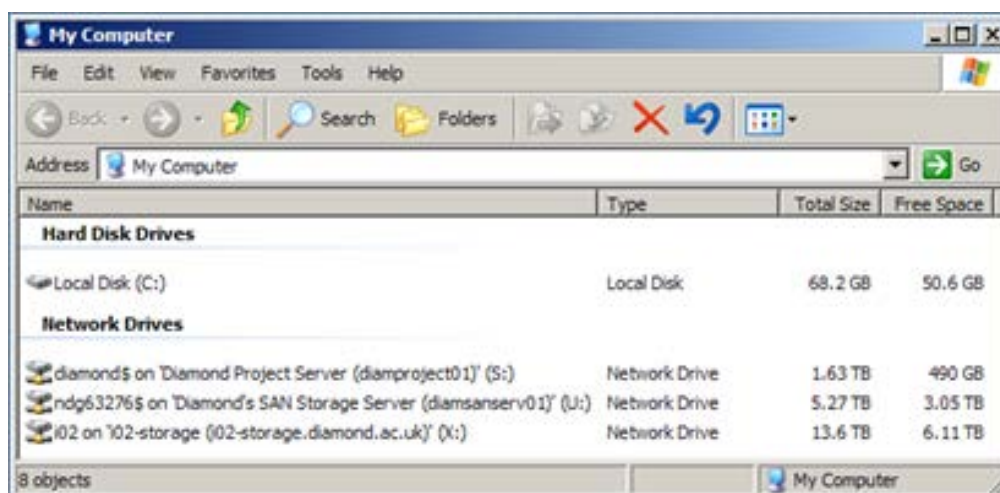


## DATA ACCESS AND ANALYSIS

### On Site Data Access

#### Connecting from a Windows PC

If your hard drive is Windows only, connect it to a USB port on workstation. Open 'My Computer', and the X drive will be the storage server for the beamline.



Select the X drive, followed by data, followed by the year, and finally the proposal number. The subdirectory named after your proposal contains your experimental data. You can then drag and drop the data to your USB disk.

If you don't see an X drive, type [\\data.diamond.ac.uk](http://data.diamond.ac.uk) in the address bar, and then select B22 beamline, followed by the steps above.

#### Connecting from your laptop

[data.diamond.ac.uk](http://data.diamond.ac.uk) can be reached via **ssh** from the visitors network. This means data can also be reached using **scp** or **sftp**. An example Windows scp client would be [WinSCP](#).

Under GNU/Linux you can use the **scp** command, or use the SSH features of the Konqueror (fish:// prefix) or Nautilus (File:Connect to Server menu entry) file managers.

For Mac OSX users the [SSH Agent](#), [Fugu](#) or [CyberDuck](#) utilities may be useful.

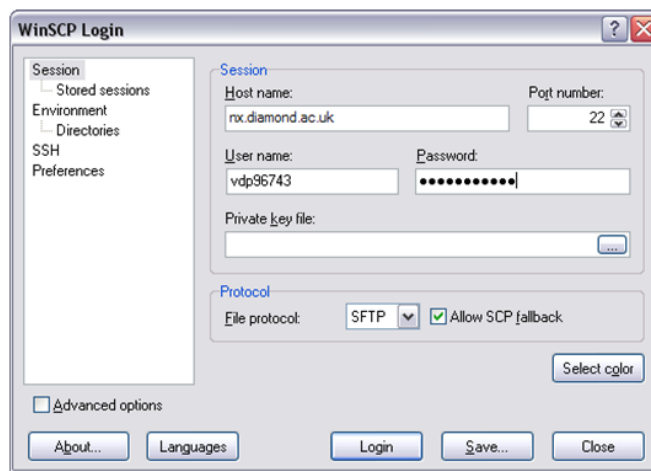
We request you do not use the wireless network for data backup - ask your local contact for a wired visitors network connection.

