

ncca RenderFarm Tool

Maya: Renderman

Constantinos Glynos

Gordon Dunn

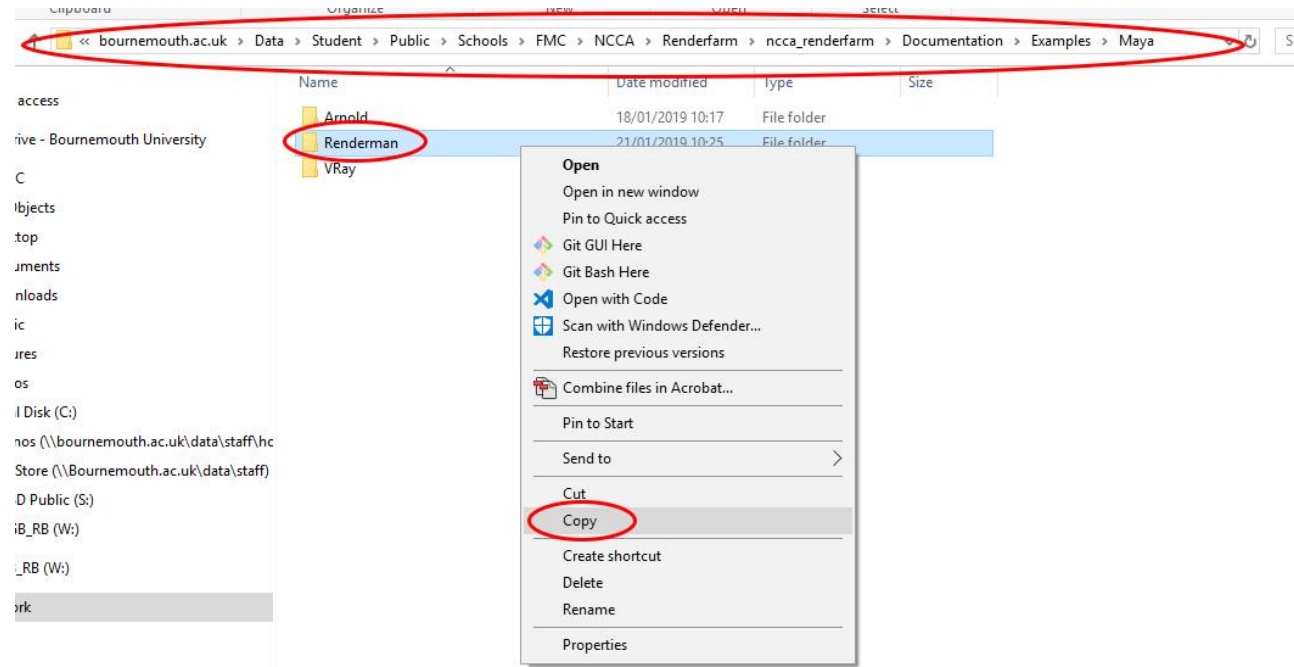


Copy the example scene

The Renderman example project directory is at

\\bournemouth.ac.uk\Data\Student\Public\Schools\FMC\NCCA\Renderfarm\ncca_renderfarm\Documentation\Examples\Maya\

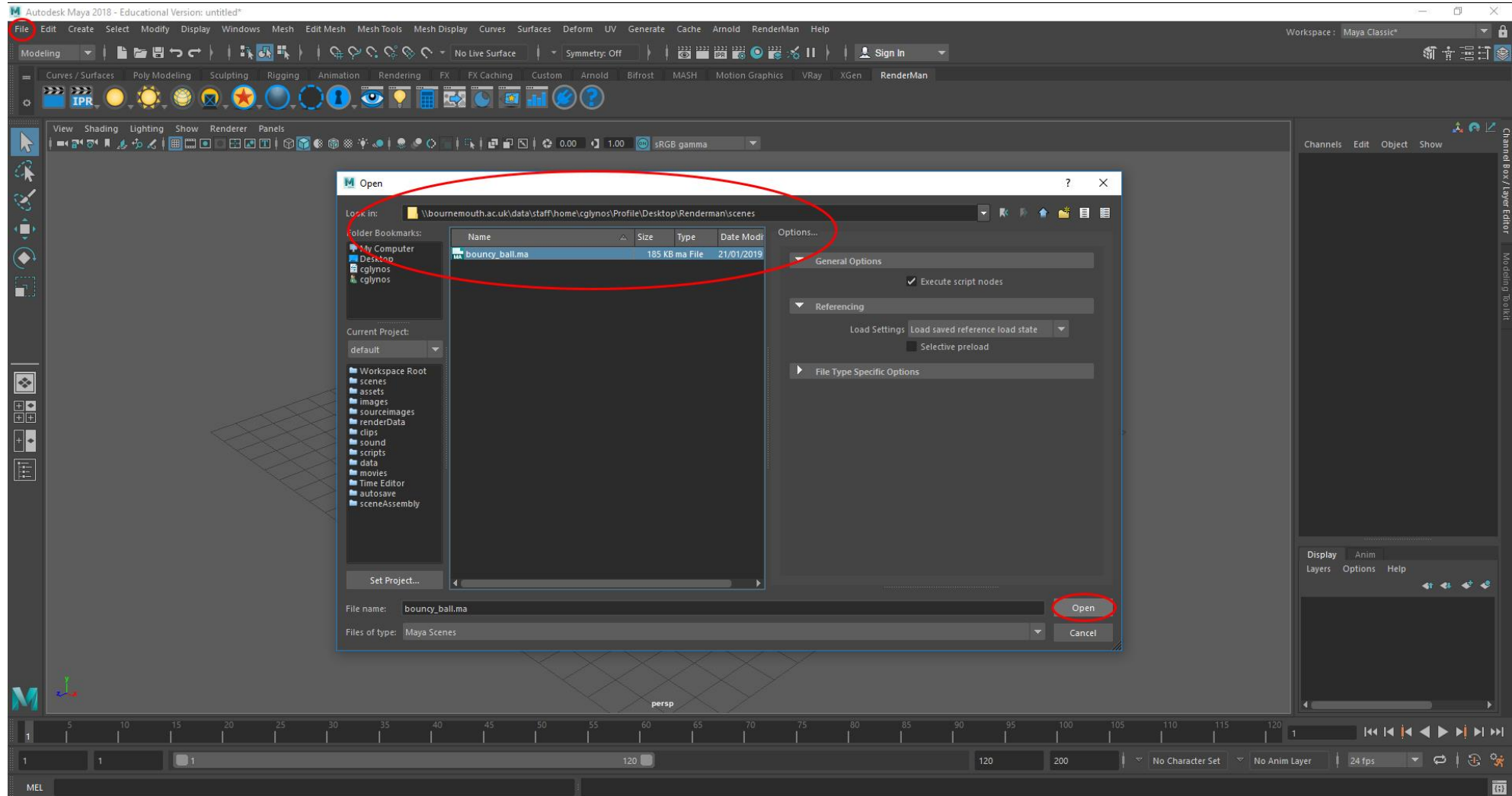
Copy and Paste the project directory to your **Desktop** or to the **D:** drive



