Secure Shell Virtual Network Computing

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2017-05-13

Minimal Requirements

- IPv4 Networking
- SSH-2 Client
- VNC Client
- 2 PCs

Recommended Requirements

- IPv4 Networking
- OpenSSH 6.7p1 or later or PuTTY 0.69 or later
- Remmina 1.1.0 or newer or 1.2.1.2 or newer
- Laptop Running
  - Debian 8 or newer or Ubuntu 16.04 or newer
  - Windows 7 or newer
- Raspberry Pi B series
  - Class provided image on SD Card

Get Software

- Windows
  - http://www.uvnc.com/downloads.html
  - http://www.chiark.greenend.org.uk/~sgtatham/putty/latest.html
  - Install the MSI Files
- Debian & Ubuntu

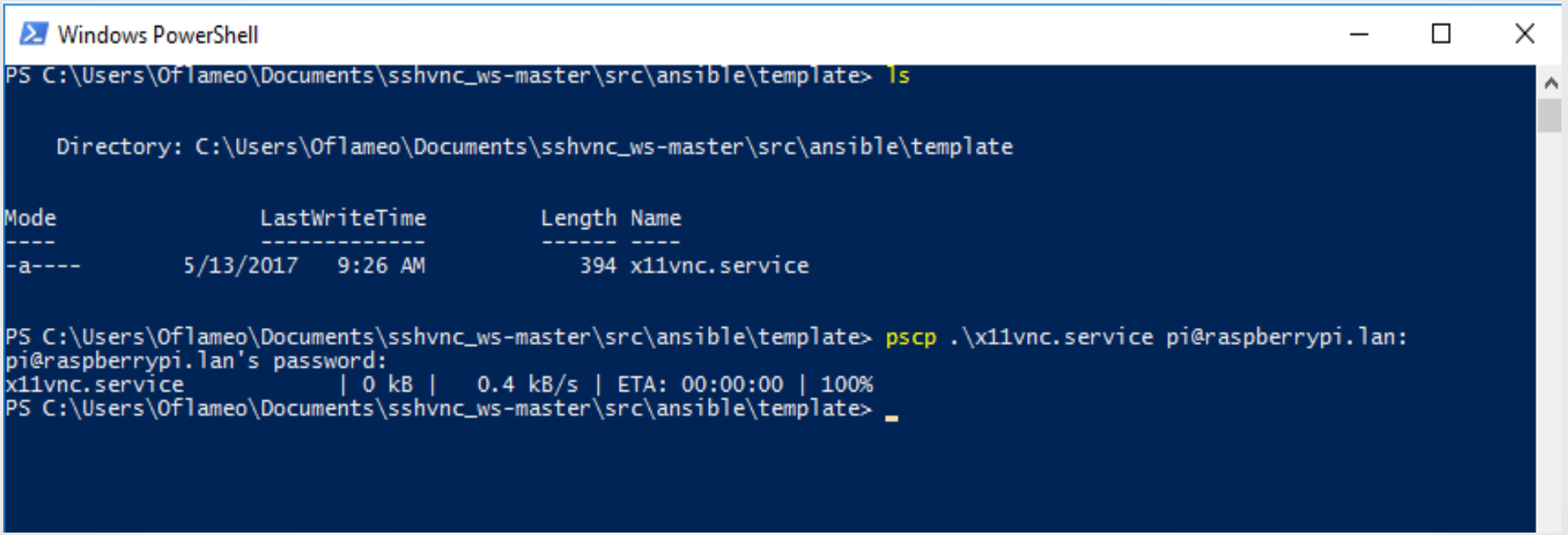
  sudo aptitude update

  sudo aptitude install ssh remmina

Move the Unit file to the Pi

```
cd sshvnc_ws/src/ansible/template/
scp x11vnc.service pi@$PINAME:
```

