Instructions for Creating an Analysis Environment with Anaconda

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Development Directory

Here, we are going to define the root directory of our analysis environment.

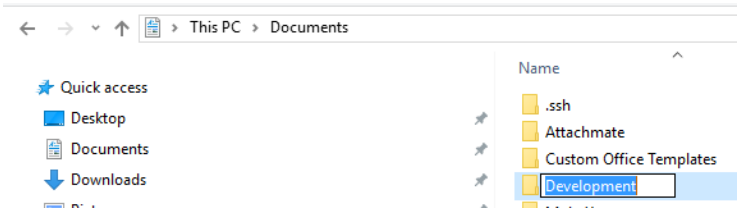

Figure 1: The Root Directory of our Analysis Environment is set to Development

Installation of Miniconda

This section describes steps for installing the Anaconda package manager (Miniconda) for 64-bit Windows 10 laptops and Desktops.

Download Miniconda for 64-bit Windows

Open the Executable

Figure 2: Click on the python3.7 64-bit Windows (exe-installer).

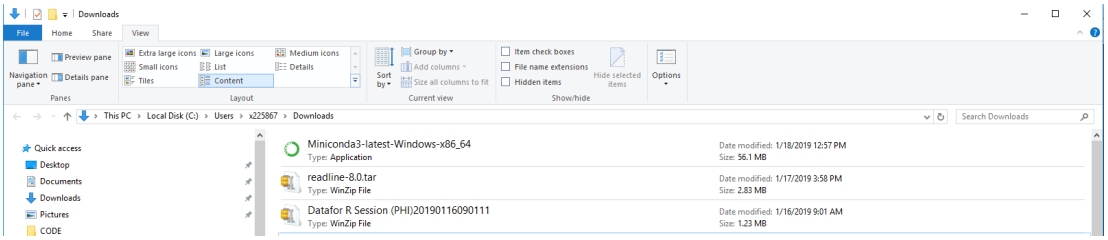

Figure 3: Double click on the file downloaded

Installation Process

Figure 4: Baby Steps

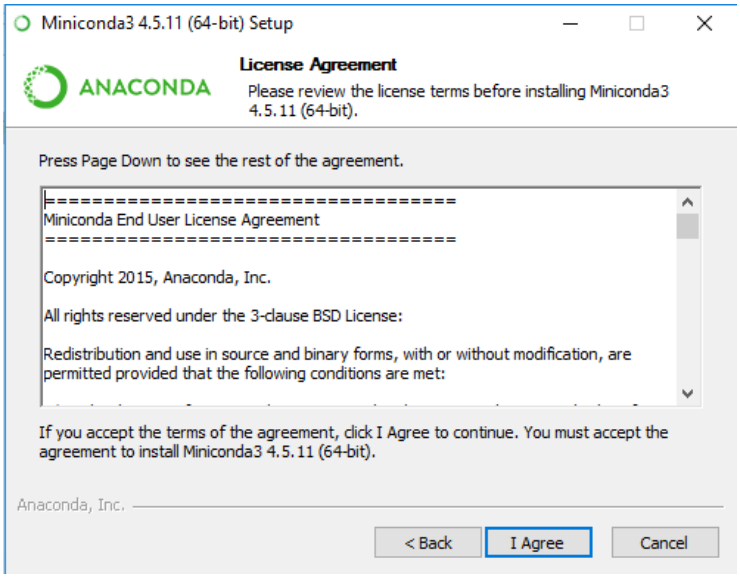

Figure 5: BSD licenses are a family of permissive free software licenses, imposing minimal restrictions on the use and redistribution of covered software.