Open Maya

Open the example scene

File -> Open -> bouncy_ball.ma



Set project directory

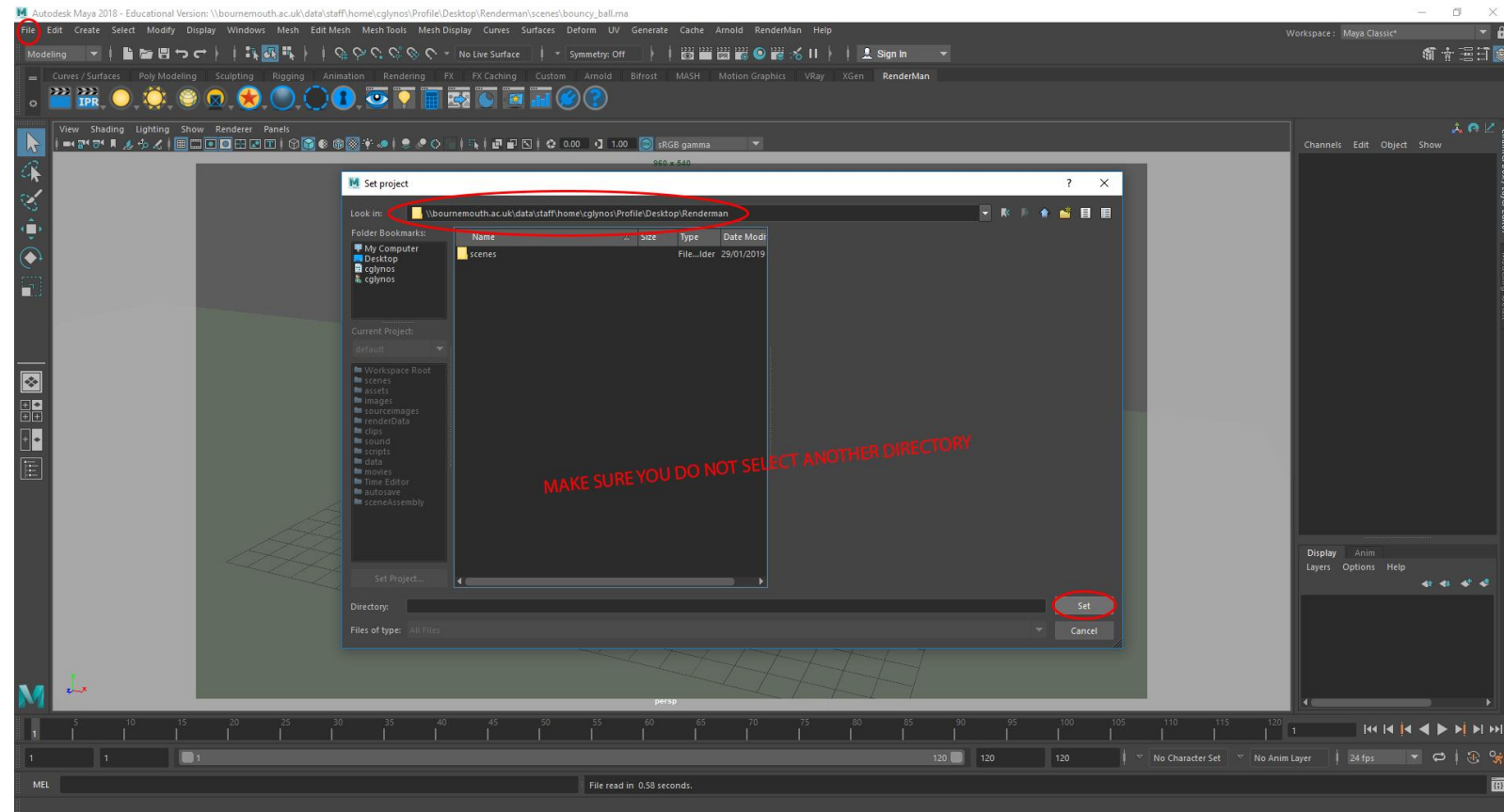
File -> Set Project...

