

This tutorial will show you how to use Deadline to remotely render your Blender project using DMA's computers.

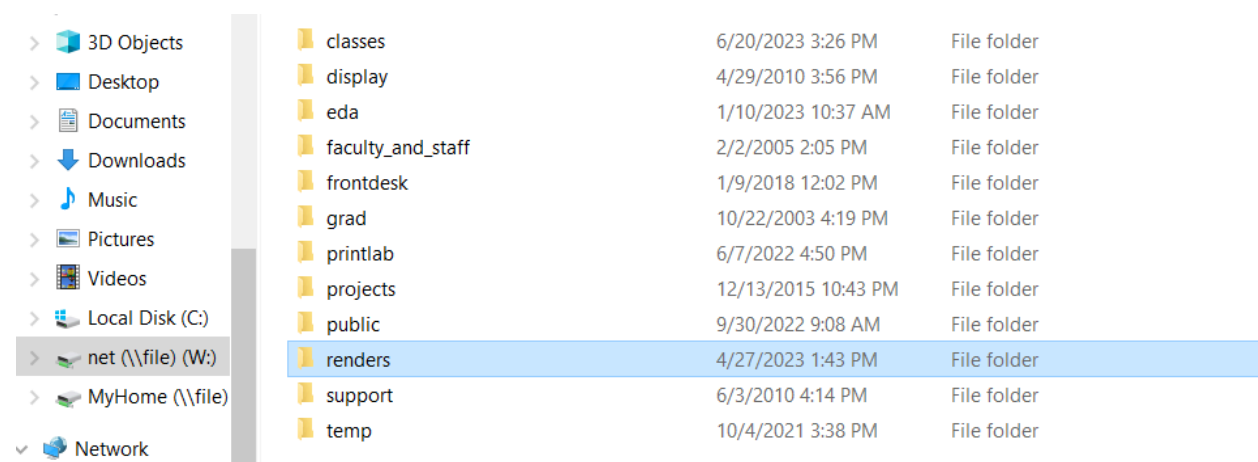
NOTE: DMA currently has Blender version 4.2 LTS installed on our machines. If you are trying to render from a different version of Blender you might get errors.

First, if you are working from your personal computer, follow the instructions in the tutorial for setting up Deadline. If you are on a DMA machine it should already be installed.

Ensure the “Output Properties” and “Render Properties” in your Blender file are set to what you are wanting to be rendered.

NOTE: If you are trying to render to a video file rather than a PNG sequence, Deadline is set up to divide up the work across multiple machines. You could do this and have it send you the video in multiple video files, or you could set it so that the whole thing renders on one computer remotely (this is potentially risky as the longer one job works on one computer the more likely it is to be interrupted and fail)






Save your .blend file to your subfolder in the Renders folder, which you can access either via cloud.dma.ucla.edu, or, if you are on a DMA machine, is in the ‘net W:’ drive you can find in the File Explorer.



Inside this folder you'll see other DMA users with their own folders, and if you don't already have one you should make your own.

This is where you will save your .blend file. It's a good idea to also create a subfolder within that to have your rendered images go into so that your main folder doesn't get disorganized

xing02 > net (\\file) (W:) > renders > sutopat > blender

Name	Date modified
 cubetest	4/27/2023 2:54 PM
 imagetest	7/11/2023 3:18 PM
 cubetest.blend	4/27/2023 2:52 PM
 cubetest.blend1	4/27/2023 1:48 PM
 imagetest.blend	7/11/2023 3:02 PM

Now you open the Deadline Monitor program and you will see this screen.

Deadline Monitor - render.dma.ucla.edu:4433 (Deadline10RemoteClient.ptfx)

File View Submit Scripts Tools Help

721 total, 492 completed, 72 suspended, 157 failed, 1 selected

Job Name	User	Errors	Comment	Department	Task Progress	Stz
Untitled	sutopat	38			100 % (5/5)	Co
Untitled	sutopat	116			68 % (17/25)	Fa
Untitled (mul...	sutopat	103			0 % (0/10)	Fa
Untitled (mul...	sutopat	0			0 % (0/10)	Fa
Untitled	sutopat	0			0 % (0/250)	Fa
mediaencod...	sutopat	10			0 % (0/1)	Fa
steinkamp	jj	0	daisies1		100 % (120/120)	Co
ryan_star	ryank	0			100 % (20/20)	Co
ryan_star	ryank	0			0 % (0/20)	Fa
Untitled	sutopat	0			0 % (0/250)	Fa
Untitled	sutopat	0			0 % (0/250)	Su
AE 2023 test	jonathanceil	0			0 % (0/100)	Su
AE 2023 test	jonathanceil	0			0 % (0/100)	Su
another AE t...	jonathanceil	0			0 % (0/100)	Su
cubetest redo	sutopat	99			0 % (0/900)	Su
Untitled	sutopat	0			0 % (0/100)	Fa

