

# ncca RenderFarm Tool

Maya: Renderman

Constantinos Glynos

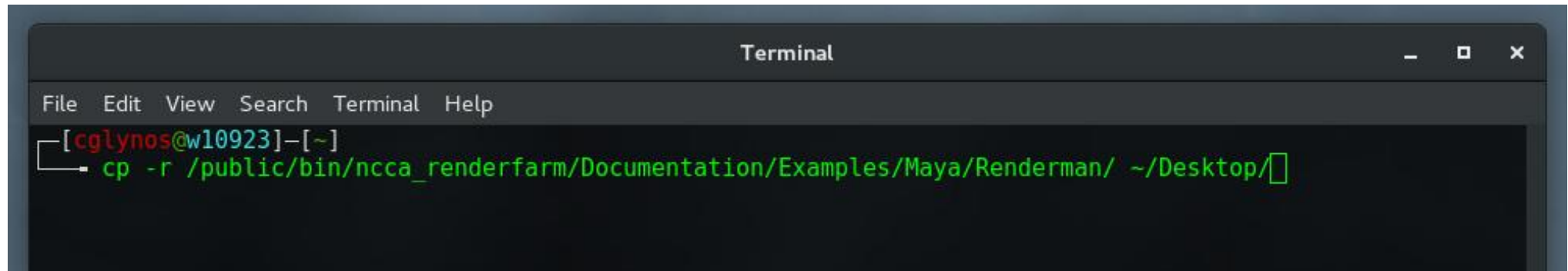
Michail Agoulas



# Copy the example scene

run the copy (cp) command with the recursive flag (-r)

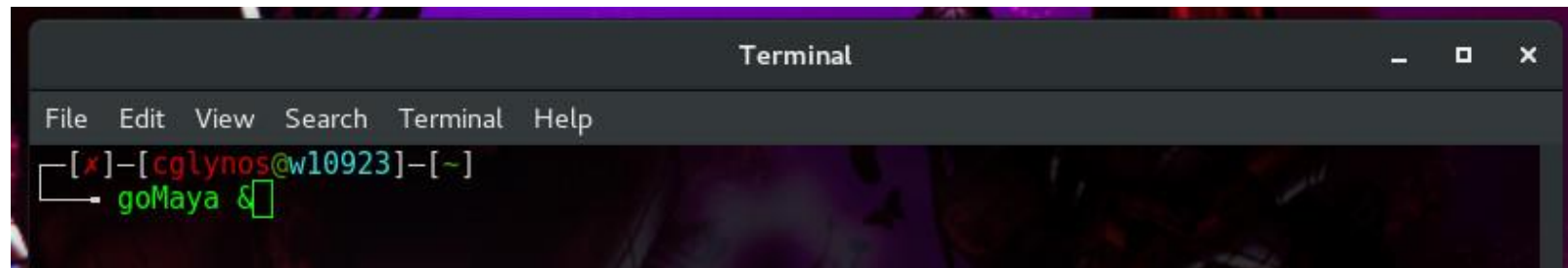
```
cp -r /public/bin/ncca_renderfarm/Documentation/Examples/Maya/Renderman/ ~/Desktop
```

A terminal window titled "Terminal" with a menu bar (File, Edit, View, Search, Terminal, Help). The prompt is [cglynos@w10923]--[~]. The command cp -r /public/bin/ncca\_renderfarm/Documentation/Examples/Maya/Renderman/ ~/Desktop is entered and executed, with a cursor at the end of the line.

```
Terminal
File Edit View Search Terminal Help
[cglynos@w10923]--[~]
└─ cp -r /public/bin/ncca_renderfarm/Documentation/Examples/Maya/Renderman/ ~/Desktop
```

