Lab Machine Overview

Available Machines

These are the available lab machines:

- ultra
  - 16 cores
  - 125Gi RAM
  - NVIDIA GeForce RTX 3090
- core
- cortex
  - 4 cores
  - 7.6Gi RAM
  - No GPU
- form
  - 20 cores
  - 62Gi RAM
  - NVIDIA TITAN Xp
- geometry
  - 20 cores
  - 62Gi RAM
  - No GPU

Proxy Jumps (Gateways)

When connecting from home or outside the CIM network, you may need to go through one of these gateway servers first:

- barn
- cow
- pig

Remote Access Lab Machines

Direct Access (inside the lab)

Use XQuartz to enable graphical applications, else use Terminal.

```
 ssh -X *yourusername*@*machinename*.cim.mcgill.ca
# OR
ssh -Y *yourusername*@*machinename*.cim.mcgill.ca  # Admin access (more apps
```

```
permitted)
```

Remote Access (outside the lab, from home)

First connect through a proxy jump (example using barn):

```
ssh -J *yourusername*@barn.cim.mcgill.ca
*yourusername*@*machinename*.cim.mcgill.ca
```

General CIM Login

To access the CIM system without going to a specific machine:

```
ssh *yourusername*@barn.cim.mcgill.ca
```

Lab Machine Directory Structure

When using one of the lab machines, your home directory will be mounted at:

```
/home/leonardo/*yourusername*/src
```

Your home directory shares resources across all lab machines (ultra, core, etc), which is very convenient. However, your home directory is very small and will fill up quickly, slowing down all lab machines and eventually stop allowing processes to run. Therefore, store large file in either:

```
/usr/local/data/*yourusername*

OR

/usr/local/faststorage/*yourusername*
```

These directories are not shared across lab machines but can support large files.

Moving Files with SCP

Copying Files

Copy File from Local → Remote

```
scp /your/PC/path/to/file
*yourusername*@*machinename*.cim.mcgill.ca:/home/leonardo/*yourusername*/src
```

```
<code>

=== Copy File with ProxyJump (ie: copying files when outside of the lab)===

<code>
scp -o ProxyJump=*yourusername*@barn.cim.mcgill.ca
./MeanCurvature/Data/PreprocessedVolumes/resampledUS.nii
*yourusername*@ultra.cim.mcgill.ca:/home/leonardo/*yourusername*/src/OBNLM
```

Copying Folders

Copy Folder from Local → Remote

```
scp -r ./your/PC/path/to/folder
*yourusername*@*machinename*.cim.mcgill.ca:/usr/local/data/*yourusername*/
```

Copy Folder from Remote → Local

```
scp -r *yourusername*@*machinename*.cim.mcgill.ca:/path/to/server/folder
/path/to/local/folder
```

Mount Local Directory on Remote Machine

```
sshfs -o ProxyJump=*yourusername*@barn.cim.mcgill.ca
*yourusername*@*machinename*.cim.mcgill.ca:/home/leonardo/*yourusername*/src
*/your/PC/path
```

`Tip:` Always replace *yourusername* with your CIM login and *machinename* with the specific machine name (ultra, core, cortex, form, geometry, etc.).

To get your CIM login account details, email Olivier St-Martin Cormier.

From:
http://wiki.cim.mcgill.ca/!shape/ - **Shape Analysis Group**

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Last update: **2025/10/01 14:26**