Setting up Kerberos, AFS, and Putty on Windows Vista/Windows 7

Note on 64-bit Windows systems:

On 64-bit Windows systems you will need to install both 32-bit *and* 64-bit distributions of both Kerberos and AFS. Installing just 64-bit editions will not work properly.

Installing Kerberos

The recommended version of Kerberos for use with AFS 1.7+ is now Heimdal.

1) **Download the appropriate installer from here:**

   https://www.secure-endpoints.com/heimdal/

Note: For Kerberos + AFS on 64-bit Windows, download the combined 64-bit and 32-bit installer.

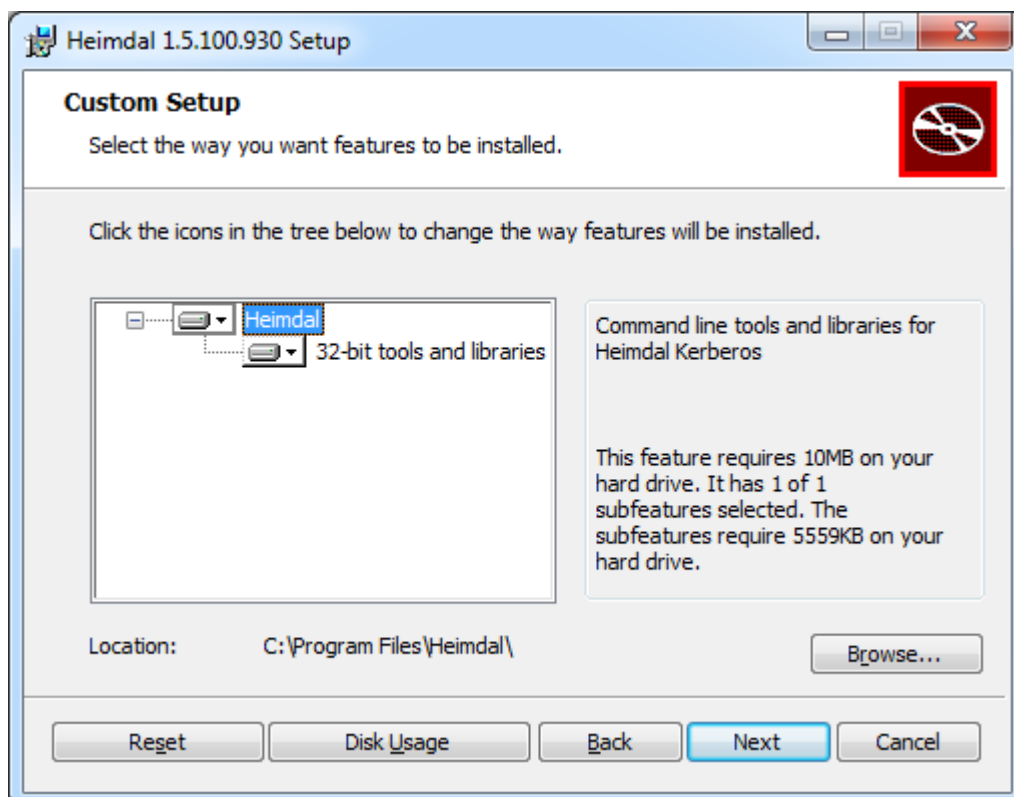2) **Run the installer that you downloaded:**