# Open Maya

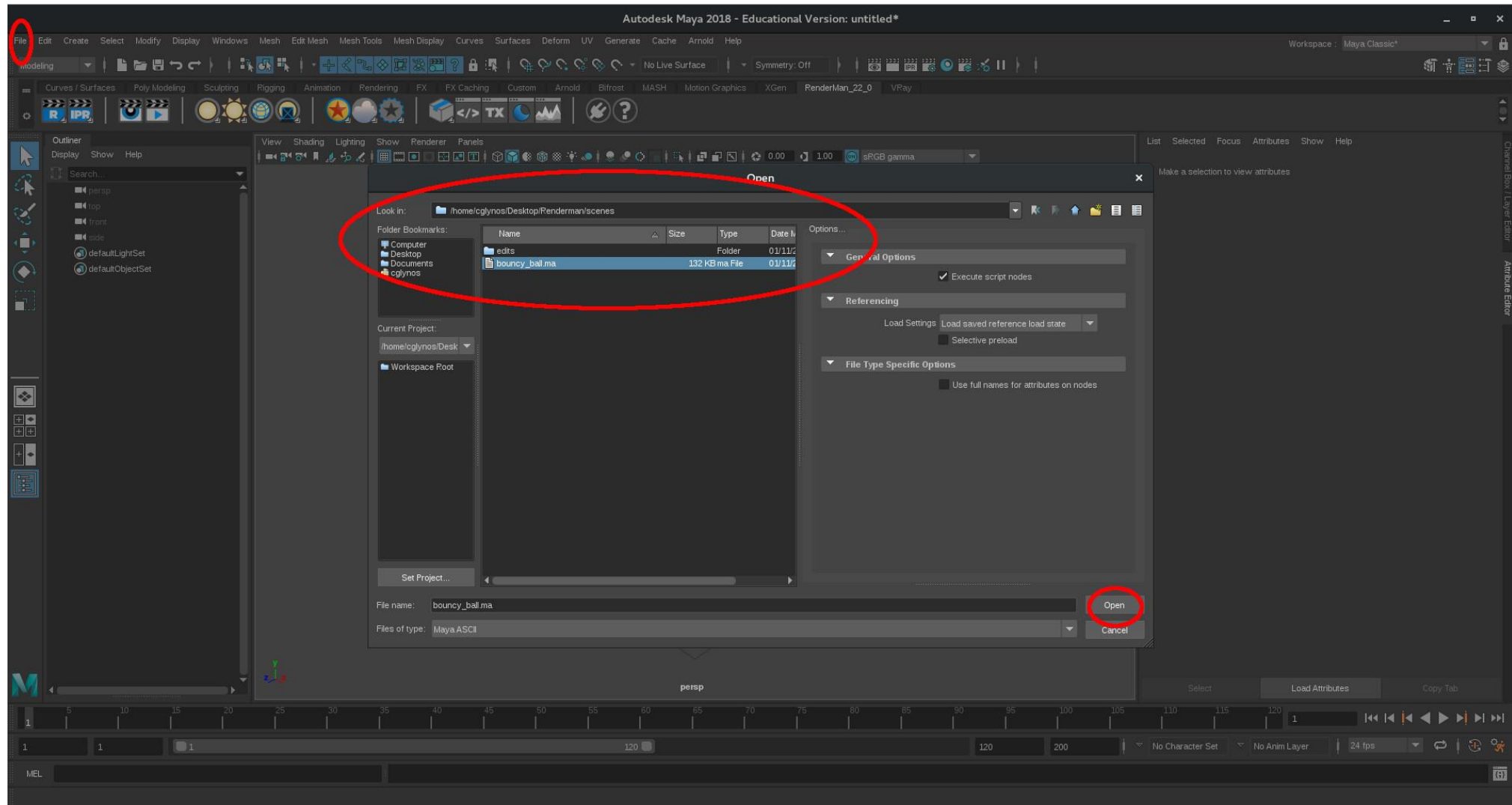
goMaya &

A terminal window titled "Terminal" with a menu bar (File, Edit, View, Search, Terminal, Help). The prompt is [x]--[cglynos@w10923]--[~]. The command goMaya & is entered and executed, with a cursor at the end of the line.

```
Terminal
File Edit View Search Terminal Help
[x]--[cglynos@w10923]--[~]
└─ goMaya &
```