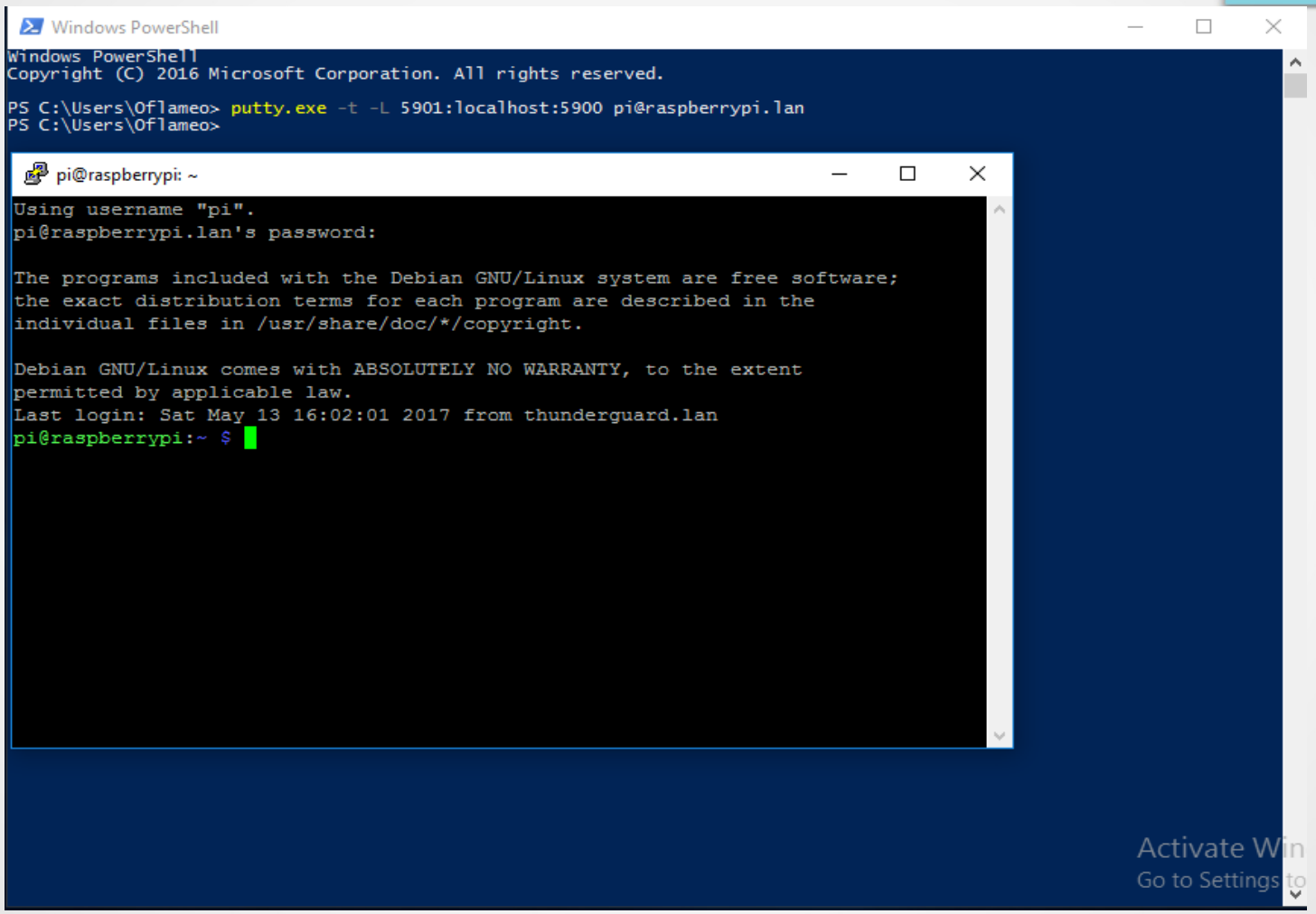
Windows Move the Unit file to the Pi



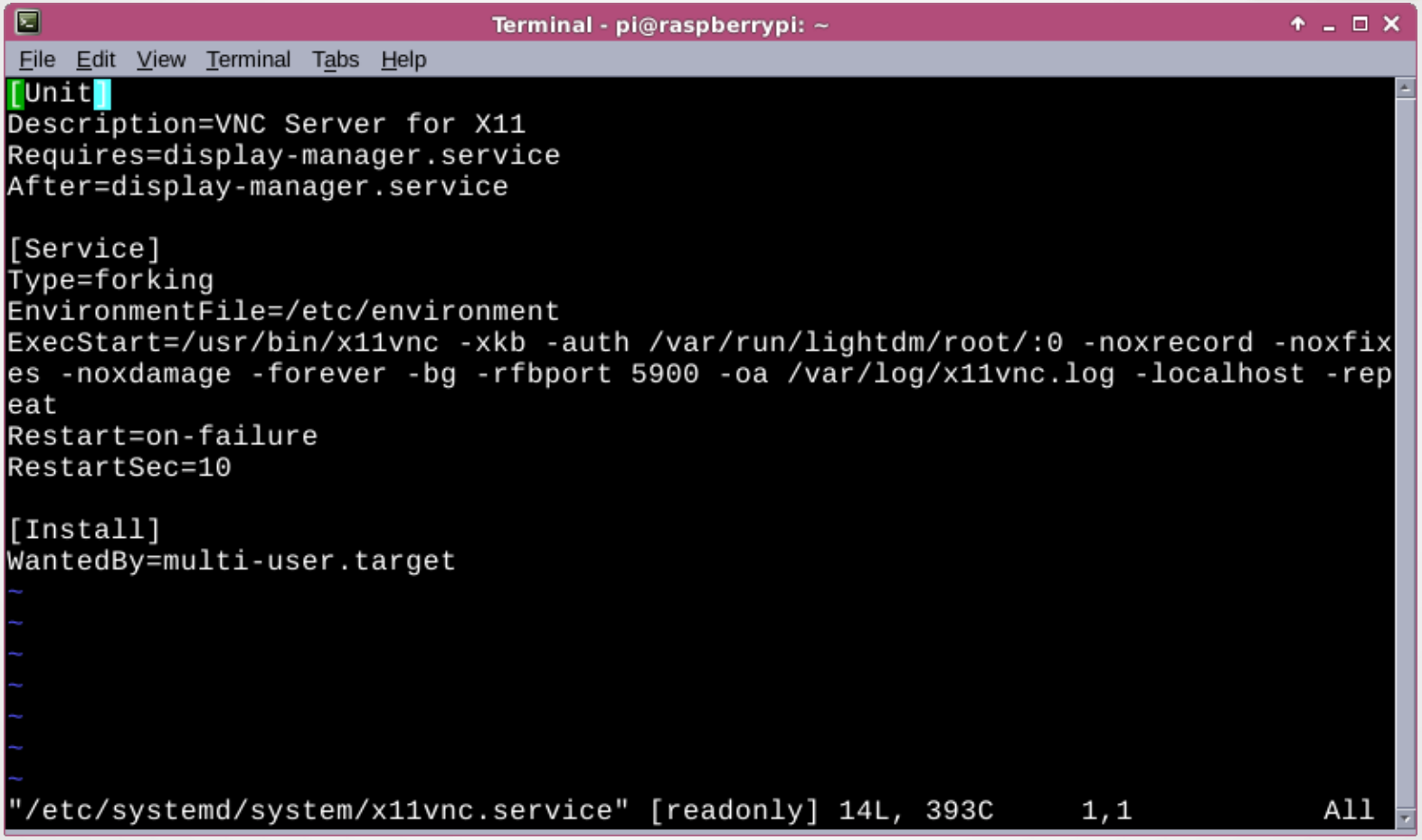
Connect to Pi

```
ssh -t -L 5901:localhost:5900 pi@$PINAME
```

Windows Connect to Pi



vim x11vnc.service



X11vnc options

- xkb : enable modifier tweaking mode
- auth : guesses where XAUTHORITY file is
- noxrecord : disable any use of the RECORD extension
- noxfixes : do not use the XFIXES extension to draw the exact cursor shape even if it is available
- noxdamage : do not use the X DAMAGE extension to detect framebuffer changes even if it is available
- forever : keep listening for more connections rather than exiting as soon as the first client(s) disconnect. Same as

More X11vnc options

- bg : go into the background after screen setup
- rfbport : the VNC port to listen on
- oa : opens log file in append mode
- localhost : Only allow client connections from hosts 127.0.0.1 and ::1
- repeat : enables X server key auto repeat when VNC clients are connected

