

Using jupyter notebooks with a virtual environment



Summary

Do you use jupyter notebooks (<http://jupyter.org/>)? And virtual environment (<http://docs.python-guide.org/en/latest/dev/virtualenvs/>) 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on it because you are an academic research and then you release the code; one year later, the libraries you used are outdated but your package still works: by listing the particular versions the you used, another researcher can set up a new virtual environment and use those outdated libraries to reproduce your work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 simplify 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:

```
$ ls

project/
├─ data
├─ docs
├─ src
└─ test
```

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:



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Further readings

- Pipenv: Python Dev Workflow for Humans (<https://docs.pipenv.org/>).
- IPython official documentation (http://ipython.readthedocs.io/en/stable/install/kernel_install.html).

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