# Open the example scene

File -> Open -> bouncy\_ball.ma



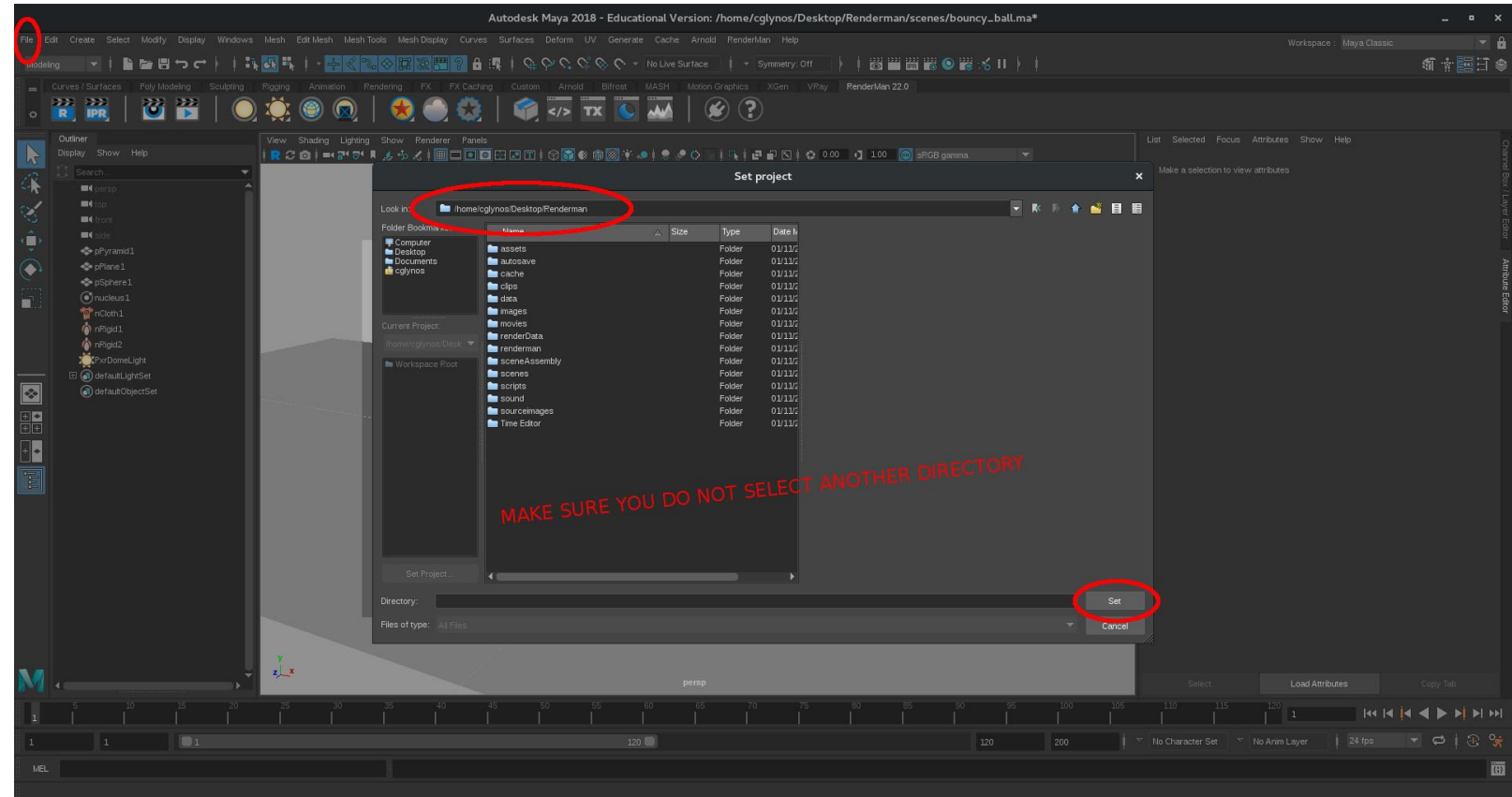
# Set project directory

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**

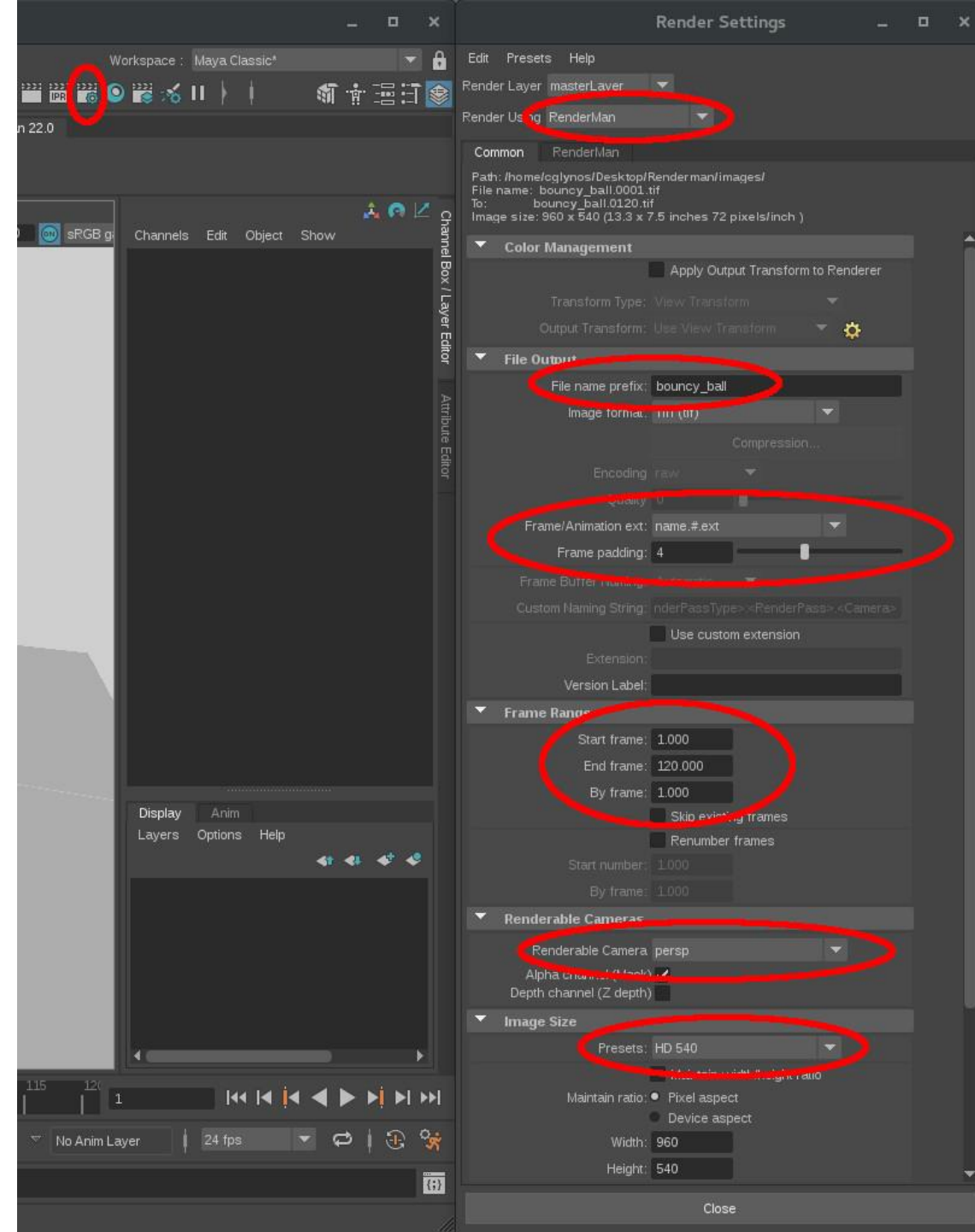
Click **Set**



# Check the render settings

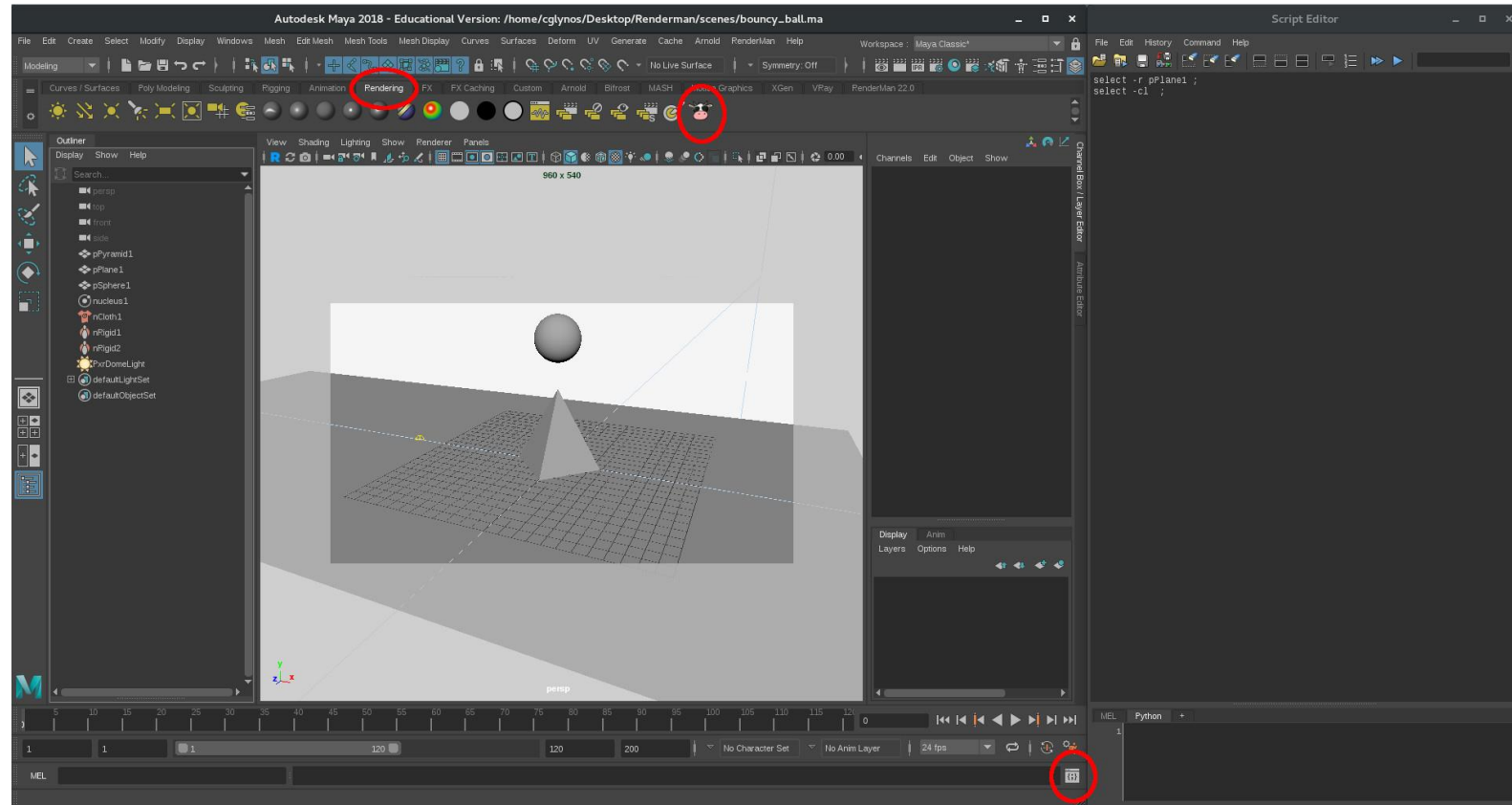
Check that your render settings are correct:

