University of Minnesota

Center for Magnetic Resonance Research

Standard Operating Procedure

C104-05 - Connecting Macs to CMRR servers with NX

What is NX?
For years VNC (RealVNC, TightVNC on PCs, and ChickenOfTheVNC, Finder-Go-Connect to Server vnc://host:59xx on Macs) has been the standard for remotely displaying a graphical user interface from a CMRR servers on your local client.

The NX server/client system provides a secure, modern, faster, and more reliable connection from remote Windows, Mac or Linux machines to CMRR's servers. NX transfers the complete desktop to your machine and provides a user experience much closer to that of working directly from a Linux workstation.

Connecting to NX

Follow this guide to connect to NX on your computer. The screenshots shown below were taken on Windows, but the process is identical on Mac.

1. Navigate to one of the following URLs via any HTML enabled browser:
   ● https://login1.cmrr.umn.edu
   ● https://login2.cmrr.umn.edu
   ● https://slogin1.cmrr.umn.edu - Secure Data Environment (SDE)

You can also use the native NX client for your machine, using these NX server names.

2. Login to NoMachine with your CMRR username and password.

3. Double click on Create a new virtual desktop. (Advanced users: There are also options for you to connect to a running VNC session (not recommended), to connect to a Windows server/PC via Remote Desktop, or to run a custom command.)
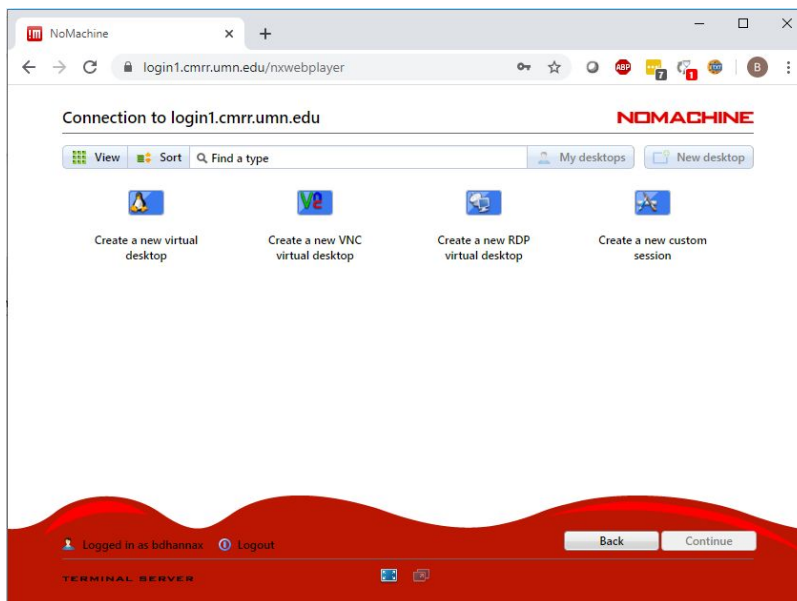

The first time you use the software you will see some information screens. If you do not want to see the information screens each time, check the box labeled "Don't show this message again". Click the "Ok" button on these screens.

