LRC Commands

Server Operations Manual

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Accessing Remote Computer

SSH Login

Open Ubuntu and write:

```
ssh -J jumpuser@labrc-server.tecnico.ulisboa.pt lrctmp1@10.17.65.164 -XY
```

After this, you'll be asked for 2 passwords. The 1^{st} is the password of your ssh key and the 2^{nd} is the password of your account in the local computer.

Connecting to the server

When you are logged into the local machine, navigate to your assigned work area.

Once inside the working directory, you must connect the client to the server.
A **shortcut to the executable** should already be present.
If that is not the case, you can run the executable directly by using its full path.

```
clidev.exe -> /DATA/QNCARD/LxQNcardGUI.2021/bin/clidev.exe
```

To launch the client, simply run the executable:

```
./clidev.exe
```

Now, to connect the client to the server:

```
QNcard:cli> server connect 127.0.0.1
```

When you are done, exit the session by using:

```
QNcard:cli> exit
```

Power up photomultipliers

Check HV box status:

```
QNcard:cli> HV status
```

Set voltages:

```
QNcard:cli> HV set 1500 1500
```

Read back voltages:

```
QNcard:cli> HV read
```

Note: Alternatively, you can enter the HV *submode* and only apply the commands:

```
QNcard:cli> HV
HV> status
```

Exit HV *submode* by using:

```
QNcard:cli> exit
```

Reading Events with QNcard

Check QNcard status:

```
QNcard:cli> QNcard status
```

If it is running, ensure that QNcard is stopped before starting a new acquisition.

```
QNcard:cli> QNcard stop
```

Note: Alternatively, you can enter the QNCard *submode* and only apply the commands:

```
QNcard:cli> QNcard
QNcard> QNcard status
```

Exit QNCard *submode* by using:

```
QNcard:cli> exit
```

Defining threshold

You can define the threshold used from a selection of possible configurations. For example, for 300mV:

```
QNcard config_set /dev/config/QN_threshold_300.config
```

Read the configuration:

```
QNcard config_read
```

You can check existent or create new .config files with other threshold values by accessing the location in the work folder:

```
cd LxQNcardGUI.2021/dev/config/
```

Starting Acquisition

To start the QNcard simply write:

```
QNcard:cli> QNcard start
```

Storing Data

However, it may be useful to save the data in a **TTree** for a specified period of time. For example, if you want to collect data for 6 hours:

```
QNcard:cli> start_tree -h 6
```

The .root files are stored in:

```
cd /DATA/DATA.MuonTelescope/trees/
```

Dont't forget to edit this markdown file with the conditions of the run, specially the threshold used.

```
/DATA/DATA.MuonTelescope/00README_trees.md
```

Display

Start display:

```
QNcard:cli> start_display -c
```

-c defines a continuous display.

To stop the display:

```
QNcard:cli> stop_display
```

Client running while logged out

A common problem for a long run, is that we need
to make login in the experiment computer, launch the client clidev, start the tree data taking and just logout from the computer, expecting the client will be running after logout.

Create a a non-login shell session (.bashrc is sourced):

```
screen -S clidev-session
```

Run your CLI commands (Assuming QNcard is running and configured already)

```
./clidev.exe
server connect [ip server]
QNcard:cli> QNcard start_tree -h 6
```

Detach from screen session (keep it running) by pressing Ctrl + A, then D. You can then logout.

You can re-attach later, to see progress. To list screen sessions:

```
screen -ls
```

You should see your clidev-session in the list (detached) with a certain number associated.

To re-atttach to the session:

```
screen -r number.clidev-session
```

Extra Help

If you are looking for a command not listed here or just want to find everything by yourself you can just write:

```
QNcard:cli> help
```

and you'll be presented with a list of the available actions.