Get Systemd to load file

sudo mv x11vnc.service /etc/systemd/system

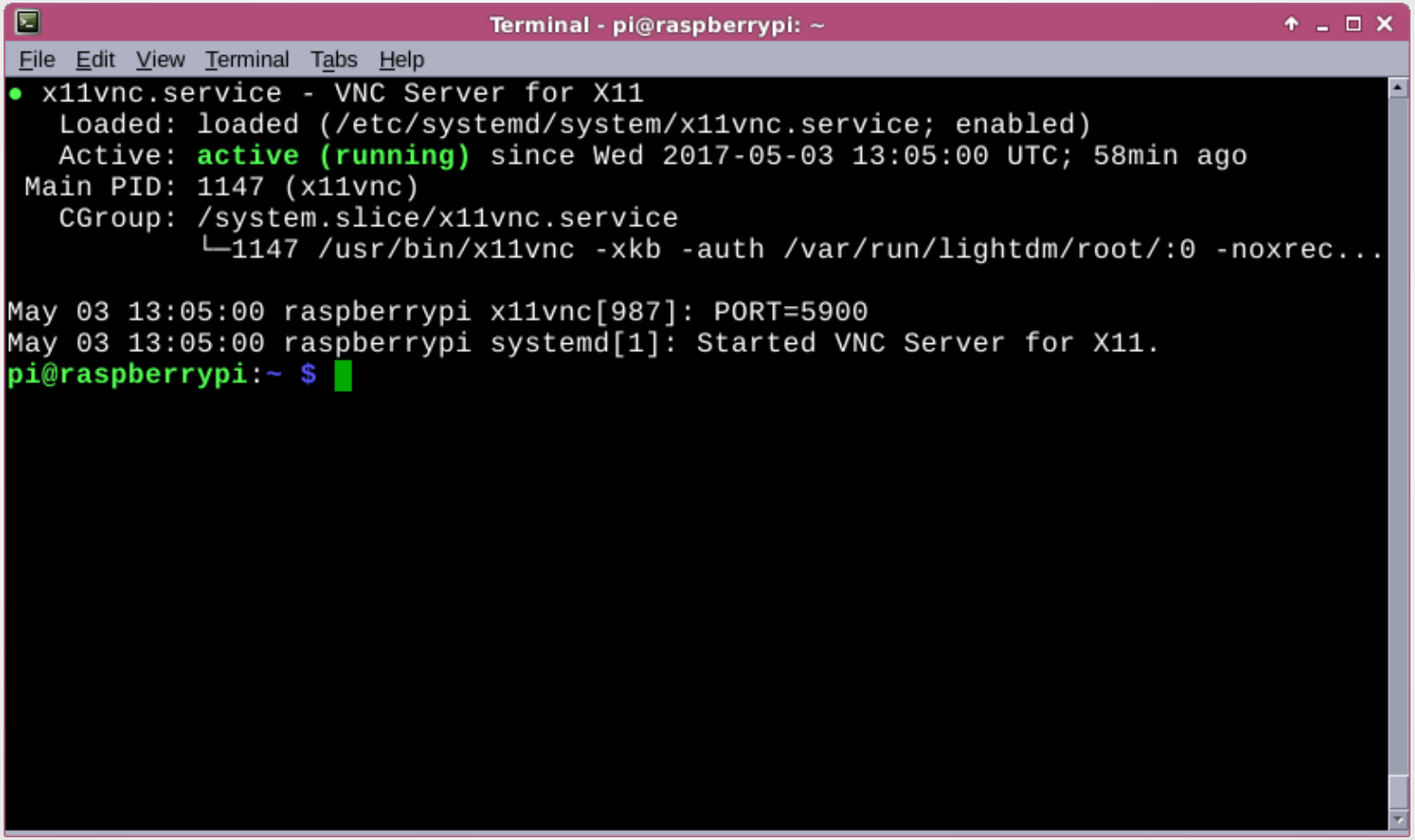
sudo systemctl daemon-reload

systemctl enable x11vnc