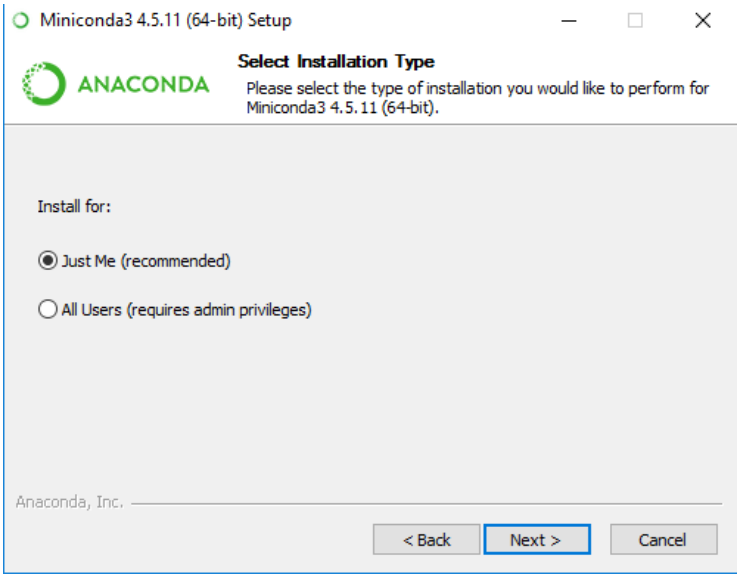

Figure 6: Select the first option (Just Me)

Select Installation Directory

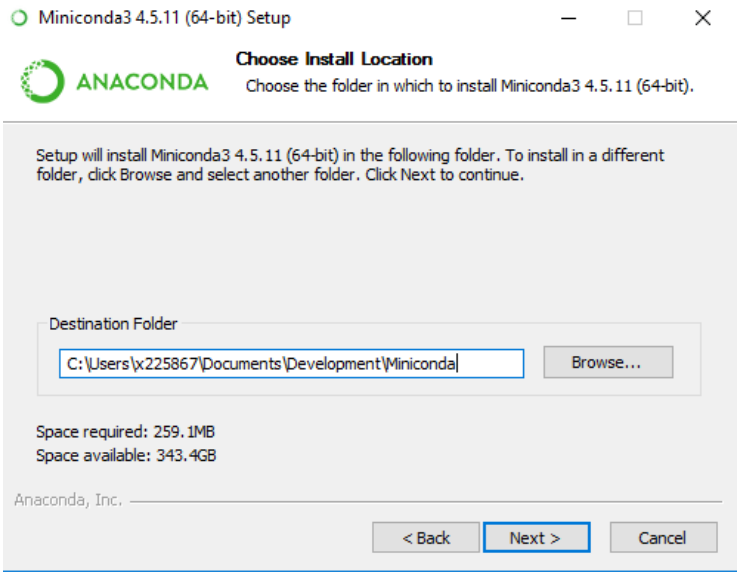

Figure 7: You must install to a new folder in the Development directory

Advanced Options

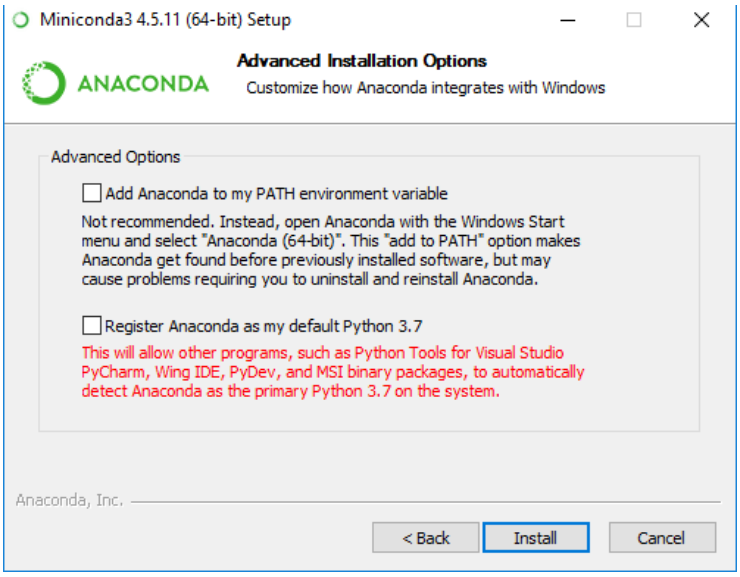

Figure 8: isolate_install

N.B. Unselect "Register Anaconda in my default Python 3.7". You will not be able to select this unless you have administrative priveleges.

