What is a service ?

A service is a feature or a part of a feature set available by a software component and available to other components to make a specific task.
Represented by a black box, a service only displays an interface to other components and hides completely how it works internally.
It is to make a complete abstraction of how things are implemented that Service Oriented Applications (SOA) first appeared. And with it, the Service Oriented Component Model (SOCM).

What is SOCM ?

SOCM is the separation of concerns. The goal in that model is to isolate everything than can be and create components for every isolated sets.

Each component will then provides and/or use services.

Why iPOPO ?

- Because iPOPO allows you to write dynamic applications.
- Because iPOPO is an OpenSource project. If it misses something, you can contribute and add it.
- Because it already contains a lot of tools to help you create your python application using the Service Oriented Component Model.
- Because you like iPOJO but you don't like Java.

iPOPO is Powered by

Isandlatech

ISAN LATECH
AUTONOMIC COMPUTING

Laboratoire Informatique de Grenoble

L I G

Research team ERDOS

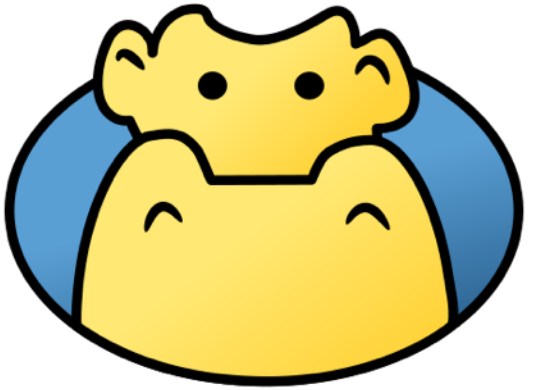
ERDOS

Available on PyPi,
the Python Package Manager

python™

https://pypi.python.org/pypi/iPOPO

Source :
http://popo.coderxpress.net/

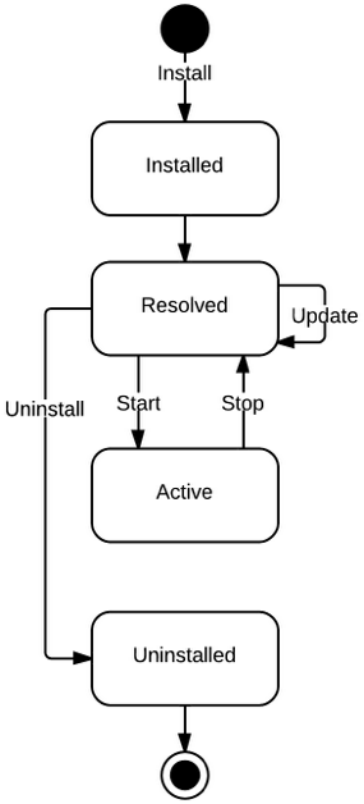


iPOPO

Service oriented Component Model for Python

Bundles

iPOPO provides to Python the concept of bundles. A bundle is a python module with a Life Cycle.

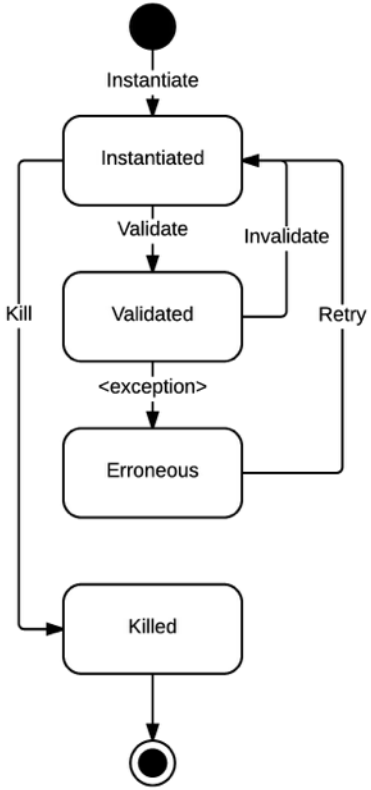


Every time a bundle changes its state, a method in the bundle is invoked. Allowing you to precisely control your application.

The change of states of a bundle are caused by its installation, its uninstallation, its startup and its stop.

Component

A component is an object whose lifecycle is managed by the instance manager. It requires and provides services.



A component's lifecycle defines four states, and is handled by an instance manager that injects runtime dependencies. Many existing python frameworks allow the development and deployment of component-base applications. However, they do not take into account the dynamic aspect of components. The iPOPO component model supports Remote Services, which makes it easy to build distributed applications.

Remote Shell

Every iPOPO application can run the provided service called « Remote Shell ». Using this service, you can remotely connect to the application and manage it from inside.

From within, the control of the lifecycle of any Bundle or Component is possible.

```
** Pelix Shell prompt **

iPOPO Remote Shell
$ bl
+----+-----------------------------------+--------+---------+
| ID |               Name                | State  | Version |
+====+===================================+========+=========+
| 0  | pelix.framework                   | ACTIVE | 0.6.4   |
+----+-----------------------------------+--------+---------+
| 1  | pelix.ipopo.core                  | ACTIVE | 0.6.4   |
+----+-----------------------------------+--------+---------+
| 2  | pelix.shell.core                  | ACTIVE | 0.6.4   |
+----+-----------------------------------+--------+---------+
| 3  | pelix.shell.ipopo                 | ACTIVE | 0.6.4   |
+----+-----------------------------------+--------+---------+
| 4  | pelix.shell.tlsremote             | ACTIVE | 0.6.4   |
+----+-----------------------------------+--------+---------+
| 5  | pelix.ipopo.handlers.properties   | ACTIVE | 0.6.4   |
+----+-----------------------------------+--------+---------+
| 6  | pelix.ipopo.handlers.provides     | ACTIVE | 0.6.4   |
+----+-----------------------------------+--------+---------+
| 7  | pelix.ipopo.handlers.requires     | ACTIVE | 0.6.4   |
+----+-----------------------------------+--------+---------+
| 8  | pelix.ipopo.handlers.requiresbest | ACTIVE | 0.6.4   |
+----+-----------------------------------+--------+---------+
| 9  | pelix.ipopo.handlers.requiresmap  | ACTIVE | 0.6.4   |
+----+-----------------------------------+--------+---------+
| 10 | pelix.ipopo.handlers.temporal     | ACTIVE | 0.6.4   |
+----+-----------------------------------+--------+---------+
11 bundles installed
$
```

There is more

iPOPO already provides a lot of useful services and even more are coming. Here is a shot of what is coming next to iPOPO :

- TLS Remote Shell
- Private Key Infrastructure