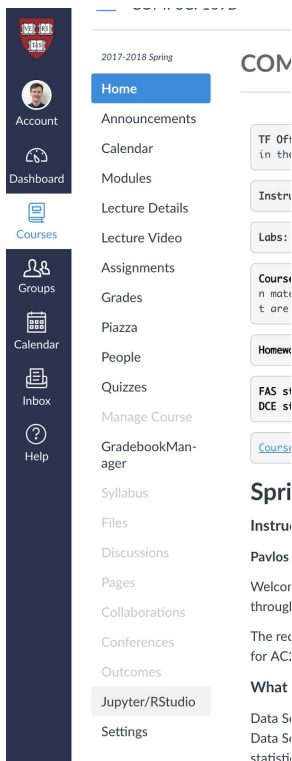


# SEAS JupyterHub / RStudio user guide

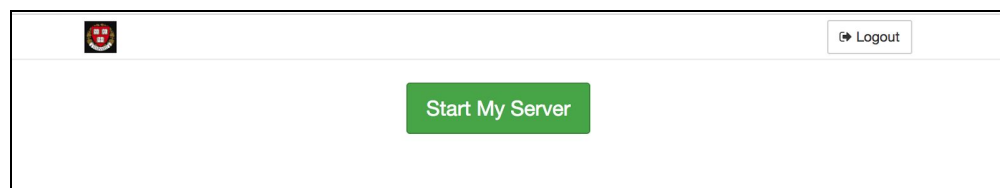
January 29th 2018, v2

## Logging into JupyterHub via Canvas



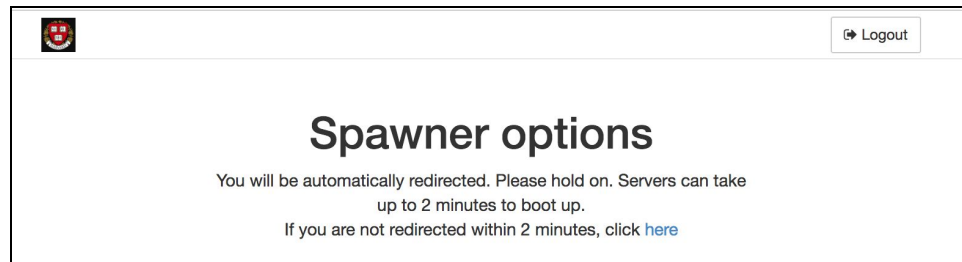
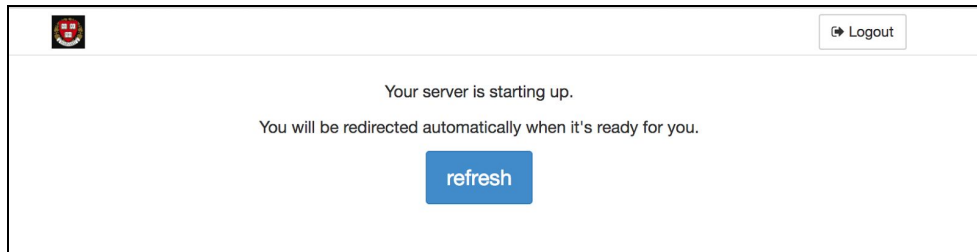
- In Canvas, click the *Courses* option in the left-hand menu.
- Select *JupyterHub* at the bottom of the resulting list.

- The JupyterHub start-up screen will open in a new window
- Click *Start My Server*



- This will begin the process of creating your Amazon EC2 JupyterHub instance.

