

A close-up photograph of a baby's face and hands. The baby is holding a black smartphone with both hands, looking at the screen with an open mouth. The background is slightly blurred, showing a light-colored surface.

@brmzkw

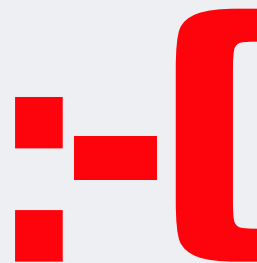
github.com/brmzkw

PYTHON



PACKAGING

=



CLOUD COMPUTING DIVISION OF **ONLINE.NET**

SPAWN **BAREMETAL** AND **VIRTUAL CLOUD SERVERS**

>2 TBIT/S OF INTERNET BANDWIDTH

4 DATACENTERS IN FRANCE

10S OF THOUSANDS SERVERS IN PRODUCTION

WORKERS

BILLING SYSTEM

APIs

ANALYTICS

60

PYTHON PROJECTS

BOTS

DEPLOYMENT SCRIPTS

Celery **SQLAlchemy**
Arrow **boto** **Raven**

many
PYTHON DEPENDENCIES

Slumber
Elasticsearch

Alembic

Jinja

Flask

Fluent

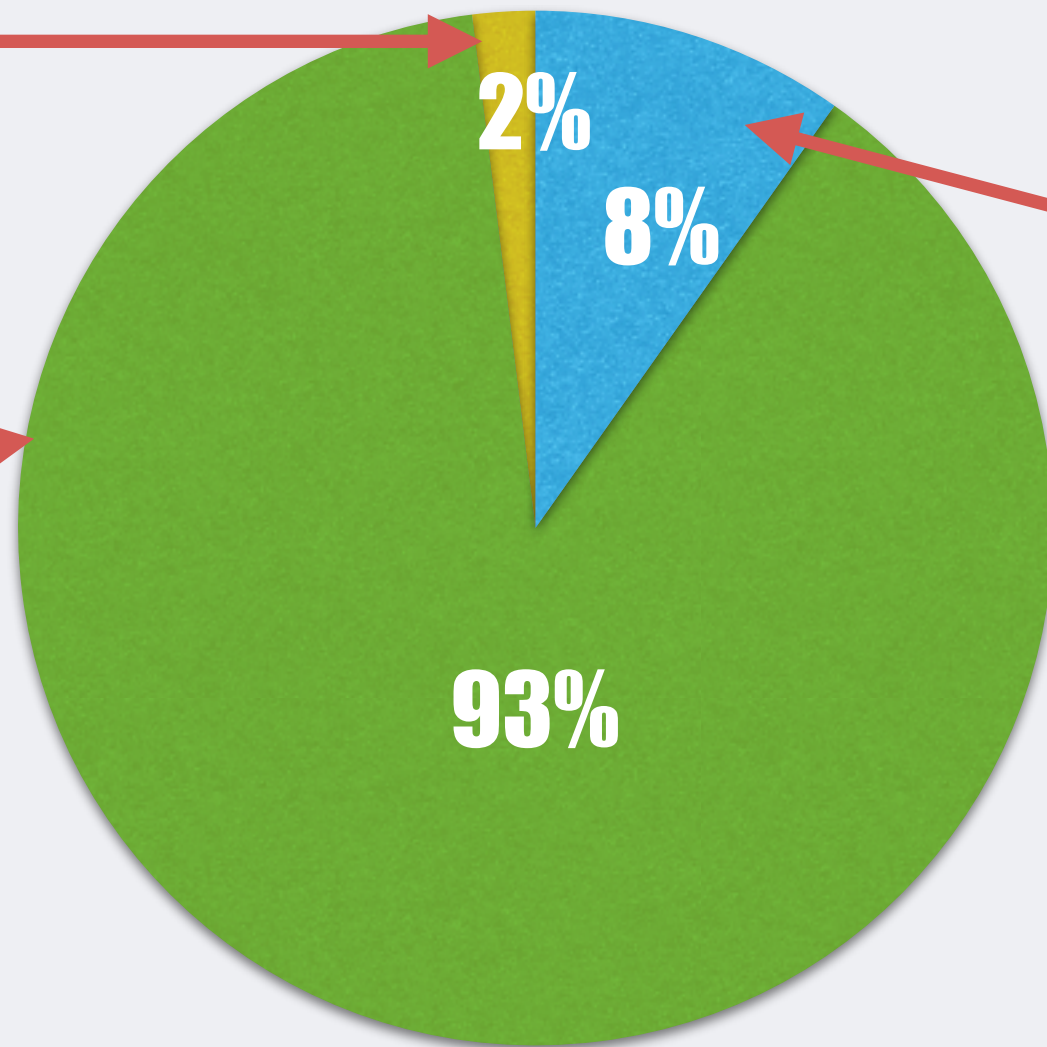
Pytz

STATISTICS

What is your opinion about python packaging?

