

INSTALLING A "NETWORK-ATTACHED STORAGE" DEVICE FOR YOUR LOCAL AREA NETWORK

Summary:

Instead of sharing files in a peer-to-peer network, you might obtain and install a "Network-Attached Storage" (NAS) device that attaches by means of a 10/100/1000Base-T cable to your local area network. Most of the current models of NAS devices can store files for "Windows..", "Linux", and "Macintosh OS X" client computers.

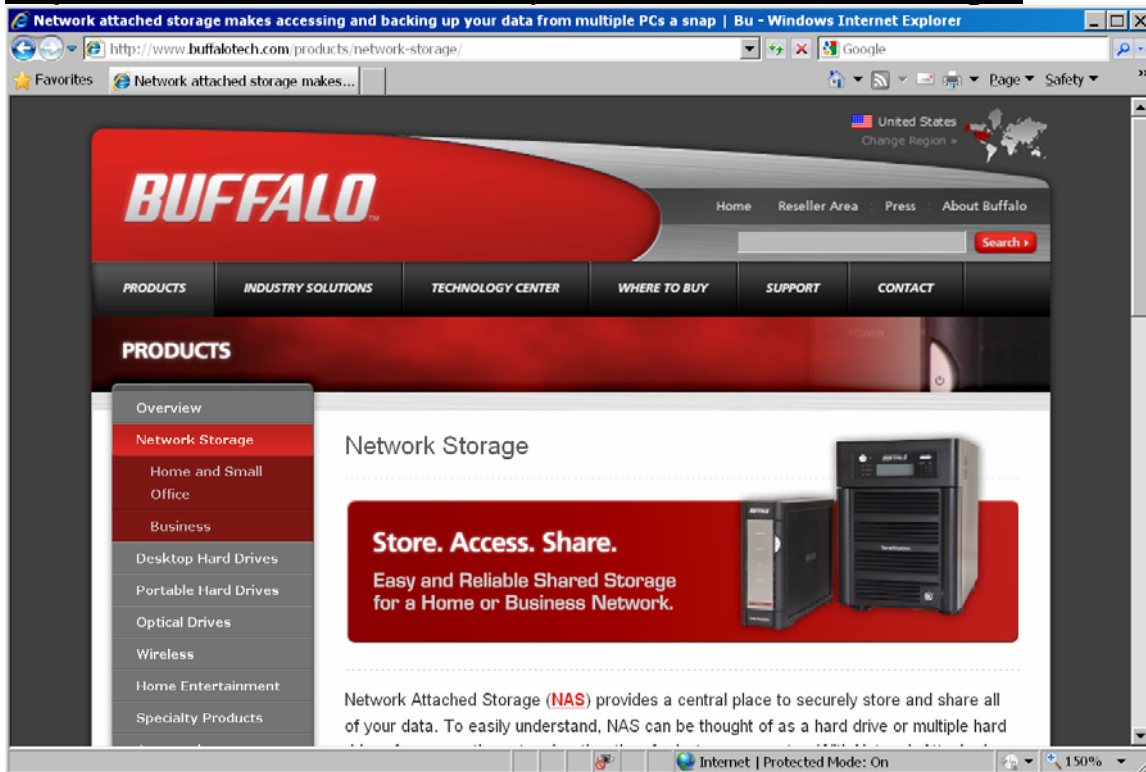
GENERAL INFORMATION ON THE NAS DEVICE

When you attach the NAS device to your local network, the NAS device needs to get an IP address from a "Dynamic Host Configuration Protocol" (DHCP) server (unless you assign static IP addresses manually to each device in your local area network). You should have a DHCP server running inside your router already, since that is the default configuration for routers.

The router (that you attach your NAS device to) does not need to have a working Internet connection since your NAS device does not need to connect to the Internet during normal operations. Your NAS device needs to connect through the local area network side of your router to your client computers in order to store files and folders for your client computers.

EXAMPLE OF A "NAS" DEVICE

"Buffalo Technology (USA)" makes a popular line of NAS devices. Their generic brand name for these device is "LinkStation". Information on the entire "LinkStation" line ca be found at <http://www.buffalotech.com/products/network-storage/>



The following photo shows the "Buffalo" NAS unit that was shown by President Les Stein at the February and March 2011 meetings of the "Windows 7 / Hardware SIG" of the Tucson Computer Society:



It's model number is LS-L500.

This model is no longer manufactured by "Buffalo Technology" but support is still available at

<http://www.buffalotech.com/support/downloads/>

PREPARING FOR THE INSTALLATION OF A "NETWORK-ATTACHED STORAGE" DEVICE

Read the documentation for your NAS device.

Locate either the paper or online documentation for your router.

Make sure that your router has a 10/100/1000 wired network jack that is available for the NAS device.

Obtain a "Category 5", "Category 5e", or "Category 6" network cable for connecting the NAS device to the router.

<https://t.me/learningnets>

STEP-BY-STEP INSTRUCTIONS FOR INSTALLING AND CONFIGURING A "NETWORK-ATTACHED STORAGE" DEVICE

Step 1:

Use a "Category 5", "Category 5e" or "Category 6" network cable to connect the NAS device to a wired network jack on the Local Area Network side of the router.

Step 2:

Attach the power supply of the NAS device and power it up.

Step 3:

Press the "Power" button of the NAS device.

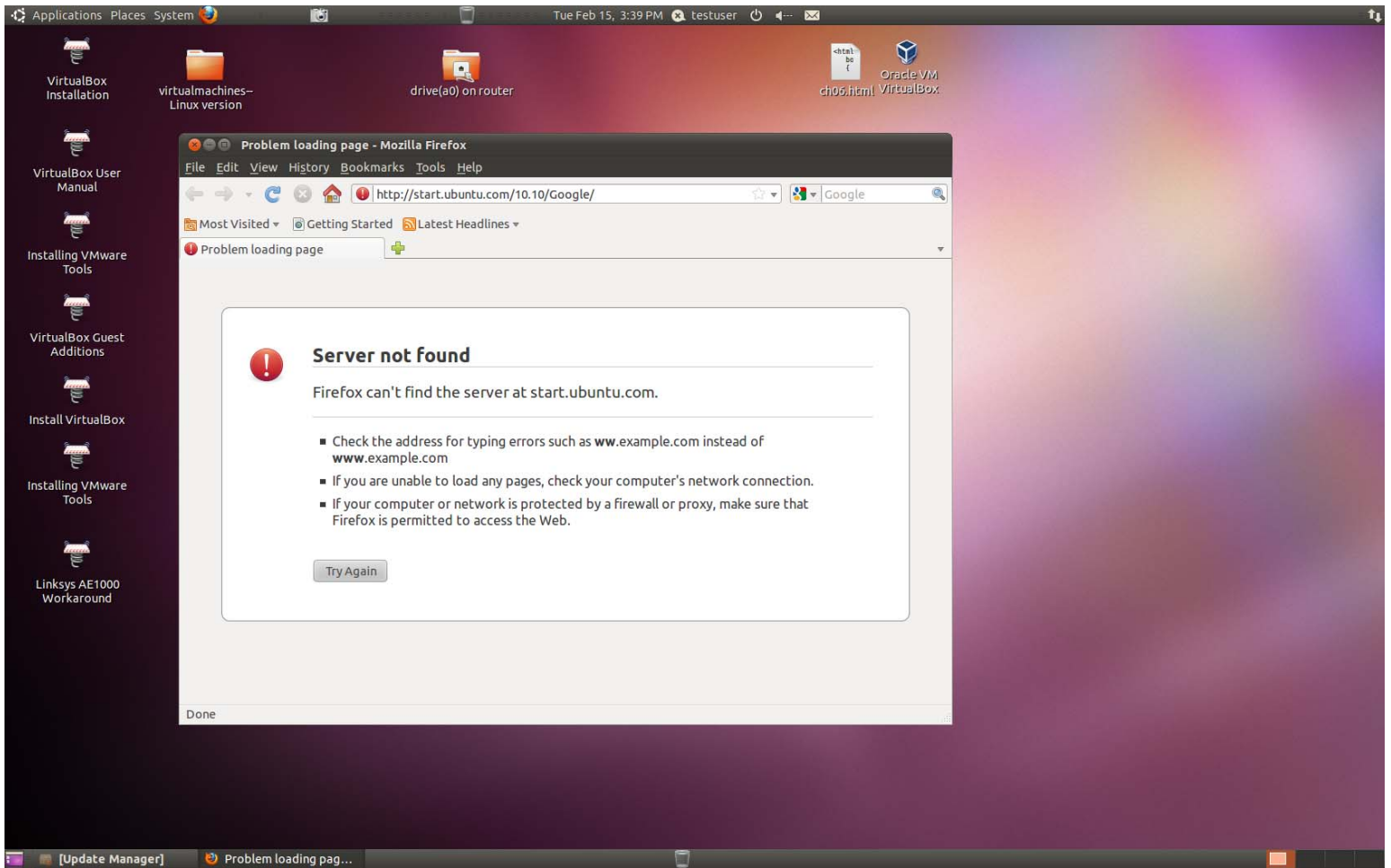
Step 4:

Go to any powered-up network-connected Windows, Linux, or Macintosh OS X computer.

