Packaging & Distribution

Why?

- Distribute your code to others

- Make your code installable in the usual manner most Python developers would expect

- Standard Python Package are cross-platform (Windows, OSX, Linux...)

Typical Project Layout

```
myproject/
├── LICENSE.txt
├── README.md
├── MANIFEST.in
├── mypackage
│   ├── __init__.py
│   ├── mymodule.py
│   └── test_module.py
└── setup.py
```

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Exercise 01

Create the following project hierarchy with empty files:

```
sbsctesting/
├── LICENSE.txt
├── README.md
├── sbsctesting
│   ├── __init__.py
│   ├── mymodule.py
│   └── test_module.py
└── setup.py
```

Exercise 02:
A Sample `setup.py`

```python
from distutils.core import setup

setup(
    name="scbctesting",
    version="0.1.0",
    description="Sample project",
    author="Firstname Lastname",
    author_email="contact@example.com",
    license='BSD',
    url='http://github.com/ogrisel/scbctesting',
    packages=['scbctesting'],
)
```

Building an Installing

```
[~/scbctesting]$ python setup.py install
running install
running build
running build_py
running install_lib
running install_egg_info
Writing /usr/local/lib/python2.7/site-packages/
scbctesting-0.1.0-py2.7.egg-info
[~/scbctesting]$
```

Building an Installing

```
[~/scbctesting]$ python setup.py install
running install
running build
running build_py
running install_lib
running install_egg_info
Writing /usr/local/lib/python2.7/site-packages/
scbctesting-0.1.0-py2.7.egg-info
[~/scbctesting]$ cd /tmp
[/tmp]$
```

Building an Installing

```
[~/scbctesting]$ python setup.py install
running install
running build
running build_py
running install_lib
running install_egg_info
Writing /usr/local/lib/python2.7/site-packages/
scbctesting-0.1.0-py2.7.egg-info
[~/scbctesting]$ cd /tmp
[/tmp]$ python
Python 2.7.3 (default, Jan 25 2013, 13:54:35)
[GCC 4.2.1 Compatible Apple Clang 4.1 ((tags/Apple/
clang-421.11.66))] on darwin
Type "help", "copyright", "credits" or "license" for more
information.
>>>
```

Building an Installing

```
[~/scbctesting]$ python setup.py install
running install
running build
running build_py
running install_lib
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Writing /usr/local/lib/python2.7/site-packages/
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Python 2.7.3 (default, Jan 25 2013, 13:54:35)
[GCC 4.2.1 Compatible Apple Clang 4.1 ((tags/Apple/
clang-421.11.66))] on darwin
Type "help", "copyright", "credits" or "license" for more
information.
>>> import scbctesting
>>> print(scbctesting.__file__)
/usr/local/lib/python2.7/site-packages/scbctesting/__init__.pyc
```

Uninstalling a Package

```
rm -rf /usr/local/lib/python2.7/site-packages/scbctesting/
```

```
pip uninstall scbctesting
```

Creating the Package

```
$ python setup.py sdist
```

But, first we need a new file:
MANIFEST.in

Exercise 03

Create a file: `MANIFEST.in` next to `setup.py` with the content:

```
include README.md
include LICENSE.txt
recursive-include scbctesting *
```

Then run:

```
$ python setup.py sdist
```

Outcome

```
[~/scbctesting]$ python setup.py sdist
running sdist
running check
warning: sdist: standard file not found: should have one of README,
README.txt

reading manifest template 'MANIFEST.in'
writing manifest file 'MANIFEST'
creating scbctesting-0.1.0
creating scbctesting-0.1.0/scbctesting
making hard links in scbctesting-0.1.0...
hard linking LICENSE.txt -> scbctesting-0.1.0
hard linking README.md -> scbctesting-0.1.0
hard linking setup.py -> scbctesting-0.1.0
hard linking scbctesting/__init__.py -> scbctesting-0.1.0/scbctesting
hard linking scbctesting/mymodule.py -> scbctesting-0.1.0/scbctesting
hard linking scbctesting/test_mymodule.py -> scbctesting-0.1.0/scbctesting
Creating tar archive
removing 'scbctesting-0.1.0' (and everything under it)

[~/scbctesting]$ ls dist/
scbctesting-0.1.0.tar.gz
```

More on distutils

- http://docs.python.org/2/distutils/index.html