4. You should now be connected:
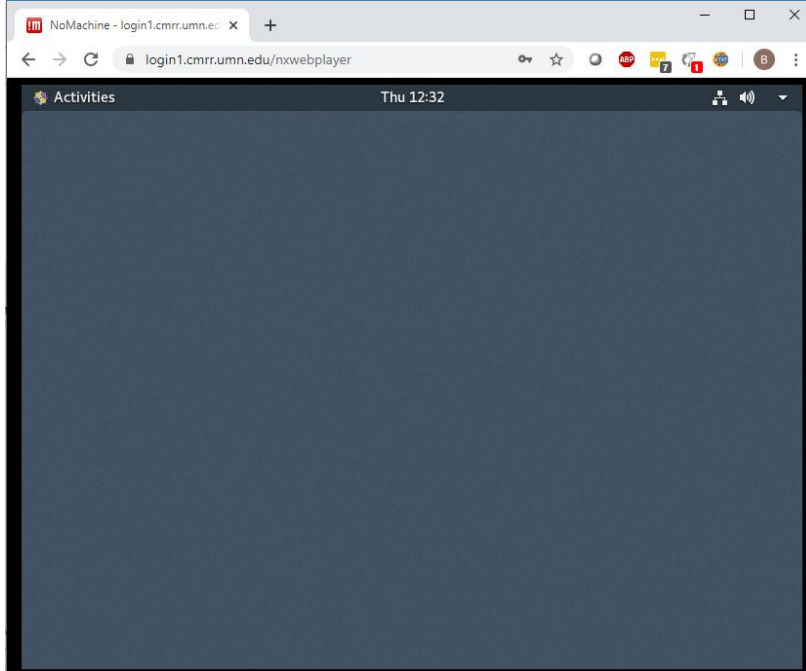
5. To access the settings screens, float your mouse over the top right hand corner of the NX desktop display. The screen will peel back" and you can click in the corner to change various settings:
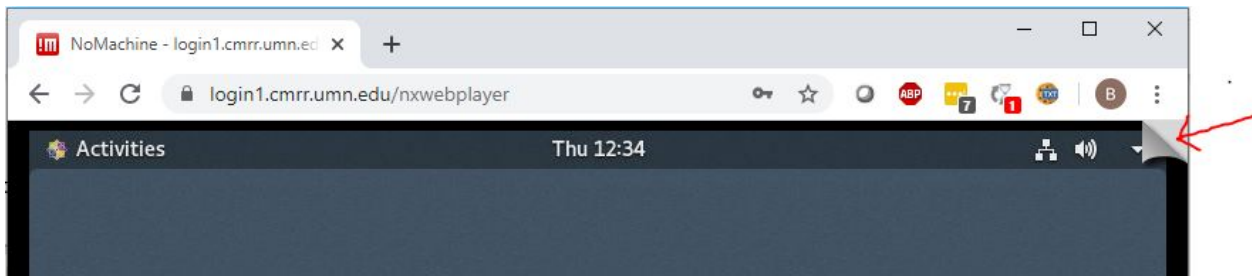

Under Display settings you may want to use "Fit to screen". Under the Advanced Settings, you can adjust your screen size and the quality of display (helpful for slower remote links).

Running compute jobs

To prevent login1.cmrr.umn.edu from being heavily loaded, we do not allow users to run their processes / programs on it. (Note: it is fine to run Firefox on login1) login1.cmrr.umn.edu only provides a gateway for users to access other CMRR Linux servers. Users can SSH from login1 to other CMRR interactive nodes, e.g. "ssh atlas1 matlab".

