Setting up a USGIN ISO 19115 Profile for ESRI Geoportal

Version 1, created for NGDS v2 (github.com/ngds/)

2014-12-01

Arizona Geological Survey

ESRI Geoportal is the free catalog server that was chosen for management and curation of NGDS metadata, and it has also been recommended for use by State Subrecipients who set up their own catalog server as nodes in NGDS due to its ease of use, excellent online ESRI documentation and user forums, and the XML files that have been created by AZGS Geoinformatics team as a package to set up a USGIN-configured Geoportal catalog server. These XML files are Geoportal configuration files as well as custom Extensible Stylesheet Language Transformations (XSLTs). An XSLT is an XML file which maps existing metadata XML elements to standardized elements. A named template in an external file is called to produce the standardized output and inputs are sent to the custom XSLT as parameters. XSLT templates are stored in a library and shared by many mappings. The developer documentation and custom XSLTs for the USGIN profile are available online at <https://github.com/usgin/usgin-geoportal-specs>; the following are the general steps involved in setting up a USGIN-configured catalog on a Windows machine, whether as the main NGDS aggregating catalog or as a node catalog:

**Prerequisites**: Geoportal is written in the Java Programming language, and requires the Java JDK (development kit) to be installed. Geoportal runs as a 'Java servlet' application, which means that a 'servlet container' application must be installed; in this tutorial we use Tomcat v. 7, but there are other possible containers that can be used (e.g. Glassfish or WebLogic); we have not tested the procedure with the other servlet containers. These servlet containers reduce the operating-system dependency, so that Geoportal installations are possible with a variety of environments. We have tested with Windows 7 and Windows Server 2012, and are running production systems on Ubuntu 12.04 Linux. Geoportal also needs a database to store metadata; we have tested using PostGreSQL 9.1, but other options are listed in the Geoportal Wiki. See the Preinstallation guidelines on the Geoportal WIKI at https://github.com/Esri/geoportal-server/wiki/Preinstallation-1.2.5 for details and information about other associated software.

Here's the software that we have tested with:

* Windows Server 2012 Standard (64 bit)
* PostgreSQL 9.1.14 (64 bit)
* [pgAdminIII](http://www.pgadmin.org/)  (be sure that your version of with work with the version of PostgreSQL)
* [Java JDK 7](https://docs.oracle.com/javase/7/docs/webnotes/install/windows/jdk-installation-windows.html)
* Tomcat 7.0.57. For the Apache Tomcat installation, this document might be useful: <http://www.ntu.edu.sg/home/ehchua/programming/howto/Tomcat_HowTo.html>, steps 2.1 through 2.4. When editing Tomcat configuration files, be sure to run the text editor as Administrator.

As an alternative, I highly recommend using the Windows installer for Tomcat at <http://apache.mirrors.hoobly.com/tomcat/tomcat-7/v7.0.57/bin/apache-tomcat-7.0.57.exe>. After installation, Tomcat fails to open via your browser at <http://localhost:8080/>, go to C:\Program Files\Apache Software Foundation\Tomcat 7.0\bin, right-click Tomcat7.exe and choose Run As Administrator on your hosting server before installing Geoportal Server (this is described in the documentation above).

1. Download the current version of Geoportal-Server at <http://sourceforge.net/projects/geoportal/> and set up Geoportal instance according to ESRI online documentation at

<https://github.com/Esri/geoportal-server> or

<http://www.esri.com/library/whitepapers/pdfs/how-to-set-up-geoportal-server-122.pdf>.

We tested with GeoPortal 1.2.5, and these instructions were adequate for that installation.

Next, you will be adding new profiles. These profiles are available through the USGIN configuration package (repository at <https://github.com/usgin/usgin-geoportal-specs>) and are the USGIN 19115 profile, and the CSDGM FGDC to ISO 19115 XSLT. Clone the repository to your desktop or simply click the “Download ZIP” button to get the files on your local machine.

1. Add the USGIN folder from the repository above to the /webapps/geoportalName/WEB-INF/classes/gpt/metadata/iso directory in the new Geoportal.
2. Add the definition files to the pre-configured Geoportal schemas.xml file in the gpt/metadata directory (up one directory from previous). This points Geoportal at the USGIN Profile. Open this file in an xml or text editor and enter in the following exact text between the open and closed schema elements (which are shown here):

<schemas>

<!-- The first definition file tests to determine if the input record has been processed by the

ISO to USGIN ISO xslt transform; if it has, it is processed by the definition file. All validation criteria

have been removed from the validation, the assumption being that once processed by the xslt, it is a valid

usgin-profile record-->

<schema fileName="gpt/metadata/iso/usgin/USGIN-ISO19115Definition.xml"/>

<!-- The second defintion file tests whether the record is a MD\_Metadata or MI\_Metadata record and if so,

sends it to the ISO to USGIN ISO xslt; after transformation it will be interrogated again and caught by the

first definition file -->

<schema fileName="gpt/metadata/iso/usgin/ISO-to-USGIN-19115-data-definition.xml"/>

</schemas>

1. In order for the USGIN 19115 profile to work thoroughly on all ISO metadata, it should replace the ISO 19115 and ISO 19115-2 profiles in the Geoportal configuration. Remove the ISO 19115 and ISO 19115-2 definitions from the schemas.xml file, and place the USGIN ISO 19115 definitions at the beginning of the file after the first element (step 3). If an example is needed, review the schemas.xml file available at the above repository. Delete the following lines:

<schema fileName="gpt/metadata/iso/iso-19115-definition.xml"/>

<schema fileName="gpt/metadata/iso/iso-19119-definition.xml"/>

<schema fileName="gpt/metadata/iso/iso-19115-2-definition.xml"/>

1. Add properties needed for the USGIN porfile in the gpt.properties file in the gpt/resources directory. Open this file in a text or xml editor and add in the following:

# Label resource key for USGIN editor

catalog.mdParam.schema.usgin.iso19115 = USGIN-ISO 19115 Profile

1. Restart the Servlet/Tomcat on the server for your changes to take effect in Geoportal.
2. Add the FGDC to USGIN-ISO 19115 XSLT provided in this repository to your new Geoportal by navigating to the \gpt\metadata\fgdc directory within Geoportal and place in the fgdc-to-USGIN19115-definition.xml and csdgm-to-iso19115\_USGIN.xslt files, found in the fgdc folder from the repository above.
3. Add the FGDC to USGIN-ISO 19115 definition file provided in this repository to your new Geoportal by navigating to the gpt\metadata directory within the Geoportal-Sever. Open the schemas.xml file once again in an xml or text editor and add the following between the open and closed schema elements:

<schema fileName="gpt/metadata/iso/fdgc-iso/fgdc-to-USGIN19115-definition.xml"/>

Your ESRI Geoportal is now set up with the USGIN Profile and you are ready to harvest

metadata into the catalog server from a Web-Accessible Folder (WAF), ArcGIS, or other URL. When you’ve ingested metadata, contact the NGDS Administrators at AZGS to make your catalog server a node in the NGDS system by providing the CSW endpoint (URL to your catalog instance). Please also contact NGDS Administrators with any problems or concerns in setting up your NGDS catalog node using the contact inforamation below.

[ngdsweb@geothermaldata.org](mailto:ngdsweb@geothermaldata.org)

[christy.caudill@azgs.az.gov](mailto:christy.caudill@azgs.az.gov)

Christy Caudill

Geoinformatics Specialist,

Geoinformatics Deputy Section Chief

Arizona Geological Survey

416 W. Congress St., Suite 100

Tucson, AZ 85701

phone: (520)209-4165