systemctl start x11vnc

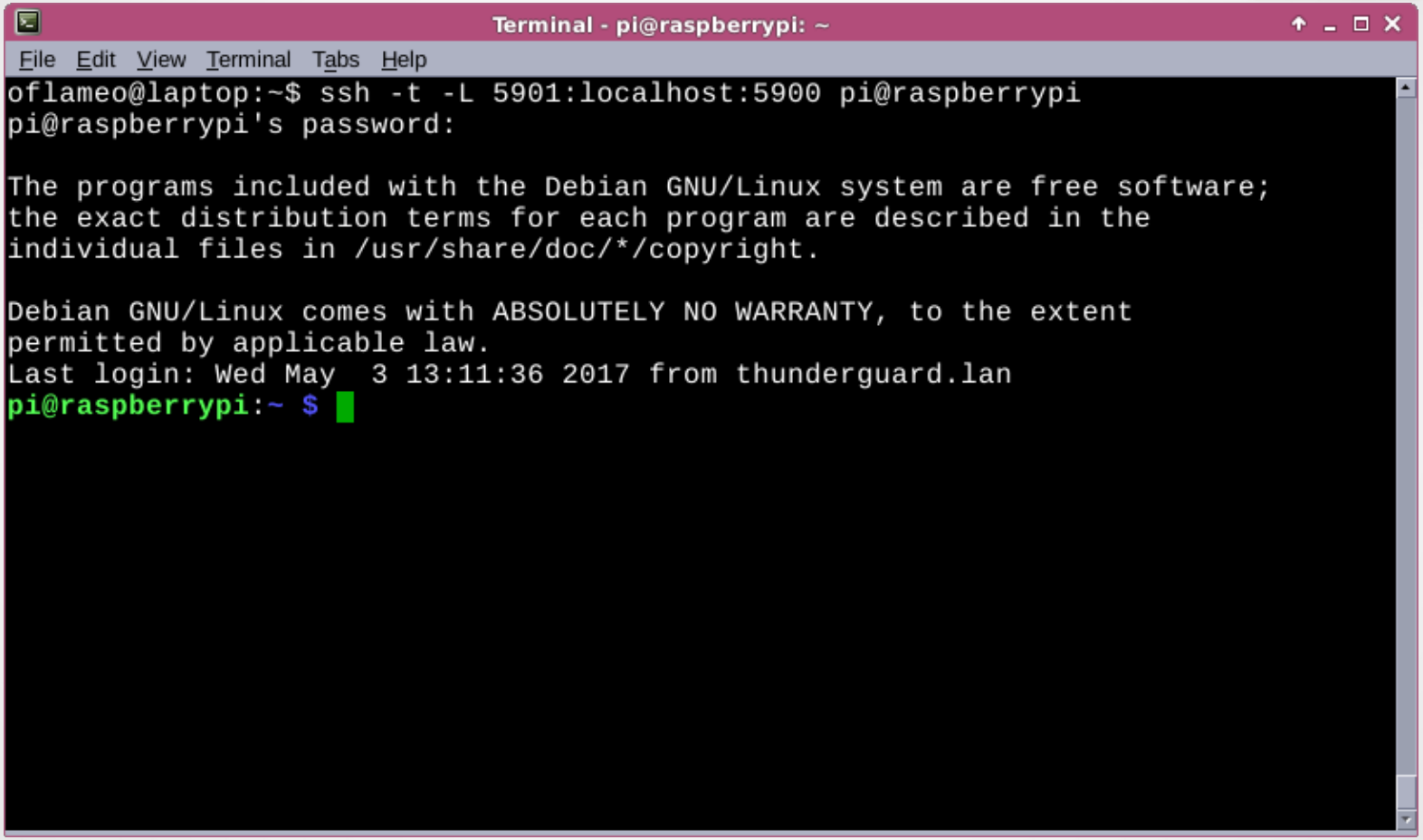
systemctl status x11vnc

Status should show running

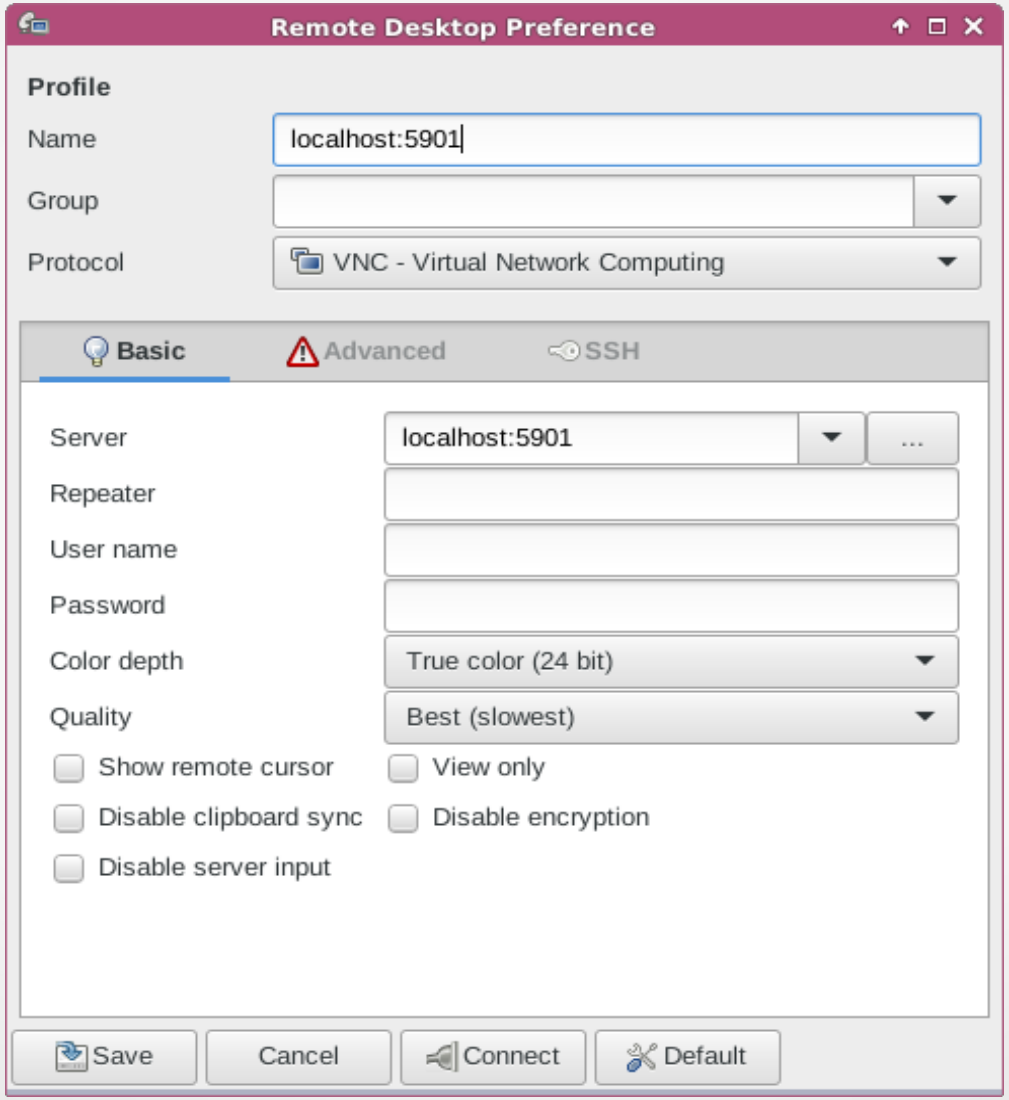