- 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**



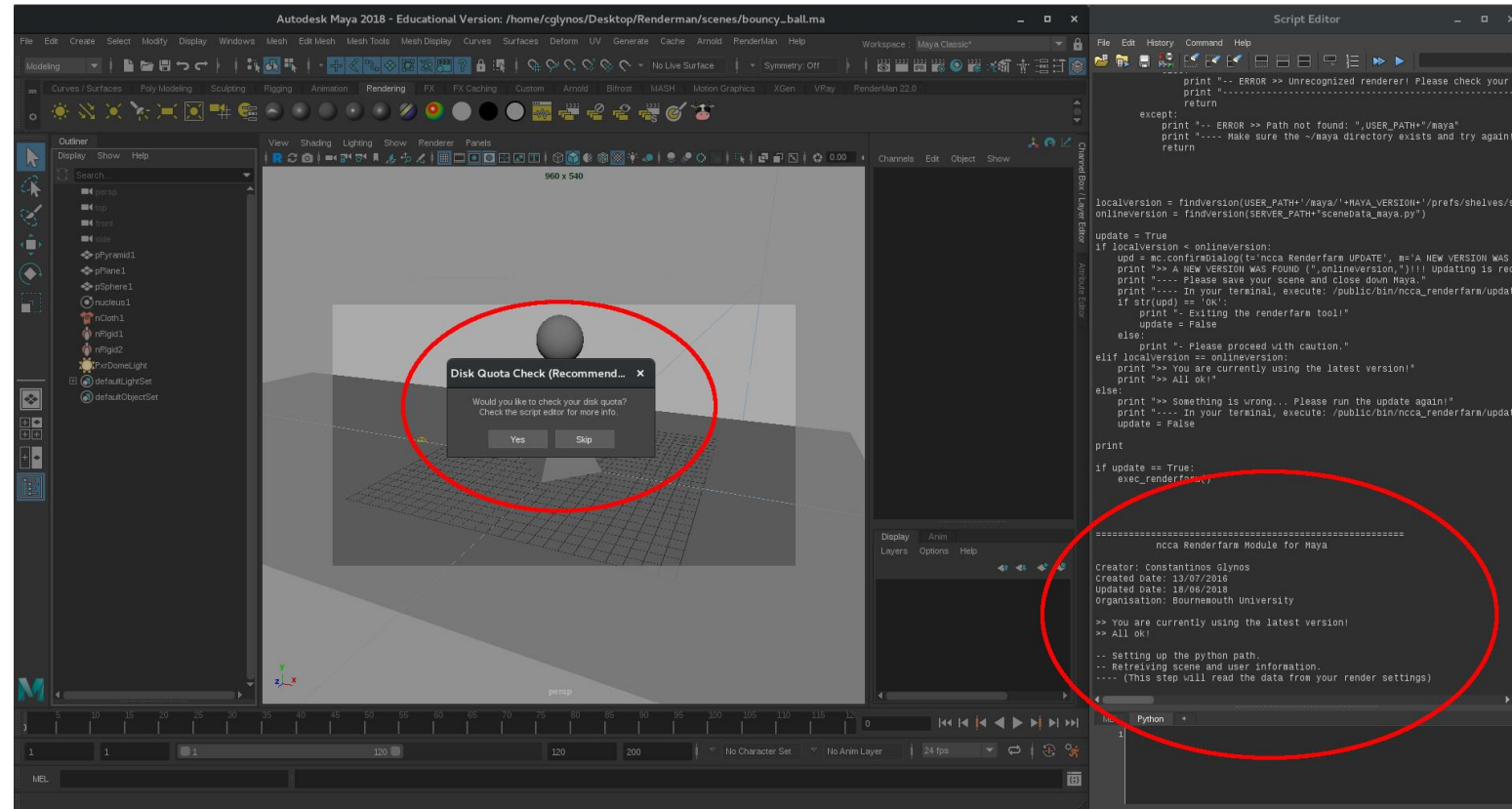
# Let's render

- 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.





