Practical session 3: File transfer

Scenario: Your supervisor has supplied some OpenFOAM files for you to process on the CSF, in an archive file. You need to transfer this file to the CSF.

Overview

We are going to:

1. Download a file from the course website to your laptop/PC

2. Upload the file from your laptop/PC to the CSF

3. Unpack the file on the CSF (it's an archive of several files, like a .zip file)

1. Everyone: Download the file called `foam-data.tgz` **from**:

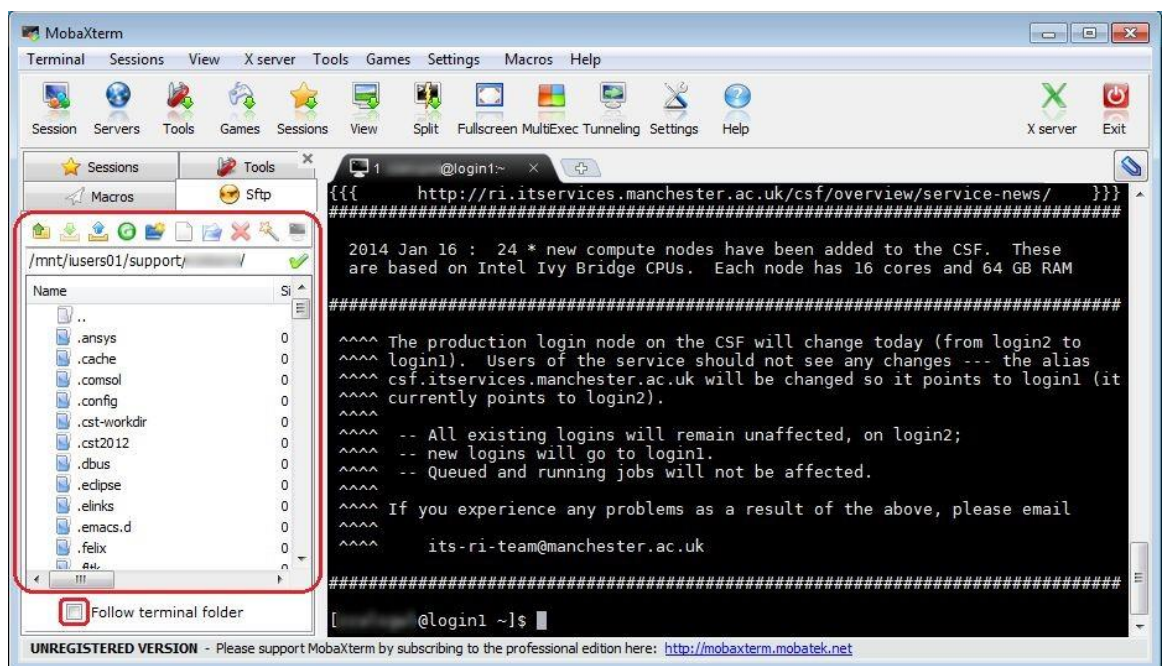http://ri.itservices.manchester.ac.uk/course/csf-mace

to your laptop/PC: right-click on the link in the webpage then choose the option 'Save link as' (or similar).

Make sure you know where you've saved it on your laptop (e.g., the "Downloads" folder?)

If you have trouble downloading, there is an alternative website linked at the top of the course webpage (see above) which will work – this provides a copy of the same file.

2. Everyone: Now upload the file *from* your laptop/PC *to* the CSF. Please follow the instructions below appropriate to your operating system:

Windows Users: Drag-n-drop in MobaXterm: When you log in to the CSF in your MobaXterm window, it will display your remote *home* directory used on the CSF (see diagram below – the files on the CSF are displayed in the panel on the left-hand side).

Note: If you *don't* see the panel on the left-hand side, ask for help (or try this fix: press the `Settings` icon in MobaXterm, then go to the `SSH` tab, then ensure the

"`Automatically switch sidebar view to show the graphical SFTP browser`" is ticked. Restart MobaXterm if you change this setting.)

You can simply drag-n-drop files from your PC to the CSF by dragging them (e.g., from your desktop) into this panel in the MobaXterm.

- Try to transfer the `foam-data.tgz` file to the CSF (ideally to the directory called `mace-course`)

- Alternatively, MobaXterm users can use the command-line method used by Mac and Linux users below. Once you get used to the command-line you may prefer this method! If you try you'll need to know that to access your P-drive at the MobaXterm command-line, use: `cd /drives/p`

Linux and MacOS users:

- DO NOT LOGIN TO THE CSF. THE NEXT COMMANDS ARE RUN ON YOUR LAPTOP, NOT THE CSF (if you are logged into the CSF – run `exit` to logout.)

- Open a new shell/terminal on your laptop/PC. On the command line move to the folder that contains the file `foam-data.tgz`

  For example, on your laptop: `cd ~/Downloads` or maybe `cd ~/Desktop`

- Now run the `scp` command in the new terminal to transfer the file *to* the CSF by running (you should NOT be logged into the CSF now):

```
scp foam-data.tgz username@csf3.itservices.manchester.ac.uk:~/mace-course/
```

  replace `username` with your central IT username and enter your ***central IT password*** when asked. Then press **1** at the DUO prompt and accept the push that appears on your mobile.) You will note that we are placing the file directly in the course folder on the CSF.

3. Everyone: The `.tgz` file is a type of Linux archive file (like a `.zip` file). **Using a terminal that is logged in to the CSF**, unpack the archive file using the following commands on the CSF:

```
cd ~/mace-course/foam-example
ls
```
(the `ls` command will show no output - there are no files in this folder to begin with!)

If you uploaded the `foam-data.tgz` file to the "`~/mace-course`" directory then run the following command to unpack the archive:

```
tar xzf ../foam-data.tgz
```

If you uploaded the `foam-data.tgz` file to your "home" directory then run the following command to unpack the archive:

```
tar xzf ~/foam-data.tgz
```

Now check that you have some files in the foam-example directory:

```
ls
```

Do you see a folder named `0.orig`, and other files? If not, please ask for help. These files will be needed in the next exercise.

That's it. We've uploaded an archive file (`foam-data.tgz`) from our laptop/PC to the CSF. Then we unpacked the file in a specific directory (`~/mace-course/foam-example`). We'll use these files in the next exercise.

Completely confused? Try this...

If you are really stuck or confused about where your files are, and can't find the `foam-data.tgz` file, either on your laptop or on the CSF, you can cheat by doing the following commands. You need the `foam-data.tgz` file for exercise 4, so if you can't complete the download/upload method above, please do the following:

1. Login to the CSF as usual (see exercise 1)
2. Go to your exercise folder on the CSF:
   ```
   cd ~/mace-course
   pwd
   ```
3. Download the file direct to the CSF using the `wget` Linux command:
   ```
   wget http://ri.itservices.manchester.ac.uk/course/csf-mace/foam-data.tgz
   ```
4. Check that you can now see the file on the CSF:
   ```
   ls -l
   ```
5. Go into the foam-example folder (it is currently empty)
   ```
   cd foam-example
   ```
   (if this fails, try `cd ~/mace-course/foam-example`)
   ```
   pwd
   ```
6. Unpack the archive file to give us some OpenFOAM files
   ```
   tar xzf ../foam-data.tgz
   ```
7. Check we have the `0.orig` file and other files and folders used by OpenFOAM:
   ```
   ls -l
   ```

If you still can't get the `foam-data.tgz` file, please ask for help (or contact https://ri.itservices.manchester.ac.uk/hpc-help outside of a course session).