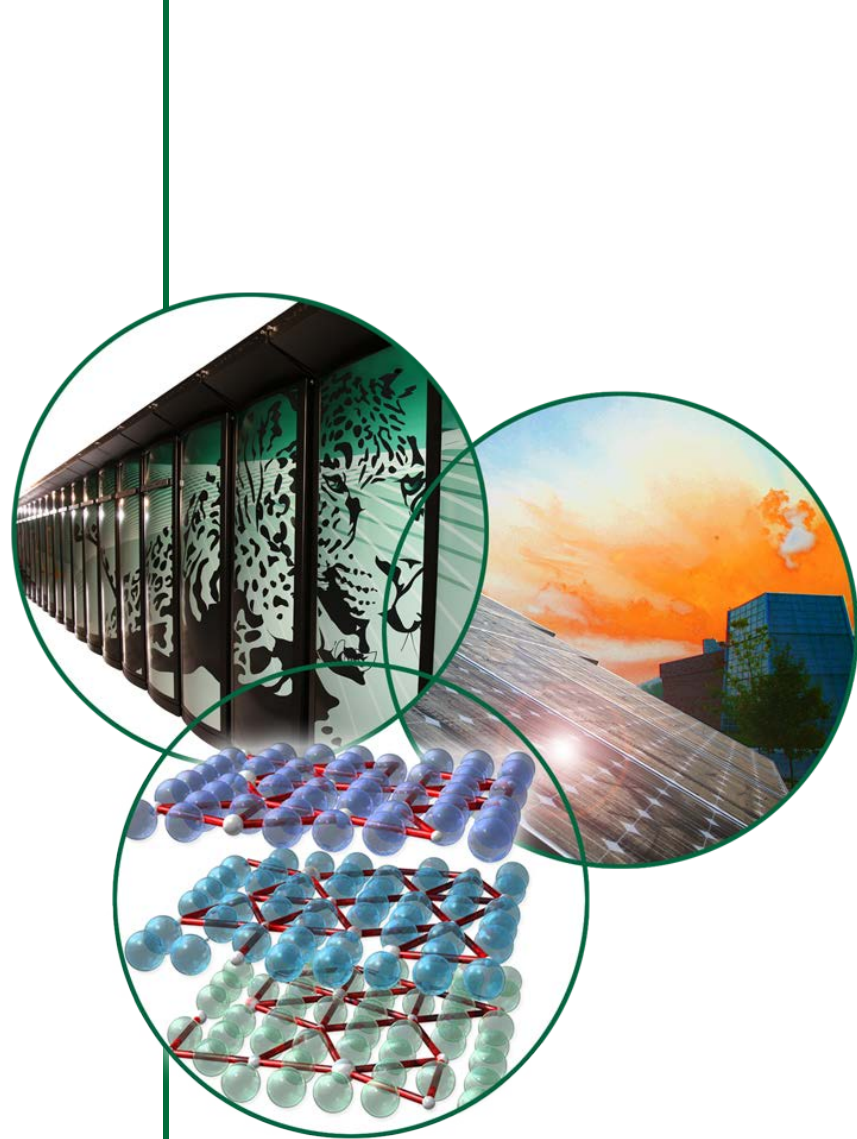


# ICAT4 Restful Web Service

Shelly Ren

*Neutron Data Analysis and  
Visualization Group*

March 12, 2013



# ICAT4 Restful Web Service

## *What is it?*

It is a java web application which can:

- call a single search method on an ICAT4 server to retrieve certain metadata that has no intrinsic value by itself such as run time/date and experiment data storage location
- perform search operations without a login credential
- only execute a set of GET operations. The GET method is a safe method, meaning that calling it produces no side-effects

## *When is this useful?*

- need to do simple GET operations on an ICAT4 server such as retrieving experiment run start time and end time for a given proposal by the SNS user office
- need to do simple GET operations on an ICAT4 server such as locating experiment data for a given instrument and run number by software applications

# ICAT4 Restful Web Service (cont.)

*Is anyone using it?*

- used by other SNS divisions such as user office
- used by various SNS applications such as findnexus and isaw
- used by SNS users through the Mantid project in which the FileFinder class invokes the ICAT4 web service to search for archive location for the following algorithms:
  - a. Load
  - b. LoadAscii
  - c. LoadCalFile
  - d. LoadEventNexus
  - e. LoadEventPreNexus
  - f. LoadGSS
  - g. LoadMuonNexus
  - h. LoadNexus
  - i. LoadNXSPE
  - j. LoadRaw



A framework that supports high-performance computing and visualization of scientific data.

The screenshot displays the MantidPlot Python Window interface. The main window shows a Python script being executed, with the following code visible:

```
2 #  
3 # Using StripPeaks + dialog boxes  
4 #  
5  
6 LoadRawDialog(OutputWorkspace="GEM40979")  
7 alg = AlignDetectorsDialog("GEM40979", "aligned")  
8 mtd.deleteWorkspace("GEM40979")  
9 calfile = alg.getPropertyValue("CalibrationFile")  
10 DiffractionFocussing("aligned", "focussed", calfile)  
11 mtd.deleteWorkspace("aligned")
```

The script execution output shows the following status messages:

```
Script Output - Status: Running ...  
Tue Dec 15 16:58:01 2009: Script execution started.  
Done!  
Tue Dec 15 16:58:23 2009: Script execution completed successfully.  
Tue Dec 15 16:59:31 2009: Script execution started.
```

A "LoadRaw Output dialog" box is open in the foreground, showing the following fields and options:

- Select a file to load: [Empty field] [Browse]
- Enter name for workspace: GEM40979
- Spectra Options: Start: [Empty field] End: [Empty field] List: [Empty field]
- Cache file locally: If Slow [Dropdown] [Checked] Load Log Files [Checked] Monitors: Include [Dropdown]
- [?] [Load] [Cancel]

A red cloud-shaped callout contains the text "EQSANS 1234".

The background shows a plot with a scale from 0.5 to 2.0. On the right, the "Mantid Algorithms" panel is visible, listing various algorithm categories such as Arithmetic, CorrectionFunctions, CurveFitting, DataHandling, Diagnostics, Diffraction, Examples, General, Muon, Nexus, Rebin, SANS, and Units. The status bar at the bottom indicates "Running 0" and "Details".