Select the directory which is parent to all the project data files and folders.

Make sure you do not select another directory inside the parent directory

Click **Set**

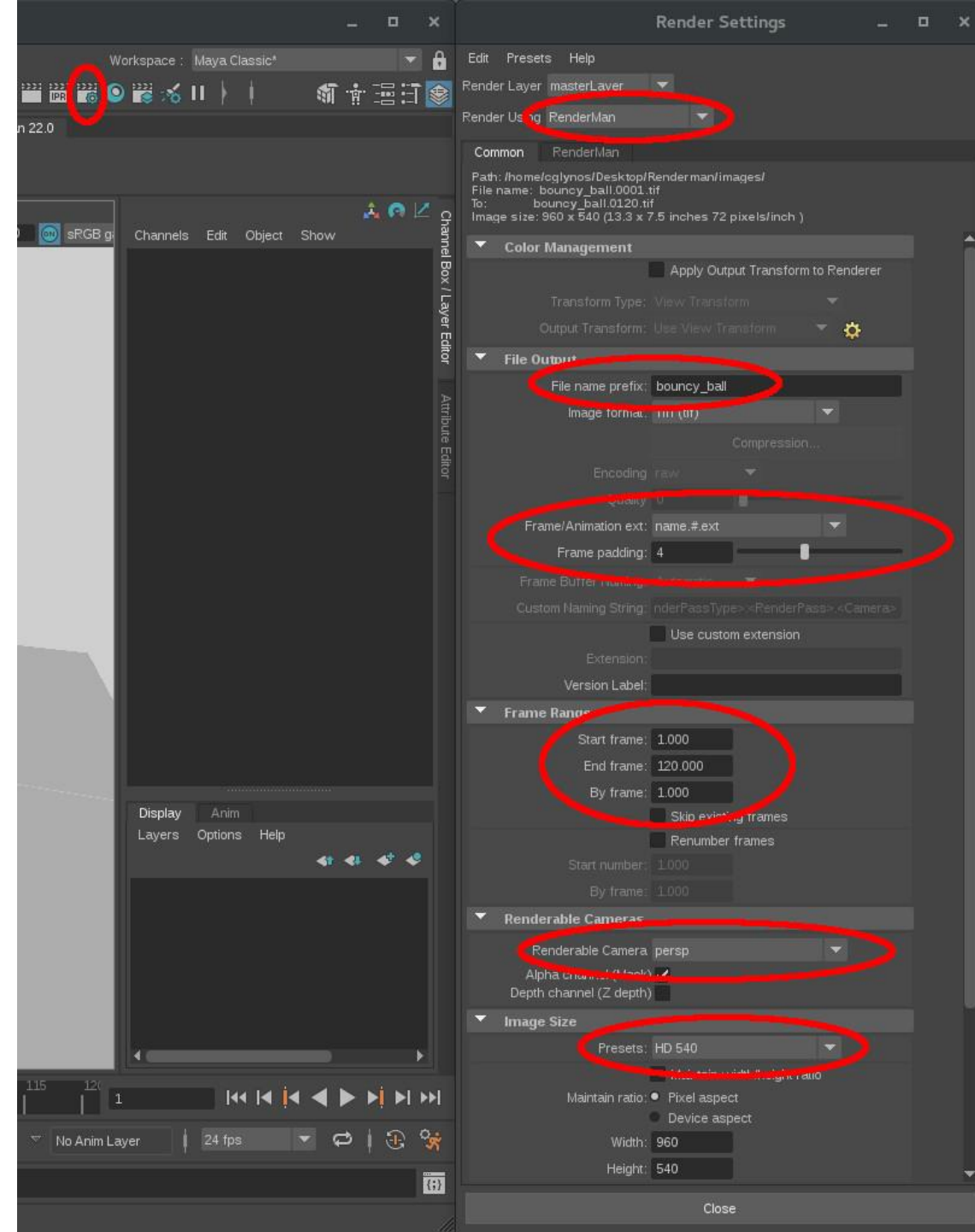
Select **Create default workspace**



Check the render settings

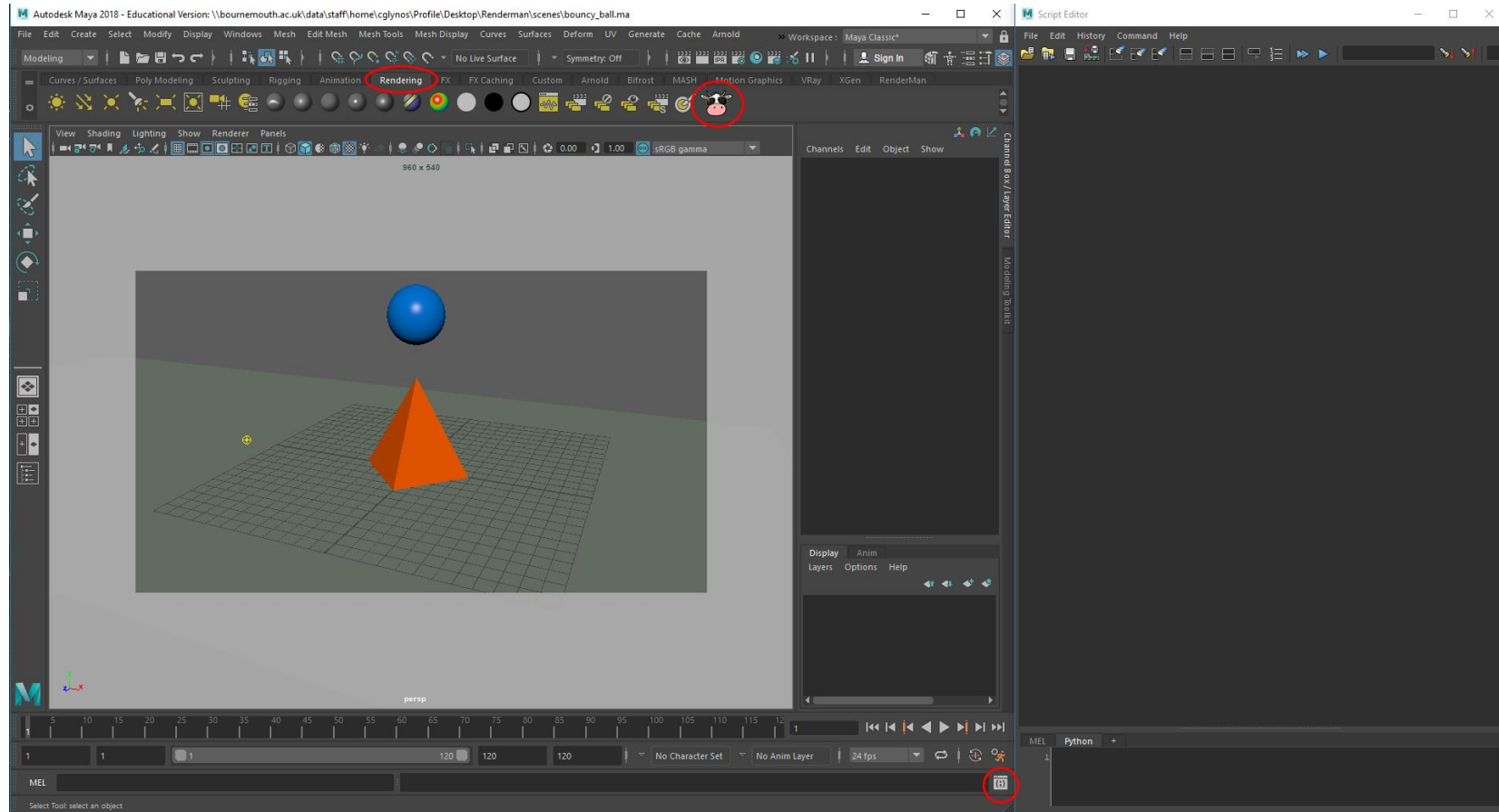
Check that your render settings are correct:

- Select the **Renderman** renderer
- Make sure you have a **name** for the output renders
- No need to select a file type because **renderman** exports to **.exr**
- Check the **format** and **frame padding**
- Make sure your **animation frames** are correct
- Select the **camera** to render from
- Set the correct **resolution**



