

INF-3201

Parallel Programming

Colloquium Group 1

August 27, 2021

Assignment 1

Assignment 1 is handed out next week on Wednesday.



Cluster Account

- Check mail for account details
- Log in with SSH
 - `ssh xyz123@uvcluster.cs.uit.no`
 - On Windows use Windows Subsystem for Linux (WSL) or Putty

Accessing the Cluster from Home

If you're not on UiT's network, use VPN. AnyConnect instructions:

https://en.uit.no/om/orakelet/frag?p_document_id=318043

Cluster

- Front-end node
 - When you log in, you will be on the front-end node
- Compute nodes
 - To perform computations, use compute nodes
 - Check out welcome message for info on available nodes and loads
- Your home directory is accessible from all nodes

File transfer

You can transfer files to cluster from Linux bash (e.g. WSL on Windows)

In bash shell, not logged into cluster:

```
scp -r my_local_dir xyz123@uvcluster.cs.uit.no:/home/xyz123/my_dir
```

Compiling and Running Open MPI

You can compile your code on the cluster, example:

```
mpicc -g -Wall -o mpi_hello mpi_hello.c
```

To run MPI-programs, you can for example use mpiexec:

```
mpiexec -host compute-6-2,compute-6-3,compute-6-4 ./mpi_hello
```

Local Installation of Open MPI

Ubuntu (e.g. on Windows WSL)

```
sudo apt update ; sudo apt-get install -y libopenmpi-dev
```

Compile and run

```
mpicc -g -Wall -o mpi_hello mpi_hello.c
```

```
mpiexec mpi_hello
```