AMsoil

The glue for Aggregate Manager developers

(radio edit)

OFELIA

OpenFlow in Europe:
Linking Infrastructure and Applications

OFELIA FP7 project in numbers

3 Years, ending Sept. ’13

6.5 € Budget

4.45 € Funding

10 Partners

12 after the 1st OpenCall

17 after the 2nd OpenCall

7 OpenFlow islands

phases

2010

2013

AMsoil

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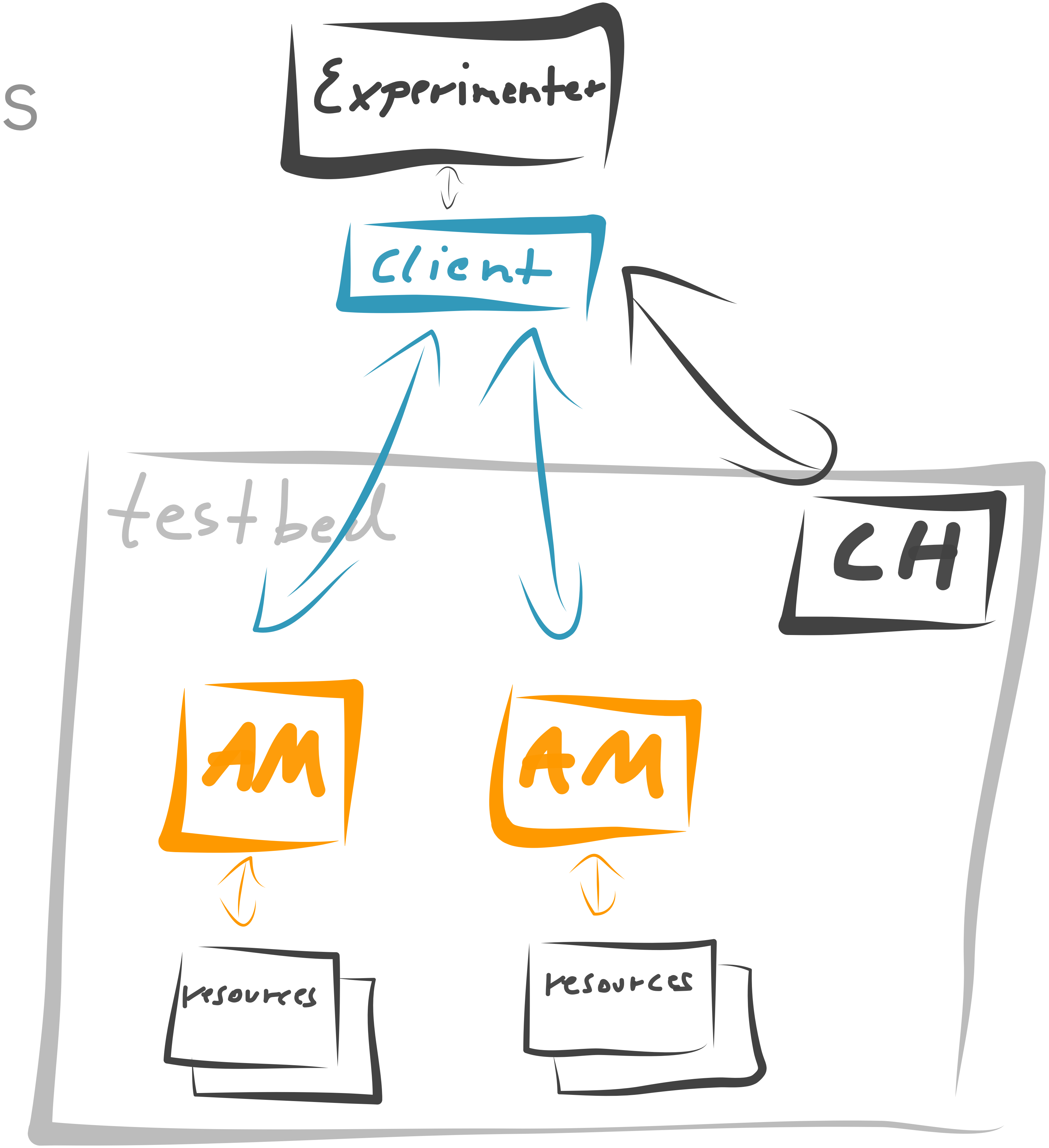
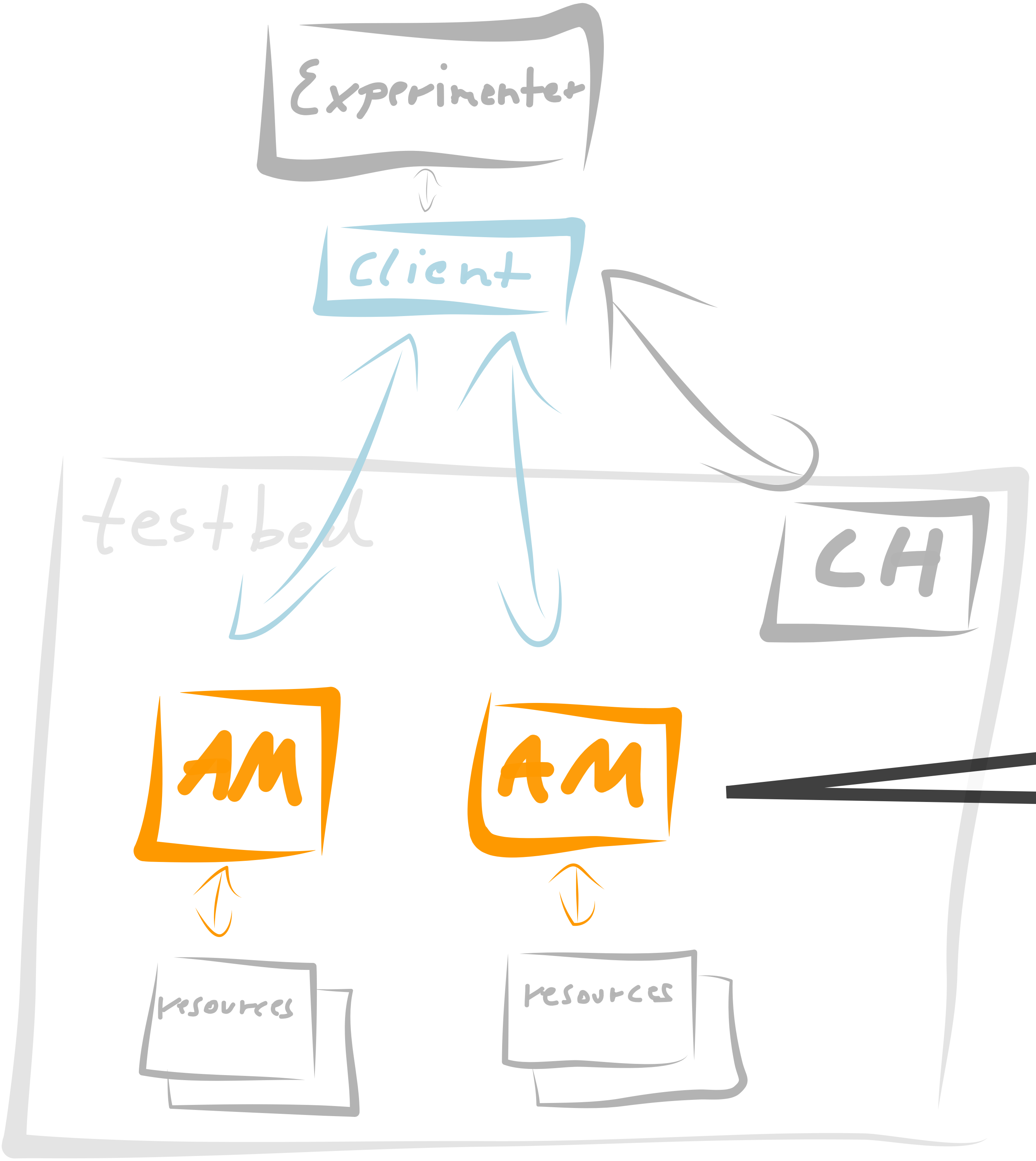
(radio edit)