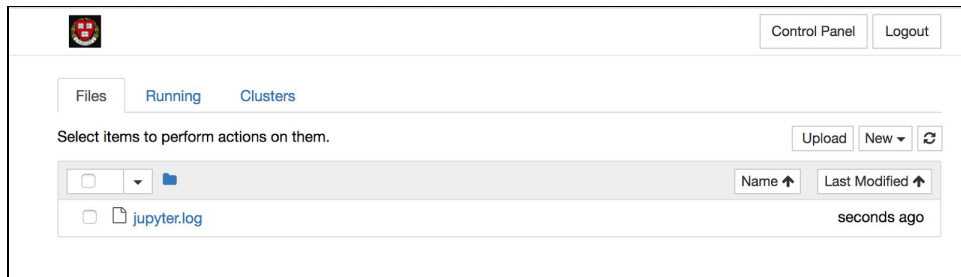
- This process can take up to 2 minutes, during which time you will see the following two screens:



- This only takes 2 minutes the very first time you launch JupyterHub. Subsequently the loading time should only be 40 seconds or less.
- Once the instance has been created you will be redirected to the JupyterHub control panel:




- Click the "JupyterHub" button to be taken to the Jupyter Notebook interface.

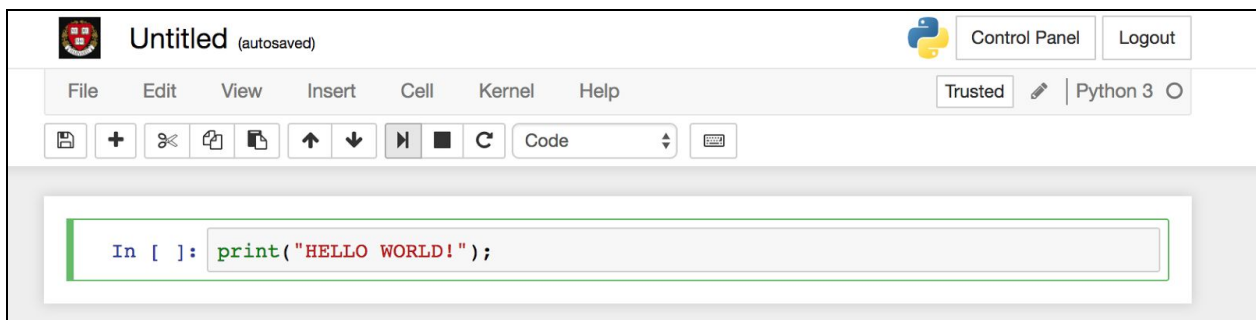


## Creating and working in an Jupyter Notebook

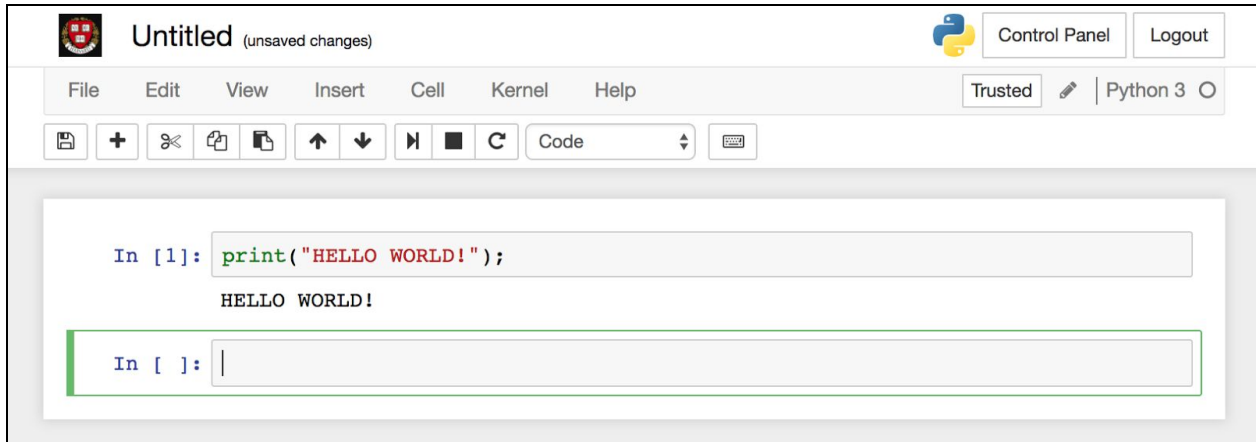
- To create a Python 3 Jupyter Notebook, click *New* -> *Python 3*