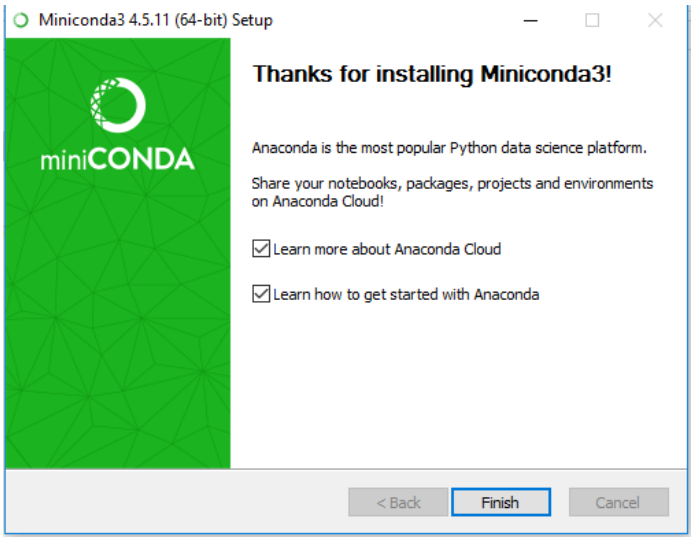

Figure 9: Finish

Installation of Jupyter

This section involves installation and configuration of jupyter.

Anaconda Prompt

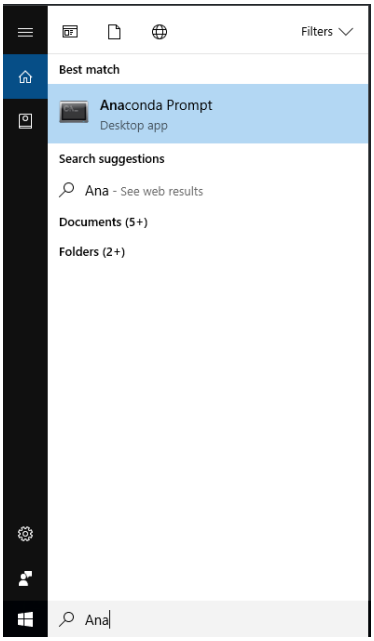

Figure 10: Press Windows hotkey and open Anaconda

Submit the following command at the prompt

conda install jupyter

Create a Jupyter Notebook Configuration File

```
(base) C:\Users\x225867>jupyter notebook --generate-config
Overwrite C:\Users\x225867\.jupyter\jupyter_notebook_config.py with default config? [y/N]y
Writing default config to: C:\Users\x225867\.jupyter\jupyter_notebook_config.py
```

Figure 11: "jupyter notebook –generate-config" generates a configuration file

Find .jupyter in File Explorer

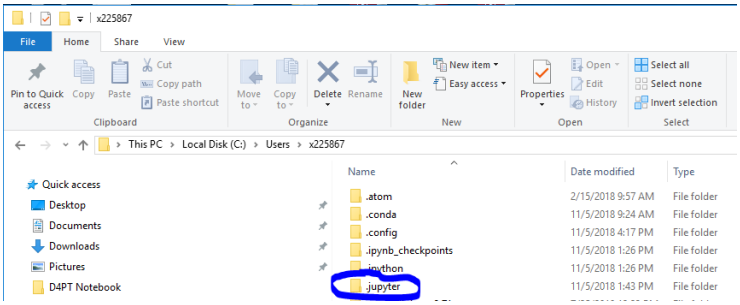

Figure 12: Open .jupyter folder (eg C:/Users/x225867/.jupyter)

NB Because the folder ".jupyter" has a dot preceding its name, it is a "hidden file". To view hidden files modify your view settings in file explorer.

Edit Configuration File

The goal is to modify the directory where the notebook opens.

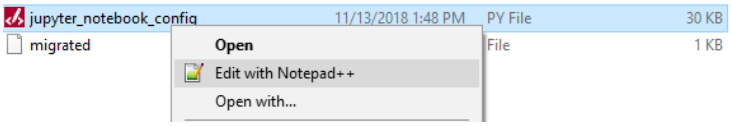

Figure 13: Edit jupyter_notebook_config with notepad++

Set notebook_dir to Development directory (line 262 in my file)
c.NotebookApp.notebook_dir='C:/Users/x225867/Documents/Development/'

In order for jupyter to see the new directory, We need to remove the "#" symbol before c.NotebookApp.notebook_dir.