Disconnect from Pi

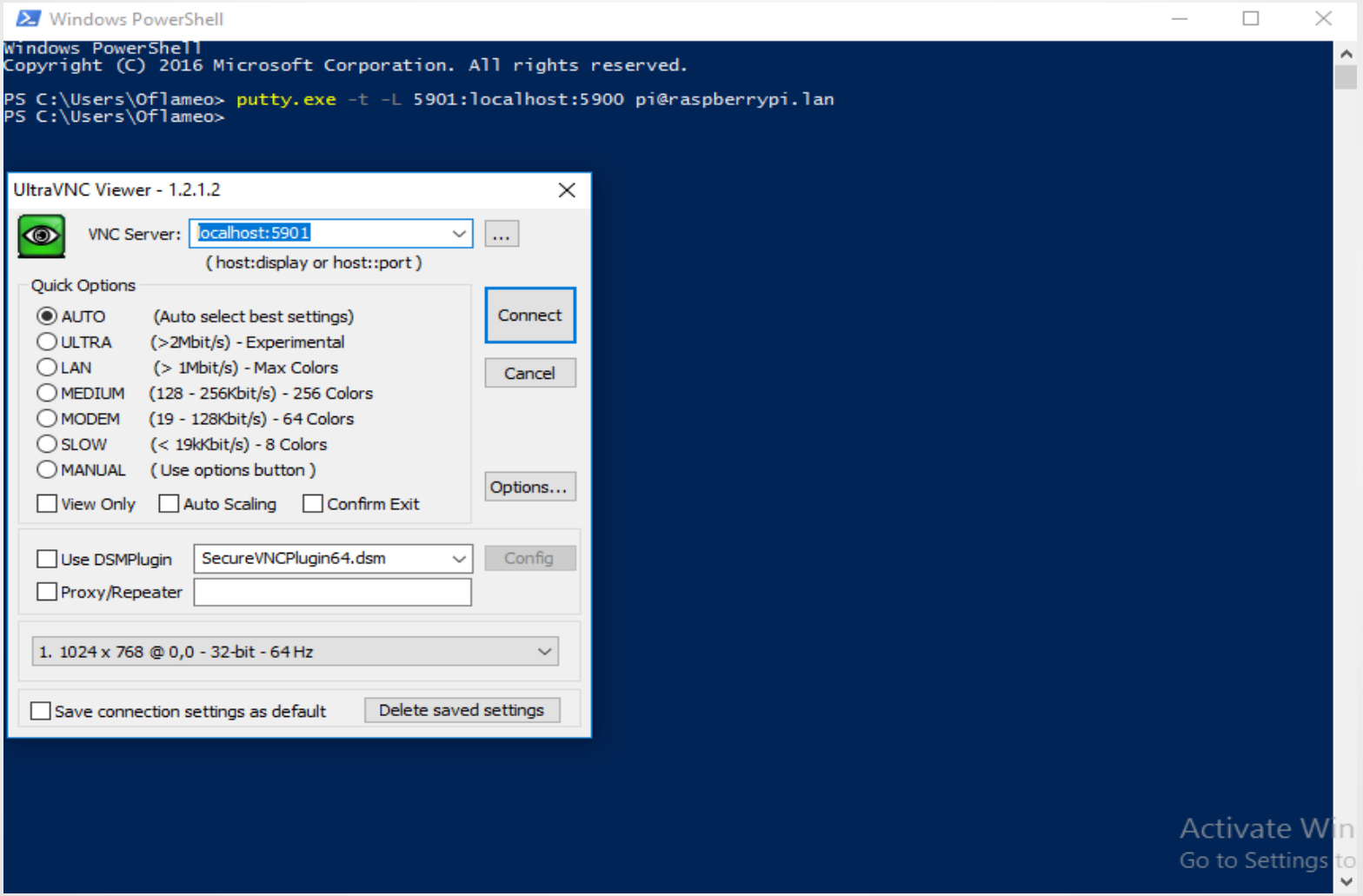
Connect to Pi Again



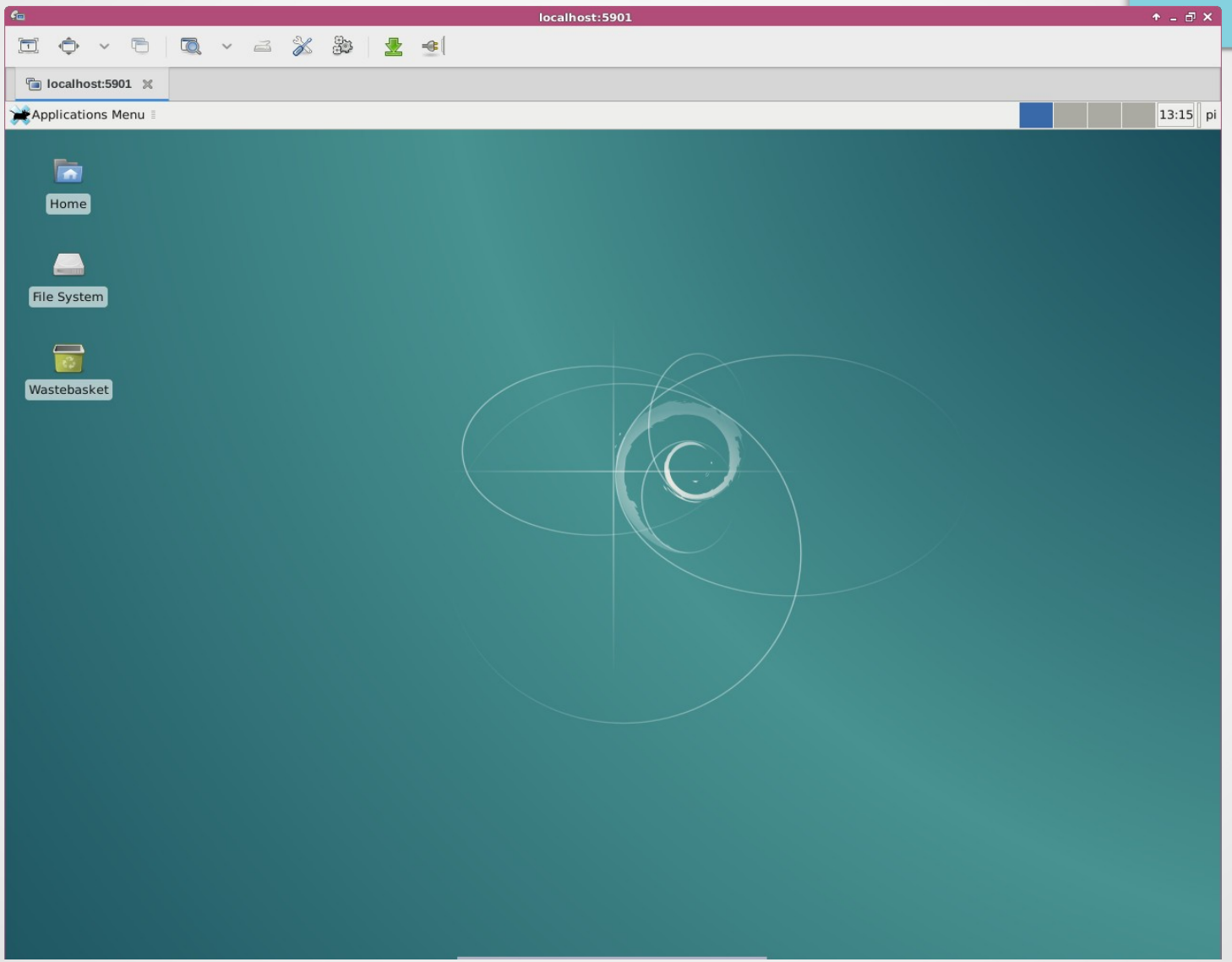
Configure new VNC connection