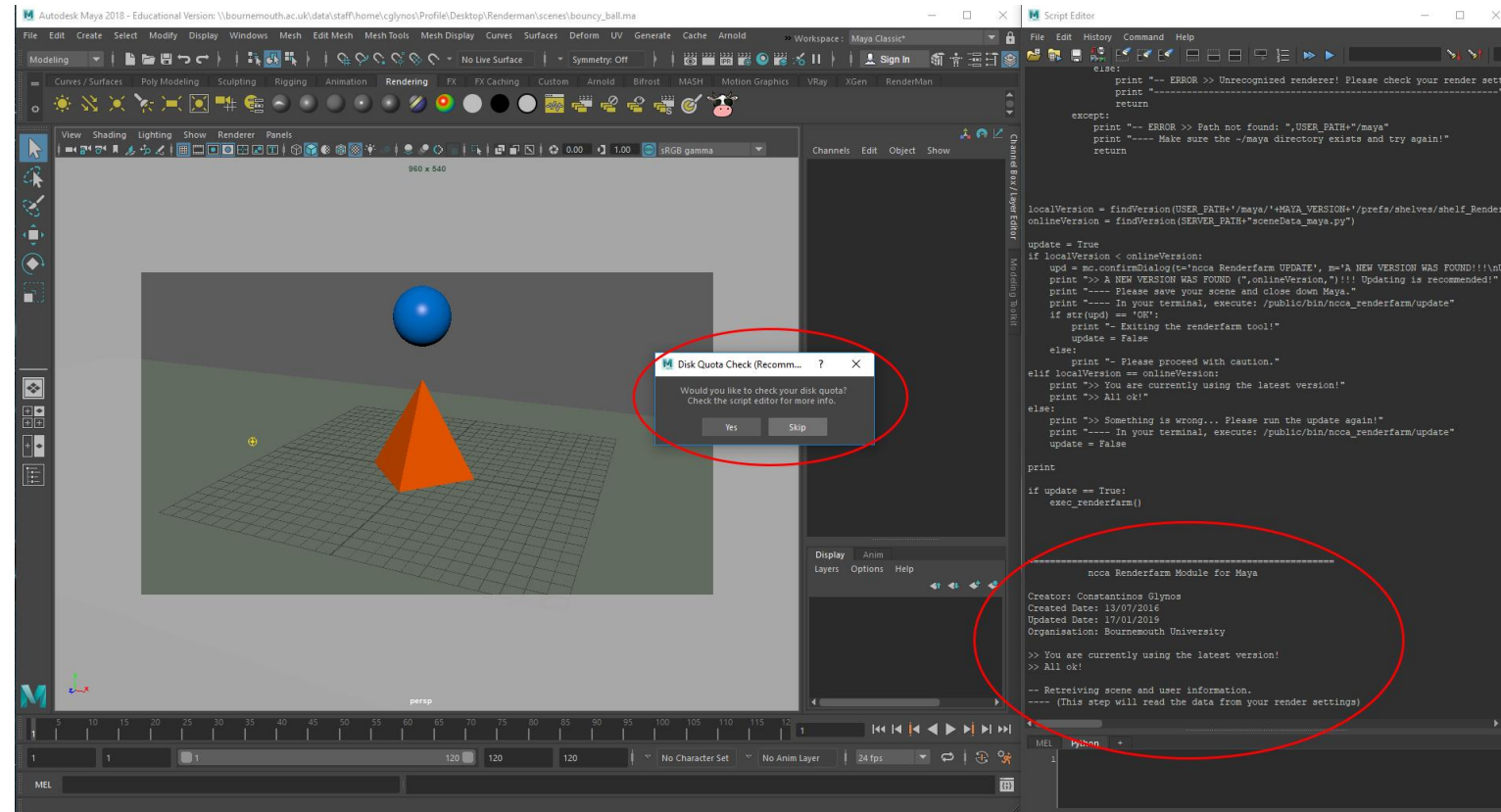
Let's render

- Press **Ctrl + S** to save the scene
- Open the **Script Editor** for debugging information
- Go to the **rendering shelf**
- Hit the cow!



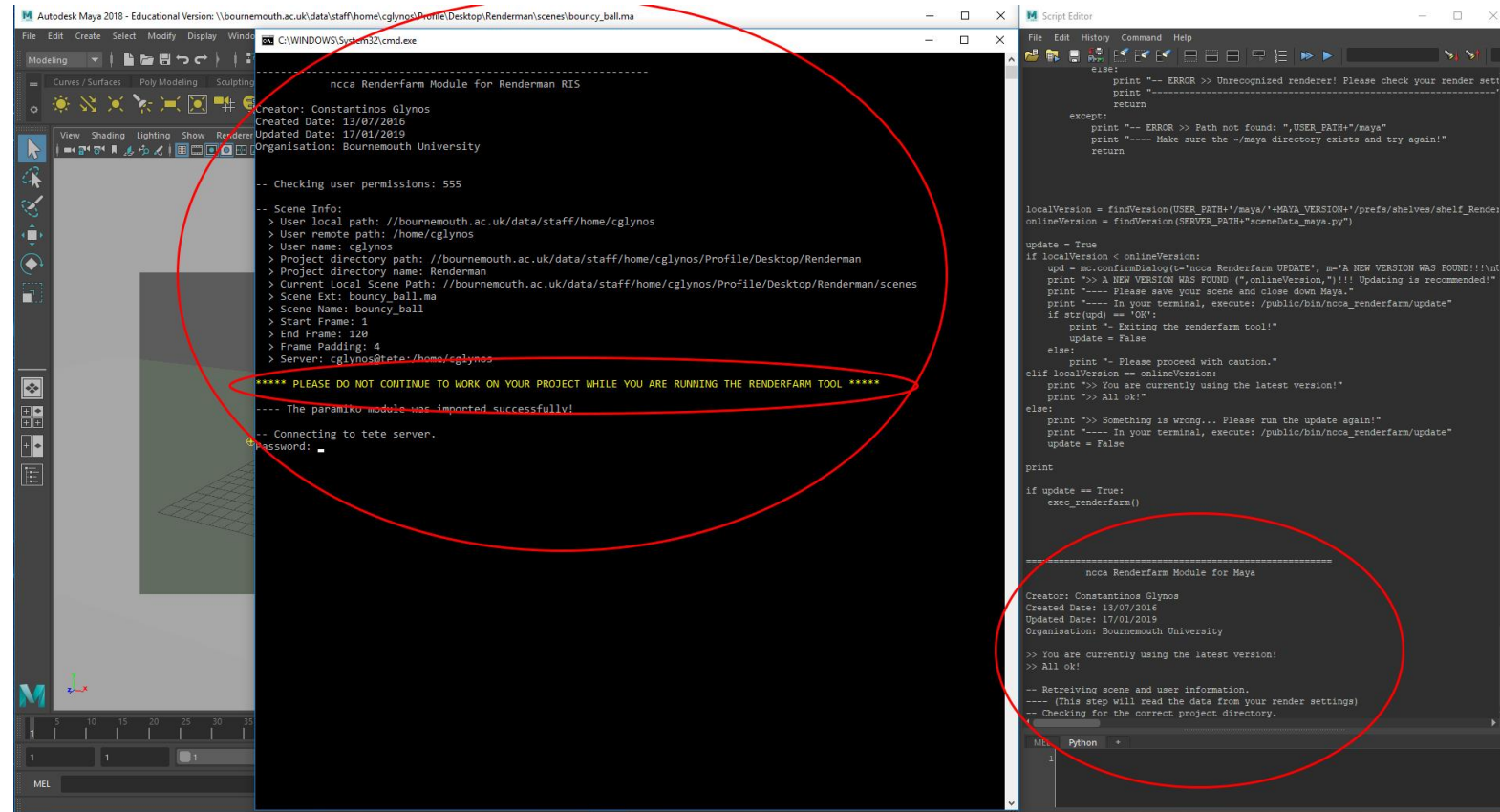
Using the tool

- Check your local **disk space** (quota), or **skip** if not needed.
- Check the **script editor** for any warnings about the version of the tool you are using.