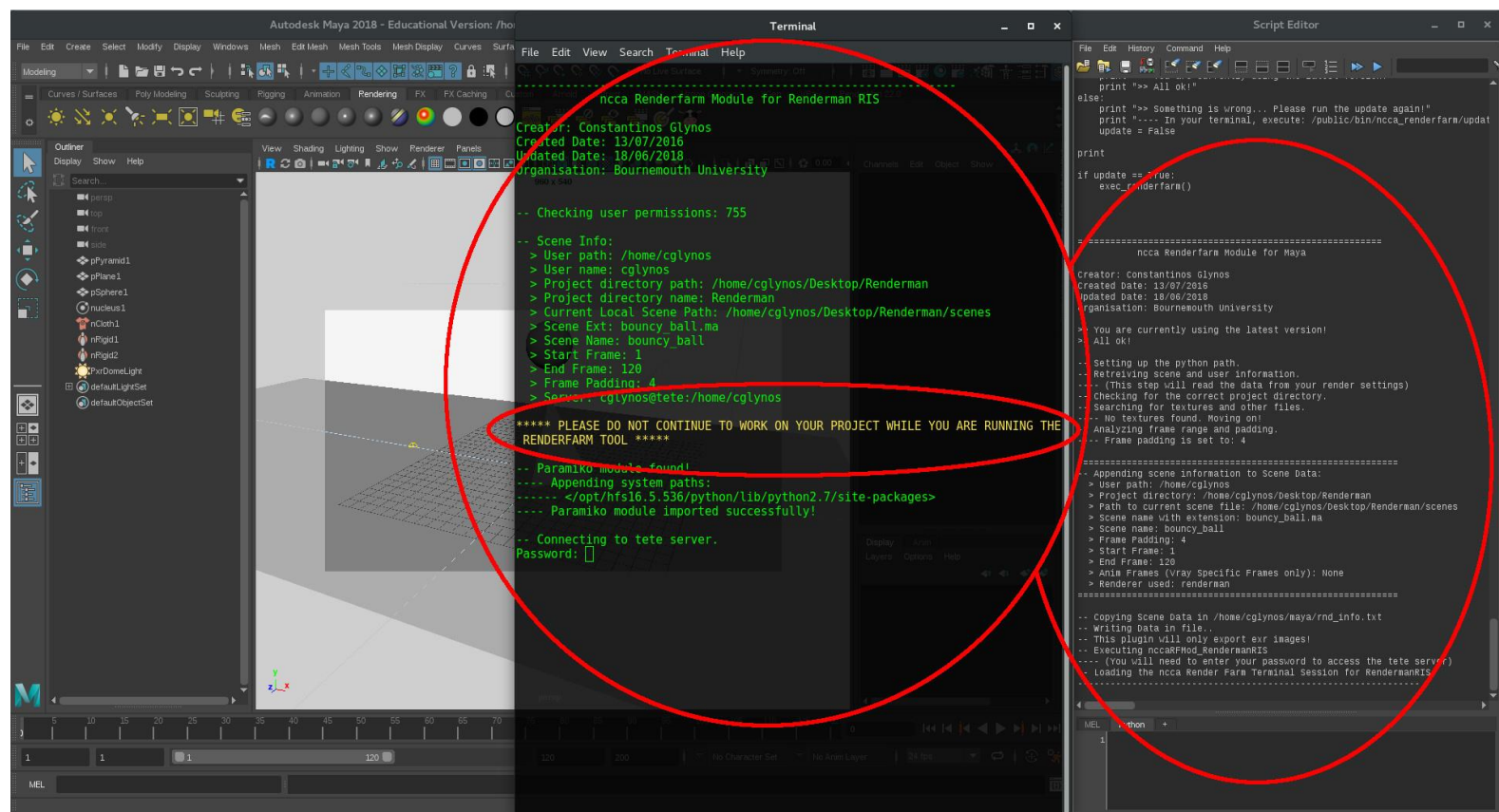
# Using the tool

- A new **terminal** will appear which links to the renderfarm.

- Check the data passed on to the renderfarm by reading the **script editor** and the **terminal**. If not correct, just close the terminal 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.





# 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.

```
Terminal
File Edit View Search Terminal Help
-----
ncca Renderfarm Module for Renderman RIS
Creator: Constantinos Glynos
Created Date: 13/07/2016
Updated Date: 18/06/2018
Organisation: Bournemouth University

-- Checking user permissions: 755

-- Scene Info:
> User path: /home/cglynos
> User name: cglynos
> Project directory path: /home/cglynos/Desktop/Renderman
> Project directory name: Renderman
> Current Local Scene Path: /home/cglynos/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 R
ENDERFARM TOOL *****

-- Paramiko module found!
--- Appending system paths:
--- </opt/hfs16.536/python/lib/python2.7/site-packages>
--- Paramiko module imported successfully!

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

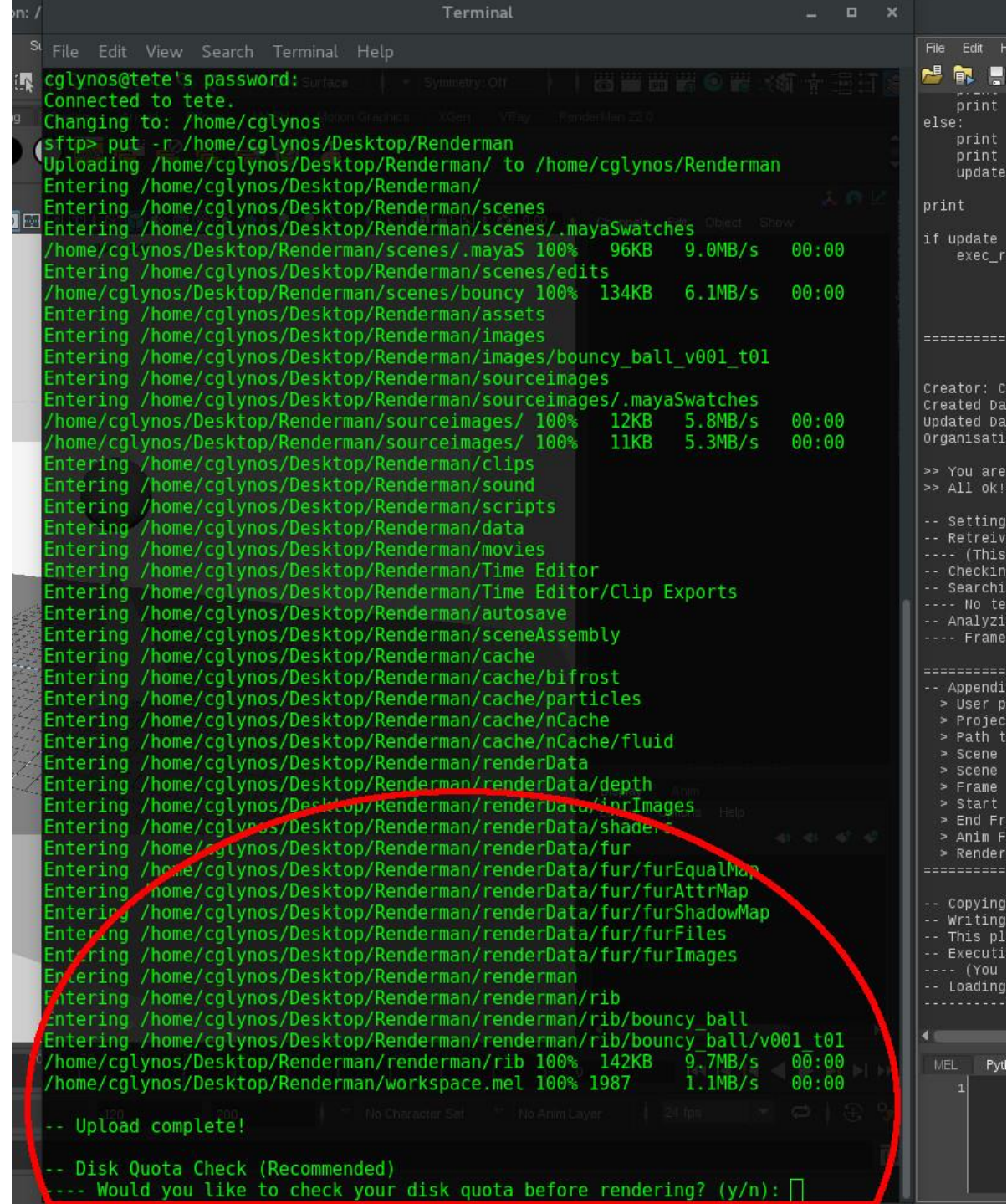
-- No other projects found with the same name.
-- Moving on!

-- 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.



