Installing the R kernel in Jupyter Lab

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5 minute read

I was recently pretty impressed with Jupyter's (http://jupyter.org/) newest creation, the Jupyter Lab IDE. You can test drive an online demostration of Jupyter Lab with a Python and R kernel here (https://mybinder.org/v2/gh/jupyterlab/jupyterlab-demo/18a9793b58ba86660b5ab964e1aeaf7324d667c8?urlpath=lab%2Ftree%2Fdemo

I downloaded a version, and found that the R Kernel was missing! To get the R kernel up and running in Jupyter Lab was a bit more complicated than expected. This guide is meant to break things down step by step.

I did this both at work (PC) and home (OSX).

PC Instructions

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1. Install Anaconda

Download here (https://www.anaconda.com/download/). This gives you a few important things: Jupyter notebooks, and the Anaconda Prompt.

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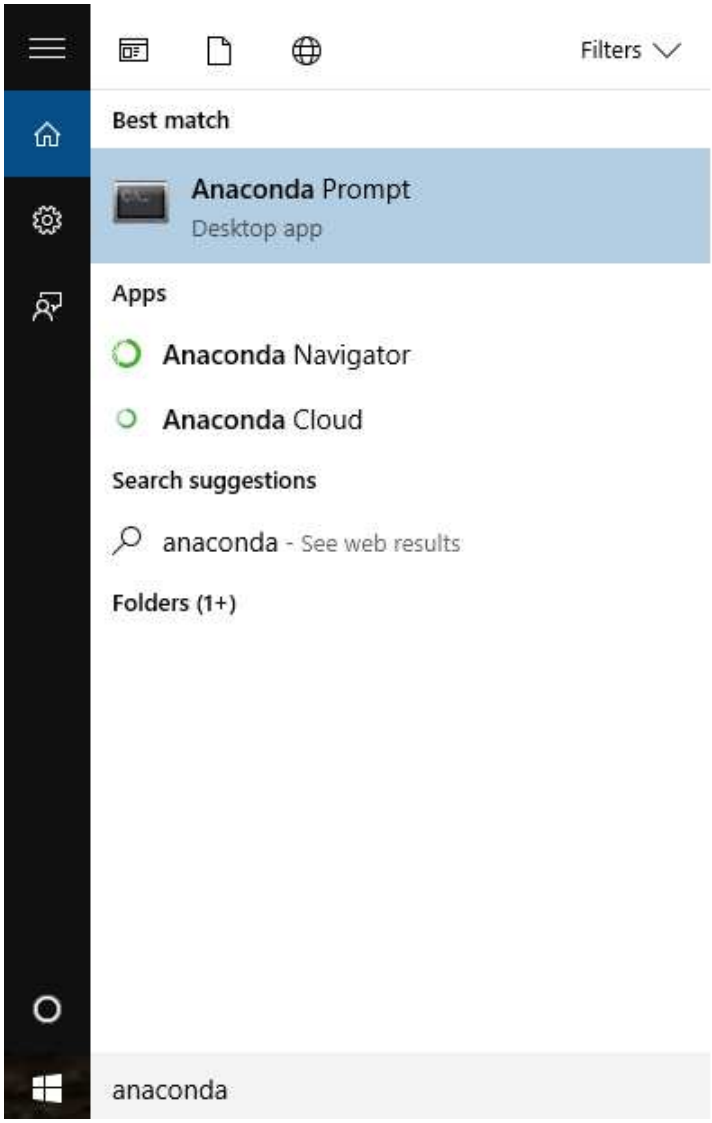
2. Install the Jupyter client

Search for the Anaconda Prompt in your computer, **right click, and run As Adminstrator**.

