



Firethorn.py & Jupyter Notebooks

Stelios Voutsinas
Institute for Astronomy,
Edinburgh University
April 2018



ASTERICS Forum 2018/04/15



Firethorn.py *Introduction*



- Python library for accessing WFAU (& VO) datasets via Firethorn
- Login as user, create workspaces, import catalogs & tables from WFAU resources, or remote VO services, run queries and store results





Firethorn.py *Overview*



- **Firethorn** – a Java-based middleware application
 - Used at WFAU as a data access layer
 - Provides access to WFAU catalogs
 - Serves as our new TAP services (tap.roe.ac.uk/osa)
 - User Query & Results storage, Join Queries between remote (VO) TAP services
 - Interaction via Rest Web service calls





Firethorn.py *Overview*

- Client to the Firethorn services
- Python 3+ compatible
- Depends on a Firethorn (Java) instance running to connect to
- Docker containers & Jupyter Notebook examples available
- User & Admin (operating Firethorn admin) functionality





Firethorn.py *Jupyterhub*



- JupyterHub - multi-user Hub, spawns & manages multiple instances of the Jupyter notebook server
- Plans & initial experiments to provide a Jupyter Hub service available to our users
- Firethorn.py as an available library to provide an endpoint to our catalog data





Firethorn.py *Jupyterhub*



- Code-to-data & re-producible examples
- New way of accessing and interacting with archive data
- Variety of libraries to visualize results (e.g. Plotly, matplotlib, bqplot, ipywidgets)
- Easy to use interactive python-based visualization





Firethorn.py *Links*



- Firethorn.py source code: <https://github.com/stvoutsin/firethorn.py>
- Firethorn source code: <http://wfau.metagrid.co.uk/code/firethorn>





Firethorn.py



Demo

Stelios Voutsinas
Institute for Astronomy,
Edinburgh University
April 2018



ASTERICS Forum 2018/04/15