components



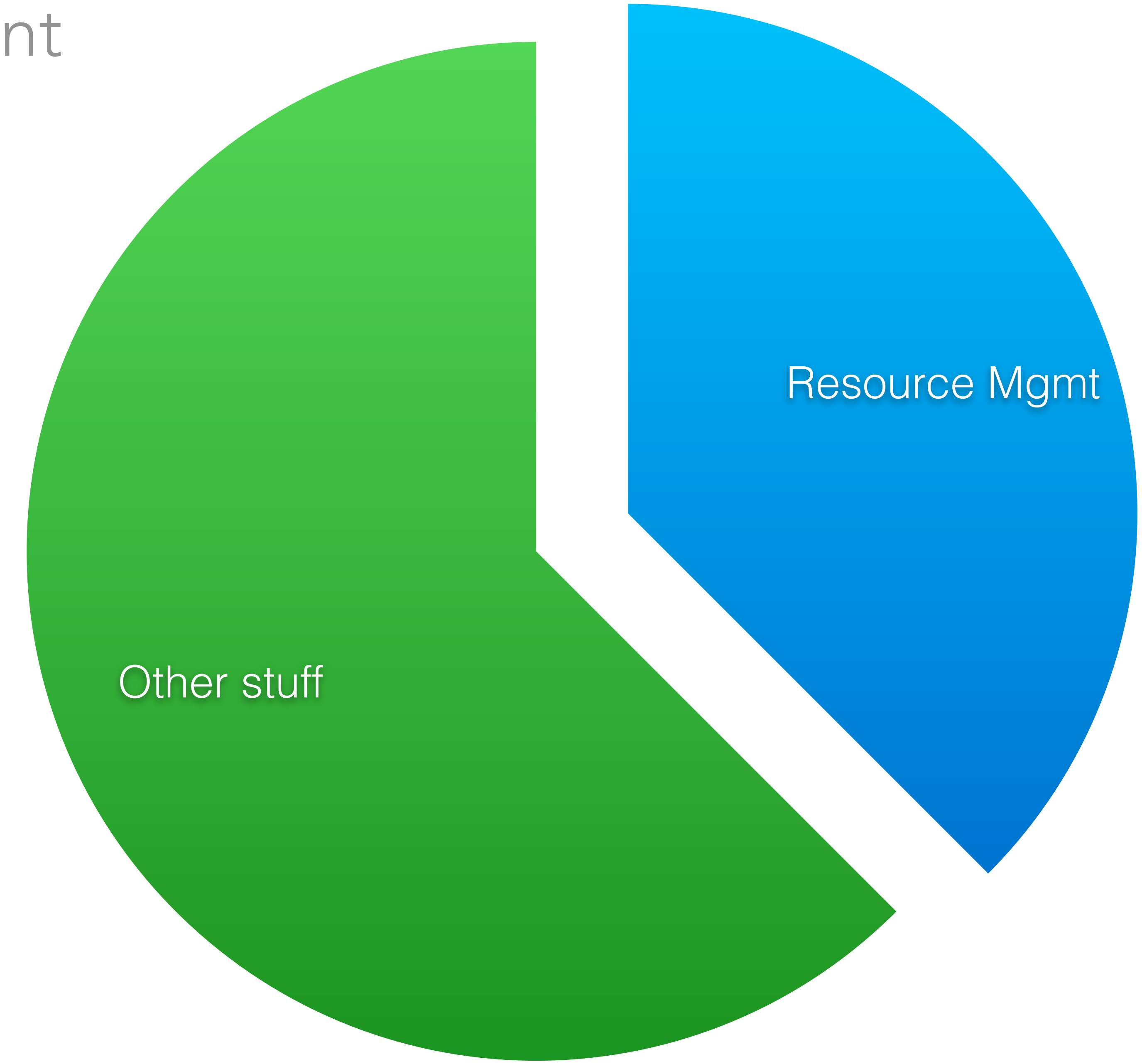
AMsoil?



