
Virtual Environments & Standalone Runtimes in Python

The Why, What and How?

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What?

Virtual Envs & Standalone Runtimes

- Why?
- What?
 - Virtualenv
 - Standalone runtimes
- How?
 - Virtualenv
 - Edm, conda

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What?

- Virtual Environments
 - Create isolated Python envs with a shared runtime, System Python.
- Standalone Runtimes
 - Create isolated Python envs with separate runtimes.

Why?

Virtual environments & Standalone runtimes

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Why?

Because you might have to work on two projects, one needing numpy v1 and another needing numpy v2.

How?

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How? - Virtual environments

Virtual environments

- On Python 2, you need to install virtualenv.
- On Python 3, it comes pre-installed.

Note : virtualenv caches the packages/eggs you install.

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How? - Virtual environments

```
virtualenv custom_py_venv
```

```
source custom_py_venv/bin/activate
```

```
pip install numpy
```

```
deactivate
```

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How? - Virtual environments

As long as we put in the time and effort to work with virtual environments, let's also use a requirements file.

With explicit version numbers, if possible. For reproducibility.

```
pip -e requirements.txt
```

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How? - Standalone runtimes

- ActiveState Python.
- Conda, by ContinuumIO. Command line. Also comes with a GUI equivalent.
- edm, by Enthought. Command line. Canopy is the GUI equivalent.

Both conda and edm cache packages/eggs you install.

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How? - Standalone runtimes

```
conda create --name custom_py_env
```

```
source activate custom_py_env
```

```
conda install numpy
```

```
source deactivate
```

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How? - Standalone runtimes

```
edm envs create custom_py_env
```

```
edm shell -e custom_py_env
```

```
edm install numpy
```

```
exit
```

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References

<https://virtualenv.pypa.io/en/stable/>

<https://pip.readthedocs.io/en/1.1/requirements.html>

<http://docs.enthought.com/edm/>

<https://conda.io/docs/index.html>