Ringling HPC Cluster

HPC Submission Process
Maya and Arnold

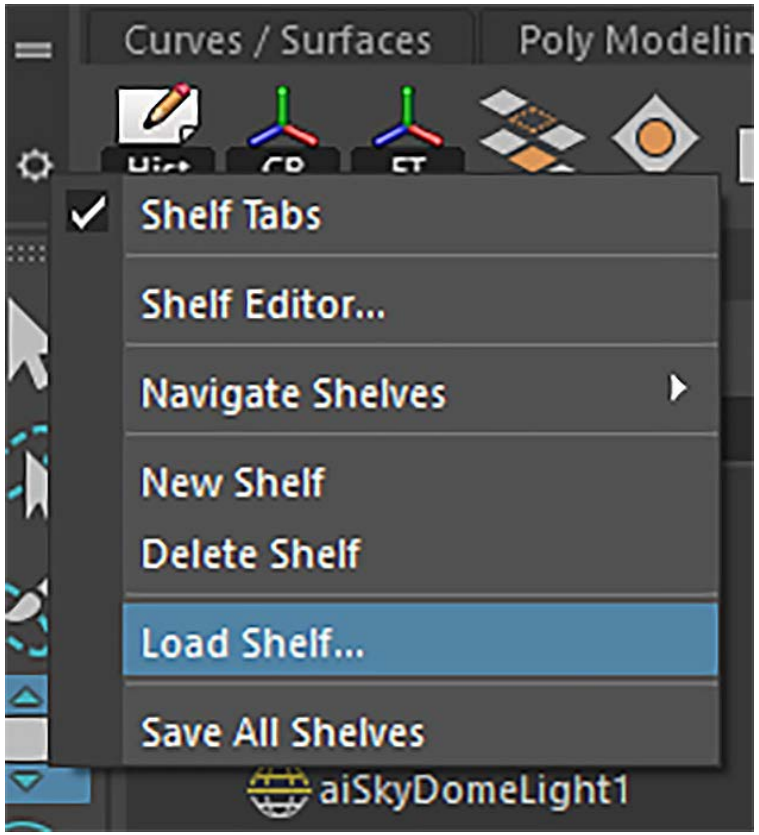
Integration with Autodesk Maya 2018

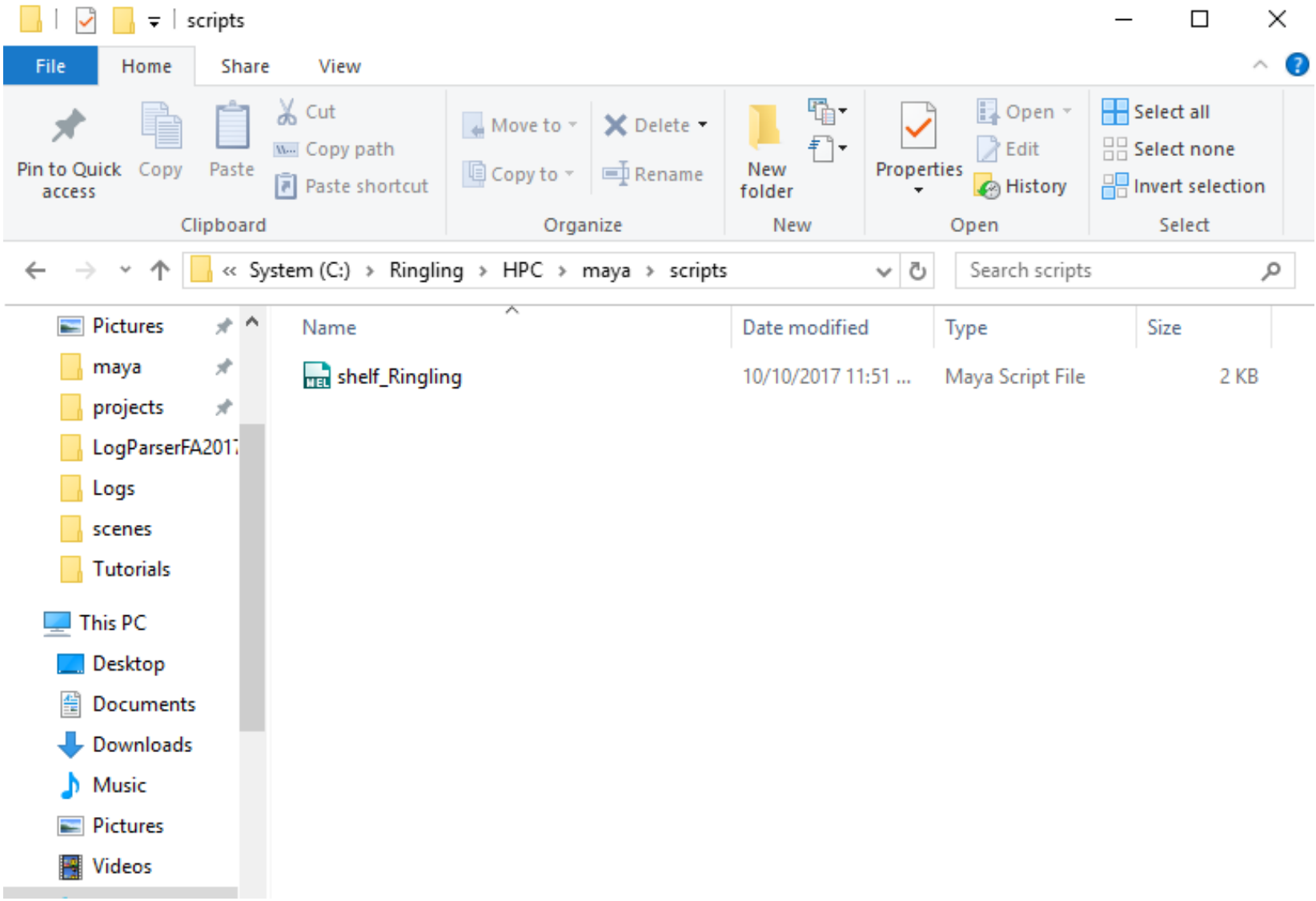
Stages of a Render Job

1. Preparation
2. Submission
3. Monitoring
4. Retrieval and Review

Preparation

Check to see if the Ringling shelf is loaded in Maya. If it isn't, load it by selecting the shelf tab and select *Load Shelf*. Browse to C:\Ringling\HPC\maya\scripts and click on shelf_Ringling.mel to load the shelf.




scripts
File
Home
Share
View
Pin to Quick access
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Paste
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Copy path
Paste shortcut
Clipboard
Move to
Delete
Copy to
Rename
Organize
New folder
New
Properties
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Edit
History
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Select all
Select none
Invert selection
Select
« System (C:) › Ringling › HPC › maya › scripts
Search scripts
Pictures
maya
projects
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This PC
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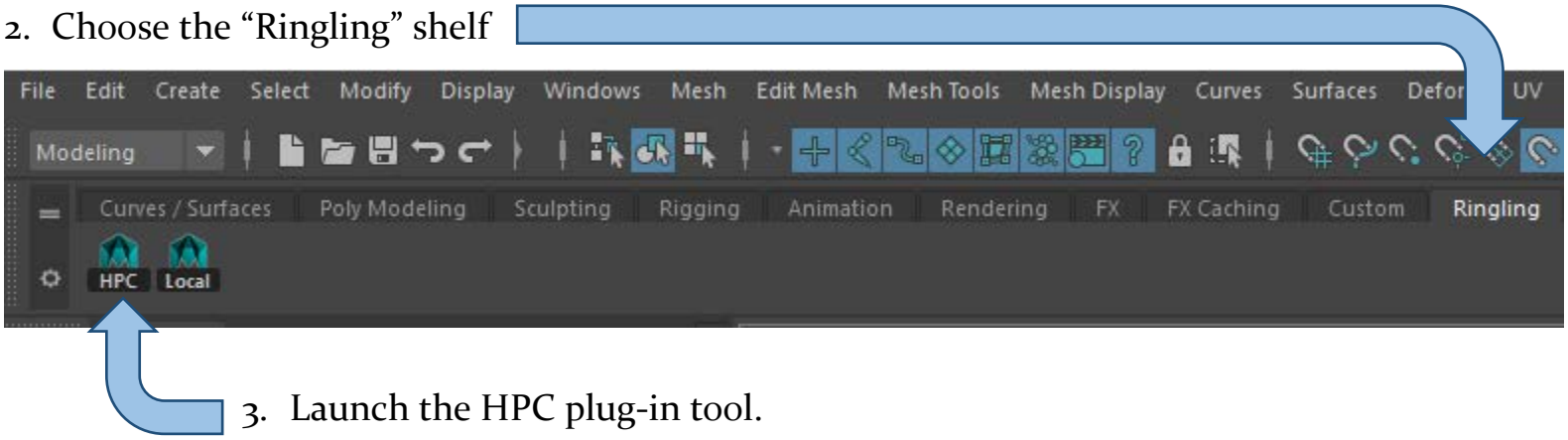
shelf_Ringling
10/10/2017 11:51 ...
Maya Script File
2 KB

Submission

You will now see the Ringling shelf and the necessary render submission tools.

