Setting up a web based VNC server

VNC or Virtual network Connection usually requires a VPN or virtual private network to be set up in order to function across the internet. However this is not always practical. I have been trying to implement a service on my machine that would allow me to access my machine form a remote location. I already use SSH but would also like a graphical Solution. The solution must be secure, using SSH tunnelling if possible.

I decided the most likely solution would be a java applet embedded within a web page. Before setting about trying to write one, i first did a web search and found that SSHtools.org have an applet designed for this task on their web page. Having downloaded and obtained the relevant resources I set about setting up the required services.

I already have an Apache server running, and have TightVNC installed but not running as a daemon. My internet services daemon is Xinetd so in order to make tightvnc listen for a connection created the file /etc/xinetd.d/vnc

/etc/xinetd.d/vnc

```
# default: off

# description: This serves out a VNC connection which starts at a KDM login \

# prompt. This VNC connection has a resolution of 1024x768, 16bit depth.

service vnc10 {

disable = no

socket_type = stream

protocol = tcp

wait = no

user = nobody
```

```
# server = /usr/X11R6/bin/Xvnc
server = /usr/bin/Xvnc
# server_args = :42 -inetd -once -query localhost -geometry 1024x768 -depth 16
server_args = :42 -inetd -once -query localhost -geometry 800x600 -depth 16
type = UNLISTED
# port = 5910
port = 5901
}
service vnchttpd10 {
disable = no
socket_type = stream
protocol = tcp
wait = no
user = nobody
server = /usr/X11R6/bin/vnc_inetd_httpd
# server = /usr/bin/Xvnc
server_args = 800 600 5901
# server_args = -inetd -httpport 5910 -httpd /usr/share/vnc/classes
type = UNLISTED
# port = 5810
port = 5801
```

```
}
```

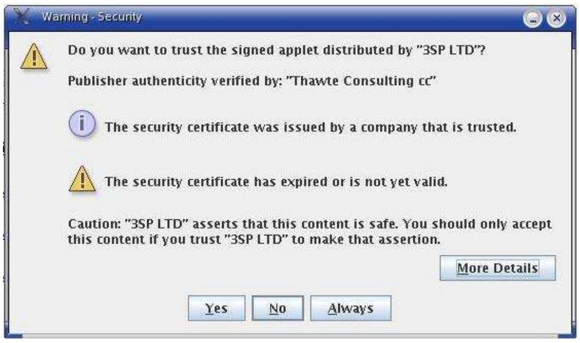
and then restarted the xinetd server with

>> */etc/init.d/xinetd restart*

I then extracted the ssh-applet archive into a directory within the webserver.

```
cd /var/www/html
>> tar xvzf SSHVnc-applet-0.1.13.tar.gz
```

this created the directory sshvnc-applet
Now by adroitness a web browser at 127.0.0.1/sshvnc-applet/sshvnc-applet.htm the applet could load up and try to connect> it may query a signature like the one below;



Warning - Security

Do you want to trust the signed applet distributed by "3SP LTD"?

Publisher authenticity verified by: "Thawte Consulting cc"

The security certificate was issued by a company that is trusted.

The security certificate has expired or is not yet valid.

Caution: "3SP LTD" asserts that this content is safe. You should only accept this content if you trust "3SP LTD" to make that assertion.

This psi a certificate for the company who made the applet and will do no harm.
The applet should then begin to load;

At this stage however it requests a lot of parameters that are unnecessary, in order to lessen this I added the following lines to the applet section of sshvnc-applet.htm

```
<param name="sshapps.connection.connectImmediately" value="true">

<param name="sshapps.connection.host" value="127.0.0.1">
```

```
<param name="sshapps.connection.userName" value="">

<param name="sshapps.connection.showConnectionDialog"
value="true">

<param name="sshapps.connection.authenticationMethod"
value="password">

<param name="sshvnc.connection.vncHostDisplay"
value="localhost:5901">
```

For the purposes of testing the host values are set to 127.0.0.1 Having confirmed that the applet functions correctly, this value is then altered to reflect the web address of the server so

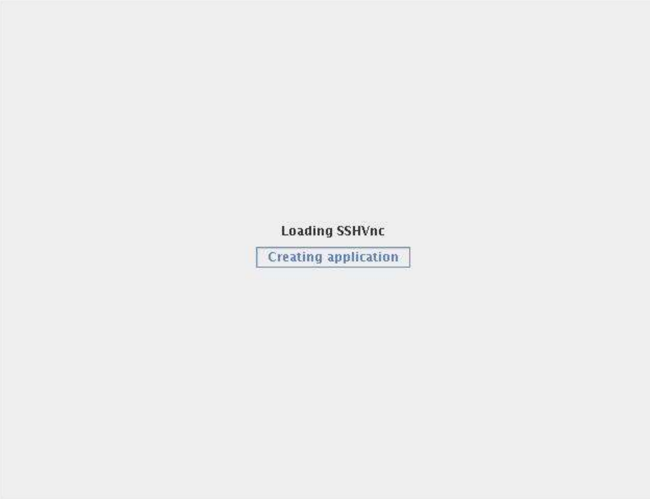
```
<param name="sshapps.connection.host" value="127.0.0.1">
```

should read

```
<param name="sshapps.connection.host" value="my.website.com">
```

This change will allow any computer to access the applet, and as long as they have the necessary authentication details they will be able to log into the machine and start a vnc session.

