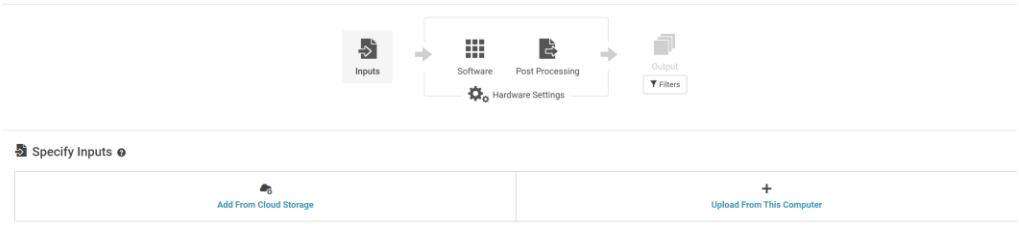
Using Rescale to Run Simulations from Local GUI

1. Create Rescale Account
    a. Talk to Hopke
2. Adding SSH Keys
    a. Follow the first three steps on this page until “configure your job settings” https://rescale.com/documentation/main/rescale-advanced-features/connecting-to-your-cluster/ssh-local-workstation/
        i. Note SSH-2 RSA means the RSA button in the bottom right of puttgen
        ii. If you already create keys for Ganymede you don’t have to create new ones, but make sure to use that matching public/private pair as before.
        iii. Select Everywhere instead of custom in the highlighted box 3
    b. Make sure to start Pagaent and add your private to that as mentioned in the Ganymede guide.
3. Creating a job
    a. Upload sim file
    b. Click “Create new job” in top left



    c. Click add from cloud storage
        i. Click the square not anywhere else or you will download the file to your computer

d. Click the software button

   i. Scroll down until you see “Simcenter STARCCM+” and click or type in the search box

   ii. In the version selection box, select 17.04.007 mixed precision

   iii. Enter Command:

      1. `starccm+ -power -collab -podkey bP+ffajdHe5WRH/RLQhUAg -batch run -load <Input File>`

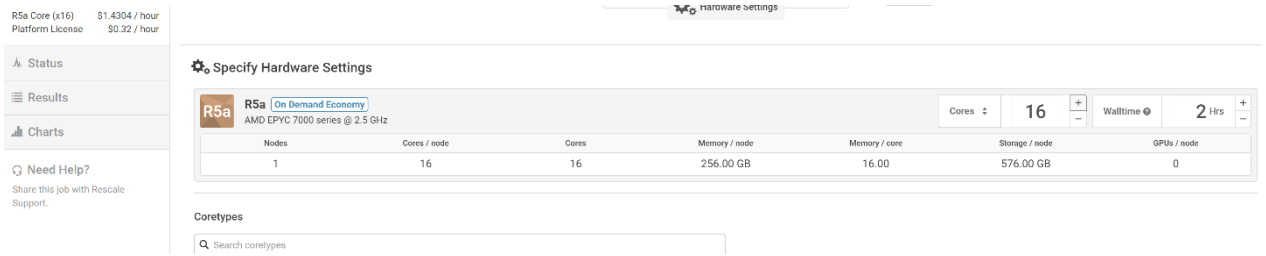
      2. `Click blue autofill input command`

   iv. Click “Use existing License” right under command

      1. Enter this into: “**License** (CDLMD_LICENSE_FILE)” box

         a. 1999@flex.cd-adapco.com

   v. Click Hardware Settings -> large memory



      1. This will be the standard hardware setup each time

         a. The goal of this setup is to minimize cost while having enough ram and single thread performance for meshing

         b. Note the whole aero team uses the funds for this HPC system so if possible use Ganymede first

         c. Please note that we are charged by the hour so select the wall time on the right to the amount you know you are going to need.

