

Jupyter Notebooks

This document is an aid for the workshop

*Introduction to the Jupyter Notebook for
Social Survey and Administrative Social
Science Data Analysis*

Q – Step Edinburgh, January 2017

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University of Edinburgh
@profbigvern



Jupyter Notebooks

Setting up Jupyter Notebooks can be fiddly. This pdf shows some screen shots and provides a few notes. It is **NOT** a comprehensive document on setting up Jupyter Notebooks.

Computers, operating systems, university networks, access and permission vary.

You may need to get help or support from an information technology specialist in your own department or university.

Good Luck.



Installing Jupyter

Get up and running with the Jupyter Notebook on your computer within minutes! Follow the instructions below.

Prerequisite: Python

While Jupyter runs code in many programming languages, it has a minimum system requirement (Python 3.3 or greater, or Python 2.7) for installing the Jupyter Notebook. We recommend using the [Anaconda](#) distribution to install Python and Jupyter. We'll go through its installation in the next section.

Installing Jupyter using Anaconda and conda

For new users, we **highly recommend** [installing Anaconda](#). Anaconda conveniently installs Python, the Jupyter Notebook, and other commonly used packages for scientific computing and data science.

We recommend using the Anaconda distribution to install Python and Jupyter. We'll go through its installation in the next section.

- Download [Anaconda](#). We recommend downloading Anaconda's latest Python 3 version (currently Python 3.5).
- Install the version of Anaconda which you downloaded, following the instructions on the download page.
- Congratulations, you have installed Jupyter Notebook. To run the notebook:

```
jupyter notebook
```



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Anaconda**CON 2017!**

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Anaconda 4.2.0

For Windows

Anaconda is BSD licensed which gives you permission to use Anaconda commercially and for redistribution.

[Changelog](#)

1. Download the installer
2. Optional: Verify data integrity with [MD5 or SHA-256](#) [More info](#)
3. Double-click the **.exe** file to install Anaconda and follow the instructions on the screen

Behind a firewall? Use these [zipped Windows installers](#)

Python 3.5 version

64-BIT INSTALLER (391M)

32-BIT INSTALLER (333M)

Python 2.7 version

64-BIT INSTALLER (381M)

32-BIT INSTALLER (324M)

THANK YOU FOR DOWNLOADING ANACONDA!