## Offsite Data Access

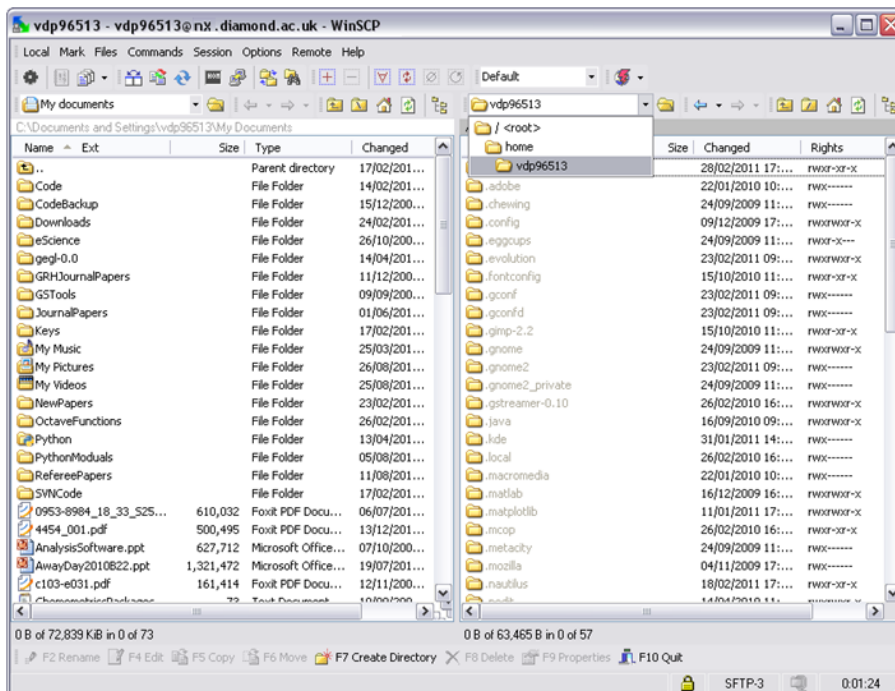
There are several methods to retrieve data from offsite.

- From a Windows machine use **WinSCP** (<http://winscp.net> see the details below).
- From a linux machine **sftp** to [YourFedID@nx.diamond.ac.uk](mailto:YourFedID@nx.diamond.ac.uk), then **cd** to your data and use **get** or **mget** to retrieve your data.
- From a Mac, use **Cyberduck** to **sftp** to [YourFedID@nx.diamond.ac.uk](mailto:YourFedID@nx.diamond.ac.uk)

1. When you start WinSCP enter the host name as nx.diamond.ac.uk, User name as your FedID and your password as shown.



2. Click Login
3. Click on the drop down box and select root (as below)



4. Then click on dls folder, then b22, then data, then the year of your visit (e.g. 2015), then your visit number.
5. Your data should be in the visit folder, and can be copied from there to your computer.

## Analysis Server Access

B22 has a remote access server specifically for the analysis of User data from offsite. It allows all B22 softwares (Opus, Unscrambler, Cytospec) to be used from a remote terminal.

### Pre-requisites

To use Diamonds remote access service you will need to install a piece of software called 'NoMachine Client'. This is just a small program that allows you to connect securely to Diamond Light Source. You only need to do this once, and it should be downloaded and installed from:

<https://www.nomachine.com/download-enterprise>

...then scroll down to the 'Enterprise Client' section and select the client version appropriate for your operating system ([Windows](#), [MacOS X](#) or [Linux](#)).

Alternatively for windows users there is a link provided in the "Quick Start Guide" screen on the home page of [remote.diamond.ac.uk](https://remote.diamond.ac.uk) that will install a tested version of the NoMachine player along with the recommended set of additional fonts that may be needed to run some applications at Diamond. For detailed instructions on how to download and install client software for other operating systems, follow this link: <https://www.nomachine.com/DT09K00056>

### Signing in to the web interface

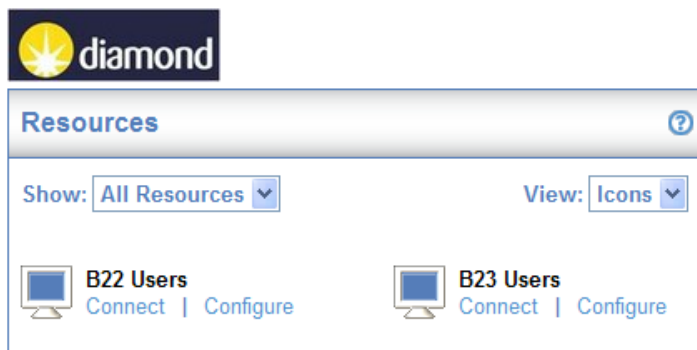
Using a web browser navigate to <https://remote.diamond.ac.uk>

Enter your FedID and password and click Sign In:



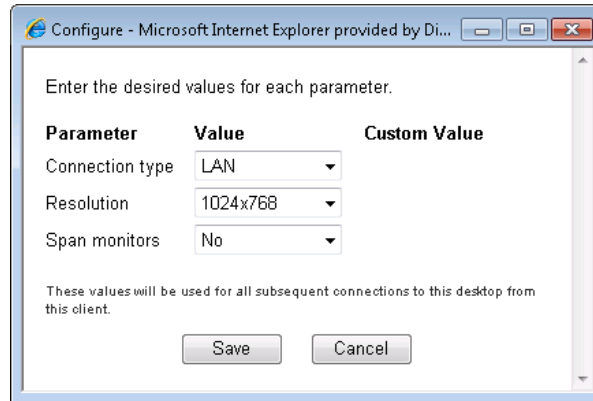
The screenshot shows a 'Sign In' form with a dark blue header. Below the header, there are two input fields: 'User name' containing 'jah27030' and 'Password' with masked characters. Below the password field, there is a line of text: 'Signing in constitutes continued acceptance of the [license agreement](#)'. At the bottom right of the form is a 'Sign In' button.

You will see a screen similar to the following:



## Changing your connection settings

There are some options you may need to change such as the size of the screen that will open when you connect to Diamond or the speed of your internet connection, however in most cases the defaults will be fine. If you do need to tweak any of these then click on the 'Configure' link to get the following options. Change them as necessary then click 'Save'.



## Connecting

You are now ready to connect, so just click on the 'Connect' link. This will download a small file which will connect you to Diamond.

### Note

- Users of Microsoft Windows may get one or two firewall messages, in all cases you should click 'Allow access' or 'Unblock'.

The exact screens from here will vary depending on your Operating System and browser. Some of the more popular browsers are:

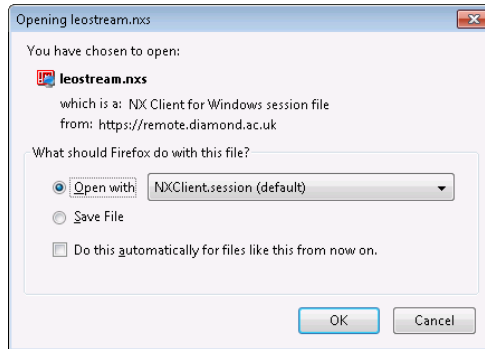
### Internet Explorer

You should be presented with a question similar to the following. Select the option "Open"



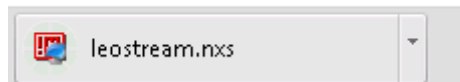
## Firefox

You should be presented with a dialog box similar to the following. Select the option “Open with NXMachine.Client.session (default)”



## Google Chrome

Chrome may download the file automatically and the following icon will appear at the bottom of your browser



Click on it and the NXClient will open.

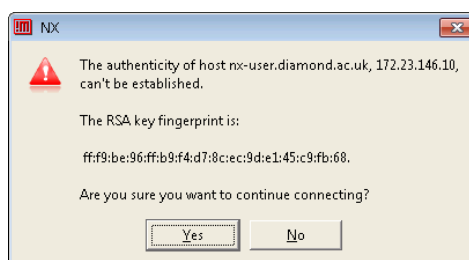
**Note** - If your browser or security settings force you to download the .nxs file before opening it then it is recommended you delete them after you have finished as they will NOT be valid for future connections.

