them as well

Let's check it out

Can this be improved?
Undoubtedly...

Simpler tool sharing

- Enable upload via http in addition to browser uploads
- Enable download via http

Less restrictive tool types

- Eliminate tool types (tool, suite), enabling tools to be loosely defined
- In addition to the current kinds of tools, the tool shed could contain collections of exported Galaxy workflows or other useful items

Simpler tool versioning

- Do not use the tool config's "version" attribute as the "tool shed version" of the tool's archive
- Instead, any change to a tool's files automatically produces a new version of the tool within the tool shed
- This does not eliminate the need for the "version" attribute in the tool's config

Better authorization policies

- Currently make tools public, but plan for the ability to restrict access to them to groups
- Grant the tool's author the ability to define the list of other developers that can make changes to the tool

What might this look like?

- The next gen Galaxy tool shed

What about the tools in the current tool shed?

- Everything in the current tool shed will be migrated to mercurial repositories
- The repository owner will be the user that first uploaded the tool
- The mercurial user name will be the Galaxy tool shed user's username
- Each tool version will become a distinct change set

What's the end goal?

- Galaxy will include an interface allowing you to select tools you want to use
- Selected tools, including all dependencies, will be automatically installed with a single mouse click

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<http://testtoolshed.g2.bx.psu.edu>