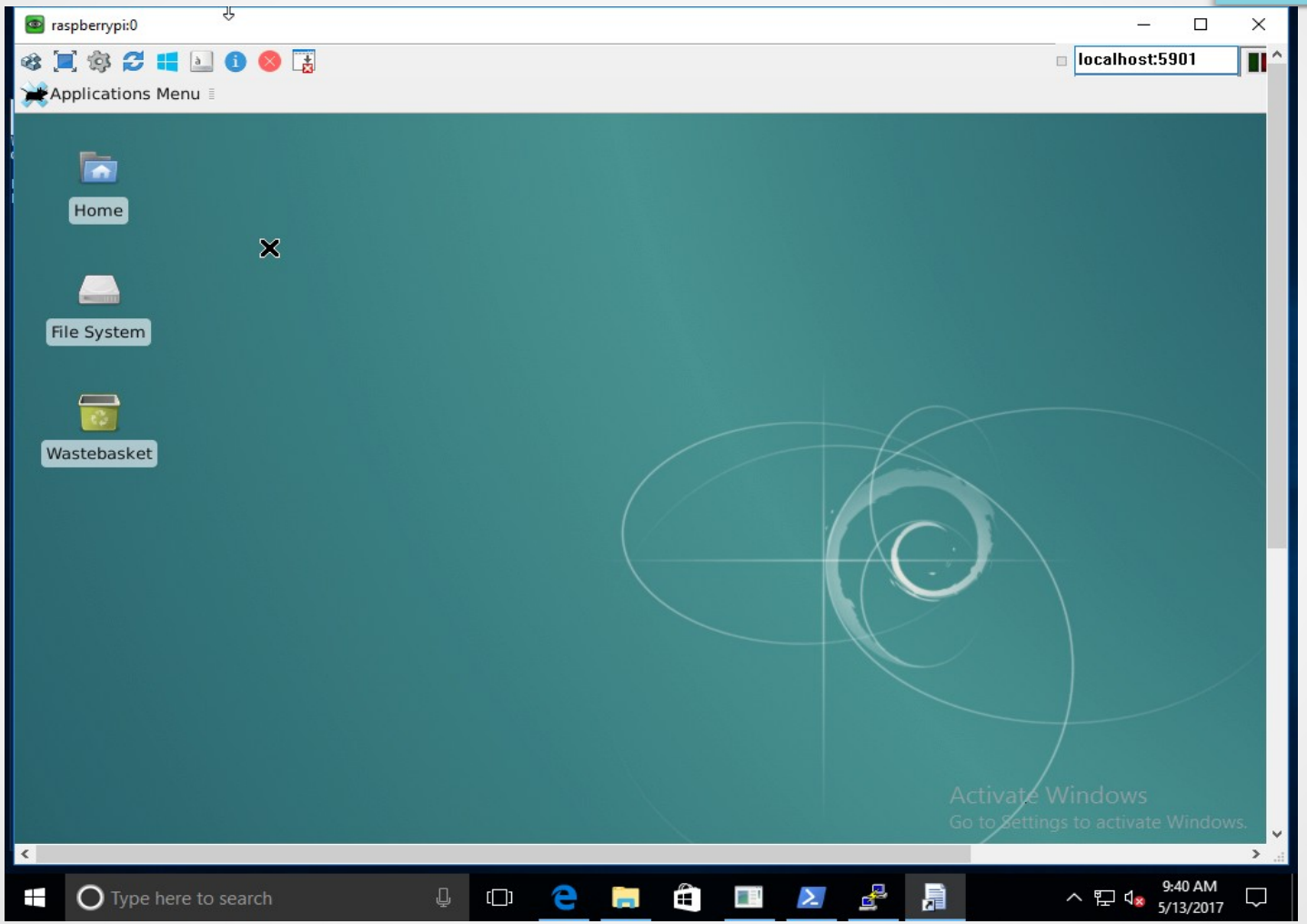
Windows Configure new VNC connection



Connect to VNC



Windows Connect to VNC



Sources

- man 1 x11vnc
- man 1 ssh
- man 5 systemd.unit
- https://wiki.archlinux.org/index.php/x11vnc
- http://www.hackpittsburgh.org/wiki/index.php?title=ComputerStuff
- https://www.lxtreme.nl/blog/headless-x11/