MY PARENTS

NO EXPERIENCE
WITH PYTHON
PACKAGING



HAVE AN EXPERIENCE
WITH PACKAGING

● It works



● CAN YOU REPEAT THE QUESTION?

github.com/brmzkw/python-packaging-sucks

A SIMPLE PACKAGE


```
setup(  
    name='myapi',  
    ...  
    install_requires=[  
        'requests', 'flask'  
    ],  
    entry_points={  
        'console_scripts': [  
            'myapi = myapi.wsgi:run',  
        ],  
    },  
)
```

INSTALL MYAPI

```
$> virtualenv /tmp/venv
$> source /tmp/venv/bin/activate

$> pip install .
# generate a .egg-link
$> pip install -e .

$> myapi
```

UPLOAD MYAPI

```
$> python setup.py register  
$> python setup.py sdist upload  
# and bdist_egg, bdist_wheel
```


DOWNLOAD MYAPI

```
$> virtualenv /tmp/venv  
$> source /tmp/venv/bin/activate  
  
$> pip install myapi
```


... AND MORE

- **More metadata: description, classifiers, author**
- **Depend on a specific version: `requests >=2.5.0`**
- **On a very specific version: `requests >=2.5.0, <2.6`**

DEPENDENCIES



requests
(`< 2.5.0`)

requests
(any version)

mylib

myapi

INSTALL MYAPI

```
$> cd myapi  
$> pip install .
```


INSTALL MYAPI

```
$> cd myapi
```

```
$> pip install .
```

```
$> python -c 'import mylib'
```

```
$> python -c 'import myapi'
```

INSTALL MYAPI

```
$> cd myapi
```

```
$> pip install .
```

```
$> python -c 'import mylib'
```

```
$> python -c 'import myapi'
```

```
$> my-api-entriypoint
```

INSTALL MYAPI

```
$> cd myapi
```

```
$> pip install .
```

```
$> python -c 'import mylib'
```

```
$> python -c 'import myapi'
```

```
$> my-api-entriypoint
```

```
pkg_resources.ContextualVersionConflict: (requests 2.11.1 (/tmp/venv/lib/  
python2.7/site-packages/requests-2.11.1-py2.7.egg),  
Requirement.parse('requests<=2.5.0'), set(['mylib']))
```

INSTALL MYAPI

```
$> cd myapi
```

```
$> pip install .
```

```
error: requests 2.11.1 is installed but requests<=2.5.0 is required by set(['mylib'])
```

```
$> python -c 'import mylib'
```

```
$> python -c 'import myapi'
```

```
$> my-api-entriypoint
```

```
pkg_resources.ContextualVersionConflict: (requests 2.11.1 (/tmp/venv/lib/  
python2.7/site-packages/requests-2.11.1-py2.7.egg),  
Requirement.parse('requests<=2.5.0'), set(['mylib']))
```




A close-up photograph of a newborn baby lying on a white cloth. The baby has a surprised expression, with wide eyes and an open mouth showing its tongue. The baby is wearing a blue and white striped shirt. The background is dark and out of focus.

EASY_INSTALL



myproject

A diagram consisting of two purple circles. The left circle contains the text 'myproject' and the right circle contains the text 'mylib'. A yellow line connects the right side of the 'myproject' circle to the left side of the 'mylib' circle.

mylib

```
$> cd mylib
```

```
$> python setup.py bdist_wheel upload
```

TEST MYAPI

```
$> cd myproject
```

```
$> python setup.py nosetests
```


TEST MYAPI

```
$> cd myproject
```

```
$> python setup.py nosetests
```

```
error: Could not find suitable distribution for Requirement.parse('mylib')
```



DEPENDENCY-LINKS

```
graph LR; A((my project)) --- B((requests (3.0.0)))
```

my project

requests
(3.0.0)




```
setup(  
    install_requires=['requests >=3.0.0.dev'],  
    dependency_links=[  
        'git+https://github.com/<repo>@<branch>#egg=requests-3.0.0.dev'  
    ]  
)
```