Using the tool

- A new **cmd prompt** will appear which links to the renderfarm.
- [FIRST TIME]** The tool will search for the necessary libraries and install the missing ones. This might take a while.
- Check the data passed on to the renderfarm by reading the **script editor** and the **cmd**. If not correct, just close the cmd prompt to cancel the process.
- DO NOT USE MAYA OR CONTINUE TO WORK ON YOUR SCENE WHILE YOU SUBMIT A JOB TO THE RENDERFARM.**
- Enter your **password** to continue.



The screenshot shows the Autodesk Maya 2018 interface. The Command Line window displays the ncca Renderfarm Module for Renderman RIS, which is a Python script. The script includes metadata such as the creator's name (Constantinos Glynos), creation date (13/07/2016), and update date (17/01/2019). It also shows the user's local and remote paths, project directory, and scene information. A red circle highlights a warning message: "***** PLEASE DO NOT CONTINUE TO WORK ON YOUR PROJECT WHILE YOU ARE RUNNING THE RENDERFARM TOOL *****". The Script Editor window shows the same script, with a red circle highlighting the "Retrieving scene and user information" section, which includes a comment: "(This step will read the data from your render settings)".

```
ncca Renderfarm Module for Renderman RIS
Creator: Constantinos Glynos
Created Date: 13/07/2016
Updated Date: 17/01/2019
Organisation: Bournemouth University

-- Checking user permissions: 555

-- Scene Info:
> User local path: //bournemouth.ac.uk/data/staff/home/cglynos/
> User remote path: /home/cglynos
> User name: cglynos
> Project directory path: //bournemouth.ac.uk/data/staff/home/cglynos/Profile/Desktop/Renderman
> Project directory name: Renderman
> Current Local Scene Path: //bournemouth.ac.uk/data/staff/home/cglynos/Profile/Desktop/Renderman/scenes
> Scene Ext: bouncy_ball.ma
> Scene Name: bouncy_ball
> Start Frame: 1
> End Frame: 120
> Frame Padding: 4
> Server: cglynos@tete:/home/cglynos

***** PLEASE DO NOT CONTINUE TO WORK ON YOUR PROJECT WHILE YOU ARE RUNNING THE RENDERFARM TOOL *****

---- The paramiko module was imported successfully!

-- Connecting to tete server.
Password: _

ncca Renderfarm Module for Maya
Creator: Constantinos Glynos
Created Date: 13/07/2016
Updated Date: 17/01/2019
Organisation: Bournemouth University

>> You are currently using the latest version!
>> All ok!

-- Retrieving scene and user information.
---- (This step will read the data from your render settings)
-- Checking for the correct project directory.
```


Using the tool

- The tool will check if you have any existing directories with the same name on the server and prompt for action (replace or rename).
- Enter your **password** again to upload your project directory onto the tete server.

```
ournemouth.ac.uk\data\staff\home\cglynos\Profile\Desktop\Renderman\scenes\bouncy_ball.ma
C:\WINDOWS\System32\cmd.exe
-----
ncca Renderfarm Module for Renderman RIS
Creator: Constantinos Glynos
Created Date: 13/07/2016
Updated Date: 17/01/2019
Organisation: Bournemouth University

-- Checking user permissions: 555

-- Scene Info:
> User local path: //bournemouth.ac.uk/data/staff/home/cglynos
> User remote path: /home/cglynos
> User name: cglynos
> Project directory path: //bournemouth.ac.uk/data/staff/home/cglynos/Profile/Desktop/Renderman
> Project directory name: Renderman
> Current Local Scene Path: //bournemouth.ac.uk/data/staff/home/cglynos/Profile/Desktop/Renderman/scenes
> Scene Ext: bouncy_ball.ma
> Scene Name: bouncy_ball
> Start Frame: 1
> End Frame: 120
> Frame Padding: 4
> Server: cglynos@tete:/home/cglynos

***** PLEASE DO NOT CONTINUE TO WORK ON YOUR PROJECT WHILE YOU ARE RUNNING THE RENDERFARM TOOL *****

-- The paramiko module was imported successfully!

-- Connecting to tete server.
Password:
-- Looking for home directory on the server.
-- All ok -> /home/cglynos
-- Checking server for pre-existing projects.

-- No other projects found with the same name.
-- Moving on!

-- Uploading project tree as >> Renderman
---- This is a very important step. DO NOT interrupt this process.
-- Please wait for the files to be uploaded. DO NOT interrupt this process.

cglynos@tete's password:
```