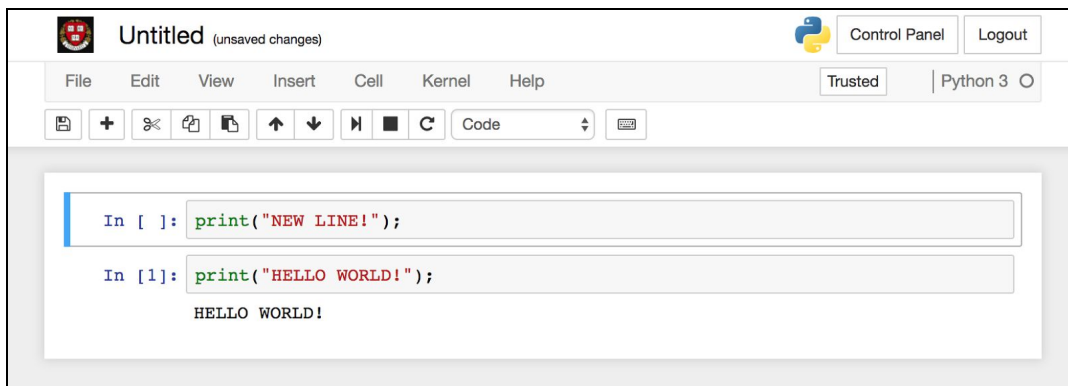
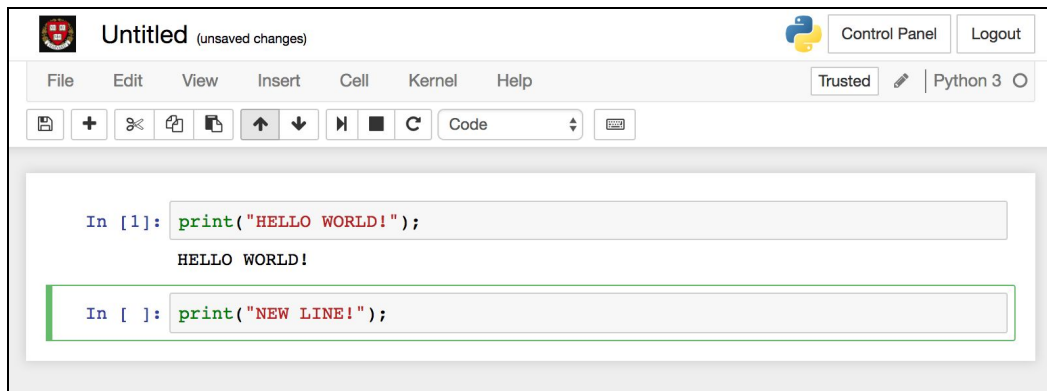
- A new Jupyter Notebook will open in a new browser tab.
- Enter `print("HELLO WORLD!");` into the empty cell, then click the *Play*  button in the toolbar to run the program.



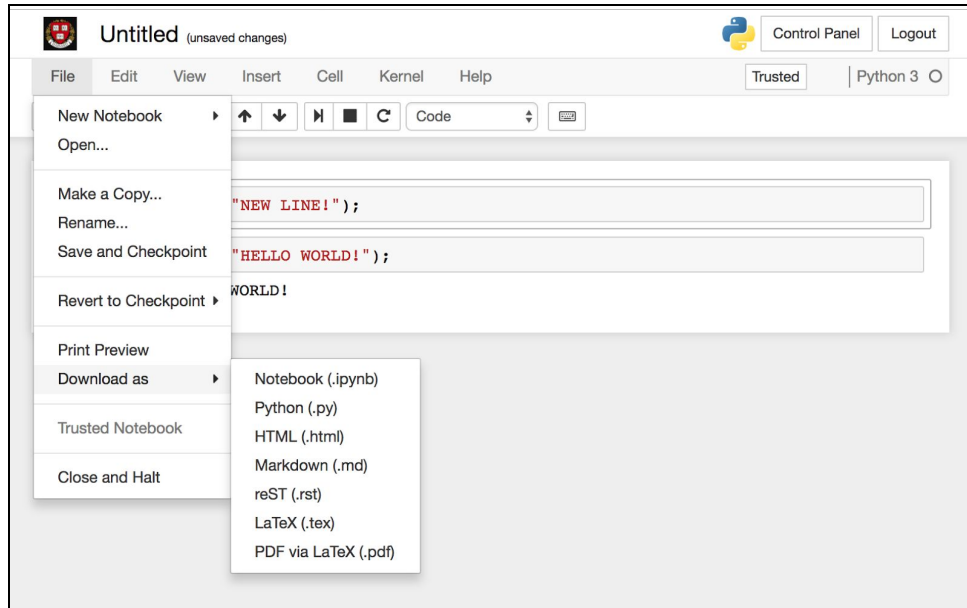
- You will see the output below the cell:



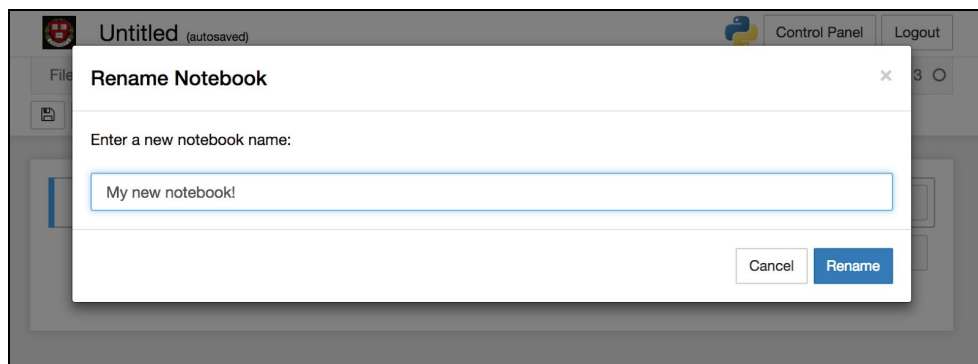
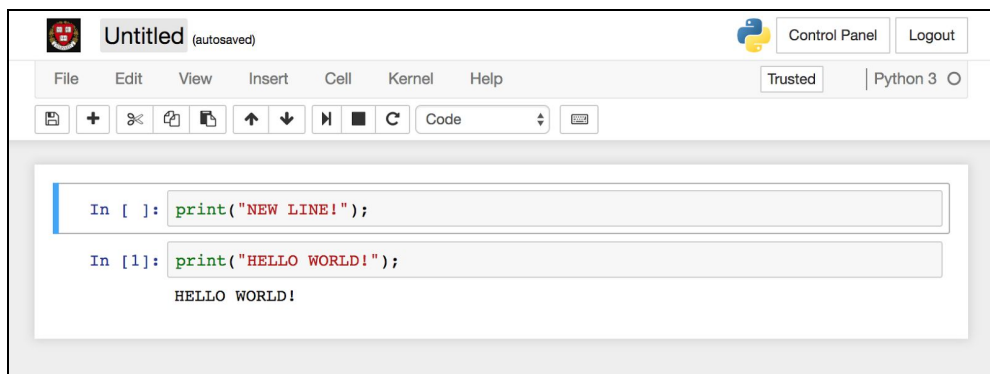
- A new cell will also appear below it.
- Add another print statement into that cell.
- You can reorder the cells by clicking the up and down arrows   in the toolbar.