Someone needs to implement this!

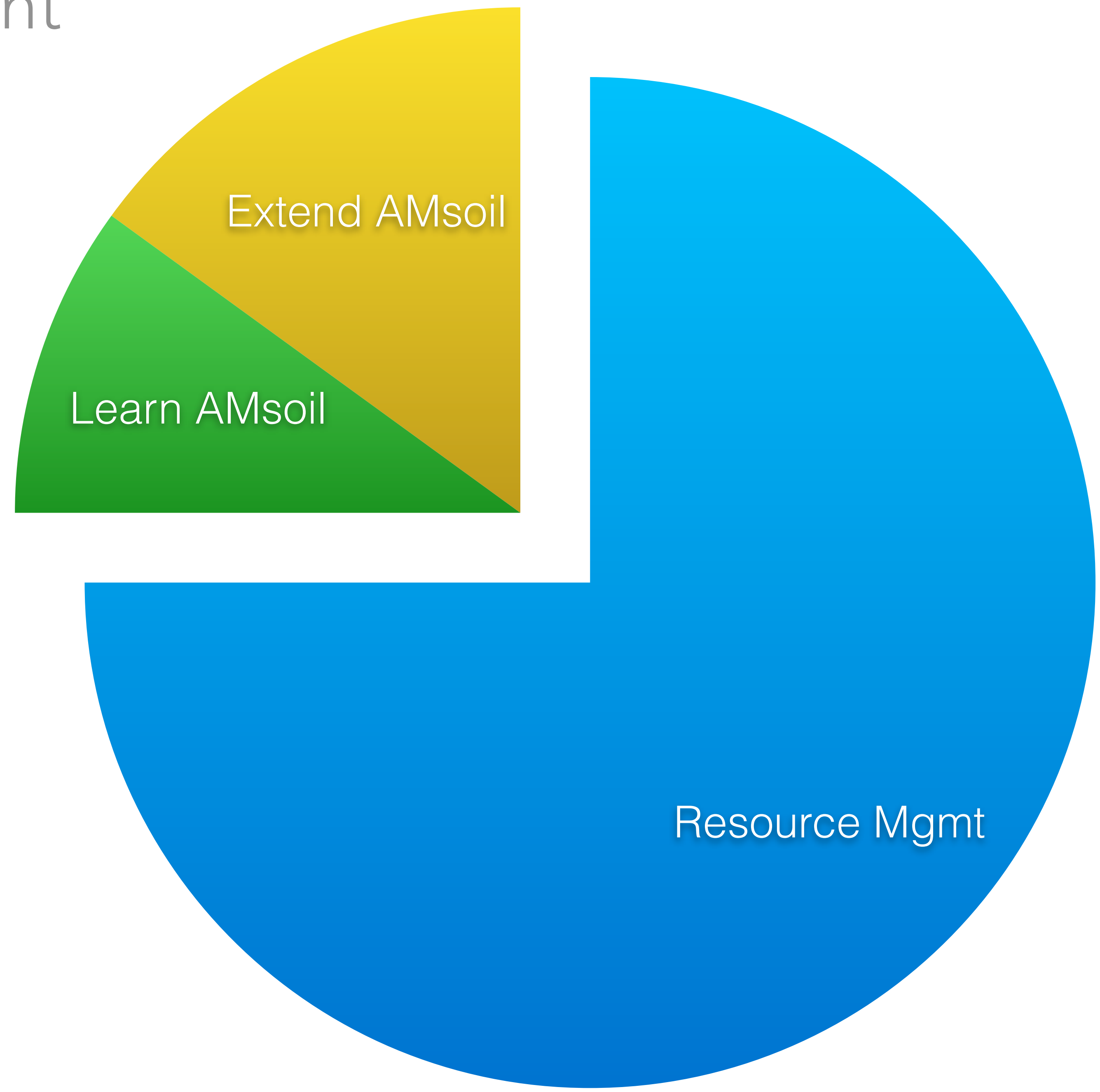
motivation

AM development without AMsoil



motivation

AM development
with AMsoil



AMsoil?

> AMsoil is a light-weight framework for creating Aggregate Managers in test beds.
>
> AMsoil is a pluggable system and provides the necessary glue between RPC-Handlers and Resource Managers . Also it provides helpers for common tasks in AM development.

what we need to know

- how plugins work
- what plugins you need to develop
- what else AMsoil supports

