# Qube Renderfarm Guide: Houdini Mantra IFD file rendering

Scene setup

note: versions of Houdini in the screenshots shown here will be different to the ones in current system because of continuous houdini updates,however it shouldn't affect the overall setup process

In order to prepare your scene for submission to the renderfarm, the following steps are suggested:

• Place scene file, and associated scene assets (eg. Textures, Sims etc.) in folders, within a single directory

• Make use of relative file paths using the $HIP or $JOB variables when assigning all scene assets
• (If $JOB is being used it can be set in the textport i.e.
   set -g JOB = /render/**isuername**/**SimulationQubeTest**)

• Copy the entire scene folder to your directory within /render on the
   tete server.

◦ This can be done using the Connect to Server... option which can
   be found in the Places main linux menu, all the way down
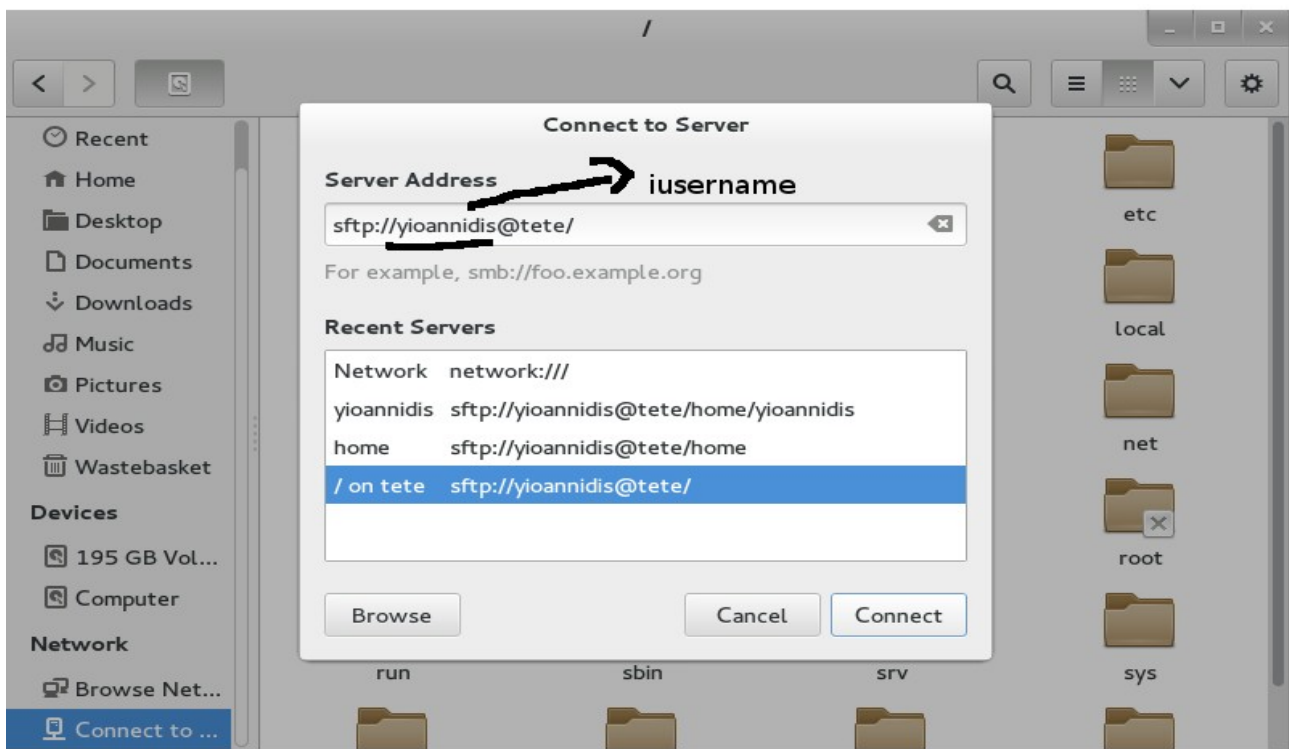
server address: **sftp://iusername@tete/**

◦ It is sensible to add a bookmark to this location, so it can be
   easily accessed when setting up and accessing future renders.