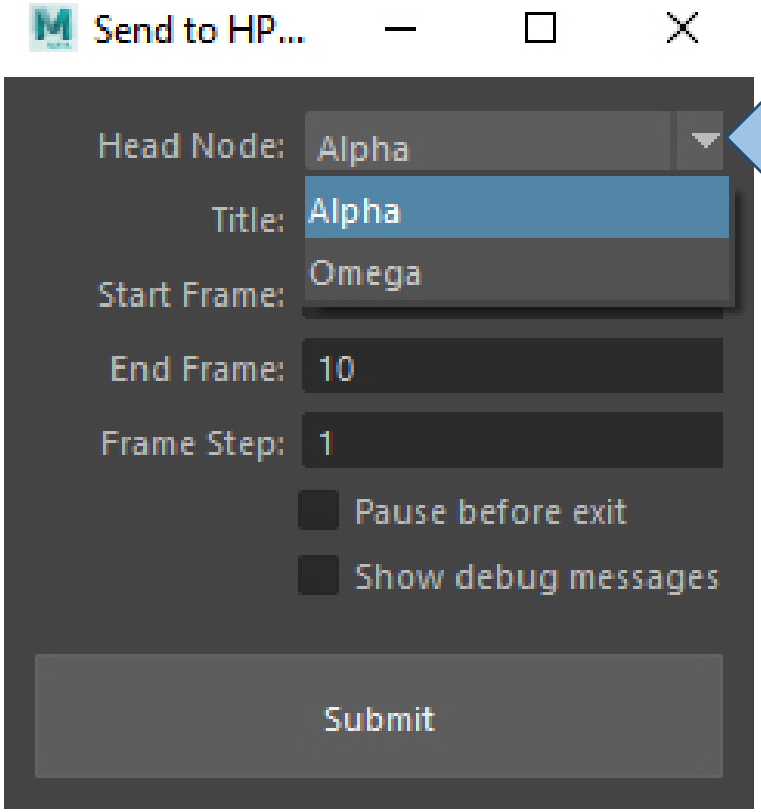
1. Open the Maya file that is prepared for rendering.

2. Choose the “Ringling” shelf



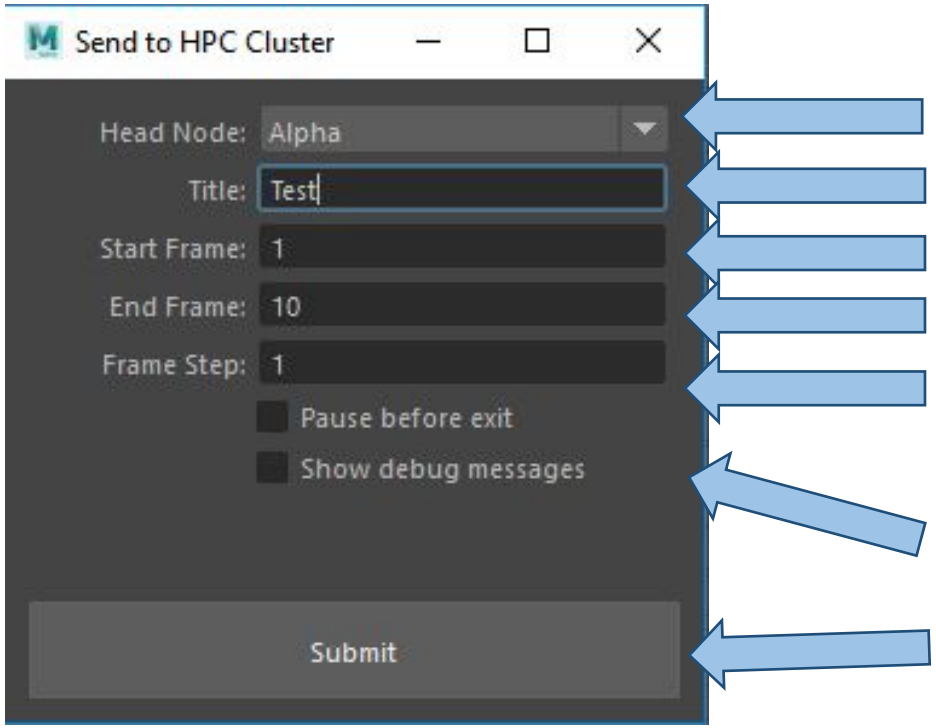
3. Launch the HPC plug-in tool.

Choose a Head Node where to submit.



Select a head node for your render job

Customize values as needed and choose “Submit”



Head Node for the job

Title of the render job

Starting frame for the render sequence

End frame for the render sequence

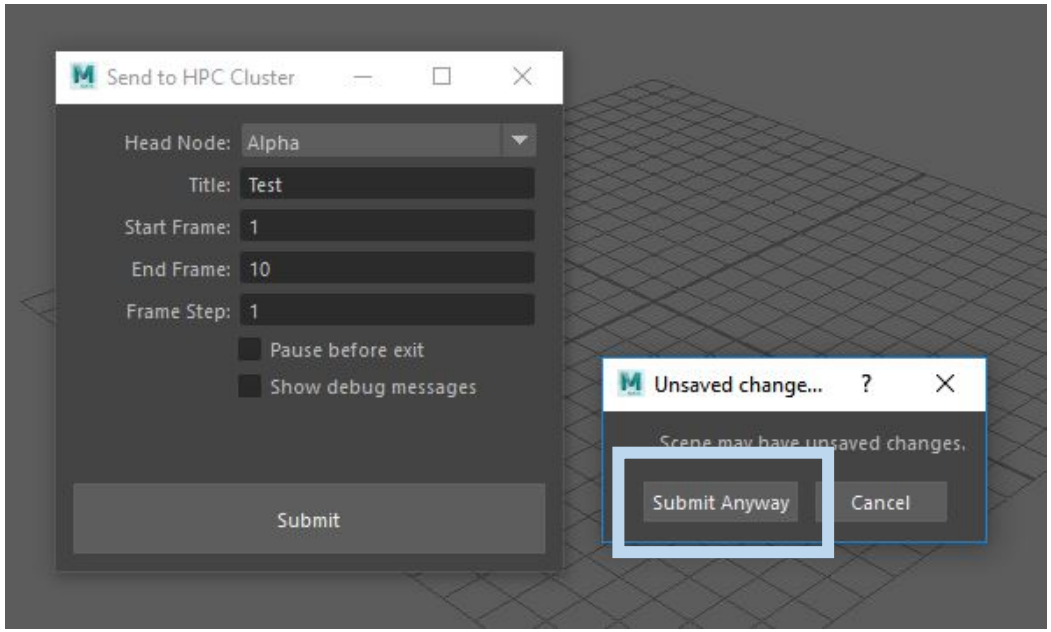
“1” means render each frame

5 means render every 5th frame

Check to see any debugging messages or errors during the submission

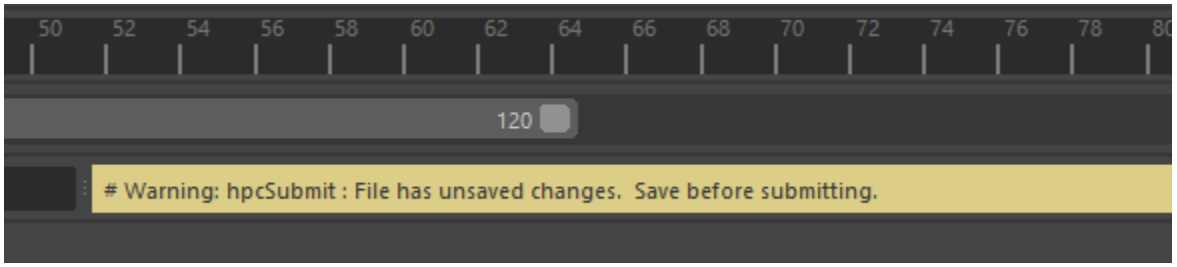
Submit button to launch job

The Submit utility may let you know that you have unsaved changes to the Maya file you are submitting.



Confirm ONLY if you have saved the most recent changes to the file!

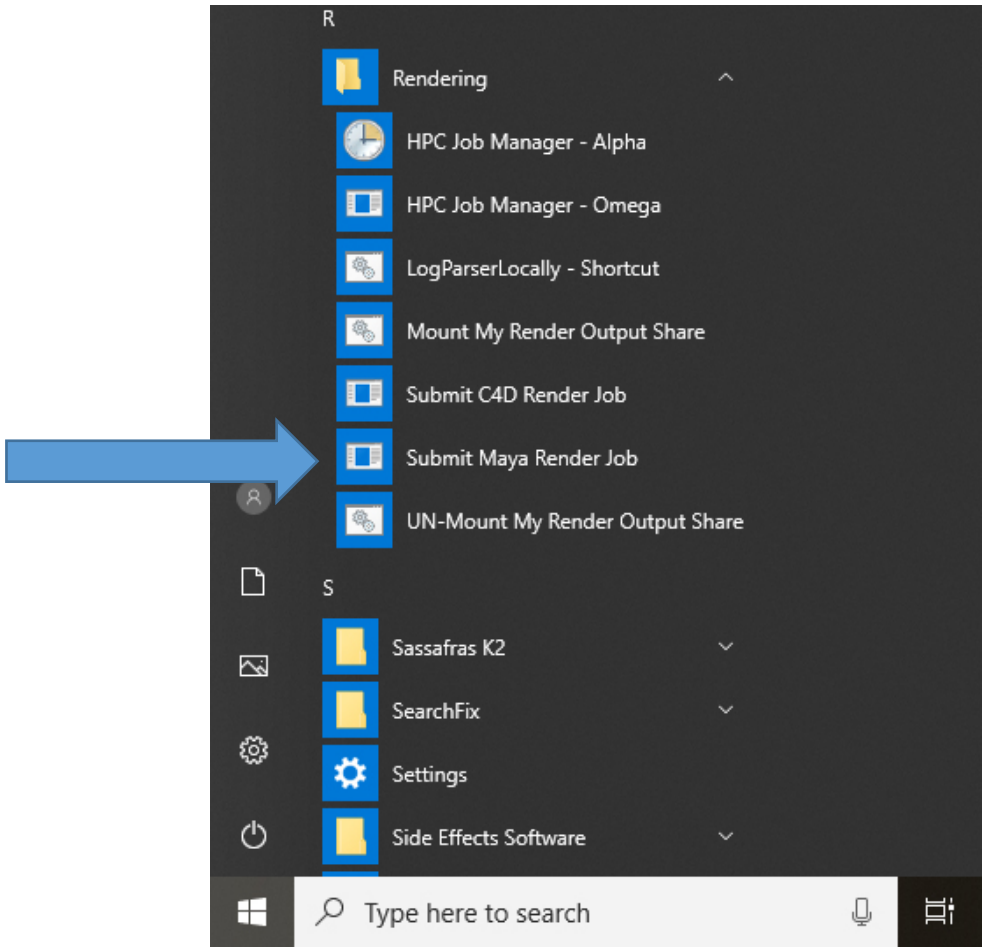
Check your output window to review any messages that appeared during the submission process.