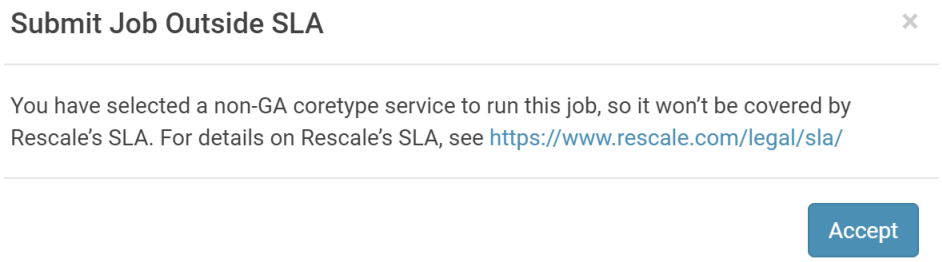
d. If you know you will actively be using the system for an extended period of time, try to only run one job as we are charged a flat fee for each job run in addition to by hour.
e. Try to use on demand economy as well to save extra money if possible.

2. This template will save after your first job for faster access later

vi. Post Processing

1. Ignore unless you know what you are doing as we are primarily using Rescale for meshing and not iterating.

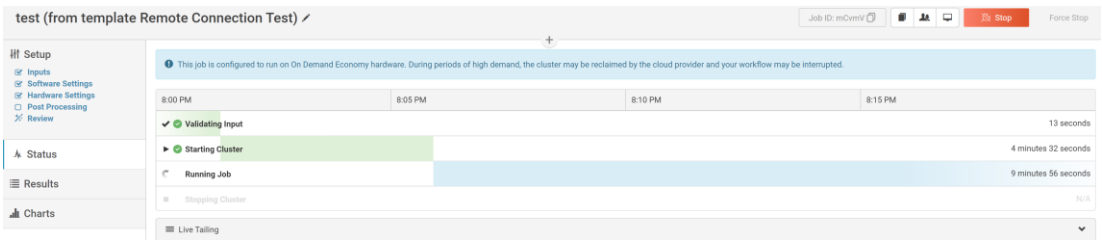
vii. Click Giant blue button in top left “Submit outside SLA”



1. You will get this warning you can click accept.
2. This warning is because we are cheap, so we are using a beta testing node in which we are not covered under their service level agreement.
3. Probably will not matter if it does then oh well.