INSTALL **MYPROJECT**

```
$> pip install --process-dependency-links
```


INSTALL MYPROJECT

```
$> pip install --process-dependency-links
```

```
...
```

```
DEPRECATION: Dependency Links processing has been deprecated and will be removed in a future release.
```

```
Collecting requests>=3.0.0.dev (from myproject==0.1.0)
```

```
Cloning https://github.com/kennethreitz/requests.git (to proposed/3.0.0) to /tmp/pip-build-SyUGAA/requests
```

```
Installing collected packages: requests, myproject
```

```
  Running setup.py install for requests ... done
```

```
  Running setup.py install for myproject ... done
```

```
Successfully installed myproject-0.1.0 requests-3.0.0
```

INSTALL MYPROJECT

```
$> pip install --process-dependency-links
```

...

DEPRECATION: Dependency Links processing has been deprecated and will be removed in a future release.

Collecting requests>=3.0.0.dev (from myproject==0.1.0)

Cloning https://github.com/kennethreitz/requests.git (to proposed/3.0.0) to /tmp/pip-build-SyUGAA/requests

Installing collected packages: requests, myproject

Running setup.py install for requests ... done

Running setup.py install for myproject ... done

Successfully installed myproject-0.1.0 requests-3.0.0



RELOCATABLE VIRTUALENVS

MOVE A VIRTUALENV

```
$> virtualenv venv
```

```
$> mv venv/ supervenv/
```

```
$> source supervenv/bin/activate
```

```
(venv) $> which python  
/usr/local/bin/python
```

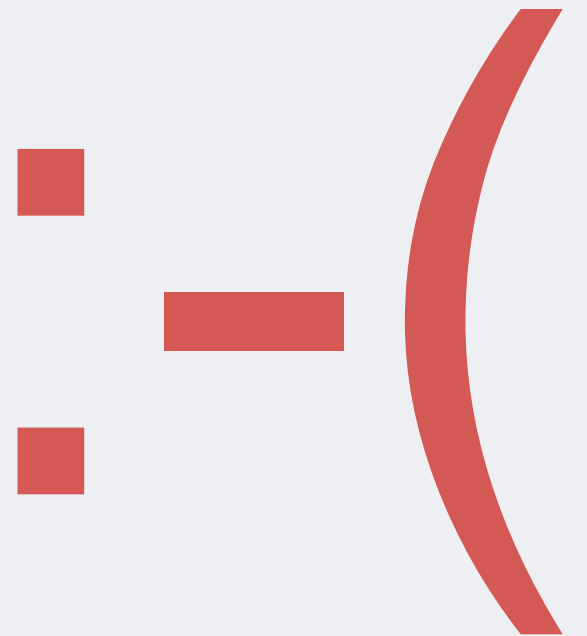
MOVE A VIRTUALENV

```
$> virtualenv venv
```

```
$> mv venv/ supervenv/
```

```
$> source supervenv/bin/activate
```

```
(venv) $> which python  
/usr/local/bin/python
```



--RELOCATABLE

```
$> virtualenv venv  
$> virtualenv --relocatable venv  
  
$> mv venv/ superenv/  
  
$> ./superenv/bin/python  
$> ./superenv/bin/pip  
$> ./superenv/bin/<entrypoint>
```


LOCAL PYPI

PYSHOP

- **SQLITE?**
- **Web interface to edit permissions?**
- **Powerful search?**
- **pypi compliant: project register?**
- **PEP-503 compliant?**

DEVPI

- **COMPLEX DOCUMENTATION**
- **POSTGRESQL BACKEND**
- **UI :-)**

BUT...

- **INDEX INHERITANCE**
- **CLI**
- **CACHE**

DOCKER DEVPI

```
$> docker run -ti --name devsrv -p 4040:4040 brmzkw/devpi-server  
  
$> docker run --rm -ti --link devsrv brmzkw/devpi-client  
# devpi use http://devsrv:4040  
# devpi login root  
# devpi index -c mycompany bases=root/pypi
```


QUESTIONS?

FULLSTACK DEV?
SCALEWAY.COM/JOBS

QUESTIONS?

DEVOPS?

[SCALEWAY.COM/JOBS](https://scaleway.com/jobs)

QUESTIONS?

SYSADMIN?
[SCALEWAY.COM/JOB](https://scaleway.com/jobs)S

QUESTIONS?

**FULLSTACK DEV? DEVOPS? SYSADMIN?
[SCALEWAY.COM/JOBS](https://scaleway.com/jobs)**