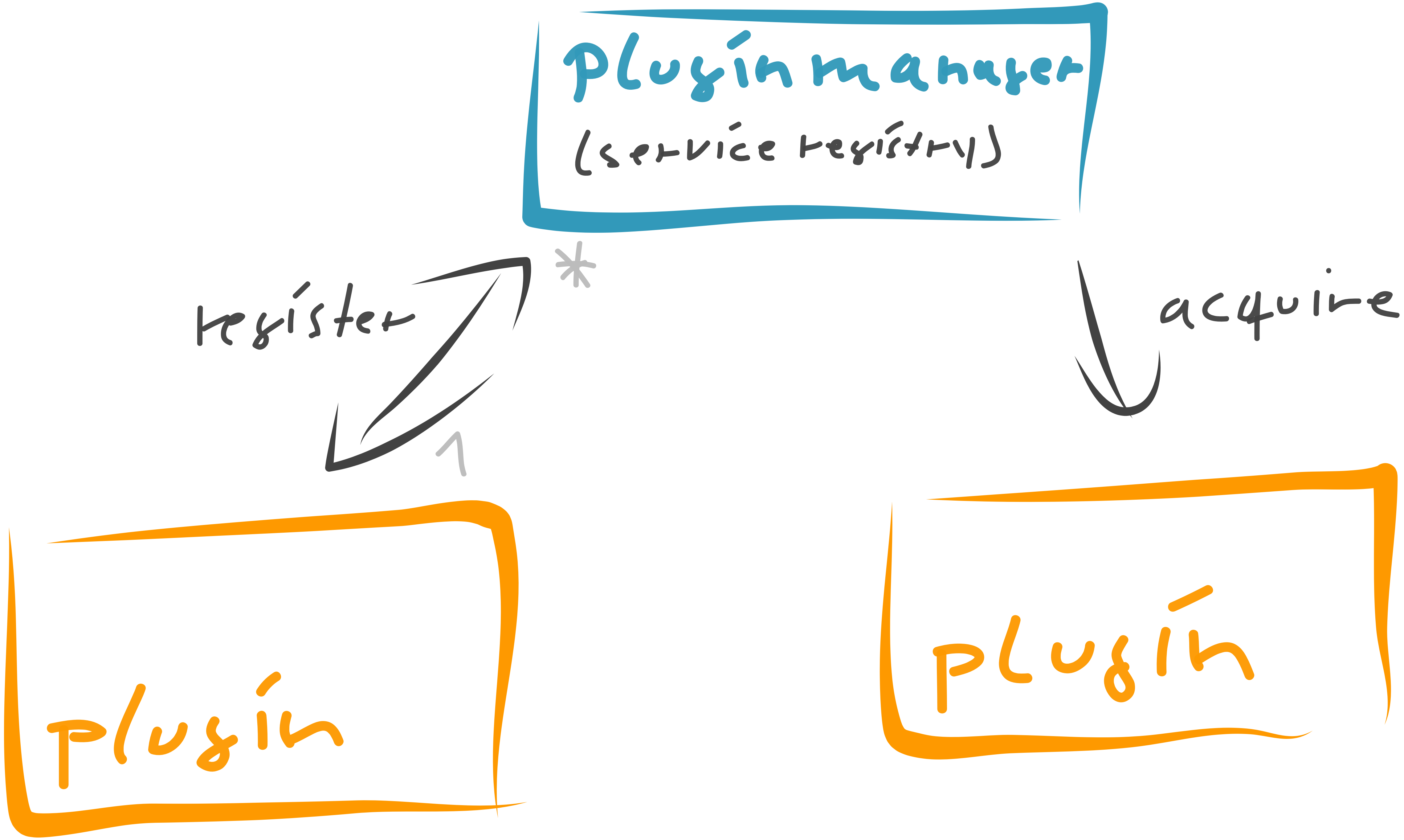
- how a GENI testbed works

why plugins?

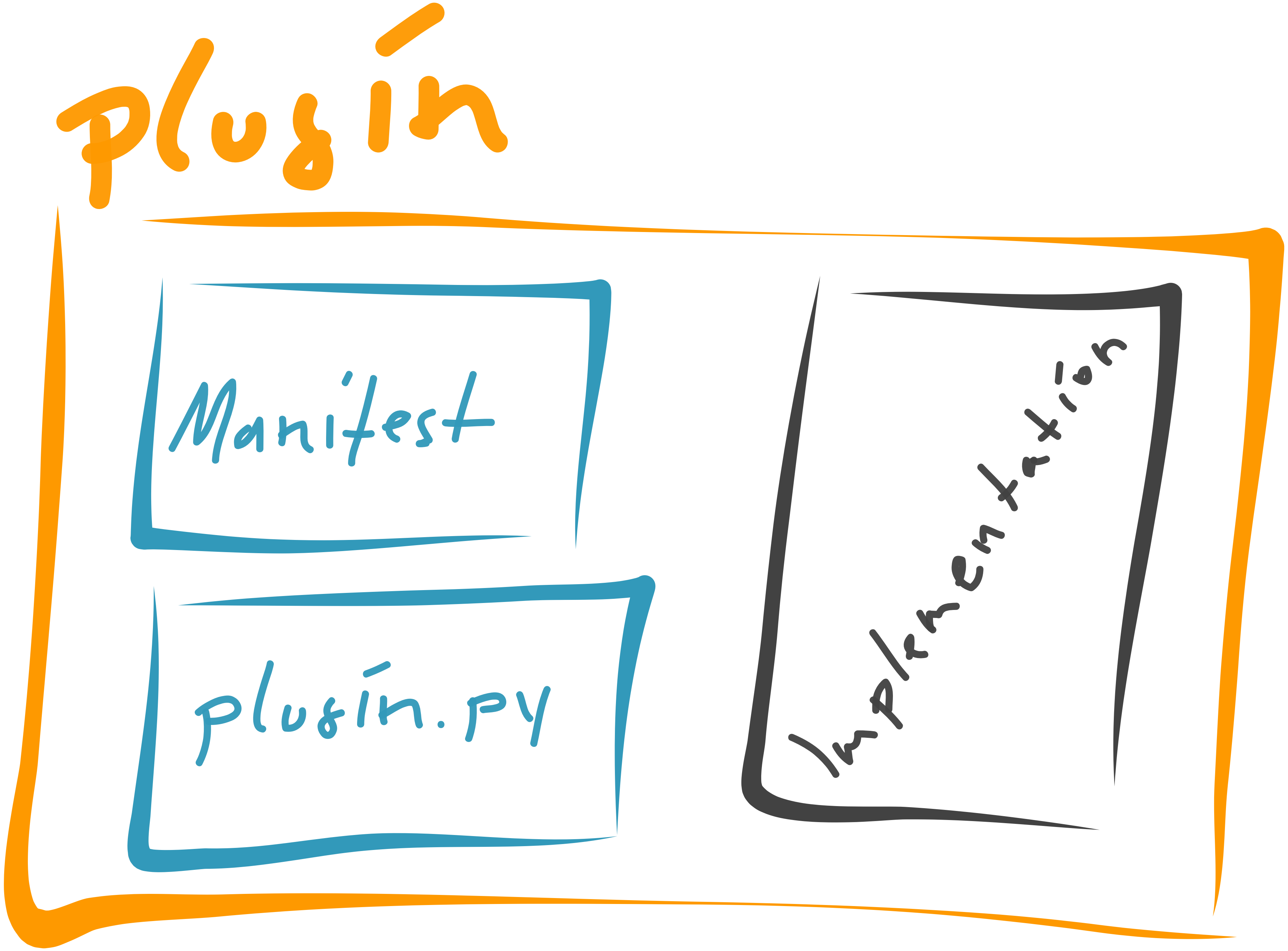
- **Selection**
  An administrator can add/remove plugins/functionality.
- **Exchangeability**
  The interface remains, but the implementation be changed.
- **Clarity**
  Provide a set of services and hide the details behind.
- **Encapsulation**
  Protect implementations from other developers.