Using the tool

- Once the files are uploaded, the tool will prompt for a quota check on the server.
- If you do not have enough disk space ([quota](#)) available on the server, your renders will not be saved anywhere.
- [Skip](#) online quota check iff you are sure you have enough space available.

```

C:\WINDOWS\System32\cmd.exe
-----
ncca Renderfarm Module for Renderman RIS
Creator: Constantinos Glynos
Created Date: 13/07/2016
Updated Date: 17/01/2019
Organisation: Bournemouth University

-- Checking user permissions: 555

-- Scene Info:
> User local path: //bournemouth.ac.uk/data/staff/home/cglynos
> User remote path: /home/cglynos
> User name: cglynos
> Project directory path: //bournemouth.ac.uk/data/staff/home/cglynos/Profile/Desktop/Renderman
> Project directory name: Renderman
> Current Local Scene Path: //bournemouth.ac.uk/data/staff/home/cglynos/Profile/Desktop/Renderman/scenes
> Scene Ext: bouncy_ball.ma
> Scene Name: bouncy_ball
> Start Frame: 1
> End Frame: 120
> Frame Padding: 4
> Server: cglynos@tete:/home/cglynos

**** PLEASE DO NOT CONTINUE TO WORK ON YOUR PROJECT WHILE YOU ARE RUNNING THE RENDERFARM TOOL ****

---- The paramiko module was imported successfully!

-- Connecting to tete server.
Password:
-- Looking for home directory on the server.
-- All ok -> /home/cglynos
-- Checking server for pre-existing projects.

-- No other projects found with the same name.
-- Moving on!

-- Uploading project tree as >> Renderman
---- This is a very important step. DO NOT interrupt this process.
-- Please wait for the files to be uploaded. DO NOT interrupt this process.

cglynos@tete's password:
Connected to tete
Changing to: /home/cglynos/Renderman
sftp> put -r //bournemouth.ac.uk/data/staff/home/cglynos/Profile/Desktop/Renderman
Uploading //bournemouth.ac.uk/data/staff/home/cglynos/Profile/Desktop/Renderman/ to /home/cglynos/Renderman/
Entering //bournemouth.ac.uk/data/staff/home/cglynos/Profile/Desktop/Renderman/
Entering //bournemouth.ac.uk/data/staff/home/cglynos/Profile/Desktop/Renderman/scenes
//bournemouth.ac.uk/data/staff/home/cglynos/Profile/Desktop/Renderman/scenes/bouncy_b 100% 185KB 125.3KB/s 00:00
//bournemouth.ac.uk/data/staff/home/cglynos/Profile/Desktop/Renderman/workspace.mel 100% 2806 2.7KB/s 00:00

35 -- Upload complete!

-- Disk Quota Check (Recommended)
---- Would you like to check your disk quota before rendering? (y/n): n

```

Using the tool

- Set your **output renders directory** if you don't want to use the default one.
- Check the **Job info** data before submitting the job to **Qube**.
- Type **y** and **Enter** to continue.

```
C:\WINDOWS\System32\cmd.exe
> End Frame: 120
> Frame Padding: 4
> Server: cglynos@tete:/home/cglynos

***** PLEASE DO NOT CONTINUE TO WORK ON YOUR PROJECT WHILE YOU ARE RUNNING THE RENDERFARM TOOL *****

---- The paramiko module was imported successfully!

-- Connecting to tete server.
Password:
-- Looking for home directory on the server.
-- All ok -> /home/cglynos
-- Checking server for pre-existing projects.

-- No other projects found with the same name.
-- Moving on!

-- Uploading project tree as >> Renderman
---- This is a very important step. DO NOT interrupt this process.
-- Please wait for the files to be uploaded. DO NOT interrupt this process.

cglynos@tete's password:
Connected to tete.
Changing to: /home/cglynos/Renderman
sftp> put -r //bournemouth.ac.uk/data/staff/home/cglynos/Profile/Desktop/Renderman
Uploading //bournemouth.ac.uk/data/staff/home/cglynos/Profile/Desktop/Renderman/ to /home/cglynos/Renderman/
Entering //bournemouth.ac.uk/data/staff/home/cglynos/Profile/Desktop/Renderman/
Entering //bournemouth.ac.uk/data/staff/home/cglynos/Profile/Desktop/Renderman/scenes
//bournemouth.ac.uk/data/staff/home/cglynos/Profile/Desktop/Renderman/scenes/bouncy_b 100% 185KB 185.3KB/s 00:00
//bournemouth.ac.uk/data/staff/home/cglynos/Profile/Desktop/Renderman/workspace.mel 100% 2806 2.7KB/s 00:00

+-- Upload complete!

-- Disk Quota Check (Recommended)
---- Would you like to check your disk quota before rendering? (y/n): n
-- Skipped disk quota check.

-- Accessing Qube..
-- Checking for render images directory.
---- The default render images directory <Renderman/images> was not found.
----- Creating a default render images directory.
---- < Renderman/images > updated successfully!
-- Updated Render Images folder: /render/cglynos/Renderman/images

-- Job Info:
> Job Name: cglynos_bouncy_ball_Pro(Renderman)
> Job Priority: 9999
> Job Number of Frames: 120
> Job Instances: 1
> Job Frame Range: 1-120
> Job Project Path: /render/cglynos/Renderman
> Job Scene File: /render/cglynos/Renderman/scenes/bouncy_ball.ma
> Job Render EXE path: /opt/software/autodesk/maya2018/bin/Render
> Job Rd Images path: /render/cglynos/Renderman/images
> Job Cmd Line: /opt/software/autodesk/maya2018/bin/Render -render rman -proj /render/cglynos/Renderman -rd /render/
cglynos/Renderman/images -s 1 -e 120 /render/cglynos/Renderman/scenes/bouncy_ball.ma

-- Submitting job to Qube!
-- Continue? (y/n): y
```