```
cglynos@tete's password: Surface
Connected to tete.
Changing to: /home/cglynos
sftp> put -r /home/cglynos/Desktop/Renderman
Uploading /home/cglynos/Desktop/Renderman/ to /home/cglynos/Renderman
Entering /home/cglynos/Desktop/Renderman/
Entering /home/cglynos/Desktop/Renderman/scenes
Entering /home/cglynos/Desktop/Renderman/scenes/.mayaSwatches
/home/cglynos/Desktop/Renderman/scenes/.mayaS 100% 96KB 9.0MB/s 00:00
Entering /home/cglynos/Desktop/Renderman/scenes/edits
/home/cglynos/Desktop/Renderman/scenes/bouncy 100% 134KB 6.1MB/s 00:00
Entering /home/cglynos/Desktop/Renderman/assets
Entering /home/cglynos/Desktop/Renderman/images
Entering /home/cglynos/Desktop/Renderman/images/bouncy_ball_v001_t01
Entering /home/cglynos/Desktop/Renderman/sourceimages
/home/cglynos/Desktop/Renderman/sourceimages/.mayaSwatches
/home/cglynos/Desktop/Renderman/sourceimages/ 100% 12KB 5.8MB/s 00:00
/home/cglynos/Desktop/Renderman/sourceimages/ 100% 11KB 5.3MB/s 00:00
Entering /home/cglynos/Desktop/Renderman/clips
Entering /home/cglynos/Desktop/Renderman/sound
Entering /home/cglynos/Desktop/Renderman/scripts
Entering /home/cglynos/Desktop/Renderman/data
Entering /home/cglynos/Desktop/Renderman/movies
Entering /home/cglynos/Desktop/Renderman/Time Editor
Entering /home/cglynos/Desktop/Renderman/Time Editor/Clip Exports
Entering /home/cglynos/Desktop/Renderman/autosave
Entering /home/cglynos/Desktop/Renderman/scenesAssembly
Entering /home/cglynos/Desktop/Renderman/cache
Entering /home/cglynos/Desktop/Renderman/cache/bifrost
Entering /home/cglynos/Desktop/Renderman/cache/particles
Entering /home/cglynos/Desktop/Renderman/cache/nCache
Entering /home/cglynos/Desktop/Renderman/cache/nCache/fluid
Entering /home/cglynos/Desktop/Renderman/renderData
Entering /home/cglynos/Desktop/Renderman/renderData/depth
Entering /home/cglynos/Desktop/Renderman/renderData/inrImages
Entering /home/cglynos/Desktop/Renderman/renderData/shaders
Entering /home/cglynos/Desktop/Renderman/renderData/fur
Entering /home/cglynos/Desktop/Renderman/renderData/fur/furEqualMap
Entering /home/cglynos/Desktop/Renderman/renderData/fur/furAttrMap
Entering /home/cglynos/Desktop/Renderman/renderData/fur/furShadowMap
Entering /home/cglynos/Desktop/Renderman/renderData/fur/furFiles
Entering /home/cglynos/Desktop/Renderman/renderData/fur/furImages
Entering /home/cglynos/Desktop/Renderman/renderman
Entering /home/cglynos/Desktop/Renderman/renderman/rib
Entering /home/cglynos/Desktop/Renderman/renderman/rib/bouncy_ball
/home/cglynos/Desktop/Renderman/renderman/rib/bouncy_ball/v001_t01
/home/cglynos/Desktop/Renderman/renderman/rib 100% 142KB 9.7MB/s 00:00
/home/cglynos/Desktop/Renderman/workspace.mel 100% 1987 1.1MB/s 00:00
-- Upload complete!
-- Disk Quota Check (Recommended)
---- Would you like to check your disk quota before rendering? (y/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.

```
on: /
File Edit View Search Terminal Help
Entering /home/cglynos/Desktop/Renderman/sceneAssembly
Entering /home/cglynos/Desktop/Renderman/cache
Entering /home/cglynos/Desktop/Renderman/cache/bifrost
Entering /home/cglynos/Desktop/Renderman/cache/particles
Entering /home/cglynos/Desktop/Renderman/cache/nCache
Entering /home/cglynos/Desktop/Renderman/cache/nCache/fluid
Entering /home/cglynos/Desktop/Renderman/renderData
Entering /home/cglynos/Desktop/Renderman/renderData/depth
Entering /home/cglynos/Desktop/Renderman/renderData/iplImages
Entering /home/cglynos/Desktop/Renderman/renderData/shaders
Entering /home/cglynos/Desktop/Renderman/renderData/fur
Entering /home/cglynos/Desktop/Renderman/renderData/fur/furEqualMap
Entering /home/cglynos/Desktop/Renderman/renderData/fur/furAttrMap
Entering /home/cglynos/Desktop/Renderman/renderData/fur/furShadowMap
Entering /home/cglynos/Desktop/Renderman/renderData/fur/furFiles
Entering /home/cglynos/Desktop/Renderman/renderData/fur/furImages
Entering /home/cglynos/Desktop/Renderman/renderman
Entering /home/cglynos/Desktop/Renderman/renderman/rib
Entering /home/cglynos/Desktop/Renderman/renderman/rib/bouncy_ball
Entering /home/cglynos/Desktop/Renderman/renderman/rib/bouncy_ball/v001 t01
/home/cglynos/Desktop/Renderman/renderman/rib 100% 142KB 9.7MB/s 00:00
/home/cglynos/Desktop/Renderman/workspace.mel 100% 1987 1.1MB/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.

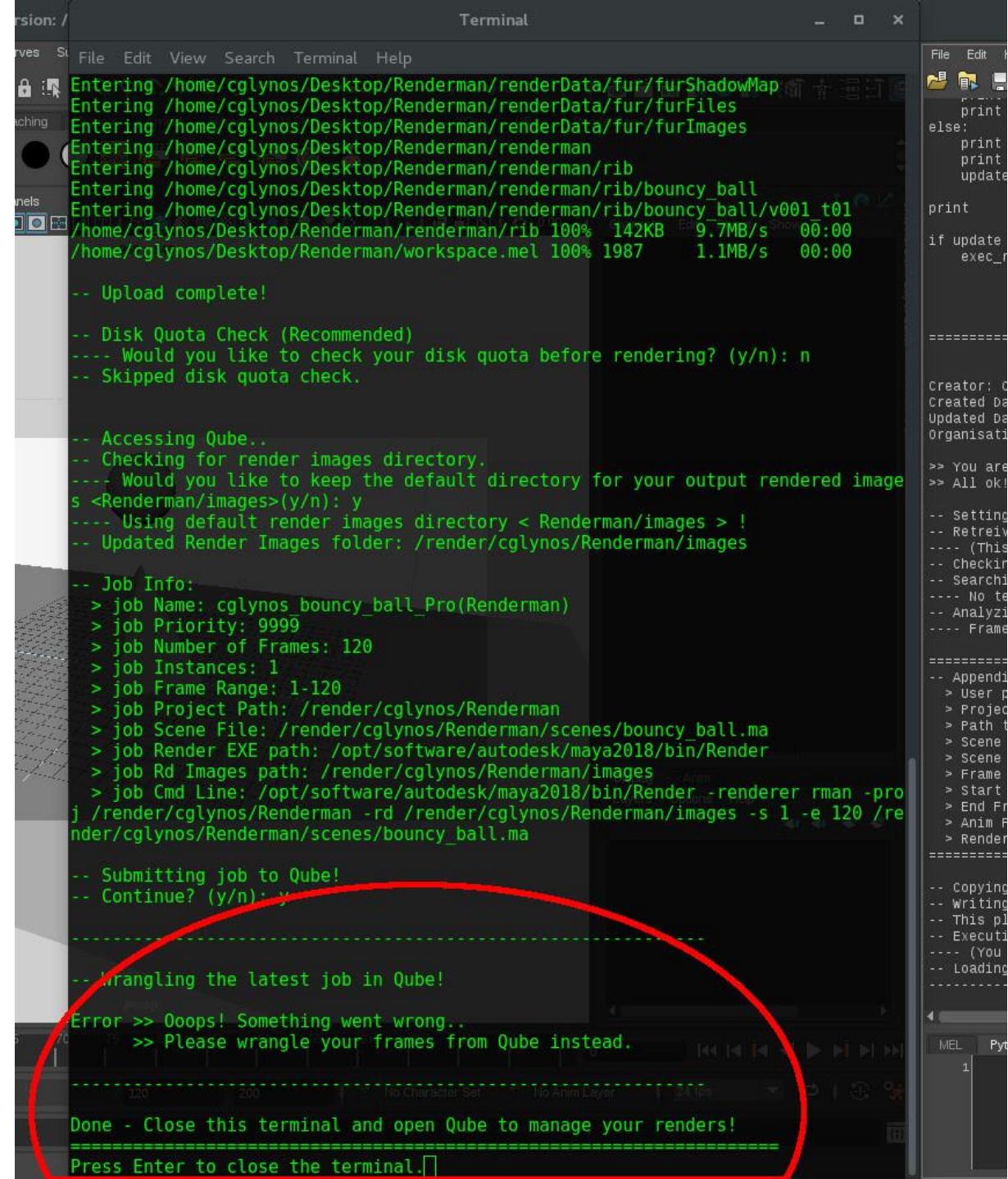
Accessing Qube..
-- Checking for render images directory.
---- Would you like to keep the default directory for your output rendered image
s <Renderman/images>(y/n): y
---- Using default render images directory < Renderman/images >.!
-- Updated Render Images folder: /render/cglynos/Renderman/images

-- 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 -pro
j /render/cglynos/Renderman -rd /render/cglynos/Renderman/images -s 1 -e 120 /re
nder/cglynos/Renderman/scenes/bouncy_ball.ma

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

# Using the tool

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