## **Signing into the NXClient**

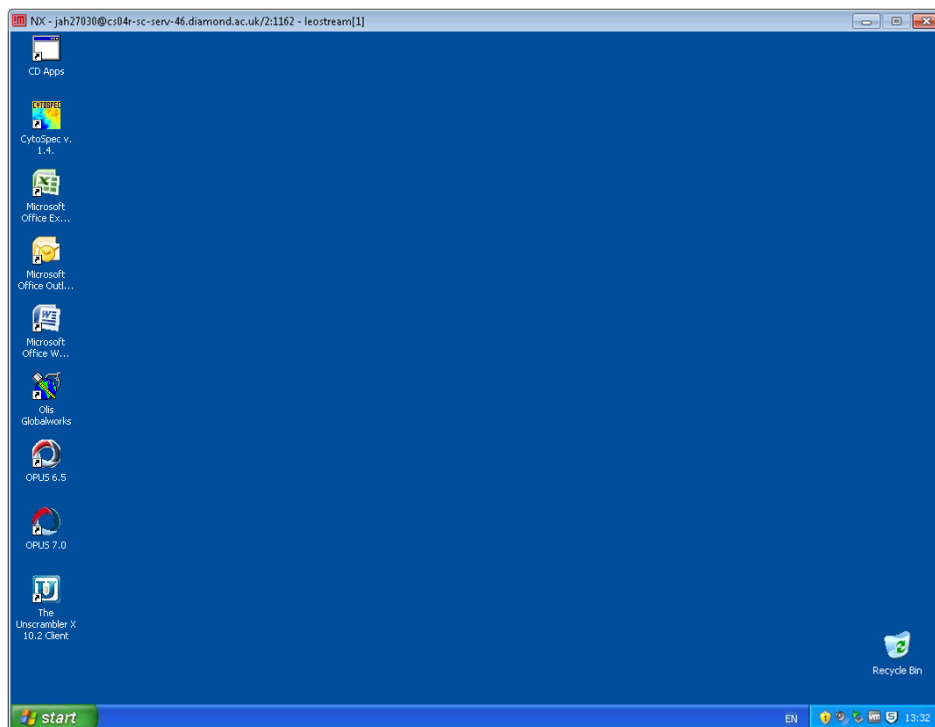
Once you have opened the file as above you will be presented with the following logon screen, this is connecting you securely to Diamond.



Enter your normal FedID and password followed by ‘Login’. If this is your first time then you may be asked if you want to continue connecting. Please click ‘Yes’.



Once your user name and password have been checked you will get a Window opened with a normal desktop which you can now use just as if you were at Diamond, and if you wish you can close your web browser.



## **B22 virtual machine platforms disconnection & logout policies**

There are 10 virtual machines which are shared out on a one-to-one basis (So the system will allow 10 users to be remotely connected simultaneously). In each case:

- When a user disconnects from the desktop, the session is maintained for another 12 hours and then released and the user is logged out. A user can reconnect to a disconnected session during the first 12 hours. See notes on front screen of [remote.diamond.ac.uk](https://remote.diamond.ac.uk) for details on how to do this
- When a user logs out of the desktop, the session is immediately released
- After 12 hours any active sessions are released and the user is logged out anyway.

For more details please read the instructions in the “Session Option Details” on the home screen of <https://remote.diamond.ac.uk>

**Once you have finished working with your machine please select the Start button, followed by Log Off, please do not just click on the cross at the top right.**

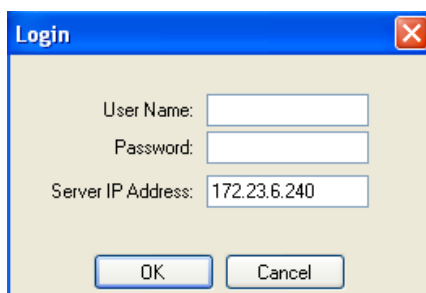
## **Known Issues**

1. If you are unable to see the ‘Start’ button on the new desktop this is probably because the default resolution from the remote connection is larger than your local screen can support, hence the screen gets cropped. To correct this do the following:

- First mouse click into the new remote desktop, then hold down the Ctrl and Esc key to bring up the windows start menu
  - Press the 'l' key logoff the remote session
  - Change your connection settings to a lower resolution setting (see Changing your connection Settings in previous section)
  - Reconnect to new remote desktop
2. When disconnecting on some occasions you may be presented with an NX error message, simply click OK and your session will close normally.



3. For Unscrambler X: When you open Unscrambler, you need to enter the correct IP address as mentioned in the figure below (172.23.6.240). For the user name and password you can type any letters in both places. Everytime you open Unscrambler you'll need to check/enter the right IP address, this is normally done automatically after the second login but it depends on the virtual machine you are connected to each time.



4. For OPUS: You might need to change the setup if you have a problem when displaying the data. In case you are not able to display more than one spectrum in the spectrum window, go to the "setup" tab, click on "user settings" then "new file" and click on "add new spectrum to window" then click "ok".
5. You can access your data collected at Diamond from the Data (P:) where you can search for your experiment folder. All the new analyzed data and every change you made to a file should be saved in the processing sub-folder of your visit folder. You will be able then to copy your analyzed data from the processing folder to your computer as mentioned in the section "Off site data access" on page 2 of this document.
6. Your data will be available for direct access for 6 months from the date of your experiment. If you need access after this time, you should email your local contact so that IT can renew the access for you.