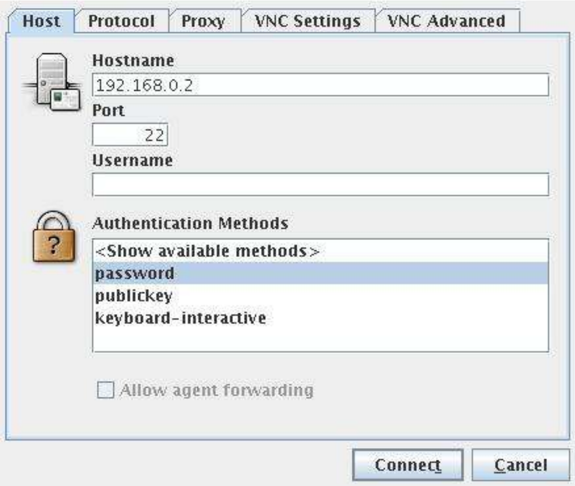
The applet will start to build the session before it has actually connected;



Loading SSHVnc

Creating application

Then the connection settings dialogue will appear. It psi important that the User changes to VNC Settings and changes the radio button from Windows to Linux, otherwise it will not connect.

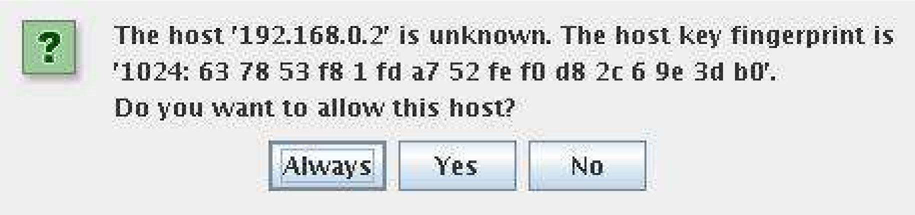


Hostname
192.168.0.2
Port
22
Username

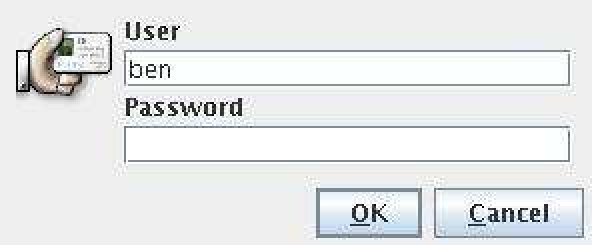
Authentication Methods
<Show available methods>
password
publickey
keyboard-interactive

☐ Allow agent forwarding

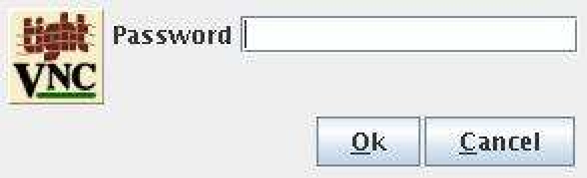
The system may then request advice on the hosts public authentication key. Clicking no will disable the session, if this happens refresh the page to start again


The host '192.168.0.2' is unknown. The host key fingerprint is '1024: 63 78 53 f8 1 fd a7 52 fe f0 d8 2c 6 9e 3d b0'.
Do you want to allow this host?

The User is then asked to enter their user name and password. This is their user name for the PC which they are trying to access.


User
ben
Password

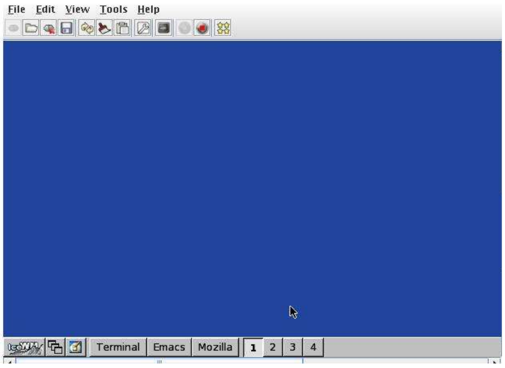
Dependant on the set-up of the vncserver the following dialogue may appear, this requests authentication to use the VNCServer.



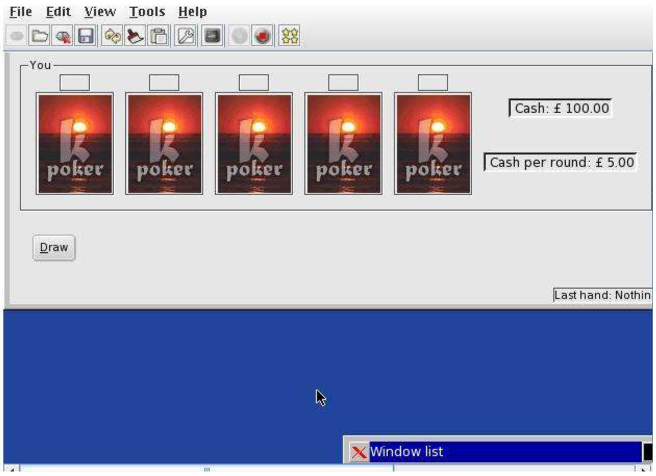
Password

In order to set this password, either use the users account and run the command vncpasswd to set a password for them. Or to set a single password system wide run this command as root

Assuming all the authentication details were correct the VNC session should now connect. You should see a screen similar to the one below.



Because of the graphics restrictions of streaming VNC across the internet, the default Window manager used is ICEWM. As you can see the desktop is completely blank. Although this may not be the users usual interface, it is perhaps the best suited for VNC, KDE and Gnome are very graphics intensive.



You can then use the applet window the way in which you would use the computer if you were sitting at it. You may need to use the applets scroll bars to move about the windows but this does improve the performance as the server only streams the area of the screen you are focused upon

Bibliography

http://www.apache.org

http://www.sshtools.org

http://network.gouldacademy.org/misc/sshvnc/sshvnc.html