plugin

register and use plugins



under the hood



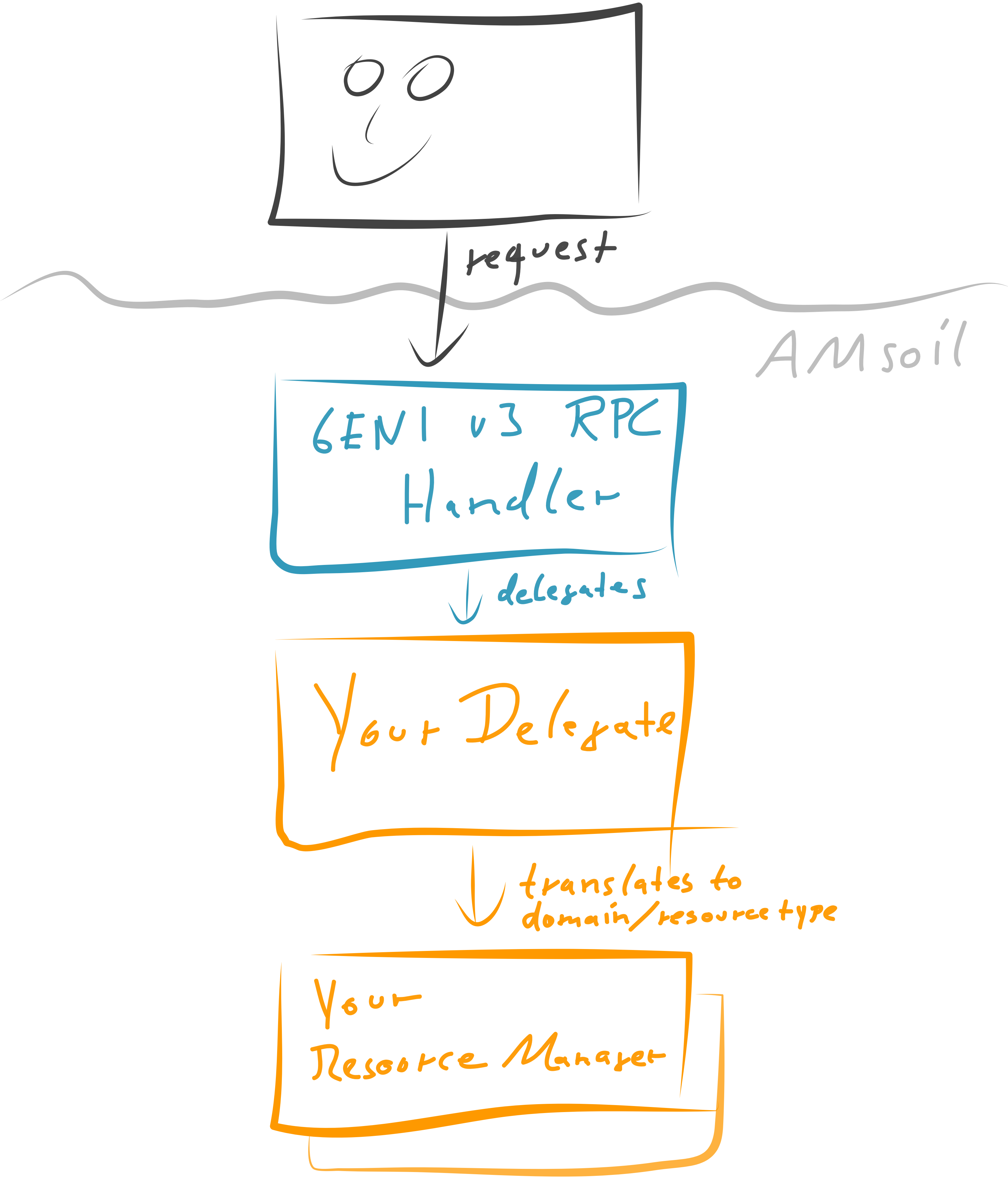
implement a plugin

- create a new folder in plugins
- create the manifest.json
- create the plugin.py
    - write a setup() method
- register your services

