SSH access to ISSC Linux environment

The ISSC Linux environment is accessible remotely using SSH. The entrypoint into the ISSC network is always the SSH-gateway. The hostname of this gateway is `sshgw.leidenuniv.nl`. To log in, use your ULCN account information. From `sshgw` you need to log into another host in order to be able to do useful work. There are two choices: log into a Linux Terminal Server, or log into a LIACS lab room computer.

ISSC Linux Terminal Servers

There are two flavors of ISSC Linux Terminal Servers. The first are the general ones:

- `huismus01.vuw.leidenuniv.nl`
- `huismus02.vuw.leidenuniv.nl`
- (Or the `remotelx.campus.leidenuniv.nl` round robin DNS entry)

Or to the LIACS-only Linux Terminal Server:

- `huisuil01.liacs.leidenuniv.nl`
- (Or the `remotelx.liacs.leidenuniv.nl` DNS entry)

The servers differ in configuration. You most probably want to use the LIACS-only Linux Terminal Servers are these more closely reflect the Linux environment available on the LIACS lab room computers.

For more information, see https://www.medewerkers.universiteitleiden.nl/binaries/content/assets/ul2staff/ict/ handleidingen/linux-terminal-server-nl.pdf (https://www.medewerkers.universiteitleiden.nl/binaries/content/ assets/ul2staff/ict/handleidingen/linux-terminal-server-nl.pdf)

LIACS lab room computers

It is possible to access the computers in the LIACS lab rooms remotely. Access is only possible through SSH, to computers that are turned on and are booted into Linux. (Recall that LIACS lab room computers are dual-boot). The lab room computers are managed by ISSC and have a similar Linux installation as the `huisuil` servers. However, note that contrary to the `huisuil` servers, the lab room machines are equipped with NVIDIA GPUs.

In order to access a lab room computer, you first need to log in to `sshgw.leidenuniv.nl` using SSH. From there you can use SSH to log in to a computer in one of the lab rooms. Besides `sshgw`, the lab room computers can also be reached from the `huisuil` servers.

(Note: you must use an ISSC SSH gateway. The lab room computers are *not* directly accessible from `ssh.liacs.nl`).

Unfortunately, the computer names that are used by ISSC are hard to memorize. Lists of computer names are given below. Pick a hostname and attempt a login, for instance:

```
ssh -K U0065010
```

If the response is "name or service not found", then this machine is not booted into Linux. Pick another computer from the list and try again. After a successful login, please verify no other user is logged in (use the "w" command) before running experiments.

Another problem that regularly occurs is that the login is successful, but an error is displayed mentioning that your home directory could not be accessed. If this happens, logout and try again with -k instead of -K . This sometimes solves the problem (don't ask us why).

Using CUDA

The lab room computers don't have CUDA installed by default (and if it would have been installed, it would have been a rather old version).

CUDA 9 was installed in the shared LIACS scratch folder by an enthusiast. You can enable this installation of CUDA using the following commands (place in your .bashrc for instance):

```
export PATH=/vol/share/groups/liacs/scratch/cuda-9/bin:$PATH
export LD_LIBRARY_PATH=/vol/share/groups/liacs/scratch/cuda-9/lib64:$LD_LIBRARY_PATH
```

After executing these commands, CUDA should work:

```
$ nvcc --version
nvcc: NVIDIA (R) Cuda compiler driver
Copyright (c) 2005-2017 NVIDIA Corporation
Built on Fri_Sep__1_21:08:03_CDT_2017
Cuda compilation tools, release 9.0, V9.0.176
```
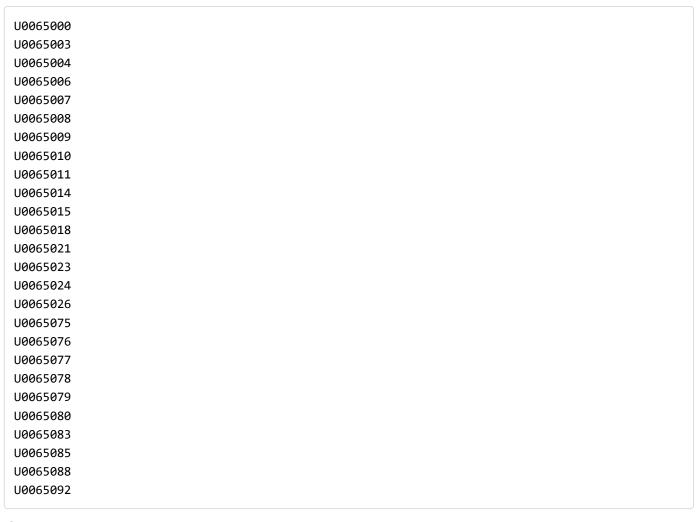
Lists of computer names per lab room

Please, again, note that not all computers will be available as lab room computers are not always booted into Linux.

