Overview

This setup guide describes how to analyse Moodle course logs locally on your machine using Jupyter Notebooks.

Environment Setup

To perform the setup tasks, you will need the following:

- A Windows, Linux, or Apple Macintosh computer.
- A web browser and Internet connection.

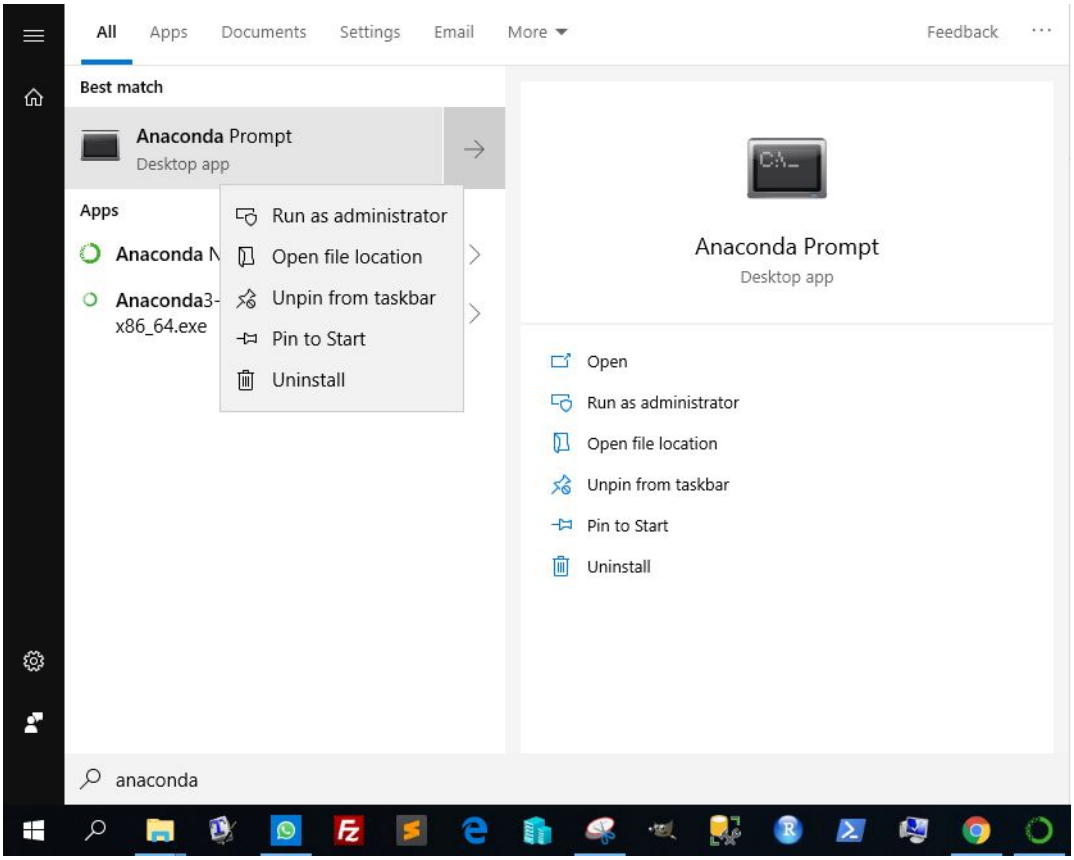
Install Python Anaconda Distribution

a. In a web browser, navigate to https://www.anaconda.com/distribution/
b. Choose the installer for your operating system (Windows, Apple Macintosh, or Linux).
c. Complete the installation process for Python 3.7. You can find more detailed installation steps in the Anaconda installation guide.

