Installing Jupyter Notebook and R in MacOS through a shell script

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The following are the bash commands to run on the bash terminal in your macbook.

Step 1: Download the shell script from Git repository to your home directory

```
curl -o ~/macOS_jupyter_setup.sh
https://raw.githubusercontent.com/Functional-Metabolomics-Lab/FBMN-STATS/refs/heads/main/Jupyter-Notebook-Installation-Guides/macOS_jupyter_setup.sh
```

Step 2: Check for hidden characters
When you run the following command, you can check for hidden characters, for example, if you see any `^M` characters, it indicates Windows-style line endings

```
cat -v ~/macOS_jupyter_setup.sh
```

Step 3: Fix line endings (if necessary)
Remove those extra characters mentioned in the previous step

```
sed -i '' $'s/\r$//' ~/macOS_jupyter_setup.sh
```

Step 4: Make the script executable

```
chmod +x ~/macOS_jupyter_setup.sh
```

Step 5: Run the script

```
~/macOS_jupyter_setup.sh
```

While the script is running, it might ask for the macbook Password during Homebrew installation (if Homebrew is not already installed), in order to perform sudo commands.

When the script is successfully run, that means, Homebrew, python, R, jupyterlab are all installed. The user can access or create jupyter notebooks using both python and R kernels.

To activate the jupyterlab, first activate the virtual environment ‘my_env’ where all these kernels are saved

```
source my_env/bin/activate
```

Then open jupyter lab using the following command

```
jupyter lab
```

This will open the jupyter lab in your default browser.

Once opened, in the homepage (called ‘Launcher’), you will see the available kernels Python and R as shown in Figure 1.

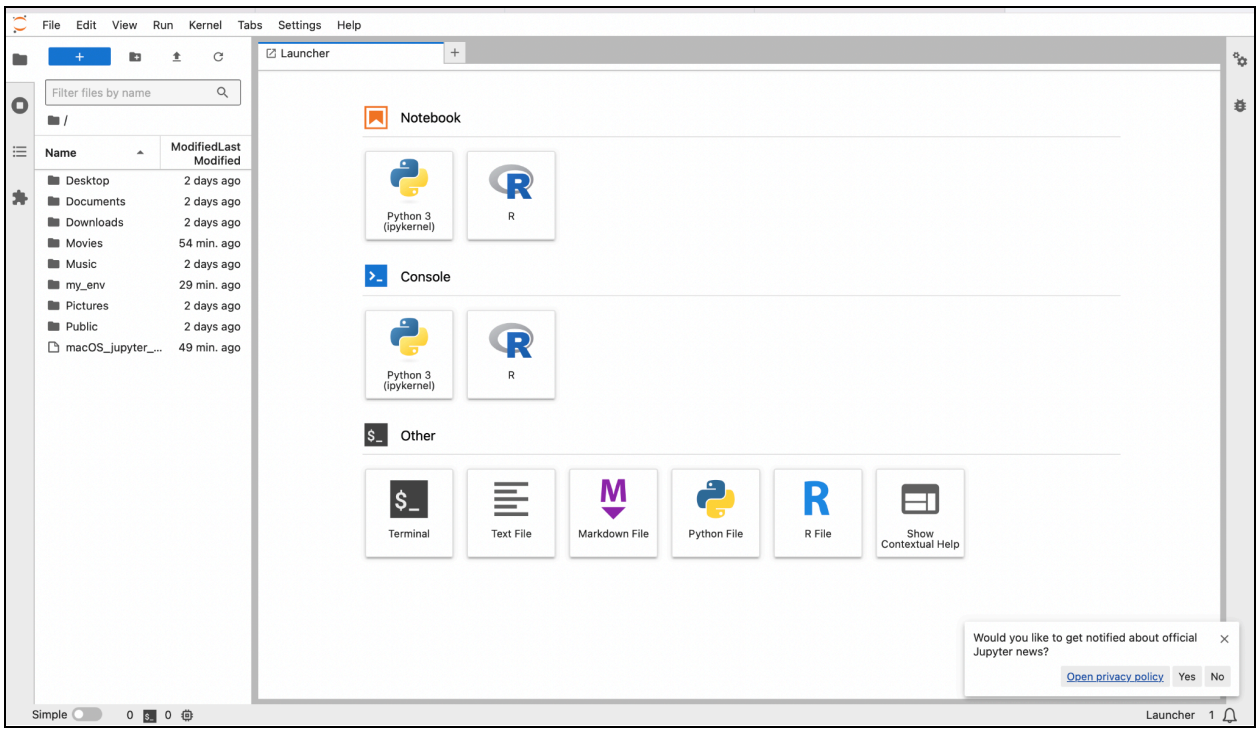

Fig 1: Screenshot of JupyterLab Homepage

Open/create a new notebook with both the kernels as shown in the following figures (Fig 2,3) to see if the kernels are available (on the upper right corner).

