
py-deps Documentation

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About py-dep

The `py-dep` provides parsing the dependencies of Python packages and generating the metadata for graph. The graph data is for [NetworkX](#), [Graphviz](#), [blockdiag](#), [Linkdraw](#), etc.

1.1 Status

1.2 Requirements

- Python 2.7 over or Python 3.3 over or PyPy 2.4.0 over
- pip 1.5.6 or 6.1.1 over
- wheel 0.24.0 over
- NetworkX 1.9 over

1.3 Features

- Generating Linkdraw data.
- Generating Networkx DiGraph object data.
- Cache the parsed dependencies.

Basic usage

py-deps provides parsing the Python deps and generating graph data.

2.1 Initialize

Cache the parsed dependencies into the `py-deps.pickle` on current working directory. This file format is [pickle](#)..

```
$ python
>>> from py_deps import Package
>>> pkg = Package('py-deps')
```

2.1.1 Change cache file

Use `cache_name` argument.:

```
>>> pkg = Package('py-deps', cache_name='some-cache.name')
```

2.1.2 Override cache forcibly

Use `update_force` argument. (default: False):

```
>>> pkg = Package('py-deps', update_force=True)
```

2.2 Generate rendering data

Supports follows currently.

- pretty print
- Linkdraw

2.2.1 Pretty print

```
>>> print(pkg.draw())
py-deps -> [Sphinx, setuptools, pip, wheel, tox]
setuptools -> [certifi, wincertstore, setuptools[ssl], pytest]
pip -> [pytest, virtualenv, scripttest, mock, pytest, virtualenv,
       scripttest, mock]
wheel -> [ed2551911, keyring, argparse, pyxdg, jsonschema, pytest,
         coverage, pytest-cov]
>>>
```

2.2.2 Linkdraw

```
>>> import json
>>> json.loads(pkg.draw('linkdraw'))
{'descr': 'py-deps dependencies',
 'lines': [{'color': u'#5F9EA0', 'descr': u'\u2192', 'link': u'',
            'source': u'py-deps', 'target': u'Sphinx', 'width': u'1'},
            {'color': u'#5F9EA0', 'descr': u'\u2192', 'link': u'',
            'source': u'py-deps', 'target': u'setuptools', 'width': u'1'},
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            'source': u'py-deps', 'target': u'wheel', 'width': u'1'},
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            'source': u'setuptools', 'target': u'wincertstore', 'width': u'1'},
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            'source': u'setuptools', 'target': u'setuptools__ssl',
            'width': u'1'},
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            {'color': u'#5F9EA0', 'descr': u'\u2192', 'link': u'',
            'source': u'wheel', 'target': u'pyxdg', 'width': u'1'}]}
```

```
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 u'r': u'6'},
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{u'color': u'#5F9EA0', u'link': u'', u'name': u'virtualenv', u'r': u'6'},
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{u'color': u'#5F9EA0', u'link': u'', u'name': u'pyxdg', u'r': u'6'},
{u'color': u'#5F9EA0', u'link': u'', u'name': u'jsonschema', u'r': u'6'},
{u'color': u'#5F9EA0', u'link': u'', u'name': u'coverage', u'r': u'6'},
{u'color': u'#5F9EA0', u'link': u'', u'name': u'pytest-cov',
 u'r': u'6'}],
u'time': u'2015-05-08T03:52:59.542732'}
```

References

py_deps.deps module.

class `py_deps.deps.Container` (*cache_name=None*)
Bases: `object`

Package container class.

load_cache ()
Load cache file.

read_data (*key*)
Read traced_chain data.

Return type list

Returns dependency chain list

Parameters **key** (*str*) – package name

save_cache ()
Save cache file.

store_data (*key, data*)
Store traced_chain data.

Parameters

- **key** (*str*) – package name
- **data** (*list*) – traced dependency chain data

class `py_deps.deps.Node` (*name, version=None, url=None*)
Bases: `object`

Node object class.

add_targets (*nodes*)
Add targets.

add_test_targets (*nodes*)
Add test targets.

remove_targets (**nodes*)
Remove targets.

class `py_deps.deps.Package` (*name, cache_name=None, update_force=False*)
Bases: `object`

Package class.

cleanup (*alldir=False*)

Cleanup temporary build directory.

Parameters **alldir** (*bool*) – Remove all temporary directories. (default: False)

Return type None

draw (*draw_type=None*)

Generate drawing data.

Parameters **draw_type** (*str*) – [dotlblockdiagllinkdraw]

trace_chain (*pkg_name=None*)

Trace dependency chain.

Parameters **pkg_name** (*str*) – package name

class `py_deps.deps.Target` (*nodename, specs, extras=False*)

Bases: `py_deps.deps.Node`

Target objects.

add_targets (*nodes*)

Add targets.

add_test_targets (*nodes*)

Add test targets.

remove_targets (**nodes*)

Remove targets.

py_deps.graph module.

class `py_deps.graph.Graph` (*chain_data*)

Bases: object

Graph data generate abstract class.

generate_nodes ()

Generate nodes data.

class `py_deps.graph.Linkdraw` (*chain_data*)

Bases: `py_deps.graph.Graph`

Linkdraw object class.

generate_data ()

Generate Linkdraw data.

generate_edges ()

Generate edges data.

generate_nodes ()

Generate nodes data.

class `py_deps.graph.Metadata`

Bases: object

Metadata object class.

class `py_deps.graph.Networkx` (*chain_data*)

Bases: `py_deps.graph.Graph`

Networkx object class.

generate_data()

Generate networkx graph data.

generate_edges()

Generate edges data.

generate_nodes()

Generate nodes data.

`py_deps.graph.pretty_print(chain_data)`

Pretty print on terminal.

Parameters `chain_data` (*list*) – List of *deps.Node*

`py_deps.graph.router(chain_data, draw_type=None)`

Routing drawing tool.

Design notes

4.1 Memo

purpose	setup.py	Egg	wheel (metadata.json)
requires	install_requires	requires.txt	run_requires.requires
no PyPI	dependency_links	dependency_links.txt	
optional	extras_require		extras
extra resource			run_requires.extra
test			test_requires.requires

History

5.1 0.3.0 (2015-05-12)

- Supports NetworkX DiGraph objects.
- Changes to use mock instead of `pip.req.RequirementSet.prepare_files`.
- Coverage 98% over.

5.2 0.2.0 (2015-05-10)

- Cache the parsed dependencies.
- Fixes setting the url of node and targets.

5.3 0.1.1 (2015-05-08)

- Fixes test data of `pretty_print`, `linkdraw`.

5.4 0.1.0 (2015-05-07)

- Supports generating `linkdraw` data.
- Supports pip 6.1.1 over.
- Supports wheel format for distribution.
- Adds unit tests.

5.5 0.0.1 (2015-04-29)

- First release

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