(In this example, we went to a network-connected "Ubuntu 10.10" computer.)

Step 5:

Start a Web browser such as "Internet Explorer" or "FireFox":

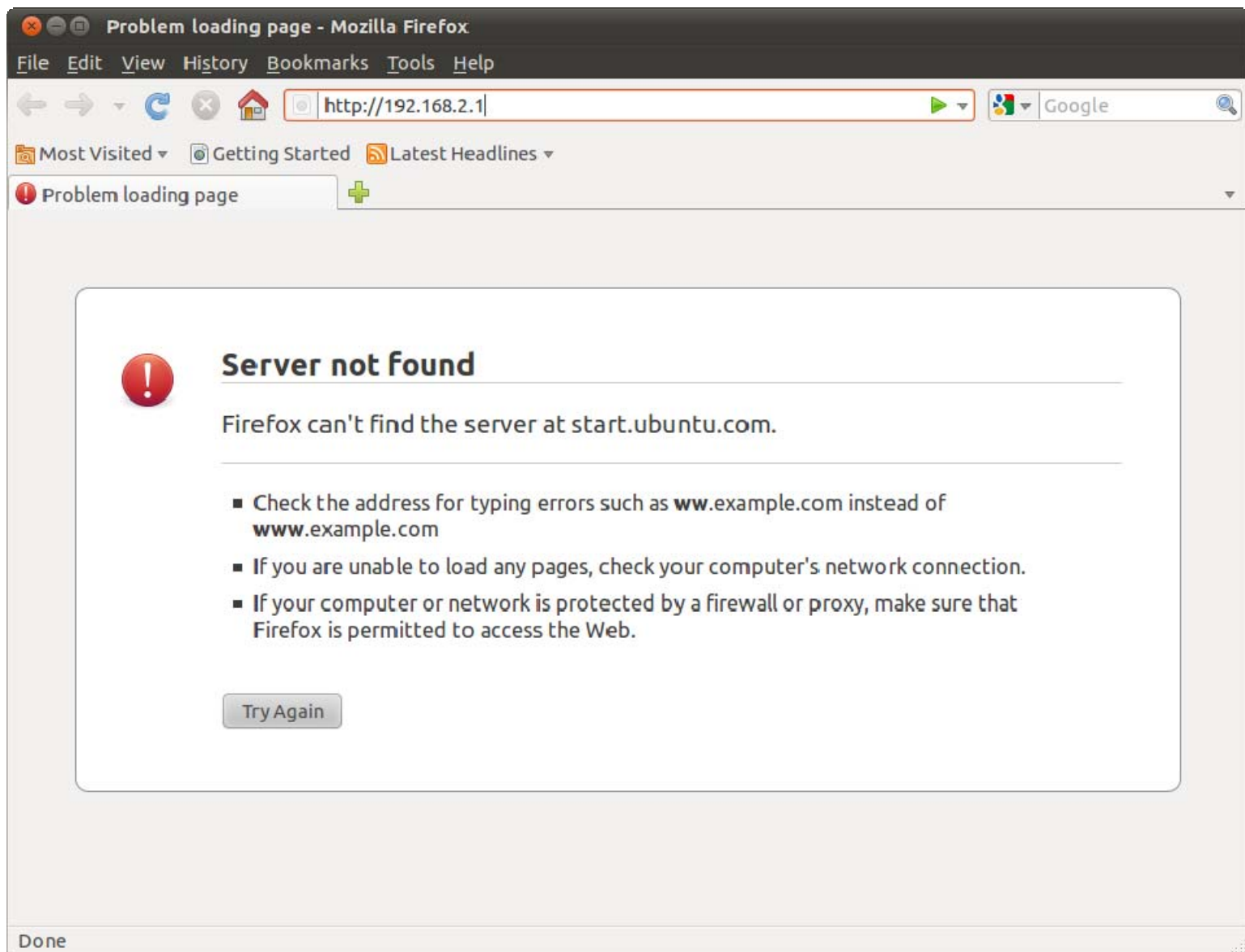


Step 6:

If the Web browser does not reach the Internet, it is still okay for configuring a connection to the NAS device.

In the address box of the Web browser, type in `http://<IP address of your router>`

Then press the <Enter> key of the keyboard.



Step 7:

<https://t.me/learningnets>

Mozilla Firefox

File Edit View History Bookmarks Tools Help

http://192.168.2.1/

Most Visited Getting Started Latest Headlines

http://192.168.2.1/

BELKIN Router Setup

Home | Help | Login Internet Status: **Not Connected**

LAN Setup

- LAN Settings
- DHCP Client List
- Static Route

Internet WAN

- Connection Type
- DNS
- MAC Address

Wireless

- Channel and SSID
- Security
- Wi-Fi Protected Setup
- Guest Access
- Use as Access Point

Play Features

- QoS Profiles
- Traffic Statistics
- Video Mover
- Torrent Mate

Firewall

- Virtual Servers
- MAC Address Filtering
- Access Control
- DMZ
- DDNS
- WAN Ping Blocking

Status

You will need to log in before you can change any settings.

Language

Current Language	English
Available Languages	English Deutsch Français Español Nederlands Italiano 简体中文 繁體中文 日本語 한국어
Time	January 1, 1970 0:32:43 AM

Version Info

Hardware	F7D8301 v1
Firmware	1.00.28 (Aug 30 2010)
Boot Loader	1.08e
Serial No.	121039G4132238

LAN Settings

LAN/WLAN MAC	94:44:52:BE:E5:5D
IP Address	192.168.2.1
Subnet Mask	255.255.255.0
DHCP Server	Enabled (2 LAN, 0 WLAN Clients)

Internet Settings

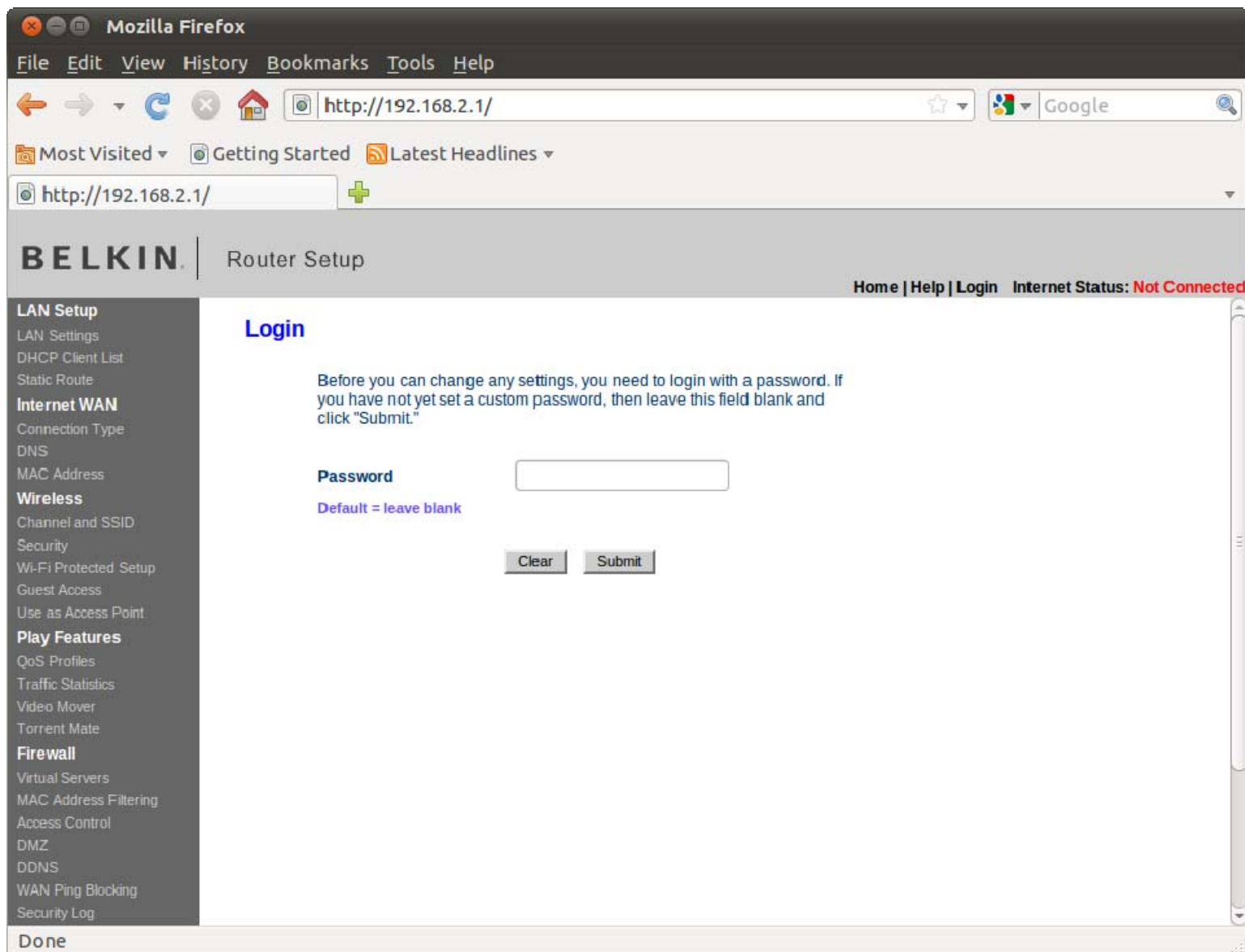
WAN MAC Address	94:44:52:BE:E5:5E
Connection Type	Dynamic
WAN IP	NULL
Subnet Mask	NULL
Default Gateway	NULL
DNS Address	NULL

