



SUPERCOMPUTING WALES
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VNC Guide — Linux/OS X (Sunbird Only)



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1 Virtual Network Computing (VNC)

This guide will instruct Linux/OS X users on how to initialise a VNC server on Sunbird, and how to connect to it using a VNC client.

If you have any issues using this guide, or would like further details on something, please contact support@supercomputingwales.ac.uk

1.1 What is VNC?

Virtual Network Computing (VNC) enables users to remotely connect to, and control, virtual graphical desktop environments over a network.

There are three key components to VNC:

1. **The Server** — TigerVNC is available on Sunbird.
2. **The Client** — This will be installed on your own computer.
3. **The Protocol** used to communicate between the two.

The only two components this guide will focus on are the server and the client. The former comes preconfigured, though customising configuration settings are possible; the latter depends on which client a user chooses to install.

1.2 Don't Be Evil, Please?

- Only run the number of VNC Server instances that you need.
- Only run VNC Servers for as long as you need them.
- If you require a long-time VNC connection, please alert the admin team so it does not get closed by mistake.
- Kill servers when they are no longer required.

2 VNC Server

When using the following example commands, please remember to replace `username` with your SCW username.

2.1 Starting a VNC Server

1. SSH into the VNC login node:

```
ssh username@vnc.sunbird.swansea.ac.uk
```

2. Start the VNC Server:

```
vncserver
```

3. If this is your first time running `vncserver`, it will ask for a password. Enter and confirm the password at the prompt.

Please Note: This password is not linked to your SCW credentials, so choose a new one to protect your VNC sessions.

Based on the `vncpasswd` man page:

The password must be at least six characters long, and only the first eight are significant. Note that the stored password is not encrypted securely (only obfuscated), but that file permissions prevent others from accessing your password.

Please Note: If you forget your VNC password, please contact the support team.

4. After executing `vncserver` and providing a password, you should look for a line of output similar to this:

```
New 's13:42 (s.a.n.example)' desktop is s13:42
```

The number after the colon is important! It is the number of your X Display Session, and is needed to create the SSH tunnel in step 5.

In this example it's 42. Yours will be different.

5. Open a new terminal on your computer and execute the following command. This will create an SSH tunnel from the computer running the client, to the TigerVNC server on Sunbird:

```
ssh -L 5900:localhost:5XXX username@vnc.sunbird.swansea.ac.uk
```

Important: replace 5XXX with the number you recorded in step 4. In that example the number was 42, so 5XXX would become 5942 in the above ssh command ($5900 + 42 = 5942$).

Please Note: The above command sets the local listening port to 5900. Some users may find this interferes with other software installed on their own machines, and are free to set this port to 5901, or any other free port number, to avoid potential conflicts.

Users that do this will have to remember to replace 5900 in any future commands in this document.

You are now ready to start the client. However, please read through the subsequent sections on the VNC Server, which will be of use too.

2.2 Running Multiple VNC Servers

It is possible to have more than one `vncserver` running on Sunbird, providing users access to multiple virtual desktops.

Simply follow the same processes detailed above (and in the client section further below) to start a new VNC Server, and connect to it.

2.2.1 Limit on Number of VNC Servers Allowed

There are currently no restrictions on the number of virtual desktops a user can create using `vncserver`. However, please remember that Sunbird is a shared resource and that the VNC Server will be monitored for any overindulgence with resources.

In short: only run VNCs as and when they are needed, and do not leave sessions running indefinitely if not in use. See the Useful Commands section below on how to do this.

2.3 Multiple Users Accessing One VNC Server

It is possible to have multiple clients connected to the same VNC Server running on Sunbird. To do this, one individual can initialise the server as outlined previously, and provide the necessary information to others on how to connect (i.e., the relevant `5XXX` value, and login credentials.)

2.4 Reconnecting to a Running VNC Server

If you leave a VNC Server running, and wish to reconnect to it, the only command you need to execute is:

```
ssh -L 5900:localhost:5XXX username@vnc.sunbird.swansea.ac.uk
```

This assumes you know the value required for 5XXX.

You can then start the client and connect as normal.

2.5 Useful Commands

The following are some useful commands available when logged into Sunbird's VNC Server.

2.5.1 Listing VNC Server Sessions

If you have multiple VNC sessions running, and wish to list their X Display Number for creating the SSH tunnel, for example, then execute:

```
vncserver -list
```


2.5.2 Killing a VNC Server Session

When you have finished with a VNC Server instance, or if you are experiencing difficulties with a running session, you can execute the `kill` command as follows:

```
vncserver -kill :N
```

Replace N with the number of the vncserver you wish to kill.

2.5.3 Automatically Killing a VNC Server Session

You can pass the following argument when creating a VNC Server instance, which will automatically kill the service on exiting your connection to Sunbird or terminating the client connection:

```
vncserver -autokill
```

2.5.4 Altering the Window Geometry

One final argument that might be useful during start-up of a VNC Server concerns altering the size of the virtual desktop created. The default is 1024x768, but this can be altered by executing:

```
vncserver -geometry 1280x1024
```

3 VNC Client

There are numerous VNC clients available for users to install on their own computer. Here are a few examples of popular packages, and how to get them running.

Please Note: Some VNC clients have the ability to establish the SSH tunnel without the need of a local terminal window. For simplicity, these instructions will not include this feature.

3.1 VNC Viewer

Very popular and easy to install. Available for multiple platforms, including Linux, OS X, and Windows.

1. [Download VNC Viewer from the following URL:](#)

<https://www.realvnc.com/en/connect/download/viewer/>

2. [Open the downloaded file, and follow the instructions to install.](#)
3. [Once VNC Viewer is running find the search bar at the top of the window, which says ‘Enter a VNC Server address or search’, and enter the following:](#)

[localhost:5900](#)

4. Hit enter, and the client should successfully connect to the server you established earlier. You may need to enter your password.

This connection will be stored in the VNC Viewer window for future use. It is recommended, if running more than one server, to right-click and rename these sessions to easily distinguish/identify them.

3.2 Chicken

OS X only. Very easy to install. Formerly known as: Chicken of the VNC.

1. Download Chicken from the following URL:

<https://sourceforge.net/projects/chicken/>

2. Open the downloaded file, and follow the instructions to install.
3. Once Chicken is running, check the following settings:
 - Host: localhost
 - Display or port: 0
 - You have entered the password
4. Once these correct settings have been confirmed, press the **Connect** button and the client should successfully connect to the server established earlier.

You can add/remove/rename connections from the same window in Chicken.