



NetUSB-100iX4

USB Server User Manual

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Introduction

The NetUSB-100iX4 is a network-enabled USB Server for connecting USB devices over the 10/100/1000 Mbps Ethernet network running TCP/IP. By adding this USB to Ethernet Server to LAN, you can network-enable the USB device. It breaks the traditional five-meter USB cabling distance limitation. By this implementation, USB devices connected to NetUSB-100iX4 can be made available to remote clients over LAN- without a locally attached host PC.

The NetUSB-100iX4 provides a simple and convenient way to extend a USB device over long distances and allows for sharing that USB device with multiple users over Ethernet Network.

Features

- Extends USB cabling distance beyond five meters
- Allows USB devices to be used and shared by client PCs over LAN
- Supports wide variety of USB devices
- Compatible with USB 2.0 specification and backward compatible with USB 1.1
- Connects up to 4 devices using an additional USB Hub (not included)
- Provides Plug-n-Play and hot-swap functions same as on board USB port
- Access and monitor USB devices over a user-friendly application interface
- Supports wide input power range: DC9V~DC48V

Specification

The NetUSB-100iX4 USB to Ethernet Server provides:

- RJ45 Ethernet to 1 USB 2.0 port
- Allows USB Devices to be used and shared by client PC's over LAN
- USB 2.0 High Speed Ports up to 480 Mbps speed
- Full 500 mA power provided to USB port
- Connects up to 4 devices using an additional USB Hub (not included)
- Supports wide variety of USB devices
- 10/100/1000 Mbps Ethernet support
- Supports IP addressing: Static and DHCP
- LEDs for system/ Ethernet status
- Field-upgradeable firmware
- Supports "Reset" button for system reset
- Supports "Default" button for configuration to default setting
- Input power range: DC9V~DC48V
- Compatible Windows XP/ 2003 Server/ Vista/ Windows 7/ Windows 8
- Regulatory approvals: FCC Class B (DoC) and CE
- RoHS compliant

Installation

Note: The default configuration for the NetUSB-100iX4 USB server is **DHCP** enabled. If the USB server is not able to get an IP address from a DHCP server, it will use the IP address 169.254.10.10 and the subnet mask is 255.255.0.0.

Do not connect your USB device(s) to the USB Server until you have finished installing the USB Server software and hardware!!!

Step 1 - Connect the NetUSB-100iX4 USB Server to your Network

First connect an Ethernet cable to the NetUSB-100iX4 USB Server's Ethernet port.



Once the Ethernet cable is connected, connect the other end of the cable to your network. This can be a free Ethernet port on your DSL router, Ethernet Hub/Switch, or an 802.11n router/ base station.

If you do not have a network, you can connect the USB Server directly to the Ethernet port on your computer using a Cross-Over cable.

Step 2 - Connect the USB Server's Power Supply / Read the LEDs

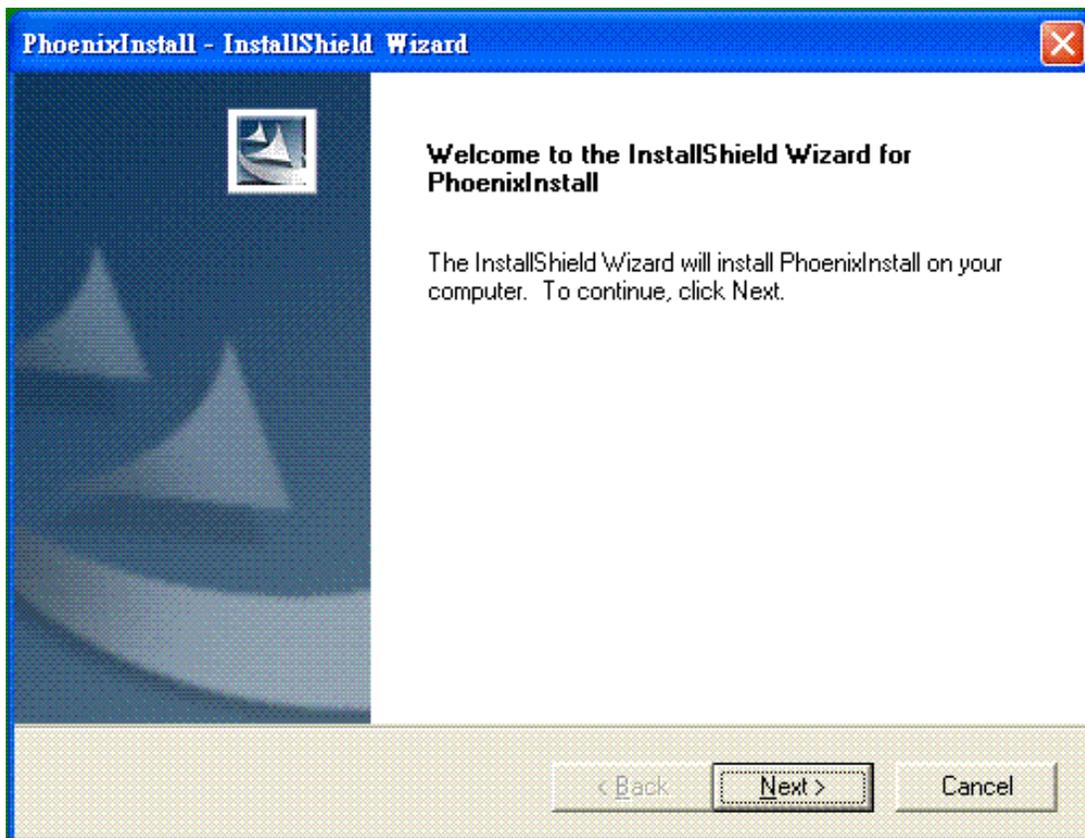
Connect the included power supply to the USB Server's power connector.

Once the USB Server is powered, you will notice the USB Server's red "PWR" LED turns ON and after few seconds the yellow "1000M" Ethernet's status LED and the green "10/100M" Ethernet's status LED will be flashed for Ethernet status check.

The NetUSB-100iX4 USB Server hardware installation is now complete. Please proceed to the NetUSB-100iX4 Utility software installation instructions.

The NetUSB-100iX4 utility Setup is an Install Shield based application, which can be used for installing, uninstalling and upgrading the NetUSB-100iX4 Software.

To install the USB Server program, please double click the USB Server setup file.



Then follow the instructions of the wizard to complete the installation process.

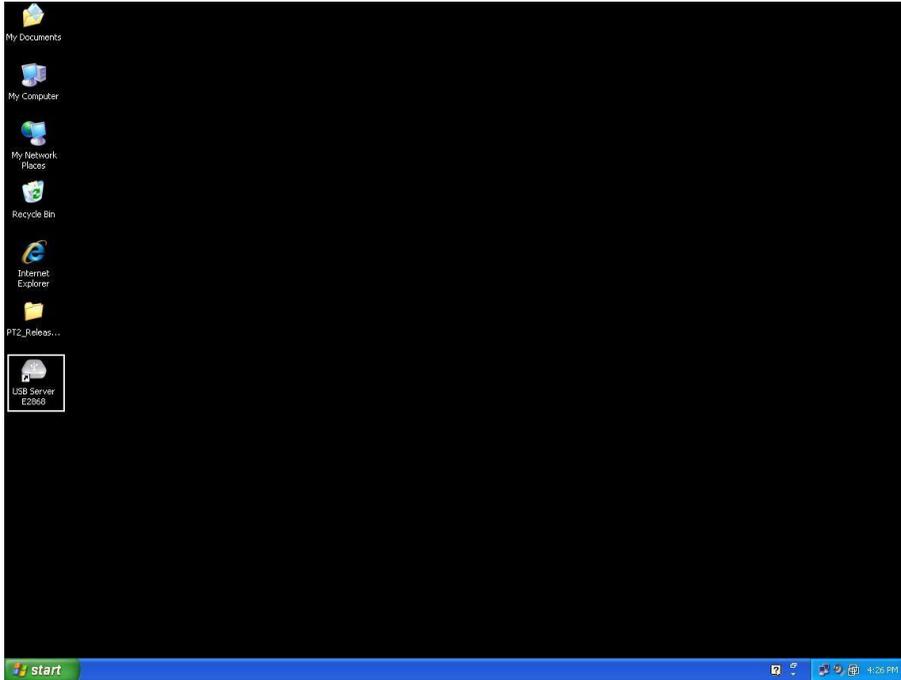
Once the installation is complete, the NetUSB-100iX4 utility shortcut is placed on the desktop as well as in the system tray as shown in the figure below.



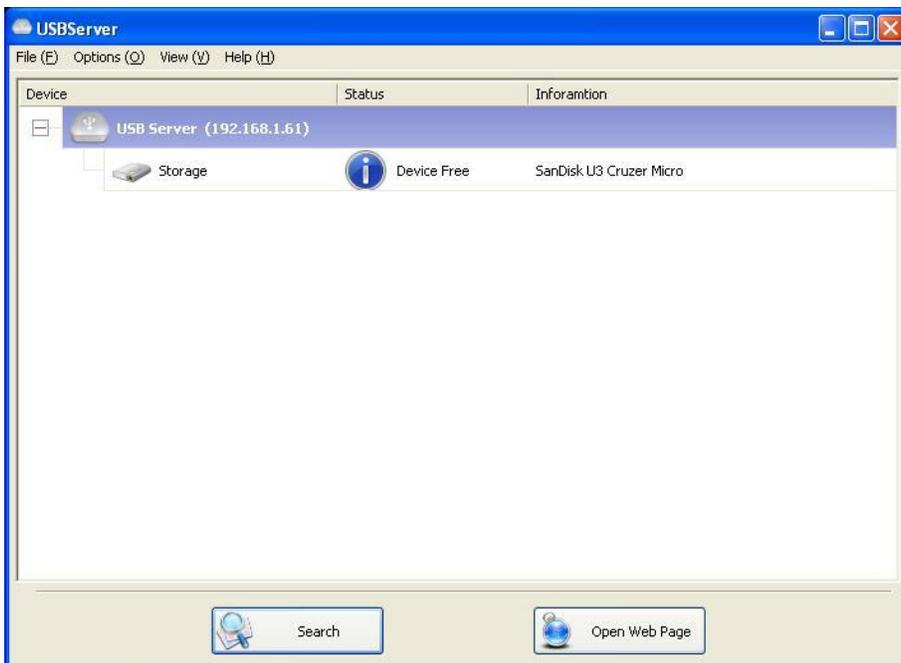
Please reboot the system as requested by the installer when the process ends, otherwise the software might not work properly.

Running USB Server Program

To start the USB Server program, double click the shortcut icon of the USB Server on the Desktop.