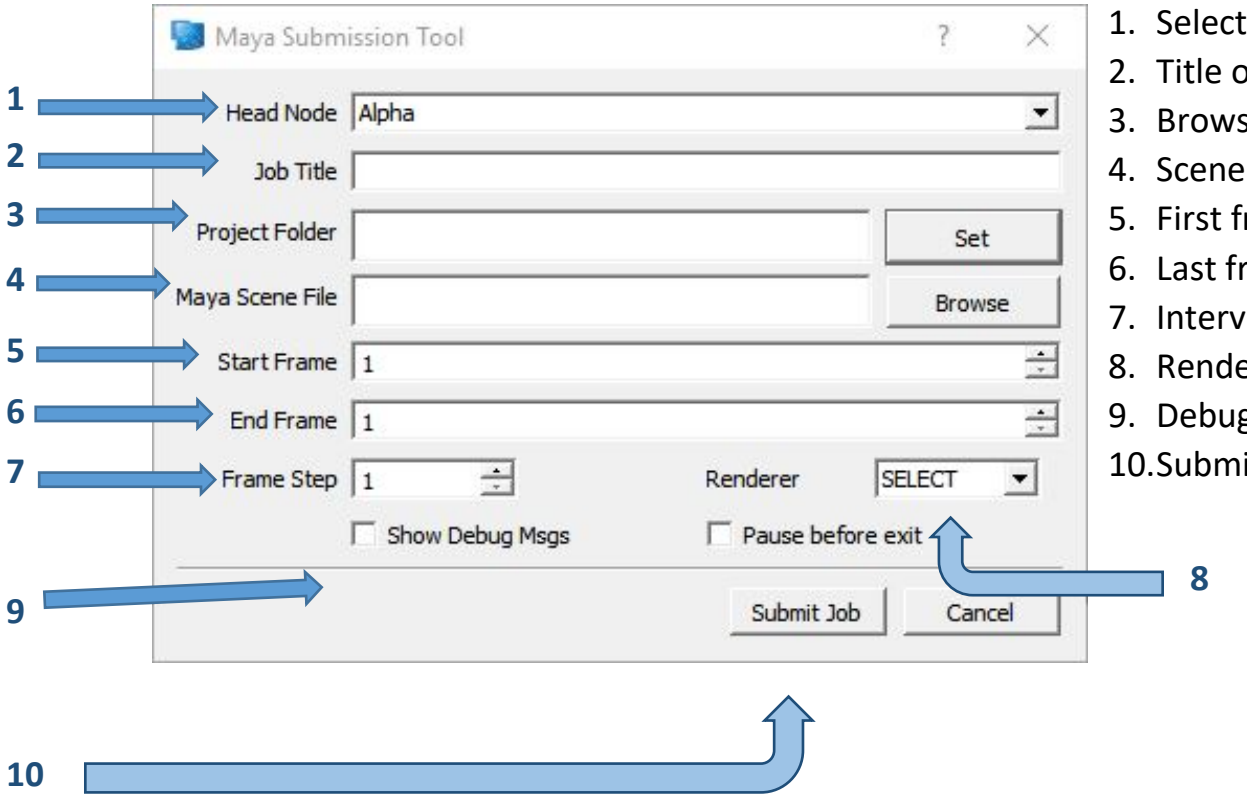
Alternative Submission

If your file is ready and are ready to submit, you can use the submission tool from outside of Maya

1. Under the Rendering menu, click:
    a. Submit Maya Render Job

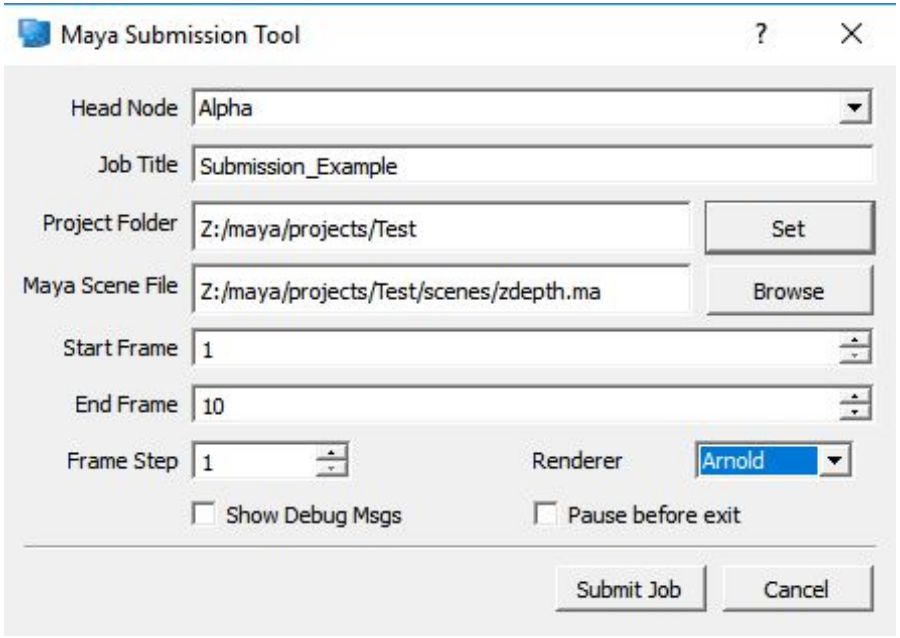


Once selected, a window will pop up with all the fields you need to fill out.



1. Selected Head Node
2. Title of the render job
3. Browse to your Project folder
4. Scene file to be rendered
5. First frame to render
6. Last frame to render
7. Interval
8. Renderer to use
9. Debug messages
10. Submit button to launch job

