

1.1.8 Our first synchronous exercise

We will perform our first synchronous activity together. We need to build up our toolkit before we can start learning about different models in the practicals. The techniques you learn here will be used throughout the course and we will keep coming back to them.

First of all, open up either CMD or terminal depending whether you are on windows or a mac (or Chromebook).

1.1.8.1 Log-in to the server using SSH

Log into Blackboard on your computer, then go to this course and then the folder called 'Log-in details for server computer'. You may prefer to just click on the link [here](#). This will take you to a folder with your username and password for the course, which you will use all the way through. Please take a note of these details.

Next you should open up a terminal or CMD window and log-in to the server computer. You are now logged in to the computer using SSH!

1.1.8.2 Create a text file using a text editor

When working remotely the applications you use to interact with the server should not use too many resources. Here we will create a text file using the nano text editor.

Type the following at the prompt within the SSH terminal:

```
nano test.txt
```

You will enter into a text editor where you can type in text. Type the following sentence as in Figure 1.1: Now hold the Ctrl key and press x. Nano will ask if you

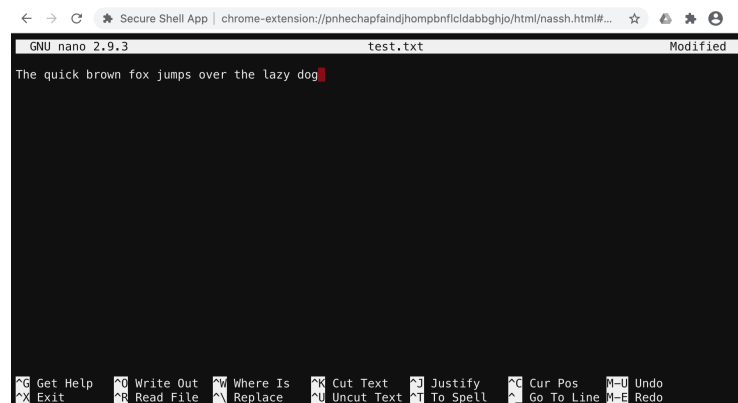


Figure 1.1: The nano text editor

want to save, press 'Y'. Nano will then ask you to name the file: just press the return key here. Congratulations! You have saved a file.

1.1.8.3 Transfer a file to your computer

Now, open up another terminal or CMD window. SFTP stands for *secure file transfer protocol*. The screen will look almost the same as the SSH screen.

You will be asked for your password again, so enter your password.

Once connected type: `get test.txt`

The above command should download the text file you have just created on the server to your local computer. Open it to check it contains the words you typed.

1.1.8.4 Download some code from GitHub

Lastly, we will download some code from GitHub. We will be doing this a lot so it is important you become familiar with the steps.

From an SSH window (you will need to be logged in) type the following command and then press enter:

```
git clone https://github.com/EnvModelling/approximate-methods-practical
```

The git clone command means: *download a copy / clone of the code at the following web address*. You should see that the computer downloads the code from the GitHub website. If it does not work, try it again by pushing up on the arrow key once and pressing enter.

Now type:

```
ls
```

(that is the letter 'l' for 'list' and the letter 's', which stands for 'list') followed by enter (you should see a new directory called 'approximate-methods-practical').

Now type:

```
cd approx
```

followed by the tab key on your computer. The tab key will complete the command automatically and then you can press enter. This is called *tab auto-completion*—how useful!

Finally type:

```
ls
```

again to see the files in this directory. We can now exit. Type `exit` followed by the 'x' key.