**Publish tier 3 web services with GINstack**

The following general types of data may be upload. See [Data Models, Exchange Methods, and Metadata page](http://www.geothermaldata.org/ngds/data) for helpful text on determining categories (tiers) of data which may be uploaded.

* **Structured Resource**: Tier 3 structured and standardized data (CSV files). Files submitted here must be “schema-valid”, which refers to the file as is conforming to the standards of a given information exhange schema. The blank Excel files for a given information exchange are found at <http://schemas.usgin.org/models/>. When data conforms to these specifications (field headings, data types, etc.) the file can be validated at <http://schemas.usgin.org/validate/cm> before up-loading to the node as a tier 3, structured dataset. After file upload, the option exists to publish the data as OGC web services (WFS and WMS), which have the greatest utility in the system. Once a “schema-valid” file is uploaded, one must choose the appropriate information exchanges used from the **Content Model** drop-down lists.
* **Unstructured Resource**: Tier 1 and 2 data (text, images, structured (but not standardized) files like CSV or Excel, PDF files, etc.)

From **Publish** in your GINstack node, follow the three tabs to create metadata, upload a dataset, and publish that dataset as tier 3 web services. Be sure to fill in as much of the metadata as possible.

**Step 1: Create dataset**

* Choose **Yes** under **Use USGIN structured contribution form?**
* **Title**: Title of metadata record and dataset
* Choose the appropriate **Content Model** type and **Version**
* **Description**: A description of the collection and the metadata records stored in it
* **Resource URI**: A *uniform resource identifier* for the metadata record; see the [NGDS GitHub wiki](https://github.com/ngds/documents/wiki/URIs-for-NGDS-Tier-3-data-services) or [USGIN URI Tutorial](http://tech.usgin.org/content/usgin-uri-tutorial) for more information
* **Tags**: Keywords that can be used to search for this metadata record
* **License**: The license under which this metadata record is published; among other things, the license determines the manner in which the dataset described by the metadata in this collection can be reused. Information on supported licenses can be found at the following locations:
  + [Creative Commons](http://creativecommons.org/)
  + [GNU Free Documentation License](http://www.gnu.org/licenses/fdl.html)
  + [Open Data Commons](http://opendatacommons.org/)
  + [UK Open Government License](http://www.nationalarchives.gov.uk/doc/open-government-licence/version/2/)
* **Authors**: The authors of the data resource(s) described by metadata record
* **Geographic Extent**: A rough approximation of the features in the data resource(s) described by the metadata record
* **Metadata Contact**: The individual, agency, company, or organization responsible for the data resource(s) described by the metadata record

When finished, click **Next: Add Data**.

**Step 2: Add Data**

* Upload a schema-valid CSV file of data in a content model from your local machine. You can pre-validate your data file at <http://schemas.usgin.org/validate/cm> or by using ArcMap and the [Excel to NGDS Tool](https://github.com/usgin/ExcelToNGDSServiceTool/archive/master.zip), which is a great resource for documentation on making data files schema-valid.
* **Name**: This will be the name of your web service (AZWellLogs). Please see the [NGDS GitHub wiiki](https://github.com/ngds/documents/wiki/NGDS-Tier-3-Service-Names,-Layer-Names,-and-URI-tokens) for service naming conventions.
* **Description**: A description of the dataset
* Click the **Publish WMS** and **Publish WFS** buttons
* Choose the **Format** of the file uploaded (CSV) or enter it in as text

When done, click **Finish**. Doing so will finalize the metadata record, adding it to the catalog, and publish your dataset as web services. A validation routine will be preformed on your file to ensure that it validates against the schema specified from the **Content Model** drop-down above. If the file validates, the services will be published through GeoServer; if the file does not validate, you will be directed to begin the file upload process over again with a corrected file.