Get Started with the Anaconda Cheat Sheet

* Work Email

vernon.gayle@ed.ac.uk

GET THE CHEAT SHEET

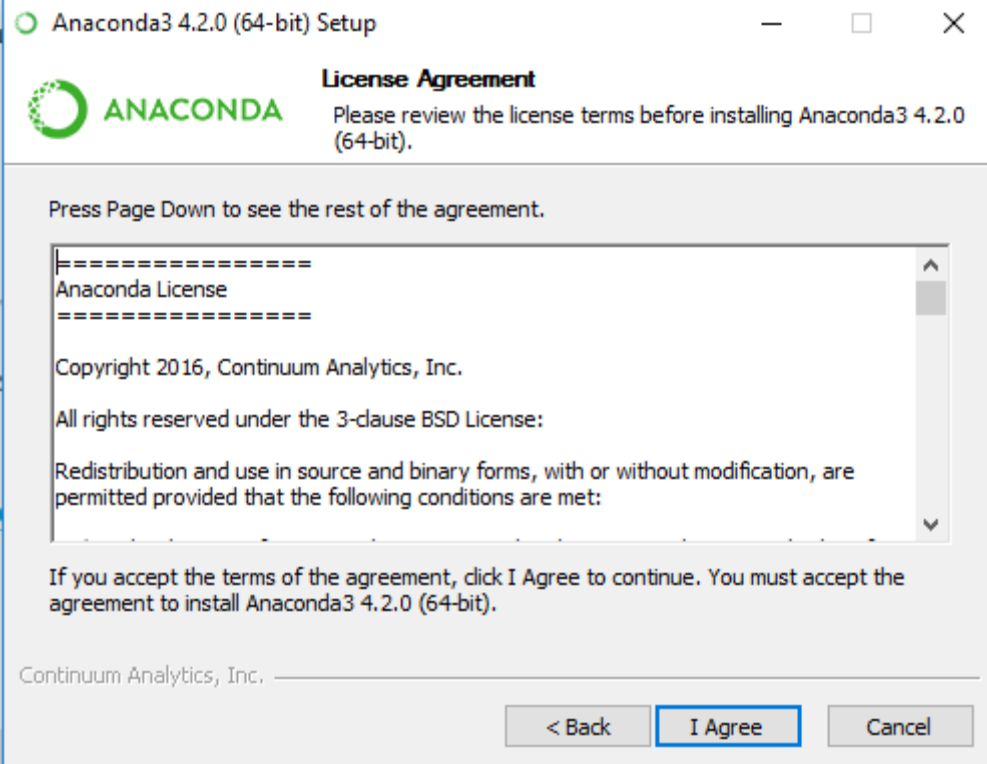
NO THANKS



Anaconda3-4.2.0-....exe







Anaconda3 4.2.0 (64-bit) Setup



Select Installation Type

Please select the type of installation you would like to perform for Anaconda3 4.2.0 (64-bit).

Install for:

- ☒ Just Me (recommended)
- ☐ All Users (requires admin privileges)

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Next >

Cancel

Anaconda3 4.2.0 (64-bit) Setup



ANACONDA

Choose Install Location

Choose the folder in which to install Anaconda3 4.2.0 (64-bit).

Setup will install Anaconda3 4.2.0 (64-bit) in the following folder. To install in a different folder, click Browse and select another folder. Click Next to continue.

Destination Folder

C:\Users\Hannah\vernon\

Browse...

