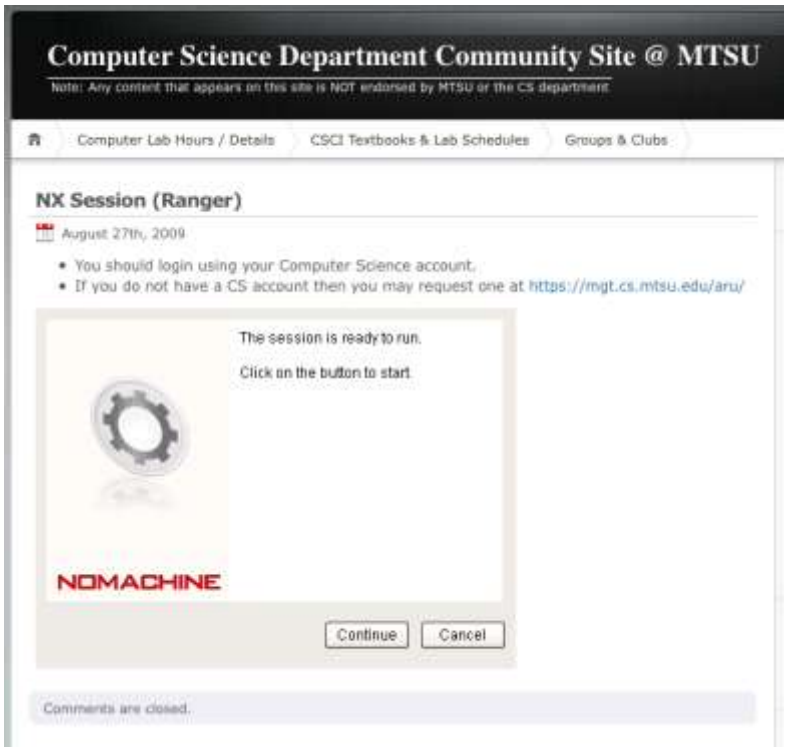
Using Ranger via **NX** (v1.3)

BACKGROUND: A *server* is a computer that provides *services* to more than one user at a time. Unlike a small personal computer that you physically handle to use, a server is usually used via a network connection. In this course, we need to use a **UNIX desktop** on which to do our work. The ***ranger*** computer system is a server that provides a UNIX desktop. (Actually, ***ranger*** is really an "umbrella" name for a set of computers that act as a server. We don't care which of the ranger machines is actually serving us.) The question is, how do we access the server to get these services? That is, how do we get to a UNIX desktop on ranger? One way is via **NX**.

NX: A program called **NX** is used to access ***ranger***. With **NX** and an Internet connection, it is possible to display and use a UNIX desktop on the personal computer we are using. There are two variations of **NX** available: the ***NX Web Companion*** ("*NX Web*", for short) that runs from within a web browser and the ***NX Client*** that runs as an independent application.

Variation 1 (simplest method) - *NX Web Companion*: Because it will work with almost any Internet connected Web browser (such as Microsoft's *Internet Explorer* or Mozilla *Firefox*), the simplest method of using **NX** is via the ***NX Web Companion***. Open a browser and enter the URL **http://www.cs.mtsu.edu/desktop** . This will bring up a web page that resembles the following:



Click the **Continue** button.