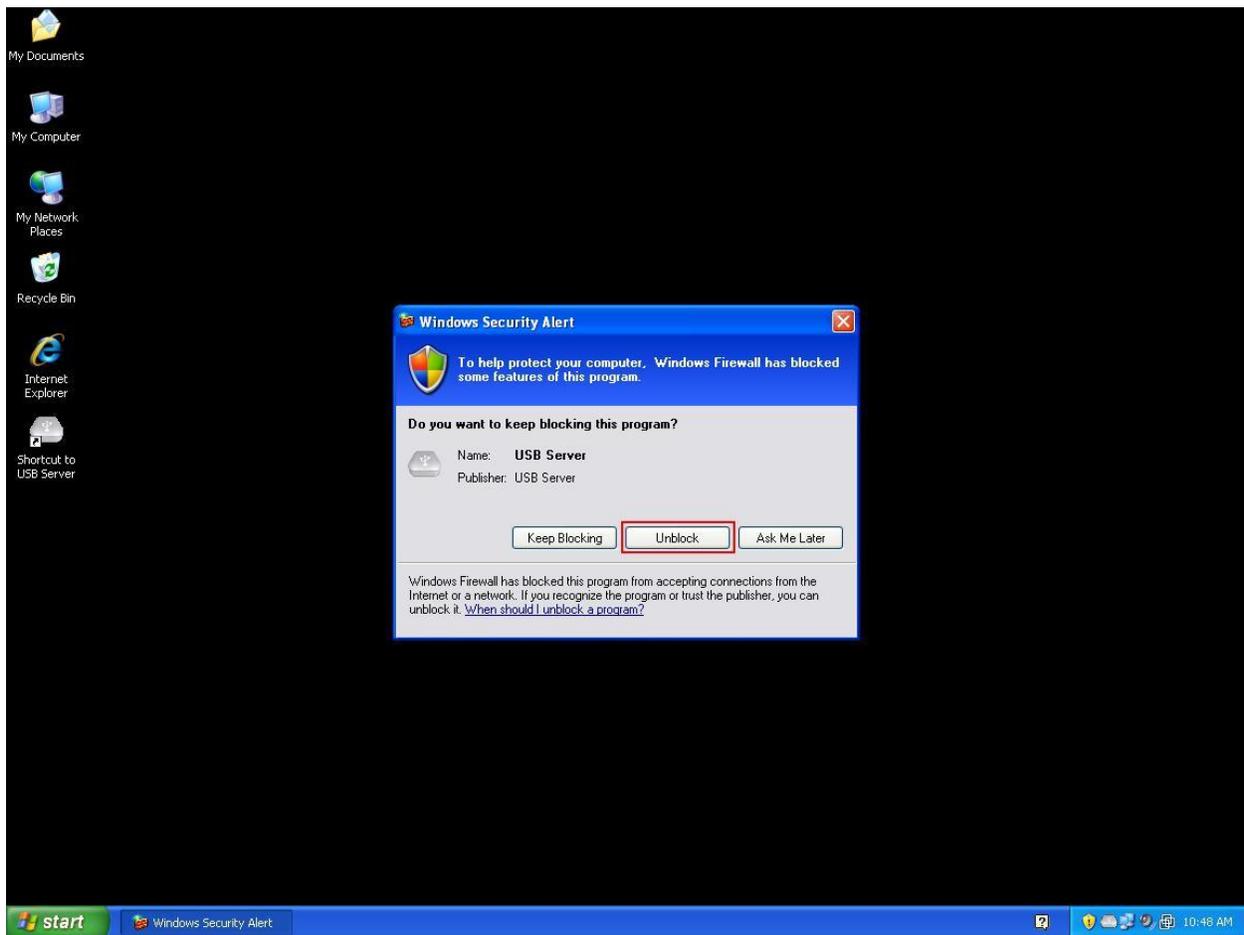
This would bring up the main dialog as shown below.



System Firewall

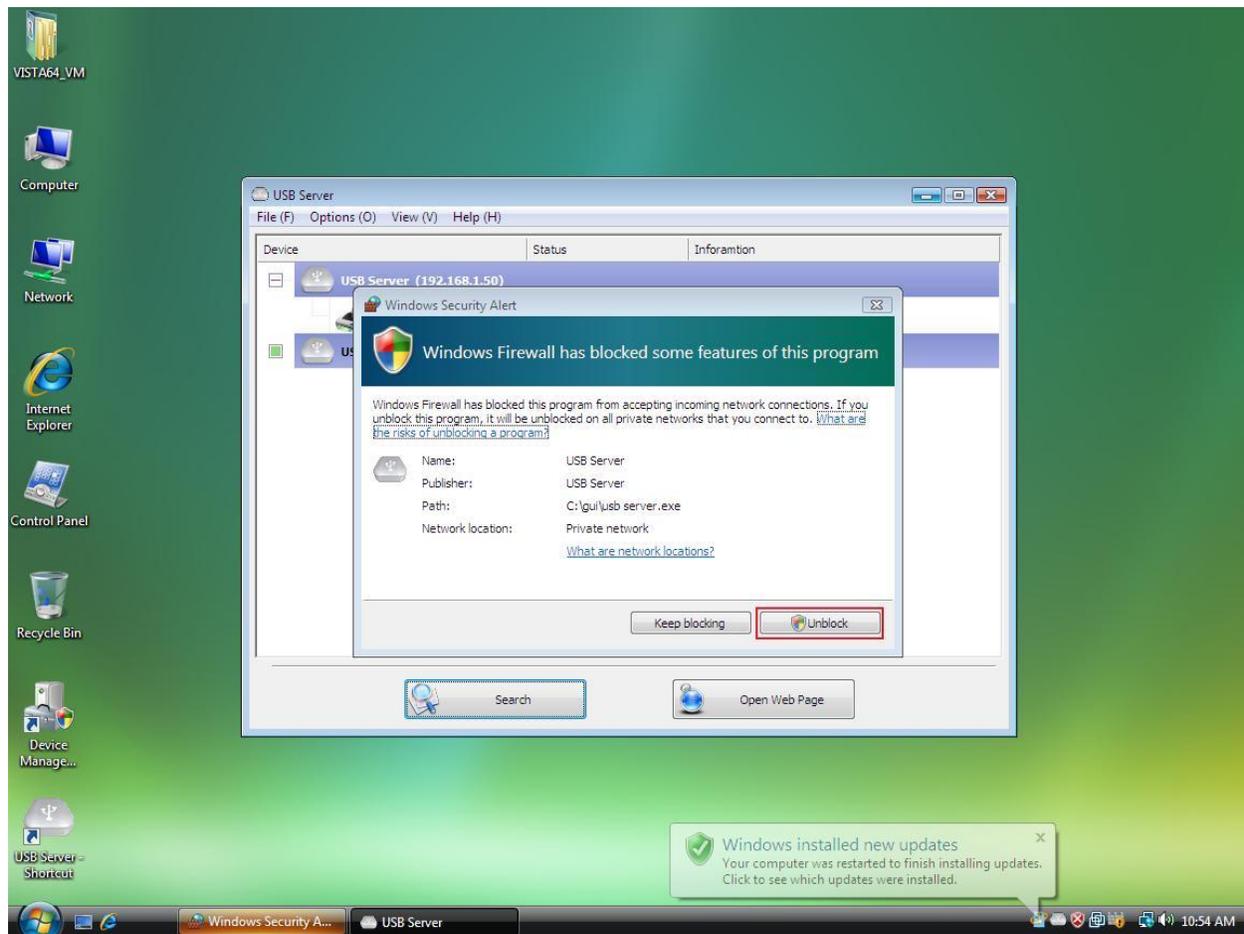
When you start the program for the first time, your Windows OS will prompt you for Firewall Access. Please make sure you unblock the software or grant it access, otherwise the program will not work correctly.

Windows XP Firewall Access Alert



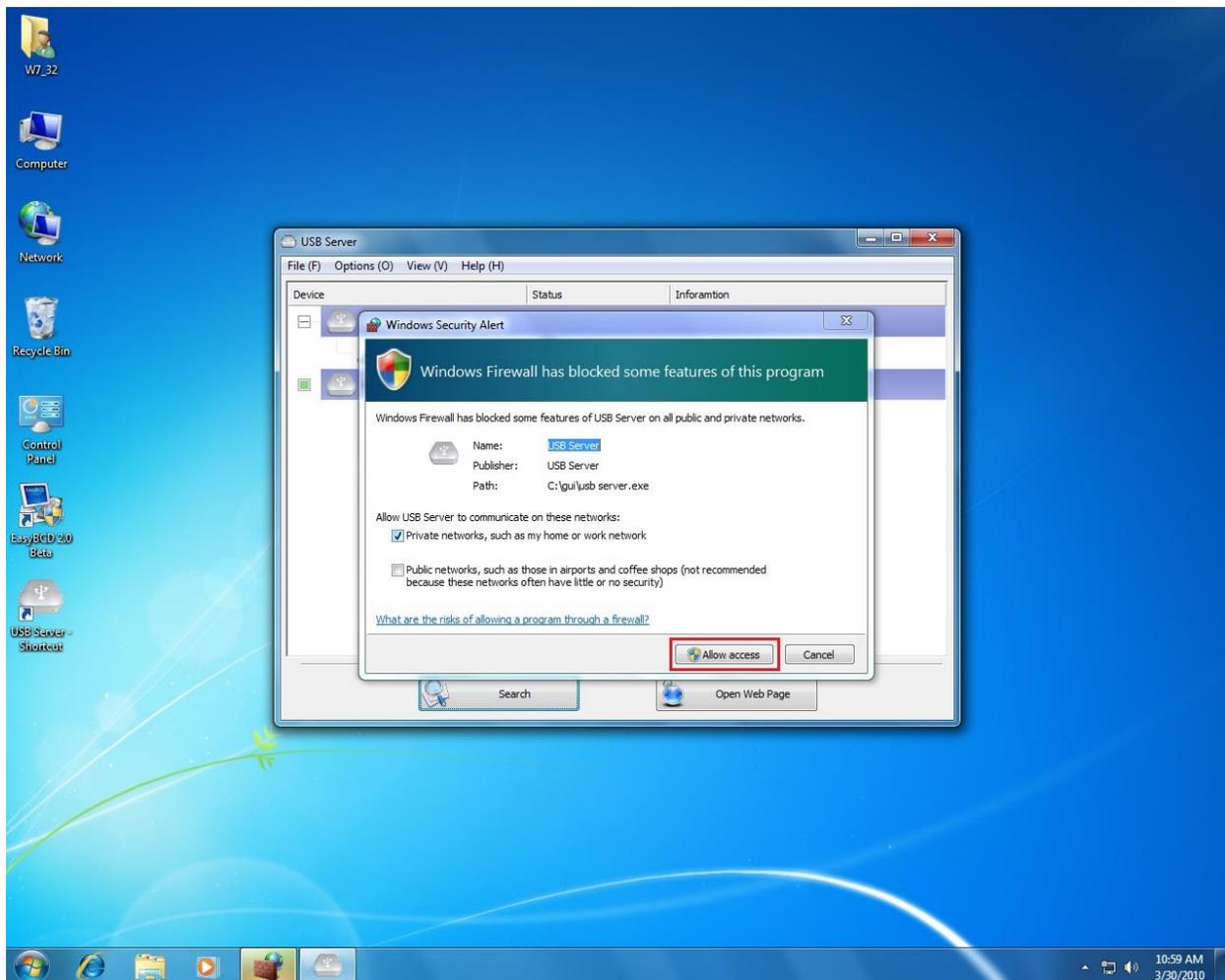
Please make sure you “Unblock” the program.