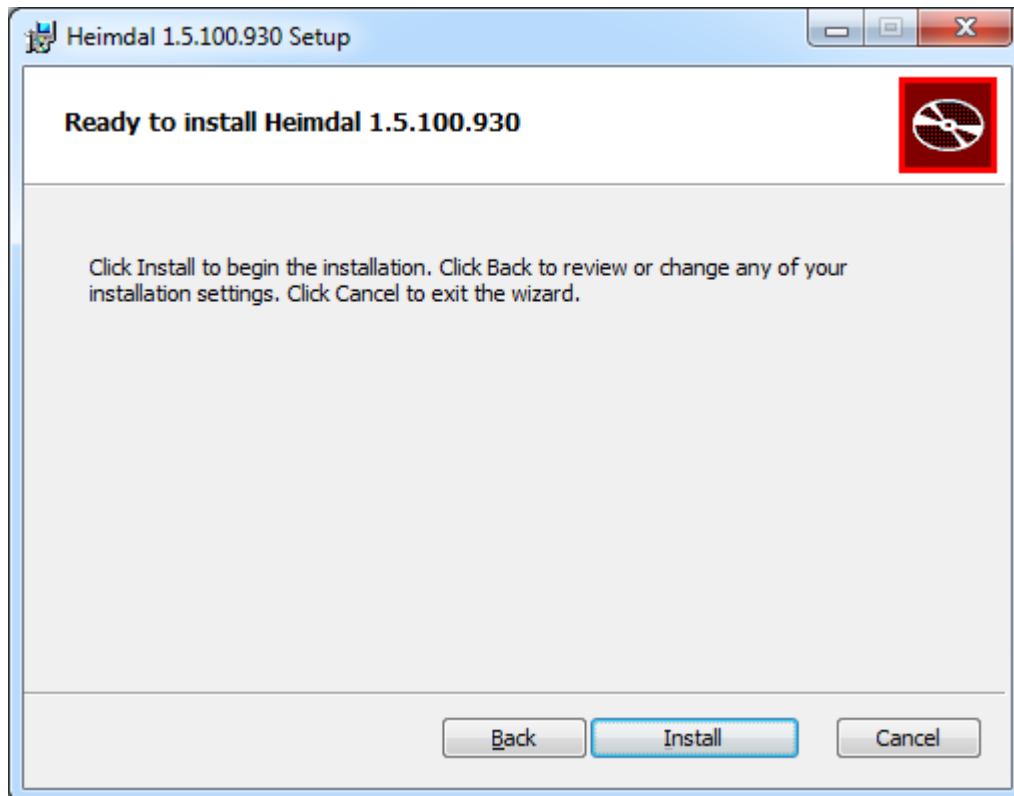Note: You may encounter an open file security prompt depending on your system configuration.
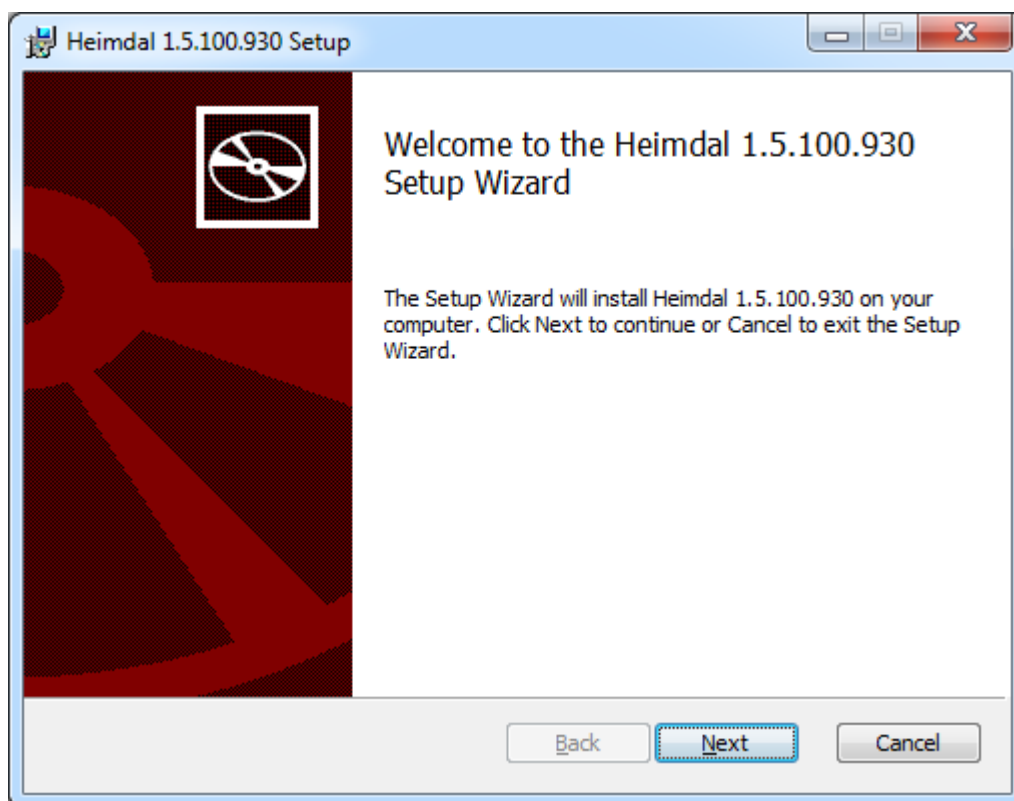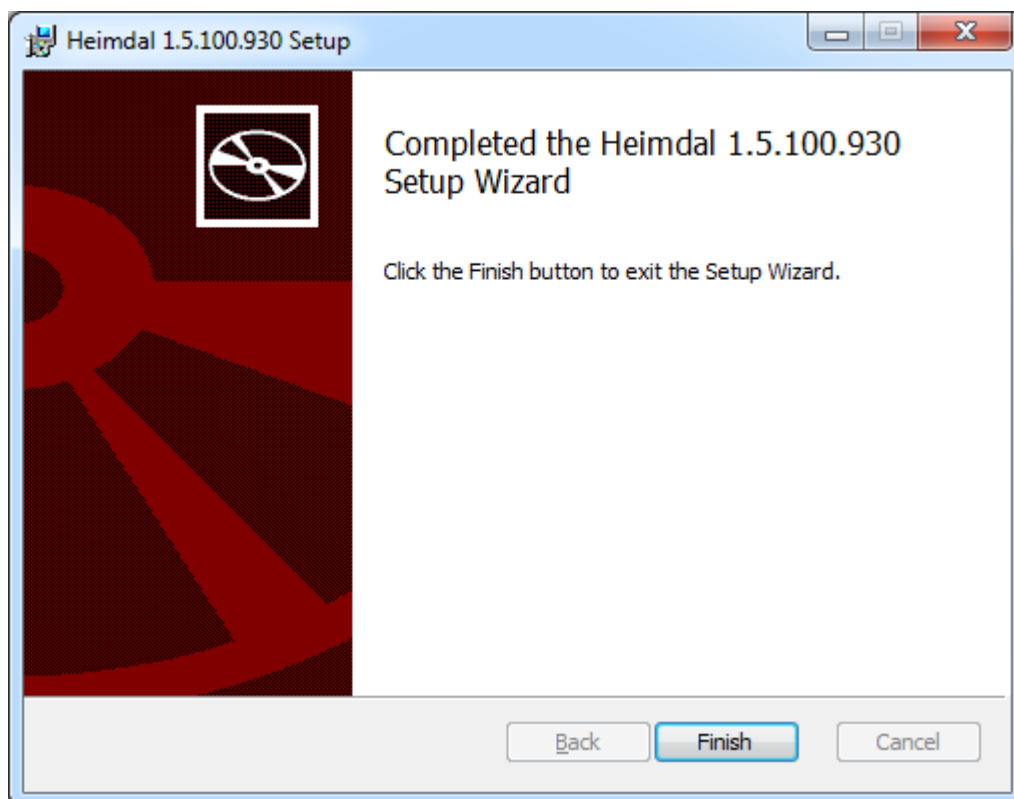
Accept the license agreement:

Leave the install options at default:

Finally, confirm that you wish to proceed

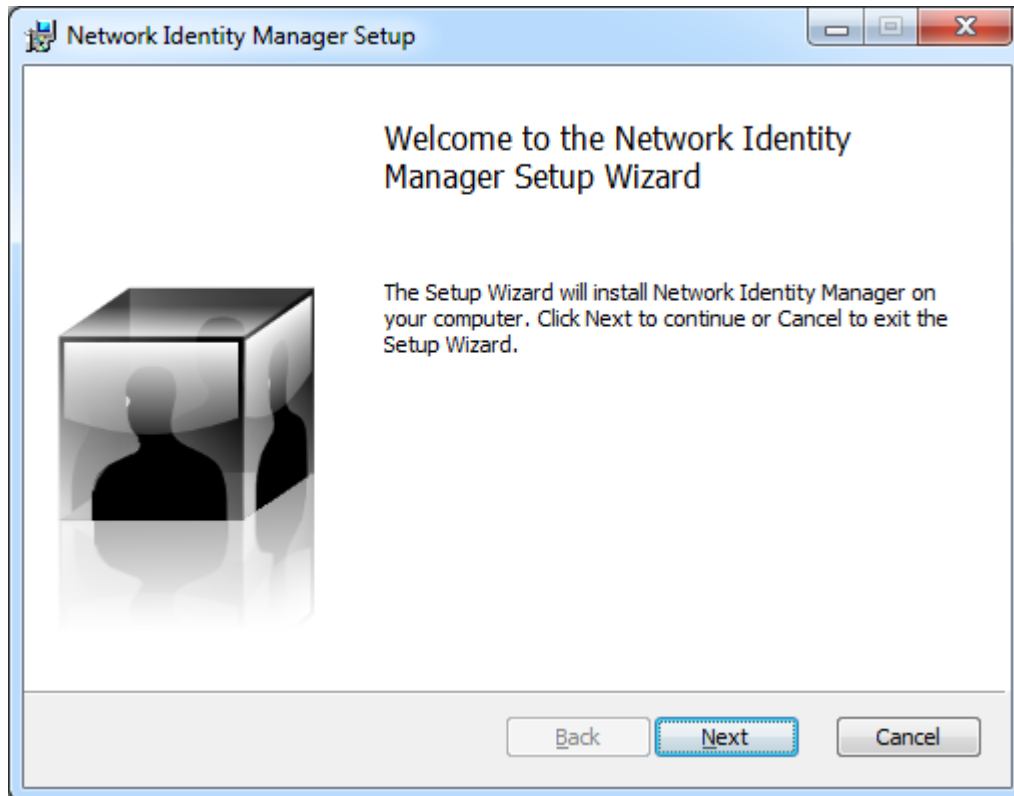Once installation has completed, click Finish:

Note that the Heimdall installer does **not** include a user interface. You will need to download and install one as detailed below:

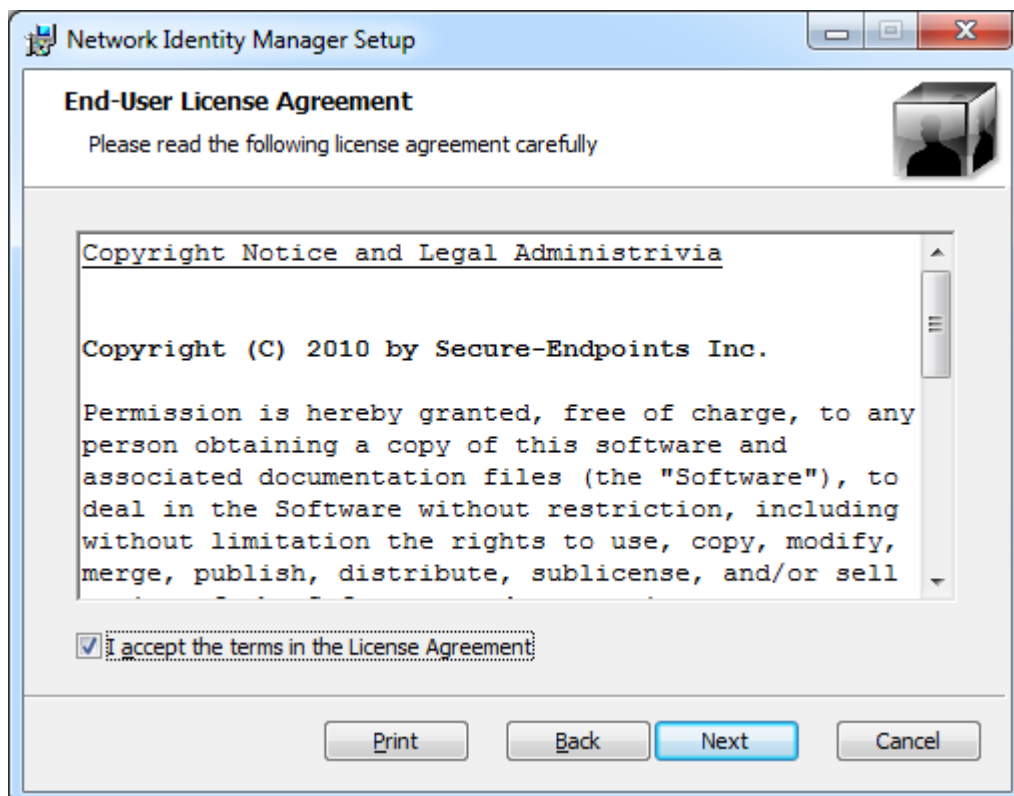**3) Download the Network Identity Manager installer from here:**

Note: For 64-bit installs, only download the 64-bit installer (non-SDK).
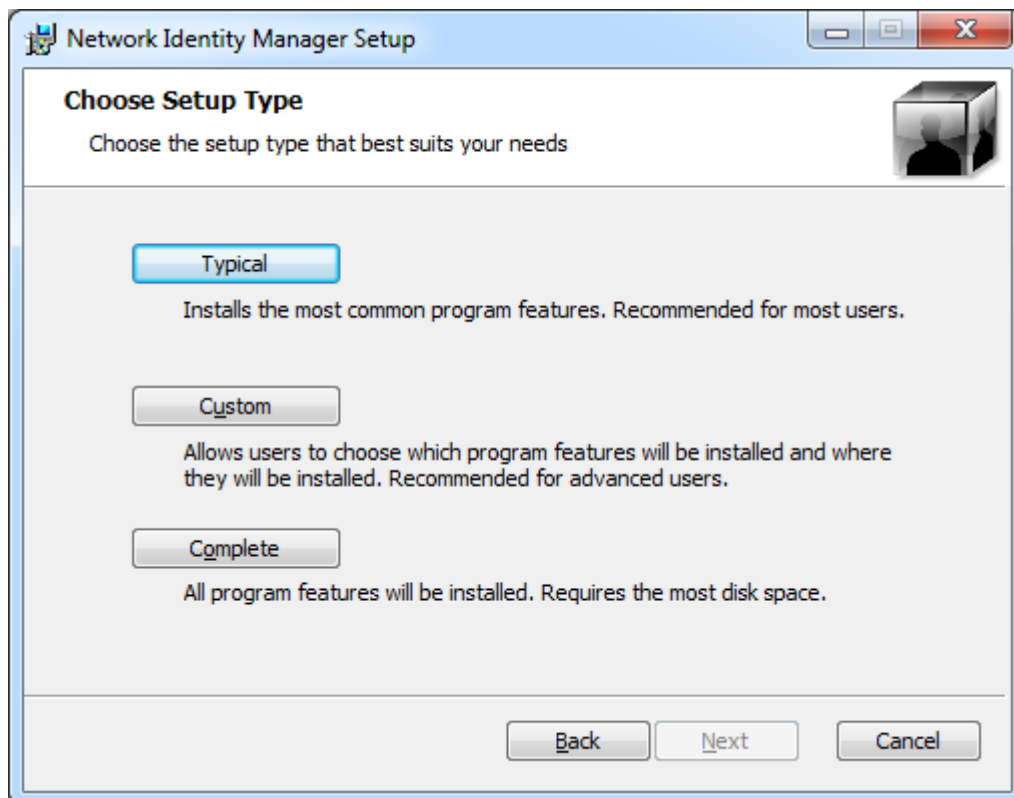
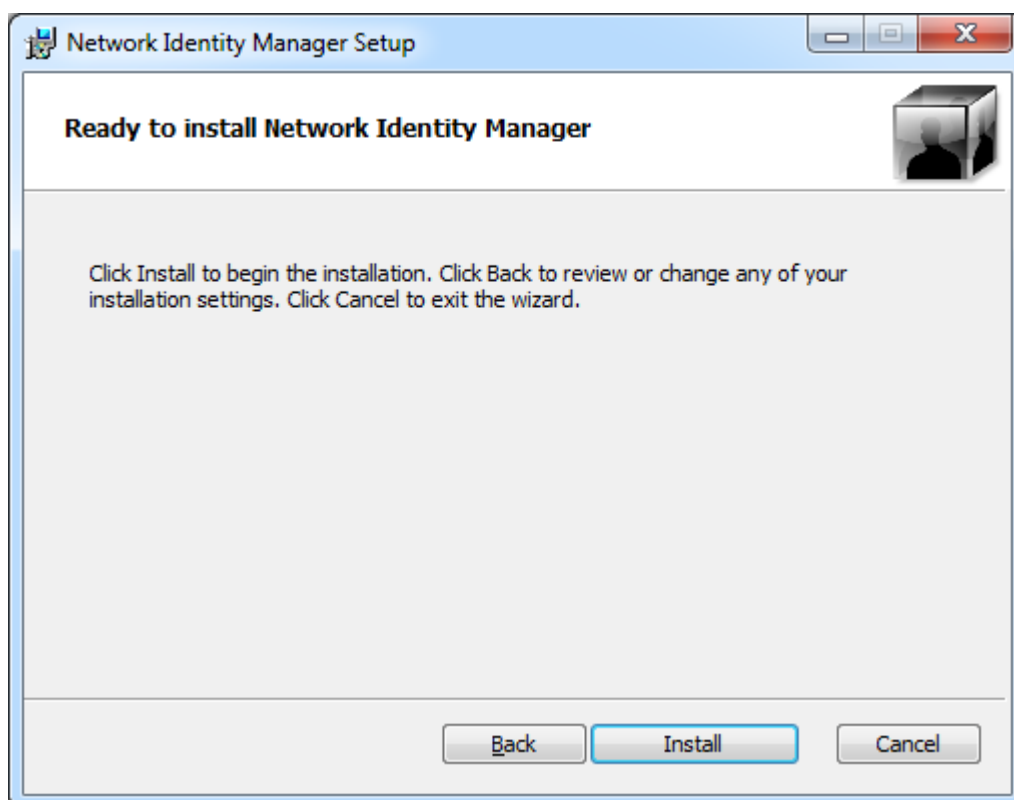**4) Run the installer that just downloaded:**

