



Virtualenv

or How to Keep Pythons in their Cages

Who am I?

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GRPUG

- Grand Rapids Python Users Group
- <http://www.grpug.org/>



The Problem - Pythons Running Loose

Every Project Needs:

- Different version of Python
- Different modules
- Different version of modules
- Different deployment environment

Also:

- Shared web hosts
- Module clutter in system



The Solution - *Put them in a Cage*

Virtualenv is a tool use to create isolated Python environments. Each environment gets its own copy of the Python binary and has its own set of modules.

- `easy_install virtualenv`
- `or apt-get install python-virtualenv`
- or download from <http://pypi.python.org/pypi/virtualenv>



The Genius Behind Virtualenv

Created by **Ian Bicking** in 2007

- A developer with Mozilla
- Python open source programmer
- Actually uses Buzz more than Twitter
- Lives in Minneapolis
- Projects: <http://ianbicking.appspot.com/projects>
- Buzz: <http://www.google.com/profiles/ianbicking>
- Twitter: <http://twitter.com/ianbicking>



Simple Creation of a Virtualenv

virtualenv <venv>

- Creates a stand-alone environment
- Python executable: <venv>/bin/python
- Site Packages: <venv>/lib/python/site-packages/
- Utilities: <venv>/bin/
 - activate
 - easy_install



Common Options

virtualenv [OPTIONS] DEST_DIR

--python=PYTHON_EXE

Use the specified versions of Python. The version must be already installed on your system.

--no-site-packages

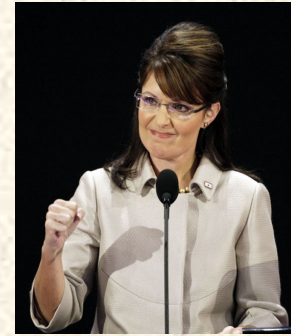
Don't give access to the global site-packages to the virtual environment.

--distribute

Install pip during virtual environment creation.



Some Virtualenv Gotchas



- Your host's iPython will not work in your virtualenv, so you have to `pip install ipython`
- Can be hard to use with `mod_python` or `mod_wsgi`. See *Using Virtualenv without bin/python* at <http://pypi.python.org/pypi/virtualenv>
- Most IDEs will not work with `activate`, but many will let you specify which Python binary to use.
 - PyDev (Eclipse)
 - Komodo Edit
- Some IDEs will not let you specify a Python binary, so autocomplete will likely not work, and you will have to run in a separate shell.
 - Monodevelop

Advanced Usage



Create bootstrap scripts

- If you often make the same kind of environment
- You want a certain set of modules installed each time

Virtualenv-wrapper

- A set of extensions to `virtualenv`
- <http://pypi.python.org/pypi/virtualenvwrapper>

More Information



- <http://pypi.python.org/pypi/virtualenv>
- <http://www.arthurkoziel.com/2008/10/22/working-virtualenv/>
- <http://www.clemesha.org/blog/2009/jul/05/modern-python-hacker-tools-virtualenv-fabric-pip/>
- <http://simeonfranklin.com/talk/virtualenv.html>

Awesome PyOhio presentation by Richard Harding:

- <http://python.mirocommunity.org/video/1789/pyohio-2010-wrangling-the-bits>