

# Creating A Home Media & File Server With Ubuntu

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This HOWTO will give you the BEST home media and file server out there at a cheap (free) cost. It includes SSH2, Remote Desktop, UPNP/DLNA server, SAMBA Shares (Windows file-sharing), VPN server, and the Transmission bit-torrent server. The final piece of the schema is a new toy: Subsonic. This gives you web-based media streaming to watch your content anywhere via a web-browser.

Whilst Ubuntu may be installed on all sorts of hardware specifications, I recommend that you have no less than a 1GHZ dualcore machine (old AMD's work great!), 2GB of RAM (I have 4GB), 40GB dedicated hard-drive space for Ubuntu, and an internet connection of decent speed (no old dial-up!). I have an AMD dualcore x64, 4GB of RAM, 40GB hard-drive dedicated to Ubuntu, two 2TB hard-drives for storage, and one 500GB hard-drive just for emergencies if space gets low.

## Let's start!

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Install Ubuntu 11.10. I recommend this being on its own hard-drive. I used a 40GB hard-drive partitioned with EXT4 at / with 32GB of space. The remaining 8GB was partitioned as SWAP space. Once Ubuntu is installed, reboot into the system and run Software Update to install all of the latest packages. Reboot once more so that we are working from the latest kernel and software suites going forward.

Name :- \_\_\_\_\_XXXXXXXXXX\_\_\_\_\_

Server Name :- \_\_\_\_\_XXXXXXXXXX\_\_\_\_\_

Username :- \_\_\_\_\_xxxxxxx\_\_\_\_\_

Password :- \_\_\_\_\_xxxxx\_\_\_\_\_

## NETWORK:

---

Subnet IP :- 192.168.1.0/24

Address :- 192.168.1.\_\_\_\_

Gateway :- 192.168.1.1

Name Server :- 192.168.0.0

Domain :- 8.8.8.8

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## Root Password Change:

---

Open up Terminal.

Type

```
Sudo su
sudo passwd root
root@1234
```

so that we have root control. The password you used when setting up the Ubuntu user account will work for this.

Edit /etc/gdm3/custom.conf

Add

```
AllowRoot=true
```

To install the Desktop software package type:

```
Sudo apt-get install XFCE
```

## SSH2:

---

Setting up SSH is very simple. This will give you console access should you be unable to reach the machine with Remote Desktop or like playing in terminal windows!

Open up Terminal.

Type

```
sudo su
```

so that we have root control. The password you used when setting up the Ubuntu user account will work for this.

To install the software package type:

```
sudo apt-get install ssh
```

If you're not worried about security, this is a stopping point as SSH is good to go. Let's secure the daemon by editing the configuration. Type:

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```
gedit /etc/ssh/sshd_config
```

to open up the config file.

Find *PermitRootLogin* and set it to *no*

Add a line below that variable and type *AllowUsers*

*(username)* where *(username)* represents your Ubuntu account's username.

Type

```
restart ssh
```

## Remote Desktop

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It's a simple GUI to enable. The downside is that you must use TightVNC or some other VNC viewer for Windows if that is your OS of choice to Remote from. But if you want to have an RDP compliant server running (meaning want to use Windows native Remote Desktop client to connect to the server), complete the following steps.

Open up Terminal.

Type

```
sudo su
```

so that we have root control. The password you used when setting up the Ubuntu user account will work for this.

To install the software package type:

```
sudo apt-get install xrdp
```

Forward the external WAN port 3389 to the LAN IP address for the server.

For RDP: Make sure to forward any port to the server's internal port 3389. I use 3401 external port forwarded to the server's LAN IP at port 3389.

For Ubuntu's built-in VNC: Make sure to forward port 5900 to the machine. If you want to use JAVA viewer to access the Remote Desktop, you must also forward 5800.

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## SAMBA Server

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Installing and configuring data-sharing which functions with Windows file-sharing. We will set up a share system whereby all LAN computers can navigate, access, and modify the shares. You may wish to do something further to secure SAMBA if your LAN environment isn't "home" use.

Open up Terminal.  
Type