Install graphviz:

1. Click on Windows' search box on the taskbar, and start typing "Anaconda". It should bring up some matching entries.

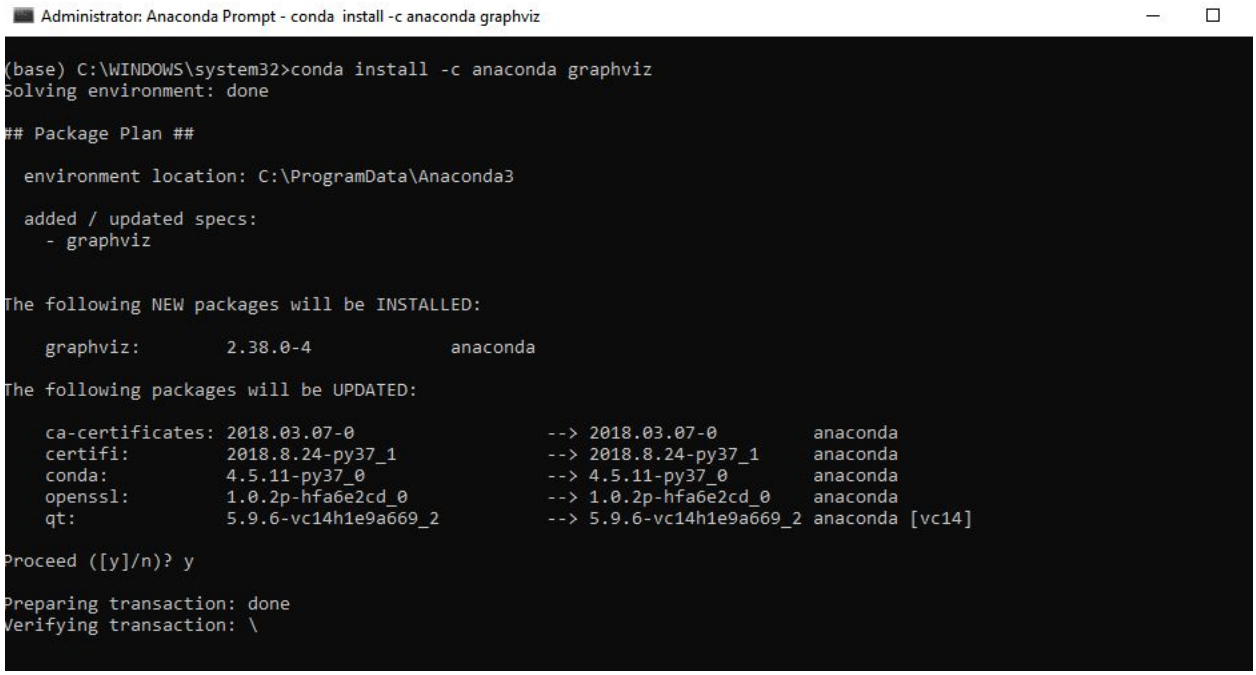
2. Right-click the result "Anaconda Prompt" and choose “Run as administrator.”



3. A new command window, named "Anaconda Prompt" will open. To install graphviz with conda type the following and click enter to run:

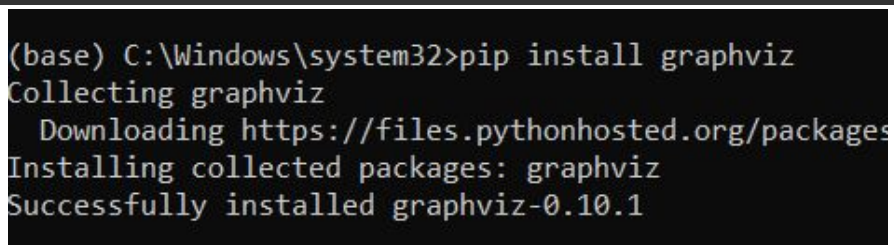
```
conda install -c anaconda graphviz
```

4. Proceed to update the required packages by typing “y”, as in the image below



5. Then run

```
pip install graphviz
```



Install dashboards layout extension (**optional**)