Using the tool

- Unfortunately, you cannot wrangle your renders from the cmd prompt.
- At this point you safely close the cmd prompt and wrangle your renders from Qube.

```
C:\WINDOWS\System32\cmd.exe

-- No other projects found with the same name.
-- Moving on!

-- Uploading project tree as >> Renderman
---- This is a very important step. DO NOT interrupt this process.
-- Please wait for the files to be uploaded. DO NOT interrupt this process.

cglynos@tete's password:
Connected to tete.
Changing to: /home/cglynos/Renderman
sftp> put -r //bournemouth.ac.uk/data/staff/home/cglynos/Profile/Desktop/Renderman
Uploading //bournemouth.ac.uk/data/staff/home/cglynos/Profile/Desktop/Renderman/ to /home/cglynos/Renderman/
Entering //bournemouth.ac.uk/data/staff/home/cglynos/Profile/Desktop/Renderman/
Entering //bournemouth.ac.uk/data/staff/home/cglynos/Profile/Desktop/Renderman/scenes
//bournemouth.ac.uk/data/staff/home/cglynos/Profile/Desktop/Renderman/scenes/bouncy_b 100% 185KB 185.3KB/s 00:00
//bournemouth.ac.uk/data/staff/home/cglynos/Profile/Desktop/Renderman/workspace.mel 100% 2806 2.7KB/s 00:00

-- Upload complete!

-- Disk Quota Check (Recommended)
---- Would you like to check your disk quota before rendering? (y/n): n
-- Skipped disk quota check.

-- Accessing Qube..
-- Checking for render images directory.
---- The default render images directory <Renderman/images> was not found.
----- Creating a default render images directory.
---- < Renderman/images > updated successfully!
-- Updated Render Images folder: /render/cglynos/Renderman/images

-- Job Info:
> job Name: cglynos_bouncy_ball_Pro(Renderman)
> job Priority: 9999
> job Number of Frames: 120
> job Instances: 1
> job Frame Range: 1-120
> job Project Path: /render/cglynos/Renderman
> job Scene File: /render/cglynos/Renderman/scenes/bouncy_ball.ma
> job Render EXE path: /opt/software/autodesk/maya2018/bin/Render
> job Rd Images path: /render/cglynos/Renderman/images
> job Cmd Line: /opt/software/autodesk/maya2018/bin/Render -renderer rman -proj /render/cglynos/Renderman -rd /render/
cglynos/Renderman/images -s 1 -e 120 /render/cglynos/Renderman/scenes/bouncy_ball.ma

-- Submitting job to Qube!
-- Continue? (y/n): y

-----
-- Wrangling the latest job in Qube!

Error >> Oops! Something went wrong..
>> Please wrangle your frames from Qube instead.

-----
Done - Close this terminal and open Qube to manage your renders!
=====
Press Enter to close the terminal.
```

Using the tool

- Open [Qube](#) from [Apps Anywhere](#).
- View our job's progress from the **running instances**.
- View which frame is being rendered from [Job Logs -> Stdout Log](#)
- Now we **wait** for it to finish.
- You can **now** [continue](#) to work on your scene.

The screenshot displays the Qube! WranglerView 6.5-3a interface. The top menu bar includes File, View, Submit, Administration, and Help. Below the menu is a toolbar with icons for Refresh, Refresh Sel, Incomplete, Running, Failed, Killed, Complete, and User. A dropdown menu shows 'cglynos' and a search bar labeled 'Job Filter'.

The main panel shows 'Requests in refresh queue: 0' and 'Farm Usage: running instances: 19 workers: 5/16 slots: 19/340'. The 'Jobs' tab is active, displaying a table of job counts: 'Displaying: 1 Retrieved: 2 Total in Qube: 786'. The table has columns: Id, JL, State, % Done, and Name. A single job is listed with Id 28023, State 'running', % Done '0% (0/1)', and Name 'cglynos_bouncy_ball_Pro(Renderman)'. This row is circled in red.

The 'Instances' tab is also active, showing a table with columns: Id, Host, Status, % Done, Started, and Elapsed. A single instance is listed with Id 0, Host 'tete02', Status 'running', % Done, Started '09:47:09 AM', and Elapsed '0:00:41'. This row is also circled in red.

The 'Job Logs' tab is active, showing a 'Stdout Log' view. The log content includes: 'linked Tue Mar 13 00:31:40 2018 PDT @1837774', 'build linuxRHEL6_x86-64_gcc44icc150_external_release', 'Rendered on Tue Jan 29 09:47:37 GMT 2019', 'Rendering at 960x540 pixels, 128 maxsamples', '"images/bouncy_ball.0002.exr" (mode = rgba, type = openexr)', 'Max resident mem: 858.34 MB', 'Page faults: 0, Page reclaims: 68670, Swaps: 0', 'Real time: 00:06', 'User time: 01:58', 'Sys time: 00:00', 'Pixar PhotoRealistic RenderMan 21.7', 'copyright (c) 1988-2018 Pixar.', 'linked Tue Mar 13 00:31:40 2018 PDT @1837774', 'build linuxRHEL6_x86-64_gcc44icc150_external_release', 'Rendered on Tue Jan 29 09:47:44 GMT 2019', 'Rendering at 960x540 pixels, 128 maxsamples', '"images/bouncy_ball.0003.exr" (mode = rgba, type = openexr)', 'Max resident mem: 862.30 MB', 'Page faults: 0, Page reclaims: 69264, Swaps: 0', 'Real time: 00:07', 'User time: 02:00', 'Sys time: 00:00', 'Pixar PhotoRealistic RenderMan 21.7', 'copyright (c) 1988-2018 Pixar.', 'linked Tue Mar 13 00:31:40 2018 PDT @1837774', 'build linuxRHEL6_x86-64_gcc44icc150_external_release', 'Rendered on Tue Jan 29 09:47:52 GMT 2019', 'Rendering at 960x540 pixels, 128 maxsamples', '"images/bouncy_ball.0004.exr" (mode = rgba, type = openexr)', 'Max resident mem: 860.54 MB', 'Page faults: 0, Page reclaims: 70038, Swaps: 0', 'Real time: 00:06', 'User time: 01:58', 'Sys time: 00:00'. The log content is scrollable, and the 'Stdout Log' tab is circled in red.

The bottom status bar shows 'Qube! WranglerView 6.5-3a, PipelineFX 2019' and 'Last log message: Disabling "SELECTED items" automatic refresh timer.'

Finishing off

- Once the renders are **complete**, open **WinSCP** to access your renders on the server.
- Use **tete** as the host name and then **log in** using your student credentials.

