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Tutorial 1

Data Types and Structures in Python and R

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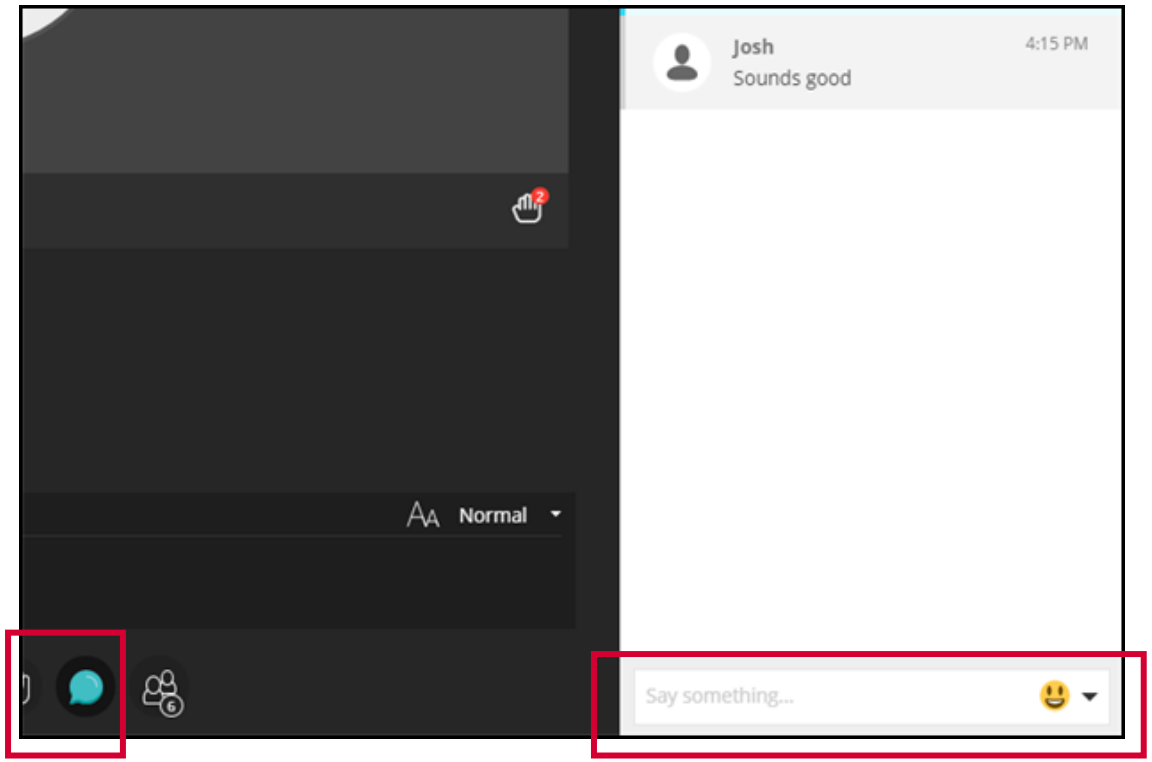

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Agenda

- Teaching team introduction
- Course overview
- Accessing tutorial coding notes and materials
- Error of the week: quick note an a Noteable R warning message
- Practical: Python and R workbooks