handling the AM API

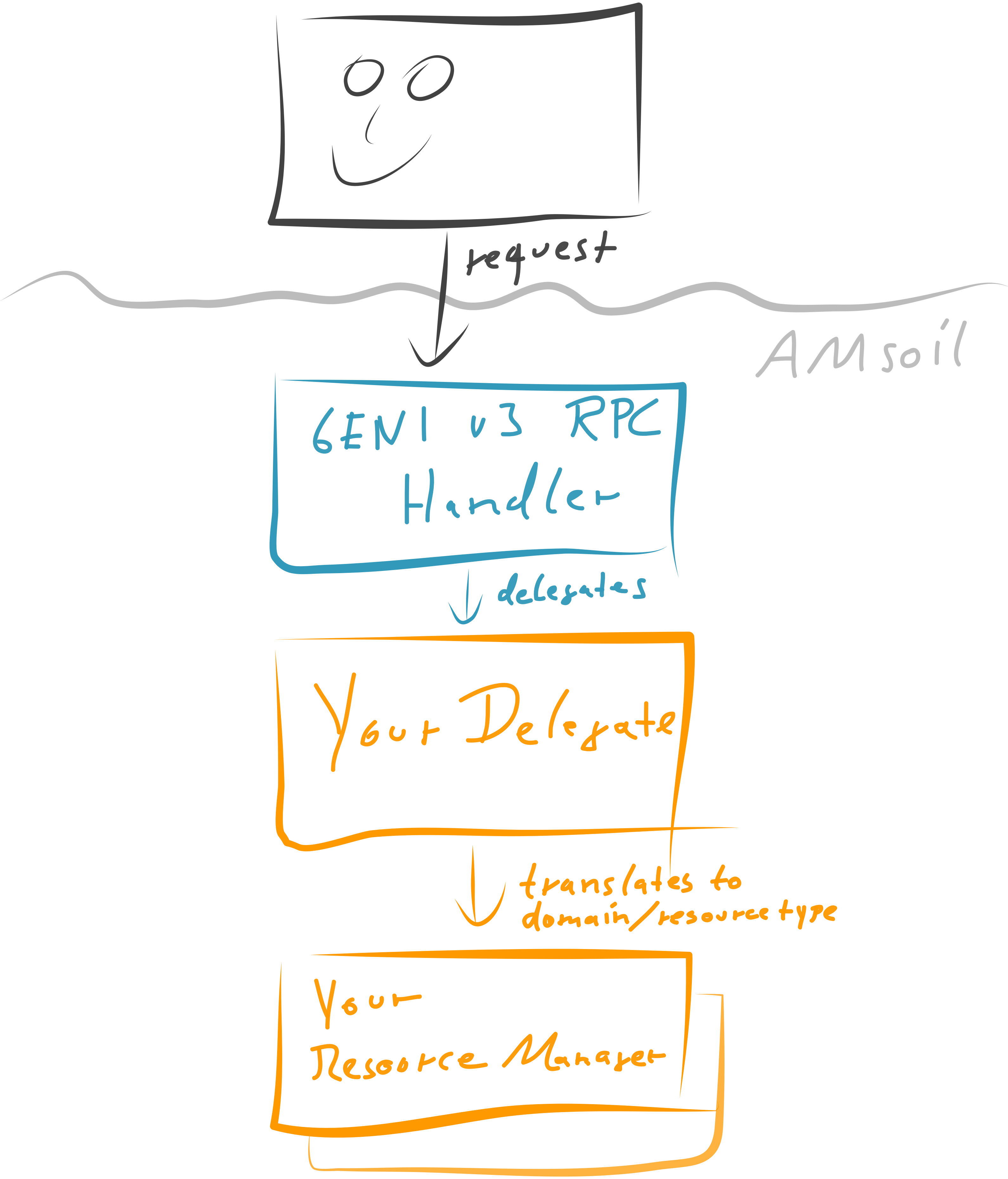
or how to develop a GENI AM API v3 Aggregate

getting the requests



GENI

getting the requests



why so complicated?

interfaces

- **Delegate**
  Should derive from DelegateBase and overwrite the methods prescribed (e.g. list_resources, allocate, ...).
- **Resource Manager**
  You make up the interface!
  The methods, attributes, parameters are domain-specific and depend on the resource type being handled.