Gorlaeus Building, Room DM.0.09

Specs:

- Intel Core i7-14700 (20 cores: 8 performance-cores, 12 efficient-cores; performance-cores are HyperThreaded).
- 32 GB RAM
- NVidia GeForce GTX4060, 8 GB VRAM
- 1 TB NVMe

List of hostnames:

```
U0065000
U0065003
U0065004
U0065006
U0065007
U0065008
U0065009
U0065010
U0065011
U0065014
U0065015
U0065018
U0065021
U0065023
U0065024
U0065026
U0065075
U0065076
U0065077
U0065078
U0065079
U0065080
U0065083
U0065085
U0065088
U0065092
```

Gorlaeus Building, Room DM.0.13

Specs:

- Intel Core i7-14700 (20 cores: 8 performance-cores, 12 efficient-cores; performance-cores are HyperThreaded).
- 32 GB RAM
- NVidia GeForce GTX4060, 8 GB VRAM
- 1 TB NVMe

List of hostnames:

```
U0065001
U0065002
U0065005
U0065012
U0065013
U0065016
U0065017
U0065019
U0065025
U0065081
U0065082
U0065084
U0065086
U0065087
U0065089
U0065090
U0065091
U0065093
U0065094
U0065095
U0065096
U0065097
U0065098
U0065099
```

Gorlaeus Building, Room DM.0.17

Specs:

- Intel Core i7-14700 (20 cores: 8 performance-cores, 12 efficient-cores; performance-cores are HyperThreaded).
- 32 GB RAM
- NVidia GeForce GTX4060, 8 GB VRAM
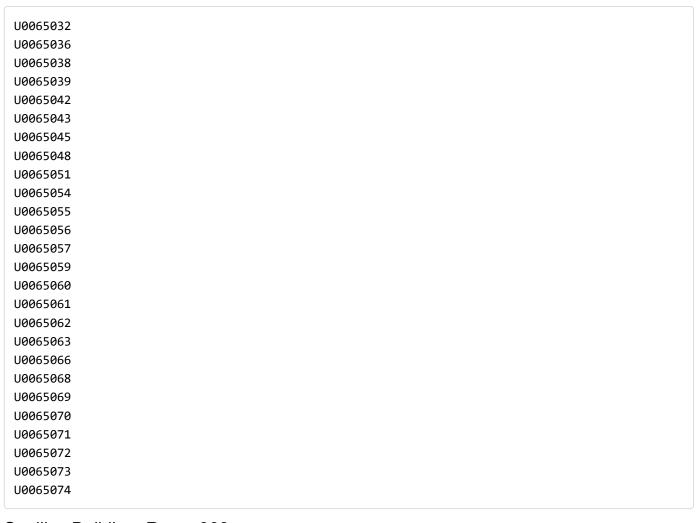- 1 TB NVMe

List of hostnames:

```
U0065020
U0065022
U0065027
U0065028
U0065029
U0065030
U0065031
U0065033
U0065034
U0065035
U0065037
U0065040
U0065041
U0065044
U0065046
U0065047
U0065049
U0065050
U0065052
U0065053
U0065058
U0065064
U0065065
U0065067
```

Gorlaeus Building, Room DM.0.21

Specs:

- Intel Core i7-14700 (20 cores: 8 performance-cores, 12 efficient-cores; performance-cores are HyperThreaded).
- 32 GB RAM
- NVidia GeForce GTX4060, 8 GB VRAM
- 1 TB NVMe

List of hostnames:

```
U0065032
U0065036
U0065038
U0065039
U0065042
U0065043
U0065045
U0065048
U0065051
U0065054
U0065055
U0065056
U0065057
U0065059
U0065060
U0065061
U0065062
U0065063
U0065066
U0065068
U0065069
U0065070
U0065071
U0065072
U0065073
U0065074
```

Snellius Building, Room 303

Note: room will likely be closed in September 2024

Specs:

- Intel Core i7-9700 (8 cores, 8 threads (so no HyperThreading))
- 16 GB RAM
- NVidia GeForce GTX1050 Ti, 4 GB VRAM
- No local HDD storage available on Linux (ticket has been filed with ISSC)

List of hostnames:

```
U0037854
U0037855
U0037856
U0037857
U0037858
U0037859
U0037860
U0037861
U0037862
U0037863
```

Snellius Building, Room 411

Note: room will likely be closed in September 2024

Specs:

- Intel Core i7-8700 (6 cores, 12 threads)
- 16 GB RAM
- NVidia GeForce GTX 1050, 2 GB VRAM
- 0.5 TB local HDD storage in `/scratch/` (no longer available?)

List of hostnames:

```
U0030310
U0030312
U0030313
U0030317
U0030319
U0030320
U0030321
U0030330
U0030343
```