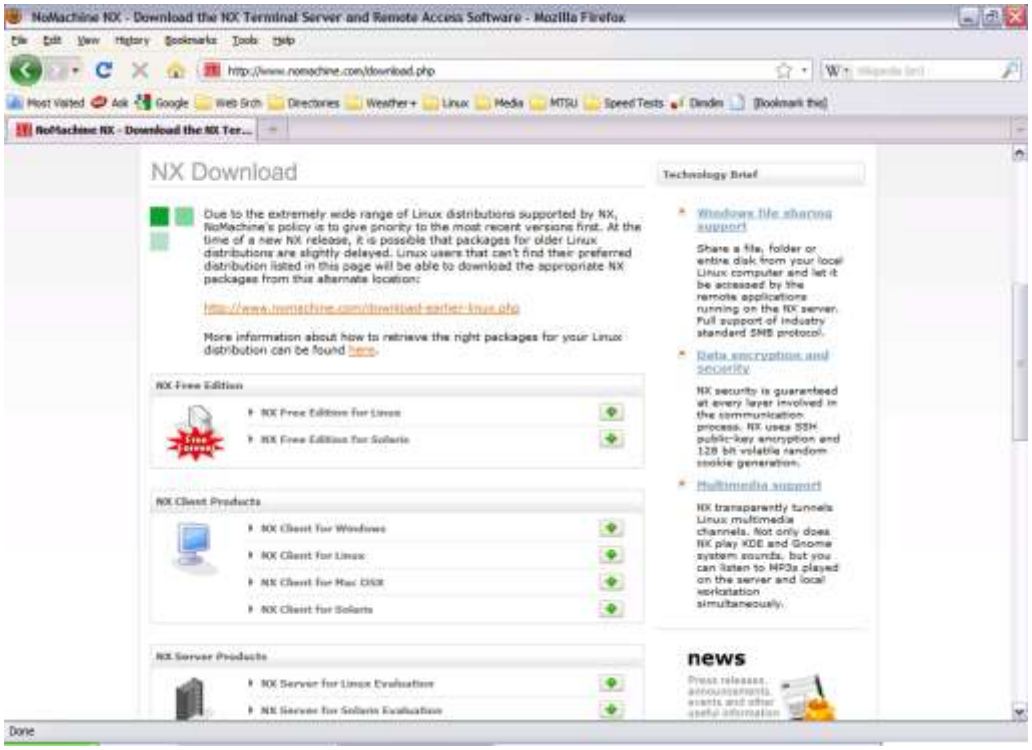
If you get the following security message, check the box "Always trust content from this publisher" and then click **Run**. Agree to any other security measures that may appear afterwards.

Eventually you should get an NX login window where you can enter a username and password:

(If your connection "fails", see the end of this document for tips on fixing the problem.)

Variation 2 (advanced method) - *NX Client*: The other way of using **NX** is as an installed application running on your personal computer. Although installing the **NX Client** takes time, it only needs to be done once. Once installed, getting an NX login window using the ***NX Client*** is usually faster than using the ***NX Web Companion*** method. *However, once an NX session is established, the speed of the connection and display should be the same.*

Download the **NX Client for Windows** from the http://www.nomachine.com/download.php website. (Note: versions for Mac OSX and Linux are also available.) See next screenshots: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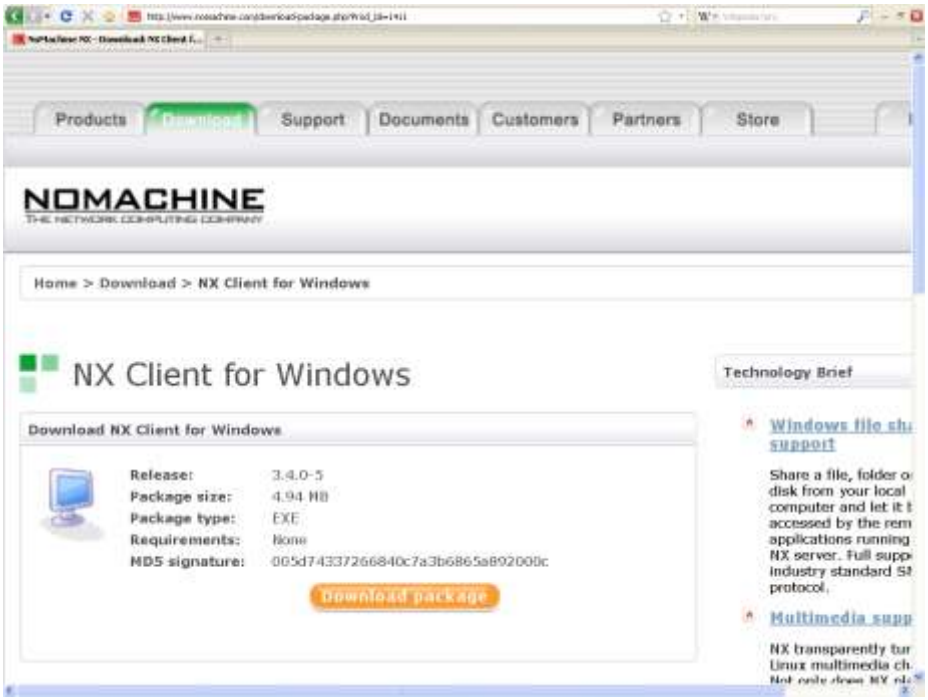
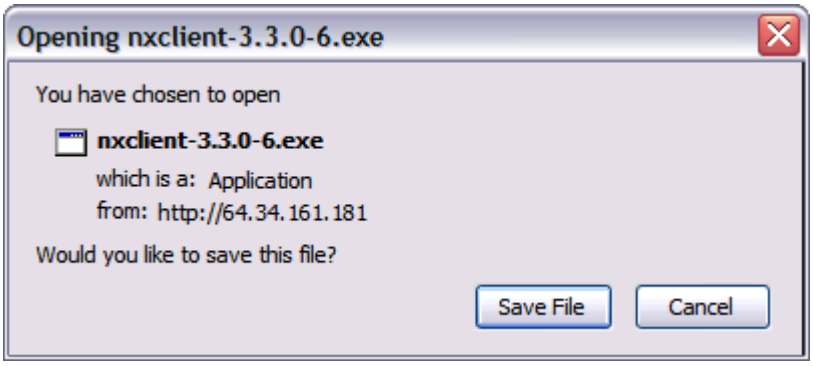
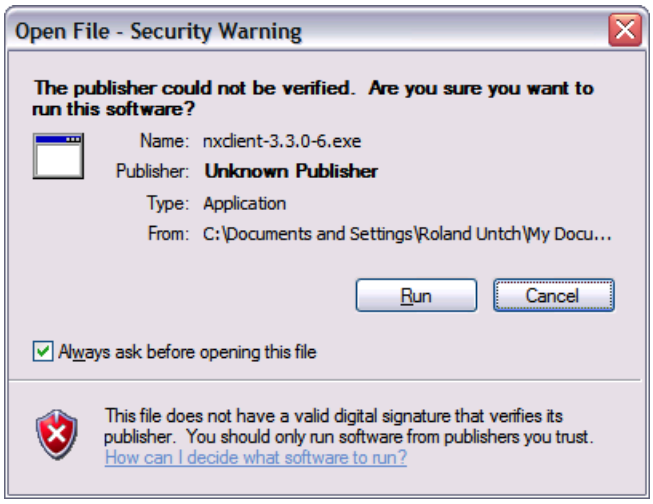
Home > Download > NX Client for Windows
NX Client for Windows
NX Client for Windows
For Windows i386/AMD64 2000/2003/XP/Vista/7