Features

Firewall Settings	Enabled
SSID	belkin.533d
Security	WPA-Personal (PSK)
UPnP	Enabled
Remote Management	Disabled
WPS	Enabled

Done

Step 8:
Click on the "Login" button, if there is one.



Step 9:

Type in the password (for configuring the router), if there is one.

Step 10:

Click on the "Submit" or "Log in" button.

Mozilla Firefox

File Edit View History Bookmarks Tools Help

http://192.168.2.1/setup.htm

Most Visited Getting Started Latest Headlines

http://192.168.2.1/setup.htm

BELKIN Router Setup

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Status

Language

Current Language	English
Available Languages	English Deutsch Français Español Nederlands Italiano 简体中文 繁體中文 日本語 한국어
Time	January 1, 1970 0:33:58 AM

Version Info

Hardware	F7D8301 v1
Firmware	1.00.28 (Aug 30 2010)
Boot Loader	1.08e
Serial No.	121039G4132238

Internet Settings

WAN MAC Address	94:44:52:BE:E5:5E
Connection Type	Dynamic
WAN IP	NULL
Subnet Mask	NULL
Default Gateway	NULL
DNS Address	NULL

LAN Settings

LAN/WLAN MAC	94:44:52:BE:E5:5D
IP Address	192.168.2.1
Subnet Mask	255.255.255.0
DHCP Server	Enabled (2 LAN, 0 WLAN Clients)

Features

Firewall Settings	Enabled
SSID	belkin.533d
Security	WPA-Personal (PSK)
UPnP	Enabled
Remote Management	Disabled
WPS	Enabled

http://192.168.2.1/lan_main.stm

Step 10:
Click on "DHCP Client List" or "DHCP Clients":

BELKIN Router Setup Home | Help | Logout Internet Status: **Not Connected**

Status

Language	
Current Language	English
Available Languages	English Deutsch Français Español Nederlands Italiano 简体中文 繁體中文 日本語 한국어
Time	January 1, 1970 0:34:54 AM

Version Info	
Hardware	F7D8301 v1
Firmware	1.00.28 (Aug 30 2010)
Boot Loader	1.08e
Serial No.	121039G4132238

Internet Settings	
WAN MAC Address	94:44:52:BE:E5:5E
Connection Type	Dynamic
WAN IP	NULL
Subnet Mask	NULL
Default Gateway	NULL
DNS Address	NULL

LAN Settings	
LAN/WLAN MAC	94:44:52:BE:E5:5D
IP Address	192.168.2.1
Subnet Mask	255.255.255.0
DHCP Server	Enabled (2 LAN, 0 WLAN Clients)

Features	
Firewall Settings	Enabled
SSID	belkin.533d
Security	WPA-Personal (PSK)
UPnP	Enabled
Remote Management	Disabled
WPS	Enabled

Address bar: http://192.168.2.1/lan_dhcp.stm

Step 11:
A list of DHCP clients will be displayed:

BELKIN Router Setup Home | Help | Logout Internet Status: **Not Connected**

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Firewall

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- DDNS
- WAN Ping Blocking
- Security Log

Done

LAN > DHCP Client List

This page shows you the IP address, Host Name and MAC address of each computer that is connected to your network. If the computer does not have a host name specified, then the Host Name field will be blank. Pressing "Refresh" will update the list.

IP Address	Host Name	MAC Address
192.168.2.19	LS-LGLE48	00:1d:73:20:9e:48
192.168.2.22	testuser-VGC-RA820G-UC	00:11:2fa2:1c:aa

Step 12:

Write down the IP address and host name of the "NAS" device.

In this example, we wrote down

192.168.2.19 LS-LE48

(This IP address was assigned by the Dynamic Host Configuration Protocol server than is integral to our router. The "host name" was the default that was provided by the manufacturer of the NAS device.)

Step 13:

Click on "Log out" or "Log off".

Step 14:

Close the Web browser window.

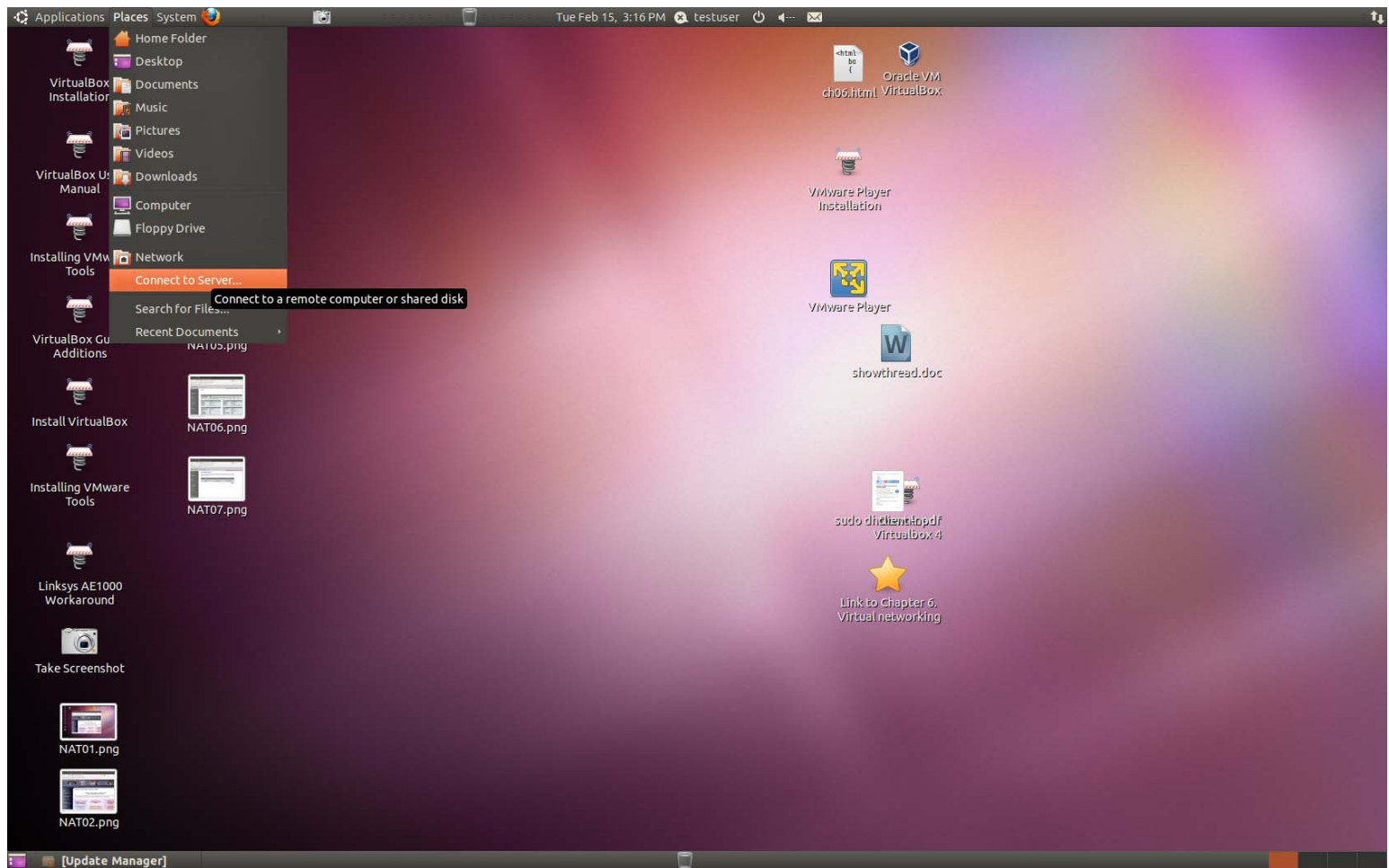
The rest of the steps will be for an "Ubuntu 10.10" client computer but the steps are similar for "Windows" and "Macintosh OS X" client computers:

Step 15:

Click on "Places" in the menu bar.