```
version: /
File Edit View Search Terminal Help
Entering /home/cglynos/Desktop/Renderman/renderData/fur/furShadowMap
Entering /home/cglynos/Desktop/Renderman/renderData/fur/furFiles
Entering /home/cglynos/Desktop/Renderman/renderData/fur/furImages
Entering /home/cglynos/Desktop/Renderman/renderman
Entering /home/cglynos/Desktop/Renderman/renderman/rib
Entering /home/cglynos/Desktop/Renderman/renderman/rib/bouncy_ball
Entering /home/cglynos/Desktop/Renderman/renderman/rib/bouncy_ball/v001_t01
/home/cglynos/Desktop/Renderman/renderman/rib 100% 142KB 9.7MB/s 00:00
/home/cglynos/Desktop/Renderman/workspace.mel 100% 1987 1.1MB/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.
---- Would you like to keep the default directory for your output rendered image
s <Renderman/images>(y/n): y
---- Using default render images directory < Renderman/images > !
-- 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 -pro
j /render/cglynos/Renderman -rd /render/cglynos/Renderman/images -s 1 -e 120 /re
nder/cglynos/Renderman/scenes/bouncy_ball.ma

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

-----

-- Wrangling the latest job in Qube!

Error >> Ooops! 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

- We go back to our **terminal** (the one we used to launch Maya) and we type:

goQube &

- 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 6.8-4 interface. At the top, a terminal window shows the command `goQube &` being executed. The main interface features a toolbar with buttons for Refresh, Refresh Sel, Incomplete, Running, Failed, Killed, Complete, and User. Below this, a table lists job counts and a detailed list of jobs. The 'Jobs' tab is active, showing a table with columns for Id, State, % Done, Name, and User. Job 26900 is highlighted in blue and circled in red. To the right, the 'Job Logs' tab is open, showing the 'Stdout Log' for job 26900, which is also circled in red. The log content includes rendering details for 'images/bouncy\_ball.0006.exr'. At the bottom, the 'Instances' tab is active, showing a table with columns for Id, Host, Status, Auto-retry, Started, Elapsed, Completed, and CPU. Instance 0 is highlighted in green and circled in red, showing it is running on host 'tete10'.

Id	State	% Done	Name	User
26900	running	0% (0/1)	cglynos_bouncy_ball_Pro(Renderman)	cglynos
26876	complete	100% (1/1)	cglynos_bouncy_ball_Pro(Renderman)	cglynos
26875	killed	0% (0/1)	cglynos_bouncy_ball_Pro(Renderman)	cglynos
26874	failed	0% (0/1)	cglynos_bouncy_ball_Pro(Renderman)	cglynos
26873	complete	100% (51/...	cglynos_cloth_sim_arnold_Pro(Arnold)	cglynos
26872	complete	100% (51/...	cglynos_cloth_sim_vray_Pro(VRay)	cglynos
26871	complete	100% (50/...	cglynos_cloth_sim_arnold_Pro(Arnold)	cglynos
26870	killed	22% (11/50)	cglynos_cloth_sim_arnold_Pro(Arnold)	cglynos
26868	killed	0% (0/50)	cglynos_cloth_sim_arnold_Pro(Arnold)	cglynos
26867	killed	0% (0/51)	cglynos_cloth_sim_arnold_Pro(Arnold)	cglynos
26811	failed	0% (0/1)	cglynos_bouncy_ball_Pro(Renderman)	cglynos
26810	failed	0% (0/1)	cglynos_bouncy_ball_Pro(Renderman)	cglynos
26807	complete	100% (1/1)	cglynos_bouncy_ball_Pro(Renderman)	cglynos
26758	failed	0% (0/1)	cglynos_bouncy_ball_Pro(Renderman)	cglynos
26746	complete	100% (1/1)	cglynos_bouncy_ball_Pro(Renderman)	cglynos
26728	complete	100% (51/...	cglynos_cloth_sim_vray_Pro(VRay)	cglynos
26726	complete	100% (51/...	cglynos_cloth_sim_arnold_Pro(Arnold)	cglynos