Clicking on "Download package" will open something similar to the following (the version number you'll get will likely be higher):

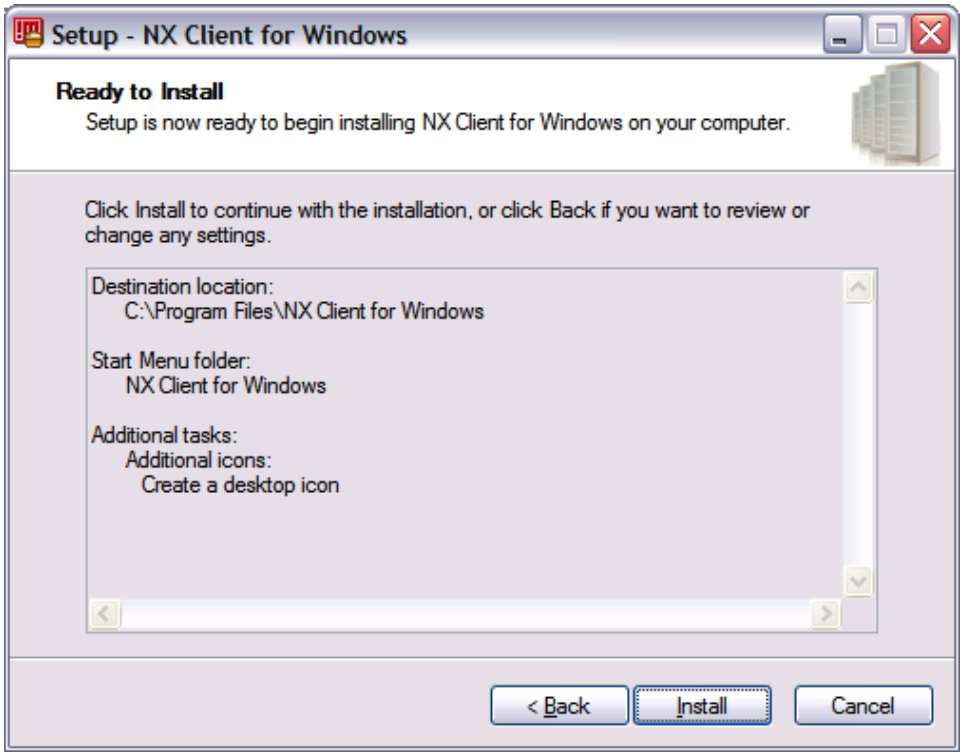


Click on "Save File" and the download will begin. Remember the download location. Once the download has completed, click on the icon of the downloaded file. Click "Run" when prompted:



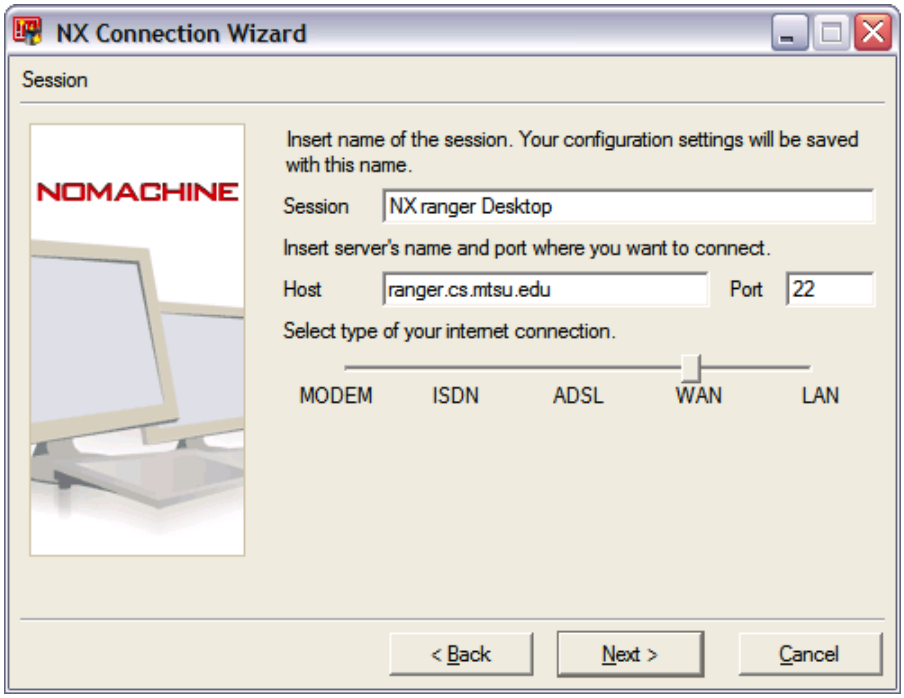
After clicking “Run” the NX Client installation will begin. Click “Next” to continue.

Continue clicking “Next” through the next few screens. Eventually you will get the following screen. Click “Install” to complete the installation.



Configuration: *Once NX Client installation is completed*, we need to configure ***NX Client*** so it will properly connect to ***ranger***. From the "start" menu, run the "***NX Connection Wizard***". (You will find it under the start group "NX Client for Windows".) Once the wizard begins, it will display:

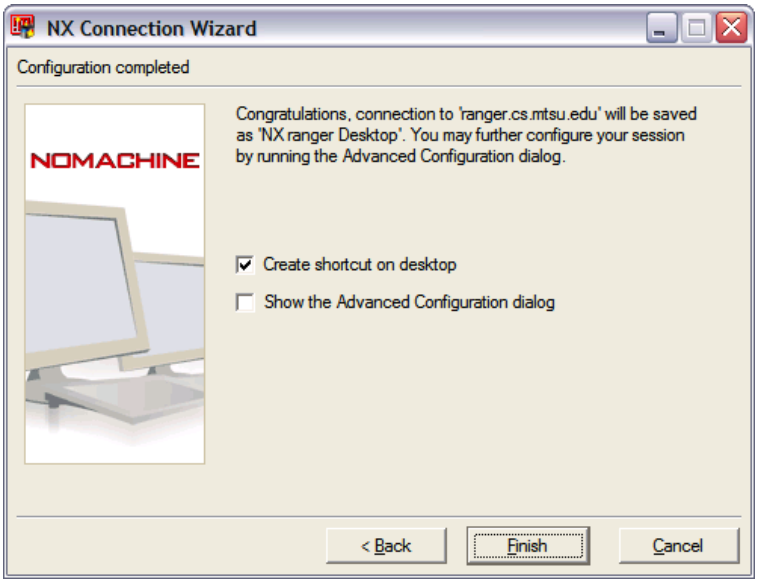
Click "Next" to continue to the session definition screen, shown here:



There are three things you need to do on this screen. For Session, enter "NX ranger Desktop". For *Host*, enter "ranger.cs.mtsu.edu". Lastly, move the slider to reflect the speed of your Internet connection. In the example, the slider was moved to the right so that it rests over the "WAN" selection (appropriate for high speed cable, for example). Click "Next" to continue.