Space required: 1.8GB

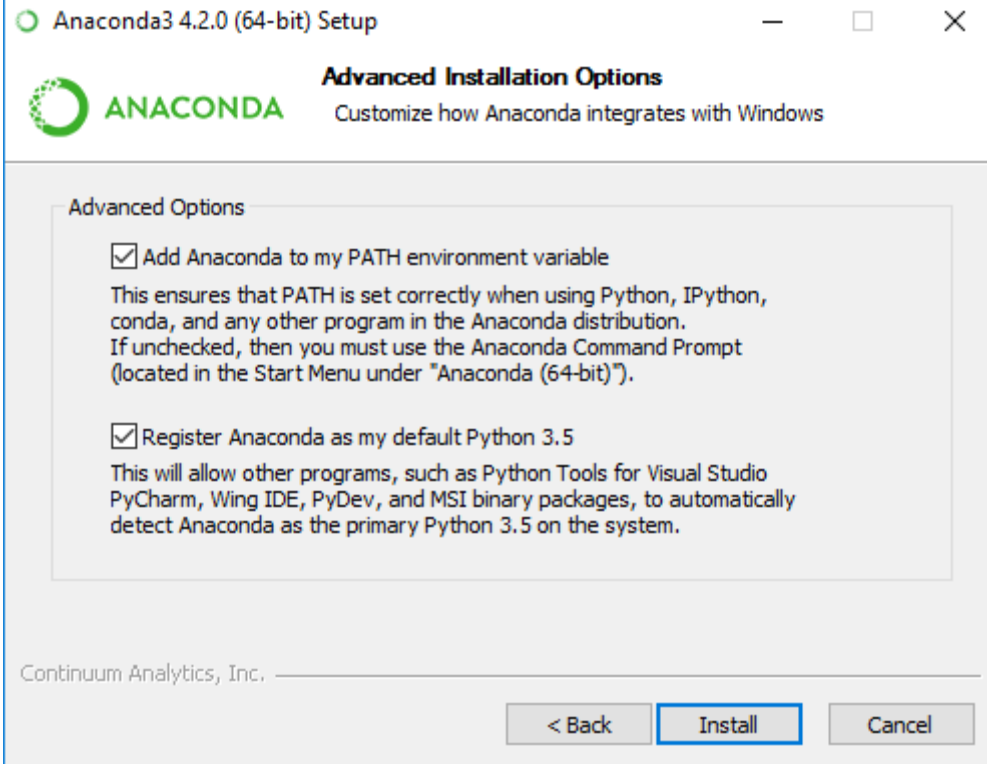
Space available: 820.4GB

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Next >

Cancel



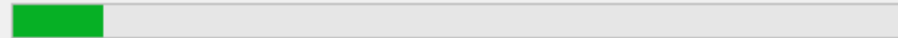
Anaconda3 4.2.0 (64-bit) Setup



Installing

Please wait while Anaconda3 4.2.0 (64-bit) is being installed.

Installing: python-3.5.2-0 (into root)



Show details

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Anaconda3 4.2.0 (64-bit) Setup



Thanks for installing Anaconda!

Anaconda is a modern open source analytics platform powered by Python.

Share your notebooks, packages and environments on Anaconda Cloud!

☒ Learn more about Anaconda Cloud

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Finish

Cancel

Welcome, vernongayle to Anaconda Cloud



Anaconda Cloud <server@anaconda.org>

Today, 20:00

GAYLE Vernon

Thanks for signing up for Anaconda Cloud!

Please click the link below to confirm activation of your Anaconda Cloud account:

<https://anaconda.org/account/confirm>

[:vernongayle%ed.ac.uk](#)

Anaconda Cloud is currently an early-release service. We appreciate your feedback, questions and suggestions. As appropriate, we encourage you to use the Anaconda Cloud issue tracker or email our support team.

You may find the following resources helpful as you familiarize yourself with Anaconda Cloud:

Documentation: <http://docs.anaconda.org>

Issue Tracker: <https://github.com/Anaconda-Server/support/issues>

Email Support: support@anaconda.org

Sincerely, The Anaconda Cloud team

You successfully confirmed your email address [vernon.gayle@ed.ac.uk](#)



My Anaconda Landscape

Packages

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Get more information on how to [create a Package](#).

Notebooks

[View all \(0\)](#)

Get more information on how to [create a Notebook](#).

Environments

[View all \(0\)](#)

Get more information on how to [create an Environment](#).

Favorites

[View all \(0\)](#)

Favorite some packages, notebooks, and environments to get started!

Activity Feed

Welcome to Anaconda Cloud! 2 minutes and a few seconds ago

Anaconda Cloud allows you to create or distribute software packages.

Getting started: [Installing your first package](#)

Getting started: [Distributing your first package](#)

jupyter



Filters

Type: All ▾

Access: All ▾

Platform: All ▾

⬅ Favorites

▾ Downloads

⬅ Package (owner / package)

Platforms

1

84522

 [conda-forge / jupyter_core](#) 4.2.1

Core common functionality of Jupyter projects.

