

Preparing for the tutorials

Jupyter Tutorials

These tutorials use a notebook on the University's JupyterHub system. Follow the instructions below to get started with them.

These instructions apply to these tutorials:

- **Data Science & Machine Learning in e-Commerce**
- **Classical unsupervised learning with scikit-learn**
- **Getting started with Jupyter notebooks and machine learning**
- **Neural Networks in TensorFlow**

1. Go to: <https://noteable.edina.ac.uk/login/>
(Don't forget the slash on the end!)
You will be asked to log in with "Ease" - use the credentials you were sent before the meeting.
2. Click "Start" and wait for the new tab to appear.
3. Click the box "New" and select "Terminal" from the drop-down list.
4. A new shell will appear. Type:

```
curl -Ljo prep.ipynb bit.ly/2Dvg0p7
```


and press enter. Close the window after the command runs.
5. There will now be a new entry on the list on the page. Click on it: prep.ipynb
6. Select the first cell, and press shift+enter to run it. This will download all the tutorials for the different sessions. It will take a few minutes to run, and will print a message at the bottom when complete.
7. Again, select File > Close and Halt to return to the main page.
8. Select the directory for whichever tutorial you are doing, and then the notebooks you need will be inside

Code profiling & Optimization

• Manual Installation

You will mainly use your own laptop for this session, and you can either work on it directly or ssh to another suitable machine.

Tutorial materials can be obtained by running:

```
git clone https://github.com/StewMH/OptimisationWorkshop/
```

or visiting <https://github.com/StewMH/OptimisationWorkshop/> directly.

You need these tools on your machine:

```
g++
clang
gdb
valgrind
```

And it would be nice to have:

```
google-perftools
libjemalloc
massif-visualizer
perf (linux only)
```

Examples are likely to work best with native Linux (e.g. Ubuntu 16.04), or Mac with Homebrew.

• Using Docker

You can also get all these tools by installing Docker:

1. Go to <https://docs.docker.com/install/> and follow the instructions for your operating system
2. Go to <https://hub.docker.com/> and create an account
3. Run these commands in a terminal:

```
docker login
# will request your username and password
docker run -it --privileged stewarmh/ubuntu-proftools:latest
```

Version Control with Git

Duncan Forgan

1. Install git on your laptop

- It may be installed already - you can check by running `git --version` in a terminal and seeing if it prints a version string.
- If not you can either:
 - install it from a package manager on your computer if you know what that means,
 - download and install it from <https://git-scm.com/>

2. Register for an account on <http://github.com/>

Other Sessions

The other sessions do not need any special preparation