

# ilifu Online Training

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User Training Workshop – Advanced Training #2

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[http://docs.ilifu.ac.za/#/tech\\_docs/software\\_environments?id=environment-modules](http://docs.ilifu.ac.za/#/tech_docs/software_environments?id=environment-modules)

- Configure a working environment
- Setup PATH, LD\_LIBRARY\_PATH, alias etc.

```
$ module avail
----- /software/modules/common -----
R/3.6.3      openmpi/4.0.3      python/3.8.2

----- /usr/share/lmod/lmod/modulefiles -----
Core/lmod/6.6  Core/settarg/6.6

$ R
Command 'R' not found, but can be installed with:
...
$ module add R/3.6.3
$ R
R version 3.6.3 (2020-02-29) -- "Holding the
Windsock"
Copyright (C) 2020 The R Foundation for Statistical
Computing
Platform: x86_64-pc-linux-gnu (64-bit)
...
```

[http://docs.ilifu.ac.za/#/tech\\_docs/software\\_environments?id=running-rstudio-server](http://docs.ilifu.ac.za/#/tech_docs/software_environments?id=running-rstudio-server)

- Simplify connection to regularly used hosts

```
dane@homepc$ cat ~/.ssh/config
Host *.ilifu.ac.za
    User dane
    IdentityFile ~/.ssh/ilifu/id_rsa
    ForwardAgent yes
    ForwardX11 yes

Host slurm.ilifu
    Hostname slurm.ilifu.ac.za

Host slwrk-*
    Hostname %h
    User dane
    ProxyCommand ssh dane@slurm.ilifu.ac.za nc %h 22
    IdentityFile ~/.ssh/ilifu/id_rsa
    ForwardX11 yes
```

# R in a slurm job

[http://docs.ilifu.ac.za/#/tech\\_docs/software\\_environments?id=running-r](http://docs.ilifu.ac.za/#/tech_docs/software_environments?id=running-r)

```
dane@slurm-login:~$ srun --nodes=1 --  
tasks=2 --mem=4g --time 08:00:00 --pty bash  
dane@slwrk-130:~$ module add R/3.6.3  
dane@slwrk-130:~$ R  
R version 3.6.3 (2020-02-29) -- "Holding  
the Windsock"  
...
```

```
#!/bin/bash  
#SBATCH --nodes=1  
#SBATCH --cpus-per-task=1  
#SBATCH --mem=4GB  
#SBATCH --job-name=covid19_analysis  
#SBATCH --time=00:10:00
```

```
module add R/3.6.3  
Rscript covid19.R
```

```
library('covid19.analytics')  
write.csv(covid19.data(), 'covid19.csv')
```

- Important to set up your `.ssh/config` file!
- Security — you need to set up an `RSTUDIO_PASSWORD` environmental variable.