conda

linux-64
osx-64
win-32
win-64



Recently added



Anaconda Prompt



Reset Spyder Settings



Jupyter QtConsole

Expand ▾

Most used



Google Chrome



Word 2013



PowerPoint 2013



CampusNet Connect



Acrobat Reader DC



Remote Desktop Connection



Suggested



Dungeon Gems

★★★★★

Free*

#



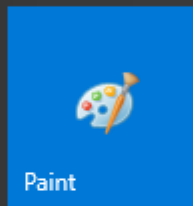
3D Builder

Life at a glance

Partly Sunny

8° 12°
4°









Berkeley



Jupyter Notebook

```
[I 20:15:36.570 NotebookApp] [nb_conda_kernels] enabled, 2 kernels found
[I 20:15:36.610 NotebookApp] Writing notebook server cookie secret to C:\Users\Hannah\AppData\Roaming\jupyter\runtime\notebook_cookie_secret
[I 20:15:40.959 NotebookApp] [nb_conda] enabled
[I 20:15:43.781 NotebookApp] [nb_anacondacloud] enabled
[I 20:15:45.613 NotebookApp] \u2713 nbpresent HTML export ENABLED
[W 20:15:45.624 NotebookApp] \u2717 nbpresent PDF export DISABLED: No module named 'nbbrowserpdf'
[I 20:15:45.733 NotebookApp] Serving notebooks from local directory: C:\Users\Hannah\Documents
[I 20:15:45.733 NotebookApp] 0 active kernels
[I 20:15:45.733 NotebookApp] The Jupyter Notebook is running at: http://localhost:8888/
[I 20:15:45.734 NotebookApp] Use Control-C to stop this server and shut down all kernels (twice to skip confirmation).
```

Launching the Jupyter Notebook

Name	Date modified	Type	Size
 Anaconda Cloud	24/01/2017 20:03	Shortcut	2 KB
 Anaconda Navigator	24/01/2017 20:03	Shortcut	3 KB
 Anaconda Prompt	24/01/2017 20:03	Shortcut	3 KB
 IPython	24/01/2017 20:03	Shortcut	3 KB
 Jupyter Notebook	24/01/2017 20:03	Shortcut	3 KB
 Jupyter QtConsole	24/01/2017 20:03	Shortcut	3 KB
 Reset Spyder Settings	24/01/2017 20:03	Shortcut	3 KB
 Spyder	24/01/2017 20:03	Shortcut	3 KB



Files

Running

Clusters

Conda

Select items to perform actions on them.

Upload

New



Custom Office Templates



CyberLink



Python Scripts



Acknowledgements_20160701_vg_v1 hbs.docx



Book1.xlsx



christmas odds.pptx



Use this one NC3Rs infrastructure outline final what's included.docx



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☐ Use this one NC3Rs infrastructure outline final what's included.docx

☐ vernon ticket.docx

Text File

Folder

Terminals Unavailable

Notebooks

Python [conda root]

Python [default]





File Edit View Insert Cell Kernel Widgets Help

 | Python [default] 

Code ▾  CellToolbar   

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Professor Vernon Gayle

vernongayle

I am Professor of Sociology and Social Statistics at the University of Edinburgh.

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The Administrative Data Research Centre Scotland - Codefest

● Stata

[tutorials](#)

Forked from [turi-code/tutorials](#)


This repository contains materials for demos, tutorials, and talks by Dato Inc.

● Jupyter Notebook




[qstep_jupyter](#)

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26 commits1 branch0 releases1 contributor

Branch: master New pull request>Create new fileUpload filesFind fileClone or download

 vernongayle committed on GitHub	Jupyter Notebook Q-Step	Latest commit e31c30d 7 minutes ago
 README.md	Update README.md	9 hours ago
 q_step_slide.jpg	Q-Step Slide	2 days ago
 qstep_20170125_vg_v2.ipynb	Jupyter Notebook Q-Step	7 minutes ago
 qstep_20170125_vg_v2.pdf	Q-Step Jupyter Notebook (pdf)	10 minutes ago
 wemp.dta	Stata wemp.dta data file	2 days ago
 wemp.xlsx	An Excel version of the wemp.dta file	2 days ago