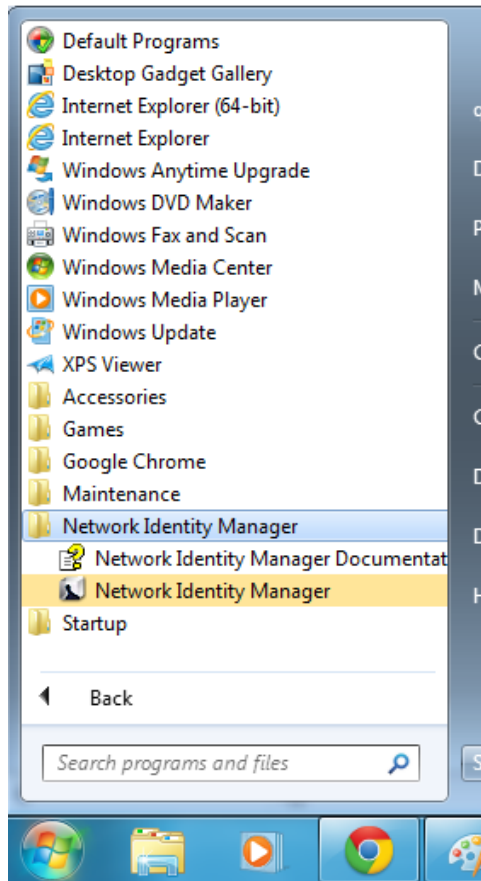Accept the license agreement:

Select Typical install:

Click Install to proceed:

Finally, click Finish once the installer completes.

5) Run Network Identity Manager from the Start Menu:

6) Open the Network Identity Manager main window:

Right click the Kerberos for Windows icon in the system tray (you may need to click the up or left arrow first) and click Show Network Identity Manager window. You may have to do this twice the first time:
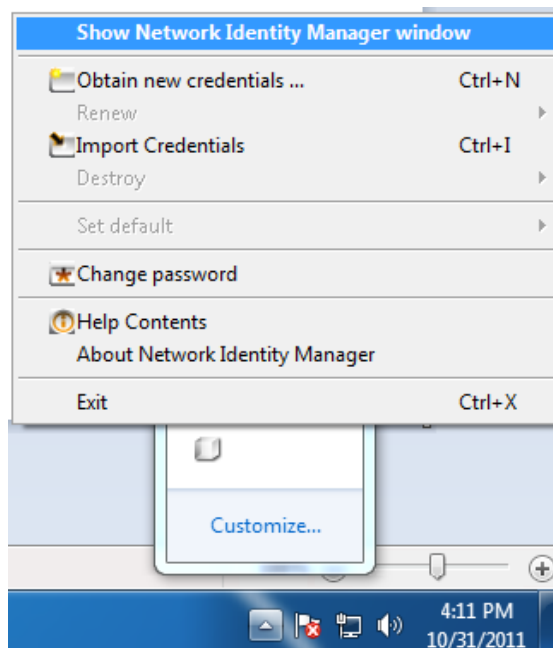
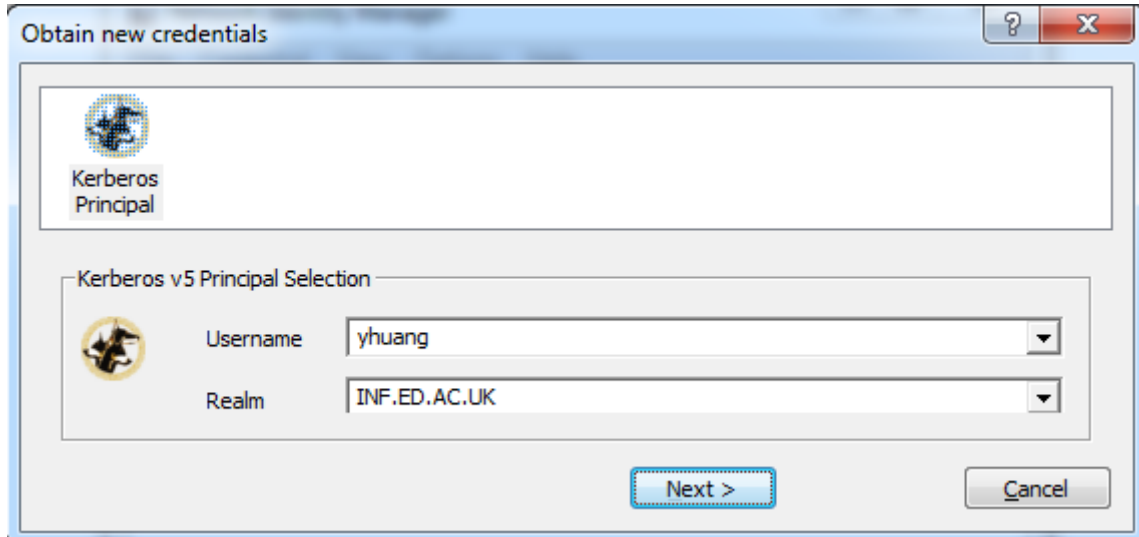## 7) Setup your account and obtain tickets for the first time

Click the "Obtain new credentials …" icon in the toolbar:

Enter your DICE username in the Username box, and INF.ED.AC.UK (case sensitive) in the Realm box:

The first time after you click "Next" the following window should appear. Tick the "Proxiable" and "Make this the default identity" boxes and click "Next" (do not click "Finish"):
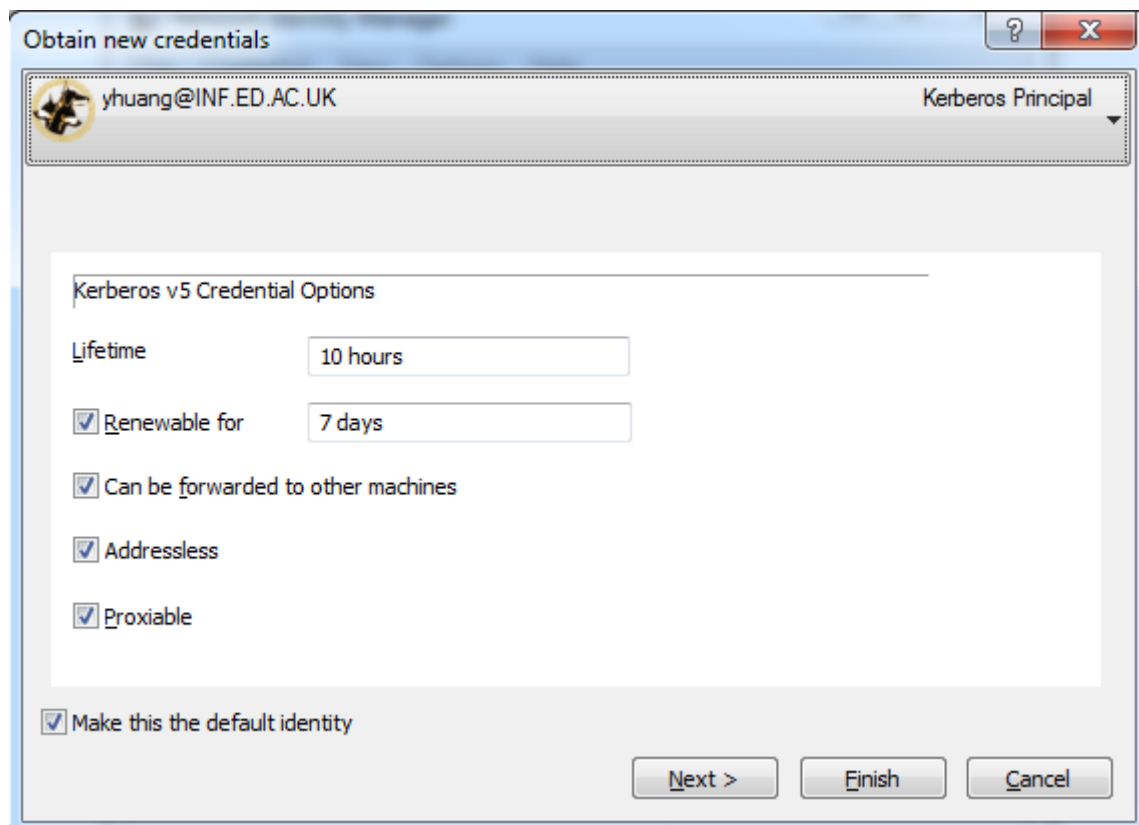
Enter your password in the Password box, then click "Make this the default identity". Optionally, select "Save password in My Keystore" if you want the password stored on your machine:

Finally, click Finish. You should see a status dialog for a few seconds.

Note: If you have chosen to save your password, click "Next" instead, and follow the prompts to setup a keystore password to protect it.
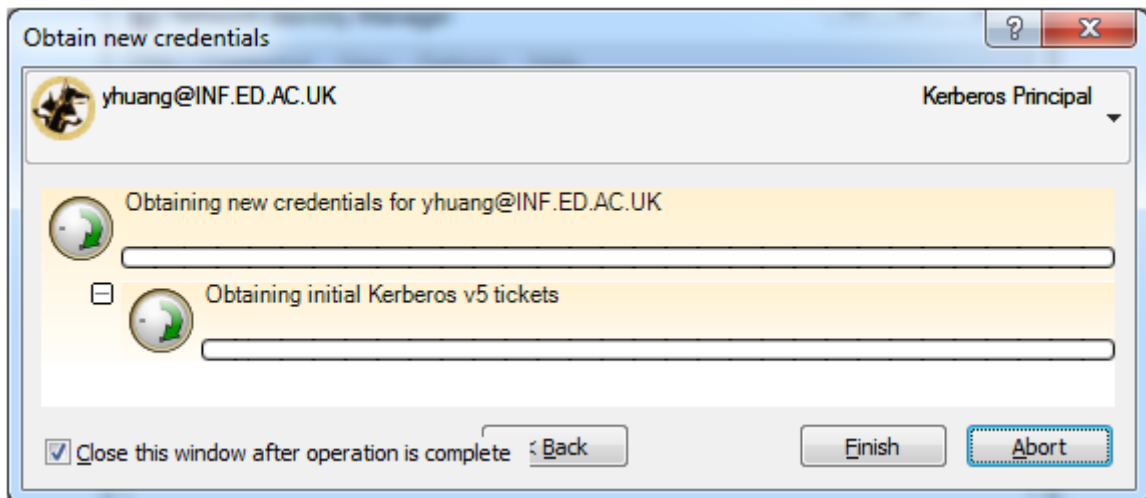
You'll then be returned to the main Network Identity Manager window where there should be a new entry indicating your credentials have been successfully validated and a Kerberos ticket obtained:
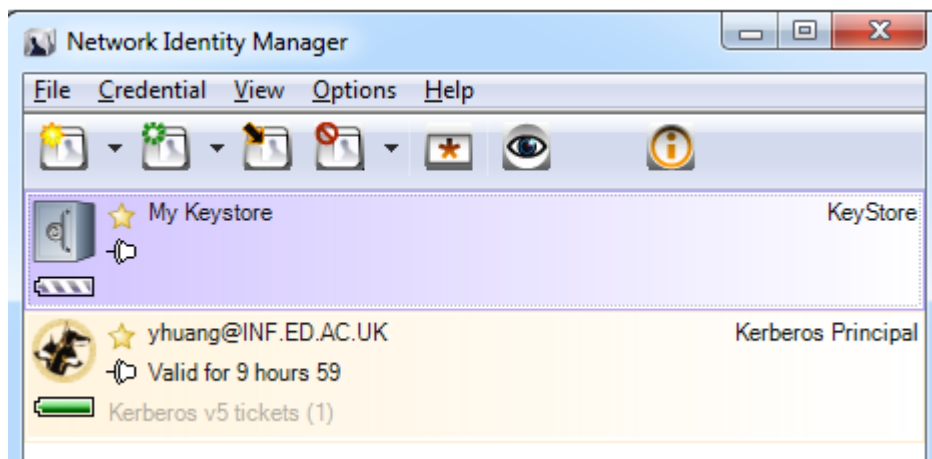
Installing PuTTY

PuTTY can be used to remotely login to Informatics machines and servers from anywhere on the internet using SSH. Where possible, you should use Kerberos authentication instead of keyboard-interactive by setting up Putty to use your Kerberos credentials.

1) **Download PuTTY or its automated installer:**

http://www.chiark.greenend.org.uk/~sgtatham/putty/download.html

The easiest option is to just save putty.exe on its own to a location of your choice, though there is also a Windows installer package.