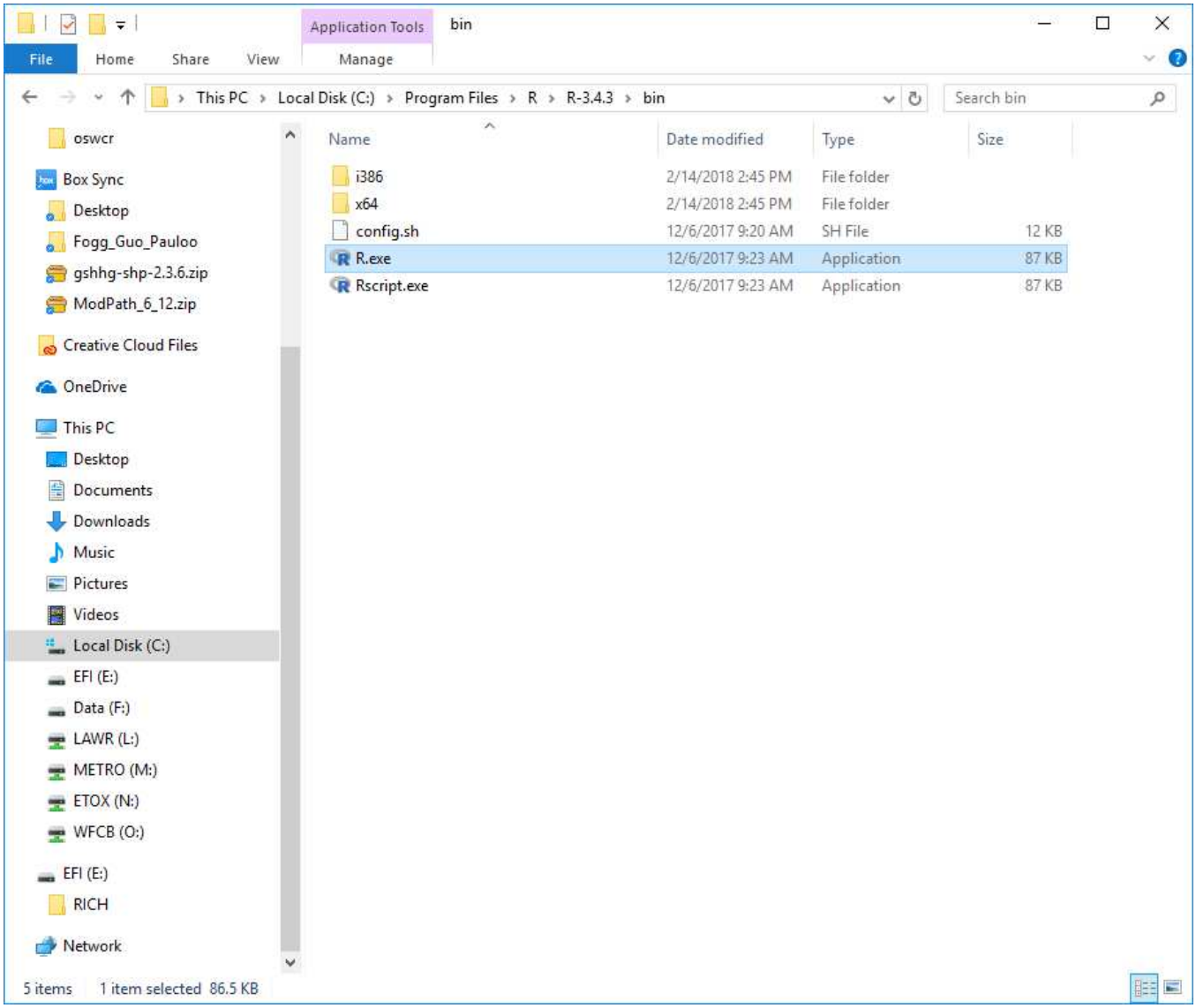
In the prompt type `conda install -c anaconda jupyter_client`.



3. Install the IR Kernel

I assume you have R on your computer. If not, I recommend downloading it here (https://cloud.r-project.org/).

Find the location of `R.exe` on your computer. In my computer this executable is at: `C:\Program Files\R\R-3.4.3\bin.`



Open another Anaconda Prompt as Adminstrator and change directories to wherever `R.exe` is on your computer with `cd file path`. On my computer it's: `cd C:\Program Files\R\R-3.4.3\bin`, but it might be different for you.

Then run R from within Anaconda Prompt in Admin mode with `R.exe`.

