

A.9: Jupyter notebook

Draft

Jupyter notebook, python. A “web-based computational environment”

Project homepage: <https://jupyter.org/>

[Wikipedia](#)

Besides the python kernel, Jupyter kernels include

Cytoscape

SageMATH

and, of course R, which along with python and Julia, is one of the core programming languages available in Jupyter. We present how to install the IRkernel on this page.

In the cloud

Access to Jupyter notebook was discussed for running [R in the cloud](#).

Local installation

install latest python 3.12.4

<https://www.python.org/>

<https://www.python.org/downloads/windows/>

macOS universal installer

<https://www.python.org/downloads/macos/>

default python on macOS

see how to bash alias at <https://stackoverflow.com/questions/...to-3-x-on-os-x>

Open terminal

python3 --version

python3 -m pip --version

pip3 install jupyterlab

pip install jupyterlab

jupyter lab

browser opens <http://localhost:8888/lab>

Install IRkernel from CRAN

Run R in terminal as administrator

sudo R

At R prompt enter

install.packages(“IRkernel”)

Making the kernel available to Jupyter

IRkernel::installspec(user = FALSE)

Run R as Jupyter Notebook

In the terminal, type at the bash shell line

```
jupyter lab
```

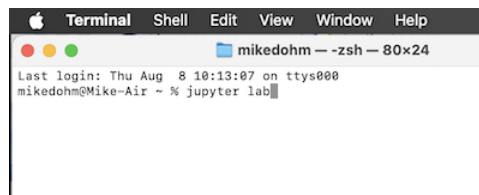


Figure A.9. 1: Screenshot of terminal with Jupyter lab command.

Set working drive, then load kernel. Select the R kernel and create a new Notebook, Figure A.9. 2 (i.e., don't select a Console).

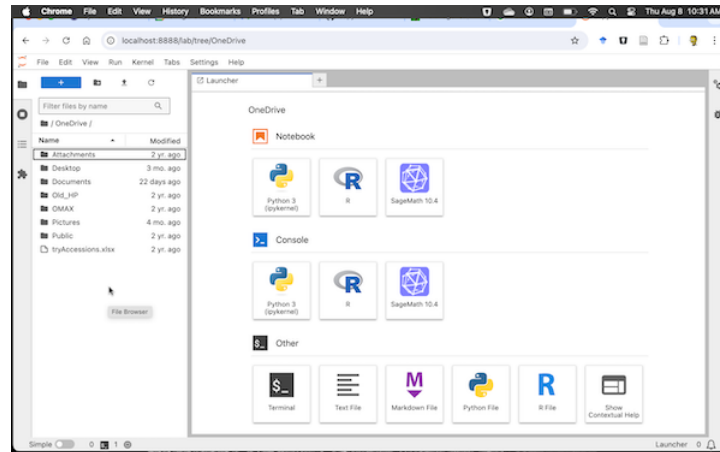


Figure A.9. 2: Screenshot of Jupyter Lab launcher. Select R icon under Notebook to set IRkernel.

You should be ready to go.

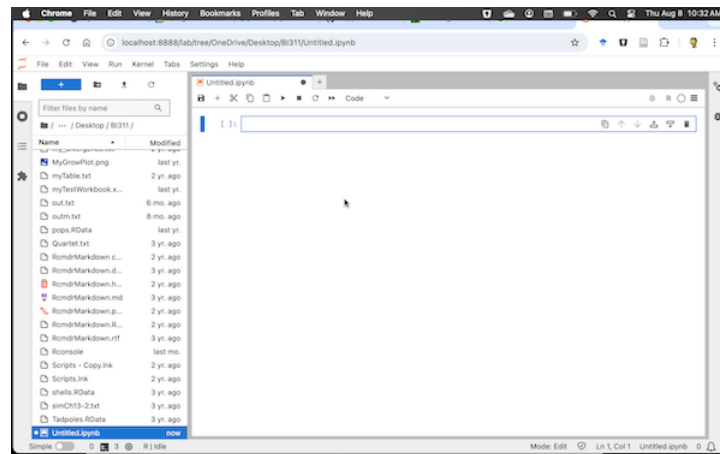


Figure A.9. 3: Screenshot of Jupyter Notebook running the IRkernel.