```
sudo su
```

so that we have root control. The password you used when setting up the Ubuntu user account will work for this.

To install the software package type:

```
sudo apt-get install samba
```

## Create Users in Ubuntu

---

```
sudo adduser user1  
sudo adduser user2  
sudo adduser user3  
sudo adduser user4
```

## Create Users and Password in Samba

---

```
sudo smbpasswd -a user1  
sudo smbpasswd -a user2  
sudo smbpasswd -a user3
```

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```
sudo smbpasswd -a user4
```

Password is – user@1234

## Directories for Users

---

```
sudo mkdir /<server Directory>/common
sudo mkdir /<server Directory>/common/video
sudo mkdir /<server Directory>/common/music
sudo mkdir /<server Directory>/user2
sudo mkdir /<server Directory>/user1
sudo mkdir /<server Directory>/user3
sudo mkdir /<server Directory>/user4
sudo mkdir /<server Directory>/accounts
sudo mkdir /<server Directory>/service-software
sudo mkdir /<server Directory>/service-drivers
sudo mkdir /<server Directory>/users
```

## Directory Information mode (MASK)

---

```
sudo chmod 777 /<server Directory>/common
sudo chmod 777 /<server Directory>/common/video
sudo chmod 777 /<server Directory>/common/music
sudo chmod 777 /<server Directory>/user2
sudo chmod 777 /<server Directory>/user1
sudo chmod 777 /<server Directory>/user3
sudo chmod 777 /<server Directory>/user4
sudo chmod 777 /<server Directory>/accounts
sudo chmod 777 /<server Directory>/service-software
sudo chmod 777 /<server Directory>/service-drivers
sudo chmod 777 /<server Directory>/users
```

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## Edit the configuration file of Samba,

---

```
sudo chmod 777 /etc/samba/smb.conf
```

```
mv /etc/samba/smb.conf /etc/samba/smb.conf.orig
```

and then

```
gedit /etc/samba/smb.conf
```

```
#===== Global Settings =====
```

```
[global]
```

```
## Browsing/Identification ###
```

```
# Change this to the workgroup/NT-domain name your Samba server  
will part of
```

```
workgroup = USER2
```

```
# server string is the equivalent of the NT Description field
```

```
server string = %h server (Samba, Ubuntu)
```

```
##### Authentication #####
```

```
# new domain.
```

```
server role = standalone server
```

```
obey pam restrictions = yes
```

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```
# This boolean parameter controls whether Samba attempts to sync
the Unix
# password with the SMB password when the encrypted SMB password
in the
# passwd is changed.
    unix password sync = yes

# For Unix password sync to work on a Debian GNU/Linux system, t
he following
# parameters must be set (thanks to Ian Kahan <kahan@informatik
.tu-muenchen.de> for
```

```
# sending the correct chat script for the passwd program in Debi
an Sarge).
    passwd program = /usr/bin/passwd %u
    passwd chat = *Enter\snew\s*\spassword:* %n\n *Retype\snew\s*
\spassword:* %n\n *password\supdated\ssuccessfully* .

# This boolean controls whether PAM will be used for password ch
anges
# when requested by an SMB client instead of the program listed
in
# 'passwd program'. The default is 'no'.
    pam password change = yes

# This option controls how unsuccessful authentication attempts
are mapped
# to anonymous connections
    map to guest = bad user

##### Domains #####
# The following settings only takes effect if 'server role = cla
ssic
# primary domain controller', 'server role = classic backup doma
in controller'
```

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```
# or 'domain logons' is set
#

# It specifies the location of the user's
# profile directory from the client point of view) The following

# required a [profiles] share to be setup on the samba server (s
ee
# below)
;   logon path = \\%N\profiles\%U
# Another common choice is storing the profile in the user's hom
e directory
# (this is Samba's default)
#   logon path = \\%N\%U\profile

# The following setting only takes effect if 'domain logons' is
set
# It specifies the location of a user's home directory (from the
client
# point of view)
;   logon drive = H:
#   logon home = \\%N\%U

# The following setting only takes effect if 'domain logons' is
set
# It specifies the script to run during logon. The script must b
e stored
# in the [netlogon] share
# NOTE: Must be store in 'DOS' file format convention
;   logon script = logon.cmd
```