4. Connecting: *The fun part… Please read*

a. After clicking accept you will be brought to something similar to this

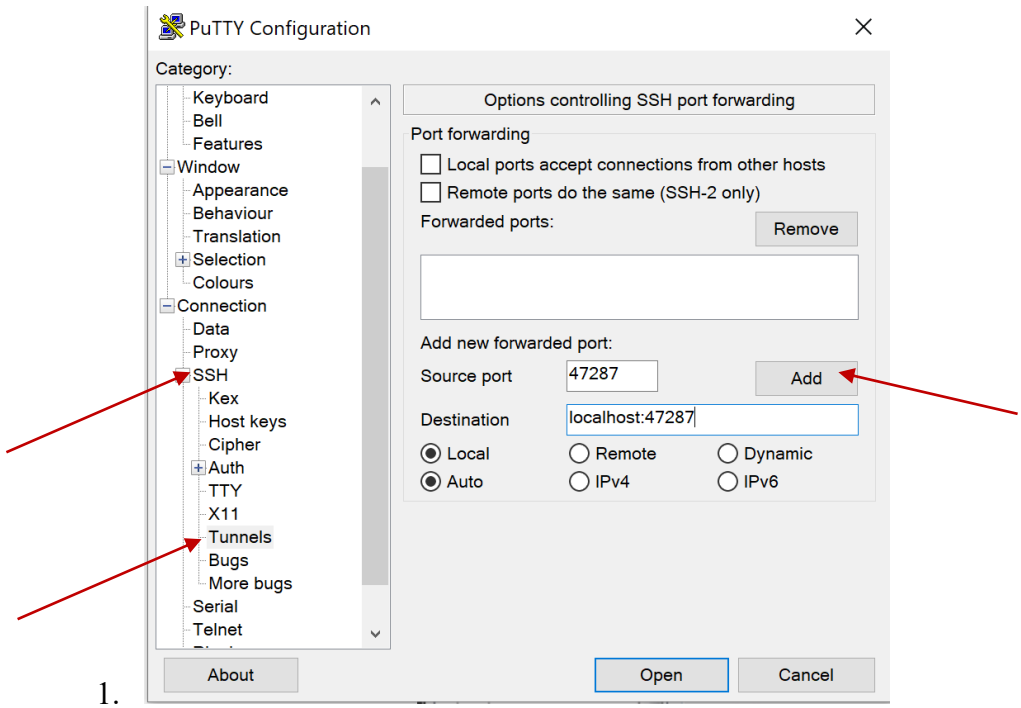


b. Wait for the job to start running. You will know because it will tell you and you can see the validating and starting are green now.

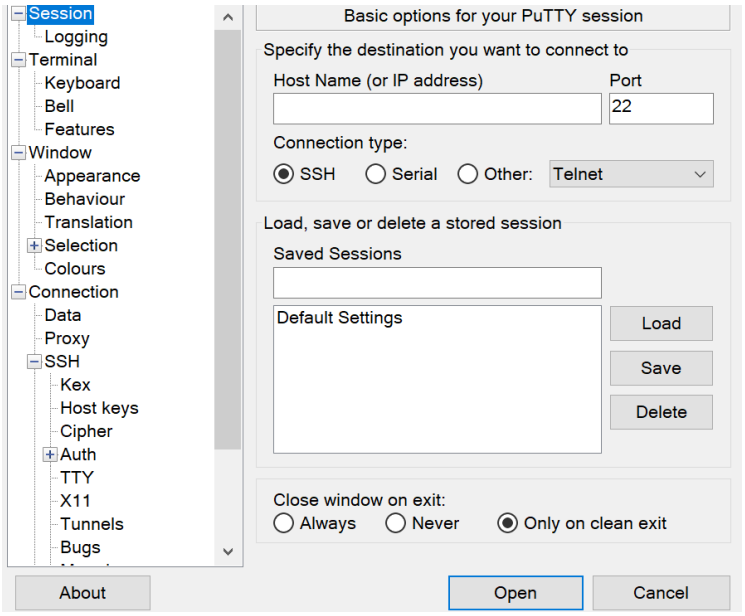
   i. While waiting you can make sure you have everything ready.

   ii. Make sure Pageant is running with the private key added. See other doc

   iii. Open putty.exe, follow arrows and enter this into the boxes, then click add.

1. 

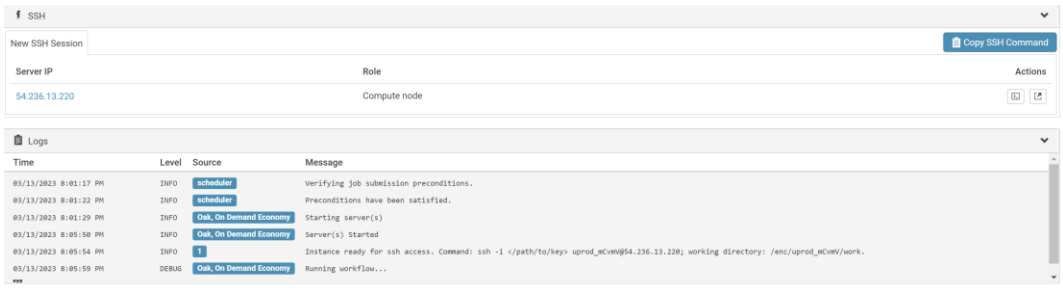
2. Once you have added this port forward go back to this screen by clicking the highlighted “Session”

3. 

iv. The hardest part so read this and part c.

