

Installing & Using Cygwin/X

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Abstract

Cygwin is an open-source POSIX-compatible environment for Windows that offers many useful GNU/Linux utilities including an X server. Cygwin's X server allows apps requiring the X Window System to run on Windows. When paired with a suitable SSH client, the Cygwin X server can be used to run graphical (GUI) applications on remote servers over SSH. Though Cygwin offers a large number of packages, only a few are required for Cygwin/X.

1 Installation

1.1 Downloading Cygwin

Download the Cygwin installer from www.cygwin.com. The installer is named `setup-x86_64.exe`.

Note: If desired, the original installer can be re-run to add additional packages after installation is complete.

1.2 Installing Cygwin

1. Run the downloaded `.exe` file and follow the prompts. The default options are recommended, such as:
 - Install from Internet
 - Root Directory: `C:\cygwin64`
 - Install For: All Users
2. Choose a download site from the list when prompted. Sites that appear to be US-based may offer faster download times due to geographical proximity.
3. When prompted to select packages, use the search bar in the upper left to locate the following packages. For each package, click on the down arrow next to "Skip" (as shown below) and choose the latest version.
 - `openssh` (Found in the Net category)
 - `xinit` (Found in the X11 category)
 - `xorg-server` (Found in the X11 category)

Note: Expand the "All" category first if you do not see any packages.

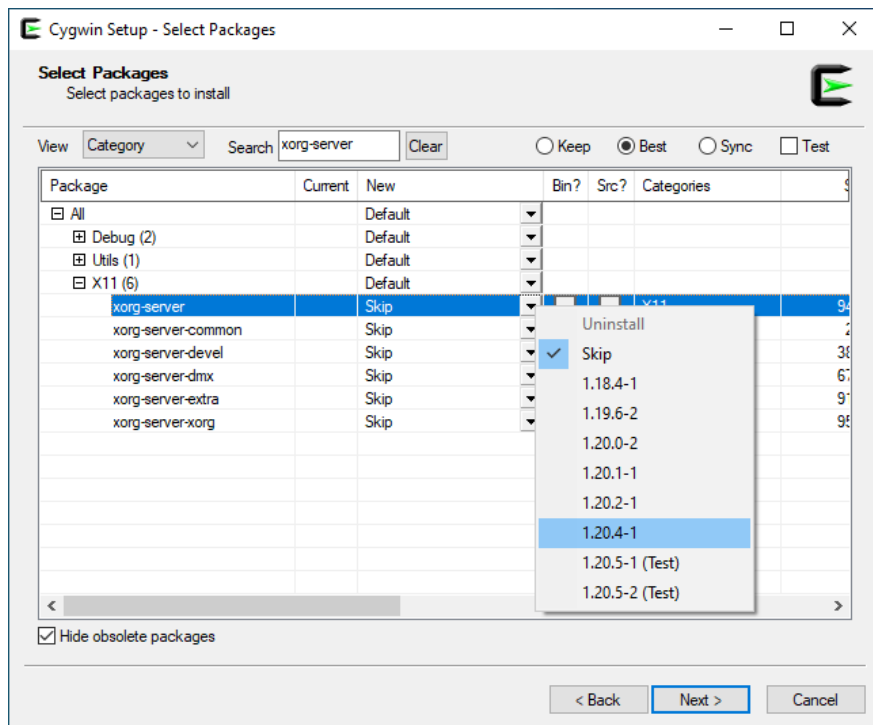


Figure 1: Choosing the latest available version of the `xorg-server` package.

4. Click Next to continue with the installation process. The options to create Desktop and Start Menu icons are recommended.

2 Usage

2.1 Launching the X Server

There are two ways to launch Cygwin's X server. The first method is simpler and is recommended.

2.1.1 Method 1: From Start Menu (Recommended)

1. Open the Start Menu and expand the Cygwin-X folder.
2. Click on "XWin Server" as shown below.

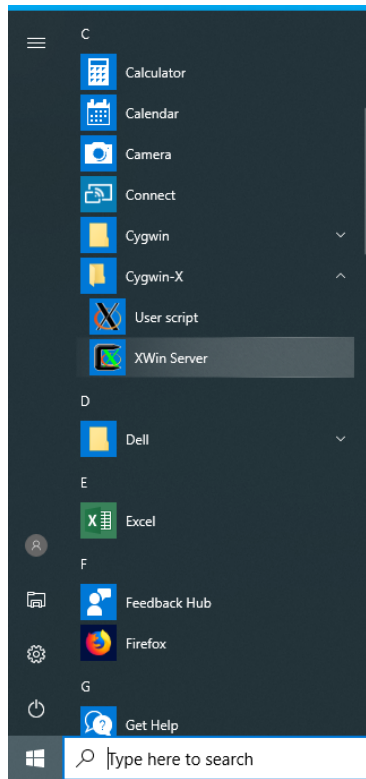


Figure 2: Launching the XWin Server app from the Start Menu.

