How can I run X Windows applications on the dialups?

The Athena Dialup servers also support running X-Windows applications remotely. However, because the dialup servers are often under a heavy load, you will receive much better performance by running the applications on an Athena workstation.

To run X11 applications, you need two things:

- an SSH client configured to forward X11 packets
- an X11 server running on your local machine

### Connecting from a Windows machine

Please see:

- How do I install and activate X-Win32?
- How do I configure X-Win32 to connect to Athena?

### Connecting from a Mac OS X machine (10.5 or higher):

Launch the "X11" application in /Applications/Utilities. If you do not have the application installed, you will need to install it using the CD or DVD that came with your current version of Mac OS. Once the X11 application opens, it will open an "xterm" window with a shell prompt. At that prompt, type:

```
my-mac:~ joeuser$ ssh -Y username@athena.dialup.mit.edu
```

Note: Be sure to fill in the correct information for `username`.

### Connecting from Athena or other UNIX/Linux workstations

```
joeuser@athena:$ ssh -Y username@athena.dialup.mit.edu
```

Note: Be sure to fill in the correct information for `username`.

⚠️ Very old versions of ssh may not support the `-Y` option. If you have one of these versions, you should upgrade immediately to a newer version. In the interim, you can use `-X` in place of `-Y`.

To verify that you have successfully enabled X11 forwarding, you can type this command at the Athena dialup prompt:

```
joeuser@athena:$ echo $DISPLAY
```

localhost:17.0

If the number to the right of the colon is 10 or higher, you have successfully enabled X11 forwarding. If you get a blank response or "undefined variable", you should double-check that you configured X11 forwarding correctly.

⚠️ You should NEVER set the `$DISPLAY` variable by hand – doing so can leave your session open to eavesdropping or interception.