interfaces

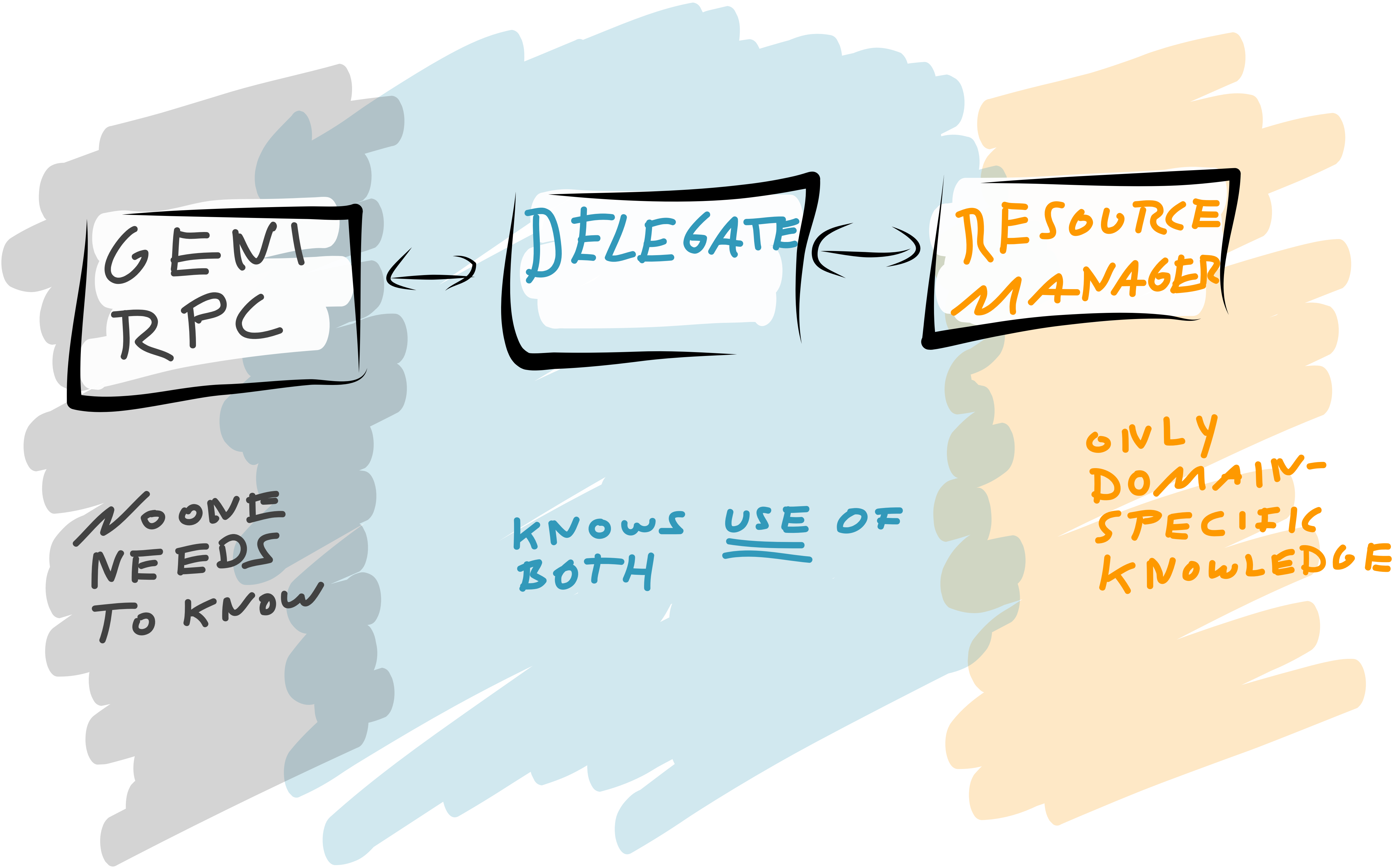
- **Delegate**
  Should derive from DelegateBase and overwrite the methods prescribed (e.g. list_resources, allocate, ...).

FIXED

- **Resource Manager**
  You make up the interface!
  The methods, attributes, parameters are domain-specific and depend on the resource type being handled.

FLEXIBLE

needed knowledge



hands on tips

Let’s see how we can make our life even easier.

configuration

anywhere.py

```python
import amsoil.core.pluginmanager as pm
config = pm.getService("config")      # get the service
myvalue = config.get("mygroup.mykey") # retrieve a value
config.set("mygroup.mykey", myvalue)  # set a value
```

persistence

SQLAlchemy tutorial

7900 words

vs.

