

A Headless Linux Server for a Windows User

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I have a Linux box in a closet that acts as a media server. I access it remotely, and for me that means using Remote Desktop.

These are the manual steps: I haven't bothered to automate this. I only do this for one machine, and only once every year or two. Which is also why I wrote up these instructions in the first place – I'm not going to remember it all after two years.

Summary

- Download the ISO for Ubuntu 16.04 LTS.
- Use YUMI to make a bootable USB drive and install.
- Give the machine a static IP address.
- Permanently mount the NTFS drive.
- Install Samba and share the media drive
- Install xrdp
- Install the media server
- Check security settings
- Restore USB drive

Background and Preparation

This started when I got a Slim Devices SqueezeBox to stream music at home. I needed a server to store and server the music. I also wanted to play with Linux. The data drive could act as a backup of the data on my main PC. The server ended up in a closet, so after the initial setup, I just wanted to access the thing remotely.

I reinstall the OS when a new LTS ("long term support") release comes out. I want to keep current with security updates. In the past, trying to update to a new version has often broken remote access as system security has evolved. So, I find it simpler to reinstall the OS.

I prefer to use NTFS for the data drive. That way when I access it remotely from my PC I don't get surprises from case sensitivity, etc. Also for initial setup, I can just put the drive in a toaster connected to my PC to format it and copy the data directly. This is much faster than copying all the files over the network.

I want to have only one setup session sitting at the server before it goes into the closet and is accessed remotely.

And just for style points, I want very few reboots during the setup process. When I was looking for the information to set up my server, I was surprised at how often people would say to reboot the machine just to restart a service. That seemed at odds with Linux. (On the other hand, I do want to reboot after security updates to be sure the system processes are running with the updates.)

The server box is pretty simple. It has a little SSD for a system drive that will be wiped clean and the NTFS drive that I've taken off of my PC after copying the data.

Installing Linux

Download the ISO for Lubuntu 16.04 LTS

I'm using Lubuntu flavor of Ubuntu because the Unity desktop in the regular Ubuntu distribution has compatibility issues when setting up remote desktop.

LTS stands for "Long Term Support." In theory, the LTS releases are more stable. They also get security updates for a longer period.

I used to burn the ISO to a CD to install. Now, I use a tool called YUMI to make a bootable USB drive.

Sometimes when installing Linux, I just get a black/purple screen. To fix it:

- When the "rectangle = man" symbols appear, press down-arrow.
- Select English
- Press F6 for Other Options
- Use arrow keys to go to "nomodeset" and press Enter to select it ('x' appears by it)
- Press Esc, and press Enter to "Try Ubuntu without installing."
- You can also try `acpi = off` and `nolapic` if `nomodeset` also shows up as a black screen

Set a Static IP Address

It's optional, but my firewall is set up using IP addresses rather than machine names.

This used to be a pain and involved hand-editing `/etc/network/interfaces` and other files. Now, just click on the network icon in the lower-right corner of the Lubuntu desktop and edit the connection.

Assuming they are on the same subnet, you can type "ipconfig" in the Windows command shell to determine the subnet mask and default gateway. For me, DNS is the same as the gateway. In bash "sudo ifconfig" should provide the same information.

If the static address doesn't immediately work, you can restart the network connection. Use `ifconfig` to determine the connection name if you don't know it. It will be something like "eth0" or "enp3s0". ("lo" is the loopback.) Assuming the former, do "sudo ifdown eth0", "sudo ifup eth0" to restart the interface.

Permanently Mount the Media Drive

We need to do this or the drive may only be mounted/available when a user is logged into the server.

The drive should be mounted and there should be an icon for it on the desktop.

Lubuntu comes with leafpad, but I'm installing gedit because I'm more familiar with it. (Actually, I'm more familiar with Emacs, but let's not go there.)

- `sudo apt-get install gedit`
- `sudo mkdir /media/MyMediaDrive`
- `sudo blkid`

- Note the UUID of the drive to mount – it’s the one with TYPE=“ntfs”
- sudo gedit /etc/fstab and add the following line:
 - UUID=theUuidJustNoted /media/MyMediaDrive ntfs-3g defaults,windows_names,locale=en_US.utf8 0 0
- Unmount drive if mounted – it should be a right-click option on the drive’s desktop icon.
- sudo mount -a

Install Samba and Share the Media Drive

Samba will give access to the media drive as if it were a network share on a Windows server. This will let me easily update the media files on the file, or use a folder on the drive to backup other documents.

- sudo apt-get install samba
- sudo gedit /etc/samba/smb.conf
- Add a block for the share at the bottom of the file:
 - [MyMediaDrive]
 - path=/media/MyMediaDrive
 - available=yes
 - read only=no
 - browsable=yes
 - public=yes
 - writable=yes
- sudo service smbd restart

Install xrdp

Now to make things so I can remote into the server. This used to be terrible to set up. Way back when, I had to have an X-session already running to remote in. That required setting up the system with auto-logon, which I hated. Then VNC removed that requirement, but was difficult and didn’t work well. Now it’s down to two commands:

- echo lxsession -s Lubuntu -e LXDE > ~/.xsession
- sudo apt-get install xrdp

I create .xsession file first so xrdp picks it up on install and doesn’t need to be restarted. If you need to restart the service do “sudo service xrdp restart”. If Lubuntu changes their default desktop, the arguments to lxsession above may need to be updated.

Install the Media Server

This part is to install the server for SqueezeBox protocol. Most people will not want this.

As of this writing, the download page is:

<http://downloads.slimdevices.com/nightly/?ver=7.9>

Download the appropriate .deb file.

To restart the server after installing: sudo /etc/init.d/logitechmediaserver restart

Check Security Settings

(Sorry, this part is private.)

Restore the USB drive

If you used YUMI to turn a USB drive into a bootable Ubuntu drive, this is how to turn it back into a data drive using Diskpart in Windows (be careful!):

- Open a command Prompt as administrator (cmd.exe)
- Type Diskpart and press Enter
- Type List Disk and press Enter
- Type Select Disk X (where X is the disk number of your USB drive) and press Enter
- Type Clean and press Enter
- Type Create Partition Primary and press Enter
- Type Active and press Enter
- Type Format fs=Fat32 Quick and press Enter
- Type Exit and press Enter