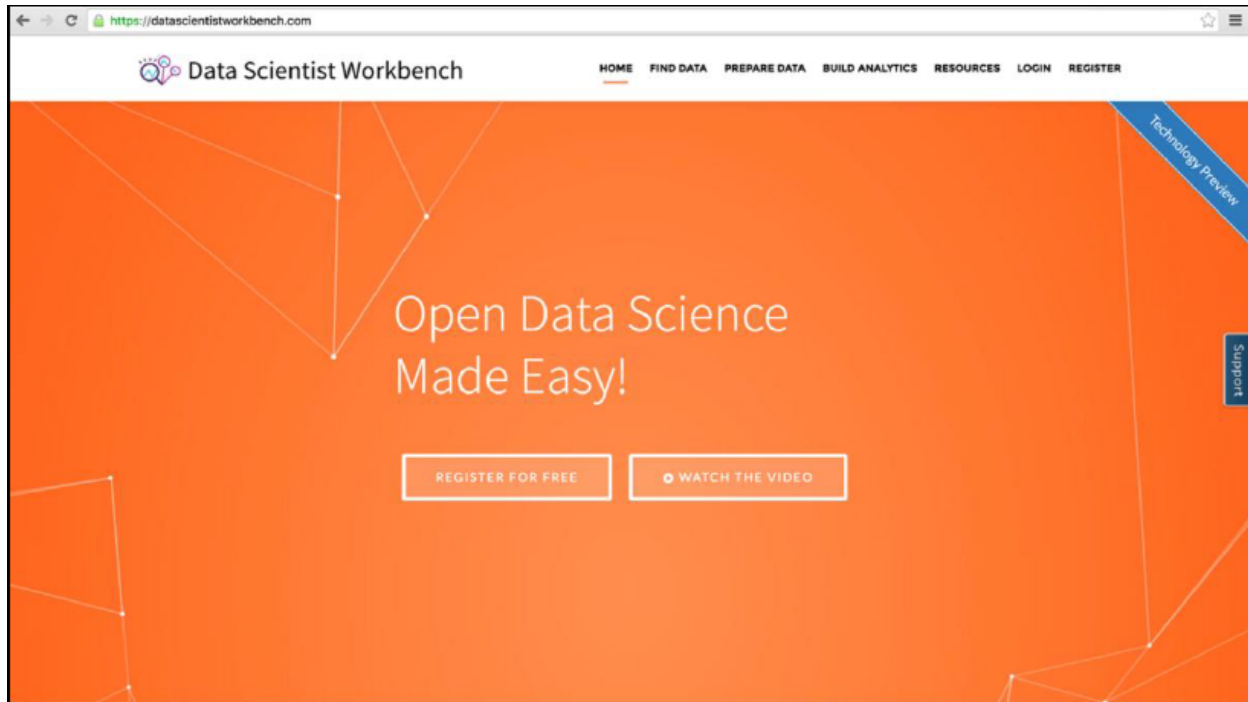




Lab: Introducing Jupyter Notebooks

This Lab must be done on the Data Scientist Workbench. If you have not signed up yet, go to datascientistworkbench.com and click SIGN UP FOR FREE. Then login (2nd link from the right):





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Lab 1 Introducing Jupyter Notebook

After completing this hands-on lab, you will know:

- How to open and navigate within Jupyter Notebook
- How to create and rename a Jupyter Notebook
- How to create code cells, run them, or convert them to Markdown
- How to check if Spark exists
- How to share your notebook links
- How to stop your notebook
- How to go back to the DSWB home page and import a notebook

Allow 30 minutes to complete this section of the lab.

NOTE: This is a guided Lab. Solutions are found at the end of this document



1.1 Getting Started with Jupyter Notebook

- __1. Create an empty notebook in Python
- __2. Write simple code like “x = 1” in a cell
- __3. Run it using the play button or Shift+Enter
- __4. Create a new cell by going to Insert > Insert Cell Below
- __5. Convert this cell into markdown by clicking on code > Markdown, or by pressing the empty space to the left of the code cell and pressing “m” on the keyboard. to revert back to a code cell, you can switch from markdown > code in the menu at the top, or use the “y” button on the keyboard
- __6. Rename the notebook
- __7. Check that the SparkContext exists, which allows you to run Spark commands - “sc”
- __8. Create a share link and open it (which imports the latest version of the notebook into your account)
- __9. Stop your notebook (closes it, stops it from using memory)
- __10. Go back to the Jupyter welcome page and import a notebook (which allows you to have something to go through on your own after this lab)