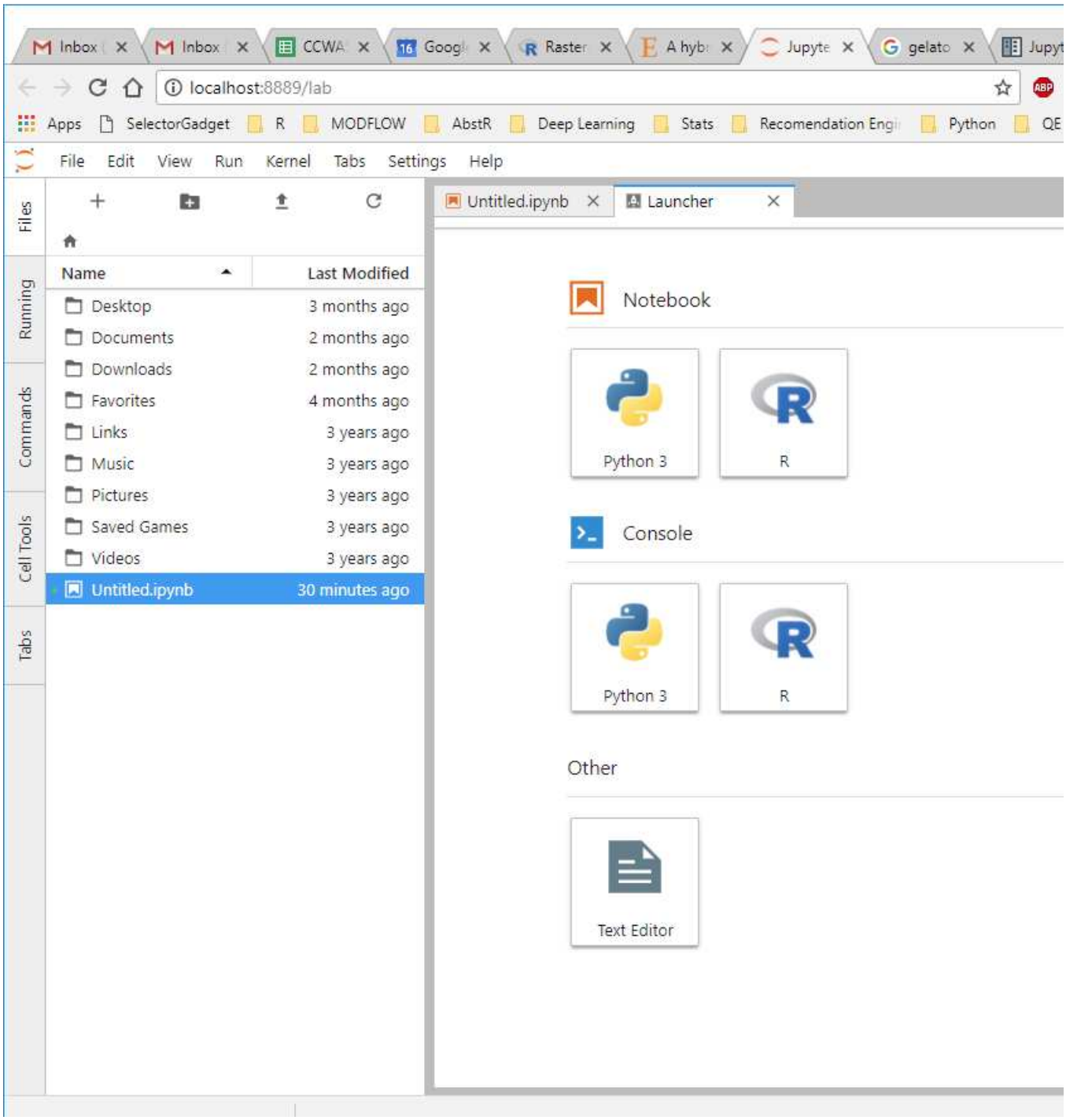
You'll notice that you're in an R session. From here, run the following three commands into the terminal.

1. `install.packages("devtools")`
2. `devtools::install_github("IRkernel/IRkernel")`
3. `IRkernel::installspec()`

In order, they (1) install the devtools package which gets you the `install_github()` function, (2) install the IR Kernel from github, and (3) tell Jupyter where to find the IR Kernel.

4. Open Jupyter Lab and enjoy your new R kernel!

Open Anaconda Prompt and type in `jupyter lab`. Jupyter Lab should launch and display both a python and R kernel.



OSX Instructions

I found installation on my Mac a lot easier. I just followed the steps here (https://irkernel.github.io/installation/).

1. Install Anaconda

Download the Mac version here (https://www.anaconda.com/download/#macos) and run through the setup.

2. Open R and install the necessary packages

Open up the R prompt and enter:

```
install.packages(c('repr', 'IRdisplay', 'evaluate', 'crayon', 'pbdZMQ',

devtools::install_github('IRkernel/IRkernel')
```

---

3. Configure IRkernel from within R

It's important that these next commands are done from within the version of R that you want to link to Jupyter Lab.

I found my version of R in

```
richpauloo$ /Library/Frameworks/R.framework/Versions/3.4/Resources/bin/R
```

Navigate to the version of R you're using, lanuch `R.exe`, and enter:

```
IRkernel::installspec() # install for the current user

IRkernel::installspec(user = FALSE) # install system-wide
```

Fire up Anaconda, launch a Jupyter Lab session, and you should see an R kernel waiting for you!

Lastly, I found the Jupyter Lab User's Guide (https://jupyterlab.readthedocs.io/en/stable/) to be pretty helpful, and you might too.

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