Submission Example

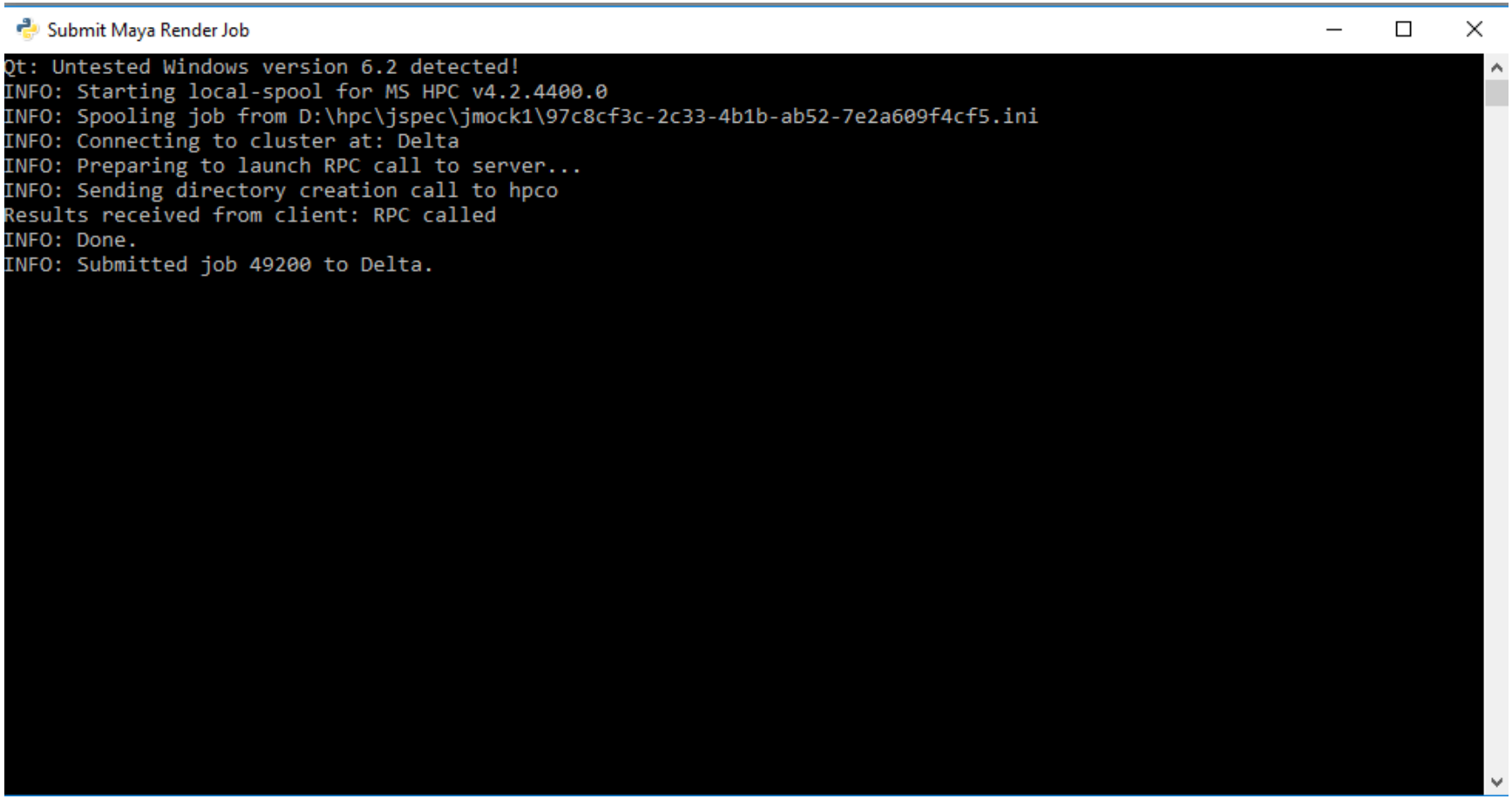


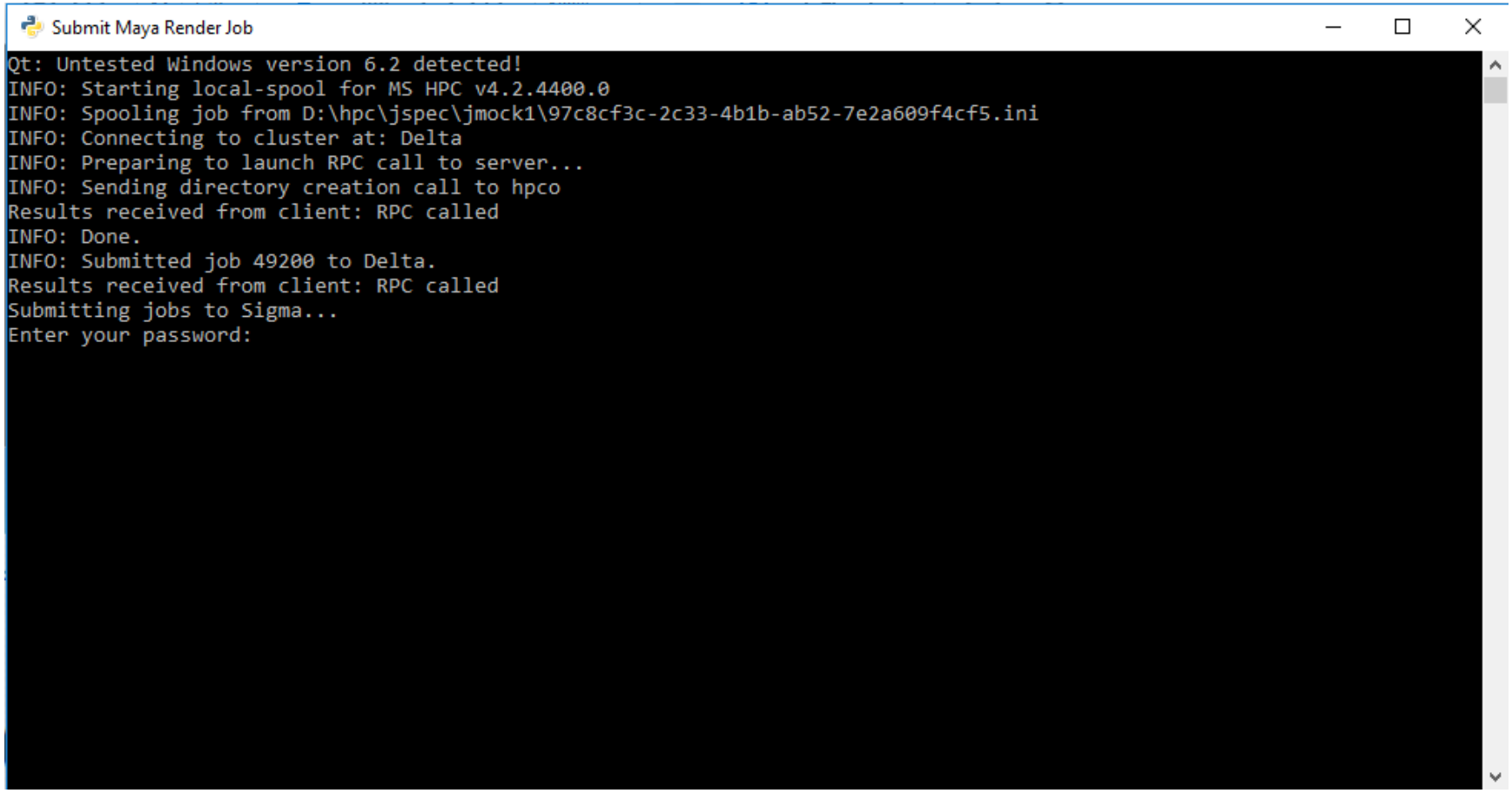
Important Note

Ensure that there are no spaces or special characters in any of your file or folder names for submission or they *will* fail during cluster render.

The cluster will only pull files from the Project Folder you provide. Any files stored outside of the listed Project Folder will result in a failed render (i.e. texture files, referenced files, etc.)

After you hit “Submit Job,” a command window will appear to connect to the cluster and launch your render job. If it is the first time you’ve submitted a job to Alpha or Omega, it will prompt you for your password. Once given, those two clusters will store your password for future submissions if you select “Y” after it asks if you want it to remember your password.





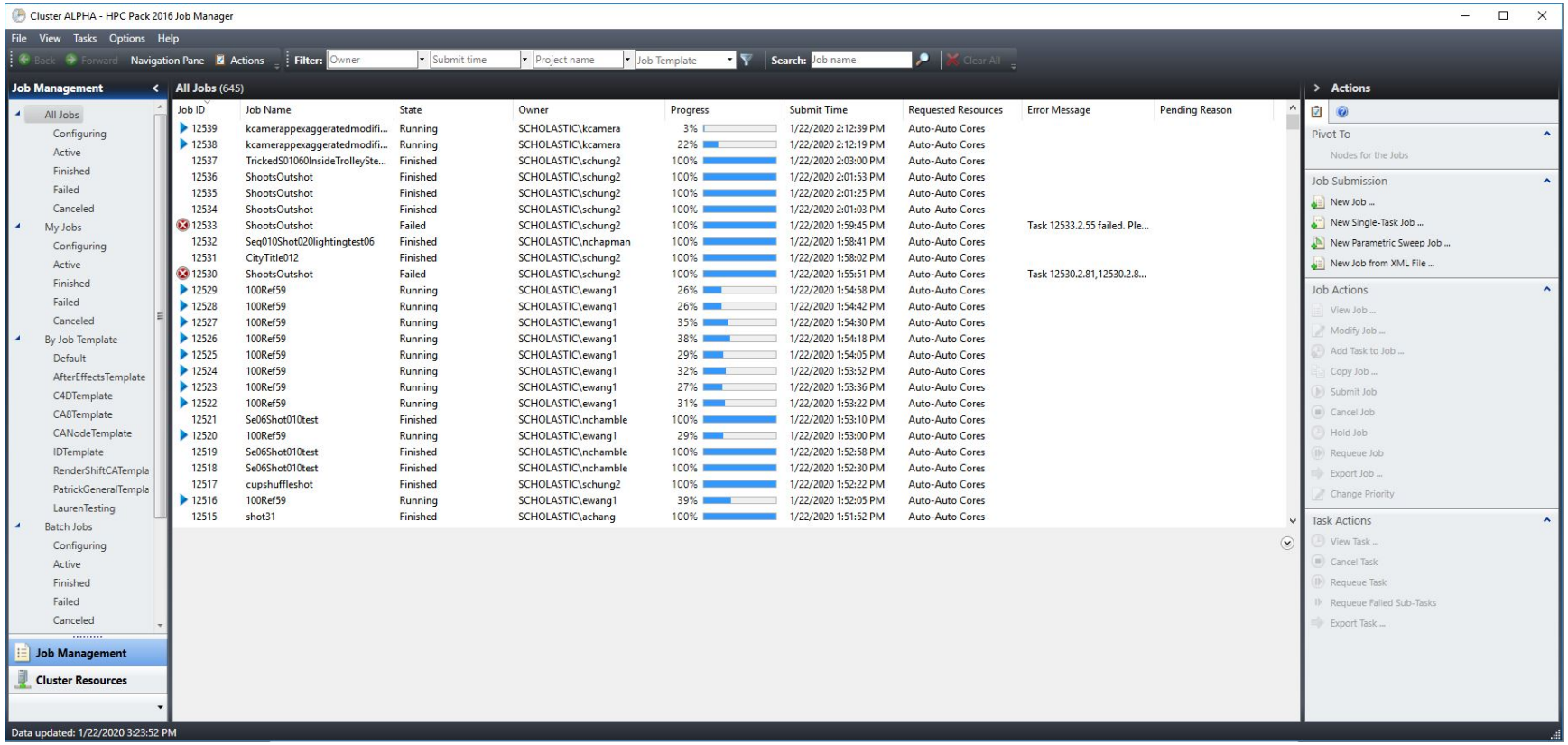
NOTE: Be advised that the cursor will not move while you are typing your password. If you enter your password incorrectly, it will prompt you to re-enter your password.

