LArSoft 2020 Workshop Initial Setup Instructions For Linux

November 3, 2020

1 Things you'll need beforehand

You will need to know:

1. The machine you're working on e.g. ***larsoftws1***
2. Your username on that machine e.g. ***larsoft1***
3. Your listening port on that machine e.g. ***15901***

These will be sent to you via email. **IMPORTANT**: You only need to know the name of the machine rather than the full address e.g. larsofttws1 vs larsoft-tws1.blackett.manchester.ac.uk.

2 What to do if something isn't working

Please come along to the connection surgery session that we'll run prior to the workshop, on Monday 9th November between 1pm and 4pm.

3 Required software

To follow this tutorial, you will need:

- `curl`
- `vncviewer` (from package `tigervnc`)
- `ssh` (from package `openssh`, likely installed by default.

Please check you have these packages. If missing, the command to install them depends on your distribution. Bring up a terminal. These can be installed with:

- Debian/Ubuntu/Mint: `sudo apt-get install curl tigervnc-viewer openssh`

- RedHat7, CentOS, Scientific Linux:
  `sudo yum install curl tigervnc openssh`
- Fedora: `sudo dnf install curl tigervnc openssh`
- Arch: You probably already know what you're doing.

4 Setting up port-forwarding on Linux

We first need to configure ssh to forward a port for VNC. So, open a terminal (ctrl-alt-T will likely open your default, which may be `xterm`) and copy/paste the following command into it:

```
bash <(curl -s https://raw.githubusercontent.com/absolution1/UKLArSoftWorkshop2020Tools/main/InjectPortForwardingDetails.sh)
```

You should be prompted to enter your assigned machine name, username and port number, followed by a y/n confirmation. Please enter the requested details, paying attention to capitalisation and spelling. If everything has been done correctly, you should see something like this:

```
Please enter your assigned machine name (e.g. larsoftws1): larsoftws1
and now your assigned username (e.g. larsoft1): larsoft1
and finally your assigned port number (e.g. 15901): 15901
One last check.  Are the details you entered correct (check spelling and capitalisation) [y/n]:y
Injecting the following into /Users/dominic/.ssh/config:
Host larsoftws1
 HostName larsoftws1.blackett.manchester.ac.uk
 User larsoft1
 LocalForward 5909 localhost:15901
```

5 Testing your VNC connection on the Manchester machine

In your terminal window, connect to your assigned Manchester machine using ***ssh***:

```
ssh MACHINENAME
```

Please note that you should **NO**T use the full address of the machine (*MACHINENAME.blackett.manchester.ac.uk*) in the ssh command. Using the example information in section 1, the command would look like

```
ssh larsoftws1
```

You will be prompted to enter a password for vnc the first time you connect so please pick one and remember it; you'll need this password in a minute.
Without closing the old terminal, open a completely new terminal. In the new terminal, input the following command:

```
vncviewer :09
```

Enter your VNC password into the password prompt. The VNC window to the Manchester machine should now be visible. To test that everything is working correctly, move back to your first terminal (the one with the active ssh connection) and open emacs. The command is

```
emacs
```

If an emacs window appears in the VNC window then everything is configured correctly and you're all set for the workshop.

6 Setting up at the start of the workshop

Open two terminals. In the first terminal, connect to your assigned Manchester machine:

```
ssh MACHINENAME
```

Then, in the second terminal, open the VNC client:

```
vncviewer :09
```

You should see a usable, if ugly desktop. Open additional terminals here to work with by right clicking on the desktop and selecting:

```
xterm
```