

AEROTHERM

CHPC Setup Overview

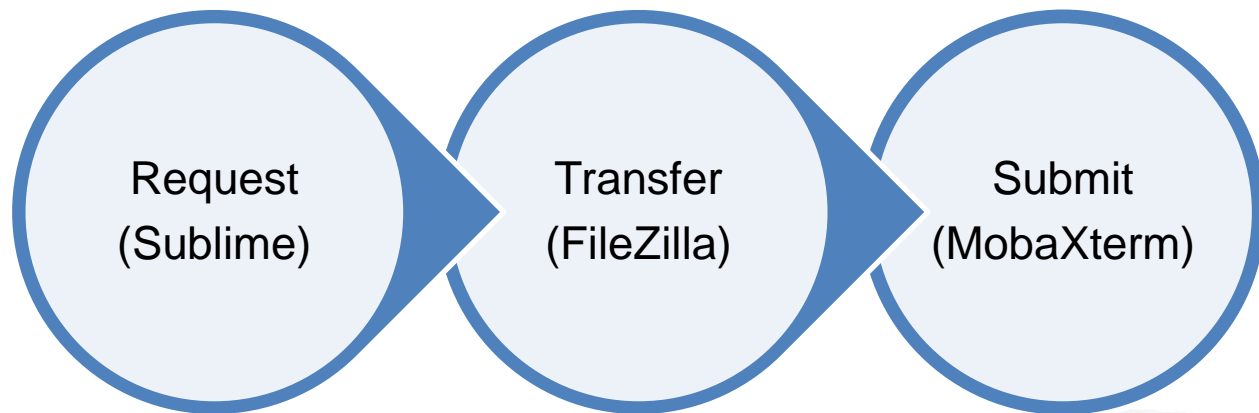
Simcenter STAR-CCM+



Solution
Partner
Smart Expert
Digital Industries
Software

SIEMENS

Workflow



- Number of cores.
- Software version.

- Upload/Download.
- Manage files.

- Submit simulation.
- Monitor progress.
- Delete job.

Important Notes

- Before submitting, ensure that the following is setup in the simulation file.
 - Auto Save has been enabled.
 - Volume Mesh has been built.
 - Can also mesh on the cluster, preferable on one node using smp queue.
 - Simulation has been solved for 50 iterations.
 - This is to ensure that the simulation actually runs without errors.

Request (Tell it what to do)

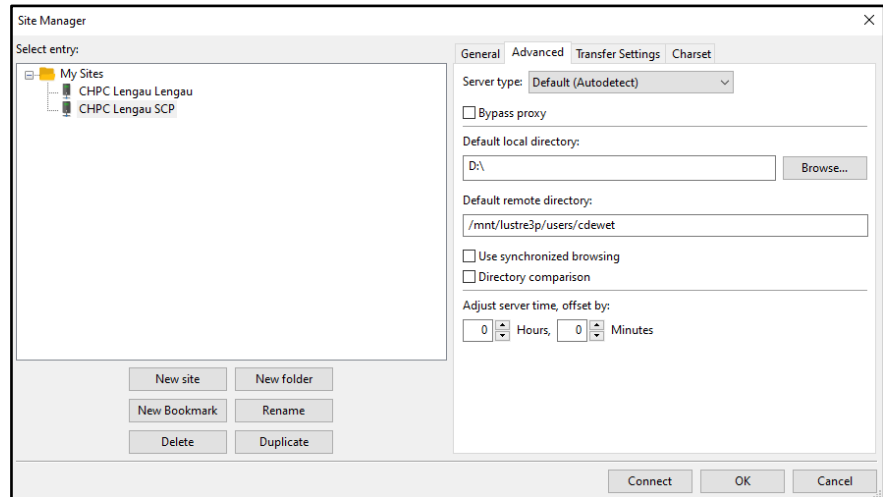
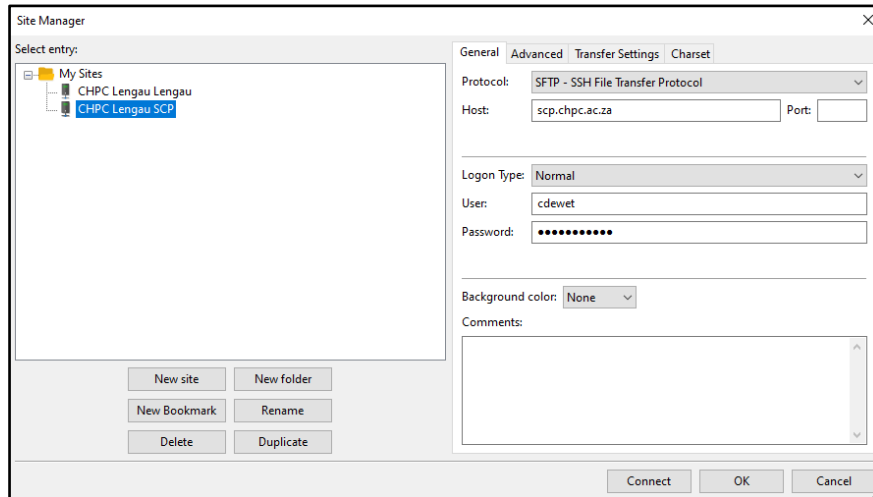
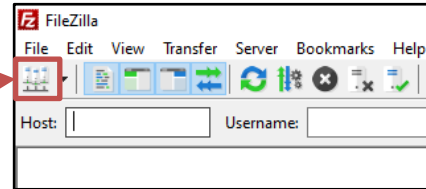
- Using [Sublime Text 3](#) to write the *.job script.
- See the [CHPC Wiki Page](#) on the PBS Pro Scheduler commands.
 - Queues
 - PBS Pro commands
- See the [CHPC Wiki Page for STAR-CCM+](#) for an example job script.
 - Ensure that the correct number of cores is chosen.
 - The Wall Time is correct to ensure that there is enough time for the simulation to reach its stopping criteria.
 - The correct version of the software is used.
 - Make sure the working directory has been set.
 - Should it Mesh, and then Run or can it simply Run.
 - Give it the POD Key to check out a license.
- Ensure that View > Line Endings > Unix has been set.

