Setup Julia

In this section, we are going to setup Julia on your on computer. There are several ways to accomplish this task. You can choose one of the following methods to get *Julia* and *Jupyter* installed on your local machine.

Install Julia

Official Julia Release

The latest Julia release can be found at official website. Download the installer in respect of your operating system.

1. Download Julia installer: https://julialang.org/downloads/
2. Specific instructions for each platform: https://julialang.org/downloads/platform/

jill with pip

If you have already installed *pip* (if not, try install pip here). Jill is a Julia installer for Linux, MacOS and Windows. Jill can be installed via pip. Use the following command to get jill installed

```
pip install jill
```

Then, use jill to install Julia

```
jill install
```

What is expected when Julia is successfully installed?

After getting Julia installed, click Julia app icon or type `julia` on cmd/terminal. The Julia REPL[1] will show up (Figure 1).
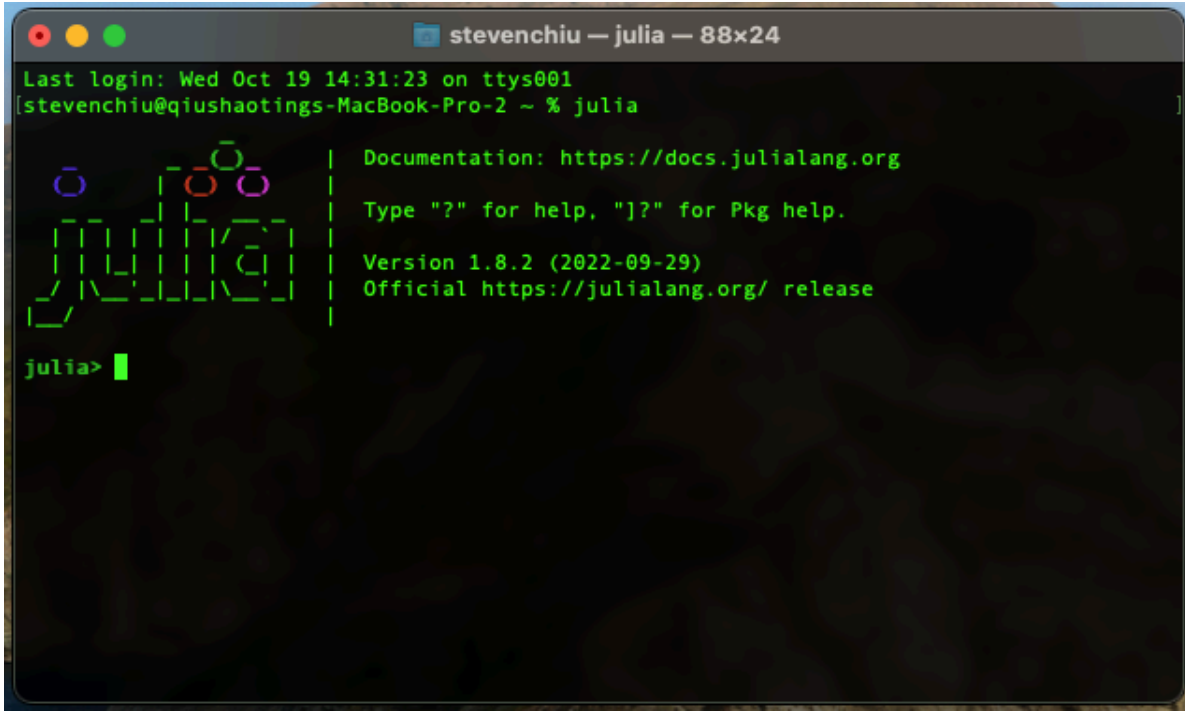

Figure 1: Julia initiated on the terminal (MacOS)

Install IJulia: an Julia package for connecting jupyter

IJulia is an interface that combines Julia and Jupyter interactive environment. This interface can be installed with Julia package manager — Pkg.jl. The following steps show how to get IJulia installed. Noted that any registered packages[2] can be installed via these steps.

1. Initiate Julia REPL
2. Install IJUlia. The following two methods are equivalent.

Use `Pkg.add`

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[1]Read-eval-print loop

[2]Registered packages can be found on JuliaHub
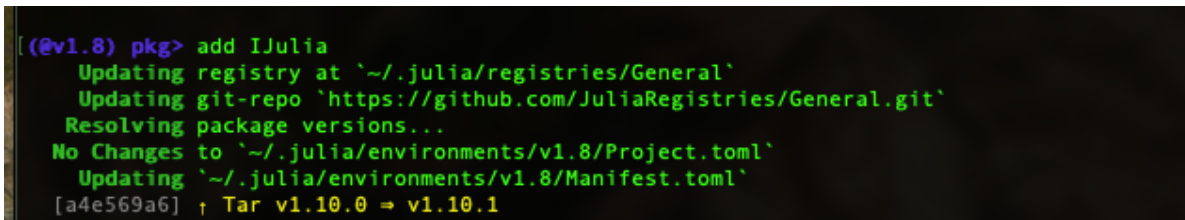
```
using Pkg
Pkg.add("IJulia")
```

Use Pkg interative environment

Type] (right square bracket on your keyboard) to initiate Pkg environment.

```
]
```

The Pkg mode in Julia REPL is a shortcut to manipulate the Julia environment. To futher install the package, type

```
add IJulia
```


Figure 2: Installing IJulia. Noted that the Pkg environment is started ((@v1.8) pkg> in blue)

Get Started with Jupyter and Julia

Once IJulia.jl is successfully installed, use the following command to initiate jupyter session (Figure 3).

```
using IJulia
jupyterlab()
```

Done!

Congratulations! You have successfully get started with the Julia programming language. In the following session, we will go through Julia basics and SciML package. The hands-on sessions will require to use JupyterLab to run Julia sessions. The source code of hands-on session can be downloaded here or view on this website.
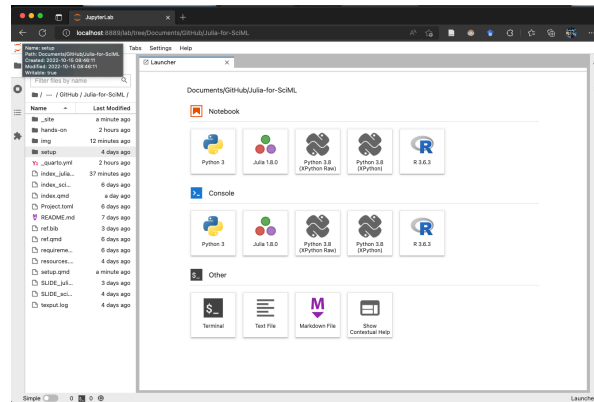
Figure 3: Jupyter Lab. Noted that the Julia kernel is installed.

For further information, the Appendix includes advanced topics such as developer setup and other alternative platforms.