Windows Vista Firewall Alert



If your system is running Windows Vista, please make sure you “Unblock” the program.

Windows 7 or 8 Firewall Alert

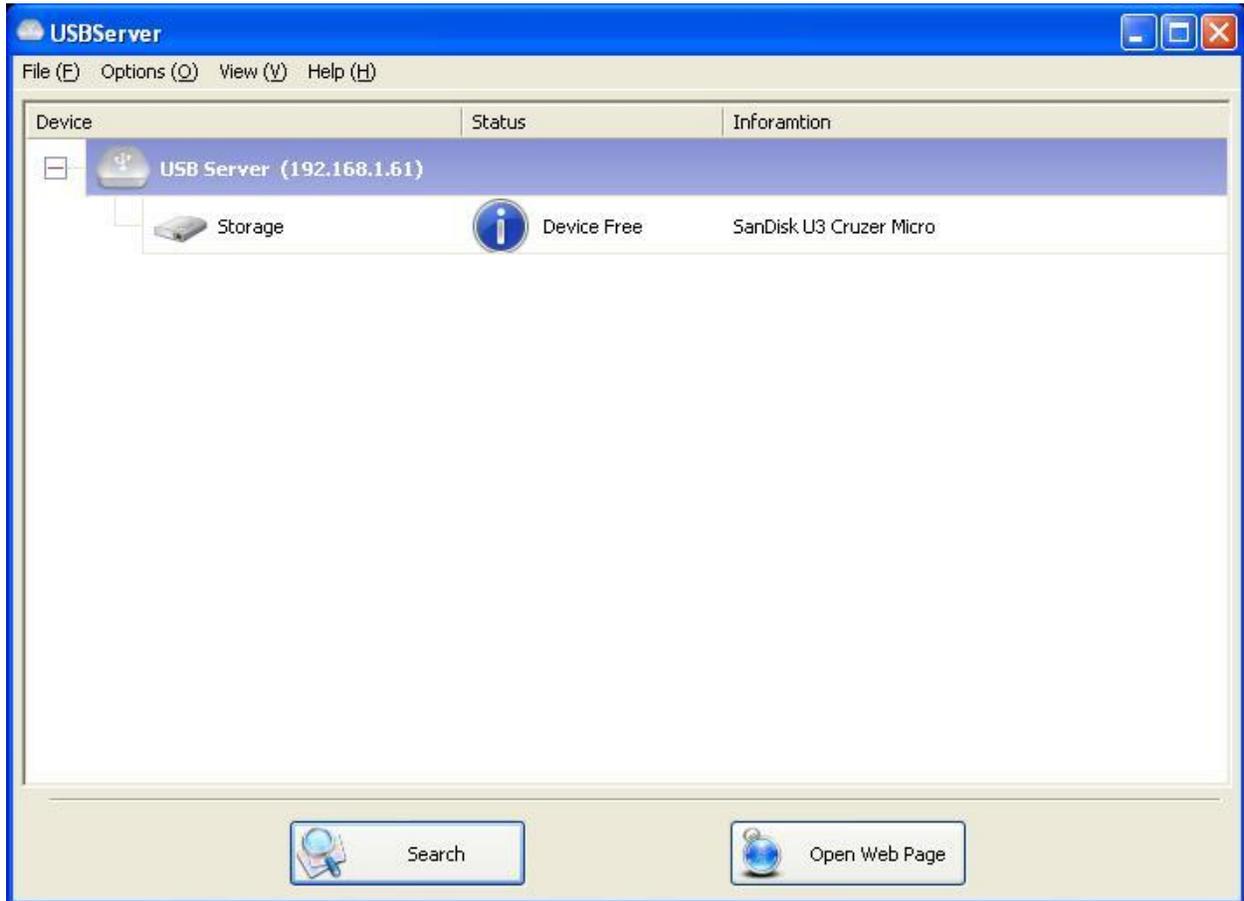


If your system is running Windows 7 or Windows 8, please make sure you click on “Allow access” when you see this alert.

Once you have done this once, the system will remember your setting and will not prompt you again next time you run the software.

Main Dialog Box

Once you have start up the program and grant it access through the firewall, you will see this main dialog box.



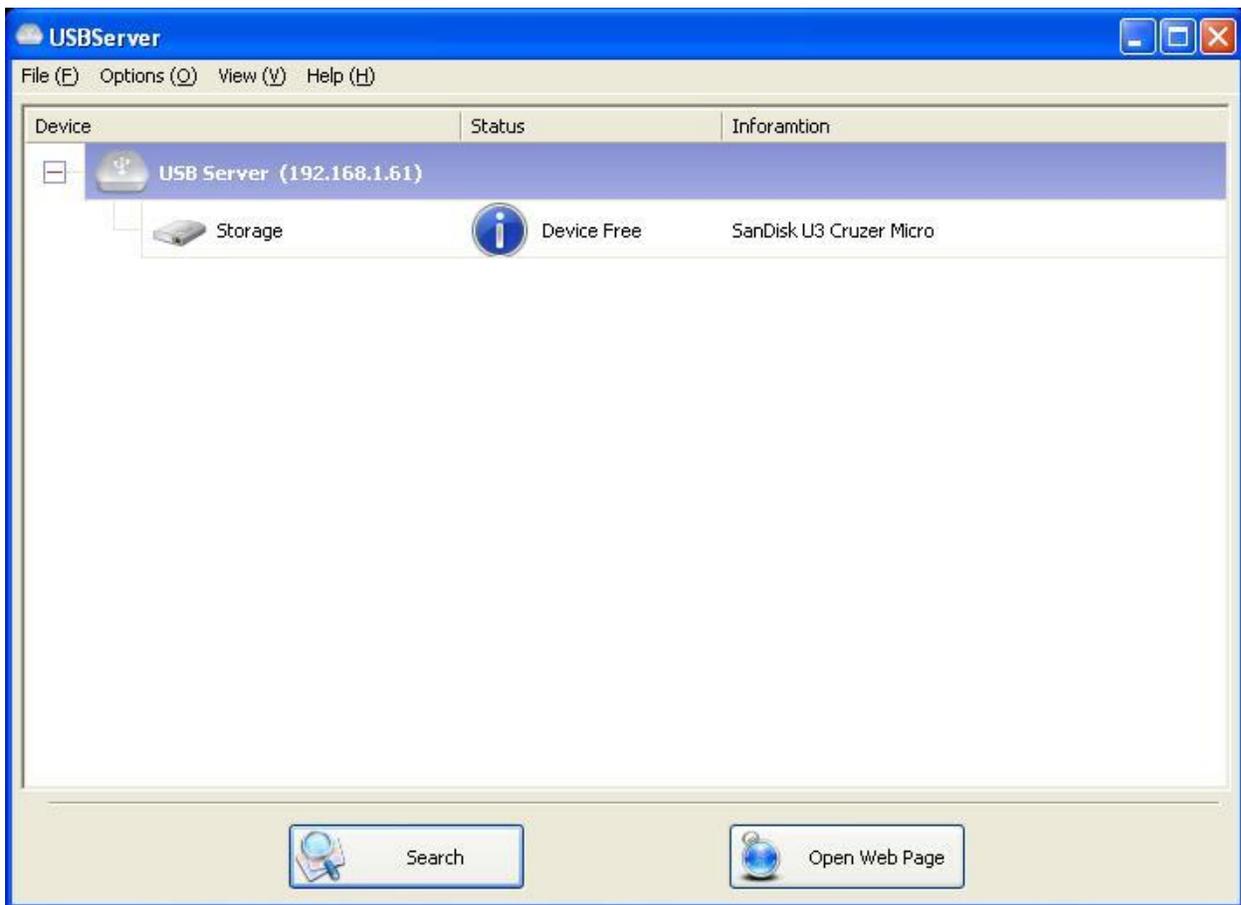
The main dialog box consists of a **Control Menu** (File, Options, View and Help), a tree view in the middle that displays a list of all the Server and devices discovered on the network, a **Search** button to get the current status of all USB Servers and devices, and a button that toggles between **Open Web Page** and **Connect Device** depending on the node you select on the tree view. The **Open Web Page** button toggles to **Connect Device** when a device is highlighted.

Status of NetUSB-100iX4 USB Servers and Devices

The tree view also tells you the status of all the NetUSB-100iX4 USB Servers and devices that are discovered on the network. An inaccessible USB Server will not show up on the list. It is either disconnected from the network, powered off or suffering from other technical difficulties.

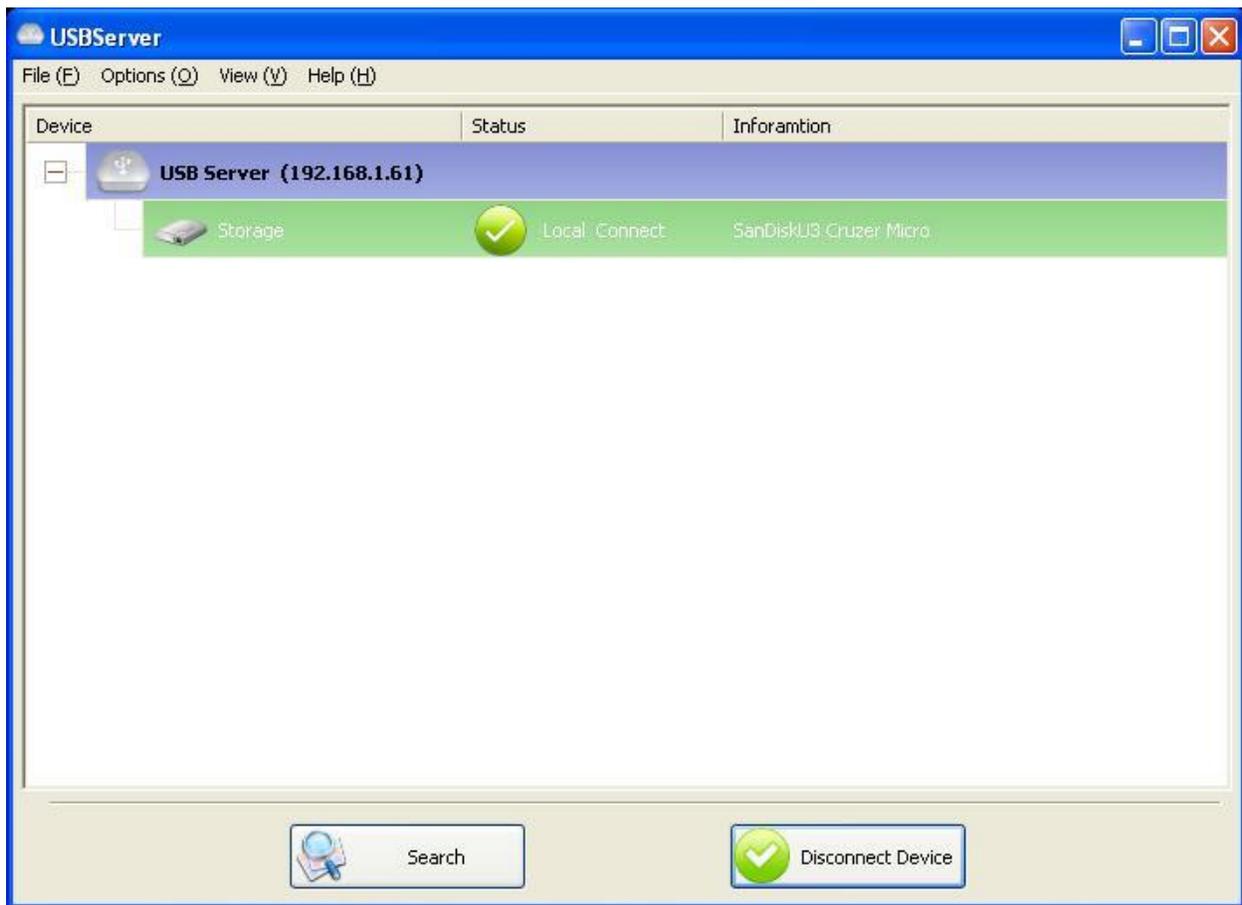
The device might be in one of the following states, and there are different things you can do with it in each of the states. A specific icon represents each status.

