Using jupyter notebooks with a virtual environment



Summary

Do you use <u>jupyter notebooks (http://jupyter.org/)</u>? And <u>virtual environment (http://docs.python-guide.org/en/latest/dev/virtualenvs/)</u> too, right? And do you know how to use them together? Ah! I got you. It is very simple: follow this guide to learn how to install a custom kernel.

Why?

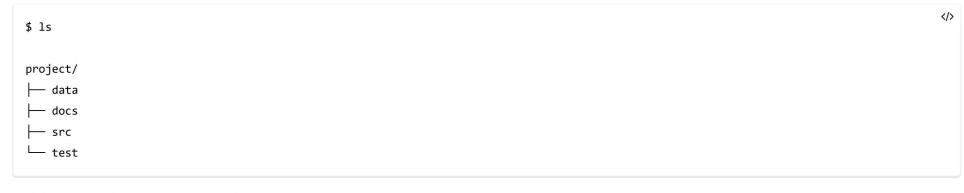
Using virtual environments is important:

- it helps to maintain your system clean since you don't install system-wide libraries that you are only going to need in a small project
- it allows you to use a certain version of a library for one project and another version for another project: if you install the library system-wide and don't use venv, then you can only use one version of the library
- it helps reproducible research: you work hard on your project, you write a paper on it because you are an academic research and then you release the code; one year later, the libraries you used are outed but your package still works: by listing the particular versions the you used, another researcher can set up a new virtual environment and use those outdated libraries to reproduce your work

Basically, virtual environments simply your life when you work with Python.

How to do it

I assume that you are a tidy person: you have all your work sorted out in folders; one of these folders contains your very important project and it looks like this:



Inside this folder create a new virtual environment:

```
python -m venv projectname
```

Then activate it:

```
source projectname/bin/activate
```

Now, from inside the environment install ipykernel using pip:

```
pip install ipykernel
```

And now install a new kernel:

```
ipython kernel install --user --name=projectname
```

At this point, you can start jupyter, create a new notebook and select the kernel that lives inside your environment.

tl;dr

```
$ python -m venv projectname
$ source projectname/bin/activate
(venv) $ pip install ipykernel
(venv) $ ipython kernel install --user --name=projectname
```

Here is a screencast that shows the whole thing:



01:01

Further readings

- <u>Pipenv: Python Dev Workflow for Humans (https://docs.pipenv.org/)</u>
- IPython official documentation (http://ipython.readthedocs.io/en/stable/install/kernel_install.html)
- ► Tags: howto (https://anbasile.github.io/tags/#howto) python (https://anbasile.github.io/tags/#python)

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