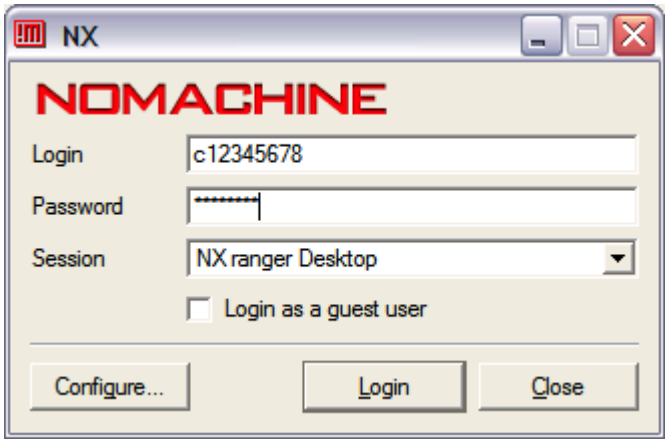
On the services screen, below, you may accept the defaults ("Unix" and "KDE"). Click "Next".

If the configuration went correctly, you should see the “Configuration completed” screen below. Leave the checkmark in place and click “Finish”.

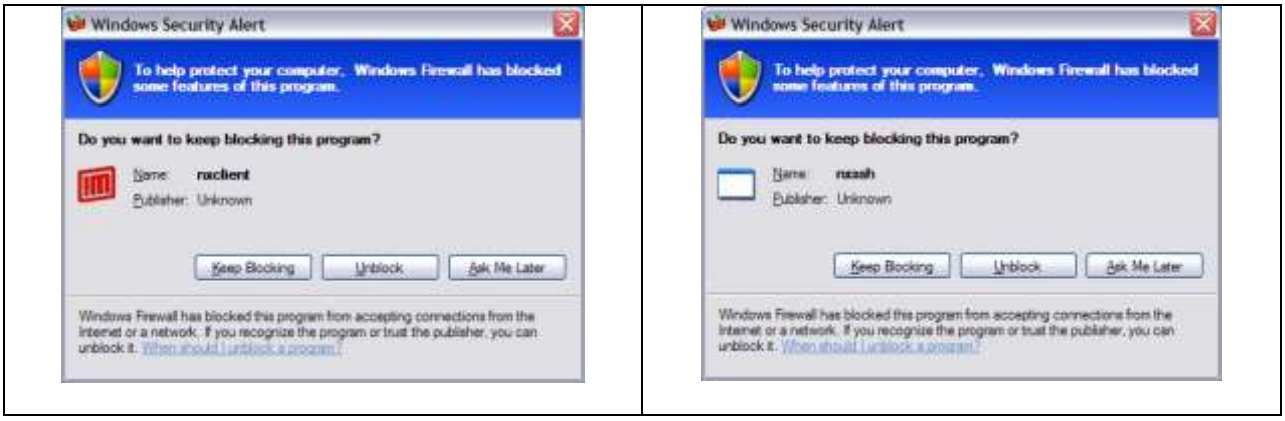


The following icon should be on your desktop. Use this shortcut to start the ***NX Client***.

Once the ***NX Client*** is started, an NX login screen window resembling the following will appear. Enter your username and password.



The first time you run the ***NX Client***, several security messages are likely to appear. If you get a message about Windows Firewall, click the "Unblock" button.

