

# Accessing and Using the SCE Environment

The SCE environment is only installed on the department server `systemc.ece.iastate.edu`. Personal copies of the software are not allowed by our NDA, so you must access the software remotely. Accessing the software remotely involves setting up an X Windows server if you are on a Windows machine. Linux machines most often already have an X Windows server running.

## 1. X11 Forwarding on Windows

There are several commercial X servers for Windows, such as X-Win32 ([link](#)), Exceed ([link](#)), and Cygwin/X ([link](#)). However we support only Cygwin/X, but if you buy any of the other Windows X servers you will get a very stable application and all the support that comes with it. Following are the instructions on how to install and setup Cygwin/X, but if you decide to use any other Windows X server just remember that once you have your X server running you still have to enable tunneling on your SSH client (step 3 in this guide).

1. Install / Update Cygwin to include the “Cygwin/X” package.  
If you haven't installed Cygwin, go to <http://www.cygwin.com> and run the “setup.exe” program which is available on the main page. If you have already installed Cygwin, these instructions are exactly the same and you need to run setup.exe again, which allows you to modify and update your packages. The setup program will lead you through setting up Cygwin.
2. Choose “Install from Internet” on the first page. On the next page choose a suitable root directory and leave the rest of the settings at defaults. Next, choose a location to store the files for installation. Choose your internet connection, click next, and if all goes well you will be presented with a list of mirrors. Choose one (try to pick one that's near you – however they all contain the same packages) and click next.
3. When the package list is displayed, you need to stop so we can add the Cygwin/X package, which is not included by default. Expand the “X11” category and find the “xorg-x11-base: Cygwin/X base” package. Click on the “Skip” symbol to the left of the package and it should change to a version number. Note that several other packages needed for Cygwin/X are also automatically selected, since they are also required. This is the only package setting we need to modify, the rest will be adequate.
4. Click Next. Cygwin will now install the packages you selected. If the mirror you chose is slow, you can always cancel and start over with a different mirror.
5. Once Cygwin is installed with Cygwin/X support, start up Cygwin. At the prompt, type “xwin -multiwindow” which starts an X server. You may be prompted by your firewall that Cygwin/X needs to connect to the internet – you should allow it. After starting Cygwin/X, an “X” should appear in your system tray.
6. Configure your SSH client to tunnel X windows sessions and connect to

systemc.ece.iastate.edu. Using PuTTY, this is accomplished by going to the Connection->SSH->Tunnels settings and enabling the “Enable X11 forwarding” option at the top of the dialog, then saving this setting to your session.

7. (Optional) To verify that X11 forwarding is enabled, you may type “xclock &”. If enabled, you should be presented with a new window that has a picture of a clock on it. If you get “cannot connect to display” errors, then you did not setup forwarding correctly in your SSH client or Cygwin/X is not running.

## **2. X11 Forwarding on Linux**

1. Most current Linux distributions should have an SSH client and X windows installed. You will need to be running X windows to run SCE remotely.
2. You simply need to login to systemc. Use the command “ssh -X (username)@systemc.ece.iastate.edu” to connect. The -X option enables X11 forwarding for the connection (as it may be disabled by default in your ssh configuration file).
3. (Optional) To verify that X11 forwarding is enable you may type “xclock &”. A window with a clock should pop up. If not, something is wrong with your setup. The FAQ at this page might be of help to you at this point ([link](#)).

## **3. Running SCE (Bash Shell)**

1. Once your X windows connection is verified, we can run SCE. Type “source /opt/sce-20080601/bin/setup.sh” to setup your environment, notice that this is a different script than the one for the SCRC compiler. These two scripts are mutually exclusive, that is, if you setup the environment for SCRC you can’t use SCE and vice versa. Once your environment is setup type “sce &” to run SCE. The SCE window should pop up momentarily.
2. To access the tutorial, create a directory for the tutorial, cd into the directory, then type “setup\_demo”. You can find the documentation for the tutorial on the website here ([link](#)). Note that some portions of the tutorial do not match this version of SCE, since it was made for an older version. We do not have any formal documentation on the new features of this version of SCE, so it will be up to you to explore the tool. Please post all your questions on the WebCt forums.