+ our wonderful Teaching Fellows
John & Keith

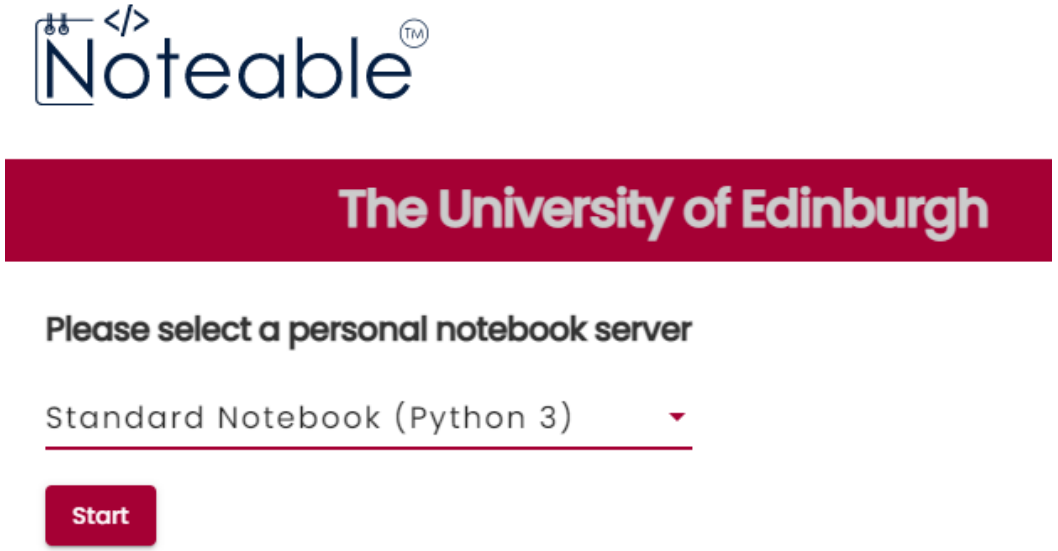
The teaching team

Course overview

- Live tutorials **Wednesday 1pm or Thursday 5pm BST**
- Live drop-in sessions **Friday 1pm BST**
- Content released each week on Friday
- 3 stars, a wish, and a step mini diaries
- Error of the week

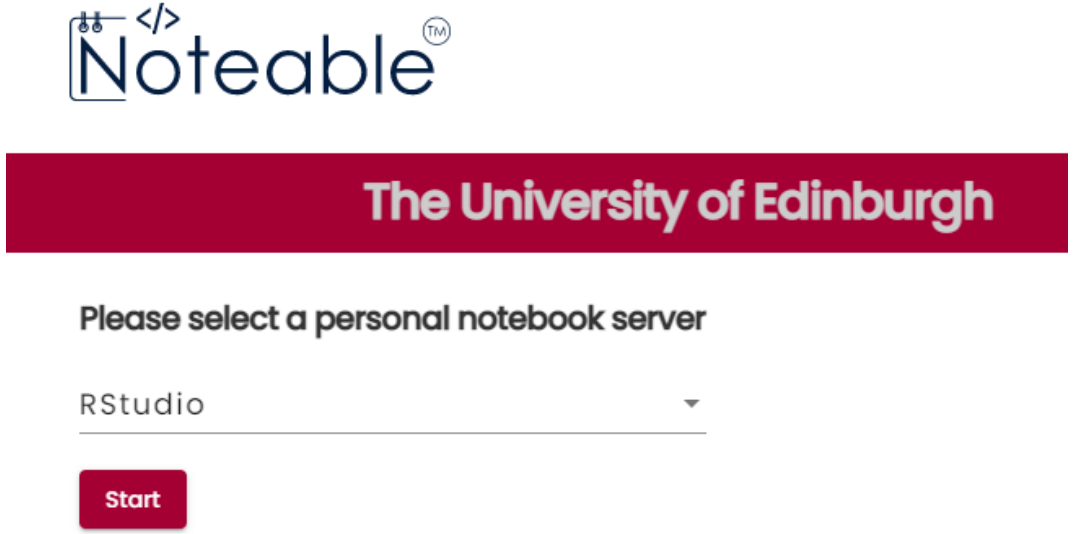
- Assessment released in Week 4 – coding & written components
- Assessment due **20 May at 12 noon BST**

Week	Week Commencing	Topic	Collaborate sessions
1	8 April 2024	Software Introduction	• Tutorial 10/04/2024 13:00 or 11/04/2024 17:00 • Drop-in session 12/04/2024 13:00
2	15 April 2024	Data Types (part 1)	• Tutorial 17/04/2024 13:00 or 18/04/2024 17:00 • Drop-in session 19/04/2024 13:00
3	22 April 2024	Data Types (part 2)	• Tutorial 24/04/2024 13:00 or 25/04/2024 17:00 • Drop-in session 26/04/2024 13:00
4	29 April 2024	Essential Data Structures	• Tutorial 01/05/2024 13:00 or 02/05/2024 17:00 • Drop-in session 03/05/2024 13:00
		Assessment released	
5	6 May 2024	Advanced and Less Common Data Structures	• Tutorial 08/05/2024 13:00 or 09/05/2024 17:00 • Drop-in session 10/05/2024 13:00
6	13 May 2024	Course completed, time allocated to work on final assignment	----------
7	20 May 2024	Assignment: Submission deadline 20 May 2024	----------