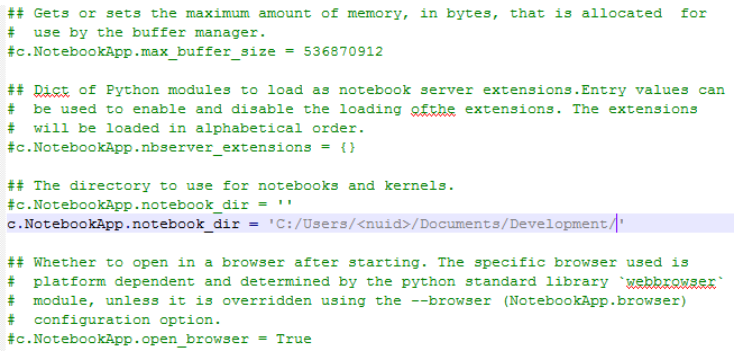

Figure 14: Configure Jupyter to open in your analysis environment.

Master Markdown

R, Rstudio and IRkernel

This section brings our environment together; Rstudio is a useful IDE for working with R, and Jupyter allows us to communicate reproducible results in Python or R.

Start Anaconda Prompt

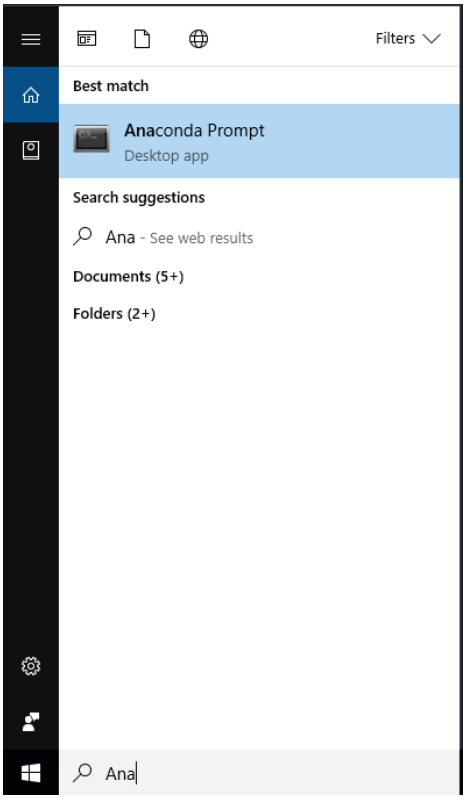

Figure 15: Start Anaconda Prompt

Install Base R

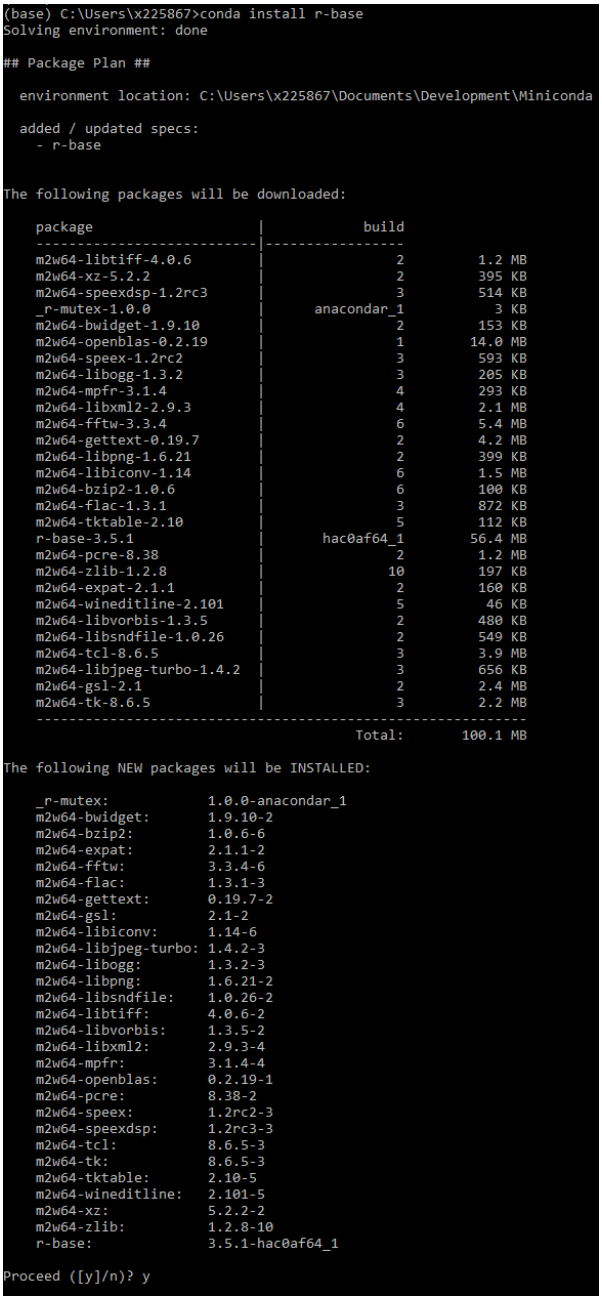

Figure 16: conda install r-base

Install RStudio

A ton of packages get installed, so expect a wait.