2) **Setup PuTTY to work with Kerberos:**

To start off, run the PuTTY executable, and then enter one of the following into the **Host Name** box. Put whatever you want the connection to be called in the **Saved Sessions** box, though we'd recommend keeping it the same as the Host Name:

student.ssh.inf.ed.ac.uk   for taught students

**staff.ssh.inf.ed.ac.uk**   for staff and research students
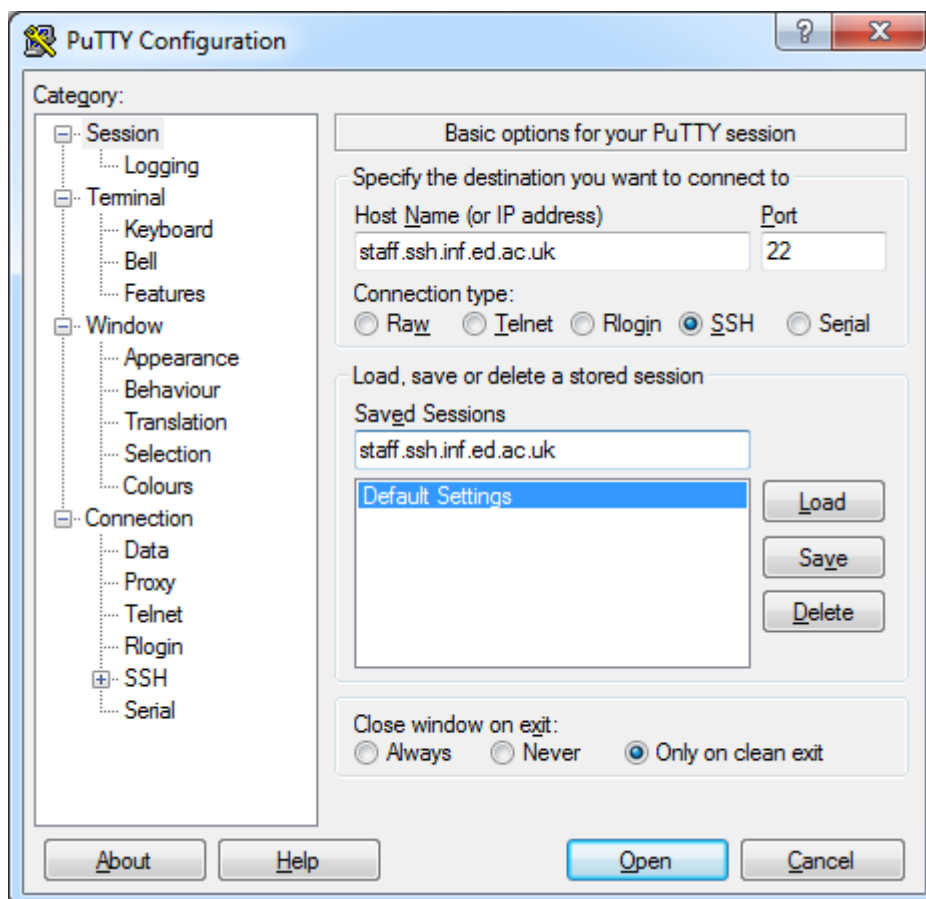
Leave the remaining options as-is for now.

From the Category menu on the left, select **Data** under **Connection**. If you are the only user of your machine, enter your DICE username in the **Auto-login username** box. If the user account on your machine is used by multiple people, it's best to leave this box blank.
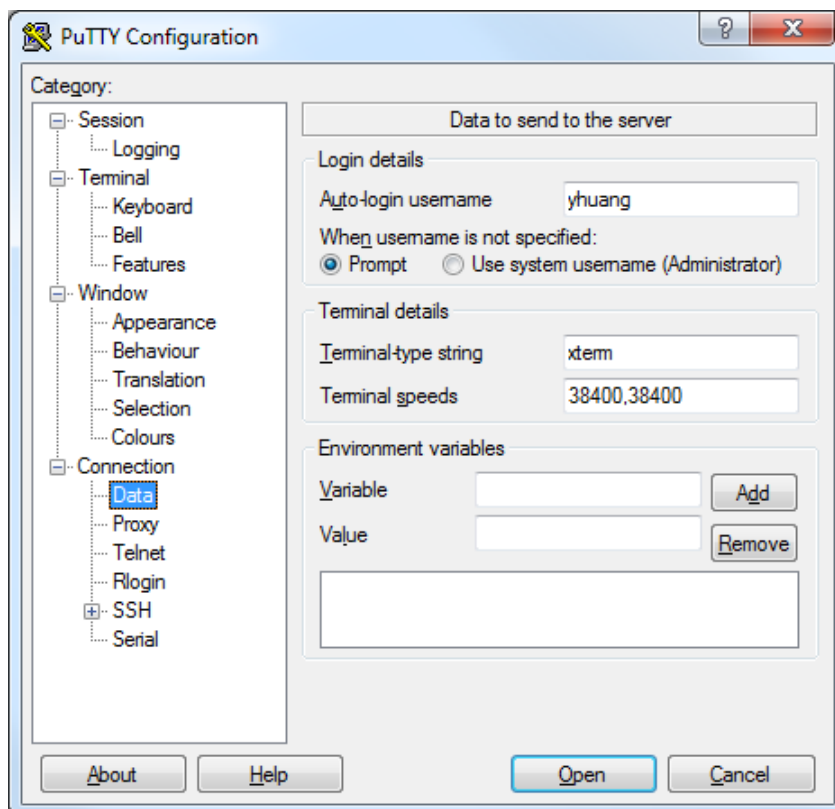