◦ Copy and Paste can be used to copy your scene directory into this
  directory ready for use on the render farm.

◦ Alternatively files can be copied using the sftp command line tool.

• Start Qube:

• Submit a Houdini job by clicking on: **Submit–Cmdrange Job...**

Suggested Qube Settings

The following defaults are a good starting point for starting a
Houdini job on the renderfarm.

Make sure the there is a directory with all the ifd files needed for mantra to read.
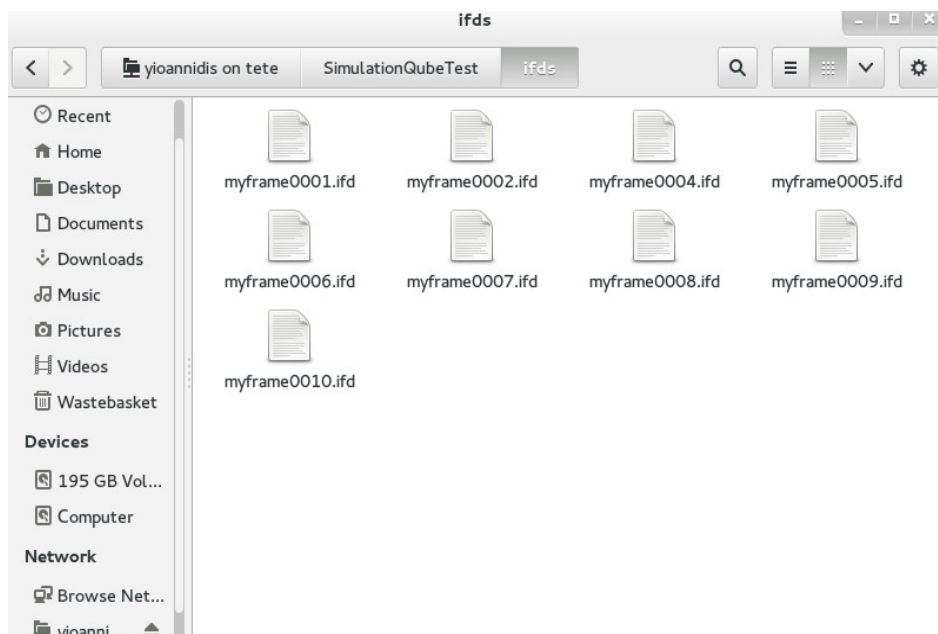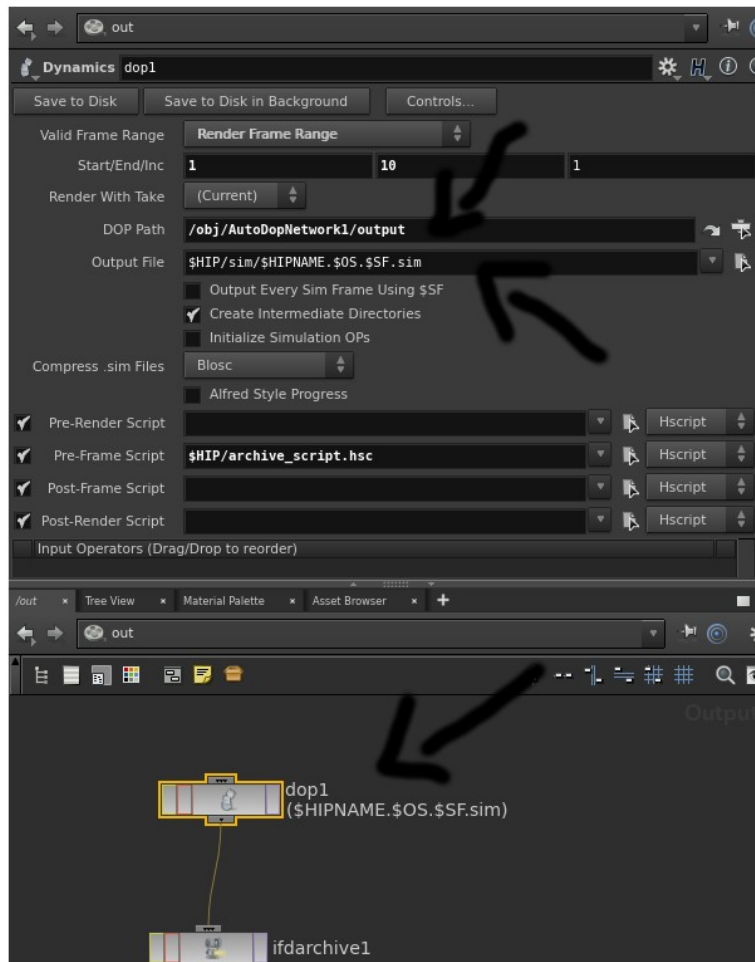
The same applies if you are want to render a Simulation on the farm:
Make sure the there is a directory with all the sim files needed, as well as a similar setup inside the AutoDopNetwork to export the sim files to it.
Additionally, a Dynamics dop in the Output network needs to be added to render out the sim files from the AutoDopNetwork.
(see scene setup bellow):