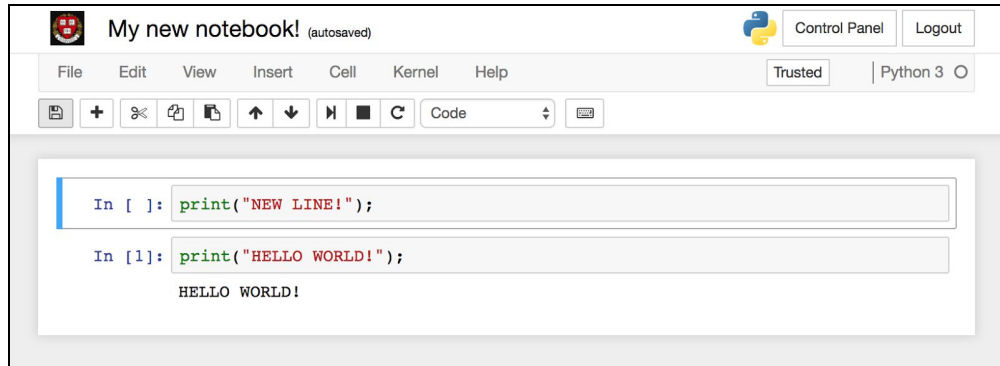
- You can export a Notebook by selecting *File -> Download as* in the toolbar.



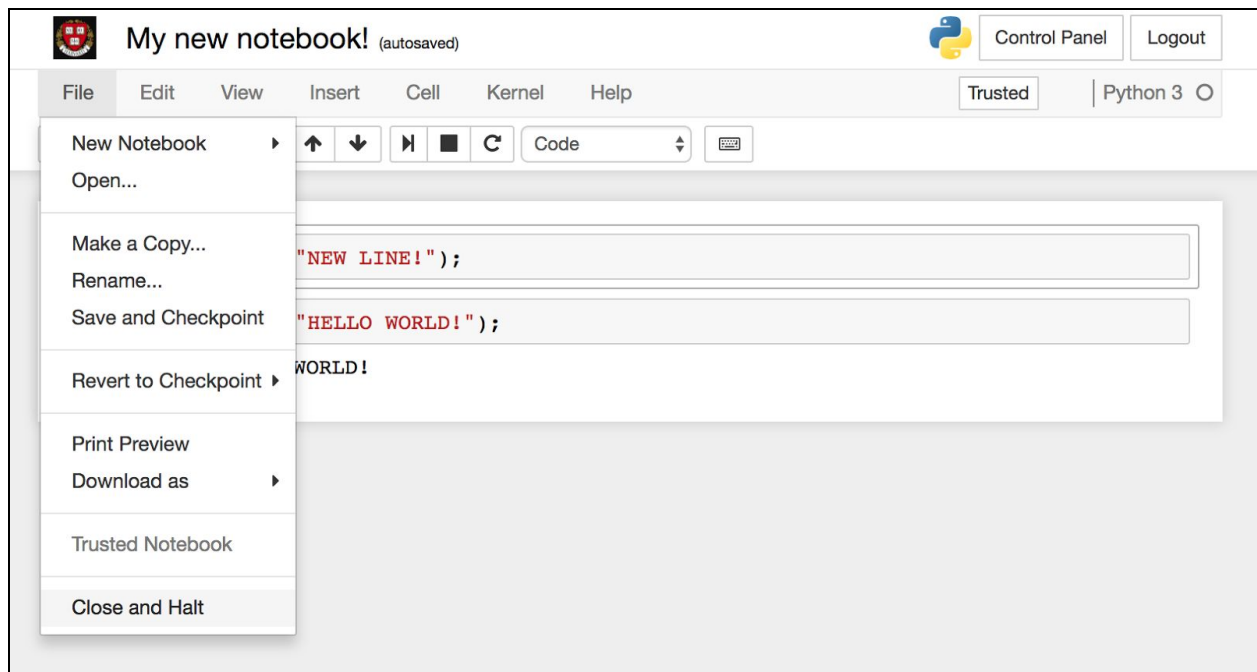
- You can name your notebook by clicking the *Untitled* text at the top of the screen.