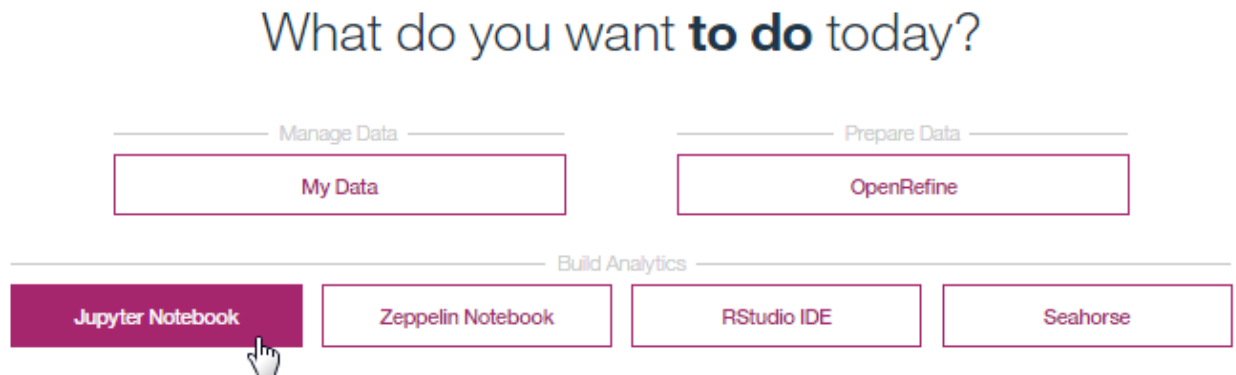
1.2 Summary

Congratulations! ...

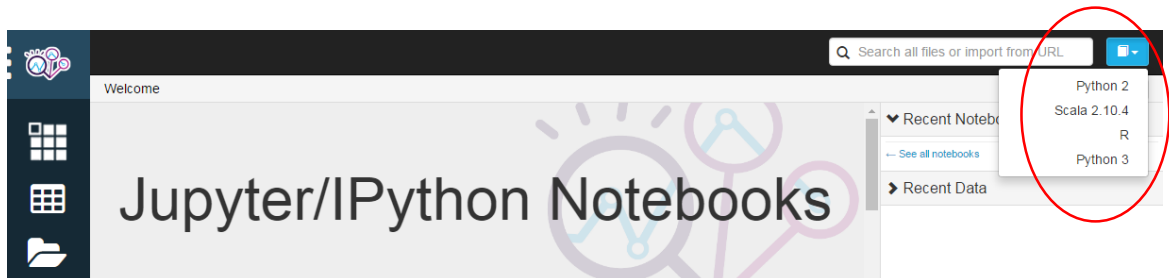


1.3 Getting Started with Jupyter Notebook - Solutions

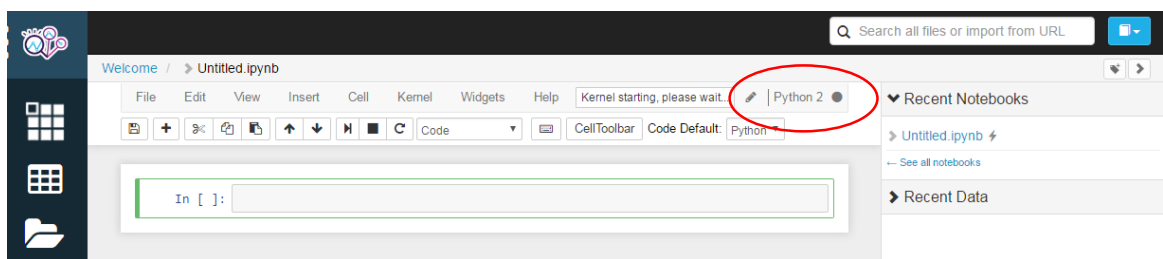
1. **Create an empty notebook in Python:** Click **Jupyter Notebook** from DSWB workspace:



To create an empty notebook, click the blue button (top right corner) and select the language you want to work in:

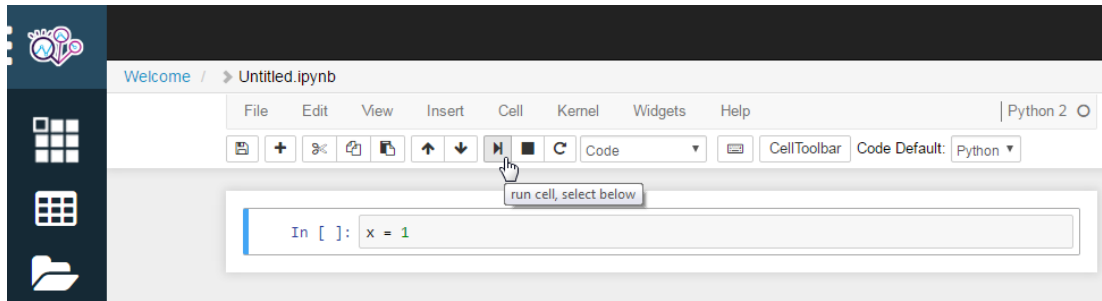


When you do this, a notebook opens with one empty code cell, and the language you selected shows on the menu bar:

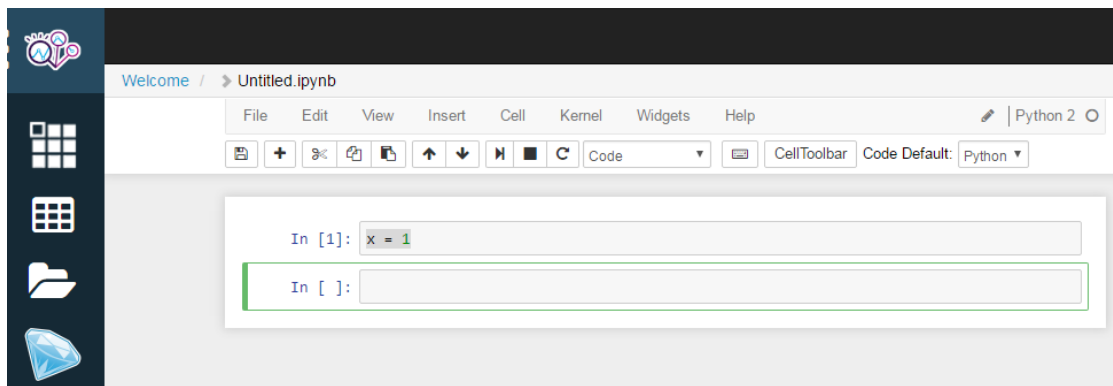




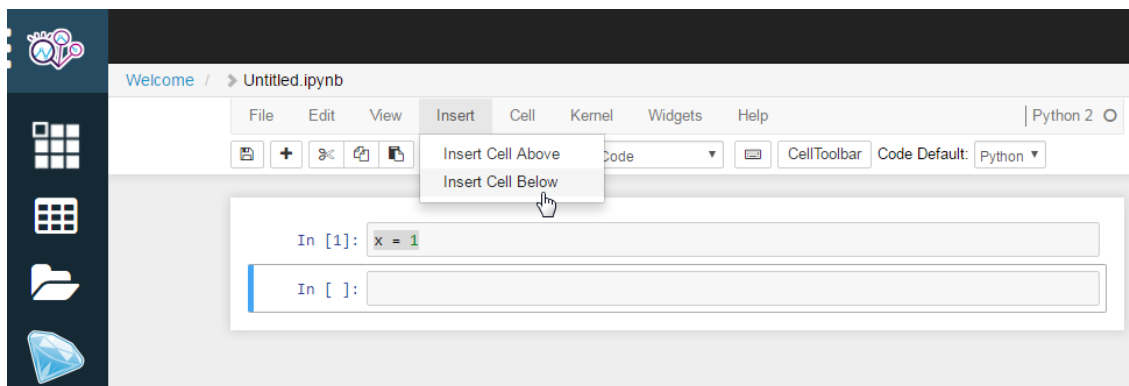
__2. Write simple code like “x = 1” in a cell:



__3. Run it using the play button or Shift+Enter: Remember to run it, your cursor must be inside the cell, or if there are multiple lines of code within a cell, you can highlight the lines you want to run:

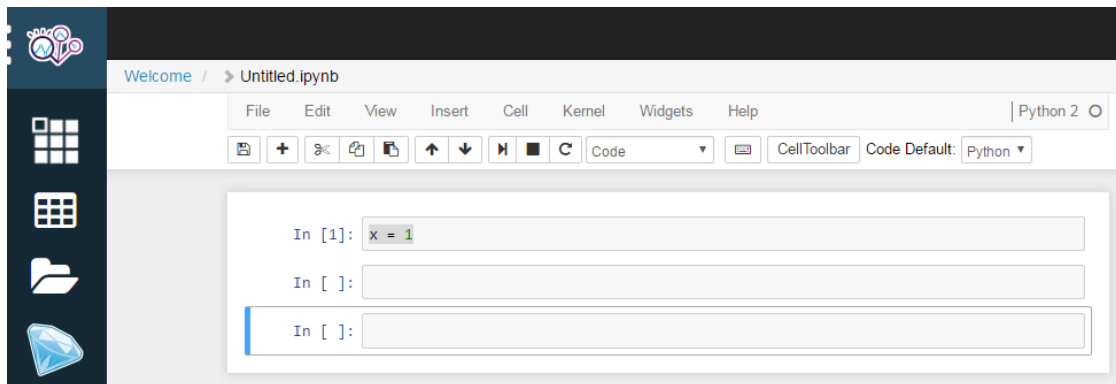


__4. Create a new cell by going to Insert > Insert Cell Below:

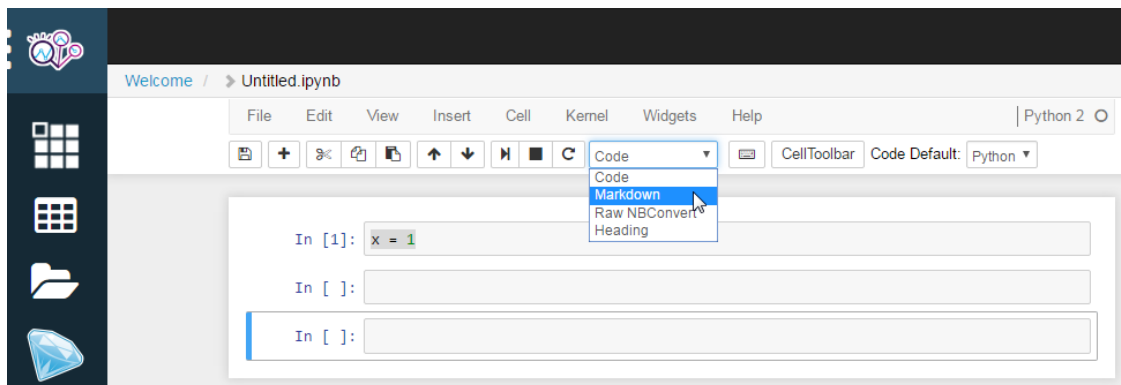




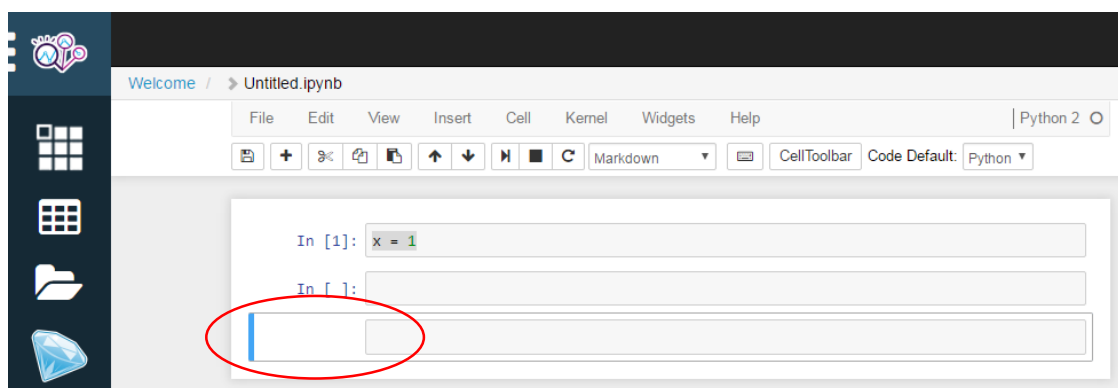
When you click *Insert Cell Below*, a new cell will be created in the notebook:



5. Convert this cell into markdown by clicking on **Code > Markdown**, or by pressing the empty space to the left of the code cell and pressing “m” on the keyboard. To revert back to a code cell, you can switch from **markdown > code** in the menu at the top, or use the “y” button on the keyboard:

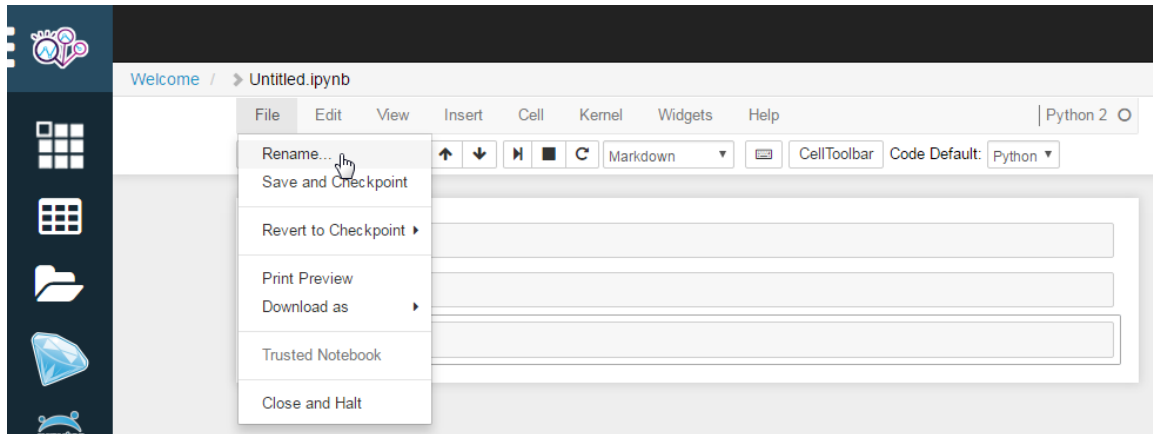


After clicking **Code > Markdown**, notice that “In []” disappears:

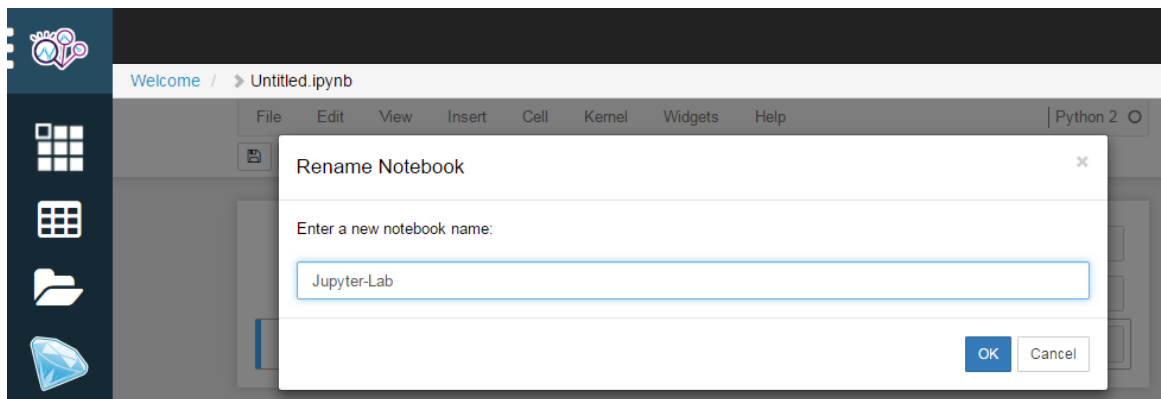




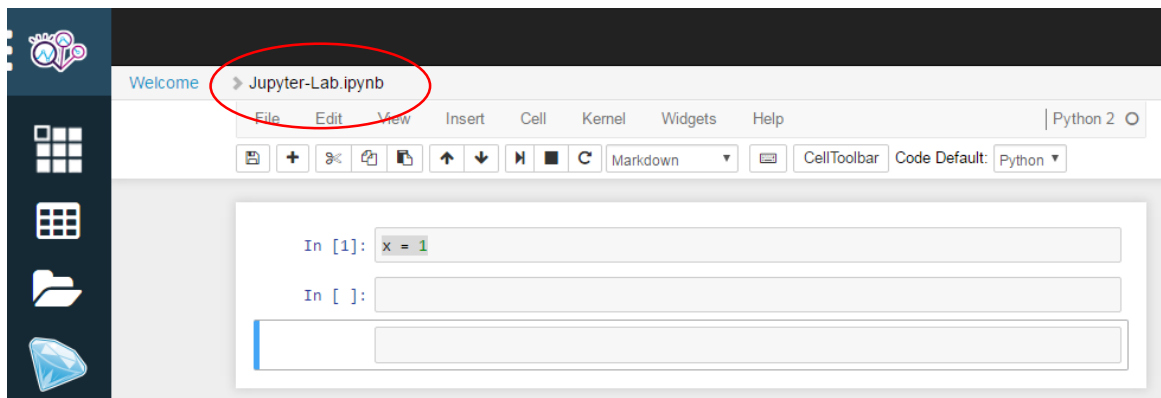
__6. **Rename the notebook, then Save it:** *Click File > Rename*



And enter the new filename in the Rename Notebook window; and click OK:

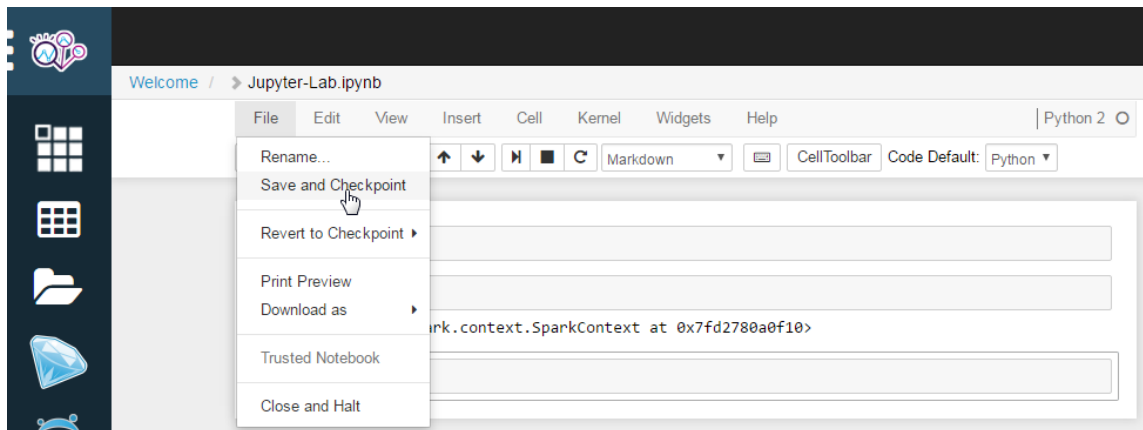


Note the new file name:

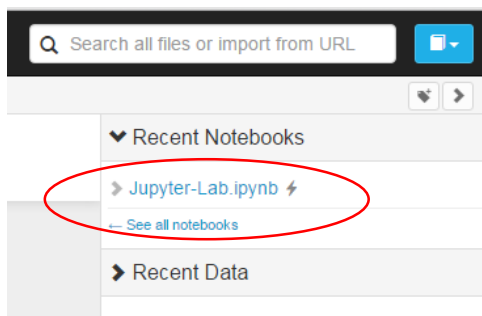




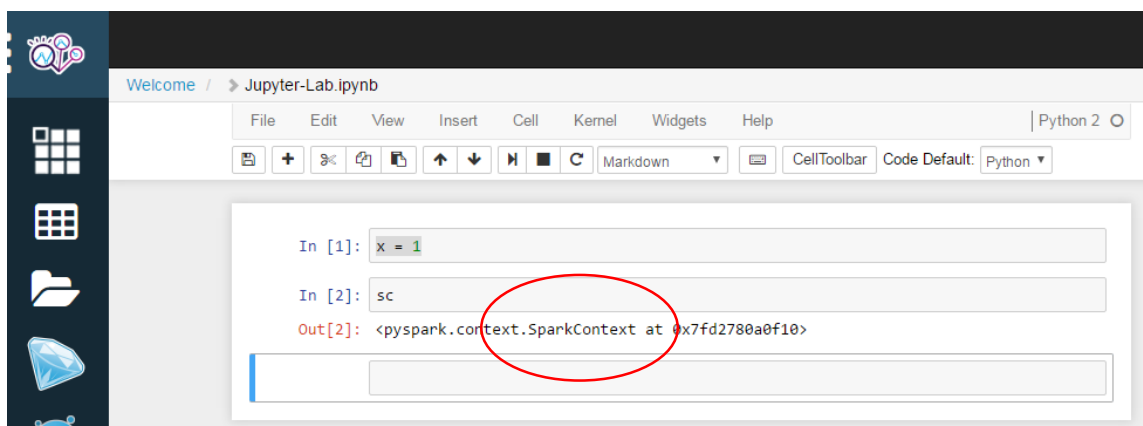
To save the notebook, select File > Save and Checkpoint:



Note that it appears under Recent notebooks, top right:

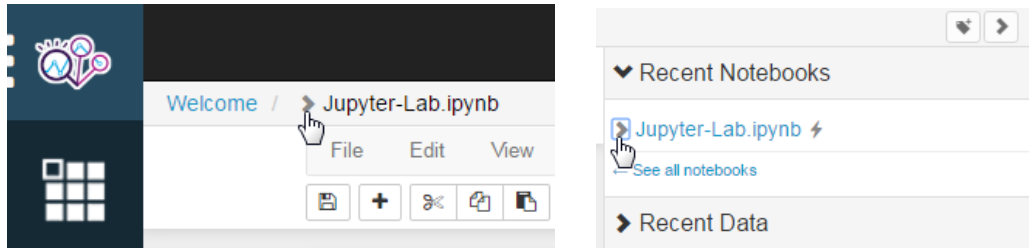


- ___7. **Check that the SparkContext exists, which allows you to run Spark commands – “sc”:** Type ‘sc’ in an empty code cell and run it; the output indicates that SparkContext is installed:

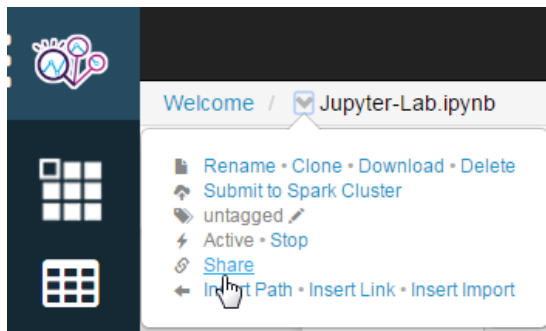




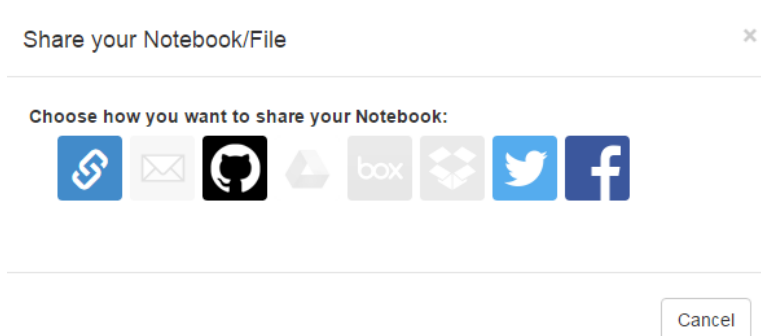
- ___8. **Create a share link and open it (which imports the latest version of the notebook into your account):** Click the > button either on the filename (beside Welcome – top left) or the > button beside the notebook name under Recent Notebooks (top right):



A menu displays, select share:



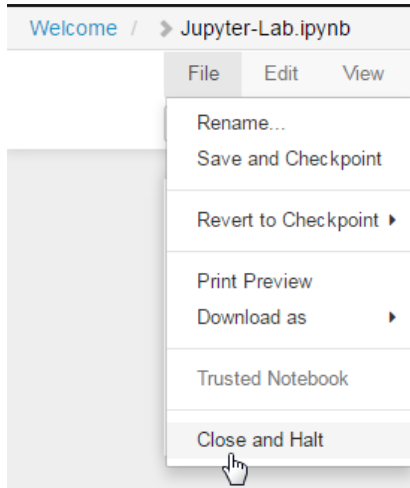
The Share your Notebook/File window opens:



Explore each of the ways you can share by clicking the enabled buttons. The disabled buttons will be available soon.

