Accessing Cadence Remotely

Installing PuTTY

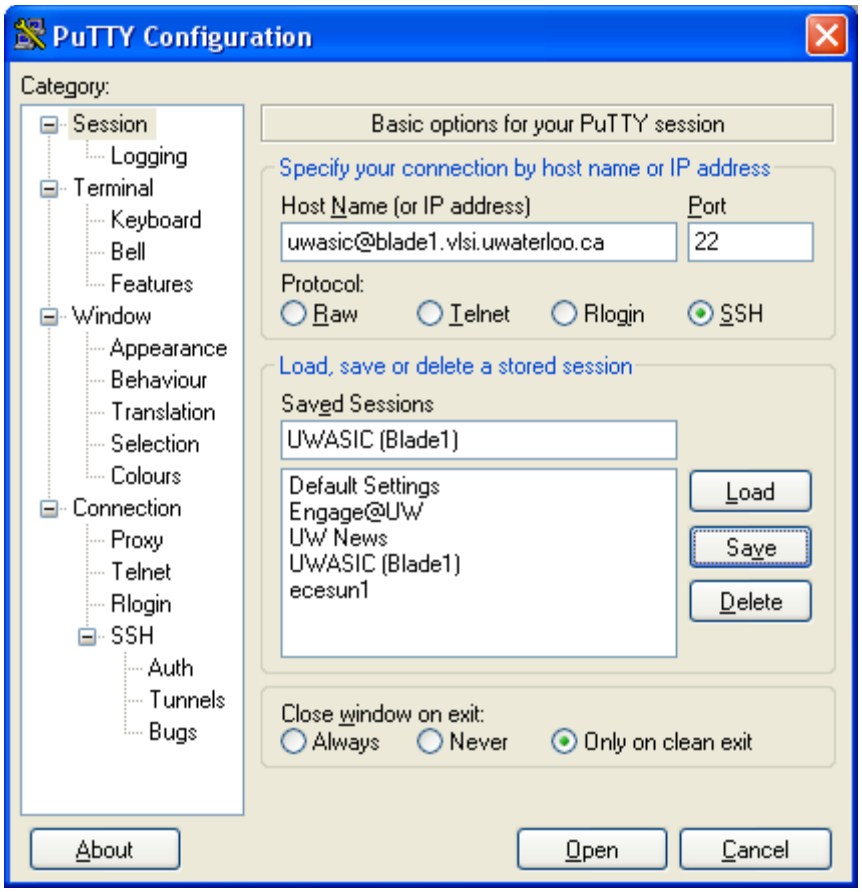
Go to the PuTTY Download Page located at this URL:
http://www.chiark.greenend.org.uk/~sgtatham/putty/download.html

Download the file named putty.exe. It is the entire application and doesn't require installing. You could run it from your desktop, if you'd like.

