Managing Python Packages with pip

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Overview

Dependencies

Packages

- Find, download and install
- Manage

Virtual environments

- Project dependencies
- Create, use and manage

Best practices

Recommended tools

NOT: creating and shipping

Modules in this Course

pip

Package management

Virtual environments

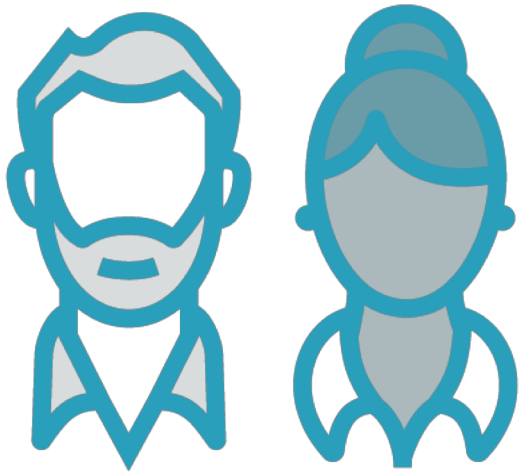
Projects and dependencies

virtualenvwrapper

Making venv more convenient

Other tools

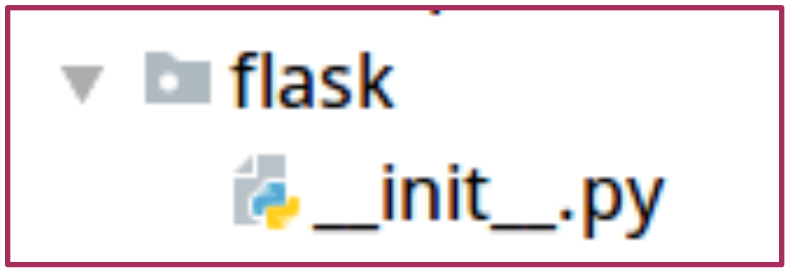
Audience



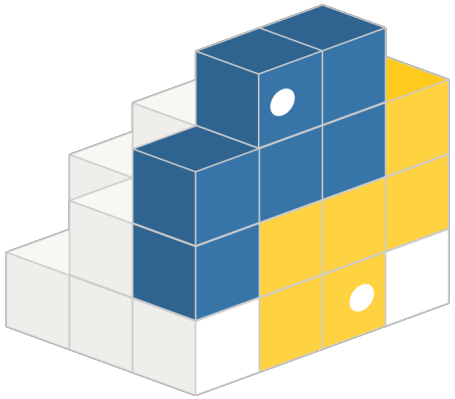
New Python developers

- Go from simple scripts to larger projects
- Use third-party modules
- Basic Python skills
- Python installed

A Package Is Not a Package

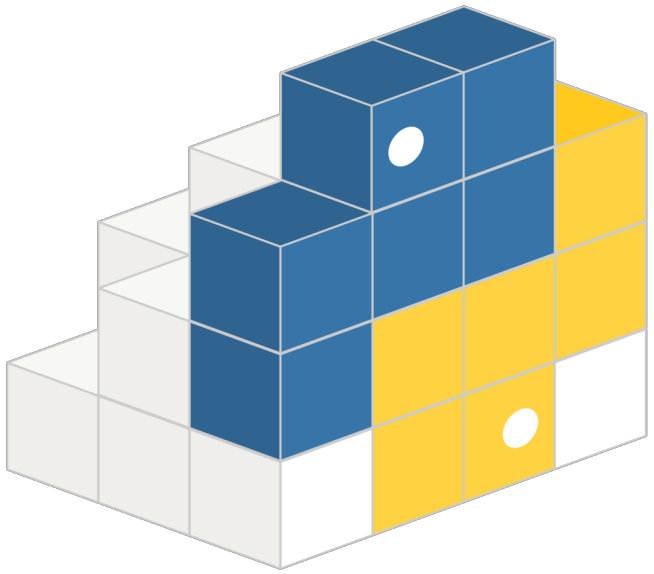


A directory containing
an `__init__.py` file
Used with `import`



A Python
distribution package

Python Distribution Package



Versioned archive file

Contains Python packages, modules, and other resource files

Used to distribute a Release

What an end-user will download and install

Demo

Getting started

- Project with a third-party dependency
- Check for presence of pip

Do I Need to Install pip?

pip comes pre-installed with

- Python 2 >=2.7.9
- Python 3 >=3.4
- If you downloaded from python.org

Older versions

- Go to http://pip-installer.org
- Follow instructions under "Installation"
- If you downloaded from python.org

Demo

Windows

- Configuring PATH
- Run pip

Windows

- No need to install pip
- Configure your PATH

Mac

- Don't use default Python
- It's not meant for development
- Install Python using Homebrew: https://brew.sh
- Or download from https://python.org

Linux

- Comes with python (probably 2)
- May need to install python 3 and/or pip
- Use package manager
- Might not install latest pip (but that's ok)

Demo

Linux

- Install pip
- Run pip
- Install pip for python3
- Run that

Demo

Managing packages with pip

- Installing packages
- Removing packages
- Listing packages
- Inspecting packages
- Getting help
- Searching packages

Best Practice

Always work inside a virtual environment

Don't use pip with sudo

Managing Packages with pip

```
# Installing a package
# (will also install its dependencies)
pip install requests
pip install six Django Keras          # multiple installs

# Removing a package (but NOT its dependencies)
pip uninstall requests
pip uninstall six Django Keras        # multiple uninstalls
```

Finding Package Information

```
# List all installed packages
pip list

# Get info on a specific package
pip show requests
```

Getting Help

Pip built-in help: `pip help`

For specific command: `pip help install`

Or visit http://pip-installer.org

The cheese shop: https://pypi.org

Demo

Where are packages installed?

- The `sys.path` variable
- Installling for other python versions

Demo

A better way to call pip

Summary

Installing pip

Managing packages

- pip install
- pip uninstall
- pip list
- pip show
- The cheese shop

Package locations

Calling pip

- python -m pip