Python Crash Course

Resources for Python Crash Course, from No Starch Press.

Pip: Installing Python Packages

Pip is a special program used to install Python packages to your system. Pip is sometimes included automatically when Python is installed to your system, and sometimes you have to install it yourself. These instructions will help you check if pip is on your system, and help you upgrade or install it if necessary.

Pip on Linux

Checking for pip on Linux

First, check whether pip is installed on your system:

```
$ pip --version
pip 7.0.3 from /usr/local/lib/python3.5/dist-packages (python 3.5)
```

The output of `pip --version` tells you which version of pip is currently installed, and which version of Python it's set up to install packages for. This is especially helpful if you have more than one version of Python installed on your system.

If you have only one version of Python installed on your system, you can use pip to install packages. You might want to try upgrading pip first though.

If you have more than one version of Python installed on your system, you should also try the command pip3:

```
$ pip3 --version
pip 7.0.3 from /usr/local/lib/python3.5/dist-packages (python 3.5)
```

Here pip3 is set up to install to the same version of Python, but often times pip will install to Python 2. pip3, if you have it set up, should always install packages to the version of Python 3 you have installed.

top

Installing pip on Linux

To install pip, go to https://bootstrap.pypa.io/get-pip.py. Save the file if you're prompted to do so; if the code for *get-pip.py* appears in your browser, copy and paste the entire program into your text editor and save the file as *get-pip.py*.

Open a terminal and navigate to the folder containing *get-pip.py*, and run it with administrative privileges:

```
$ cd Downloads
Downloads$ sudo python get-pip.py
Collecting pip
  Downloading pip-7.1.2-py2.py3-none-any.whl (1.1MB)
    100% |████████████████████████████████| 1.1MB 448kB/s
Collecting setuptools
  Downloading setuptools-18.4-py2.py3-none-any.whl (462kB)
    100% |████████████████████████████████| 462kB 676kB/s
Collecting wheel
  Downloading wheel-0.26.0-py2.py3-none-any.whl (63kB)
    100% |████████████████████████████████| 65kB 912kB/s
Installing collected packages: pip, setuptools, wheel
Successfully installed pip-7.1.2 setuptools-18.4 wheel-0.26.0
```

After the program runs, use the command `pip --version` (or `pip3 --version`) to make sure pip was installed correctly.

top

Upgrading pip on Linux

Once you have pip installed, it's good to upgrade it from time to time. Usually pip will prompt you with instructions for how to upgrade it when necessary, but you can try to upgrade manually any time. For example, here's sample output for upgrading an out-of-date version of pip:

```
$ sudo pip install --upgrade pip
You are using pip version 6.1.1, however version 7.1.2 is available.
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Collecting pip
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    100% |████████████████████████████████| 1.1MB 382kB/s
Installing collected packages: pip
  Found existing installation: pip 6.1.1
    Uninstalling pip-6.1.1:
      Successfully uninstalled pip-6.1.1
Successfully installed pip-7.1.2
```

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Installing Python packages with pip on Linux

Once you have pip installed, most Python packages can be installed in one line. For example, here's how you can install Requests, which is used to make API calls from Python programs:

```
$ pip install --user requests
Collecting requests
  Downloading requests-2.8.1-py2.py3-none-any.whl (497kB)
    100% |████████████████████████████████| 499kB 595kB/s
Installing collected packages: requests
Successfully installed requests
```

Here pip has downloaded the files needed to install Requests, and then managed the installation for us. The `--user` flag means pip has made Requests available to us, but not to other users. This keeps each user's Python packages from conflicting with each other on systems with more than one user. It's a good idea to use this flag unless you have a specific reason not to.

Now you can start a Python terminal session, and import requests:

```
$ python
>>> import requests
>>> url = "http://google.com"
>>> r = requests.get(url)
>>> r.status_code
200
```

Here we've used requests to retrieve Google's home page, and the status code of 200 tells us that the request was successful.

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Uninstalling packages with pip on Linux

If you ever want to uninstall a package, you can use requests to do so as well:

```
$ pip uninstall requests
Uninstalling requests-2.8.1:
  /home/ehmatthes/.local/lib/python3.5/site-packages/requests-2.8.1.dist-info/DESCRIPTION.rst
  ...
Proceed (y/n)? y
  Successfully uninstalled requests-2.8.1
```

Pip lists all the files that will be removed, prompts you about whether to proceed, and then uninstalls the package.

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Pip on OS X

Checking for pip on OS X

First, check whether pip is installed on your system:

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Pip on Windows

Checking for pip on Windows

First, check whether pip is installed on your system. Open a terminal window and issue the following command:

```
> python -m pip --version
pip 7.0.3 from C:\Python35\lib\site-packages (python 3.5)
```

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