X2go

X2go is a (relatively) easy and completely free client/server solution for remote access to graphical desktops. In its basic form, it provides a GUI around VNC server and viewer, including setting up the SSH tunnel for secure remote access, but it has more possibilities, including:

- sharing folders between local and remote computers
- forwarding audio
- client side printing (so your home printer becomes available in your session)

Also, x2go will check when connecting, if you already have a session open on the target machine, and offer to re-use the existing session in stead of starting a new one.

See also: http://www.x2go.org

Using SSH keys

We recommend that you set up ssh keys. If you have a working key setup, you can check the option `SSH Agent or default SSH key`. This will allow you access without having to type your password and two-factor login code on each connection. Of course the usual warnings apply: treat this ssh key as an actual key: once someone has it, they have access to your account, so never give it out to anyone, never put it in a place where others can access it, etc. See also SSH keys

Desktop sharing

It is possible to open your existing X session, running on the computer screen, for remote access through X2go. This is called `desktop sharing` in X2go.

To enable this, run (on your desktop) the X2go Desktop Sharing app, available from the menu, or as `x2godesktopsharing`. This creates a panel icon that can be used to enable (and disable) sharing your desktop.

On the remote machine, set up the connection with `Connect to local desktop` as the session type.

Note that when working in a shared session, whatever happens in your x2go viewer, happens on the real desktop as well, so if you log out in the viewer, you are actually logged out completely. (And: if you chose to shutdown the computer, it would actually shut down; however, this action should normally not be available)

Note however, that if your physical desktop has multiple screens attached, x2go will treat them as one big window, and that usually doesn't scale well to the display(s) you are working on. As far as we knoww, there are no options to modify this behaviour.

Pitfalls

Most of the known VNC desktop issues will apply to x2go as well: the graphics emulation in the virtual desktop doesn't include 3D or accellerated graphics, which are used a lot in modern desktops. Please limit yourself to the simpler desktops: LXDE, XFCE and OpenBox.

Also, remember that a vnc or x2go session stays active even when no viewer is open. So it is easily possible to run out of memory or slow down your desktop when too many programs are open.

Warning: do not save your password in X2GO

First of all, **X2GO stores the saved password in a format that is easily decrypted** if someone gets hold of your laptop or the files.
A second more practical problem: with two-factor authentication, X2GO will keep re-using the stored password and prompt again for the 6 digit code when there is a login failure. This will soon trigger the ban-list on the target computer due to too many subsequent login failures.

Logging in through a proxy

Some machines are not directly reachable from outside the university (often also not from the wireless network inside the university). Example: all of Instituut Lorentz; most Sterrewacht compute nodes.
In these cases, it is possible to set up a connection through a proxy server.

- For Institure Lorentz, use `ssh.lorentz.leidenuniv.nl` as the proxy
- For Sterrewacht, use `ssh.strw.leidenuniv.nl`, or if you have a desktop computer, use that computer as the proxy

In the session preferences of the x2go client, check the box `Use Proxy server for SSH connection`. A new panel of the preferences page will now appear where you can specify the proxy details.

- Type: SSH (is normally already selected as the default type)
- Host: (see above, based on institute)
- Check the boxes `Same login as on X2Go server` and `Same password as on X2Go server` to avoid having to type your password twice.
- We recommend that you set up ssh keys. If you have a working key setup, you can check the option `SSH Agent or default SSH key`. This will allow you access without having to type your password and two-factor login code on each connection. Of course the usual warnings apply: treat this ssh key as an actual key: once someone has it, they have access to your account, so never give it out to anyone, never put it in a place where others can access it, etc. See also SSH keys

And if all is well, this is all you have to do.

BEWARE: you will be prompted twice for a two-factor authentication code (once by the proxy server,

and once by the machine you choose to run your x2go session. Unless of course you are using SSH keys.

Please check if the target machine has the session installed that you want to run; most compute nodes don't have all of the possible Linux desktop environments. Please ask `helpdesk@strw.leidenuniv.nl`, we may be able to help you to get the software installed, or point you to available alternatives.