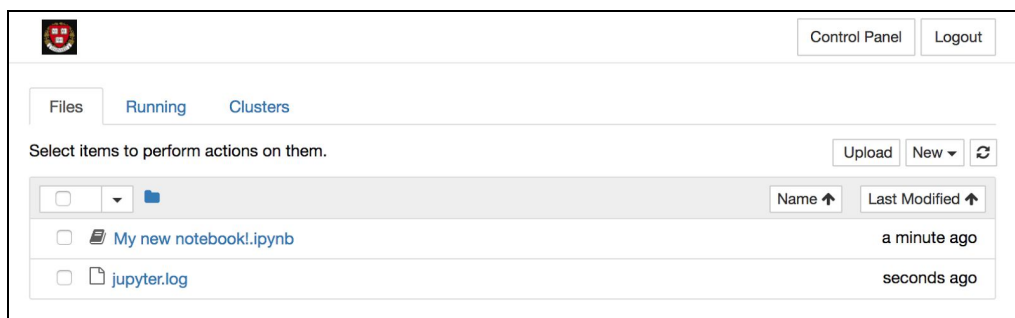
- Your notebook will autosave periodically.
- You can force a save by clicking the Save icon  in the toolbar.



- When you are finished working on a notebook you should shut it down to ensure the all running Jupyter processes are stopped.
- You do this by clicking *File -> Close and Halt* in the toolbar.

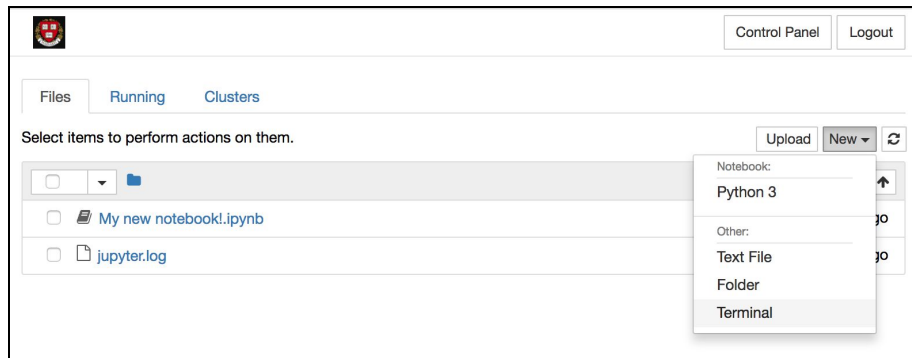


- Returning to your JupyterHub dashboard browser tab, you will see your newly renamed Jupyter notebook listed.

