

Anaconda

Learning how to Make Life Easier with Anaconda

PyData DC 2016

October 7, 2016

Python Packaging at PayPal

By [Mahmoud Hashemi](#) September 7, 2016

[anaconda](#) [Enterprise](#) [Open Source](#) [packaging](#) [python](#)

Year after year, Pythonists all over are churning out more code than ever. People are learning, the ecosystem is flourishing, and everything is running smoothly, right up until packaging. Packaging Python is fundamentally un-Pythonic. It can be a tough lesson to learn, but across all environments and applications, there is no one obvious, right way to deploy. Frankly, it's hard to think of an area where [Python's Zen](#) applies less.



<https://www.paypal-engineering.com/2016/09/07/python-packaging-at-paypal/>

Pythonic Perambulations

Musings and ramblings through the world of Python and beyond

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AUG 25, 2016

Conda: Myths and Misconceptions

I've spent much of the last decade using Python for my research, teaching Python tools to other scientists and developers, and developing Python tools for efficient data manipulation, scientific and statistical computation, and visualization. The Python-for-data landscape has changed immensely since I first installed NumPy and SciPy from via a flickering CRT display. Among the new developments since those early days, the one with perhaps the broadest impact on my daily work has been the introduction of [conda](#), the open-source cross-platform package manager first released in 2012.

<https://jakevdp.github.io/blog/2016/08/25/conda-myths-and-misconceptions/>

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Python...



- well-established programming language
- fastest growing language for data science

Open Data Science



Python Jupyter R
Orange3 Gurobi

Data



Hadoop Spark JSON Cloudera

Computation



AMD NVIDIA Intel IBM



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- Scaling Up & Out Data Science to Meet Performance Goals
- Deploying Data Science Models & Visualizations Easily



- Conda: package dependency & environment manager
- included in Anaconda platform

miniCONDA

- Miniconda: lightweight Anaconda distribution
- includes conda & high performance Python

What problem does conda solve?

Frustrations...



1. installing software (& dependencies)
2. working with distinct software versions
 - (e.g., Python 2 & Python 3)

Analogy



- receive Wordy document (word-processor)

Problem #1



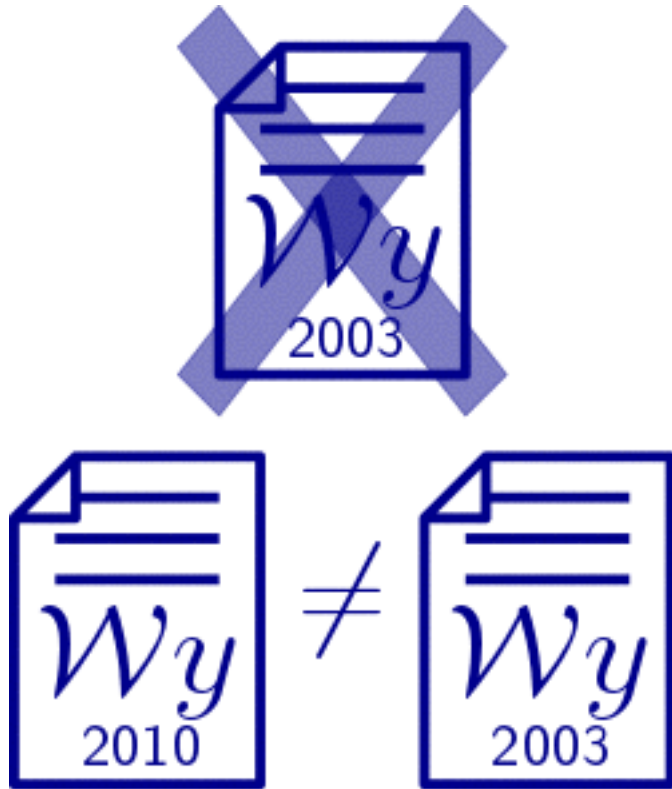
- Wordy not installed

Analogy



- receive Wordy 2003 document (word-processor)

Problem #2



- Wordy 2010 installed
 - wrong version

Two distinct problems

- **Missing software problem**
 - need to install missing software
- **Incompatible version problem**
 - need to manage multiple incompatible software versions
- Two subtly different challenges

Package managers

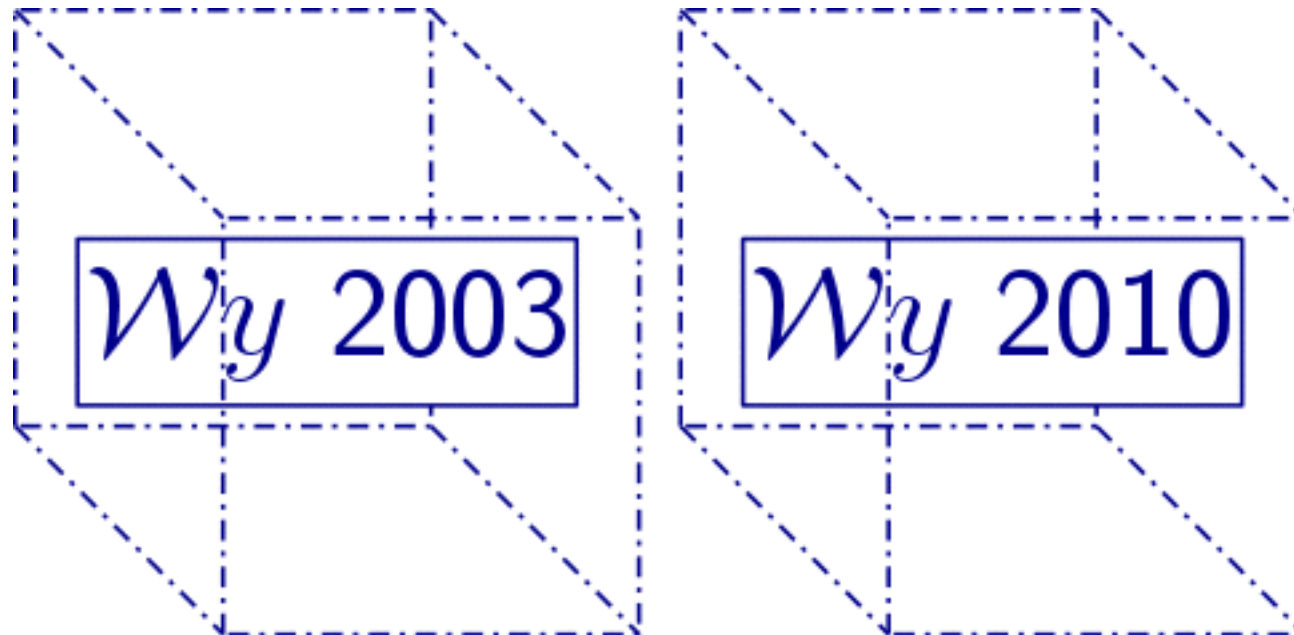
- Package managers solve *missing software* problem
 - e.g., Google Play (Android)
 - e.g., msys2 (Windows)
 - e.g., homebrew (Mac)
 - e.g., dnf (Linux)
 - e.g., apt-get (Linux)
 - e.g., pip (Python)
 - e.g., easy_install (Python)

Environment managers

- Environment managers solve *incompatible version* problem
 - e.g., virtualenv (Python)

Environments

- Environments isolate software versions
 - e.g., Wordy 2003 & Wordy 2010



Conda to the Rescue

- Both package & environment manager
 - missing software \Rightarrow conda install
 - incompatible version \Rightarrow conda create



Anaconda

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