2.1.2 Method 2: From Cygwin Terminal

1. Open the “Cygwin64 Terminal” app from the Desktop or the Start Menu.
2. Type `startxwin` and press Enter.

2.2 Opening a Terminal Window

1. Once the X server has been launched, locate the bright green X icon in the system tray.

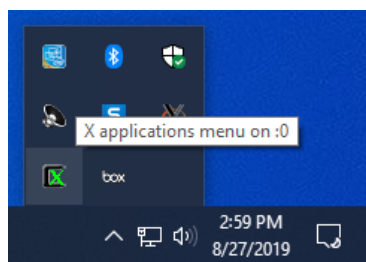


Figure 3: The X applications menu.

2. Right-click on the icon, expand “System Tools”, and launch Cygwin Terminal.

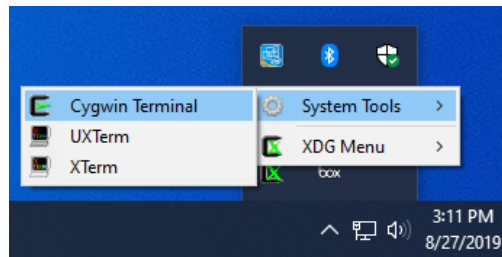


Figure 4: Cygwin Terminal in the System Tools menu.

3. In the terminal window, enter the following command: `ssh -YC username@server`. Replace `username` with your username and `server` with the full hostname (e.g. `deloach.ucdavis.edu`) of the server you are trying to reach.
4. **Note:** If presented with a warning that “The authenticity of [the] host can’t be established”, type `yes` at the prompt and press Enter to cache the server’s host key.
5. Type your password and press Enter. Your keystrokes will not be displayed.

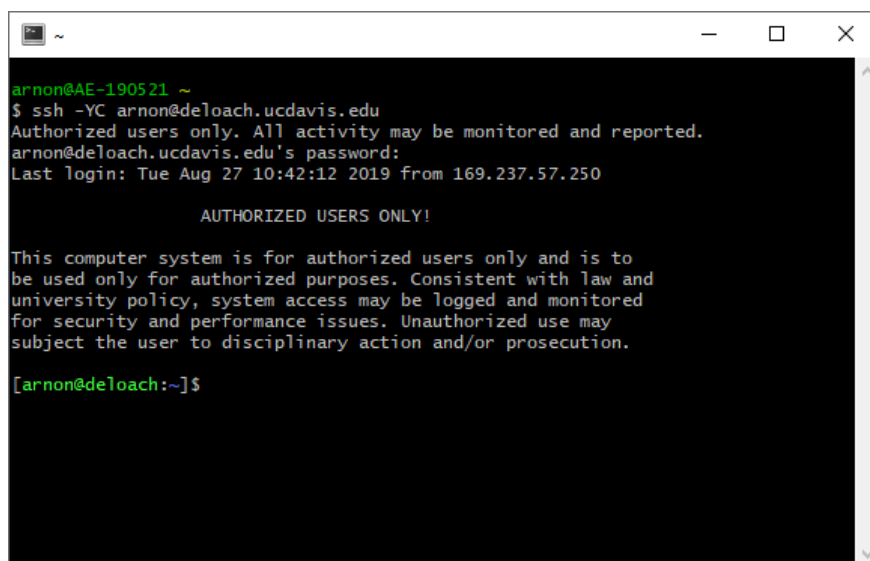


Figure 5: A successful SSH session in Cygwin Terminal.

2.3 Closing the X Server

When you are finished using Cygwin/X, you can close the X server.

1. Exit all Cygwin Terminal windows.
2. Right-click on the bright green X icon in the system tray, expand “XDG Menu”, and click Exit at the bottom of the list.

3 Troubleshooting

3.1 Can't read lock file

If you are using a lab PC and receive an error such as `Can't read lock file /tmp/.X0-lock` when launching the X server, reboot the PC. This error is caused by a stale lock file left over by a previous user of Cygwin. The lab PCs are configured to clean up stale lock files on startup.

3.2 Stdin is not a terminal

If you receive an error such as `Pseudo-terminal will not be allocated because stdin is not a terminal` after running the `ssh` command, this indicates that the `openssh` package was not successfully installed. Press `Control+C` to exit SSH and then re-run the Cygwin installer to install the `openssh` package.