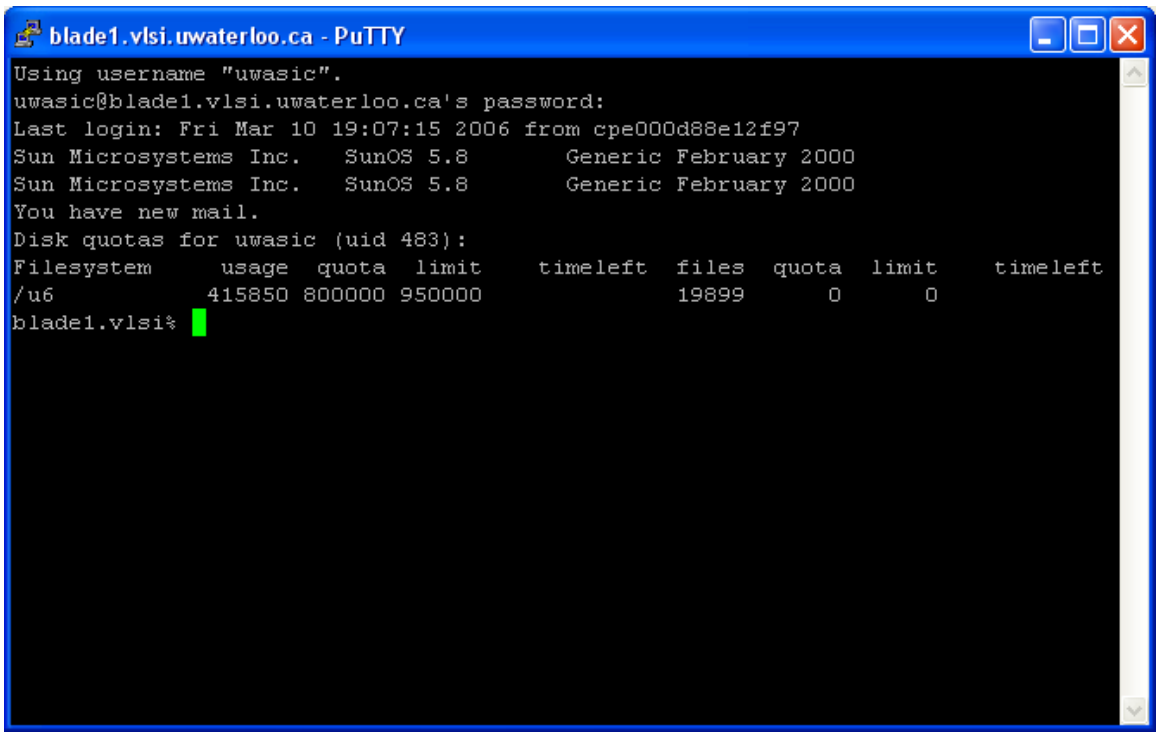
Starting VNC Server

When you load PuTTY you will see the following screen. The PuTTY user interface can be confusing at first. The "Session" applies to all the configuration settings, not just the **HostName** and **Port**.

Type *uwasic@blade1.vlsi.uwaterloo.ca* into **Host Name** and choose *SSH* as the **Protocol**. The **Port** will automatically be set to 22. Then click *Save* to save this session.



Click *Open* to connect to *blade1.vlsi.uwaterloo.ca*. At the password prompt, enter the password for the uwasic account.



The next step is to start the VNC server itself. For information on the options available use the help parameter:

```
Blade1.vlsi% vncserver --help

usage: vncserver [:<number>] [-name <desktop-name>] [-depth <depth>]
                 [-geometry <width>x<height>]
                 [-pixelformat rgbNNN|bgrNNN]
                 <Xvnc-options>...

       vncserver -kill <X-display>
```

The recommended default parameters are: vncserver -depth 24 -geometry 1280x1024

```
blade1.vlsi% vncserver -depth 24 -geometry 1280x1024

New 'blade1.vlsi:13 (uwasic)' desktop is blade1.vlsi:13

Starting applications specified in /u6/uwasic/.vnc/xstartup
Log file is /u6/uwasic/.vnc/blade1.vlsi:13.log

blade1.vlsi%
```

You have now started running vncserver on desktop number *13* on *blade1.vlsi*.

You may check to see who is using VNC on a machine by running: ps -ef | grep Xvnc