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```
# This allows Unix users to be created on the domain controller
via the SAMR

# RPC pipe. The example command creates a user account with a d
isabled Unix

# password; please adapt to your needs

; add user script = /usr/sbin/adduser --quiet --disabled-passwor
d --gecos "" %u

# This allows machine accounts to be created on the domain contr
oller via the

# SAMR RPC pipe.

# The following assumes a "machines" group exists on the system

; add machine script = /usr/sbin/useradd -g machines -c "%u mac
hine account" -d /var/lib/samba -s /bin/false %u

# This allows Unix groups to be created on the domain controller
via the SAMR

# RPC pipe.

; add group script = /usr/sbin/addgroup --force-badname %g

##### Misc #####

# Using the following line enables you to customise your configu
ration

# on a per machine basis. The %m gets replaced with the netbios
name

# of the machine that is connecting

; include = /home/samba/etc/smb.conf.%m

# Some defaults for winbind (make sure you're not using the rang
es

# for something else.)

; idmap config * :                backend = tdb
; idmap config * :                range   = 3000-7999
; idmap config YOURDOMAINHERE : backend = tdb
```

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```
; idmap config YOURDOMAINHERE : range = 100000-999999
; template shell = /bin/bash

# Setup usershare options to enable non-root users to share folders
# with the net usershare command.

# Maximum number of usershare. 0 means that usershare is disabled.
# usershare max shares = 100

# Allow users who've been granted usershare privileges to create
# public shares, not just authenticated ones
usershare allow guests = yes

#===== Share Definitions =====
==

# Un-comment the following (and tweak the other settings below to
# suit)
# to enable the default home directory shares. This will share each
# user's home directory as \\server\username
[homes]
; comment = Home Directories
; browseable = no

# By default, the home directories are exported read-only. Change the
# next parameter to 'no' if you want to be able to write to them
.
; read only = yes
```

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```
# File creation mask is set to 0700 for security reasons. If you
want to
# create files with group=rw permissions, set next parameter to
0775.
;   create mask = 0700

# Directory creation mask is set to 0700 for security reasons. I
f you want to
# create dirs. with group=rw permissions, set next parameter to
0775.
;   directory mask = 0700

# By default, \\server\username shares can be connected to by an
yone
# with access to the samba server.
# Un-comment the following parameter to make sure that only "use
rname"
# can connect to \\server\username
# This might need tweaking when using external authentication sc
hemes
;   valid users = %S

# Un-comment the following and create the netlogon directory for
Domain Logons
# (you need to configure Samba to act as a domain controller too
.)
;[netlogon]
;   comment = Network Logon Service
;   path = /home/samba/netlogon
;   guest ok = yes
;   read only = yes

# Un-comment the following and create the profiles directory to
store
```

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```
# users profiles (see the "logon path" option above)
# (you need to configure Samba to act as a domain controller too
.)
# The path below should be writable by all users so that their
# profile directory may be created the first time they log on
;[profiles]
;   comment = Users profiles
;   path = /home/samba/profiles
;   guest ok = no
;   browseable = no
;   create mask = 0600
;   directory mask = 0700

[printers]
    comment = All Printers
    browseable = no
    path = /var/spool/samba
    printable = yes
    guest ok = no
    read only = yes
    create mask = 0700

# Windows clients look for this share name as a source of downlo
adable
# printer drivers
[print$]
    comment = Printer Drivers
    path = /var/lib/samba/printers
    browseable = yes
    read only = yes
    guest ok = no
```

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```
# Uncomment to allow remote administration of Windows print drivers.
# You may need to replace 'lpadmin' with the name of the group your
# admin users are members of.
# Please note that you also need to set appropriate Unix permissions
# to the drivers directory for these users to have write rights in it
; write list = root, @lpadmin

[comman]
Path = /<server Directory>/comman
Browseable = yes
Read only = no
valid users = user2 user1 user3 user4

[music]
Path = /<server Directory>/comman/music
Browseable = yes
Read only = no
valid users = user2 user1 user3 user4