To do so, once you have used NX to login to to login1.cmrr.umn.edu, open a terminal by clicking on Activities in the upper left. Then click on the terminal icon to start a new terminal.
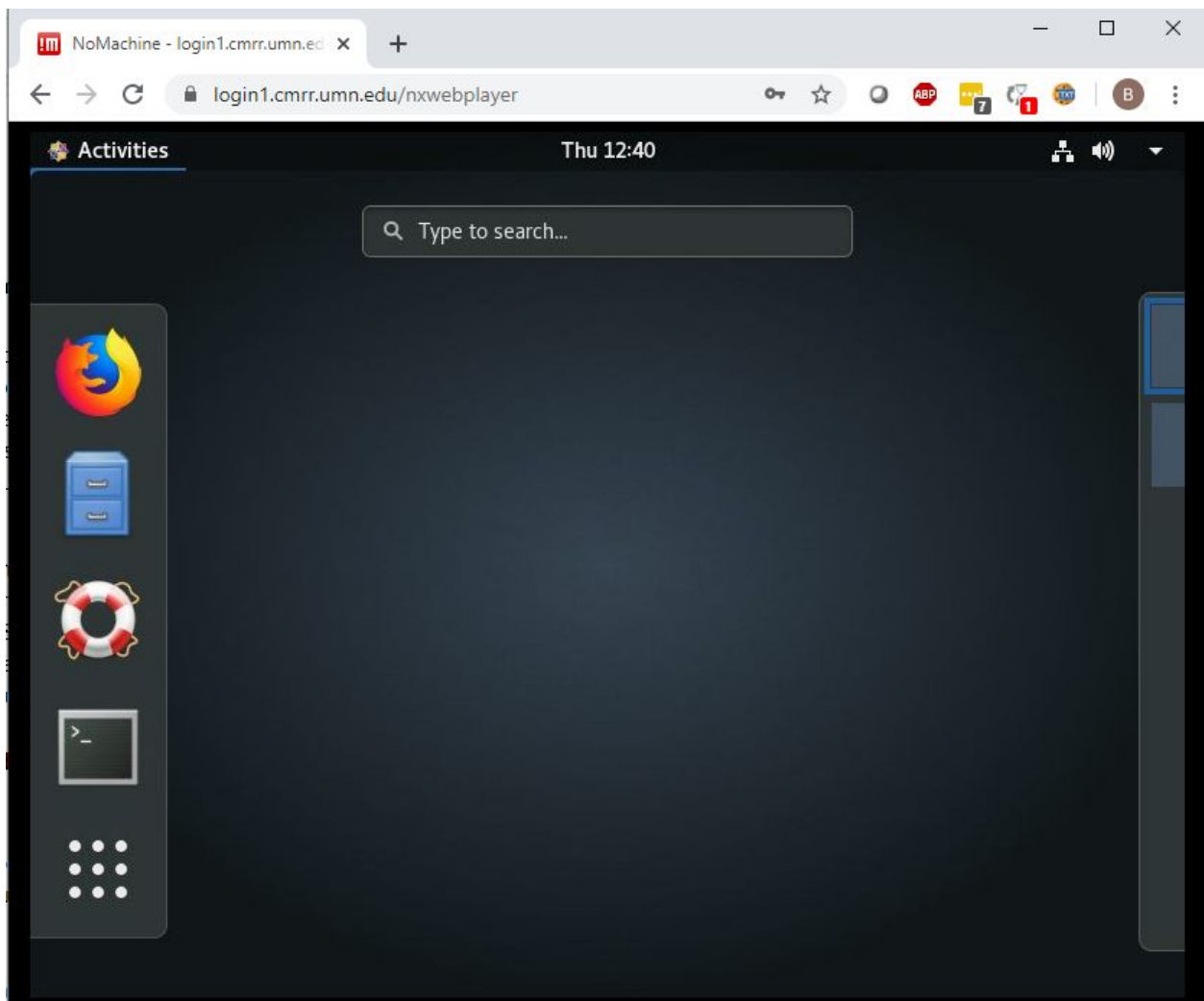
In the terminal, you can then type e.g. "ssh atlas1 matlab". Press "Enter". The terminal prompts you to enter your password. Matlab will start and display on your NX desktop.

After clicking on Activities, all your windows will shrink slightly. Click on any window to select that window and return from Activities mode. Click on the right hand side of the screen to activate additional workspaces. Drag a window into the workspaces to use them.

Copying and Pasting Text

Copying and pasting text between NX and your desktop is done using the copy buffer on the bottom of the screen. In NX, after highlighting text by double- or triple-clicking a line, the buffer

will pop up on the bottom of the screen. Text can be copied to or pasted from your desktop in this popup.

Please contact help@cmrr.umn.edu if you have any questions.

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Version Number	Approval Date	Change from Previous Version
1.0	07/08/2015	
1.1	07/21/2015	Standard formatting
1.2	03/29/2019	Added XFCE recommendation for Centos/RHEL 7
1.3	03/26/2020	Changing to NX from VNC
1.4	01/06/2021	Updating typo in server names.

Approval Signatures	Date
Author/Owner:	
Regulatory Compliance Coordinator:	
Center Director:	