README.md

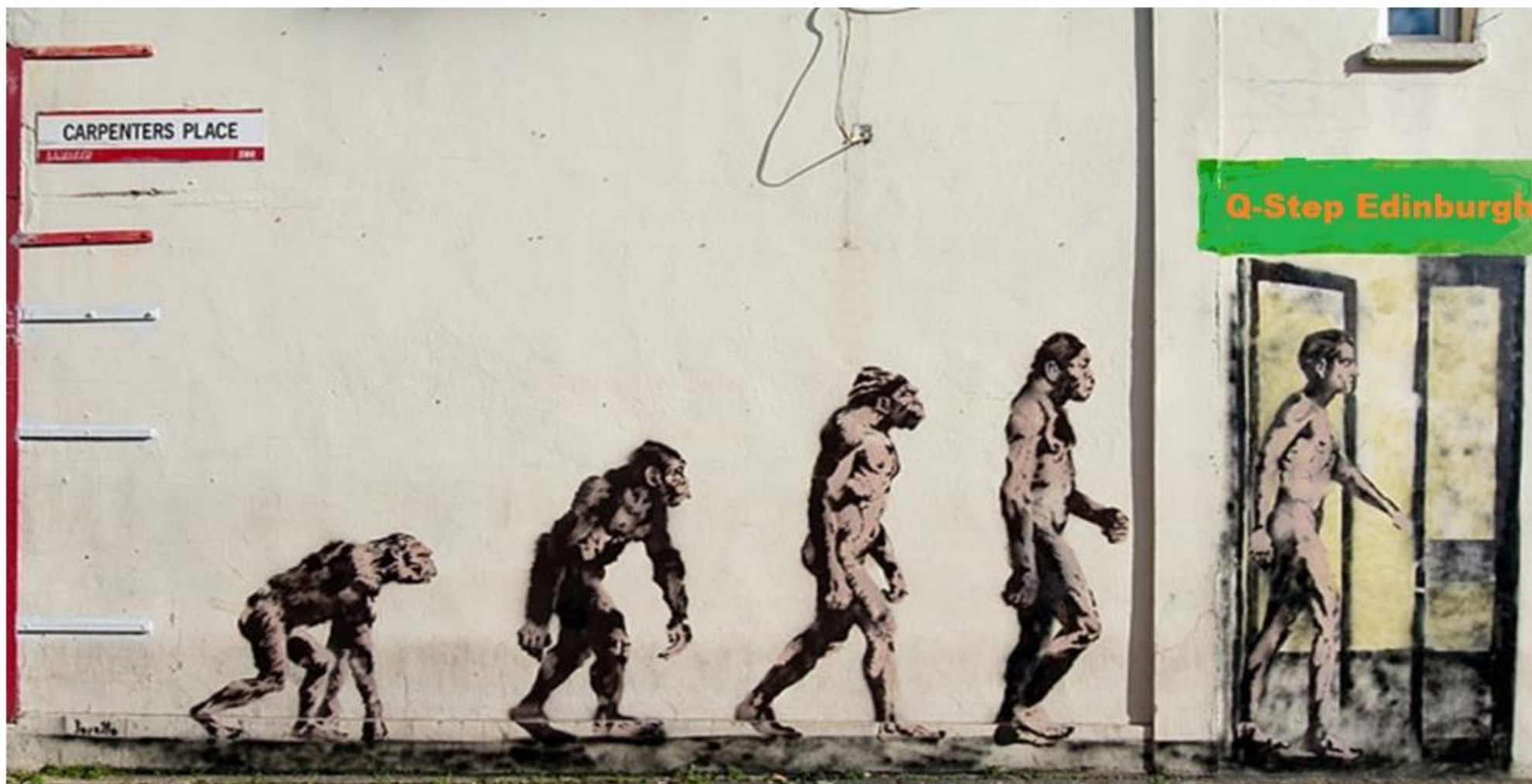
Jupyter Notebook Repository for Q-Step Edinburgh

An introduction to Jupyter Notebooks - a quick-step towards literate computing and reproducible research

The material in the repository is designed for Edinburgh Q-Step students (<http://www.q-step.ed.ac.uk/>) who wish to use Jupyter Notebooks.

The material supports a Edinburgh Q-Step Workshop held in January 2017.