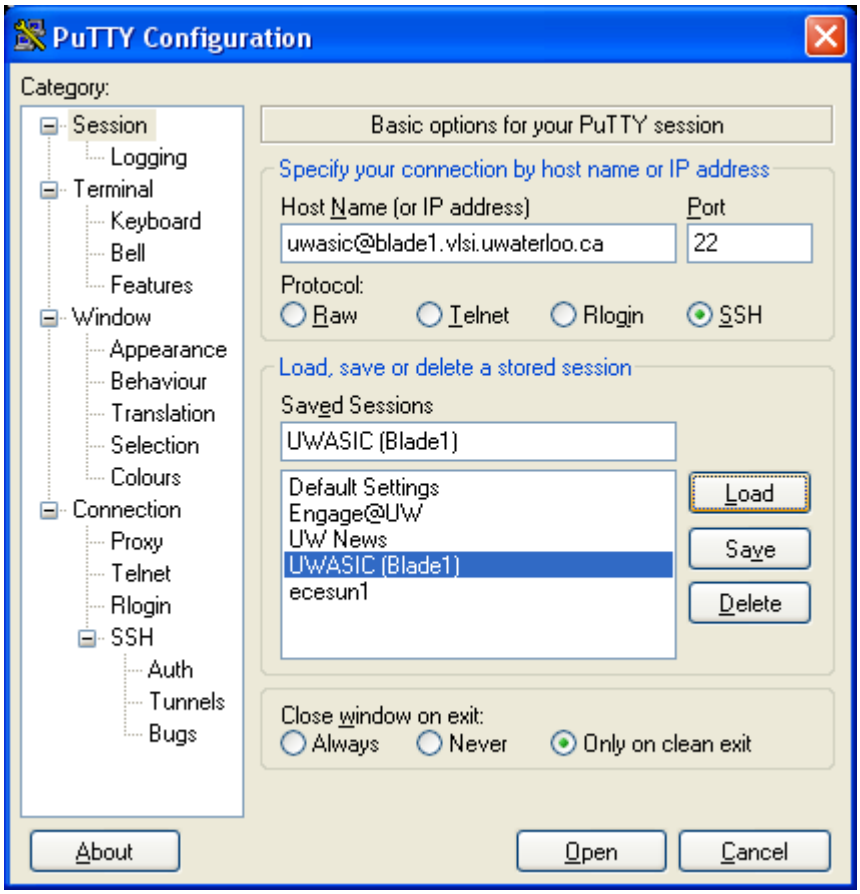
```
blade1.vlsi% ps -ef | grep Xvnc
   anour 14947     1  0   Feb 08 ?       16:42 Xvnc :6 -desktop X
-httpd /software/vnc-3.3.7ece/data/classes -auth /u6/anour/.
  uwasic 16737     1  0   Mar 10 ?        0:00 Xvnc :14 -desktop
blade1.vlsi:14 (uwasic) -auth /u6/uwasic/.Xauthority -geometr
emirhadi  4003     1  0   Jan 23 ?        0:00 Xvnc :4 -desktop X
-httpd /software/vnc-3.3.7ece/data/classes -auth /u6/emirhad
 mhassan 21729     1  0   Feb 19 ?        0:02 Xvnc :8 -desktop X
-httpd /software/vnc-3.3.7ece/data/classes -auth /u6/mhassan
  uwasic  9271     1  0 12:08:04 pts/19   0:00 Xvnc :13 -desktop
blade1.vlsi:13 (uwasic) -auth /u6/uwasic/.Xauthority -geometr
yabdalla 15698     1  0   Feb 17 ?       28:01 Xvnc :1 -desktop X
-httpd /software/vnc-3.3.7ece/data/classes -auth /u6/yabdall
sarbishe 18963     1  0   Dec 30 ?       21:37 Xvnc :2 -desktop X
-httpd /software/vnc-3.3.7ece/data/classes -auth /u5/sarbish
emirhadi  4097     1  0   Jan 23 ?        0:04 Xvnc :5 -desktop X
-httpd /software/vnc-3.3.7ece/data/classes -auth /u6/emirhad
  uwasic  9332  9219  0 12:21:52 pts/19   0:00 grep Xvnc
djrennie 23169     1  0   Feb 02 ?       28:32 Xvnc :3 -desktop X
-httpd /software/vnc-3.3.7ece/data/classes -auth /u5/djrenni
dafeldib    78     1  0   Mar 08 ?        0:16 Xvnc :7 -desktop X
-httpd /software/vnc-3.3.7ece/data/classes -auth /u6/dafeldi
 mhassan 21790     1  0   Feb 19 pts/18   2:53 Xvnc :9 -desktop X
-httpd /software/vnc-3.3.7ece/data/classes -auth /u6/mhassan
blade1.vlsi%
```

You may now close PuTTY. The VNC server will continue to run on *blade1.vlsi.uwaterloo.ca*.

