

# PyVO Prototype Implementations

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PyVO

<https://github.com/astropy/pyvo>

*PyVO lets you find and retrieve astronomical data available from archives that support standard IVOA virtual observatory service protocols.*

Table Access Protocol (TAP) – accessing source catalogs using sql-ish queries.

Simple Image Access (SIA) – finding images in an archive.

Simple Spectral Access (SSA) – finding spectra in an archive.

Simple Cone Search (SCS) – for positional searching a source catalog or an observation log.

Simple Line Access (SLAP) – finding data about spectral lines, including their rest frequencies.

Registry - find data access services using search parameters.

# Prototype Features

# Motivation

*PyVO implements the IVOA specs, however sometimes new features are proposed and need to be demonstrated first. They are added before they are stable (new spec approved) but the expectation is that they will eventually become standard.*

*"I see prototype as the opposite of deprecated"*

*- Adrian*

# User Stories

*As a pyvo developer of a service client I want to support features that are not yet standard. Features may include several functions, and potentially all the public methods of a new class.*

*As a pyvo client I want pyvo to prevent me from inadvertently calling a prototype feature.*

*As a pyvo client I want to be able to activate one, several, or all experimental features, so the system does not errors out when an experimental feature is accessed.*

# Prototype Decorator

```
@prototype_feature('a-feature')
def i_am_a_prototype(*arg, **kwargs):
    ...
```

```
@prototype_feature('a-feature')
class Feature:
    def method(self):
        ...

    @staticmethod
    def static():
        ...

    def __ignore__(self):
        ...
```

# Without Opt-in

```
i_am_a_prototype()
```

```
PrototypeError:
```

```
'i_am_a_prototype is part of a prototype feature (my-feature)'  
'that has not been activated.'  
'For more information please visit https://etc/etc'
```



# To Opt-In

```
# Activates `feature_one` and `feature_two`  
activate_features('feature_one', 'feature_two')
```

```
# Activates all features  
activate_features()
```

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