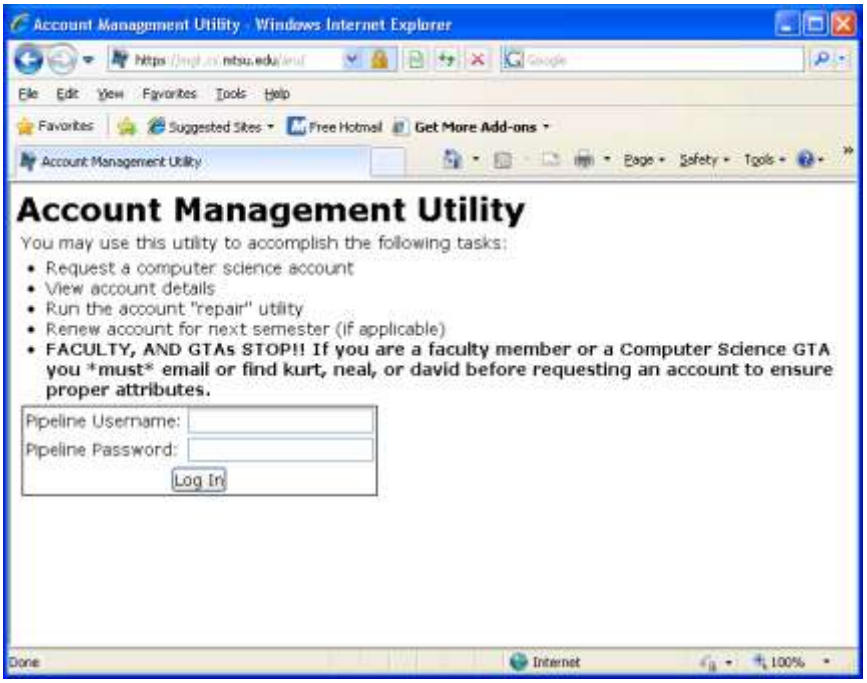


If you get a message that the authenticity of the host can't be established, continue by clicking "Yes".

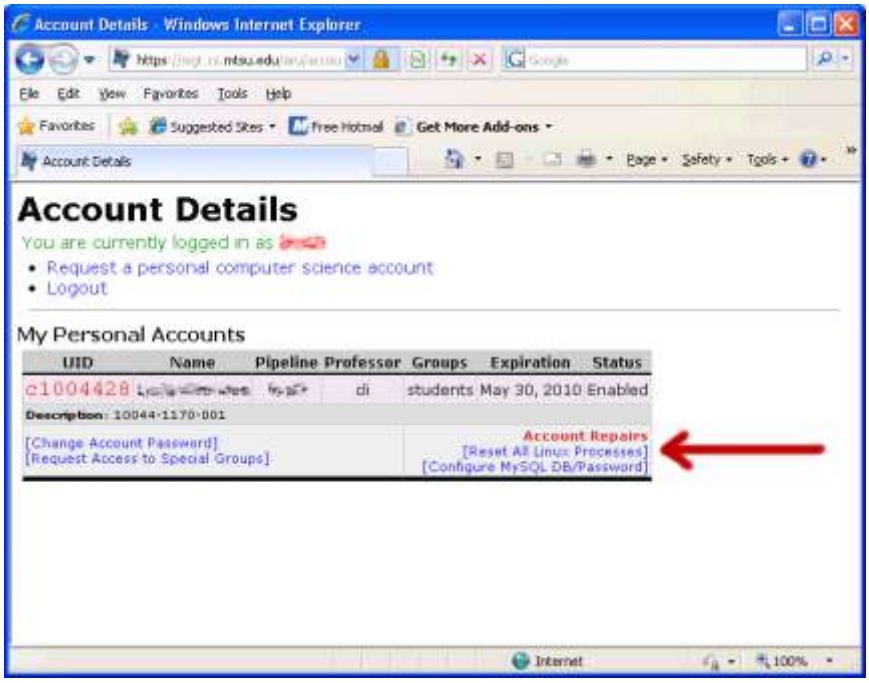
TROUBLESHOOTING TIPS FOR WHEN THINGS FAIL: Occasionally something may go wrong when trying to establish an **NX** connection. Here's some tips on what to do.

1. Try again. Because there are really several computers that act as ***ranger***, one of them may be having a problem. The next time you try to log in via **NX**, you are likely (but not guaranteed) to get another computer in the set and that may clear up the problem. If after three or four attempts you still can't connect, try another one of the tips below.

