# xal

execution abstraction layer
for high-level system scripts

## Develop to a session

```
def greetings(session):
    """Write 'Hello world!' in 'greetings.txt' file relative to user's home."""
    home = session.user.home
    file_path = session.file.join(home, u'greetings.txt')
    file_resource = session.file(file_path)
    with file_resource.open('w'):
        file_resource.write(u'Hello world!')
```

## Run it anywhere

### Python shell

```
>>> from europython import greetings
>>> import xal
>>> session = xal.LocalSession()
>>> greetings(session)
```

### zc.buildout

```
from europython import greetings
import xal

class HelloBuildout(object):
    def __init__(self, buildout, name, options):
        self.session = xal.BuildoutSession(buildout, name, options)

    def install(self):
        greetings(self.session)
```

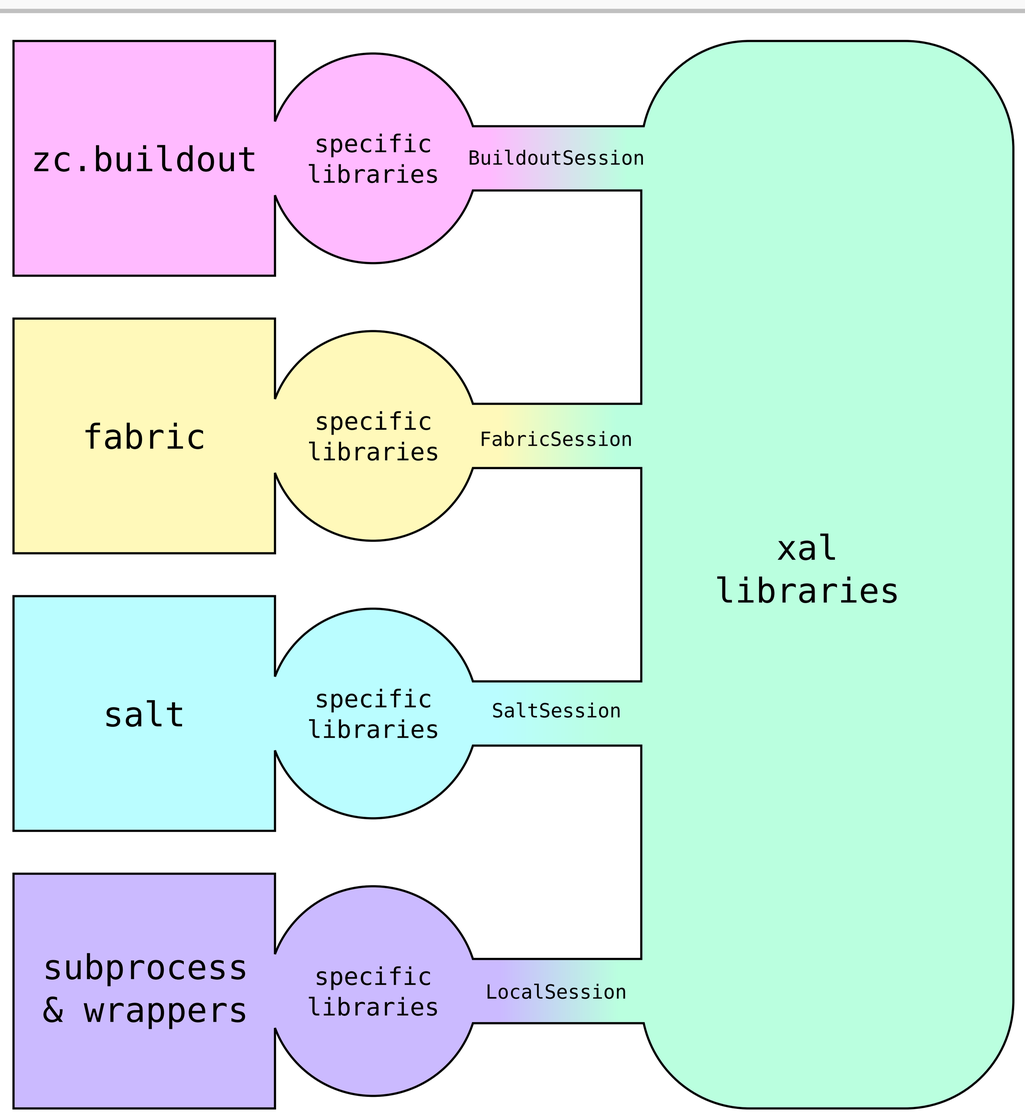
### Fabric

```
from europython import greetings
import xal

def hello_fabric():
    session = xal.FabricSession(sudoer=True)
    greetings(session)
```

### Salt

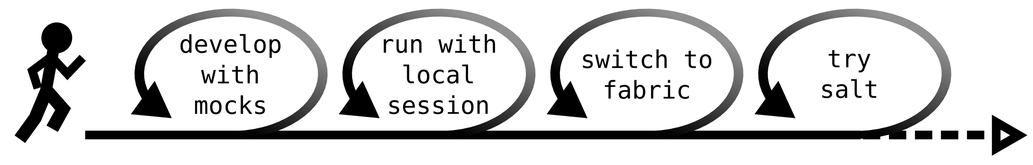
```
from europython import greetings
import xal

def hello_salt():
    session = xal.SaltSession(__salt__)
    greetings(session)
```

## Share libraries




⇨ **xal** enables wider cooperation in Python community

## Improve your workflow




⇨ Do not wait for full provisioning stack, enter your project ASAP

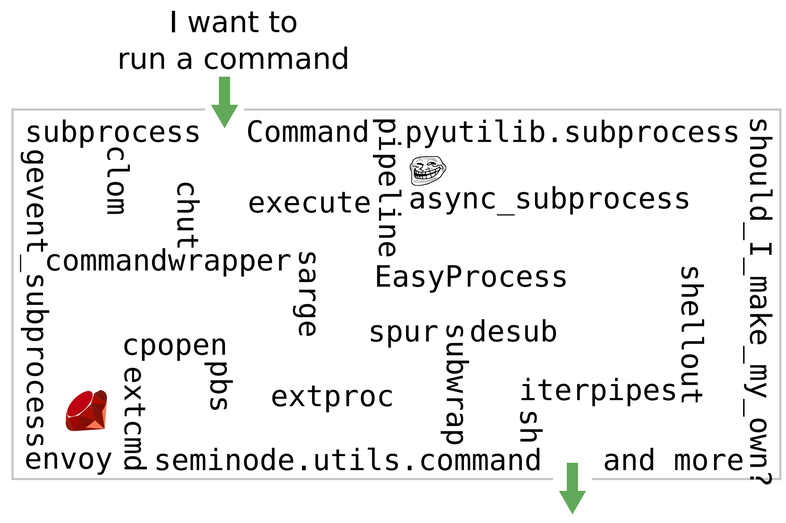
⇨ First, focus on what your script does

⇨ Then, configure execution environment

⇨ Build the provisioning stack incrementally

⇨ Change provisioner, keep deployment recipes

## Exit the subprocess labyrinth




⇨ Could **xal** help APIs converge?

## Challenges

⇨ **xal** needs good APIs:

- run commands (subprocess wrapper)
- consistent set of resources (files, users...)

} PEPs?

⇨ Efficient and comprehensive session registry

⇨ Preconfigured registries: fabric, salt, buildout, local session...

⇨ Resolution of session's dependencies

⇨ Smart handling of NotImplementedError

⇨ Unit tests with mocks, integration tests

**xal** is a proof of concept

https://xal.readthedocs.org