Inf2 – Foundations of Data Science 2024

Task: Semester 1, Week 1 Lab

17th September 2025

An important part of your learning on FDS is working through the Jupyter lab notebooks. They are designed to help you achieve Learning Outcomes 1 and 2 (in particular data wrangling, exploratory data analysis and visualisation using Python) and to contribute towards your understanding of concepts and applications in machine learning, linear models and statistical inference. The Schedule on the FDS OpenCourse website suggests in which weeks you should do the labs.

To get you started with the notebooks, there will be drop-in lab sessions in Appleton Tower in Semester 1 weeks 1 and 2. After week 2, you should do the labs in your own study time, but there will be support available in InfBase and on Piazza.

Pair Programming

For reasons explained on the FDS OpenCourse website (Labs > Pair Programming), we strongly suggest that you work through the lab notebooks with a partner, as a paired programming exercise.

AI-assisted coding

Although AI-assisted coding can solve many of the exercises set, it is important that you understand *why* the code is working, and *what* it is doing.

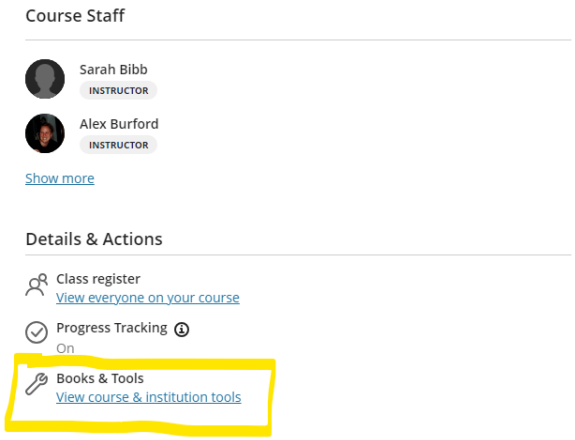
What if I get stuck?

You should expect to spend up to 2 hours on each notebook including solving the exercises in the labs. If you get stuck, you can reveal Hints & Solutions provided within the notebook itself. You may find a notebook takes longer than two hours to work through, especially towards the start of Semester 1, when you're getting used to Pandas. We encourage you to ask and answer each other's questions about labs on Piazza at any time.

Instructions for accessing the first and following labs

To access the labs we recommend you use **Noteable**, the University of Edinburgh's Jupyter notebook service. If pair-programming isn't possible, then you can go solo by following steps 2–12 as the driver, and ignoring all references to pair programming in the notebook.

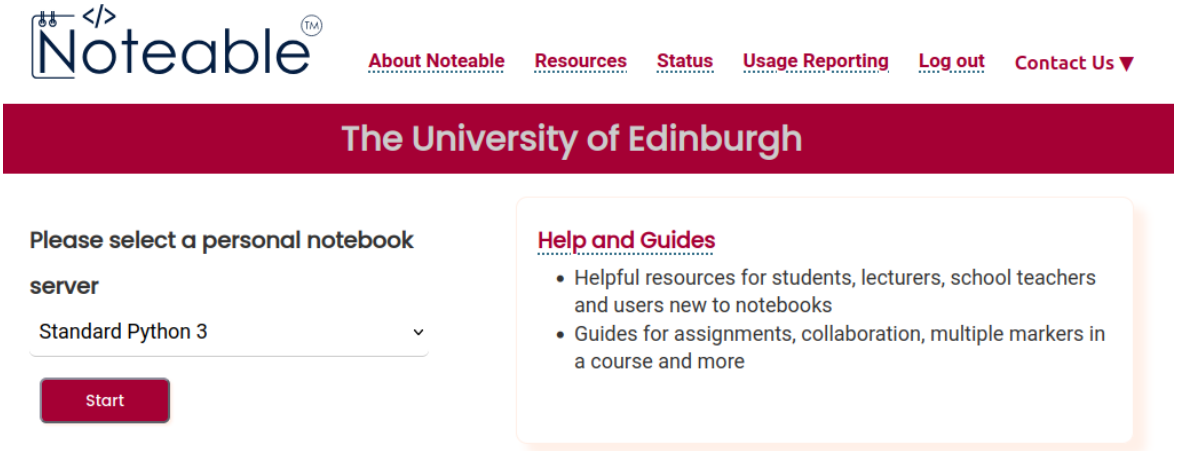
1. Decide who's going to start off as the **driver**, and who's going to start as the **navigator**.
2. The **driver** opens up a Firefox or Google Chrome browser window (not Microsoft Edge).
3. Make sure that you can both see the same screen – we suggest you use the lab machines and increase the magnification of the browser using Ctrl + +.
4. The **driver** goes to the FDS Learn page and navigates to Books & Tools, which is located in the sidebar and looks like this:



And then click on the Noteable link, which looks like this:

Noteable will automatically open in a new tab. If you try to open Noteable manually in a new tab, Noteable will not load.