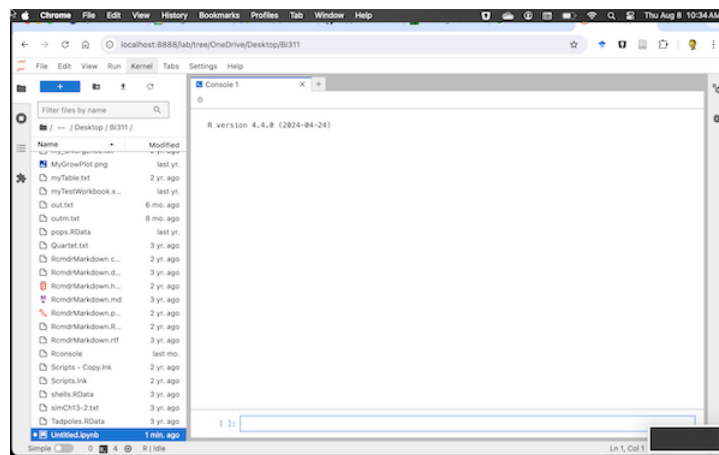


Figure A.9. 4: Screenshot of Jupyter Console running the IRkernel.

It's easy to switch kernels. Let's say you started Jupyter Lab and notice that Python is running (Fig. A.9. 5). Click on the kernel name — see green arrow in Figure A.9. 5 — to bring up a popup menu, Fig A.9. 6.

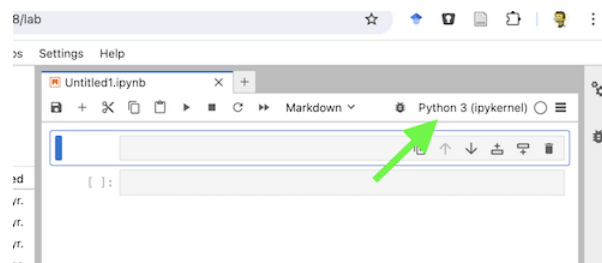


Figure A.9. 5: Screenshot of Notebook with Python set as kernel.

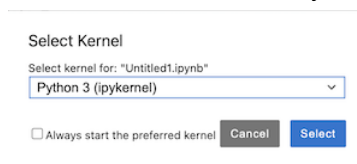


Figure A.9. 6: Screenshot of select kernel popup menu.

Click on the drop arrow and select R kernel (figure A.9. 7), then click on blue Select button.

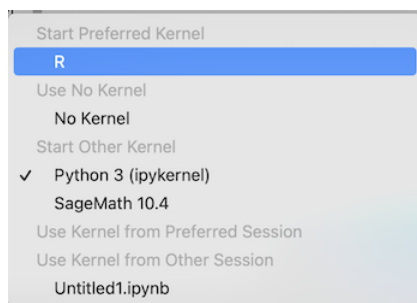


Figure A.9. 7: Screenshot of installed kernels.

Once you select the R kernel from the dropdown, the kernel should be successfully switched, as shown in Figure A.9. 8.

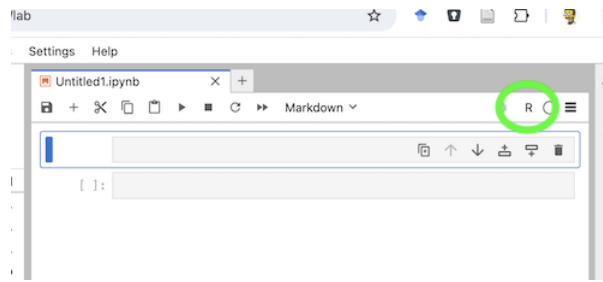


Figure A.9.8: Kernel successfully switched to R.

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