Submitted jobs are cloned on the server, allowing you to continue working on your scene while it renders. Any changes you make to your scene during the rendering process will not affect currently running render jobs.

Monitoring

Now that your job has been launched, you can monitor its progress.

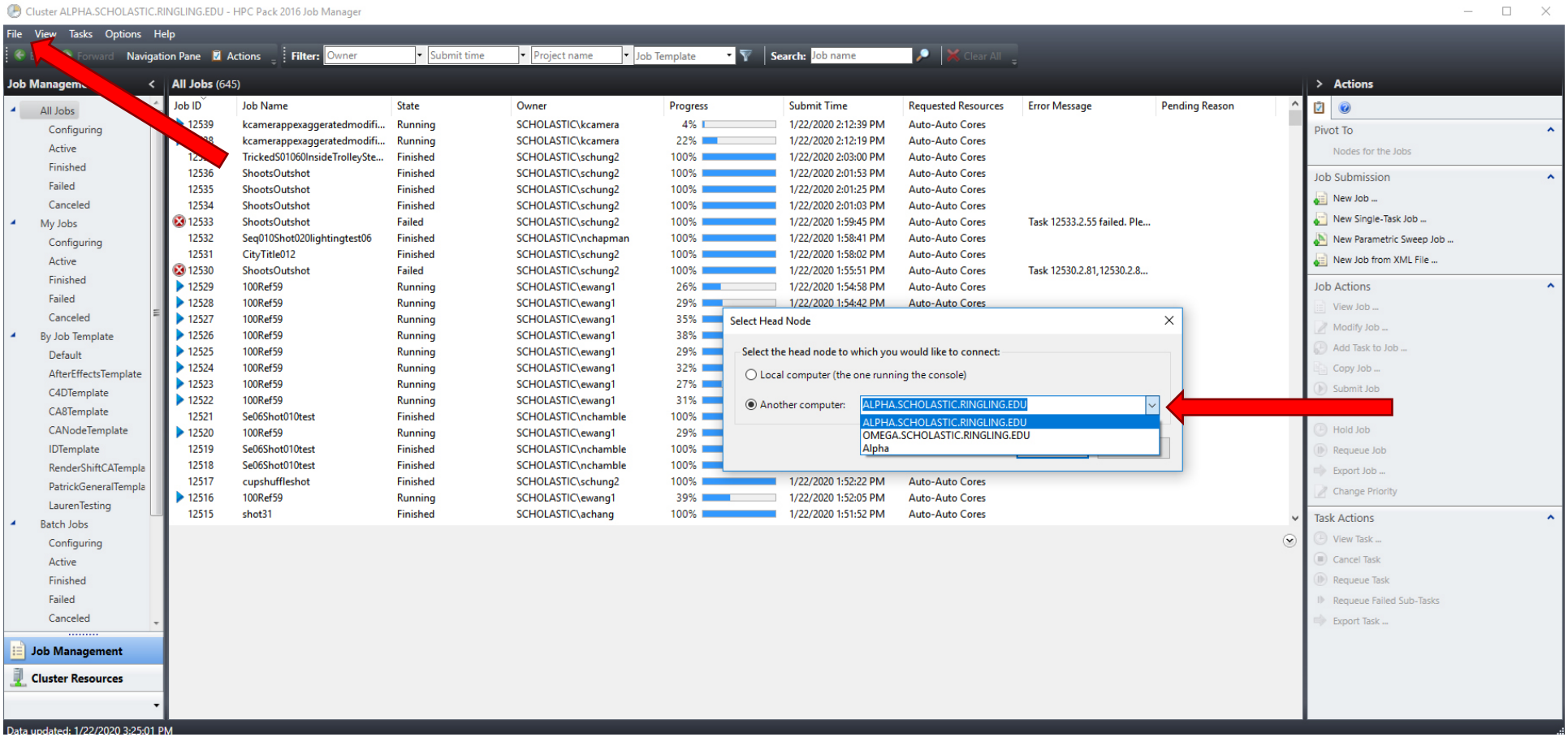
For jobs submitted to Delta or Omega, click on the Windows icon in the lower left corner of your screen and click a letter. Select R > Rendering > HPC Job Manager – Alpha or – Omega.



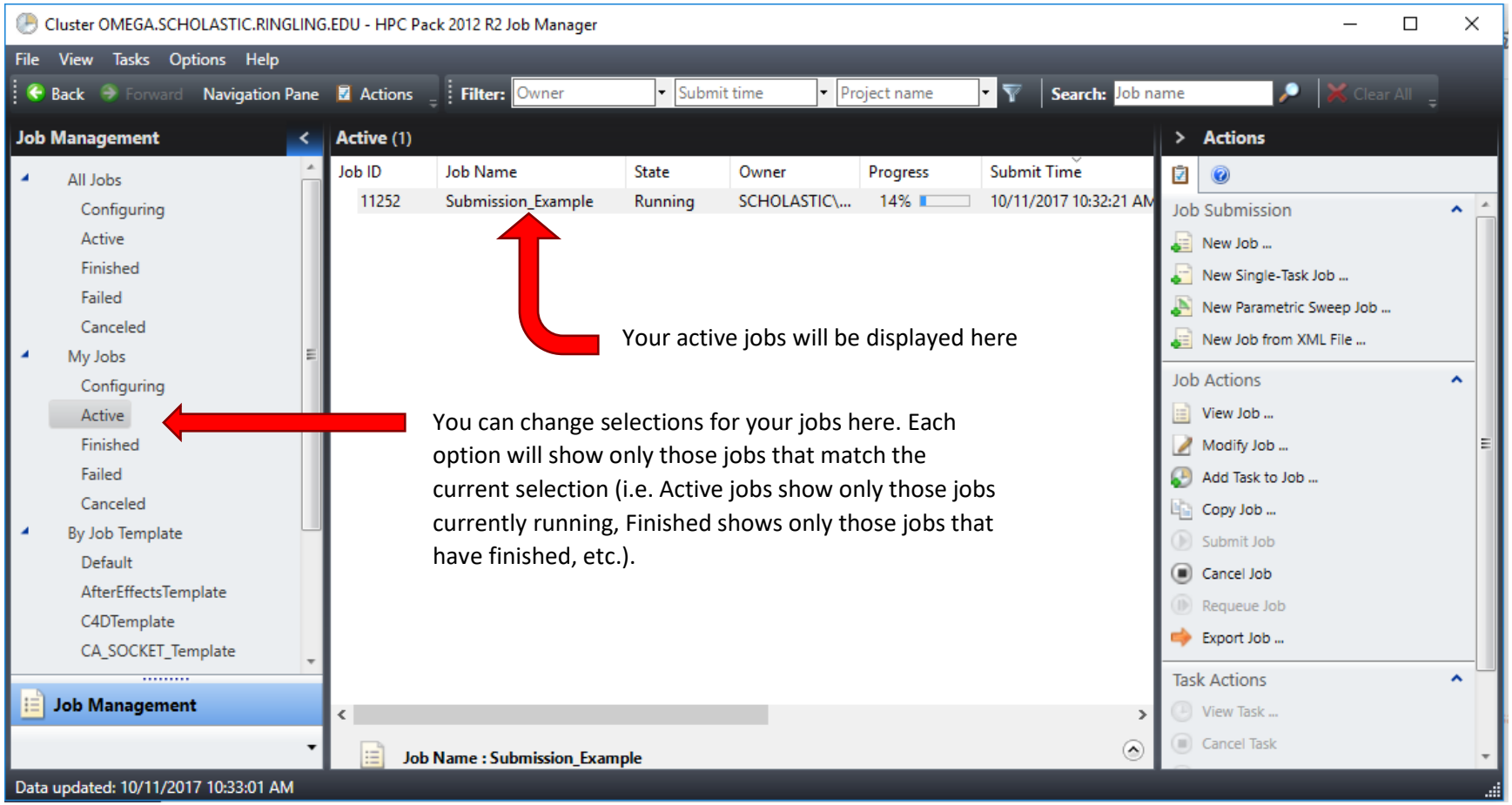
You can change the head node of your Job Manager, allowing you to switch between Alpha and Omega without opening a new Job Manager window.

Click File > Select Head Node

Select the head node you wish to change to.