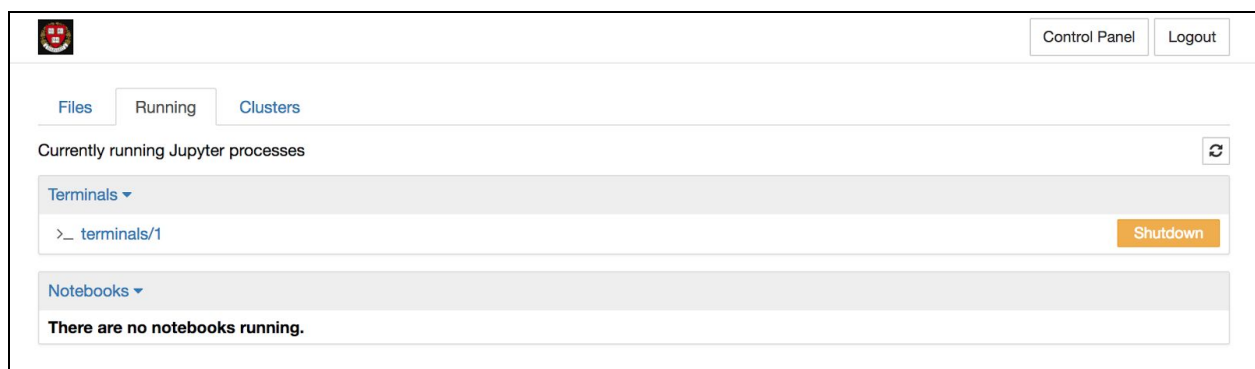


## Opening a terminal session in JupyterHub

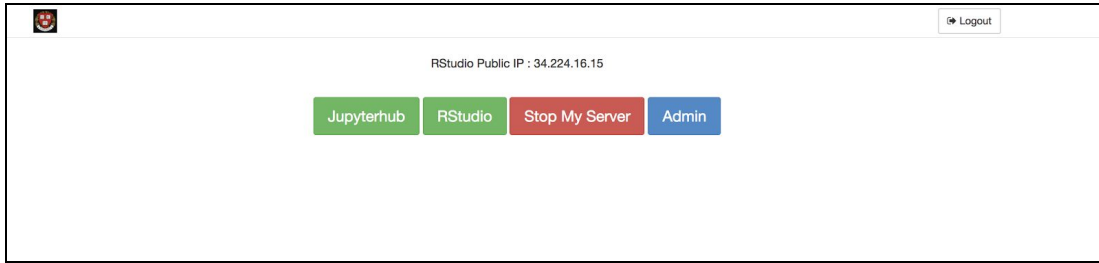
- You can use terminal sessions to manage your files, download data sets with `wget` or `curl`, install new Python packages with `pip`, and to accomplish numerous other tasks (instructions for completing these tasks are out of scope for this guide).
- To open a terminal session, click *New -> Terminal*



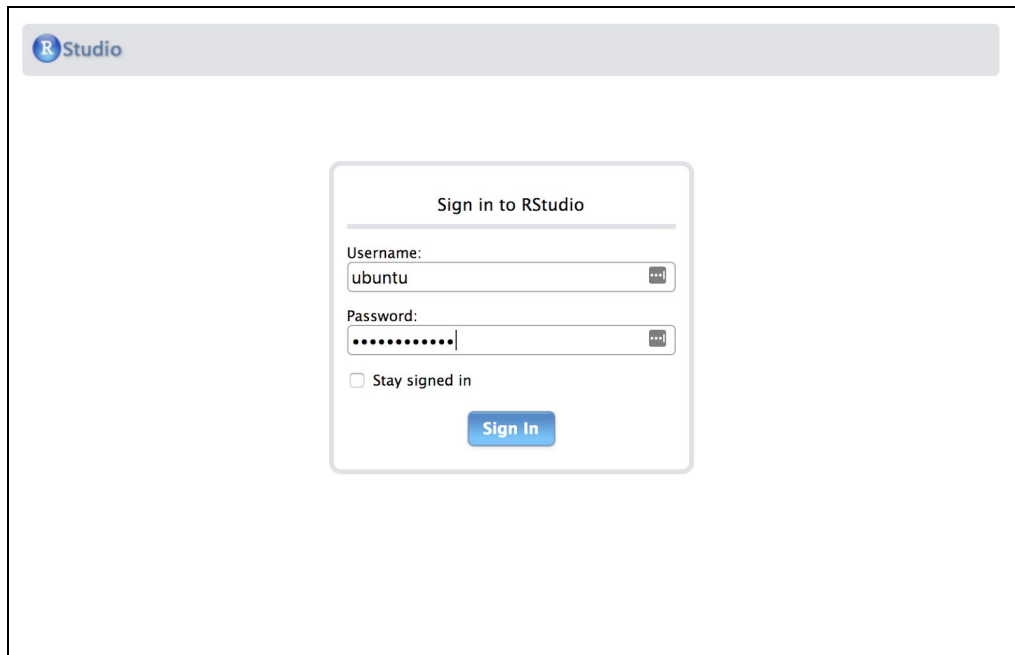
- Unfortunately the terminal window in JupyterHub has no toolbar from which to shut it down, so please ensure that you shut down the terminal from the JupyterHub dashboard by selecting the *Running* tab and clicking the *Shutdown* button next to the listing for your terminal session.



## Logging in to RStudio



- From the JupyterHub control panel, copy the RStudio public IP to your clipboard.
- Click the “RStudio” button



- The username is “ubuntu”
- Paste the public IP in as the password
- The public IP changes every time your server is restarted, so don't let your browser remember the password.