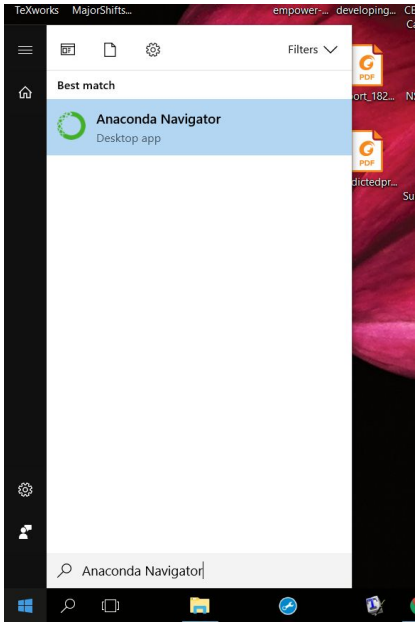
The dashboards layout extension is an add-on for Jupyter Notebook. It lets you arrange your notebook outputs (text, plots, widgets, …) in a grid or report like layouts. It saves information about your layouts in your notebook document. Other people with the extension can open your notebook and view your layouts.

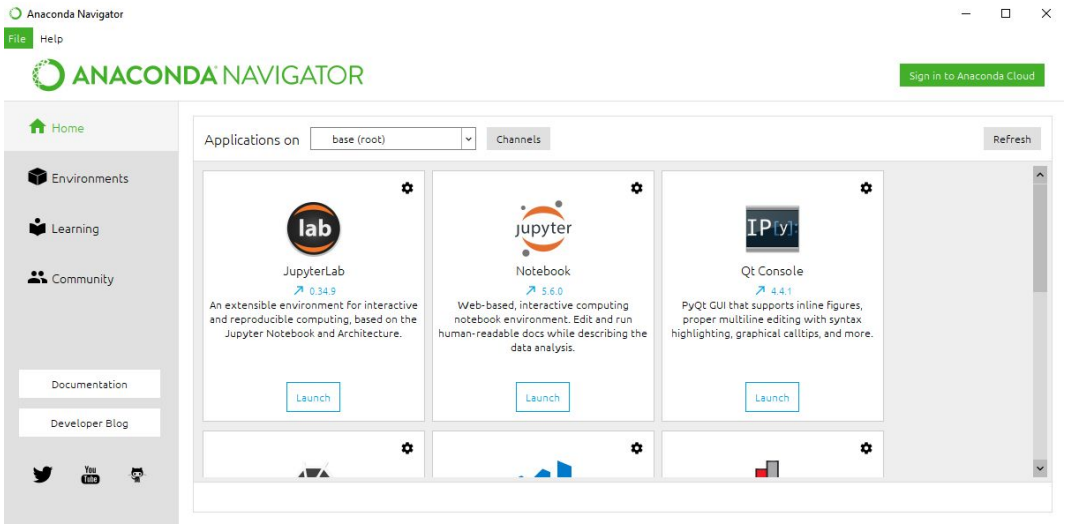
1. Open the Anaconda Prompt as shown previously in installing graphviz.
2. To install dashboards layout extension with conda run:

```
conda install jupyter_dashboards -c conda-forge
```

Startup Anaconda

1. After installation is complete, verify the installation by opening Anaconda Navigator. We will return to this Anaconda Navigator window later - keep it open fo now.