Id	Host	Status	Auto-retry	Started	Elapsed	Completed	CPU
0	tete10	running		02:41:15 pm	0:00:47		

# Finishing off

- Once the renders are **complete**, we have to access the server manually to get our renders.
- Go to:  
Places -> Browse Network

The screenshot displays the Qube! WranglerView 6.8-4 interface. The top menu bar includes 'Places', which is circled in red. A dropdown menu is open, showing 'Browse Network' also circled in red. The main window is divided into several panels. The 'Jobs' panel shows a list of jobs with columns for ID, State, % Done, and Name. Several jobs are marked as 'complete' with a blue dot icon. The 'Workers' panel shows a table with columns for ID, Host, Status, and Auto-re. One worker, 'tete10', is circled in red and shows a 'complete' status. The 'Job Properties' panel on the right shows detailed information about a job, including rendering statistics and system information. The bottom status bar indicates 'Updated 17 jobs in cache.'

ID	State	% Done	Name
26900	complete	100% (1/1)	cglynos_bouncy_ba
26876	complete	100% (1/1)	cglynos_bouncy_ba
26875	killed	0% (0/1)	cglynos_bouncy_ba
26874	failed	0% (0/1)	cglynos_bouncy_ba
26873	complete	100% (51/...	cglynos_cloth_sim
26872	complete	100% (51/...	cglynos_cloth_sim
26871	complete	100% (50/...	cglynos_cloth_sim
26870	killed	22% (11/50)	cglynos_cloth_sim
26868	killed	0% (0/50)	cglynos_cloth_sim
26867	killed	0% (0/51)	cglynos_cloth_sim
26811	failed	0% (0/1)	cglynos_bouncy_ba
26810	failed	0% (0/1)	cglynos_bouncy_ba
26807	complete	100% (1/1)	cglynos_bouncy_ba
26758	failed	0% (0/1)	cglynos_bouncy_ba
26746	complete	100% (1/1)	cglynos_bouncy_ba
26728	complete	100% (51/...	cglynos_cloth_sim
26726	complete	100% (51/...	cglynos_cloth_sim

ID	Host	Status	Auto-re
0	tete10	complete	0

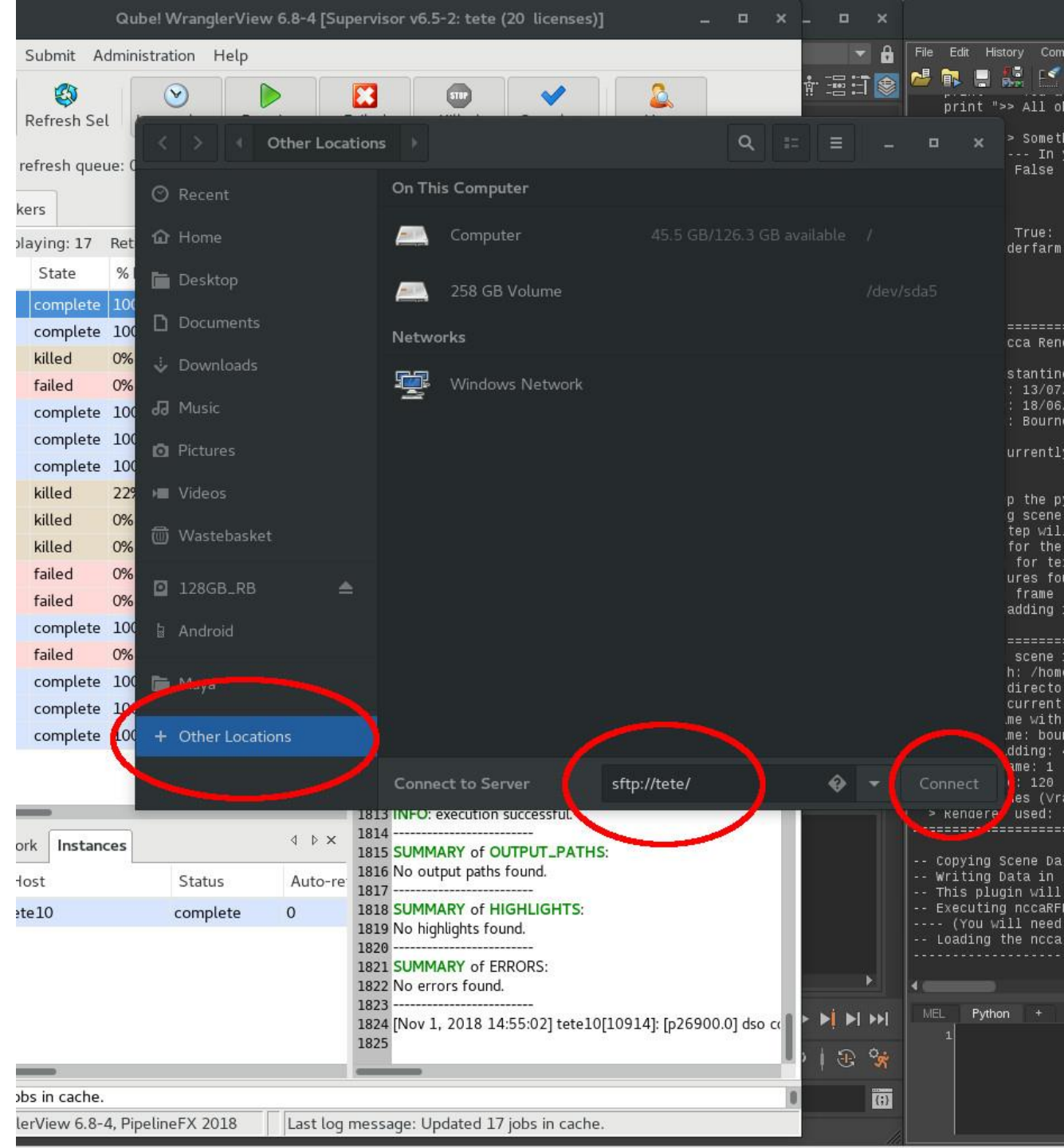


# Finishing off

- Click on **Other Locations**
- Type the following path to the **Connect to Server** input box.

sftp://tete/

- Now click on **Connect**
- Enter your **username** and **password** if asked and click **Connect** again.



# Finishing off

- Change to **your directory** on the server and find your **project directory**.
- Locate your **renders** in your **output images** folder.