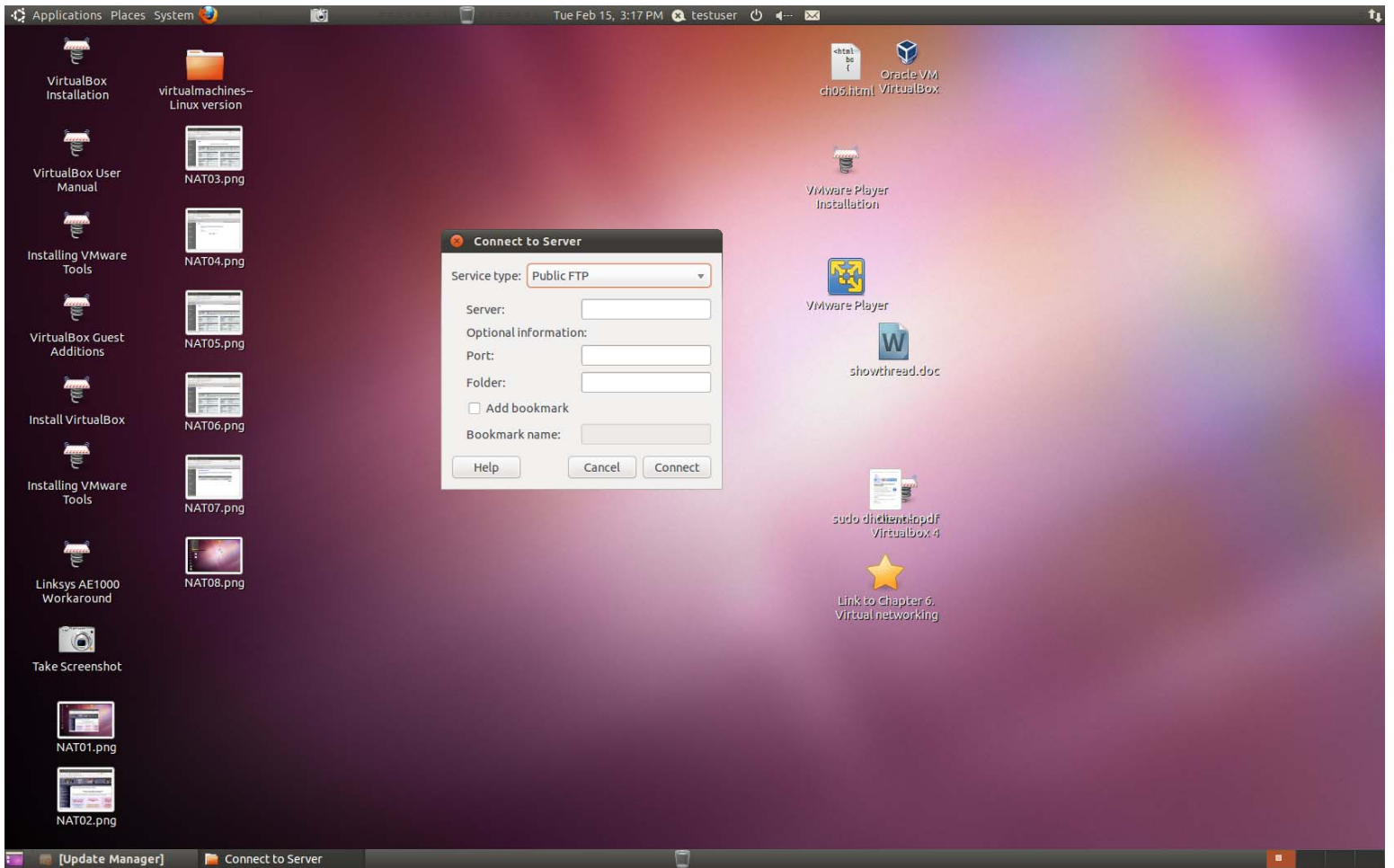
Step 16:

Click on "Connect to Server":



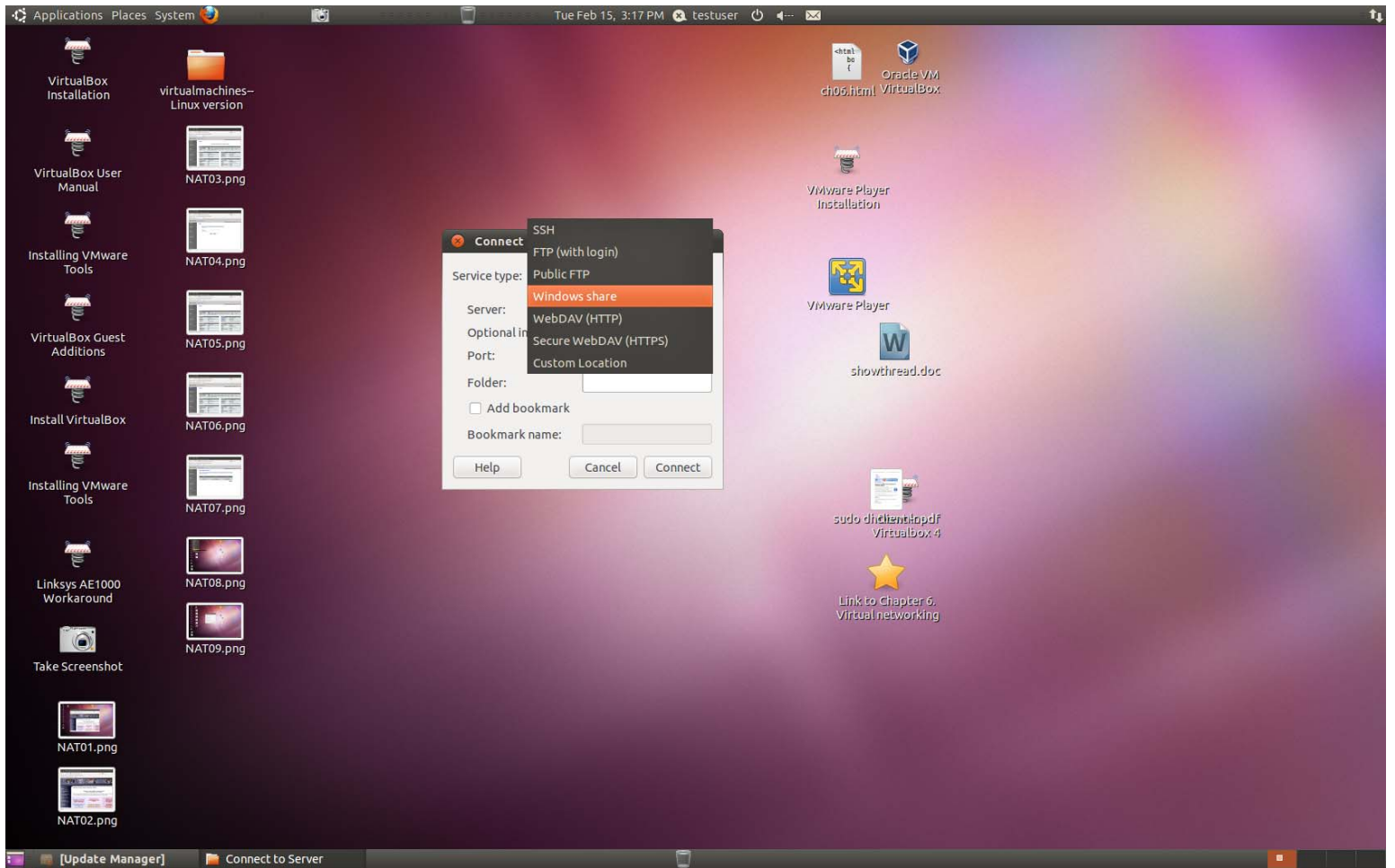
Step 17:

A "Connect to Server" box will be displayed:

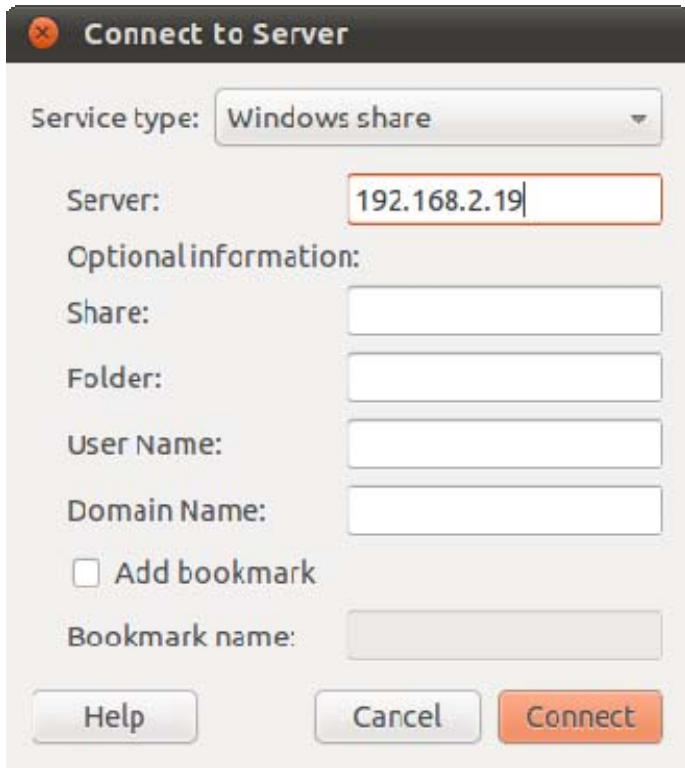


Step 18:

Use the drop down list button of the "Service Type" to select "Windows share".

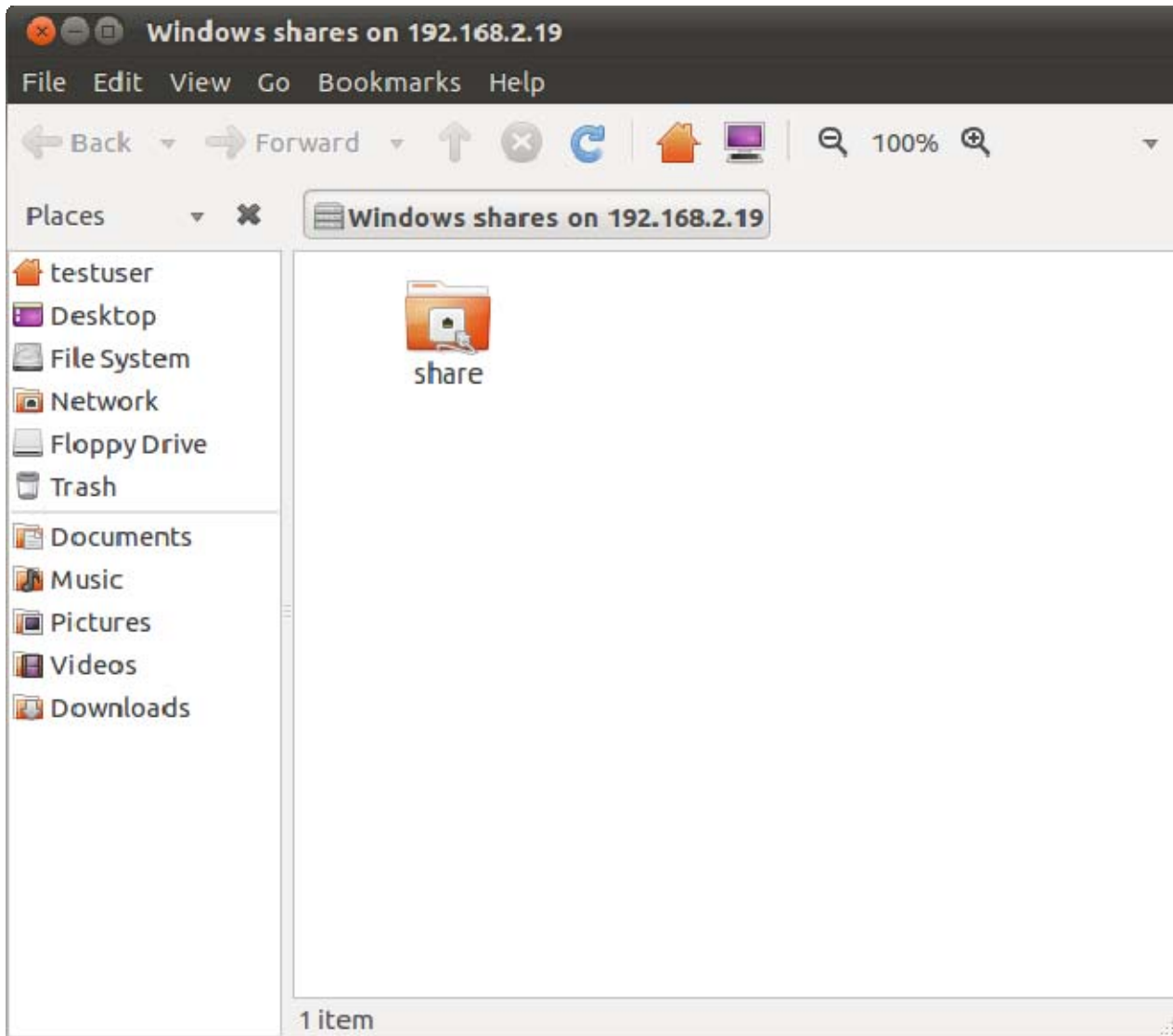


Step 15:
Type the IP address of the "NAS" device in the "Server" field:



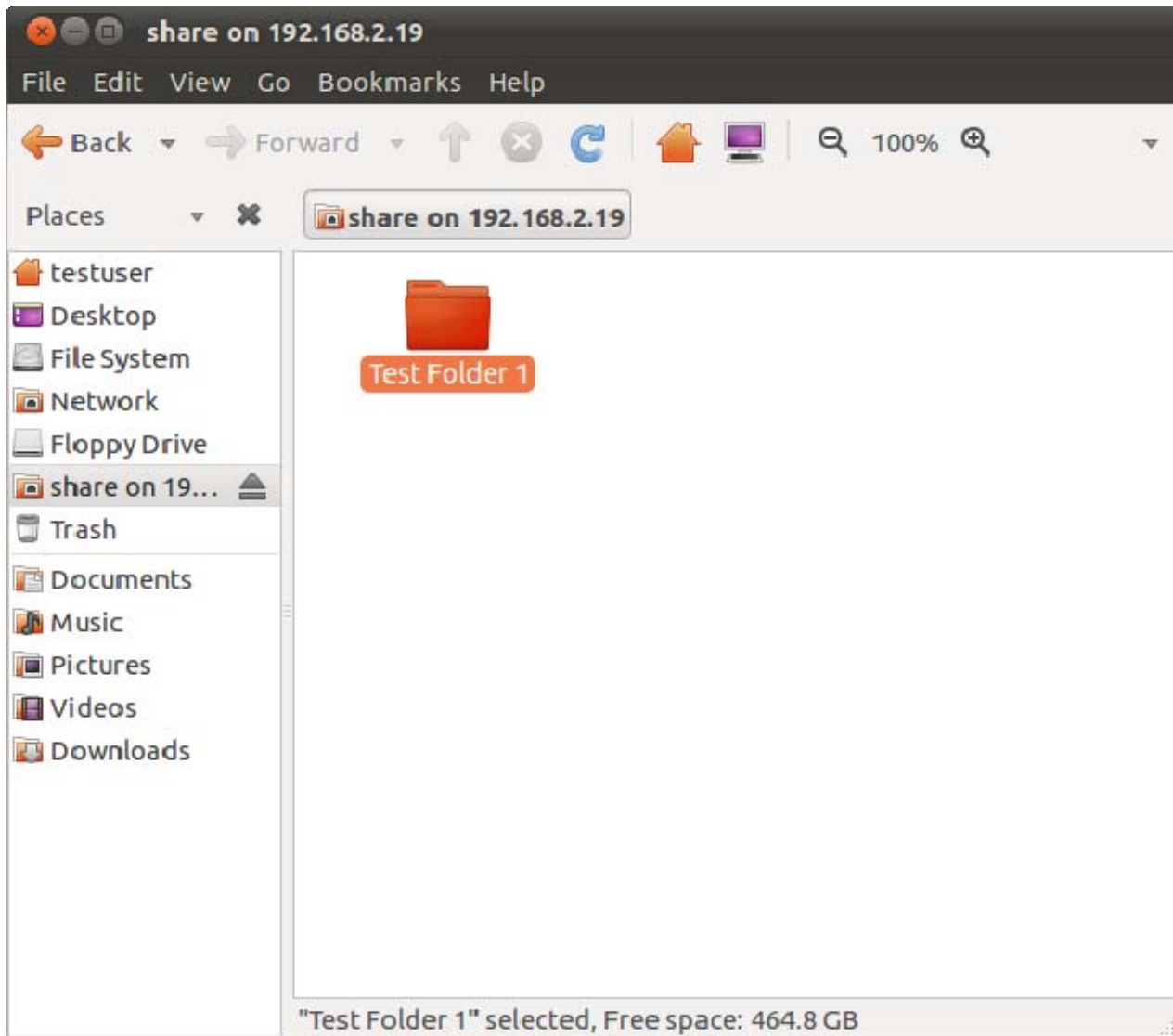
Step 16:
Click on the "Connect" button.