5 total, 5 completed 00:00:00:00 remaining

Task ID	Frame	Status	Progress	Worker
0	1-50	Completed	100 %	BLUE960
1	51-100	Completed	100 %	BLUE960
2	101-150	Completed	100 %	BLUE801
3	151-200	Completed	100 %	BLUE960
4	201-250	Completed	100 %	BLUE611

90 total, 34 idle, 44 offline, 12 stalled, 1 selected 0% of 4.5 THz utilization

Worker Name	Machine Name	Machine User	Description	Status	Last Status Update	Offline Message	Comment	Assigned Pools	Assigned Groups	Dequeueing Mode
BLUE951	BLUE951	admin	Falcon Talon	Offline	2023/07/11 13:34...	2023/07/11 13:34...		maya,blender,falc...	All Jobs	
BLUE952	BLUE952	admin	Falcon Talon	Offline	2023/07/11 13:34...	2023/07/11 13:34...		maya,blender,falc...	All Jobs	
BLUE953	BLUE953	admin	Falcon Talon	Offline	2023/07/11 13:34...	2023/07/11 13:34...		maya,blender,falc...	All Jobs	
BLUE954	BLUE954	admin	Offline	Offline	2023/07/11 13:27...	2023/07/11 13:27...			All Jobs	
BLUE955	BLUE955	admin	Falcon Talon	Offline	2023/07/11 13:35...	2023/07/11 13:35...		maya,blender,falc...	All Jobs	
BLUE956	BLUE956	admin	Falcon Talon	Idle (14.8 m)	2023/07/11 15:31...			maya,blender,falc...	All Jobs	
BLUE957	BLUE957	admin	Falcon Talon	Idle (13.6 m)	2023/07/11 15:31...			maya,blender,falc...	All Jobs	
BLUE958	BLUE958	admin	Falcon Talon	Idle (9.4 m)	2023/07/11 15:31...			maya,blender,falc...	All Jobs	
BLUE959	BLUE959	admin	Falcon Talon	Idle (13.1 m)	2023/07/11 15:31...			maya,blender,falc...	All Jobs	
BLUE960	BLUE960	admin	Falcon Talon	Idle (13.2 m)	2023/07/11 15:31...			blender,maya,falc...	All Jobs	
BLUE961	BLUE961	admin	Falcon Talon	Idle (8.4 m)	2023/07/11 15:31...			maya,blender,falc...	All Jobs	
BLUE962	BLUE962	admin	Falcon Talon	Idle (11.4 m)	2023/07/11 15:31...			maya,blender,falc...	All Jobs	
BLUE963	BLUE963	admin	Falcon Talon	Idle (17.7 m)	2023/07/11 15:31...			maya,blender,falc...	All Jobs	
BLUE964	BLUE964	admin	Falcon Talon	Idle (5.3 m)	2023/07/11 15:31...			maya,blender,falc...	All Jobs	
BLUE1001	BLUE1001	admin	House Blend Talon	Idle (2.3 m)	2023/07/11 15:31...				All Jobs	
BLUE1002	BLUE1002	admin	House Blend Talon	Offline	2023/07/11 13:33...	2023/07/11 13:33...		blender,maya	All Jobs	

Panels Locked User: sutopat Last Update: 2 s

The top-left window is a list of submitted jobs, which you can click on and then see how they were distributed into separate jobs to be sent to computers to be rendered in the top-right window. The bottom window shows a list of the currently available computers.

To start a Blender job, on the top toolbar click Submit > 3D > Blender, and you will get a window popup that looks similar to this:

Submit Blender Job To Deadline

Job Options Draft

Job Description

Job Name: Untitled

Comment:

Department: Jonathan

Job Options

Pool: none

Secondary Pool:

Group: blender

Priority: 50

Task Timeout: 0

Concurrent Tasks: 1

Machine Limit: 0

Machine List:

Limits:

Dependencies:

On Job Complete: Nothing

Blender Options

Blender File: animation\restaurant_anim_test\rain_restaurant.blend

Output File (Optional):

Frame List: 100-200

Frames Per Task: 1

Threads: 0

Build To Force: None

Path to BlenderForceGPU Script:

Submit Close

(this window shows settings for Cycles CPU rendering)

The fields you want to pay attention to are:

- Job Name
 - Put something descriptive here so that you know what it is when it appears in the long list of jobs
- Group
 - Select “blender”
- Blender File

- Select your .blend file that you put in the cloud render folder
- Output File
 - Select the subfolder in your render folder where you want the renders to be output to
- Frame List
 - Which frames in blender do you want to be rendered.
 - Using a single number, like 73, will render that single frame
 - To render frames sequentially, enter the first frame number followed by a '-' character, and then enter the last frame number.
- Frames per task
 - This is how many frames will be sent for a job to each computer.
 - If your frames will take a long time to render you ideally will keep this value low to minimize the chance for interruption and failure. If they are quicker renders you can put this higher to make it more efficient. If you don't know where to start, try 5 and see how it goes.
- Path to BlenderForceGPU Script
 - For standard CPU rendering in Cycles, you can leave this blank. We've hacked this section so that we can pass a GPU rendering flag to the Blender render command. If you want to, or need to, render with OptiX (GPU with ray tracing) or CUDA (GPU render), you can pass the appropriate command as listed below.
 - For OptiX rendering in cycles enter this as your additional argument (without the quotes)
 - "\\renders\extras\BlenderForceOptixScript.py"
 - For Cuda rendering in cycles enter this as your additional argument (without the quotes)
 - "\\renders\extras\BlenderForceGPUScript.py"

Then you can hit submit!

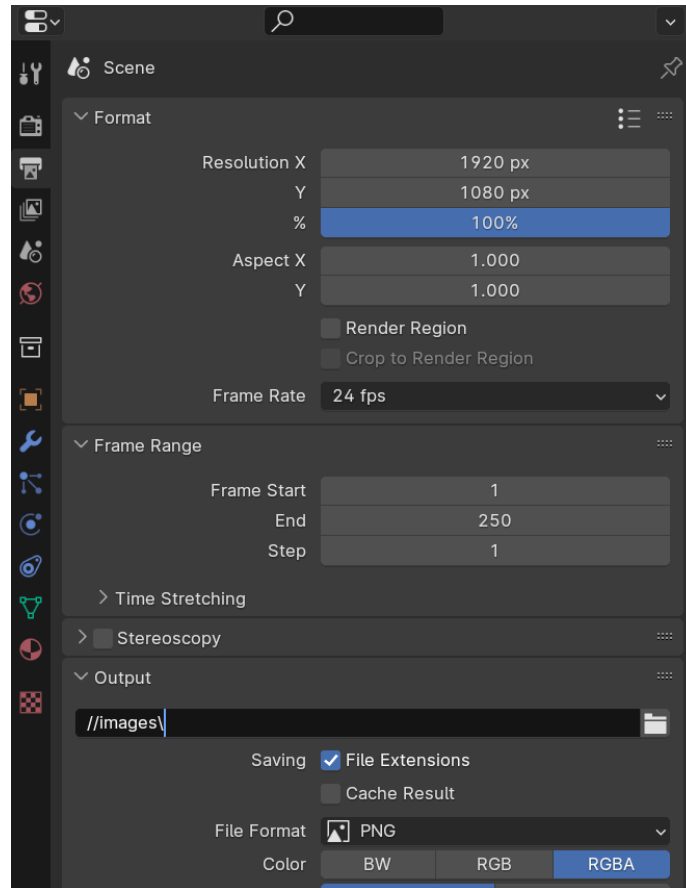
You can watch the progress of your job by clicking on it in the job list. If you start to see red errors, you can right click on your job and select "View Job Reports" which will pop up a window with logs from the processes. If you search around in these logs and find an error they will hopefully give you a clue as to what went wrong! If not, come to the helpdesk and we can help you figure it out.

If all goes well your renders will appear in the folder in the cloud!

Troubleshooting

Where are my renders?

If Deadline Monitor shows that your render is done, the frames should be on the DMA Cloud in your Deadline Renders folder. If you can't find them where you expect, there is a good chance your render output folder is set to /tmp in Blender. Make sure the output location in your Scene->Output->Output is set to a relative path using the "//" shortcut. Here's an example of how the setting should look inside Blender for a images folder that is in the same directory as the Blender file:



Why are my particles not rendering?

If your particle systems are rendering correctly when rendered locally in Blender, and you see that particles are not rendering as expected through Deadline, it could mean that you need to bake your particle system into the file. In Blender, set the current frame to the last frame in your animation. From the outliner, select your particle system, click on the physics properties tab, select simulation nodes, and click "Calculate to Frame". Make sure the cache option is selected, and then "Bake". When you render again, your particle system will be baked into the file and should render as expected.