Again from the Category box, expand the **SSH** group, then the **Auth** group and finally select **GSSAPI.** In this window, tick the **"Allow GSSAPI credential delegation"** box.
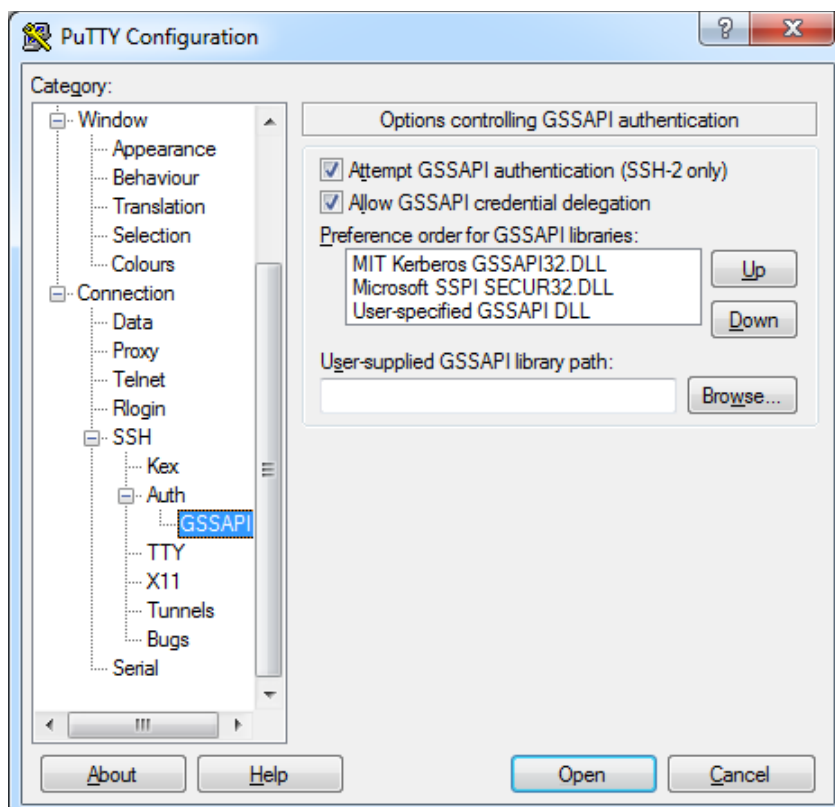
Then, click **Browse** and select the **gssapi32.dll** of your Kerberos installation. On 32-bit systems this will normally be **C:\Program Files\Heimdal\bin\gssapi32.dll**. On 64-bit Windows, this file will normally be **C:\Program Files (x86)\Heimdal\bin\gssapi32.dll.** Finally, select the **User-specified GSSAPI DLL** entry in the **Preference order** box and then click **Up** twice so it is top of the list:
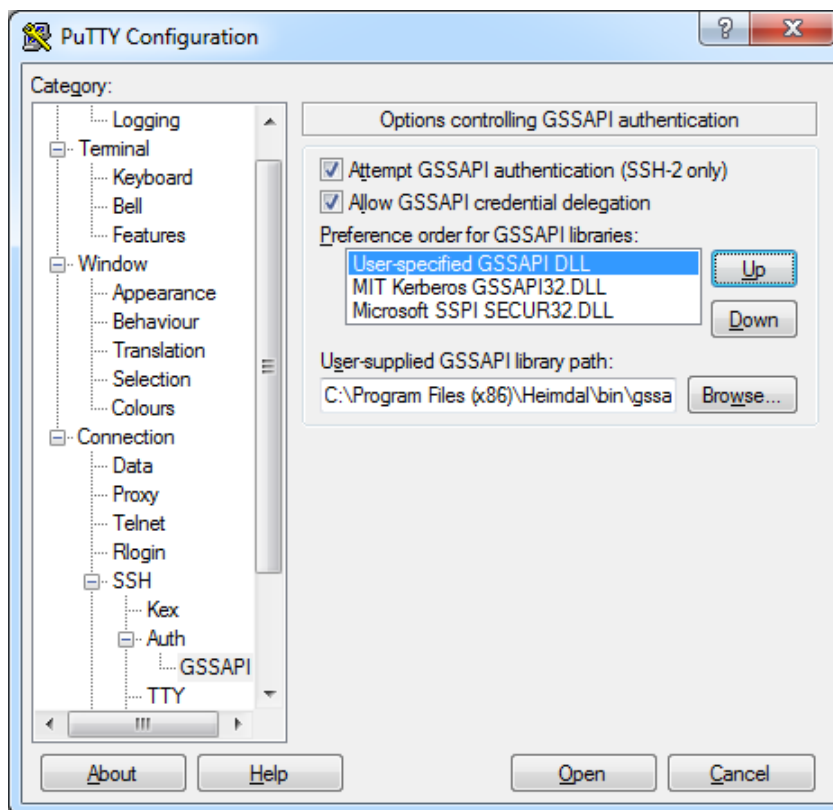

