The Galaxy Web Service Extensions, hereafter referred to as “wsextensions,” are a collection of Galaxy tools that let a user to use Web service operations as tools inside of Galaxy, both as standalone tools and in workflows.

**Before You Start**

In order to install “wsextensions,” you need to first perform the following steps:

1. Setup your Galaxy installation so that it can see the UGA Semantics Tool Shed. The Galaxy project has provided information about that here¹. In general, this is usually accomplished by modifying the tool_sheds_conf.xml within your Galaxy installation directory.

   The following XML tag can be added along the other tool_shed entries in order to add the UGA Tool Shed:

   ```xml
   <tool_shed name="UGA Semantics tool shed" url="http://galaxy.ctegd.uga.edu/toolshed/">
   </tool_shed>
   ```

2. You also need to ensure that your Galaxy installation is capable of installing tool dependencies. The Galaxy project has provided documentation about this here¹.

3. Contact your server administrator and ensure that you have the Python development packages installed in addition to regular Python package. Usually, the development packages are called python-dev in most Linux distributions.

4. You will need to have administrative user access to your Galaxy installation. You can usually accomplish this by adding the email address associated to your Galaxy user account to the admin_users list in the universe_wsgi.ini file within your Galaxy installation directory.

**Notes**

Here are some various notes to consider about the “wsextensions” tools:

- These instructions were tested with Galaxy changeset revision 12442:29ce93a13ac7 which was committed on Mon Feb 10 13:22:47 2014 -0500. If you have problems installing, you may need to ensure that you’re using this revision of Galaxy.

- More information can be found on the project website here² (last accessed 2014-03-06).

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¹ [https://wiki.galaxyproject.org/Tool%20Shed#Installing%2C_maintaining_and_uninstalling_tool_shed_repositories_within_a_Galaxy_instance](https://wiki.galaxyproject.org/Tool%20Shed#Installing%2C_maintaining_and_uninstalling_tool_shed_repositories_within_a_Galaxy_instance)

² [http://mango.ctegd.uga.edu/jkissing-lab/SWS/Galaxy/](http://mango.ctegd.uga.edu/jkissing-lab/SWS/Galaxy/)
Installing from the UGA Tool Shed

Galaxy calls a collection of tools available for installation from a Tool Shed a “tool shed repository.” Some general information on how to install such repositories can be found here[^3]. The following instructions describe how to install the “wsextensions” repository from the UGA Tool Shed, assuming you've added the UGA WSAnnotations Tool Shed as described in the “Before You Start” section of this document.

1. Login to Galaxy and go to the “Admin” link at the top of the page.

2. Click on “Search and browse tool sheds” under the “Tool sheds” group on left panel.

3. On the page that appears, select the “UGA tool shed,” and from the drop down menu that appears, click on “Browse valid repositories.”

4. On the next page, you'll be presented with a list of categories present in the UGA Tool Shed. Click on the “Web Services” category.

[^3]: https://wiki.galaxyproject.org/InstallingRepositoriesToGalaxy
5. On the next page, you’ll be presented with a list of repositories. Select “wsextensions,” and from the drop down menu that appears click on “Preview and install.”

6. On the next page, you’ll be presented with information about the “wsextensions” repository. To install the tools contained in the repository, click on “Install to Galaxy.”

7. On the next page, you need to do the following:

   a. Ensure that Galaxy is setup to handle the automatic installation of tool dependencies. There should be a checkbox under “Handle tool dependencies?” in the “Confirm dependency installation” section of the page. If the option is not available, then consult the “Before You Start” section of this document.

   b. In the “Choose the tool panel section to contain the installed tools (optional)” section of the page, enter “Web Services” into the textfield under the label “Add new tool panel section.” This will ensure that the tools in the “wsextensions” repository get placed in the correct location in the Galaxy tool panel.

   c. At the bottom of the page, click on the “Install” button.
8. On the next page, you will be able to monitor the various stages of the installation process. Please note that some of these phases could take some time to complete. If all of the phases execute correctly, then you should see something similar to the following:

![Monitor installing tool shed repositories](image)

This means that installation is complete.

9. Installation of the “wsextensions” repository should now be complete. To verify that the installation procedure executed correctly, click on the “Analyze Data” link and scroll to the bottom of the tool panel on the left. There should now be a new section called “Web Services” with three tools under it.

For information on actually using the tools, please consult the “Galaxy Web Service Extensions User Guide” document, available on the project’s website.4

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4 [http://mango.ctegd.uga.edu/jkissingLab/SWS/Galaxy/](http://mango.ctegd.uga.edu/jkissingLab/SWS/Galaxy/)