Q-Step Edinburgh Jupyter Notebook



Installing the R Kernel

1. At the conda prompt type *conda install -c r r-irkernel=0.7.1*

See <https://anaconda.org/r/r-irkernel>

2. Alternatively, try *conda install -c r r-essentials=1.5.1*

See <https://anaconda.org/r/r-essentials>



0

Anaconda Prompt

```
(C:\Users\Hannah\vernon\anaconda) C:\Users\Hannah>conda install -c r r-irkernel=0.7.1_
```

ges

To install this package with conda run:

```
conda install -c r r-irkernel=0.7.1
```

YOU MIGHT NEED TO RESTART JUPYTER!

Installing the R Kernel Another Approach

In R run the following code...

```
install.packages(c('repr', 'IRdisplay','evaluate','crayon','pbdZMQ','devtools',  
'uuid','digest')) devtools::install_github('IRkernel/IRkernel')
```

```
IRkernel::installspec(user = FALSE)
```

YOU MIGHT NEED TO RESTART JUPYTER!

R Analysis

WARNING Switch Kernel

getting the libraries for R

```
In [1]: library(foreign)
library(survey)
```

Loading required package: grid

Attaching package: 'survey'

The following object is masked from 'package:graphics':

dotchart

If you have an error message here it is possibly because you have not switched to the R Kernel

getting the Stata data file (.dta) into an object called "mydata" then summarizing the dataset

```
In [2]: mydata <- read.dta("http://www.vernongayle.com/uploads/2/2/3/0/22304498/wemp.dta")
summary(mydata)
```

```
Out[2]:
```

	case	femp	mune	time
Min. :	1.0	Min. :0.0000	Min. :0.00000	Min. : 0.0
1st Qu.: :	274.0	1st Qu.:0.0000	1st Qu.:0.00000	1st Qu.: 4.0
Median :	538.0	Median :1.0000	Median :0.00000	Median : 8.0
Mean :	517.7	Mean :0.6456	Mean :0.07405	Mean : 7.2

You may need to install R first.....

Secure | <https://www.r-project.org>



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Help With R

The R Project for Statistical Computing

Getting Started

R is a free software environment for statistical computing and graphics. It compiles and runs on a wide variety of UNIX platforms, Windows and MacOS. To [download R](#), please choose your preferred [CRAN mirror](#).

If you have questions about R like how to download and install the software, or what the license terms are, please read our [answers to frequently asked questions](#) before you send an email.

News

- **useR! 2017** (July 4 - 7 in Brussels) has opened registration and more at <http://user2017.brussels/>
- Tomas Kalibera has joined the R core team.
- The R Foundation welcomes five new ordinary members: Jennifer Bryan, Dianne Cook, Julie Josse, Tomas Kalibera, and Balasubramanian Narasimhan.
- **R version 3.3.2 (Sincere Pumpkin Patch)** has been released on Monday 2016-10-31.
- **The R Journal Volume 8/1** is available.
- The **useR! 2017** conference will take place in Brussels, July 4 - 7, 2017.

You MUST have Stata to run Stata!!!!

Using Stata via Magic Cells

IPyStata

Enables the use of Stata together with Python via Jupyter (IPython) notebooks.

Allows the user to write and execute Stata code from within a Jupyter (IPython) Notebook. See the example notebook below for an illustration of the functionality.

Now supports Windows, Mac OS X, and Linux!

Author: Ties de Kok (t.c.j.dekok@tilburguniversity.edu)

Twitter: [@TiesdeKok](https://twitter.com/TiesdeKok)

Homepage: <https://github.com/TiesdeKok/ipy stata>

PyPi: <https://pypi.python.org/pypi/ipy stata>

Documentation: [basic instructions](#) or [example notebook](#)

Example notebook for Mac OS X and Linux users: [batch mode notebook](#)

[gitter](#) [join chat](#)

Want an easy GUI/Tool to open these notebooks? Check out my [Notebook Opener!](#)

Quick access: [Install](#), [Configure](#), [Using IPyStata](#), and [Changelog](#)

Get IPyStata:

You can install IPyStata 0.3.0 using:

```
pip install ipystata
```

Stata Kernel

<https://github.com/jrfiedler/stata-kernel>

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