Create a SSH Tunnel

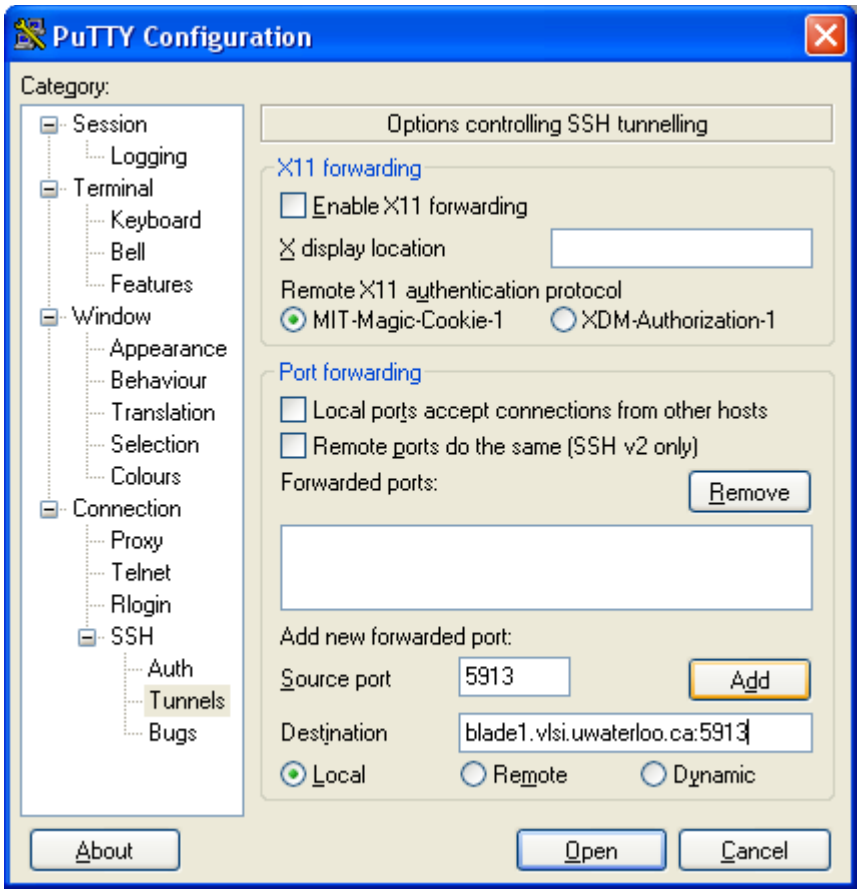
The next step is to create an SSH Tunnel. We could VNC directly to *blade1.vlsi.uwaterloo.ca*, however by using SSH tunneling we can get around restrictive firewalls and prevent others from listening in on our VNC connection.

Run PuTTY again to start a new connection.



Select the session you created last time from the list and click *Load*.

Under the Category frame on the left side choose *Connection* → *SSH* → *Tunnels*.



In *Destination* enter the desktop number of the VNC server we started in the last section plus 5900. In this example, we are using *blade1.vlsi.uwaterloo.ca:5913*. Select *Local*.

In *Source port* you may enter any number greater than 1024, however for simplicity, we shall use 5913. Then click *Add* to add the new forwarded port.

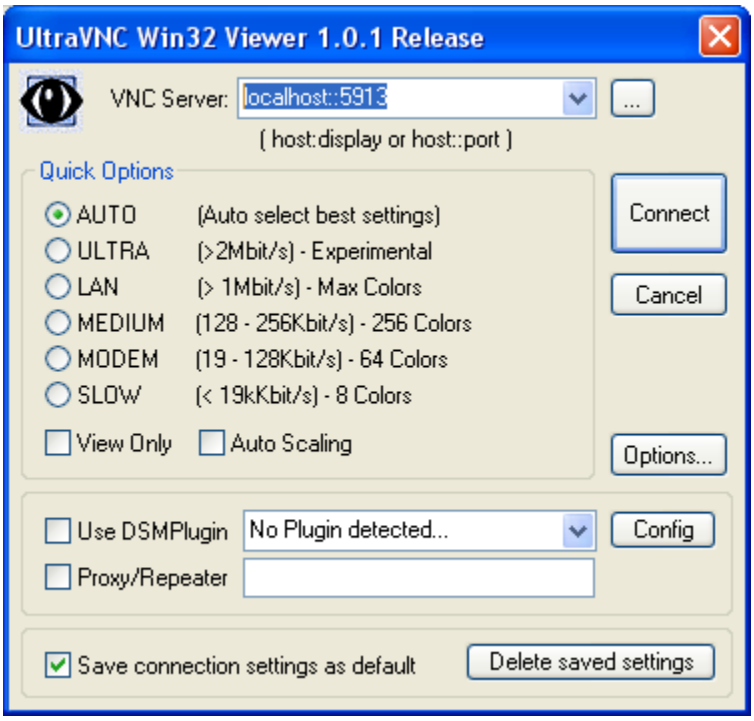
Click *Session* in the *Category* frame to return to the previous screen. Then save your session as we did before. Click the *Open* button to create this connection and enter your password to log in.

We will be using PuTTY while we work, so leave it running in the background.