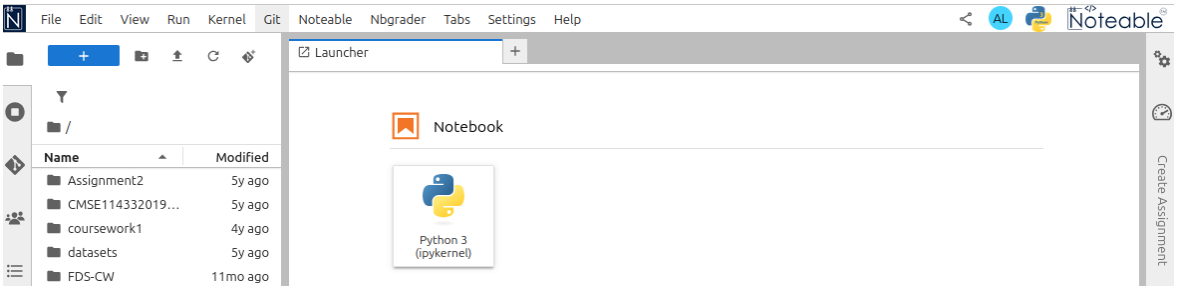
5. The next screen may say "Loading…". There may also be a message saying "Your browser may have blocked the opening of the new window; try clicking the button below to open 'Noteable'." If so, click on the button.
6. Once Noteable has loaded, you should see text saying "Please select a personal notebook server". Ensure Standard Python 3 is selected and click Start.



You may get a message asking whether you want to reconnect or shut down an existing notebook server. You normally do not have to click anything, but if the JupyterLab

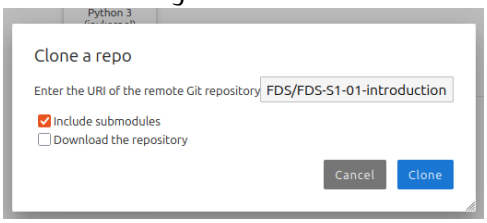
doesn't load in a couple of minutes, click "Shut Down" and start again. You will get this message if you already have Noteable open in a separate tab, in which case you can click "Reconnect" to work in multiple tabs.

7 The driver should now see the JupyterLab main screen, which looks like this:



8 Click on the Git > Clone a repository menu link.

9 Type the following GitHub link into the box titled 'Enter the URI of the remote Git repository': `https://github.com/Inf2-FDS/FDS-S1-01-introduction`
Do not change the checkboxes and click Clone.



Future weeks

For weeks after week 1, to find the link, you would go to https://opencourse.inf.ed.ac.uk/inf2-fds/course-materials, then scroll down to and click on the appropriate week (e.g. **S1 Week 1 - Introduction and Data**) and then find the lab (e.g. **INF2-FDS: S1 Week 1 Lab**), which will contain the link to the lab.

10 After a few seconds a "Successfully Cloned" notification should appear. The driver should navigate to a folder called `FDS-S1-01-introduction` in the file browser pane at the left of the screen. The folder should contain a number of folders and files, including the `datasets` folder and `FDS-S1-01-introduction.ipynb` file.

11 The file `FDS-S1-01-introduction.ipynb` is a Jupyter notebook containing Python code. (The `ipynb` extension stands for "Interactive Python Notebook".) Click on `FDS-S1-01-introduction.ipynb`.

12 The driver and navigator should now work through the notebook up to the point where the notebook suggests that you swap. At this point the **navigator** takes over the keyboard from the **driver**. After that, swap over every 10 minutes or so – the first notebook has suggestions for when to swap.

Pair programming in Noteable

To learn how to pair program on two separate devices using Noteable, see https://noteable.edina.ac.uk/documentation/collab-editing/. However, although both of you can see the code, only one of you will be able to run the code.

File sharing and logging out after pair programming with Noteable

When you have worked through the notebook, you will probably want to share the actual file (not just access to each other's Noteable, which will eventually time out). A simple (but not elegant) method is to download the file and email it to each other.

There are two ways of downloading a file:

- From an open notebook: File > Download
- From the file browser pane: right-click on the file and click the Download button.

To logout of Noteable, you should:

1. Click on the Noteable icon at the top right of the JupyterLab screen
2. On the next screen, click on Shutdown.

Other ways of running Jupyter notebooks and doing pair programming

We are not offering active support for running Jupyter notebooks on DICE machines or your own machine, but if you would like to do so, take a look at the **Labs** page on the OpenCourse pages for some hints about how to do this, or the README file on GitHub (https://github.com/Inf2-FDS/FDS-S1-01-introduction#readme).

To pair-program, you could fork the Jupyter notebook's GitHub repository and push and pull each other's work.