Need to know

926 words

Persistence

Value objects

Bootstrap

Create a table

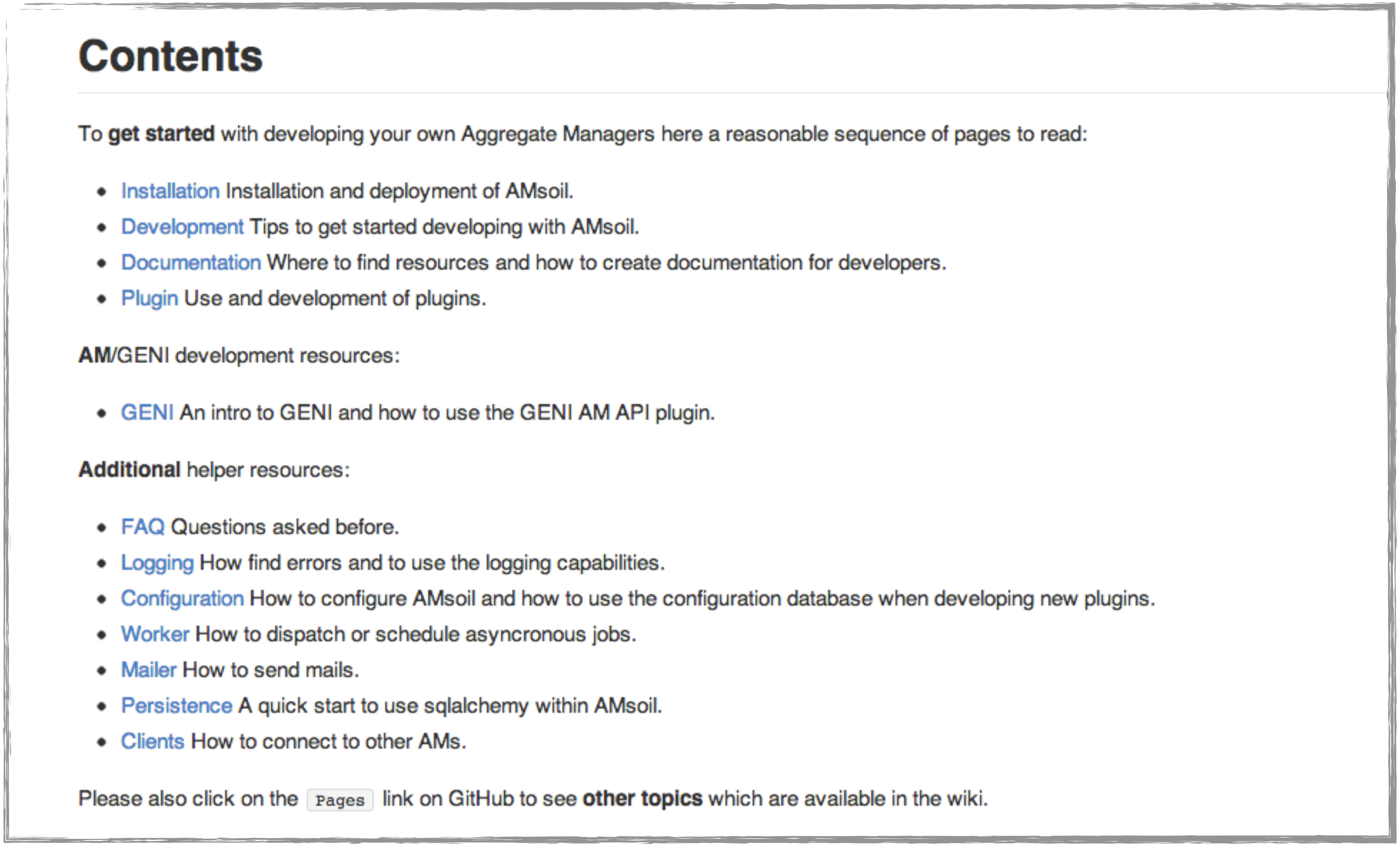
Query and changes

Objects in sessions

Expunge

More info

persistence



Contents

To **get started** with developing your own Aggregate Managers here a reasonable sequence of pages to read:

- Installation Installation and deployment of AMsoil.
- Development Tips to get started developing with AMsoil.
- Documentation Where to find resources and how to create documentation for developers.
- Plugin Use and development of plugins.

AM/GENI development resources:

- GENI An intro to GENI and how to use the GENI AM API plugin.

Additional helper resources:

- FAQ Questions asked before.
- Logging How find errors and to use the logging capabilities.
- Configuration How to configure AMsoil and how to use the configuration database when developing new plugins.
- Worker How to dispatch or schedule asyncronous jobs.
- Mailer How to send mails.
- Persistence A quick start to use sqlalchemy within AMsoil.
- Clients How to connect to other AMs.

Please also click on the `Pages` link on GitHub to see **other topics** which are available in the wiki.

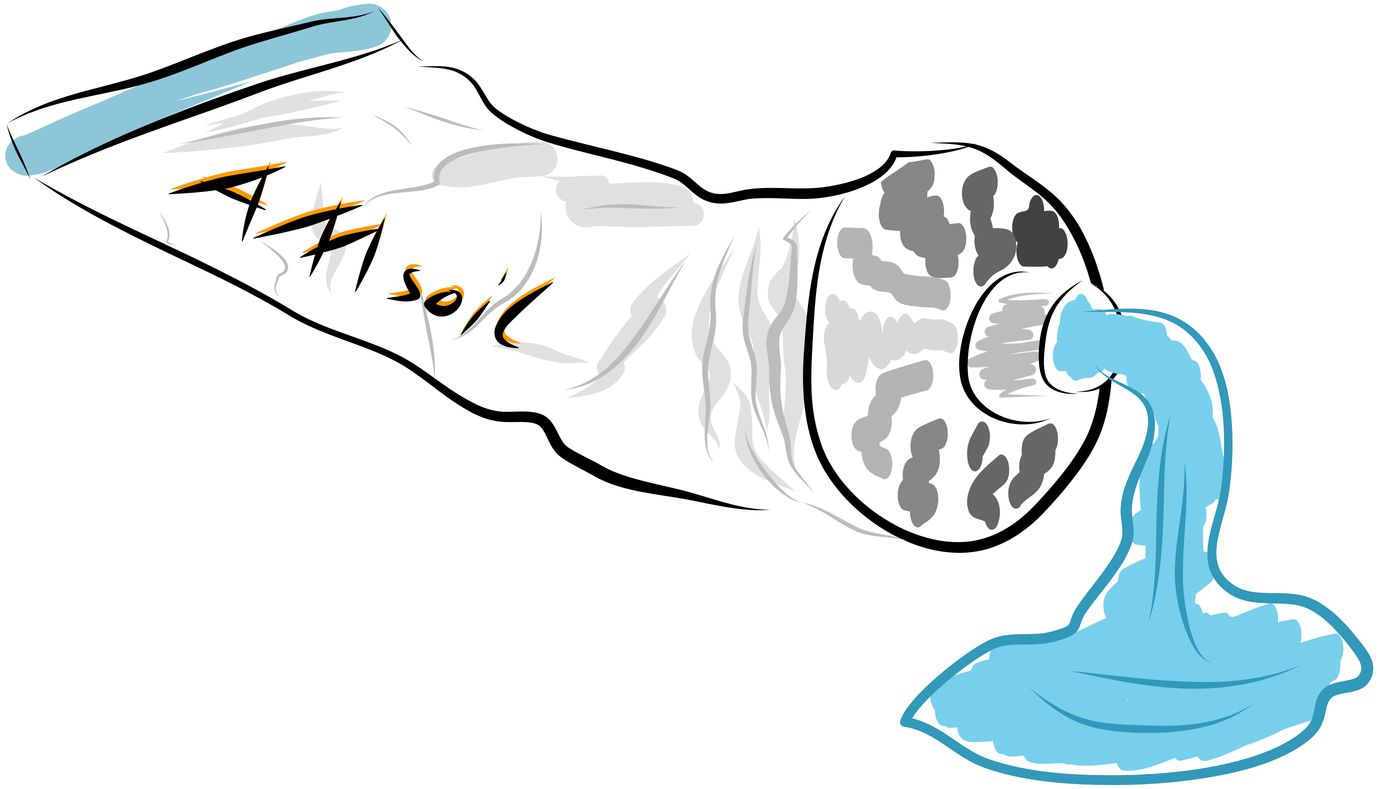
coming up

- GENI AM API v2
- Calendarization
- Policy Engine integration

- Clearinghouse

- lot’s more developers

check it out



clone the repository

https://github.com/fp7-ofelia/AMsoil.git

then **read** the wiki and **start** with the quick-start

https://github.com/fp7-ofelia/AMsoil/wiki