1. Hit the windows key
2. Type cmd (you will see command prompt)
3. Hit enter
4. Leave this panel open

c. Once the job starts

i. 

ii. Where it says “Instance ready for ssh access…”

1. Copy the userid@ip
    a. The thing after the > and before ;
2. Go back to terminal from before
    a. Type plink -ssh userid@ip -L 47827:localhost:47827 -N -v

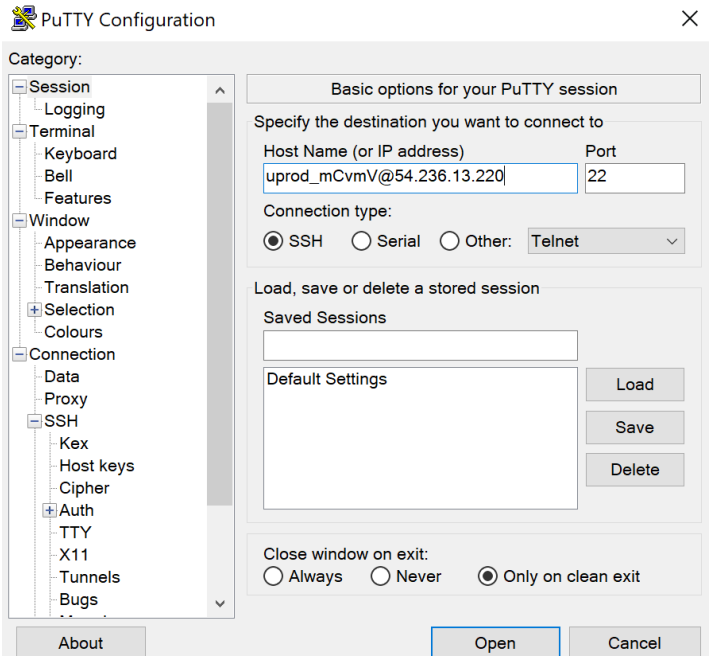
b. Hit enter. Make sure you replace userid@ip with the text you copied

c. You should see something like this if not you messed up or I did. Note a few lines are omitted from the pictures

```
Z:\putty>plink -ssh uprod_mCvmV@54.236.13.220 -L 47827:localhost:47827 -N
Looking up host "54.236.13.220" for SSH connection
Connecting to 54.236.13.220 port 22
We claim version: SSH-2.0-PuTTY_Release_0.78
Connected to 54.236.13.220
Remote version: SSH-2.0-OpenSSH_7.4
Using SSH protocol version 2
No GSSAPI security context available
Doing ECDH key exchange with curve Curve25519, using hash SHA-256 (SHA-NI
```

```
Sending Pageant's response
Access granted
Access granted. Press Return to begin session.
Local port 47827 forwarding to localhost:47827
Opening connection to localhost:47827 for forwarding from
Opening connection to localhost:47827 for forwarding from
Opening connection to localhost:47827 for forwarding from
```

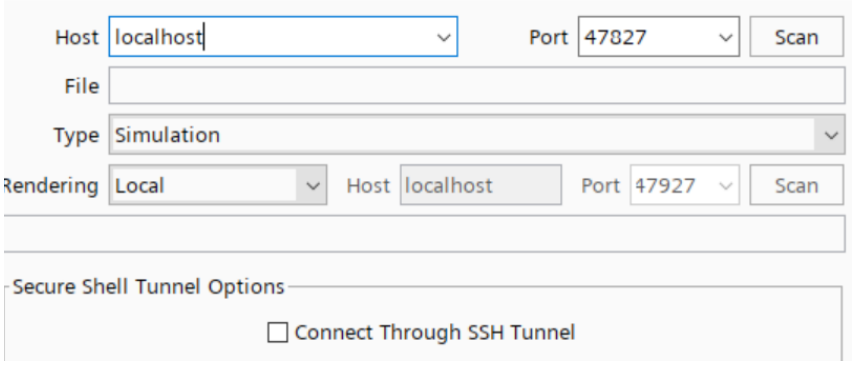
3. Paste this same userid@ip into Putty



4.

a. Click open

iii. Open Star -> file -> connect to server

1. 

2. Click Okay

iv. If you do not get an invalid host or port name error you are good, repeat these steps again and if that still doesn't work message me.

d. Once you are done using your node

i. Exit out of the sim from star

ii. Force stop red button on rescale in the top right