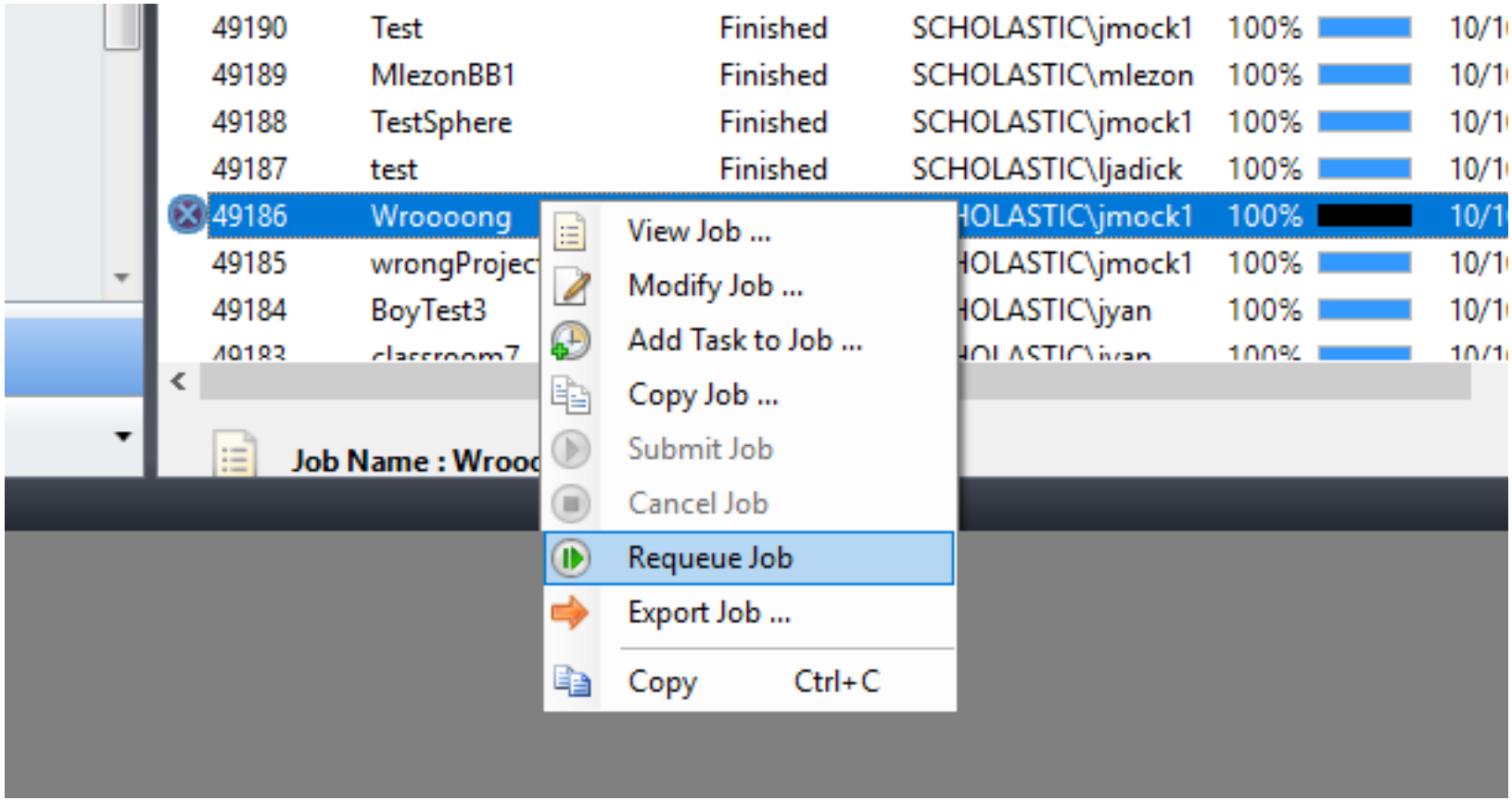


The default view is “All Jobs,” showing you all jobs on that cluster – to include failed and canceled jobs. To view only your jobs, click “My Jobs” in the Job Management window.

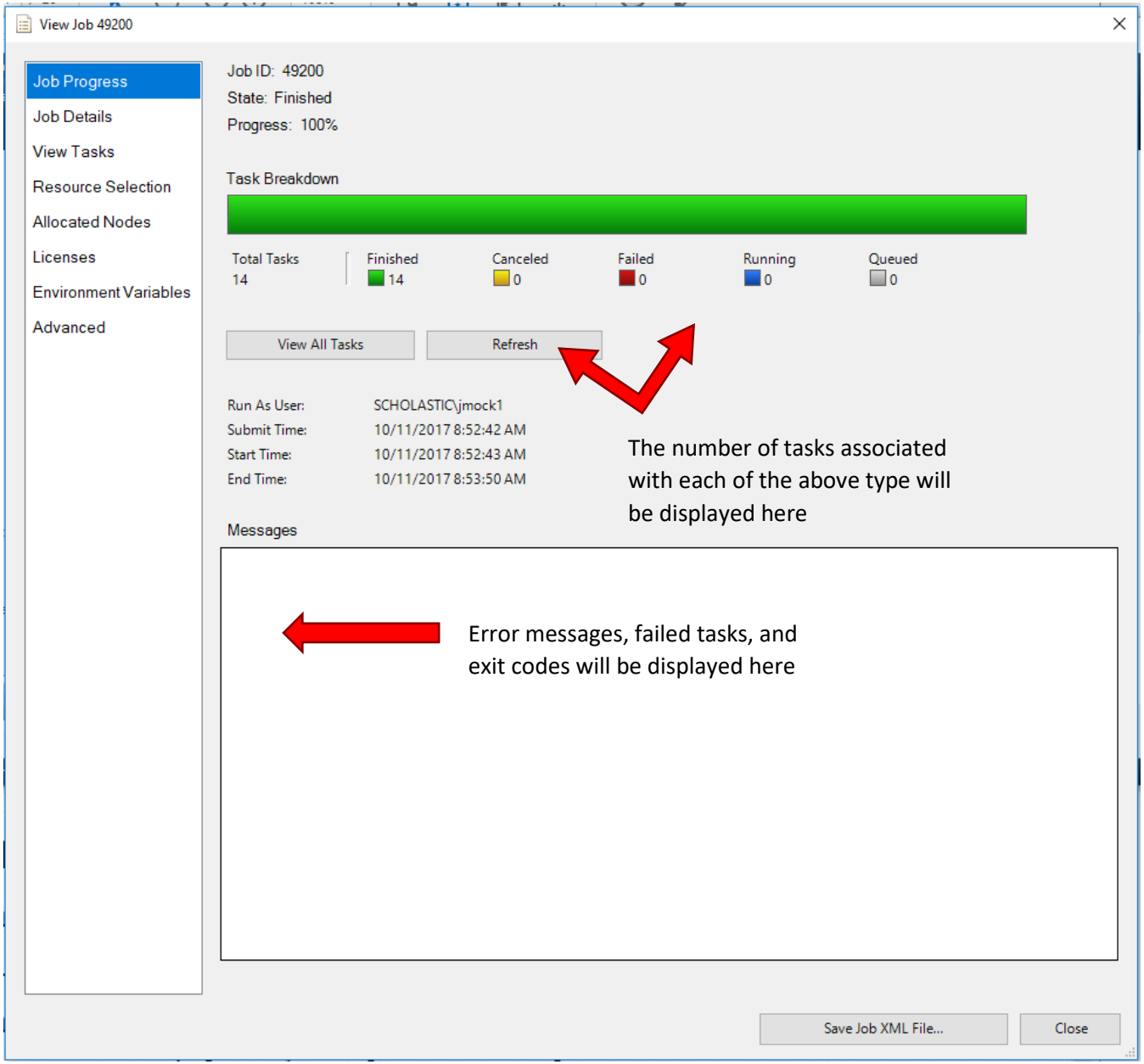


Monitoring – Expanded

If a job is overall successful but fails due to dropped frames, you can right click it to resubmit the job. The cluster will re-render only those frames that failed.



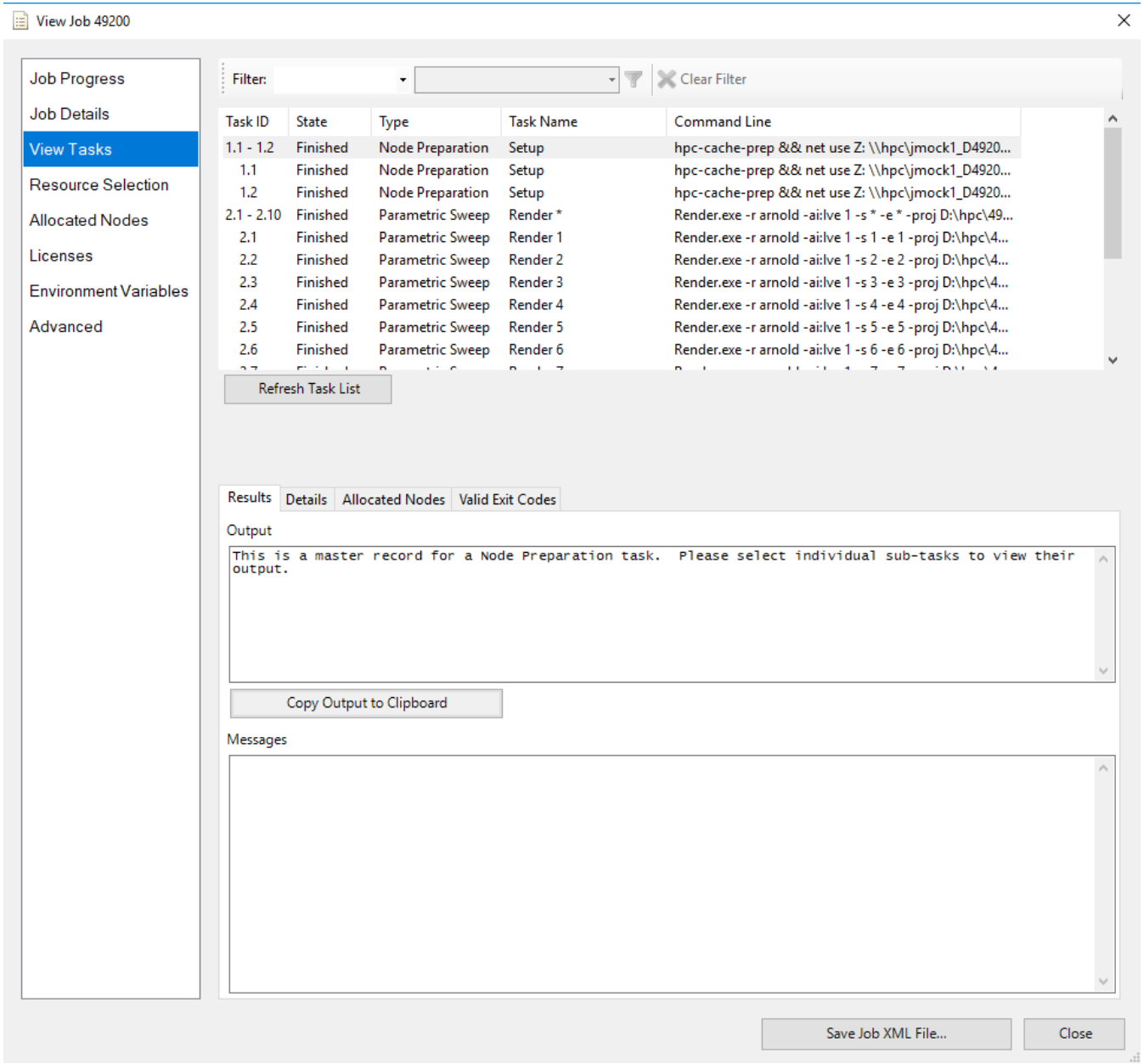
Double-clicking a job in the HPC Job Manager will open another window, which provides greater details about that render job.