Connect with VNC Viewer

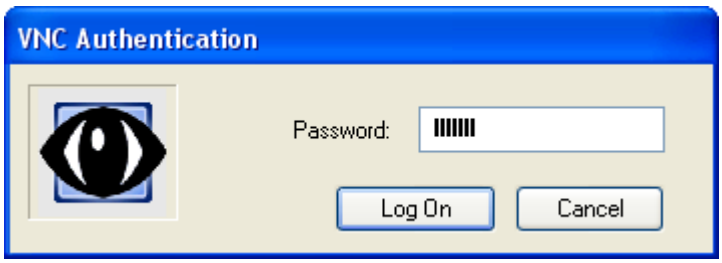
The last and final step is to connect using a VNC viewer. You may use any VNC viewer program. In this document we will be demonstrating UltraVNC, which you may download for free from: http://ultravnc.sourceforge.net/ .

Once you have downloaded and installed the program, you will see the following window when you start it:

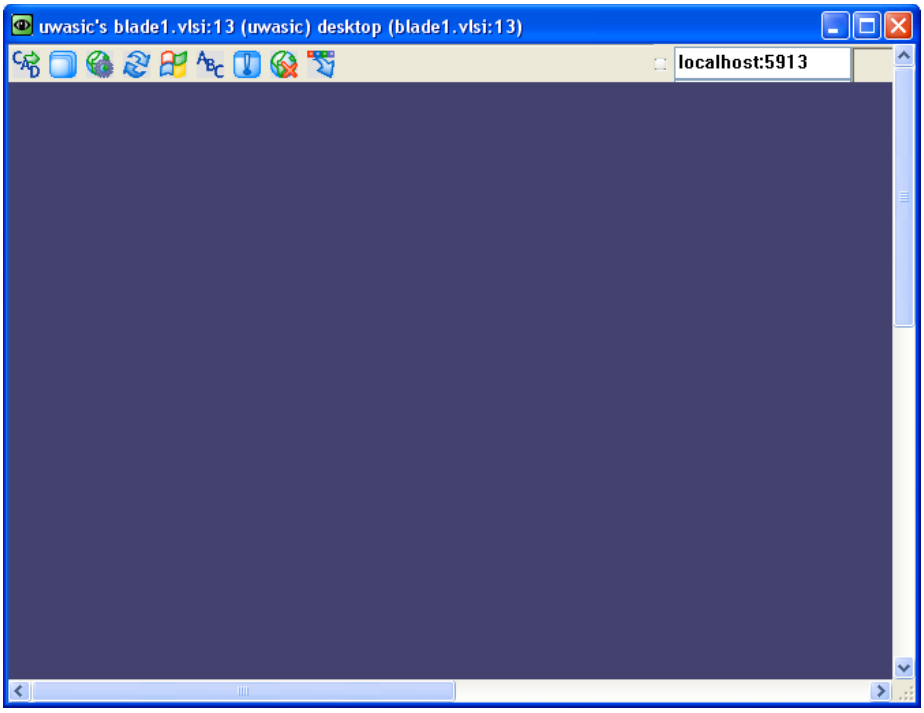


In *VNC Server* enter localhost followed by two colons and the number you used for the *Source Port* of the VNC tunnel. We used 5913 in our example, so we entered: localhost::5913