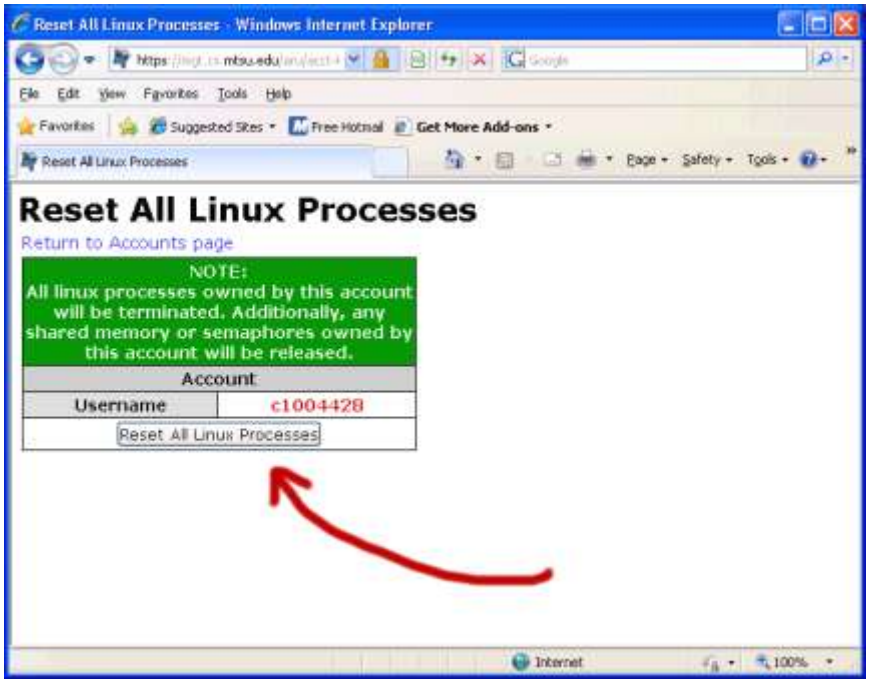
2. Reset your Linux account. The CS department **Account Management Utility** website has a feature (called *Account Repairs*) that allows you to "reset" or clear whatever may be already running on ***ranger*** (probably some unwanted "leftover" processes) that might be affecting your ability to log in. Go to the site, https://mgt.cs.mtsu.edu/aru and you will be greeted with a window that resembles the following:



Enter your PipelineMT username and password and click "Log In" and you'll go to the next window that will be labeled **Account Details** and will look something like the following screenshot. You may have several registered accounts; find the account you are attempting to log into and click the link labeled **Reset All Linux Processes**.



You will next be presented with a **confirmation screen** that looks something like this:

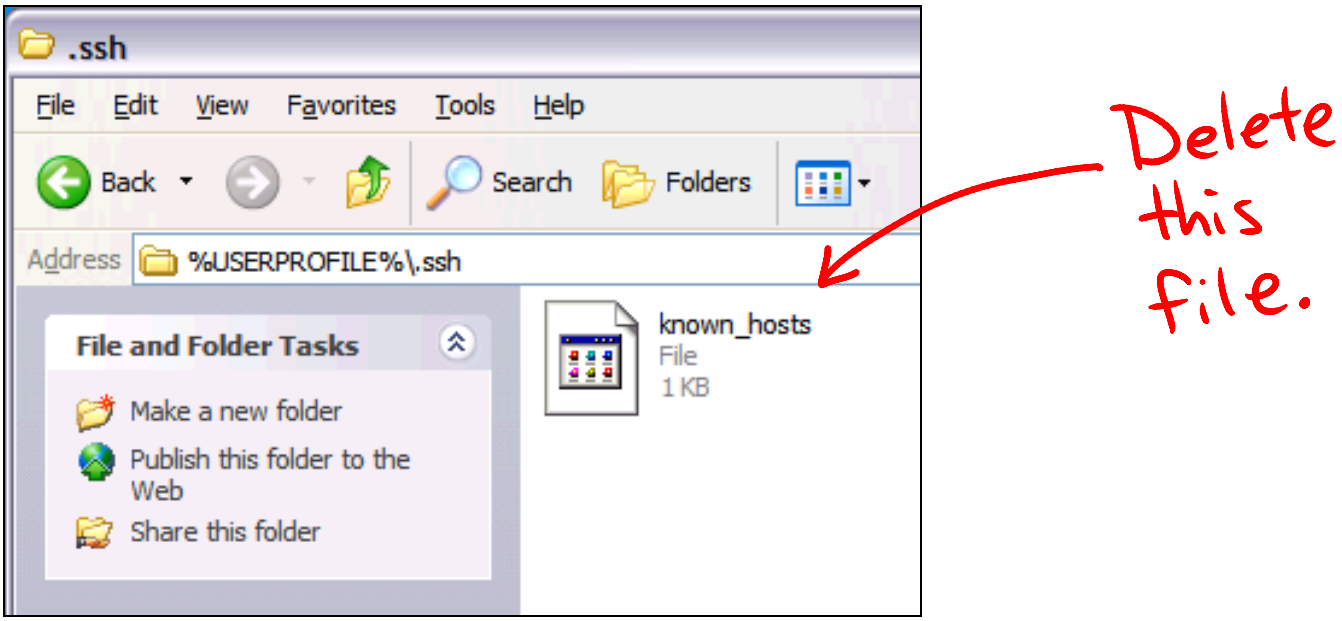


Click on the indicated link to **Reset All Linux Processes**. (Afterwards you may return to the Accounts Page and logout of the Account Management Utility.)