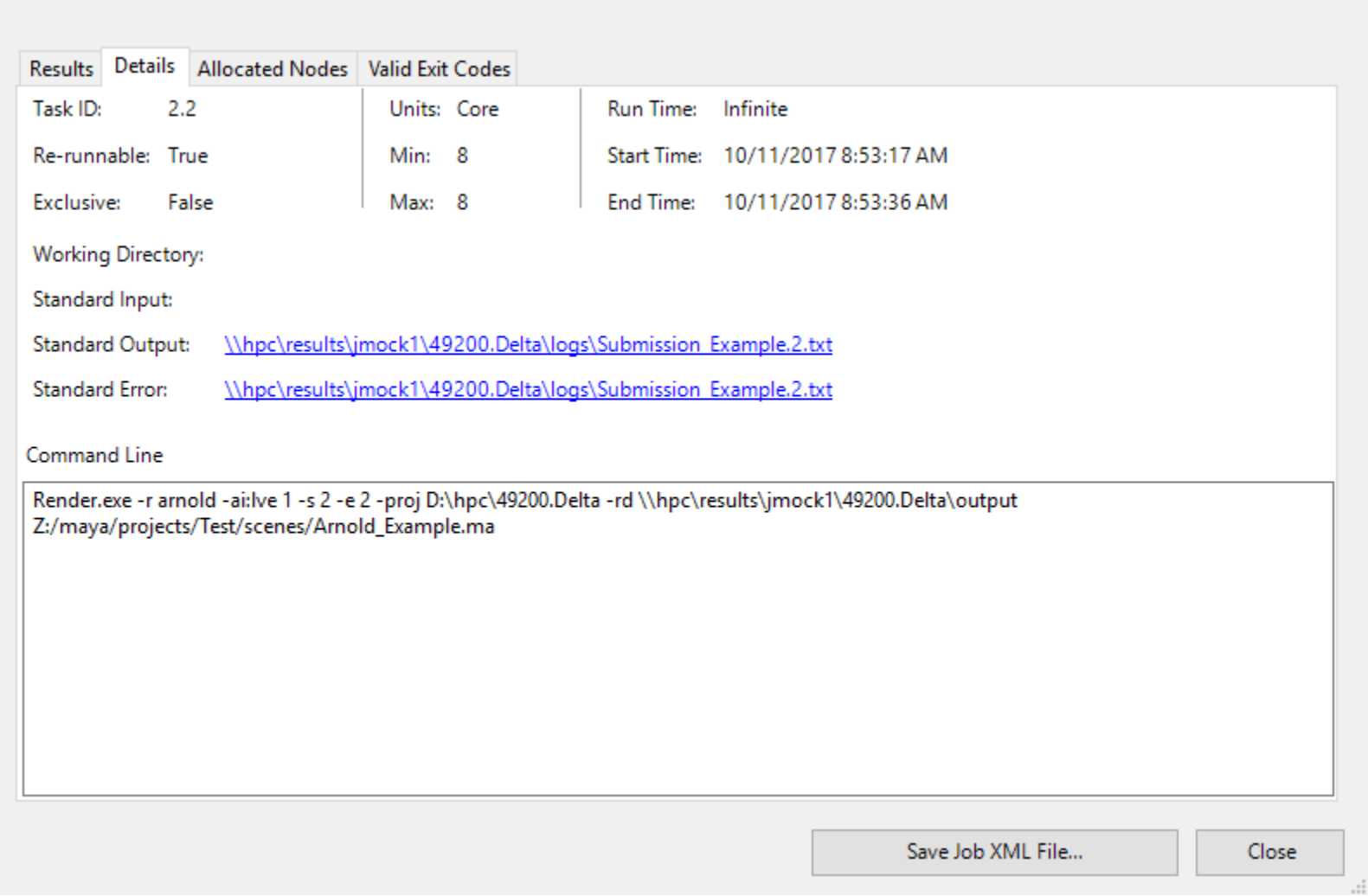
Click View Tasks to see a breakdown of the render job.

There are four main tasks associated with each render: *Node Preparation*, *Parametric Sweep* (the actual rendering of frames), *Node Release*, and *Stats Gathering*.

If a job fails, you can see where exactly in the process it encountered an error, which will enable you to effectively troubleshoot and correct the issue.



Opening the *Details* tab and selecting an individual task will provide further information. Additionally, it provides a link to that task's log in your Render Output Share. Clicking the link opens a text file containing that task's log information. Learning how to read your logs will empower you to successfully troubleshoot your render jobs.