Device Free



A device with **Device Free** status is unoccupied and ready to be connected.

Occupied by Yourself



When you are **connected** to a device, the green icon turns into an orange icon to signify the establishment of the connection.

Occupied By Other User



This status icon indicates another user on your network occupies the device and you cannot connect to that device at the moment.

Device on Different Segment



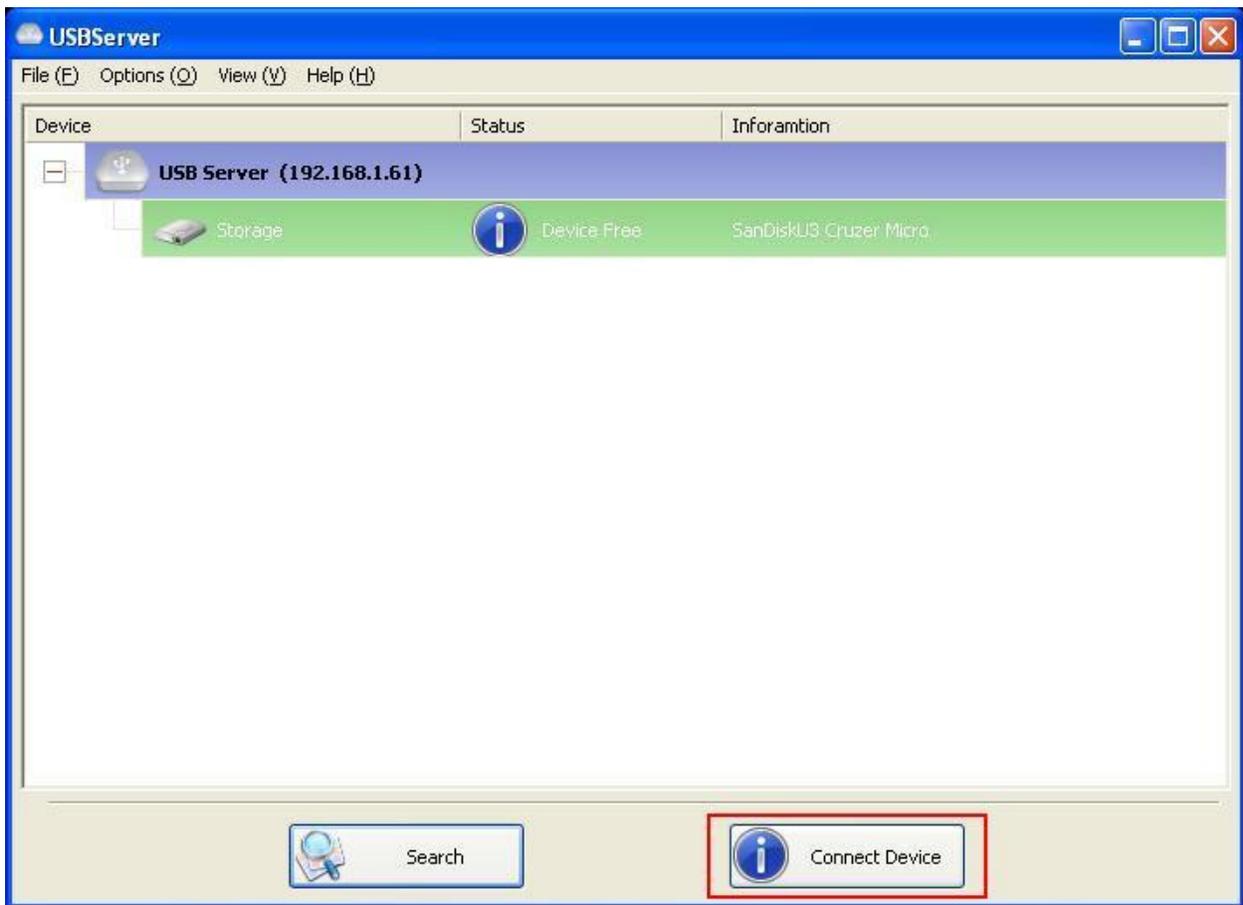
This icon with question mark indicates that the server's IP address is on a different network segment from your PC. You cannot connect to a device attached to such server. Please check your network settings. However you can still change its network settings.

Unsupported Device



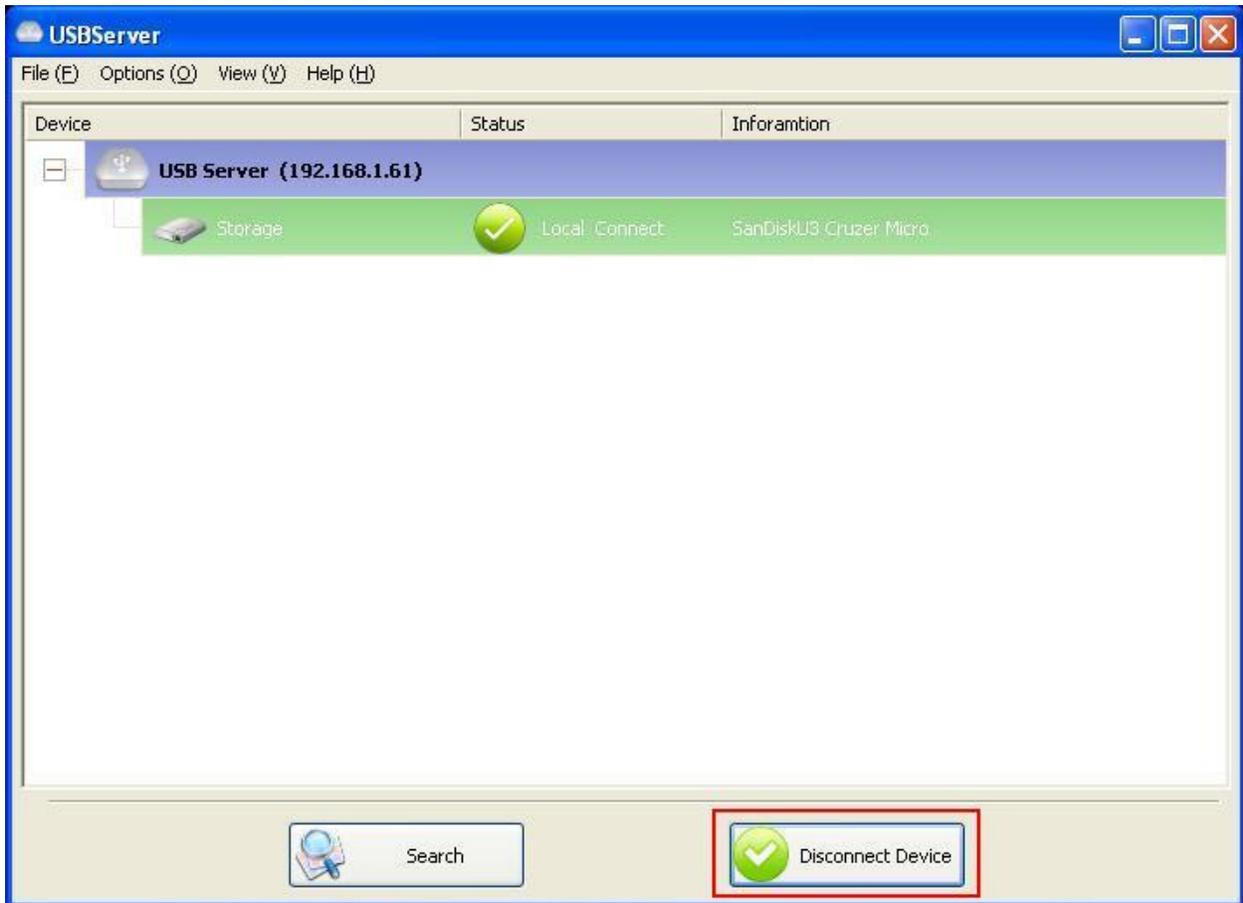
NetUSB-100iX4 USB server does not support some of the devices. A stop sign icon as shown will identify such device. Of course, connecting to an unsupported device is not allowed.