Archive   archive_script.hsc   backup

bakedgeo   Hearts_Royals.jpg   ifds

outputframes   renderimages   render_script.hsc

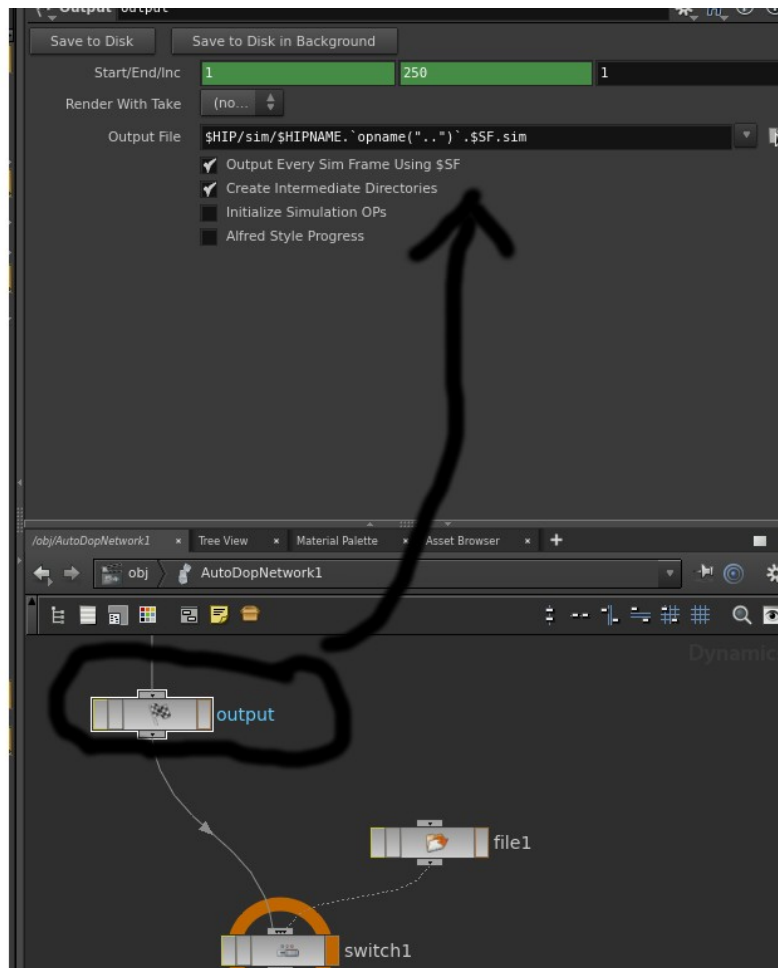sim   simpleShattering.   simpleShattering15.
                       hipnc   hipnc