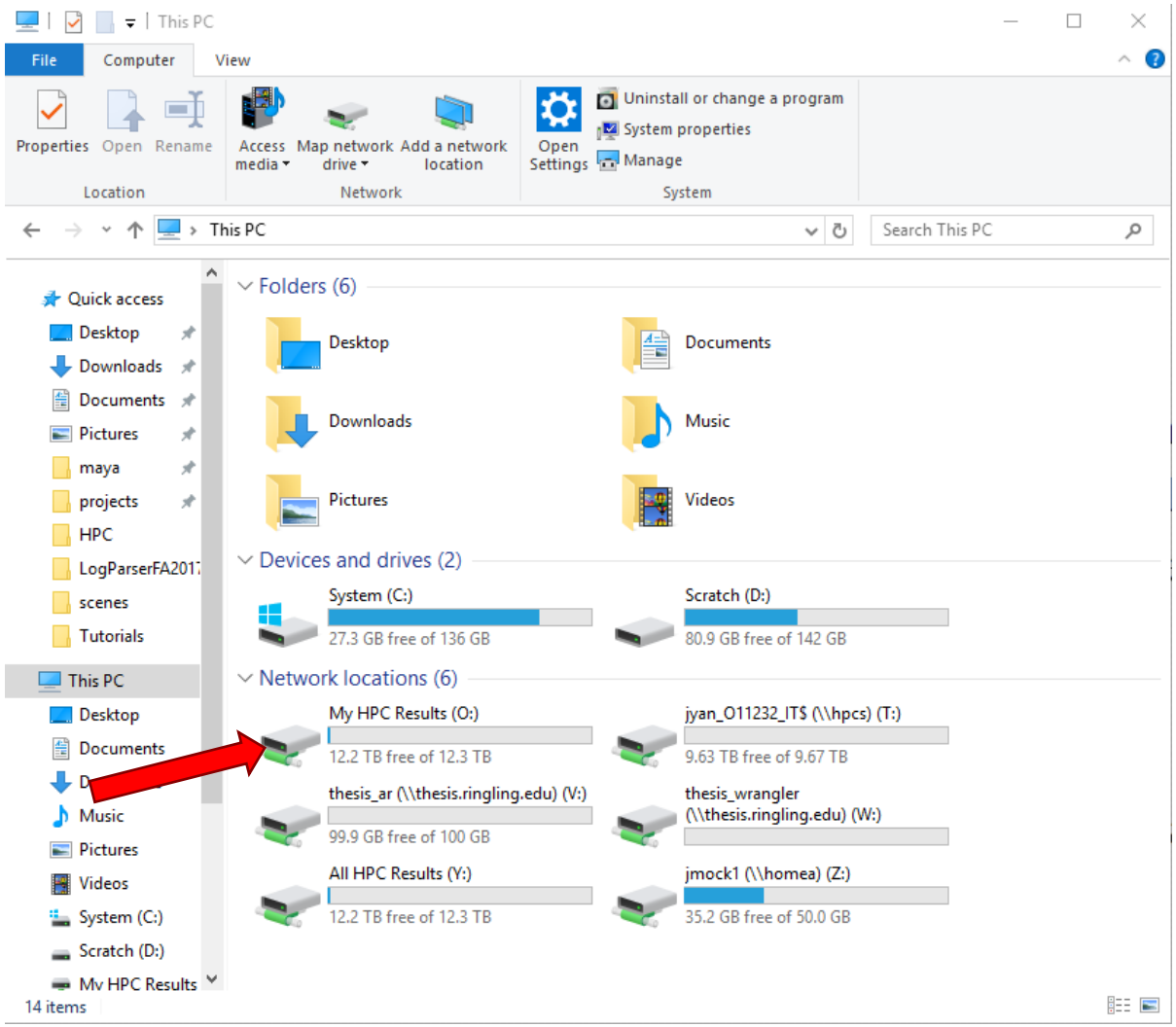


Retrieval and Review

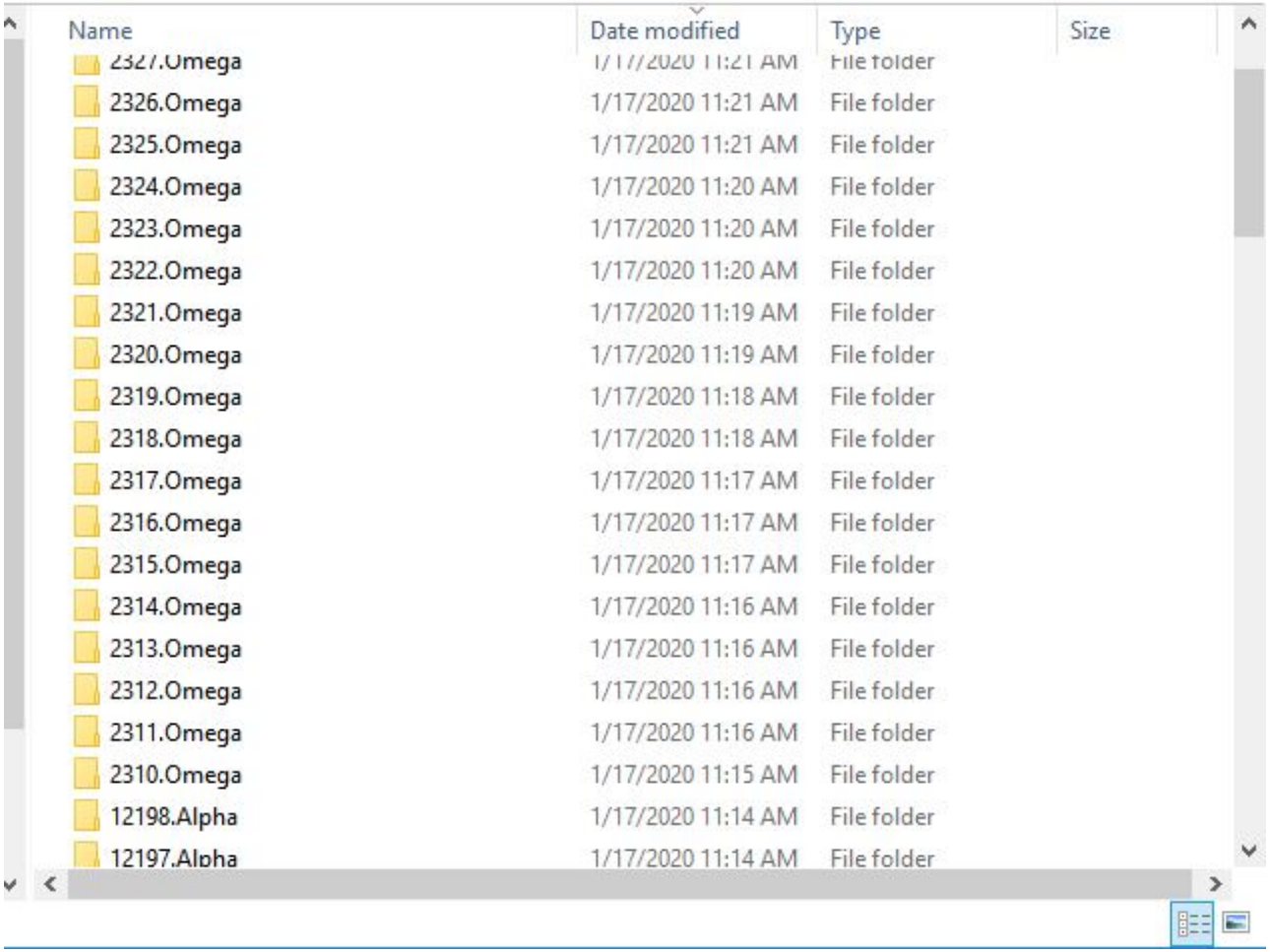
Now that your renders have returned, you will want to retrieve them for the post-production process. Your files and logs will be returned to your Render Output Share.

To mount your Render Output Share, click the Windows icon > R > Rendering > Mount My Render Output Share. This will map the share to your O:\ drive, which can be found by opening a File Explorer (the folder icon in your taskbar) > This PC > My HPC Results (O:).

You only need to mount your render output share once to have access to this drive. However, if your HPC Results drive is ever missing, repeat the steps listed above to reconnect it.



Open the folder whose name corresponds to the render job you submitted. The naming convention for each folder is: *Job Number* followed by *Cluster Rendered On*.



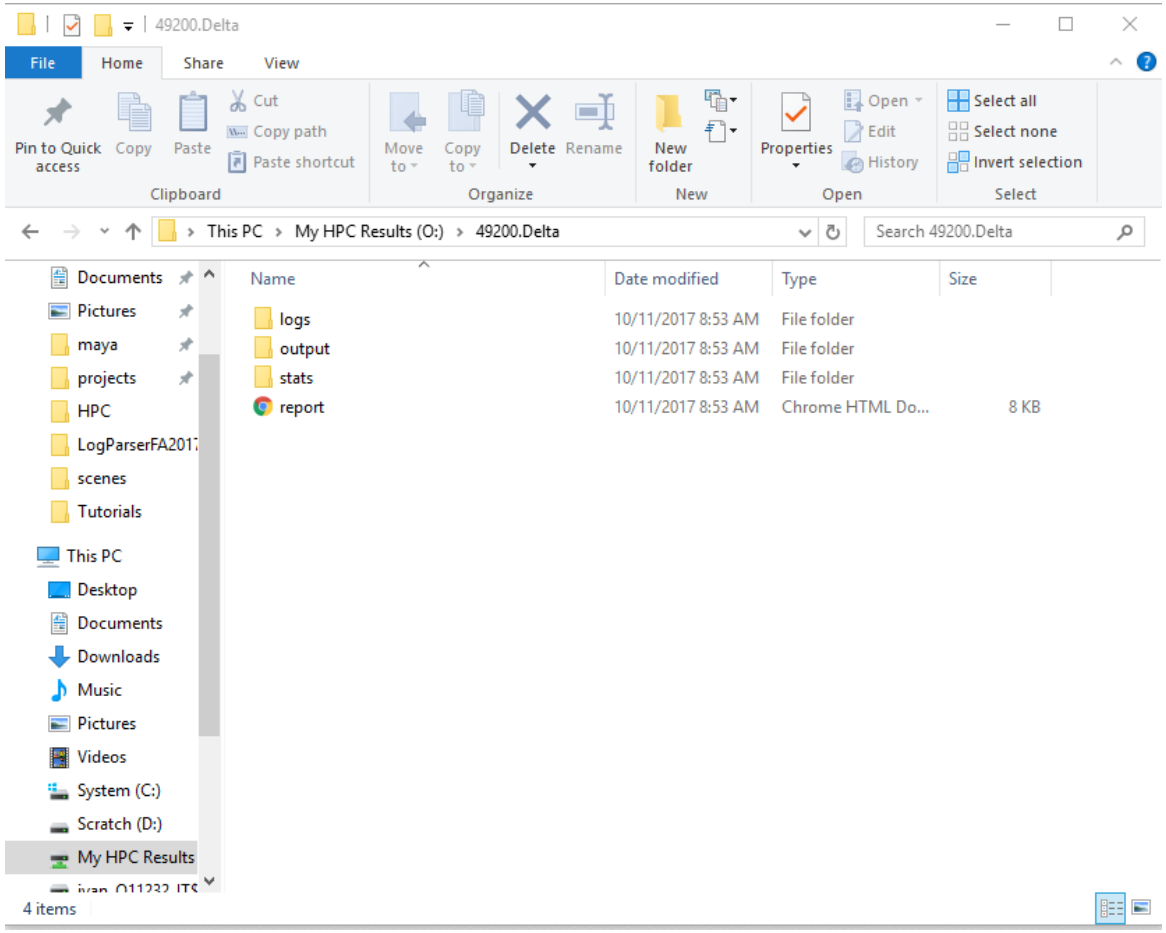
Inside each folder, you will see three folders and a *report* file. The two folders you will concern yourself with the most are *logs* and *output*.

Logs contains all of the logs for any given render task.

Output contains all of your rendered frames.

IMPORTANT:

Do NOT delete any of the folders within this Results folder, especially if it requires testing or troubleshooting. The logs contained within these folders provide crucial information that allow us to assist you in correcting errors that prevent you from achieving a successful render. Do NOT rename any folders either. It can break the farm for everyone.



Note:

Folders within the O: drive are automatically erased 72 hours after they are created. That means you will need to copy what you need from them and place them on another drive if you don't want to lose them.

Review

Make sure you review your frames for quality and address any issues before moving forward. If you run into questions while rendering in the cluster, follow the suggested steps below:

- Check with your peers – perhaps they have an answer
- Check the Cluster Rendering page on the IT website for troubleshooting steps, tutorials, and other resources at it.ringling.edu/CA
- Check with our "render wranglers" – now available through live chat via Google Hangouts. You can reach them at ca.render.wrangler@gmail.com
- Check with your instructor
- If that doesn't help, click the support.ringling.edu link at the bottom of the page listed above and submit a ticket
- Stop by IT and ask to speak with someone on our Render Support team

Tickets

When submitting a ticket, make sure to include as much information as possible to assist us in troubleshooting your issue. This includes the background regarding the status and the issue itself. Include the "Job ID" from the HPC Job Manager, the render cluster you encountered the error on, as well as any steps you've taken to troubleshoot the issue. The more information we have, the more efficiently we can assist you.