Accessing a Device



To connect to a USB device, please select it on the tree view and click on “**Connect Device**” button or double-click on it. This process might take a few seconds up to a minute, depending on the complexity of the device. **Then you can operate a connected USB device as if it were connected to your PC’s USB port directly.**

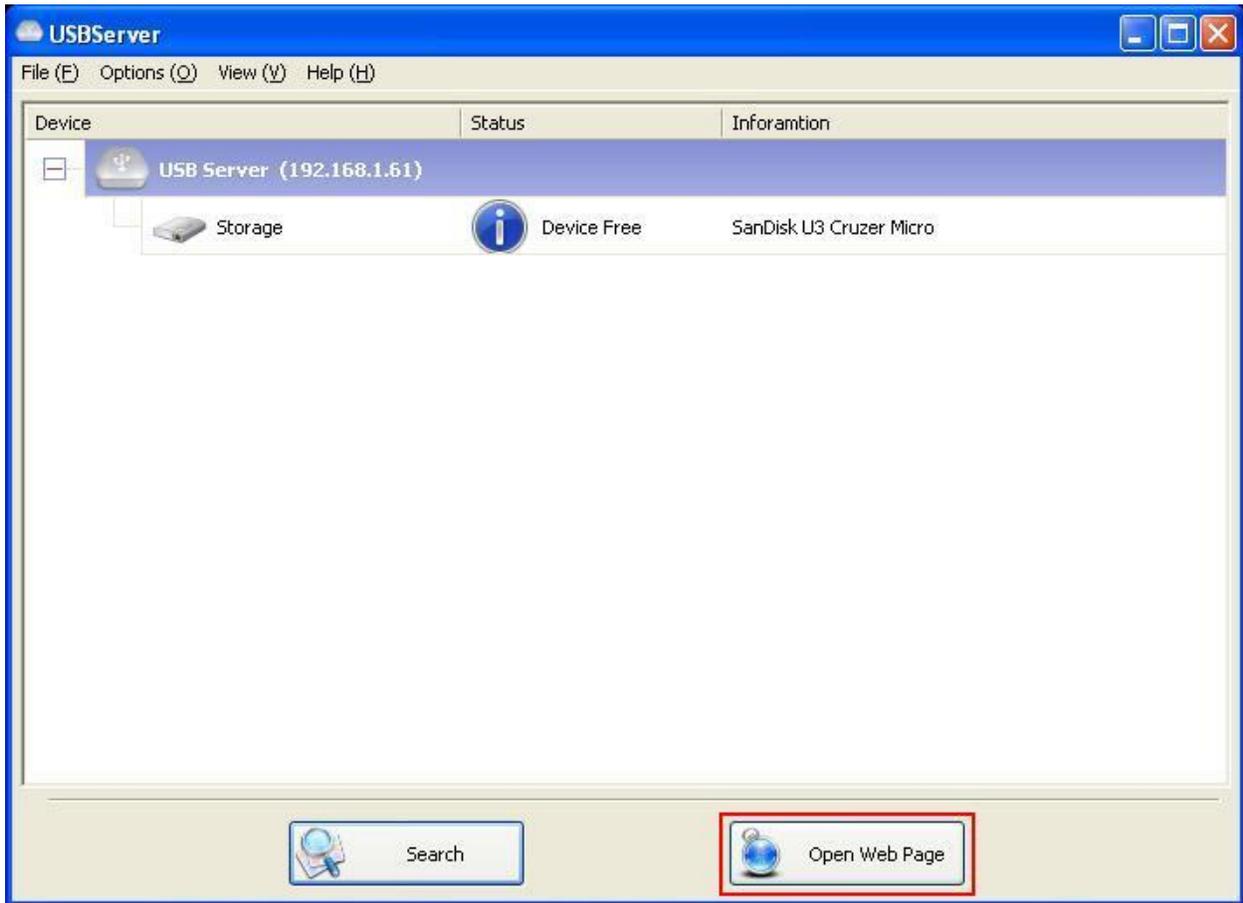
If you select a connected device on the UI, you can see that the “**Connect Device**” button is changed to “**Disconnect Device**”:



Clicking on this button releases the selected device for other users. Once you see the icon turns back, the device has been disconnected and other users will then be able to connect to it.

This operation is exactly like when you unplug a USB device from your PC's USB port.

Server Configuration



You can configure the settings of the NetUSB-100iX4 USB Servers via the web-based UI. Select the target USB Server on the tree view and click on the “**Open Web Page**” button. Or, you can right-click of Server icon to bring up the web-based configuration utility interface.

Configuration with Web-based Interface

Your default web browser will pop up and take you into the web-based interface of the USB Server.



Device Status
Network
Reset Device
Password Change

Status

Server Information	
Server Name	USB Server
Manufacturer	Generic
Model	USB Server
Firmware Version	V. 100.067
Server UP-Time	28 days, 8 hours, 4 minutes, 3 seconds.

Device 1 Information	
Device Name	Canon MF3110
Link Status	Online
Device Status	Ready
Current User	

This is the main page showing the Status of the USB Server. You can see the important information about the NetUSB-100iX4 USB Server and the device(s) connected to it. The four links at the left-hand side take you to different pages with other information about USB Server or functions you can perform. Clicking on “Device Status” brings you back to this main page.

Network Information and Setting



Device Status
Network
Reset Device
Password Change

Network

Network Information	
IP Setting	Fixed IP
IP Address	192.168.2.17
Subnet Mask	255.255.255.0
MAC Address	00:40:01:00:00:01

Network Setting	
DHCP Setting	Disable <input type="button" value="v"/>
IP Address	192 . 168 . 2 . 17
Subnet Mask	255 . 255 . 255 . 0
Server Name	USB Server
Password	<input type="text"/> *Must Provide If Available*
<input type="button" value="Submit"/> <input type="button" value="Clear"/>	

This page displays the current network setting of the USB Server. It provides links to the pages where you can perform special actions. You can change the network setting according to your need. If you would like to give this USB Server a static IP, select “Disable” in “DHCP Setting” to disable the DHCP option. Once you are done, click on the “Submit” button and reboot the server.

NOTE: A Server with busy device(s) connected cannot be configured to prevent interruption of any on-going tasks.

Server Reset

Clicking on this link takes you the page show below:



Status
Network
Restart Device
Password Change

Restart Device

Restart Device	
Password	<input type="text"/> *Must Provide If Available*
	<input type="button" value="Submit"/> <input type="button" value="Clear"/>

Click on the "Submit" button with the correct password entered will reboot the USB Server. If no password has been set, then simply click on "Submit" button to perform this function. Password is blank by default.

Change Password

Clicking on this link takes you to the password update page below:



Device Status
Network
Reset Device
Password Change

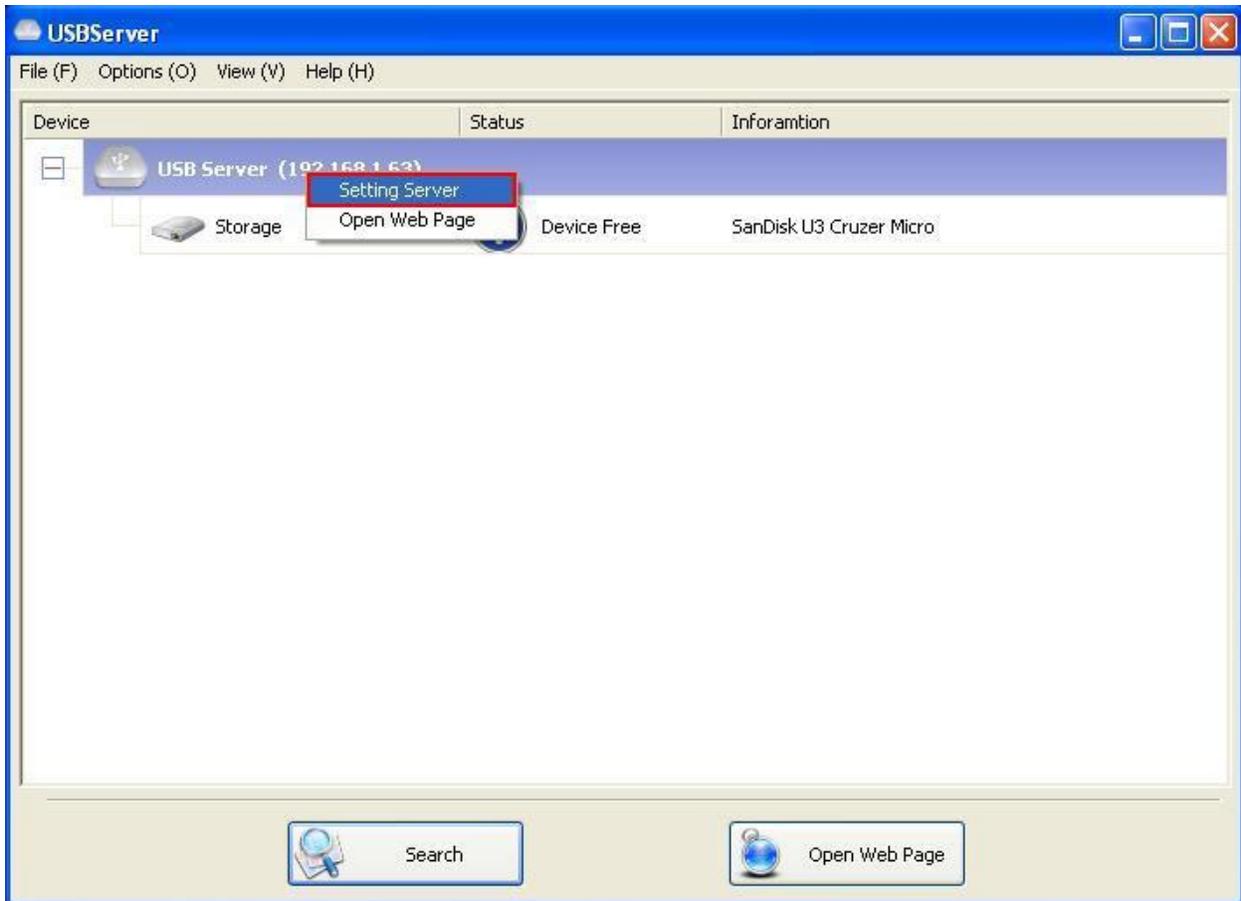
Password Change

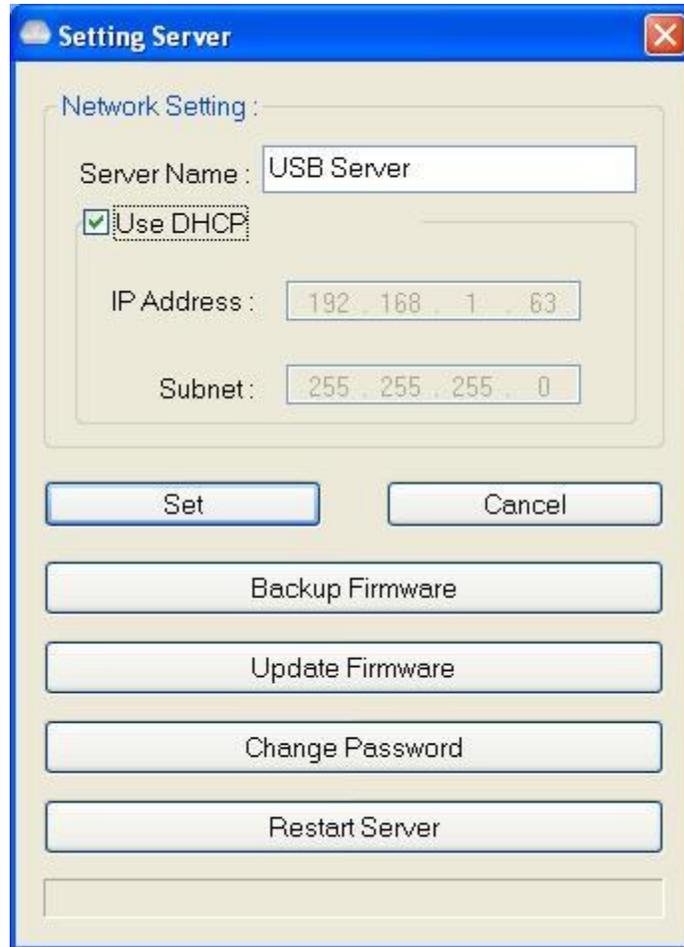
Password Change	
Current Password	<input type="text"/> *Must Provide If Available*
New Password	<input type="text"/>
Confirm New Password	<input type="text"/>
<input type="button" value="Submit"/>	

To change the password, you must first enter the current password. Then enter the new password, and enter it again for confirmation. Click on “Submit” to set the new password. If you are setting the password for the first time, you don’t have to provide current password and just leave it empty.