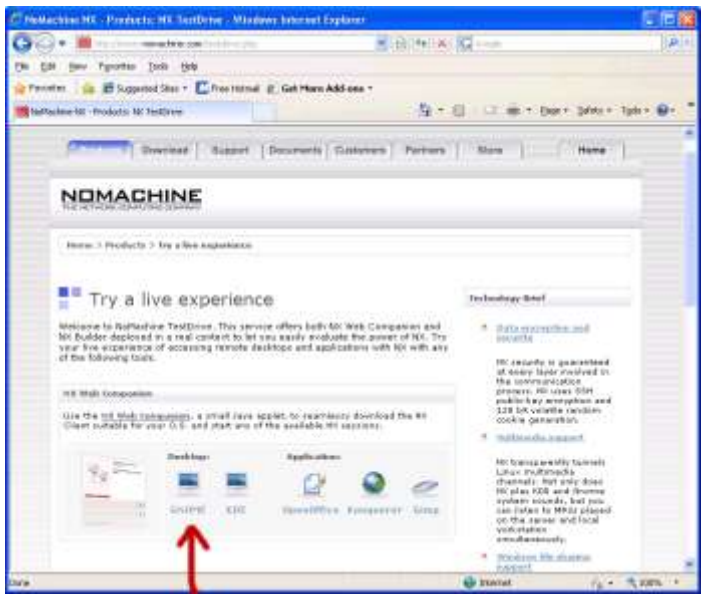
Anything running on any of the ***ranger*** computers should now be reset and you're ready to try to use **NX** to log in again.

3. Sometimes an **NX** connection will seem to "hang" when logging in. No authentication error occurs but **NX** either just "sits there" or disappears without a trace. This happens most commonly when using the ***NX Web Companion*** but it might occur with the ***NX Client*** too. This problem is sometimes caused by an "identity crisis" within **NX**. In these cases, **NX** isn't sure that it is connecting to the true ***ranger*** server and seemingly fails due to indecision. If this happens, try going to the folder "**%USERPROFILE%\.ssh**". (Open any folder window and enter this into the address bar exactly as shown in the picture that follows. If you don't have an address bar, go to View->Toolbars and activate "Address Bar".) Delete the "**known_hosts**" file. Once the "**known_hosts**" file is deleted, try connecting again with **NX**. If that still fails, reboot your system[1] and try again.

[1] You can avoid the reboot If you are comfortable using the **Windows Task Manager**. The purpose of the reboot is to kill any stray **NX** processes. Using the **Windows Task Manager**'s *"Processes"* view, kill the following processes if they are present: **nxclient.exe**, **nxssh.exe**, **NXWin.exe**, and **nxauth.exe**. Now try **NX** again.



4. Give up---well, "retreat and get help" might be a better way of expressing it. What you need to do now is figure out if the problem is (a) on the ***ranger*** end of the connection or (b) on your PC end of the connection. To rule out that the trouble is on your end, we shall try to "test drive" a connection to another server system. Using your browser, go to the following web site: http://www.nomachine.com/testdrive.php



and, within the "Use the NX Web Companion" area, click on the GNOME picture (see red arrow in screenshot above.) Then click "Continue".

Click your way so as to continue through any Java or Security related questions. If all goes well, you will eventually get a UNIX Desktop (technically, a GNOME Desktop).

IF you get to the UNIX Desktop, the problem is probably not with the PC you are on but at the ***ranger*** end. (To get off the test drive, find the bottom menu bar and click "Desktop", then select "Log Out", and then finally select "OK".

BUT if you DON'T get to a UNIX Desktop, then the problem is probably on your machine *or* with your network connection. If the problem is on your side, try rebooting once more and see if that helps.

Your final step is to tell your instructor what happened as a result of doing this "test drive" connection. The instructor will then contact the system staff and let them know about the problem and see what they recommend. There's nothing else you can do at this point if the connection continues to fail.

Until a solution to your connection problem is found, your best bet is to go to a CS computer lab and use one of the machines there (like you do during Closed Lab) to connect to ***ranger.***