If you wish to use X11 forwarding (i.e. running graphical X window applications remotely), navigate down to the **X11** entry under **SSH**, select the **Enable X11 forwarding** checkbox and enter **localhost:0** for **X display location**. You will need to have an X11 server installed on your local computer first.
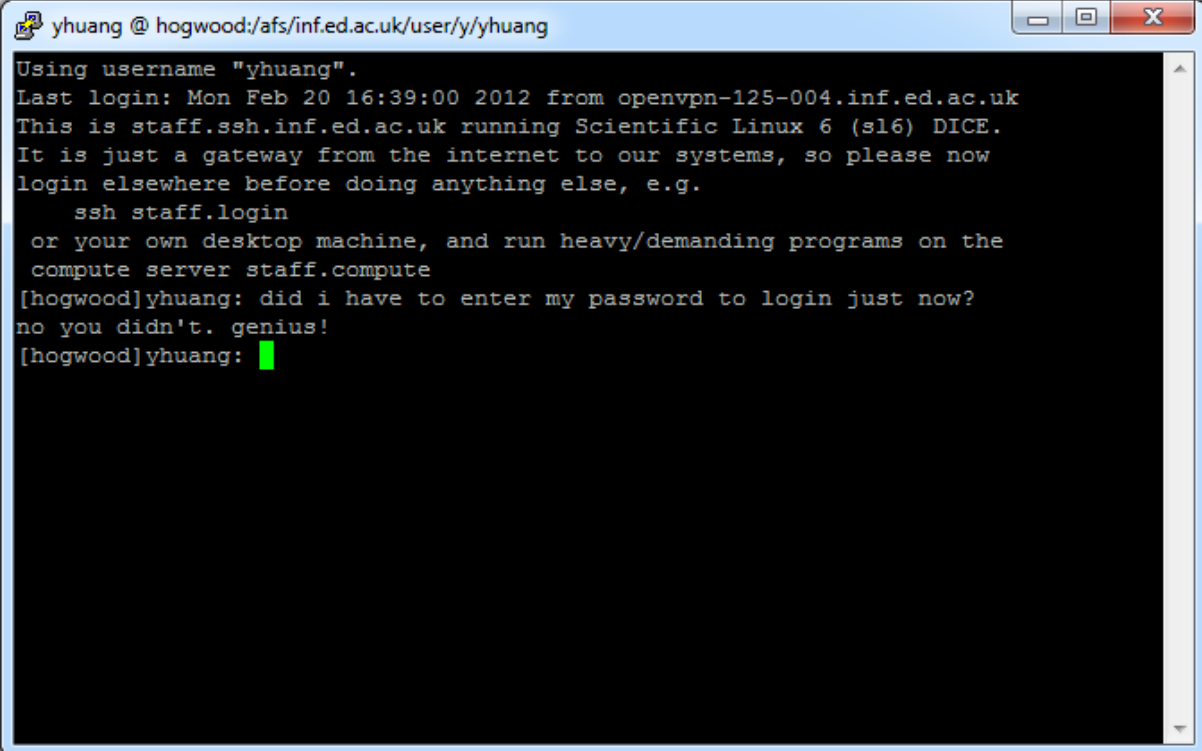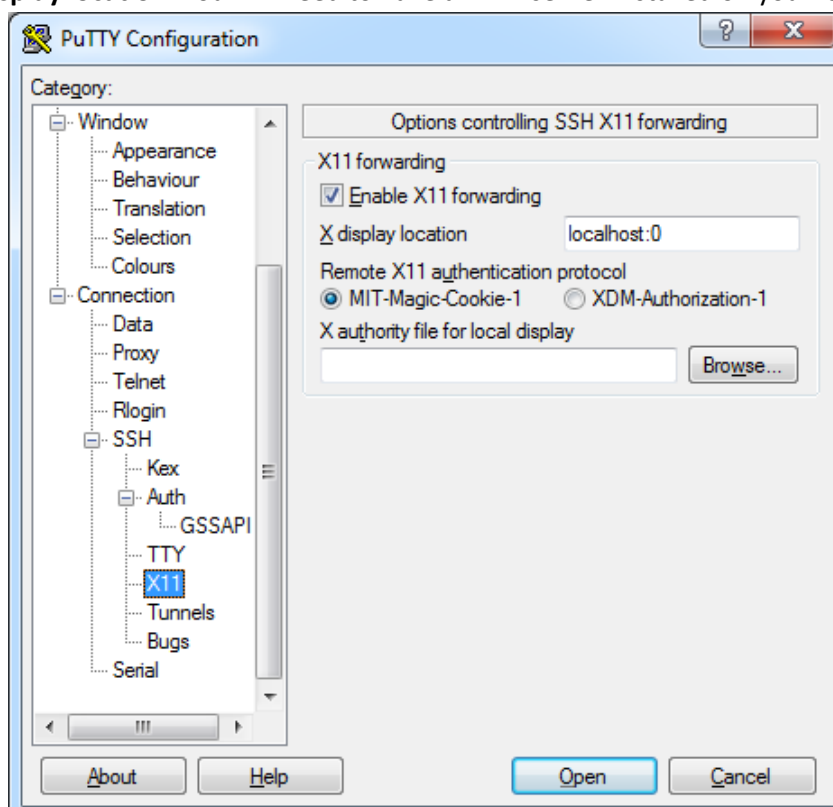
If you wish to use port-forwarding and tunnelling, e.g. for remote VNC access, navigate to the **Tunnels** page under **SSH** and enter the ports as required (the following is only an example):
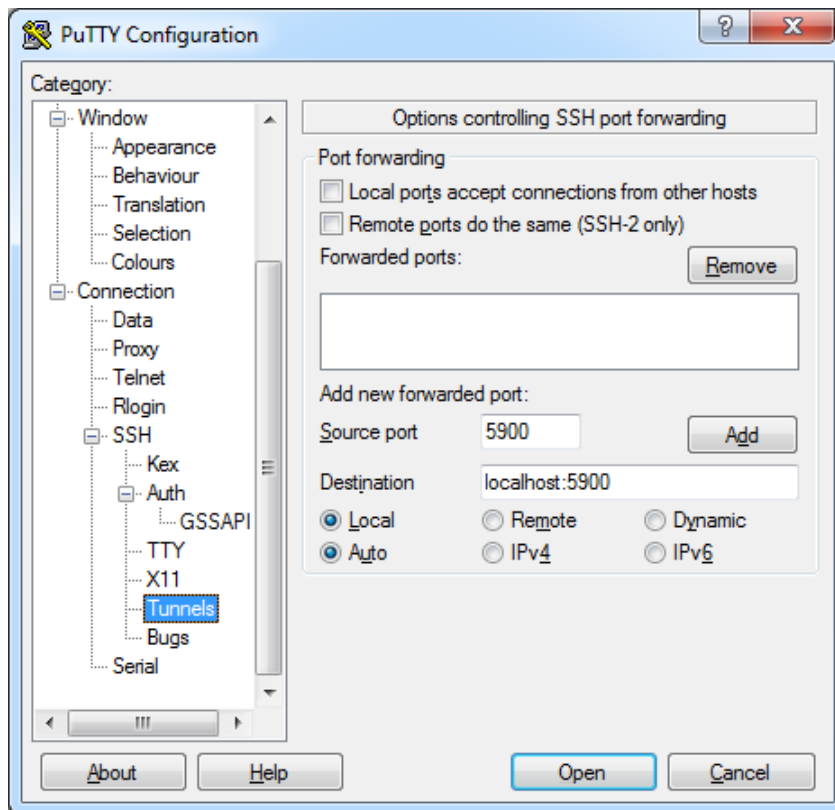
Finally, navigate back to the **Session** page and click **Save**:
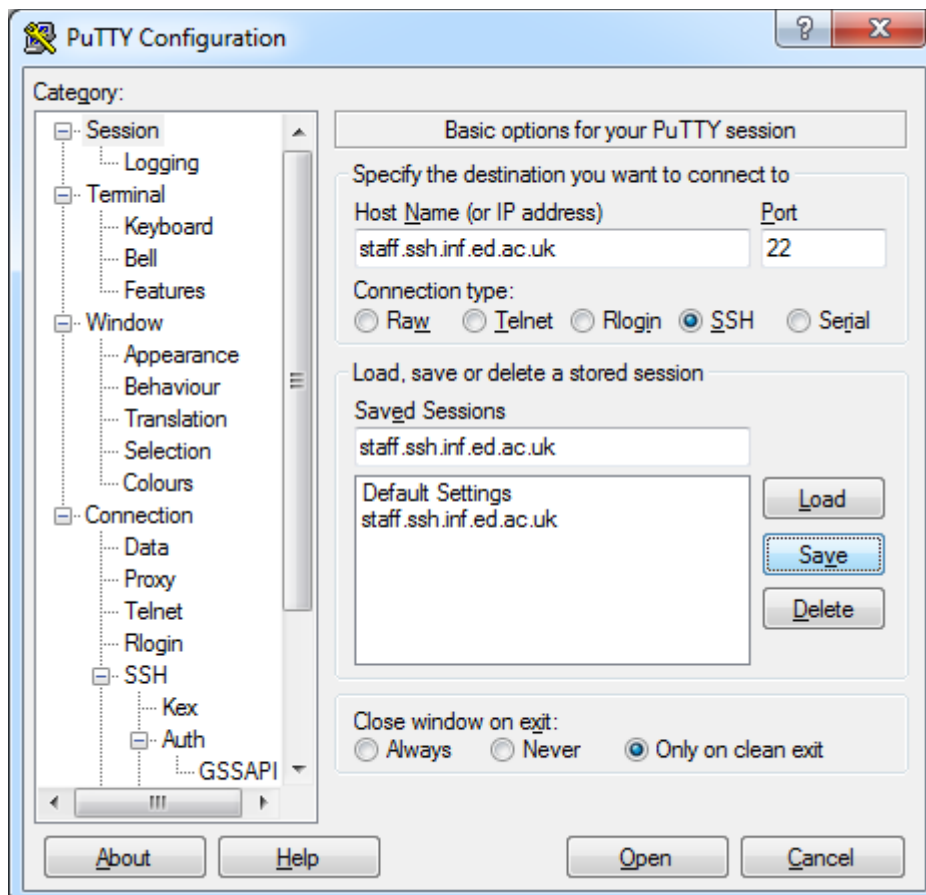
From now on, when you start PuTTY, you can just double-click your connection entry in the **Saved Sessions** list to automatically connect, authenticate, and open a terminal session, without you having to type your username and password each time:


```
yhuang @ hogwood:/afs/inf.ed.ac.uk/user/y/yhuang

Using username "yhuang".
Last login: Mon Feb 20 16:39:00 2012 from openvpn-125-004.inf.ed.ac.uk
This is staff.ssh.inf.ed.ac.uk running Scientific Linux 6 (sl6) DICE.
It is just a gateway from the internet to our systems, so please now
login elsewhere before doing anything else, e.g.
    ssh staff.login
 or your own desktop machine, and run heavy/demanding programs on the
 compute server staff.compute
[hogwood]yhuang: did i have to enter my password to login just now?
no you didn't. genius!
[hogwood]yhuang:
```

Note that if you haven't already authenticated via Kerberos you'll be asked to enter your Kerberos credentials the first time you run PuTTY after you start your computer.