Configuration with the Utility

Another way to configure the server is via the configuration dialog of USB Server. To bring up the configuration dialog, please RIGHT-CLICK on the USB Server icon to bring up this menu, and select “**Setting Server**”.





You might be prompted to enter password if one has been set. If not, you will immediately see the above dialog.

Server Name: This field allows you change the Server name.

USE DHCP: When this field is checked, your USB Server acquires IP address automatically (DHCP mode). DHCP active is the factory configuration. Uncheck this field, if you want to enter static IP address and set it to a fixed IP address manually.

NOTE: You can apply this function to a USB Server under different network segment. However, some router/switch hub does not allow communication between Servers under different segment. In this case, you won't even see the Server on a different network segment.

Backup Firmware: this function is a fail-save mechanism for the Update Firmware function. Just browse to where you want to save the backup file and click on “**Save**” to save the file.

Update Firmware: update firmware with this function. Use “**Browse**” button to choose the firmware to update. Click on “**Open**” to start.

Change Password: Simply enter the new password and enter it again for confirmation. Click on “**Submit**” to change.

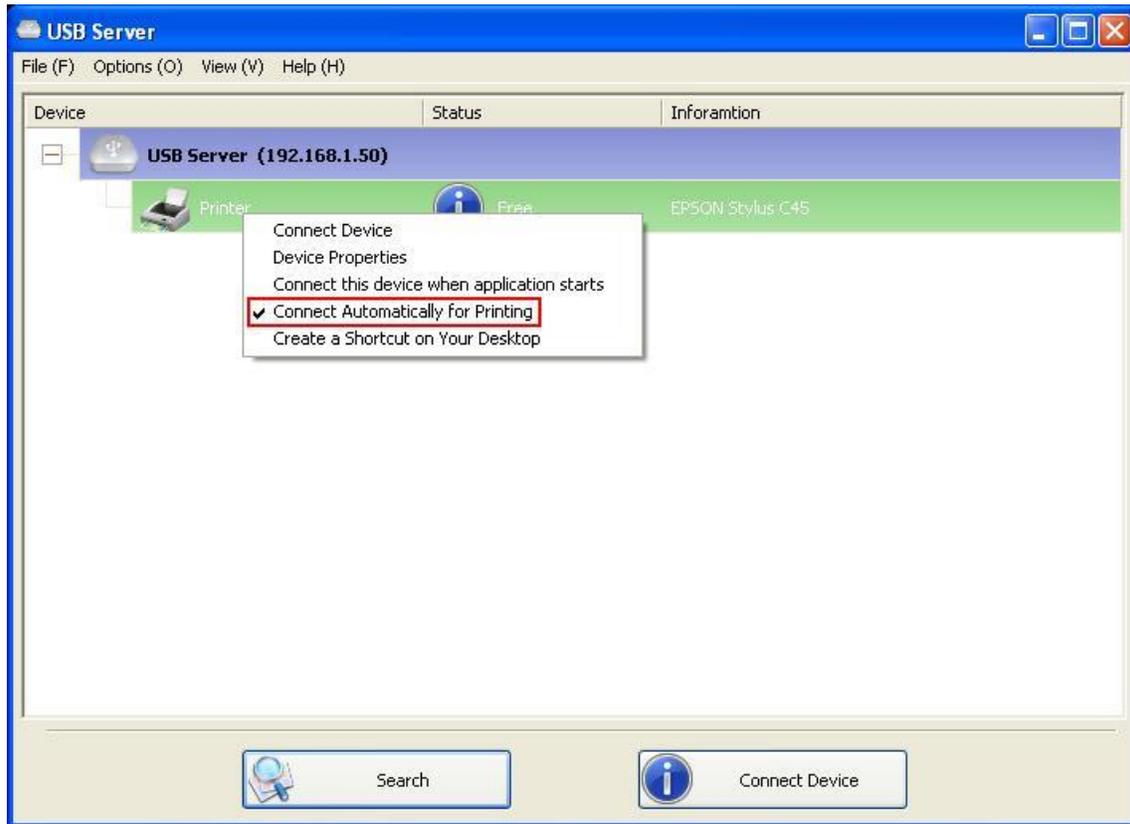
Reset Server

This button reboots the USB Server. Please note that this function will only work when the Server is not connected with any devices. Please disconnect all the USB devices, before you reset the Server.

Featured Functions

Connect Automatically for Printing

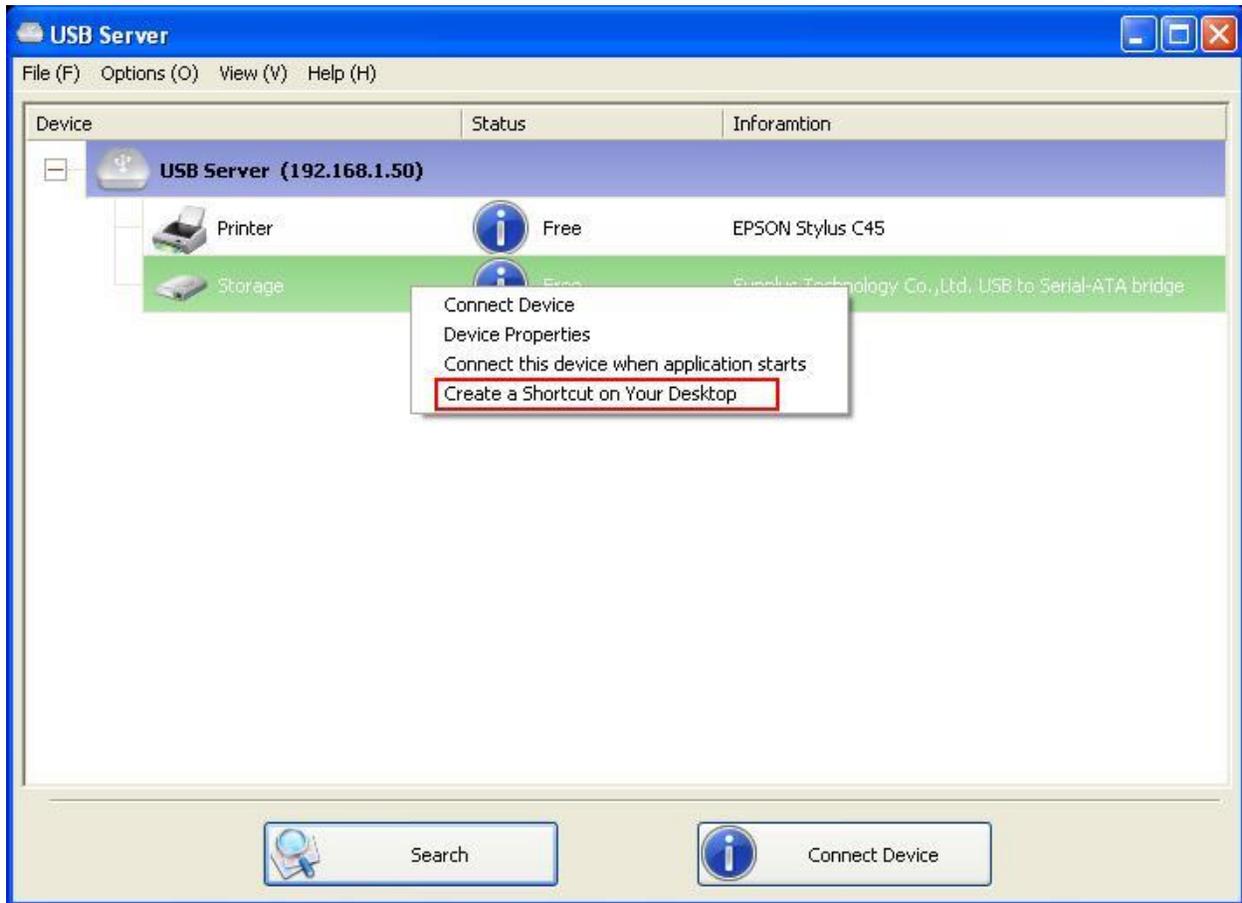
This is another one of our very convenient functions provided by NetUSB-100iX4.



What this function does is that when you send a printing task to this printer, it detects this printing task and automatically connects this printer to print out the document. When the printing task is done, the printer will then be automatically disconnected so that other users can use it. The user no longer has to manually connect and disconnect the printer.

NOTE: This function will be enabled for printers or MFPs that has been installed and used on your PC. For a new printer/MFP, please make sure you have installed it (has been connected via USB port or via USB Server software and worked correctly) on your PC first.

