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Yasmine : A new tool for stationXML

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In 1987 The International Federation of Digital Seismograph Networks (FDSN) was formed and the SEED (Standard for the Exchange of Earthquake Data) format was adopted as its standard for digital seismic data exchange. In addition, since at least 1991, it has been common practice to generate dataless SEED volumes, containing only station metadata, for distribution. The success of the SEED format as a global standard can be judged from the high level of data exchange in the seismological community.

A few years ago FDSN working group II was tasked with updating the representation of seismic metadata. The result, stationXML, is defined in a modern XML schema and extends the SEED representation of metadata. Today, most of the worldwide seismic datacenters, including the entire EIDA framework, are already distributing metadata in stationXML format, or will do so soon.

While some client-side software (e.g., ObsPy) exists for reading stationXML, there are relatively few standalone and dedicated solutions available for metadata producers to generate and edit stationXML. Here we describe a tool for the creation and management of stationXML, initially developed by IRIS and ISTI. Currently, RESIF has undertaken, along with ISTI, to continue the development of an improved version of the tool which has been named “yasmine” (Yet Another Station Metadata INformation Editor).

This software, with a web-based GUI, offers the user the ability to create and edit native stationXML metadata complying with the latest FDSN approved standard (currently v 1.1). It offers the ability to create channel responses from scratch using templates in both the IRIS Nominal Response Library (NRL) and a new Atomic Response Objects Library (AROL). The NRL/AROL wizard in yasmine allows the user to browse these generic libraries and select the sensor and datalogger at the site and returns the full (combined) response. The tool uses ObsPy Inventory python objects (Station, Channel, Response, etc) in the backend, and maintains collections of these for editing and assembly in a persistent, user-defined database. Existing stationXML may be imported, saved into network, station, channel and response templates and stored in user-defined libraries for future use. Channel responses may be readily plotted in the tool for confirmation.

While the web-based GUI permits both local standalone and server deployments, a full set of command line options will allow users to create their own batch scripts to drive yasmine's stationXML editing capabilities including stationXML file splitting/merging, batch modification of objects, insertion of objects at various levels, and more.

The software will be released under the GNU GPL v3 licence and the code will be made available from IRIS github repositories.