- Use to code in Python
- Use to access the files in your Noteable
  - Noteable runs on Jupyter in the background so the Notebook Dashbook is your home file directory

See Using Python in Noteable video in Week 1 Topic 2



- Use to code in R
- Can import and download files through the files pane, but more steps involved than in the Notebook Dashboard

See Using R in Noteable video in Week 1 Topic 3

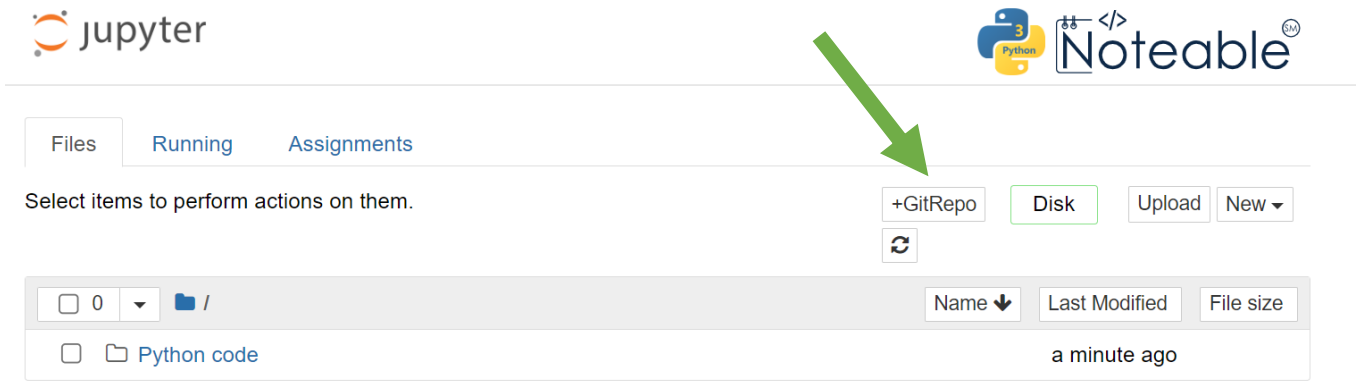
How to put files on your computer into your Noteable file directory

1. Download or identify files of interest
2. Open a Standard Notebook (Python 3) server
   - This will take you to your Notebook Dashboard which functions as your file directory
3. Upload the selected files
   - do not forget to click upload after selecting your file!
4. Have fun coding!

Where to find the materials on GitHub

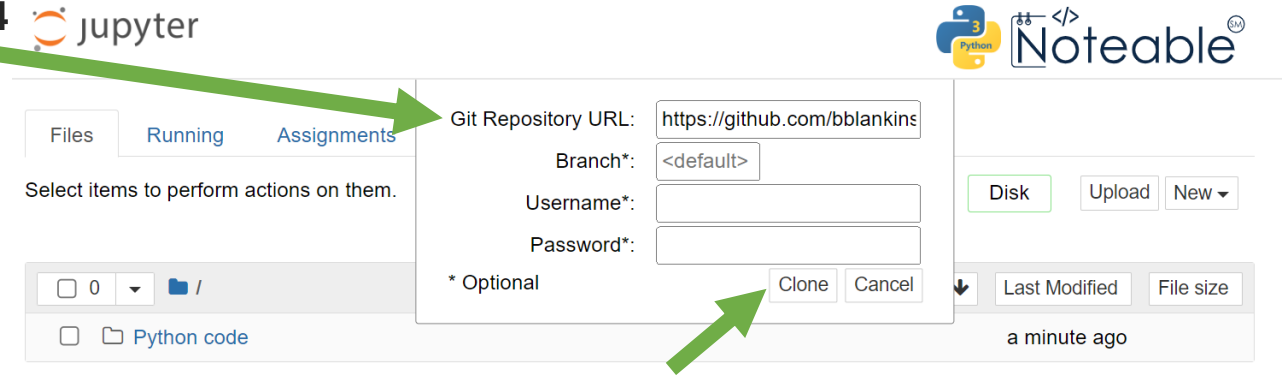
<u>Step 1:</u> Open Standard Notebook (Python 3) Server on Noteable