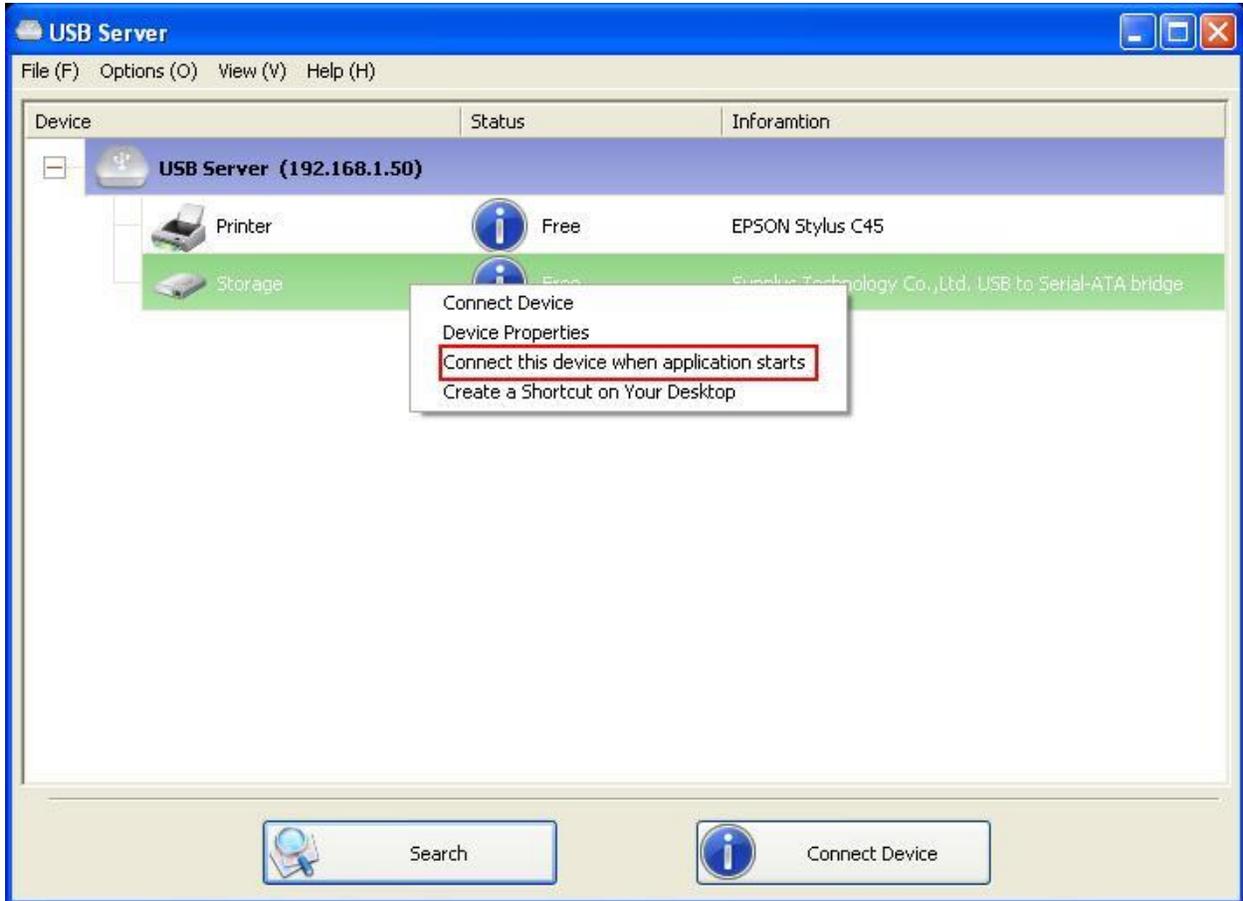
Create a Shortcut on Your Desktop



This function creates a shortcut on your Desktop that, when double clicked, starts up an application and connects a targeted USB device at the same time. This function is particularly useful when the functions, or one of the functions, of the targeted USB device must work with a specific application, such as a multi-function printer and the photo/picture scanning utility. Normally, if you want to scan with a scanner connected to a USB server, you must first connect the Scanner with the USB Server software, then run the scan software and start scanning. When you finish with scanning you have to close the scan software and then disconnect the scanner so that other user can use it.

This shortcut function consolidates these steps into two quick double-click. Let's see a sample use case.

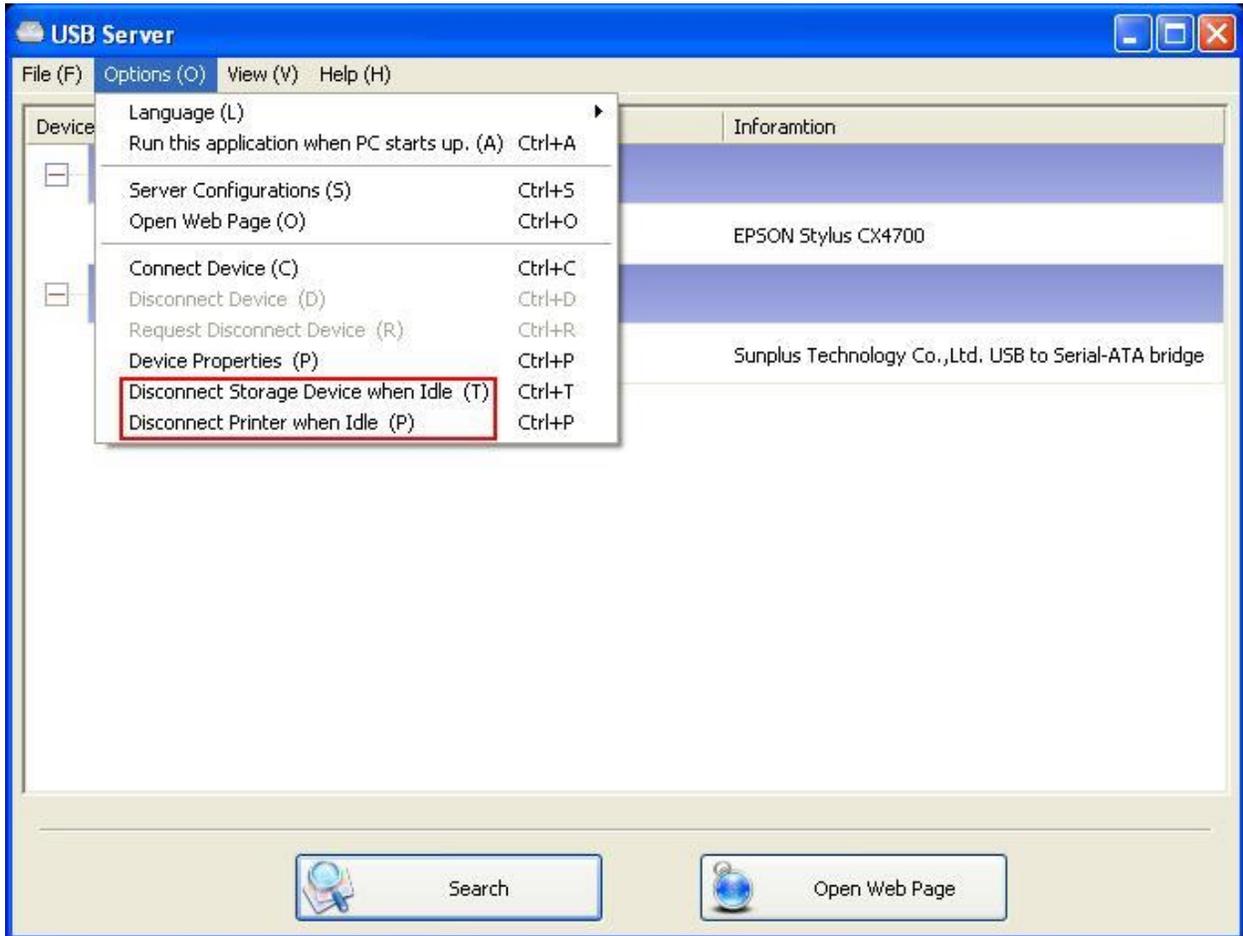
Connect this device when application starts



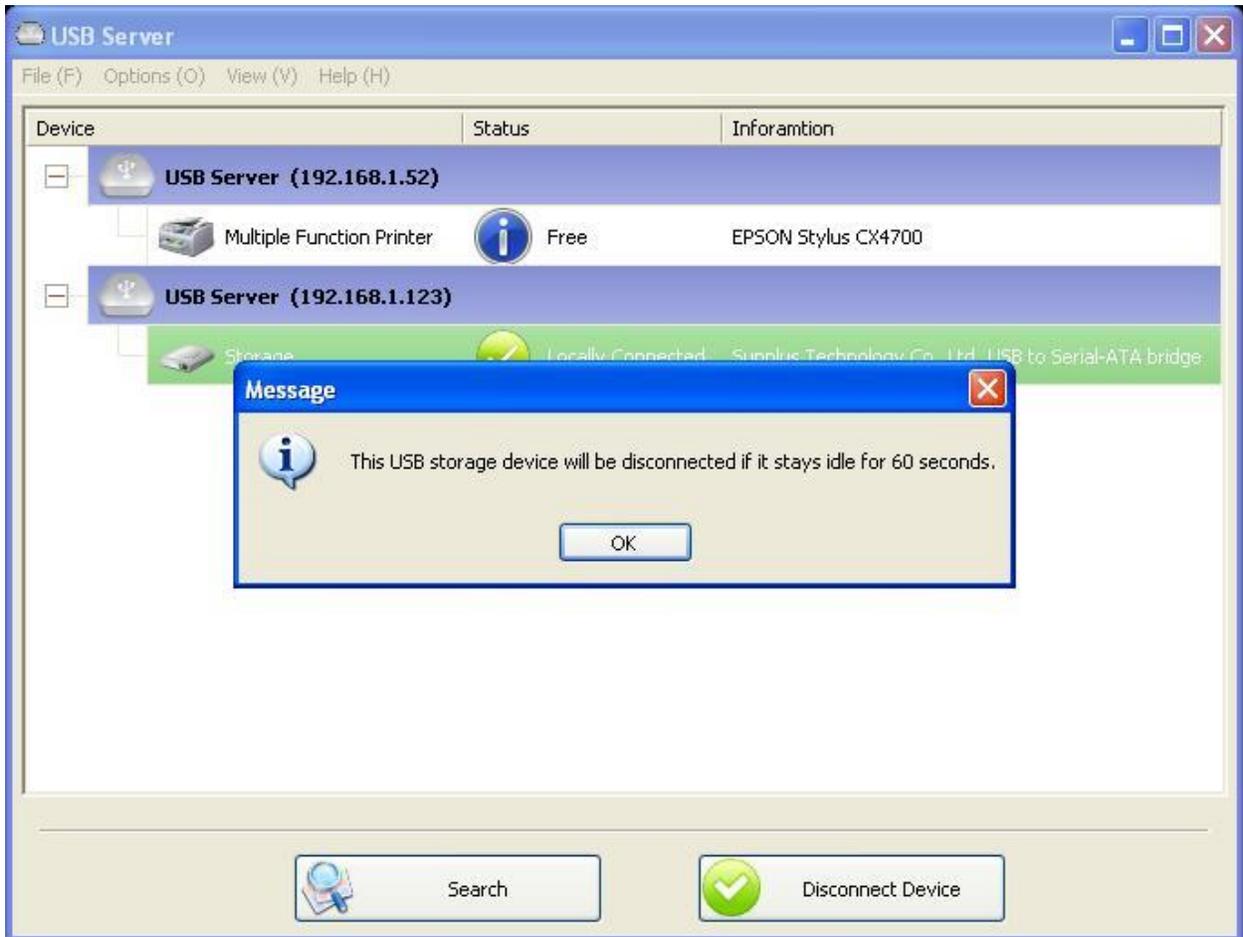
When enabled, this function automatically connects the target device 15 seconds after the application starts running. If you are using a USB hub connected to the USB Server, the device connected to that USB hub won't be automatically connected. The devices must be connected directly to the USB ports on the USB Server. If the USB device is occupied or offline when the application starts, then it will not be connected.