[video]
Path = /<server Directory>/comman/video
Browseable = yes
Read only = no
valid users = user2 user1 user3 user4

[user2]
Path = /<server Directory>/user2
Browseable = yes
Read only = no
```

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---

```
valid users = user2 user1 user3 user4
```

```
[user1]
```

```
Path = /<server Directory>/user1
```

```
Browseable = yes
```

```
Read only = no
```

```
valid users = user1 user3
```

```
[user3]
```

```
Path = /<server Directory>/user3
```

```
Browseable = yes
```

```
Read only = no
```

```
valid users = user1 user3
```

```
[user4]
```

```
Path = /<server Directory>/user4
```

```
Browseable = yes
```

```
Read only = no
```

```
valid users = user1 user4
```

```
[accounts]
```

```
Path = /<server Directory>/accounts
```

```
Browseable = yes
```

```
Read only = no
```

```
valid users = user2 user1 user3 user4
```

```
[service]
```

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```
Path = /<server Directory>/service-software
```

```
Browseable = yes
```

```
Read only = no
```

```
valid users = user2 user1 user3 user4
```

```
[service]
```

```
Path = /<server Directory>/service-drivers
```

```
Browseable = yes
```

```
Read only = no
```

```
valid users = user2 user1 user3 user4
```

```
[users]
```

```
Path = /<server Directory>/users
```

```
Browseable = yes
```

```
Read only = no
```

```
valid users = user1
```

```
[Shared Drive] #(Set this to the name you want the shared folder  
to have)
```

```
comment = entire shared drive #(Comments about the shared folder  
)
```

```
path = /mnt/storage2/ #(Path to the shared folder or mount-point  
of harddrive)
```

```
read only = no
```

```
guest ok = yes
```

```
writable = yes
```

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---

Alternatively, you may want to have this as a share system where usernames and passwords or another form of security is in place. This isn't hard to do and many tutorials are available, but will not be a part of this "home" guide.

## Test Command

```
Testparm /etc/samba/smb.conf
```

## Password edit File

Replace /bin/bash to bin/false

Add users in last line

Me  
Wife  
kid

## WSDD for enable view in WINDOWS NETWORK

```
Sudo apt-get install wsdd
```

## Restart Command

```
Sudo shutdown now -r
```

## Network Configuration ,

---

Edit /etc/netplan/00-installer-config.yaml

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```
# rename to disable default setting
root@localhost:~# mv /etc/netplan/00-installer-config.yaml
/etc/netplan/00-installer-config.yaml.org
root@localhost:~# vi /etc/netplan/01-netcfg.yaml
# create new
network:
  ethernets:
    # interface name
    enpls0:
      dhcp4: false
      # IP address/subnet mask
      addresses: [10.0.0.30/24]
      # default gateway
      # [metric] : set priority (specify it if multiple NIC
s are set)
      # lower value is higher priority
      routes:
        - to: default
          via: 10.0.0.1
          metric: 100
      nameservers:
        # name server to bind
        addresses: [10.0.0.10,10.0.0.11]
        # DNS search base
        search: [srv.world,server.education]
      dhcp6: false
  version: 2

# apply changes
root@localhost:~# netplan apply
root@localhost:~# ip addr
1: lo: <LOOPBACK,UP,LOWER_UP> mtu 65536 qdisc noqueue state
UNKNOWN group default qlen 1000
    link/loopback 00:00:00:00:00:00 brd 00:00:00:00:00:00
    inet 127.0.0.1/8 scope host lo
        valid_lft forever preferred_lft forever
    inet6 ::1/128 scope host
        valid_lft forever preferred_lft forever
2: enpls0: <BROADCAST,MULTICAST,UP,LOWER_UP> mtu 1500 qdisc
fq_codel state UP group default qlen 1000
    link/ether 52:54:00:ab:95:2c brd ff:ff:ff:ff:ff:ff
    inet 10.0.0.30/24 brd 10.0.0.255 scope global enpls0
        valid_lft forever preferred_lft forever
    inet6 fe80::5054:ff:feab:952c/64 scope link
        valid_lft forever preferred_lft forever
```