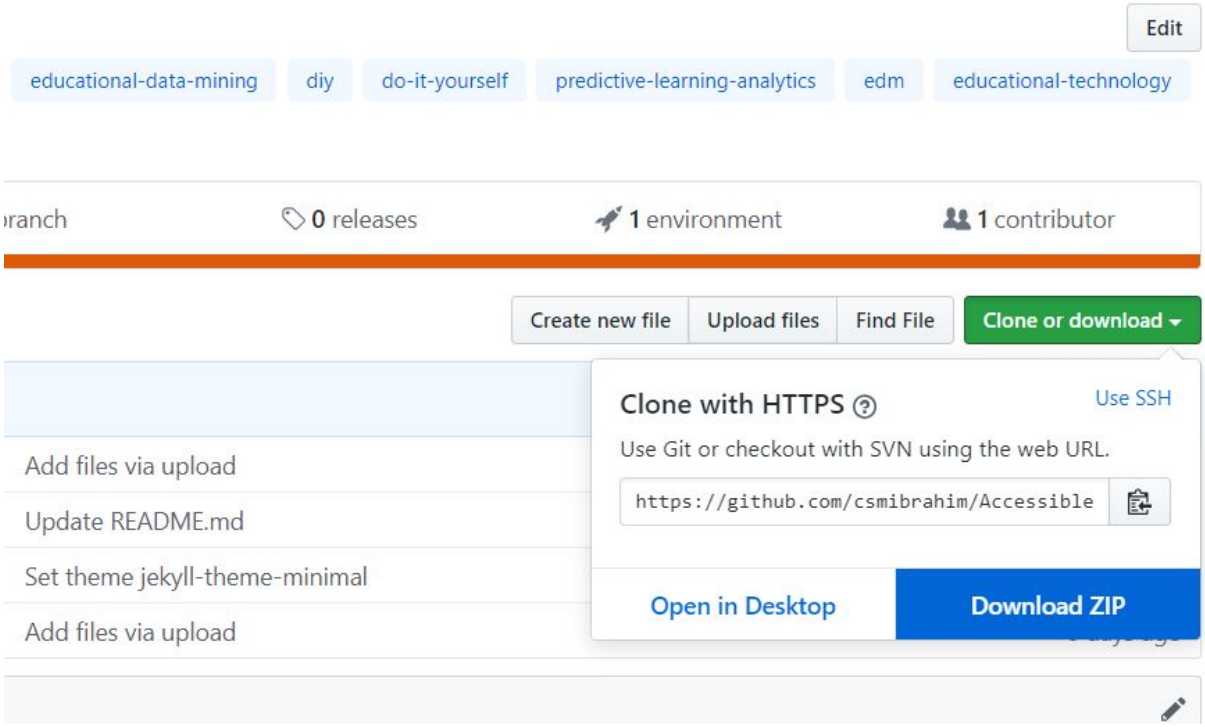


You are now setup to run Python applications locally on your machine. The next step is to download the project code to analyse Moodle logs from github (called a notebook file).

Download and Extract the Notebook

Download the notebook file application and extract it to a folder on your local computer as follows:

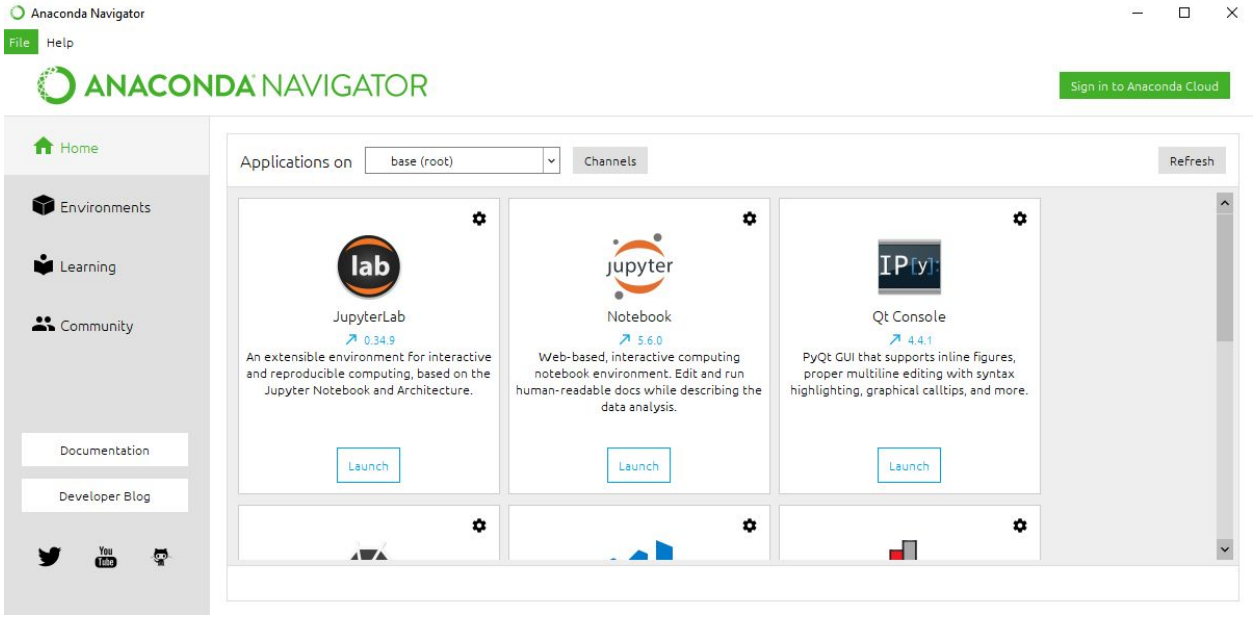
1. In a web browser, navigate to https://github.com/csmibrahim/Accessible-Learning-Analytics
2. From the page on GitHub, you can press the 'Download ZIP' button which is located under the "Clone or Download" drop down.