Step 17:
A "Nautilus" file management window with the title of "Windows shares on <IP address of NAT device>" will be displayed:



Step 18:
Double-click on the "Share" folder.

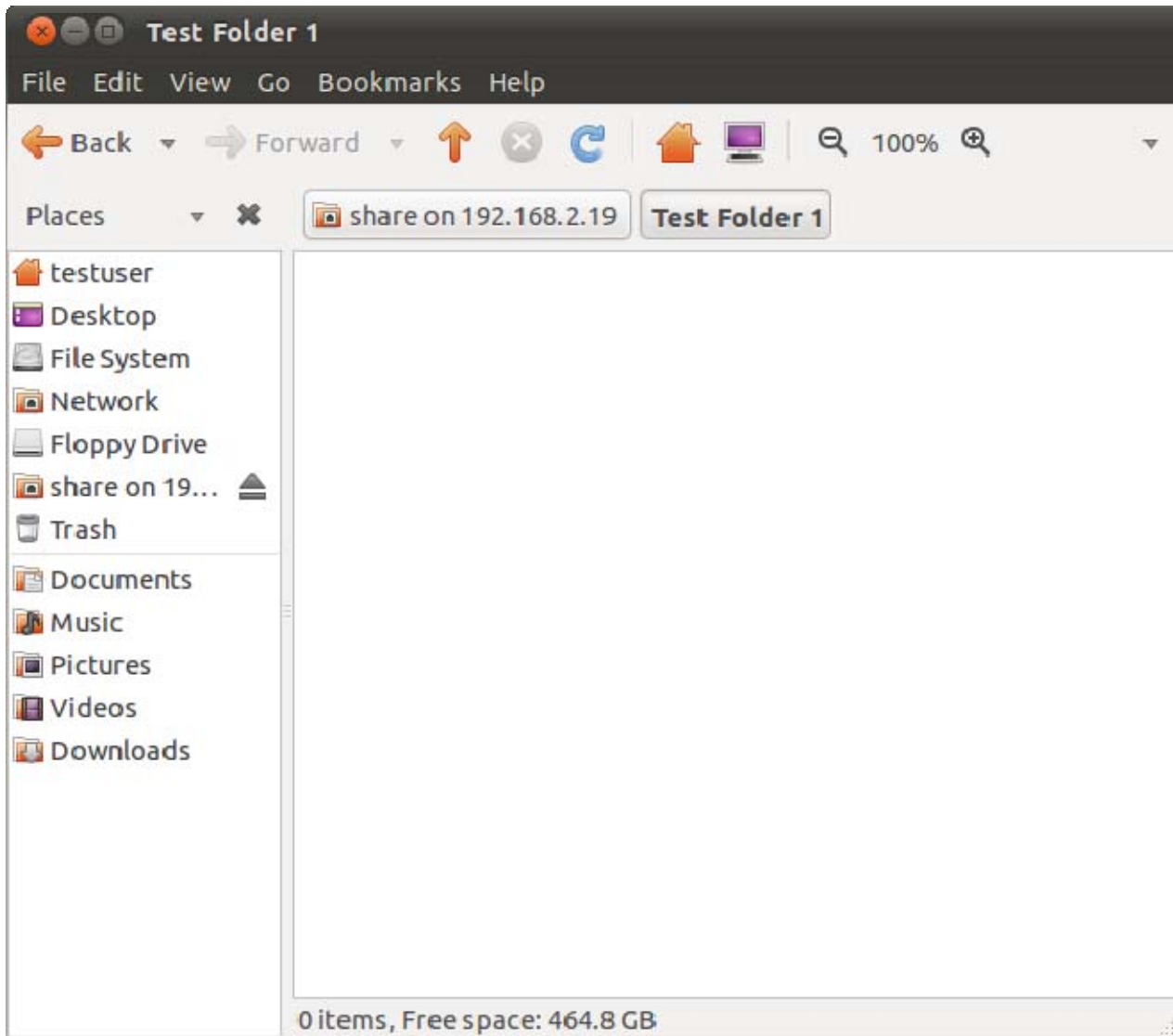
Step 19:
The "Nautilus" file management window will now display all of the files and folders that are stored in the "NAS" device.



Step 20:

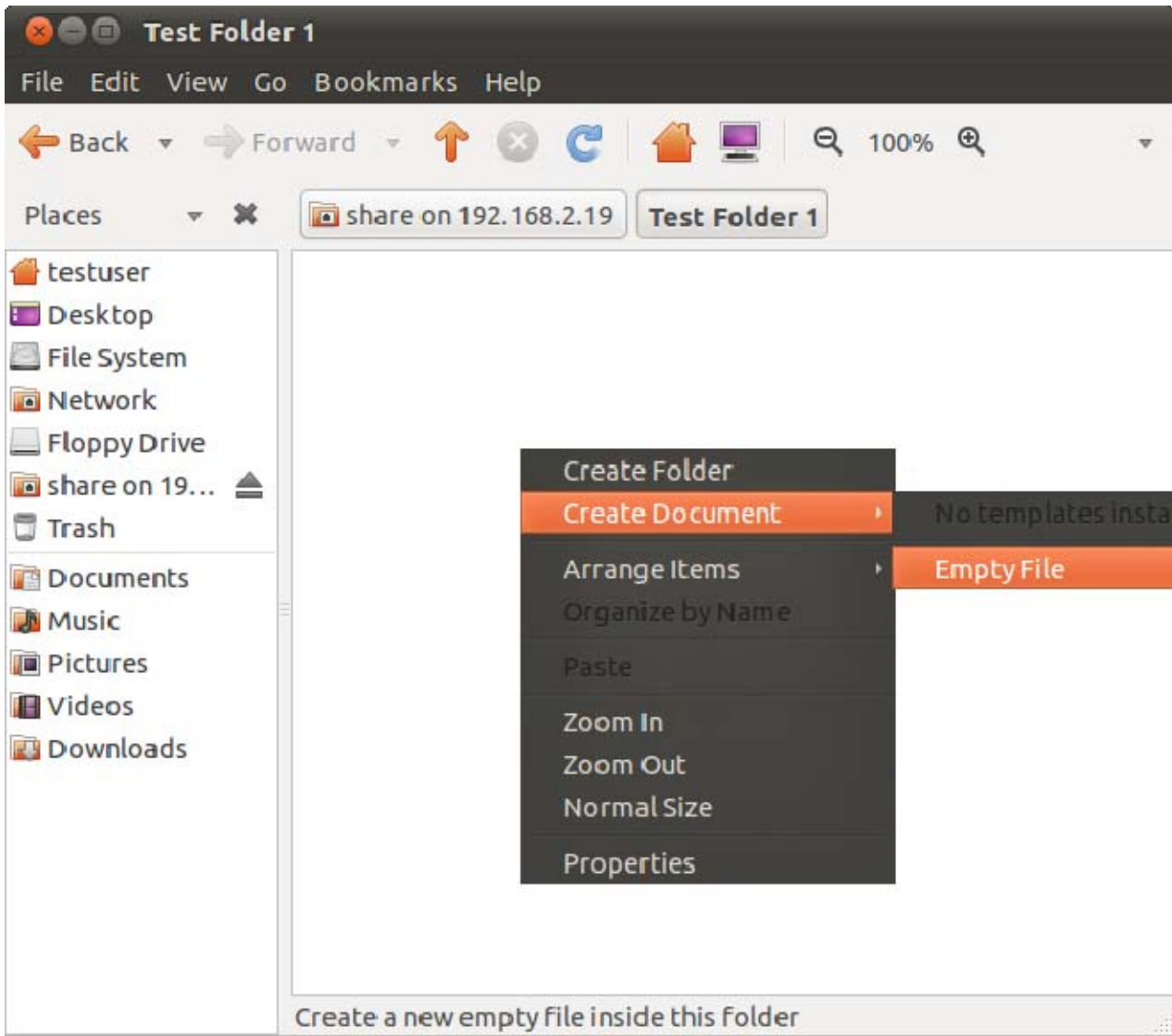
Double-click on any folder to view its contents.