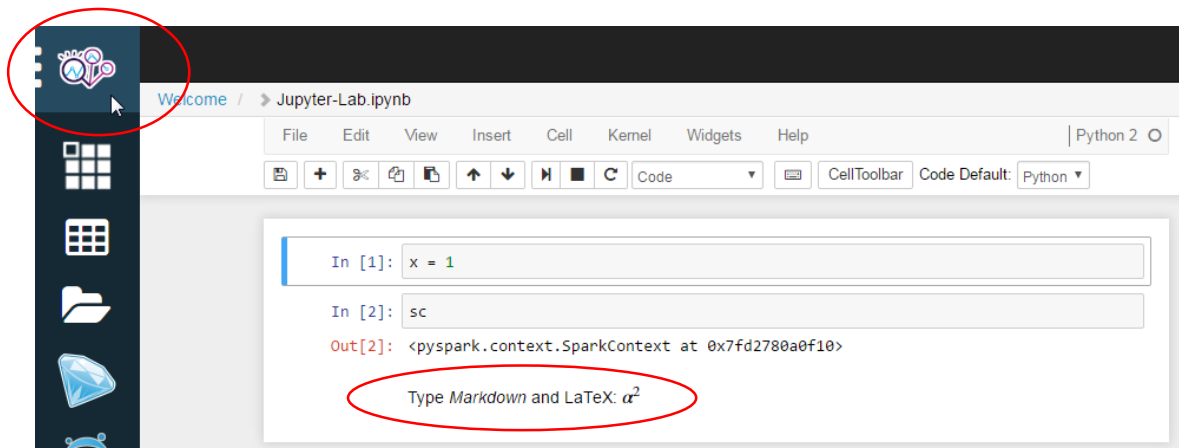


- ___9. **Stop your notebook (closes it, stops it from using memory):** *Select **File > Close and Halt**:*



- ___10. **Go back to the Jupyter welcome page and import a notebook (which allows you to have something to go through on your own after this lab):**

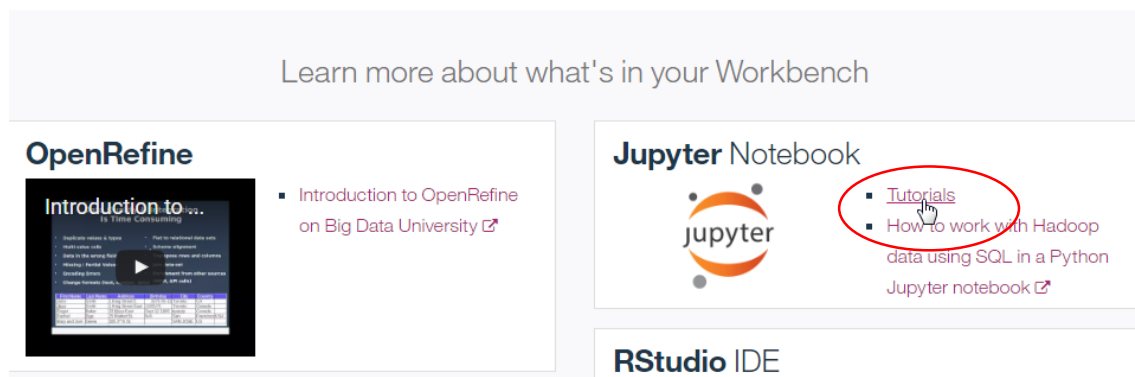
To go back to the DSWB home page, click the button on the top left corner:



Notice that when you re-open the notebook, by double-clicking it under Recent Notebooks, the 3rd cell has changed to Markdown.



To import a notebook from the DSWB home page, click on the Jupyter Notebook Tutorials link:



Then click one of the notebooks on the page that opens:

Featured Notebooks

Learn Spark



When you click the Tutorial, it is automatically loaded under your Recent Notebooks (in Jupyter); the filename beside Welcome shows the notebook's file name, and the green box shows that the import was successful. Go ahead and explore the notebook you just imported.