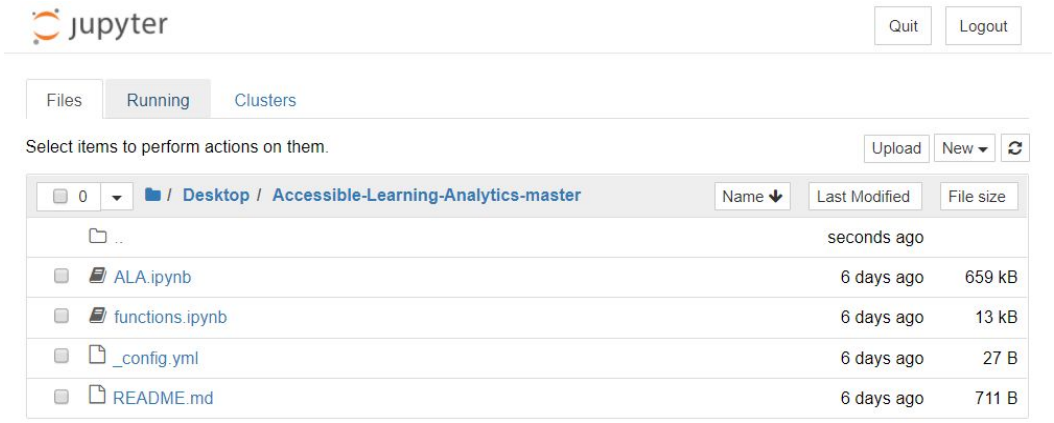
3. A zip archive “Accessible-Learning-Analytics-master.zip” will be downloaded locally in to your download folder. Create a folder for this and your Moodle logs. Unzip Accessible-Learning-Analytics-master.zip to this folder.