<u>Step 2:</u> click **['+GitRepo']** button



<u>Step 3:</u> copy & paste repo URL in the "Git Respository URL" box and hit "Clone"

https://github.com/bblankinship/DTSPRcourse-AY-2023-24

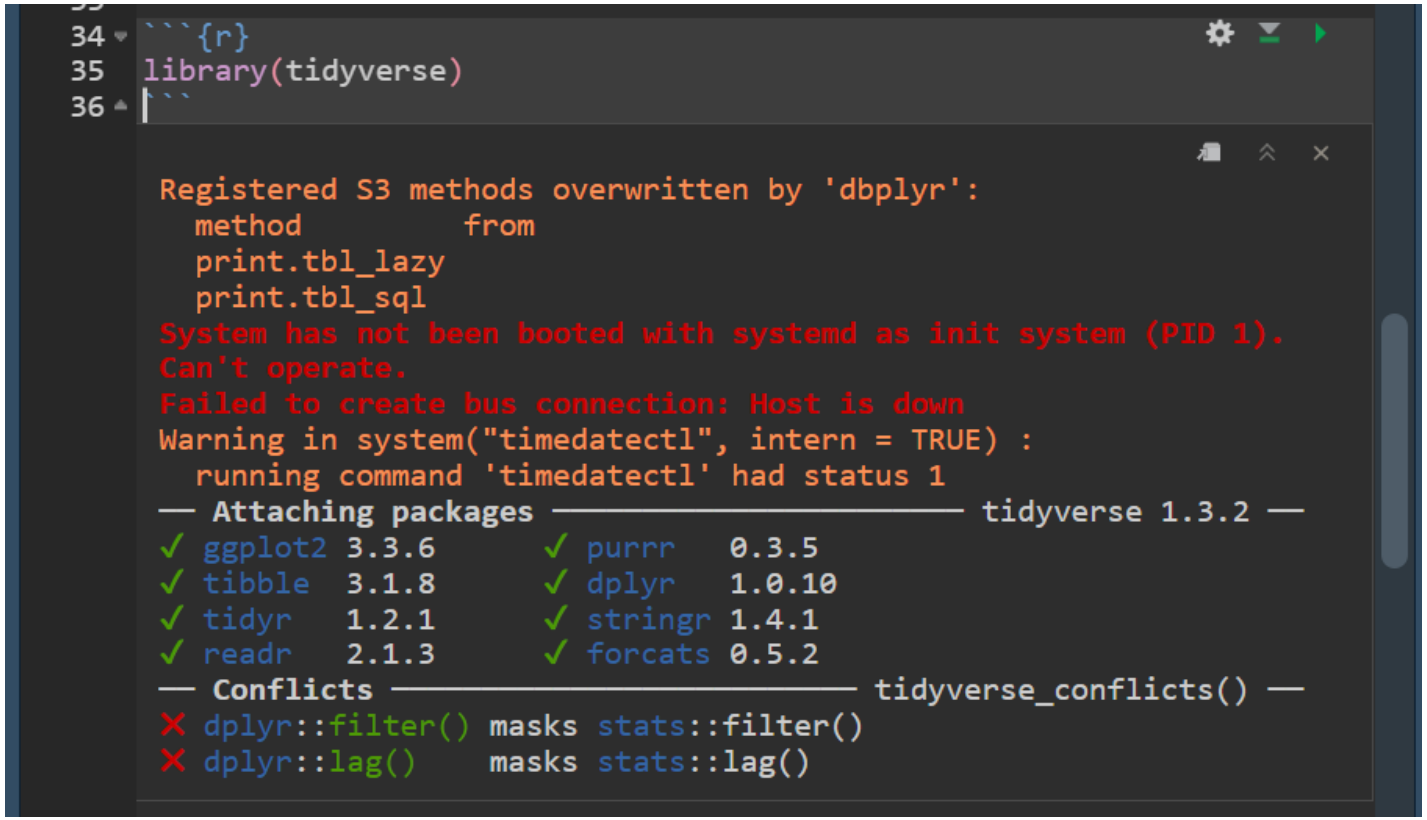


Our first error of the week

Which is a warning not an error, technically

Noteable RStudio warning message (& how to fix it)

- Nothing to be afraid of!
- Noteable is on the cloud, timezone is not guaranteed
  - Tidyverse can do all sort of cool date things (which we will see next week), so it needs to know the time



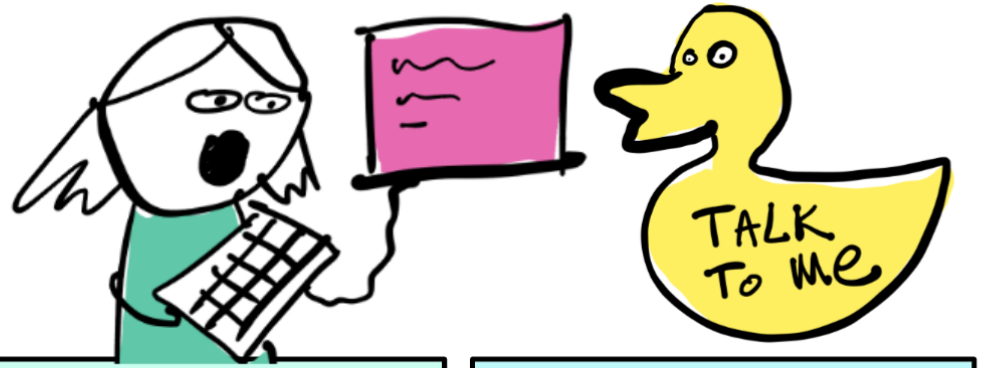
Solution! Add this line of code first

```
22 ```{r libraries}