In this example, we double-clicked on a folder called "Test Folder 1":



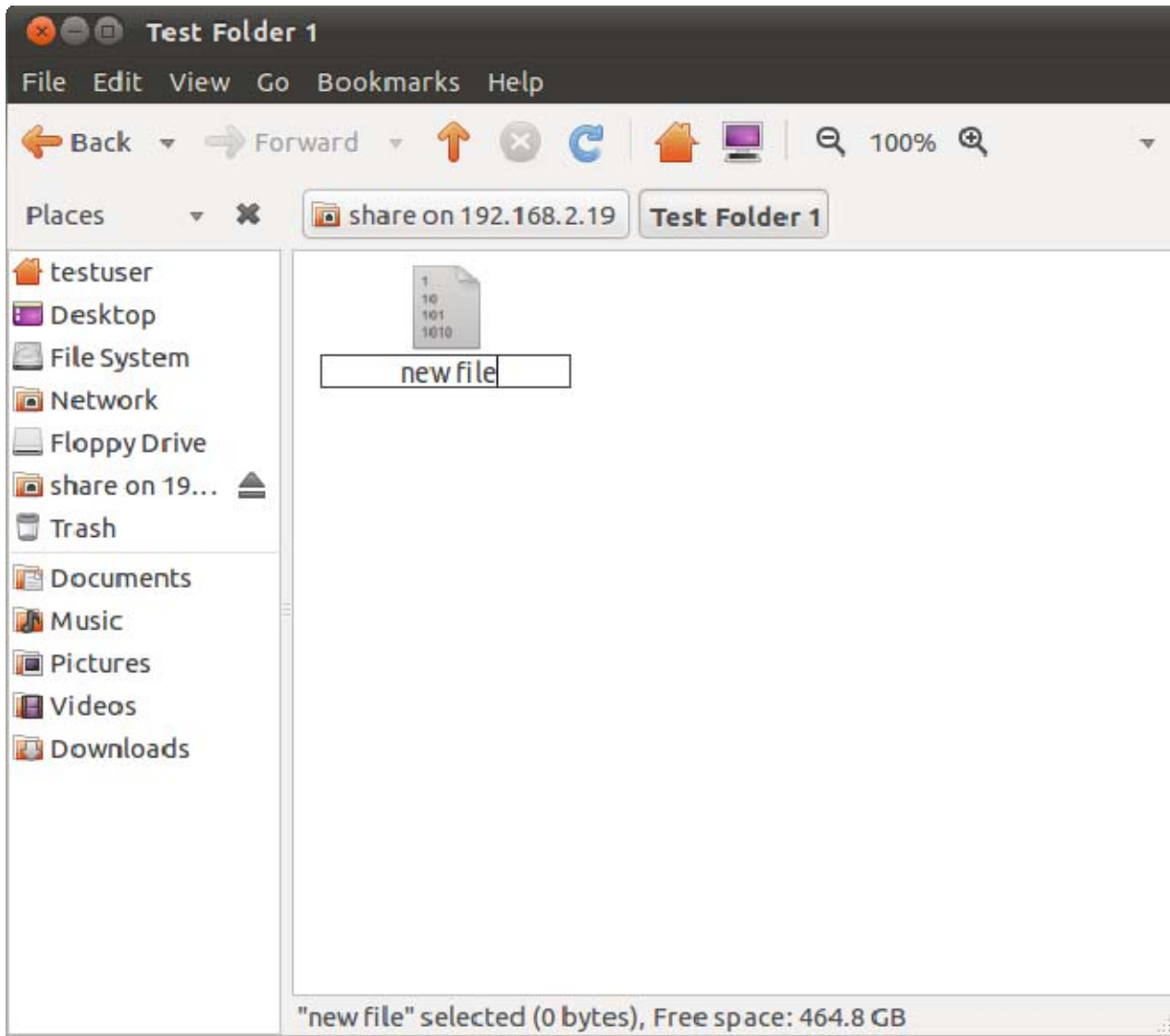
Step 21:

In this example, we wanted to create a file so we: right-clicked inside the right pane of the "Nautilus" window, clicked on "Create Document" in the pop-up context menu, and then we clicked on "Empty File":



Step 22:

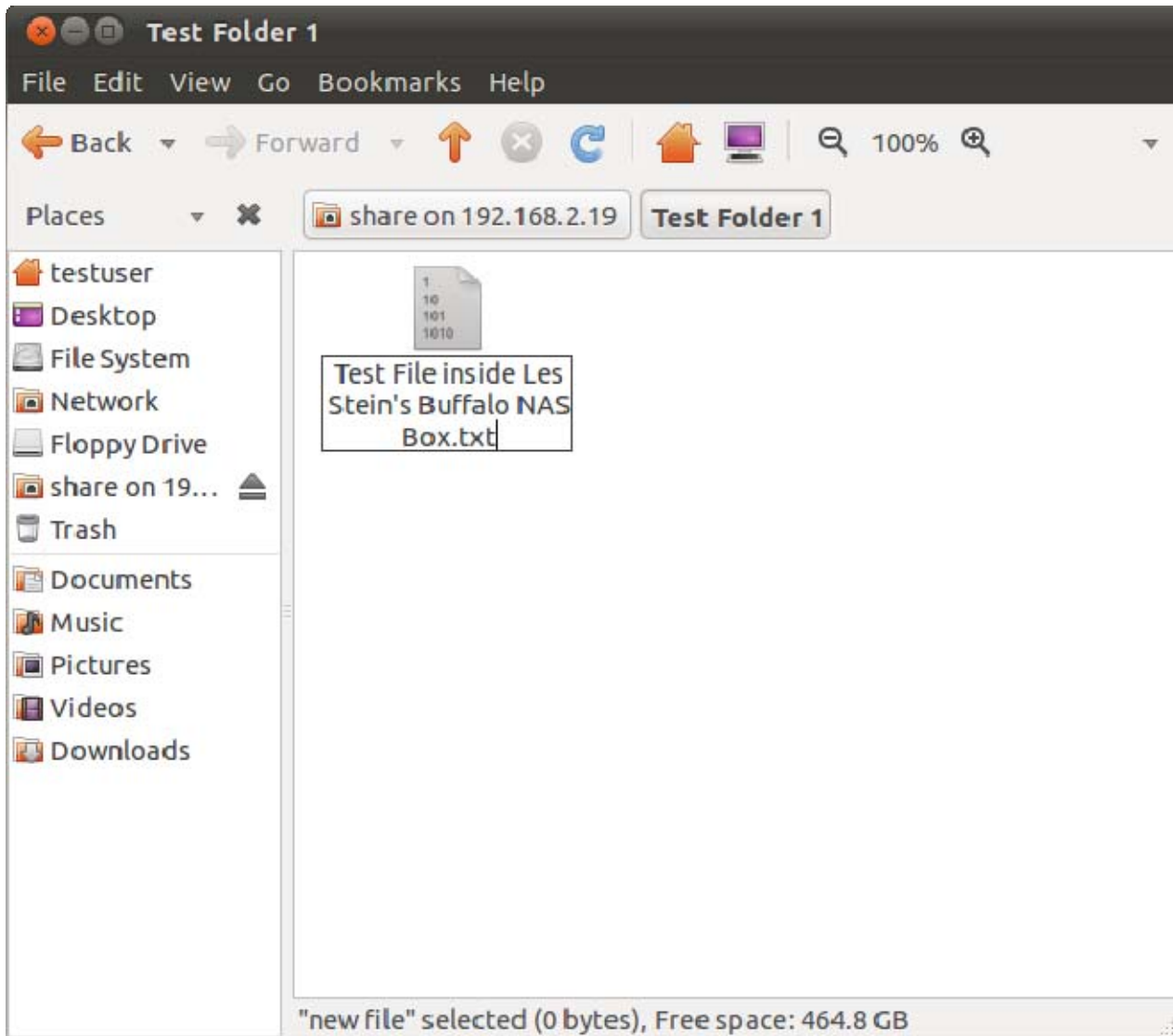
A new file called "new file" was created as shown:



