Ant-based tool to create VStar plug-ins

Ant

First, install the [Ant build tool](#), ensuring the environment variables are set for your operating system as per the "Installing Ant" section.

Get Started

Get ready to create a new plug-in by first copying this directory and everything in it to a location of your choice.

gen-ant.py

The `gen-ant.py` Python script is used to create an Ant `build.xml` file for a particular plug-in type. The script has been tested with Python 3.

In a console (shell or Windows command prompt) type:

```
python gen-ant.py --help
```

to give usage information:

```
Usage: gen-ant.py [options]

Options:
  -h, --help            show this help message and exit
  -s, --show-plugin-types
                        Show plug-in types and exit
  -v VSTAR_HOME, --vstar-home-dir=VSTAR_HOME
                        VStar home directory
  -t PLUGIN_TYPE, --plugin-type=PLUGIN_TYPE
                        Plug-in type
  -p PLUGIN_PACKAGE, --plugin-package=PLUGIN_PACKAGE
                        Plug-in package
  -c PLUGIN_CLASS, --plugin-class=PLUGIN_CLASS
                        Plug-in class
```

Available Plug-in Types

```
python gen-ant.py --show-plugin-types

    CustomFilter
    GeneralTool
    ModelCreator
    ObservationSink
    ObservationSource
    ObservationTool
    ObservationTransformer
    PeriodAnalysis
```

Example Usage

Here is an example of creating an observation source plug-in `build.xml` file:

```
python gen-ant.py --vstar-home-dir="/Users/david/vstar"
                  --plugin-type="ObservationSource"
                  --plugin-package="my.plugin"
                  --plugin-class="SimpleExampleObSource"
```

The options above are for an observation source plug-in with the class name `SimpleExampleObSource` , in the package `my.plugin` (so a directory called `my/plugin`) with the VStar home directory `/Users/david/vstar` . The latter is the top-level directory corresponding to a VStar distribution from [SourceForge](#).

Creating Skeleton Plug-in Source Code

Given the foregoing, to create skeleton code for an observation source plug-in, type this in a shell (Unix shell, Mac Terminal, Windows command prompt, ...):

```
ant skeleton
```

Creating Example Plug-in Source Code

Instead of a plug-in skeleton, you can create a fully functioning example plug-in with the command:

```
ant example
```

In both cases (skeleton and example), the code will be in the directory you specified via `gen-ant.py` .

Build the Plug-in

Once you have optionally edited the code to implement your plug-in's functionality (or just want to start with

the example code), to compile the source and build the plug-in jar file, type this:

```
ant jar
```

Skeleton code will build but won't do anything. Example code should yield a functioning plug-in without any modification.

You will find class files in the `build` directory and the jar file in the `dist` directory.

Install the Plug-in Code

To install the plug-in's jar file into the `vstar_plugins` directory, type:

```
ant install
```

which will build the source first if necessary, or just:

```
ant
```

since `install` is the default target.

Closing Remarks

To see all options, type:

```
ant -p
```

For non-trivial plug-in code, I would recommend using an IDE such as Eclipse. Use of such a tool is beyond the scope of this document.

Hopefully this will make it easier to get started writing VStar plug-ins.