23 Sys.setenv(TZ="Europe/London") # set timezone (TZ argument) to whatever timezone
   you may be in, I am in the UK so am using the TZ identifier for London. The allows
   the to packages to work as intended
24
25 library(tidyverse)
26
27 ```
28
```

- You can use a TZ identifier as input from the area you are in
  - See this Wikipedia page with a list of time zone identifiers from the tz database

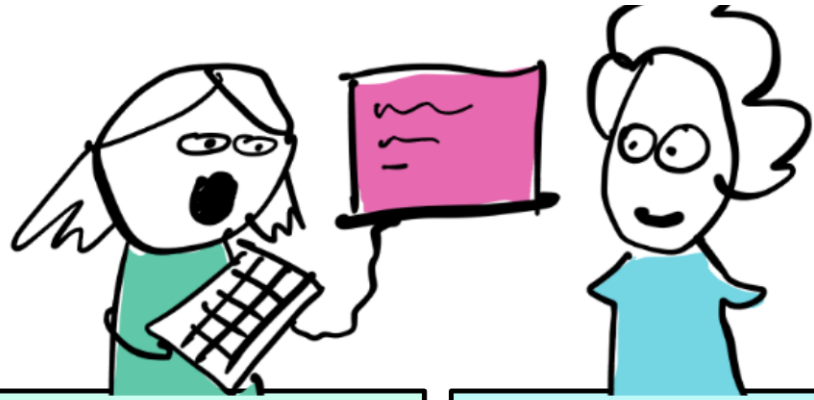
Now for some hands-on practice with Jupyter Notebooks & RMarkdown

Pair Programming



the Driver = active person, problem-solving, thinking out loud

the Navigator = reflective person, looks out for bugs, is a Rubber-Duck*



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