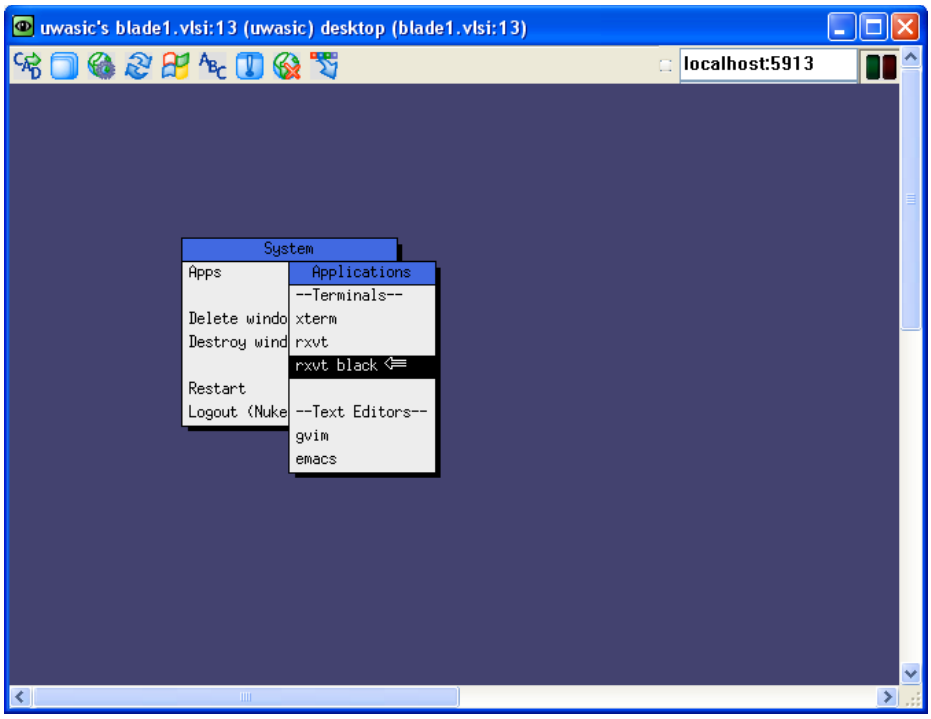
In the window that appears, enter the password for the uwasic account:



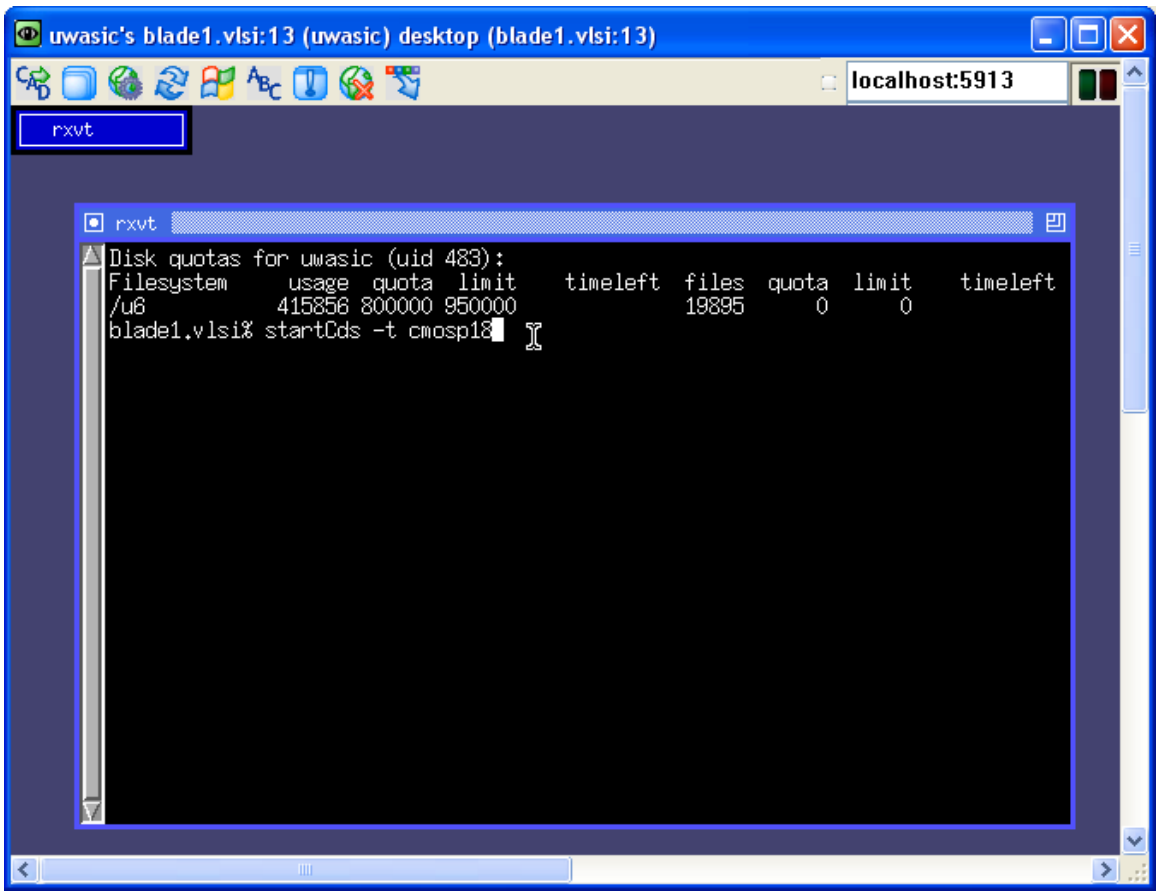
You now have access to your VNC desktop:



To get started, left click on the desktop and the *System* menu will appear. Choose *Apps* to see the *Applications* menu and select *rxvt black*.