Transfer Files (Upload/Download)

- Using [FileZilla Client](#) to transfer files to your lustre folder:
 - Simulation file (**.sim*)
 - Job script (**.job*)
 - Any other file like a Java Macro (**.java*)
- In order to reduce large **.sim* files, compress it into a **.zip* (Windows) or **.tar.gz* (Linux) file.
 - Use the *unzip *.zip* command to unpack the file.
- There are two servers to connect to:
 - `scp.chpc.ac.za`
 - Preferred to transfer large files and unpack compressed files.
 - `lengau.chpc.ac.za`
 - Standard login node.
- Both of these use the same user & password.

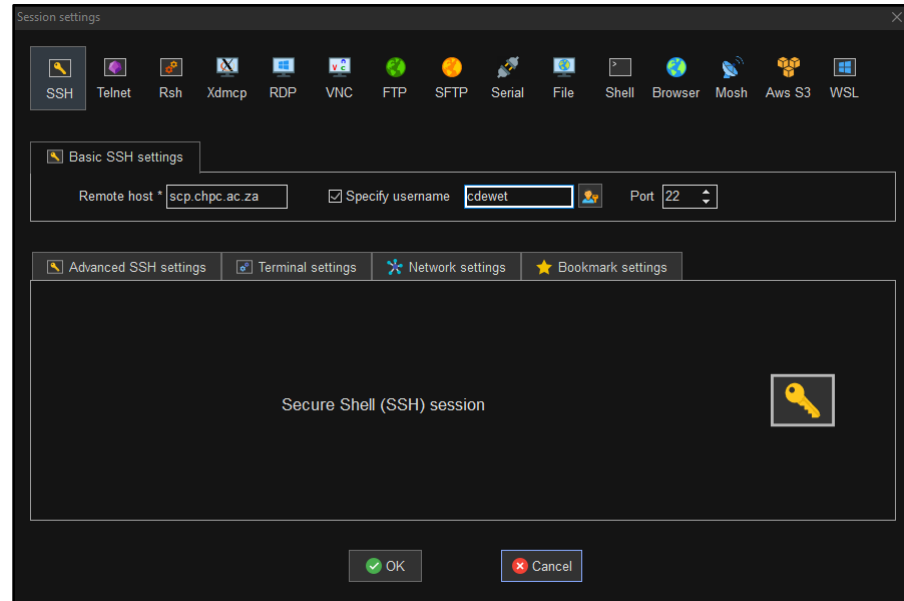
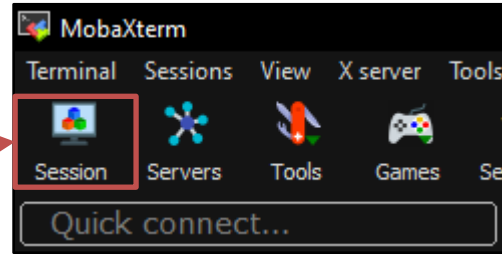
FileZilla Client – Configuration

- Open the Site Manager to create a new connection.
- Using the CHPC Wiki setup a connection.
 - Protocol: SFTP – SSH File Transfer
 - Host: scp.chpc.ac.za
 - User & Password
 - In the Advanced tab, set the local and remote directory.



Submit (Cluster login)

- Use [MobaXterm](#) to login to the cluster.
- Make a new Session.
 - Type: SSH
 - Remote host: scp.chpc.ac.za
 - Specify username
- Connecting the first time:
 - It will ask for your cluster password.
 - In Linux it does not show the password (****).
 - When you type it in, just type in the password.
 - It will not be shown on the screen as ****.
 - It will ask if you want it to save the password.
 - YES.
- Your cluster password can be set here:
 - [CHPC User Website](#)
 - Your Profile
 - Cluster password cdewet



Linux commands

- **Change directory:**

```
cd /mnt/lustre3p/users/cdewet/
```

- **Go back a directory:**

```
cd ..
```

- **Extract a Zip file:**

```
unzip *.zip
```

- **Create a Zip file:**

```
zip *.zip *.sim
```

- **Submit a Job to the queue:**

```
qsub STAR-test.job
```

- **Check the Status:**

```
qstat -x #####
```

- or -

```
qstat -au cdewet
```

- **Delete a Job from the queue:**

```
qdel #####
```


Live Monitor Output File

Three ways to monitor a file.

- Simply view the output file:

```
cat STAR-test.out
```

- Alternatively:

```
less -s +F STAR-test.out
```

– Navigate window:

- Pause = ctrl+c
- Continua = shft+f
- Exit = ctrl+z

- Alternatively, watch the last few lines in the output window:

```
watch -n 5 tail -n 20 STAR-test.out
```

I need help!

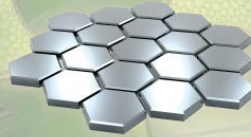
- Submit a support ticket through [CHPC User Website](#).
 - Helpdesk > Log a support issue.



CHPC Contacts



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 - Andrew Gill
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- 



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Thank you.

Email: support@aerotherm.co.za



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