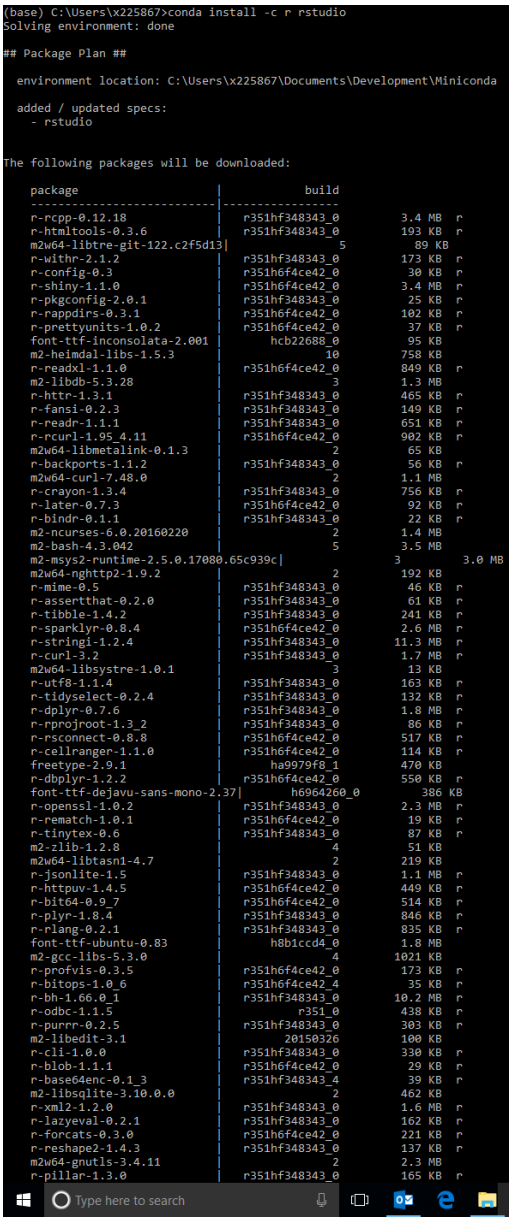

Figure 17: conda install -c r rstudio

Install IRkernel

```
(base) C:\Users\x225867>conda install -c r r-irkernel
Solving environment: done

## Package Plan ##

  environment location: C:\Users\x225867\Documents\Development\Miniconda

  added / updated specs:
    - r-irkernel


The following packages will be downloaded:

    package                    |            build
    ---------------------------|-----------------
    m2w64-libsodium-1.0.10     |                2         360 KB
    r-pbdzmq-0.3_3             |   r351h6f4ce42_0         565 KB  r
    r-repr-0.15.0              |   r351h6f4ce42_0         111 KB  r
    r-irdisplay-0.5.0          |   r351h6f4ce42_0          37 KB  r
    r-uuid-0.1_2               |   r351h6f4ce42_4          25 KB  r
    r-irkernel-0.8.12          |           r351_0         196 KB  r
    m2w64-zeromq-4.1.4         |                2         1.8 MB
    ------------------------------------------------------------
                                           Total:         3.0 MB

The following NEW packages will be INSTALLED:

    m2w64-libsodium: 1.0.10-2
    m2w64-zeromq:    4.1.4-2
    r-irdisplay:     0.5.0-r351h6f4ce42_0  r
    r-irkernel:      0.8.12-r351_0         r
    r-pbdzmq:        0.3_3-r351h6f4ce42_0  r
    r-repr:          0.15.0-r351h6f4ce42_0 r
    r-uuid:          0.1_2-r351h6f4ce42_4  r

Proceed ([y]/n)? y
```

Figure 18: conda install -c r r-irkernel