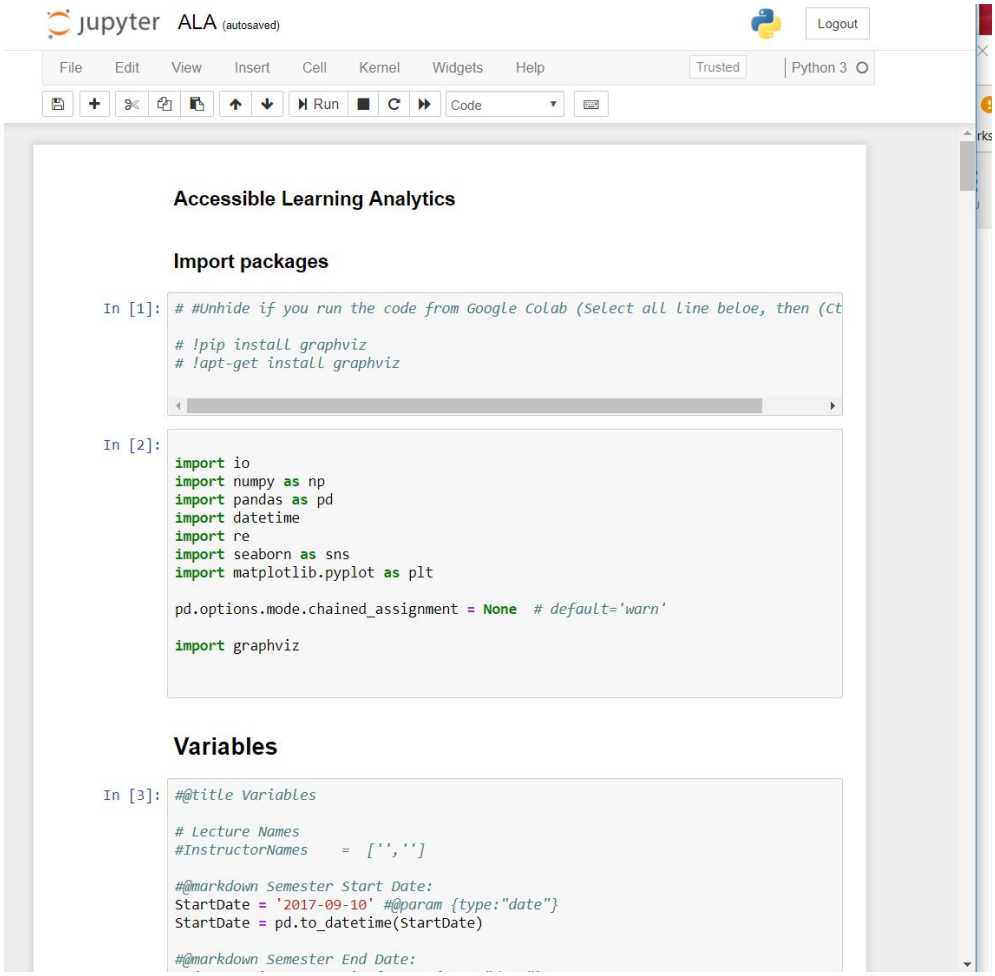
Running the notebook

1. Return to the Anaconda Navigator, and start jupyter by click “Launch” under the jupyter pane.



2. Navigate in jupyter Files to the folder where you downloaded the project earlier. Click on ALA.ipynb to open the notebook.



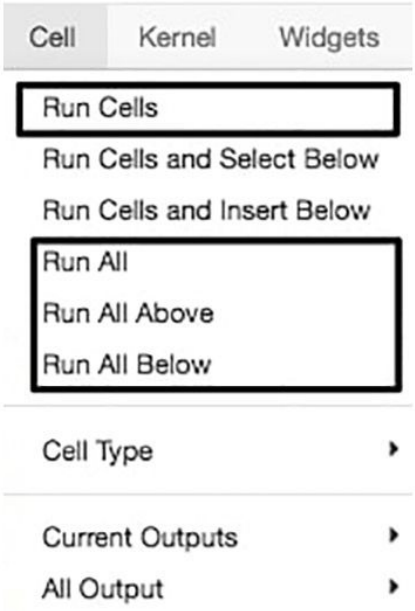


3. Make sure to keep your data files (Grade and Activity log) in the same folder where the code is. Otherwise, you have to type the full directory of the file before the name of the file. Also, please make sure files is saved in CSV format.
4. Before running the notebook to start analysing your Moodle log and grades: For each course, we need to update the following course variables (i.e. change the text in red in the code as per the screenshot below):
    a. Start Date and End Date for the course, in YYYY-MM-DD format
    b. The name of the Moodle log file (called activity file below)
    c. The name of the Moodle gradebook (called grade file below) Or If you are using your own excel spreadsheet for grades, make sure every column has a name; column names are in row 1; and grades start in row 2. Also specify below:
        i. The name of the column holding the final grade for the module
        ii. The name of the column holding the student ID.

Variables

In [3]:
```
# Semester Start Date:
StartDate = '2017-09-10'
StartDate = pd.to_datetime(StartDate)

# Semester End Date:
EndDate = '2018-01-15'
EndDate = pd.to_datetime(EndDate)

# Final grade column name in Grades file:
FGradeCol = "Course total (Real)"


# Student name column in Grade file:
StdCol    = 'User full name'


# Student Activity File Name
ActivityFile = 'MoodleLogs.csv'

# Student Grades File Name
GradeFile    = 'MoodleGrades.csv'

# Grade A Start From:
A_Start   = 75
```

5. To run the code and generate reports and graphs: under the **Cell** menu select “Run All”.



You should now be able to scroll through the notebook to see the results of the analysis.