(To generate the ifds refer to the **Qube_Renderfarm_Guide_Houdini_Hrender.docx** guide)
(basically resubmit a HRender job on Qube and remember that the .hipnc scene file you are trying
to render needs to have the "Save IFD files to disk" checkbox of your mantra out driver ticked)

Instances: Set number of frames to render in parallel (not more than 40)

Range: Specify frame range in the format start-end.

IFD file: Enter path to the ifd file to render i.e.
/render/iusername/SimulationQubeTest/ifds/myframe.ifd

Command: Render command to be executed. This needs to include commands to initialize the HoudiniEnvironment. We recommend starting with the entire template shown here:

cd /opt/hfs17.0.416.;source ./houdini_setup_bash;
mantra -f /render/iusername/SimulationQubeTest/ifds/myframeQB_FRAME_NUMBER.ifd;

Be careful and use the same frame padding as the one in the scene you generated the ifds from

Environment Variables: Used to add environment variables.
Must have variable for license server set here

Qube Advanced Job Control ▼

Flags | auto_mount | Browse

Email (job complete) ☐ i7762165

Email (failed frames) ☐ i7762165

FlightCheck scripts ▲
Qube Job Delayed Start ▲

Qube Job Environment ▼

Cwd | /home/yioannidis

Environment
Variables

Key	Value
HOUDINI_USE_HFS_PYTHON	1
SESI_LMHOST	burton.bournemouth.ac.uk

Qube Job Validation & RegularExpression-based Output Parsing ▲
Qube Actions ▲
Qube Notes ▼

Notes

Set Defaults | Clear Defaults | ☐ Expert Mode | | Cancel | Resubmit

Resubmit cmdrange

Impersonate User

Qube Job Validation & RegularExpression-based Output Parsing ▼

Min File Size   0

regex_highlights

regex_errors

regex_outputPaths

regex_progress

regex_maxLines   20

Qube Actions ▼

generateMovie   ☐

Qube Notes ▼

Account   ⌄

Notes

Set Defaults   Clear Defaults   ☑ Expert Mode   🖫   Cancel   Resubmit

If you see that some of your ifd frame files are dropped for no apparent reason, you can **re-render** and **try to re-generate the IFD files**, which shouldn't take long usually cause they are much faster to generate rather than rendering from the live Houdini scene network.
OR
Instead of using a chain in the outputs level in Houdini, just disconnect and render separately each one of them

dop1
($HIPNAME.$OS.$SF.sim)   ⟵ render on the farm separately

ifdarchive1   ⟵ renrder on the farm separately

mantra1
(myframe$F4.exr)   ⟵ render on the farm separately

Resubmit Houdini (hrender)

Qube Job Basics ▼

Name   yanHrenderSimpleSimulationQubeTest

Priority   9999

Instances   10

Qube Frame Range ▼

Range   1-10

Preview Frames Submission ▼

Preview Priority   -1

Required Parameters ▼

hrender   hrender   ⌄   Browse

scenefile   /render/yioannidis/SimulationQubeTest/simpl   Browse

outputLogfile   /render/yioannidis/SimulationQubeTest/simpl   Browse

Driver/Cop   -d   Should change to either: dop1

Driver/Cop Value   /out/mantra1   Should change to or: ifdarchive1

Optional Parameters ▼   Should change to or: mantra1

R   ☑

Qube SimpleCmd and Shell Parameters ▼

                cd /opt/hfs ; source houdini_setup_bash;%(csh)s "%

Set Defaults   Clear Defaults   ☐ Expert Mode   🗔   Cancel   Resubmit