Step 23:

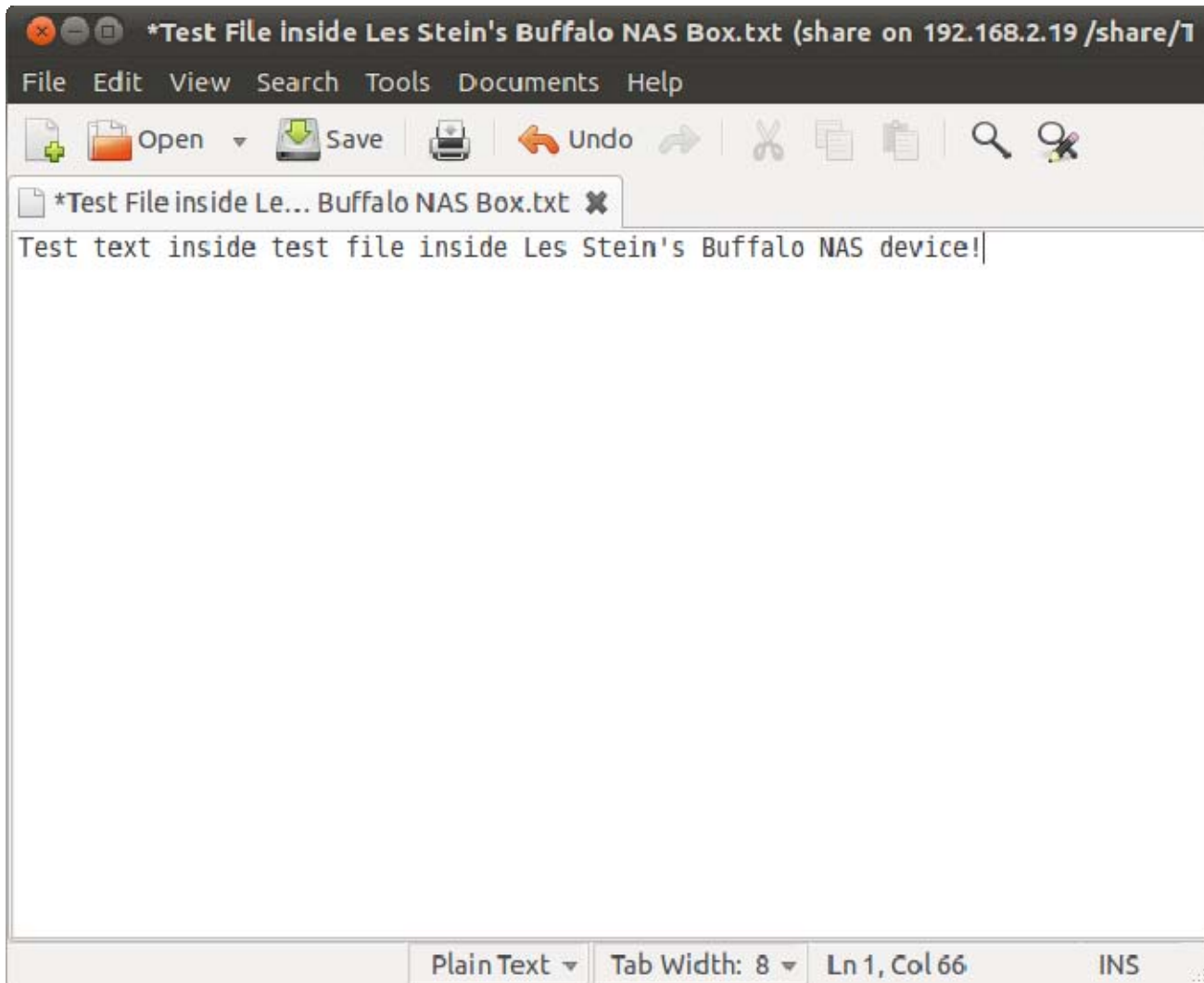
We renamed it to

Test File inside Les Stein's Buffalo NAS box.txt



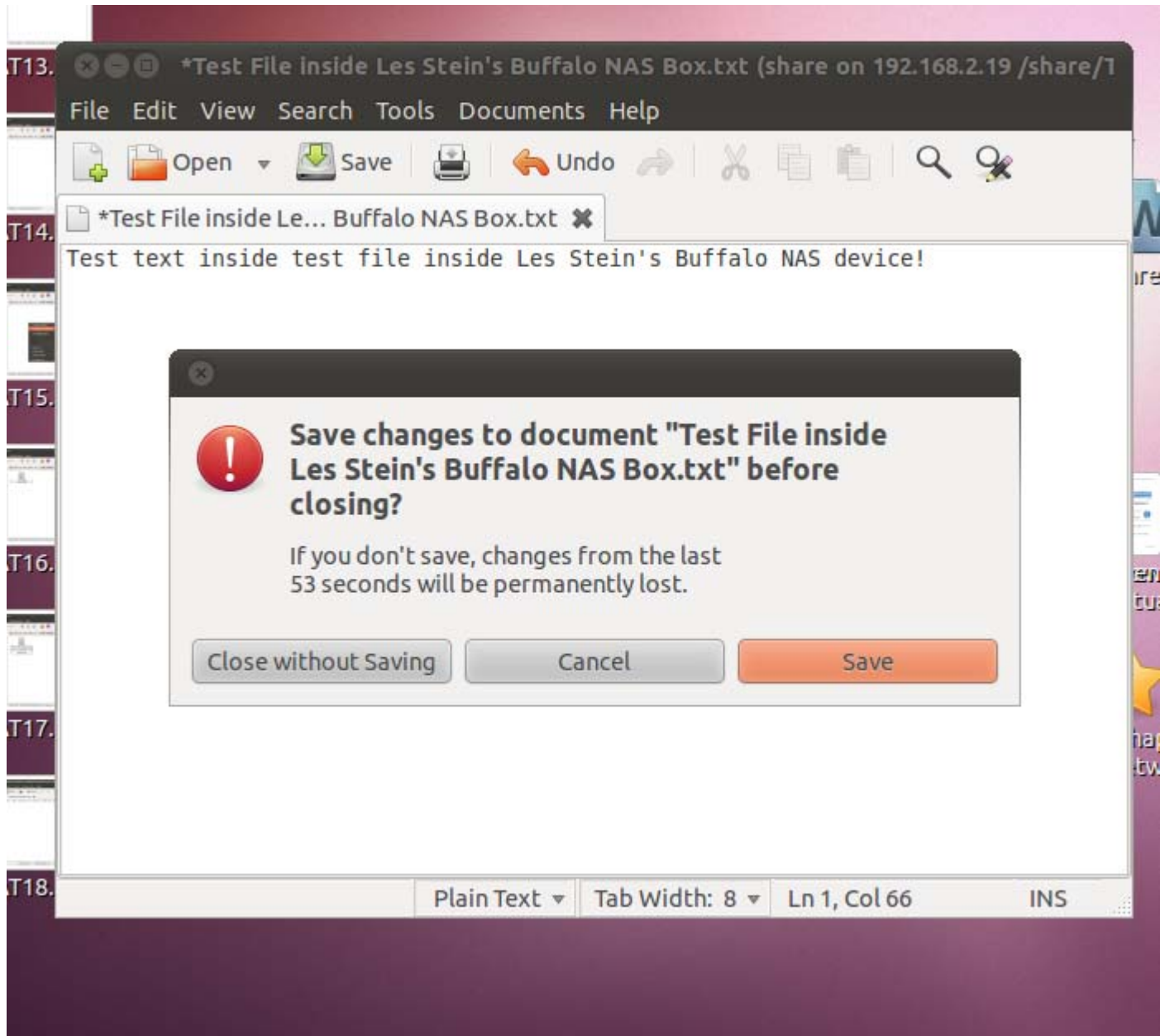
Step 24:

Next, we wanted to edit the new text file so we double-click on it and it opened up in the default "gedit" editor application. We then typed in some text:



Step 25:

When we clicked on the "x" button in the upper right-hand corner of the "gedit" window, a "Save changes to document.." box was displayed:



Step 26:
We clicked on the "Save" button.