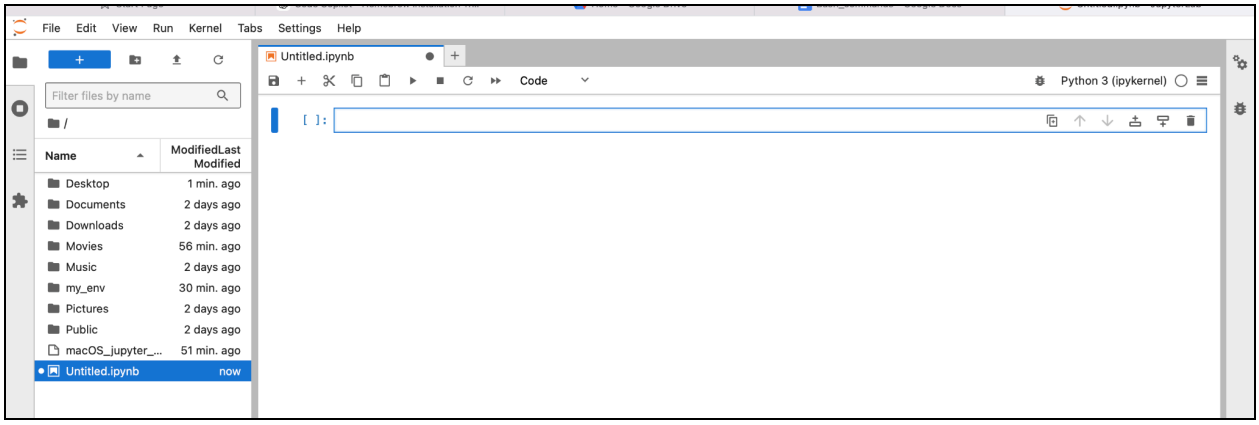

Fig 2: Screenshot of Jupyter Notebook opened with Python kernel

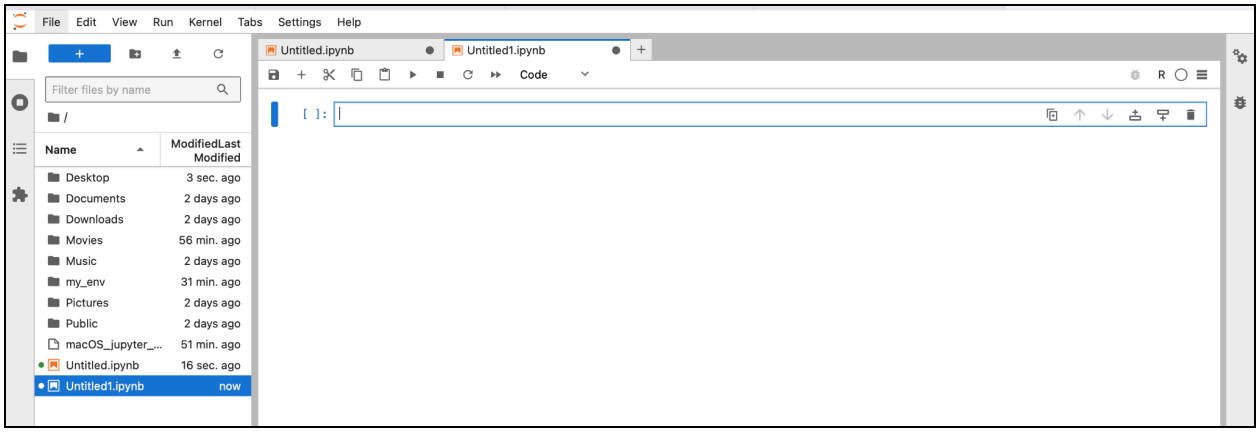

Fig 3: Screenshot of Jupyter Notebook opened with R kernel

Troubleshooting:

Once you launch jupyter lab from your bash terminal, it opens up in your default browser and ideally you should see the Launcher with all available options. In case you have trouble with the jupyter lab build, you might not see the 'Launcher' altogether. In such case,

1. Maybe there was some error while building the jupyterlab, so we can rebuild it manually. First, activate the virtual environment in your bash and build the jupyter lab using the following commands:

```
source my_env/bin/activate
jupyter lab build
```

2. If rebuilding doesn't work, try clearing your browser's cache and reload the JupyterLab page.

3. If the issue persists, you can stop the current server and restart it. In the terminal, press 'Ctrl+C' to stop the server, then restart jupyter lab by simply running:

```
jupyter lab
```

This will open the jupyter lab in your default browser!!