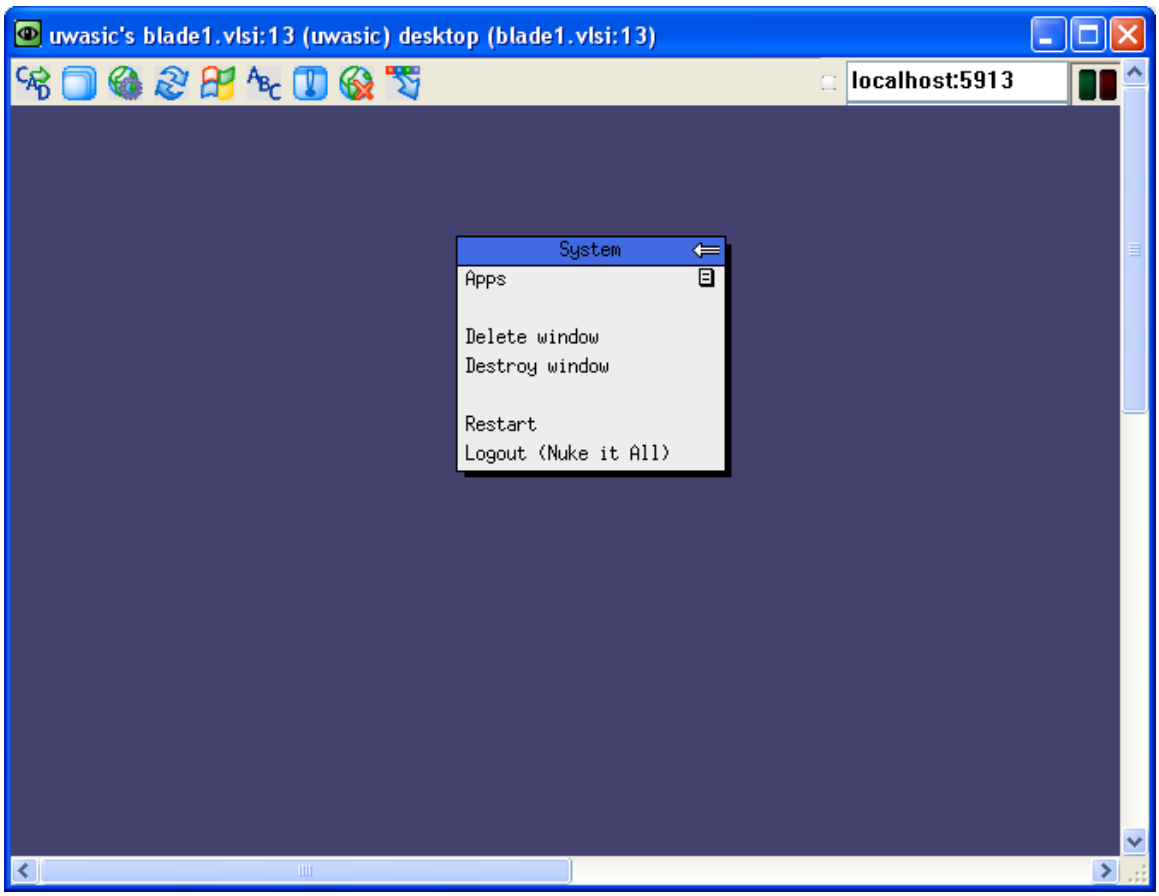
In the window that appears, enter: *startCds -t cmosp18*



Cadence will then begin and you are set to go.

One benefit of VNC is that the VNC server will continue to run even after you close your VNC viewer application. You may then return to your desktop to pick up where you left off. Be careful to always save any important work when you leave, just in case you lose your VNC desktop.

If you are done and would like to terminate your VNC server, left-click on the desktop:



In the *System* menu choose *Logout* to shutdown your VNC server and any applications you have running.