Auto Disconnect USB Device

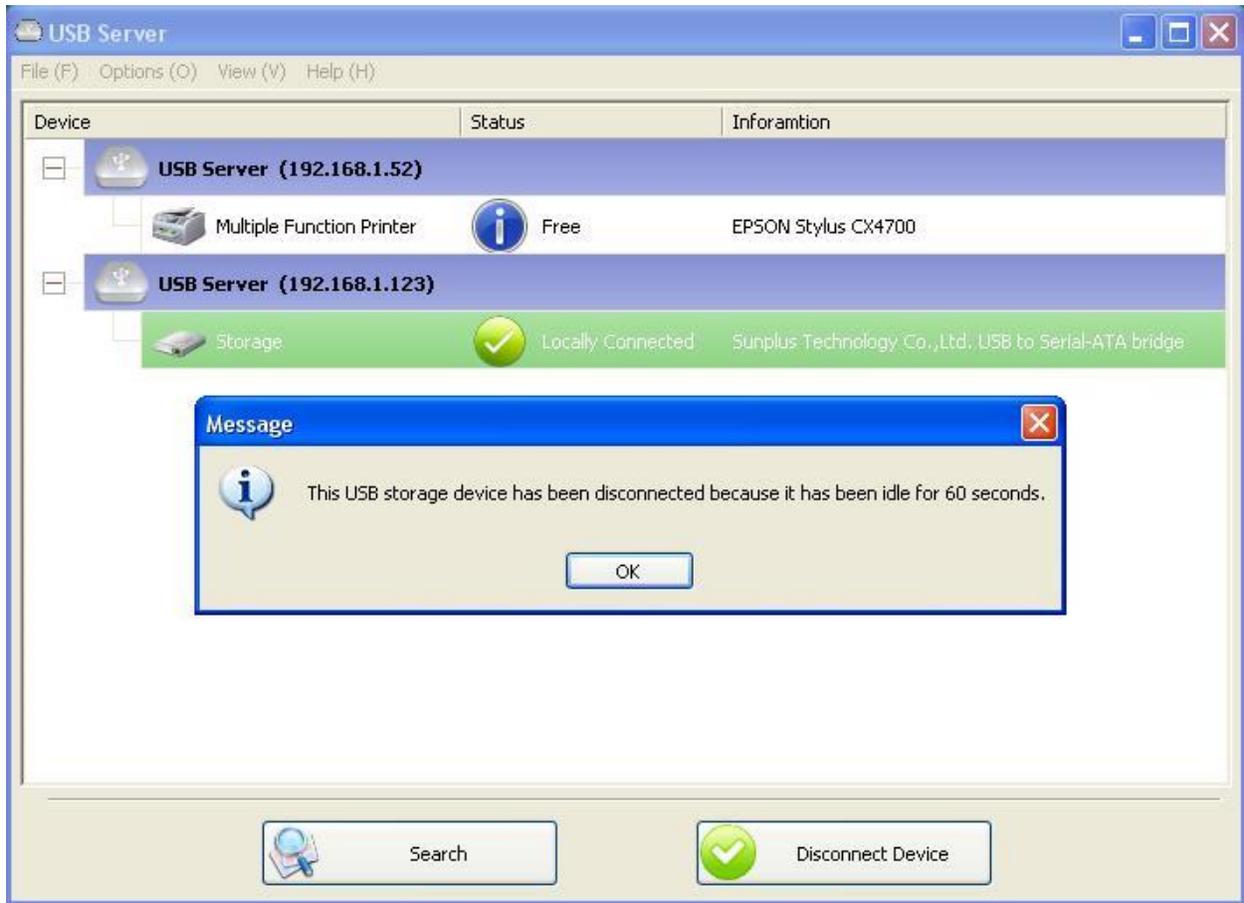
These functions are designed to prevent the case when one user connected a Printer, or Storage device, but forgot to disconnect when he or she is done with the device.



When these two functions are enabled, you will see this message when you connect a Storage device or a printer:



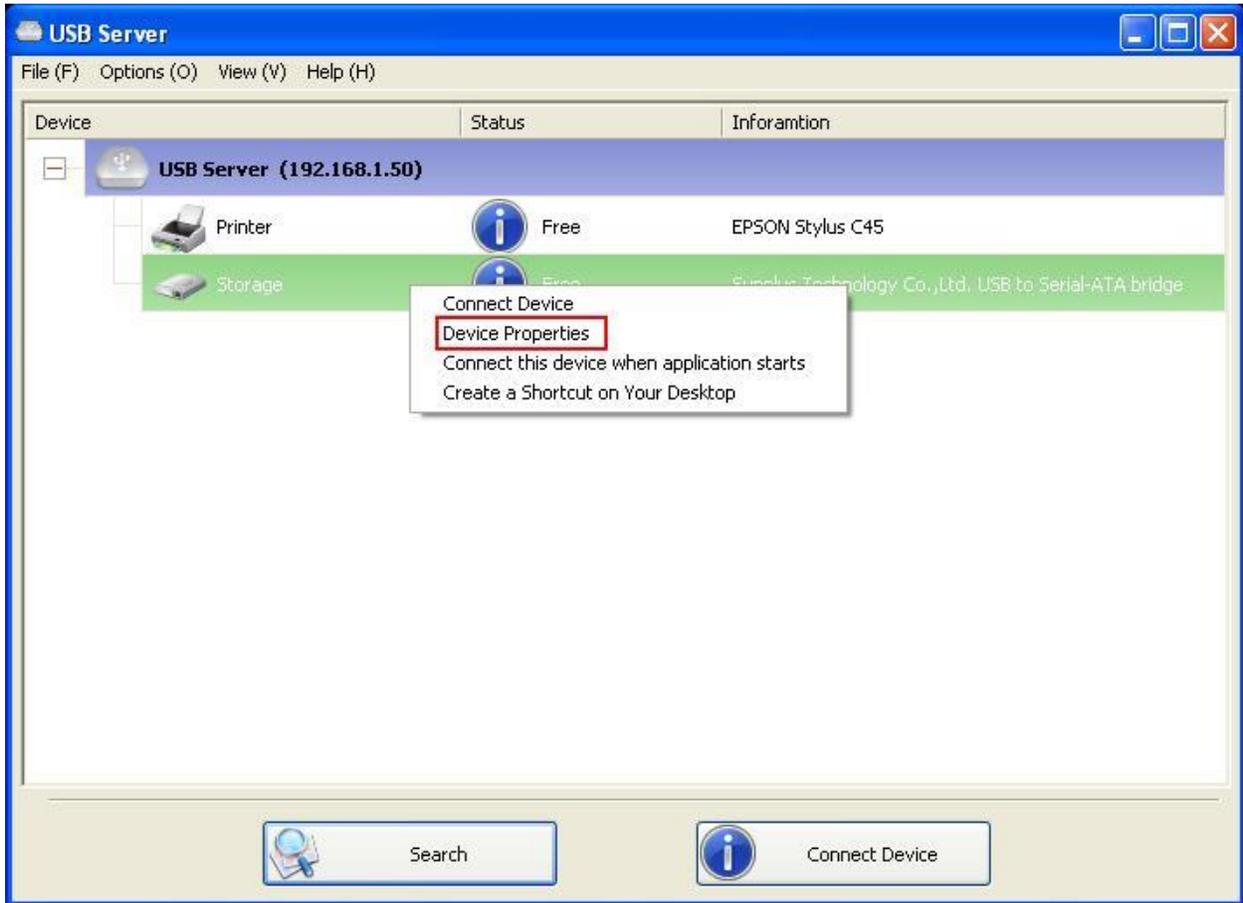
When the Idle time is up and the device has been disconnected, you get another notification:



NOTE: This function might not work with Storage device such as pen driver/flash driver. These devices tend to periodically (on a millisecond base) communicate with the OS even when the user is not reading data from it or writing data to it. So, it never actually stays “Idle” and will never be automatically disconnected by this function. External USB HDD type storage device does not have this problem.

Device Property

Clicking on the “Device Properties” to bring up the **Device Property** dialog box.





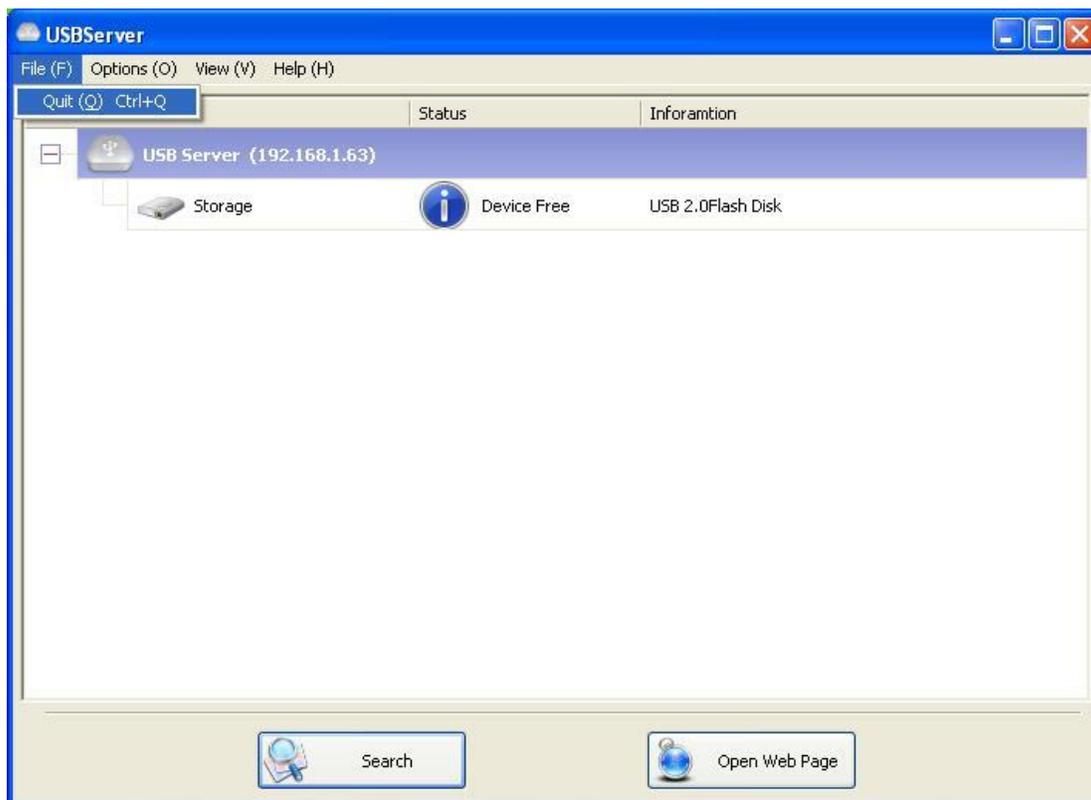
“**Device Property**” dialog box displays information of the USB device. If the device is occupied, it also displays the occupying PC name and the IP of the PC occupying it.

This dialog box provides a quite useful function. Check the “**Launch a program when this device connects**” checkbox and provide the path to that program/utility/application software, then the program/utility/application software would automatically starts up after you connect the device.

This function is particularly useful when the USB device you connect works with an application, such as scanning utility with a multiple function printer.

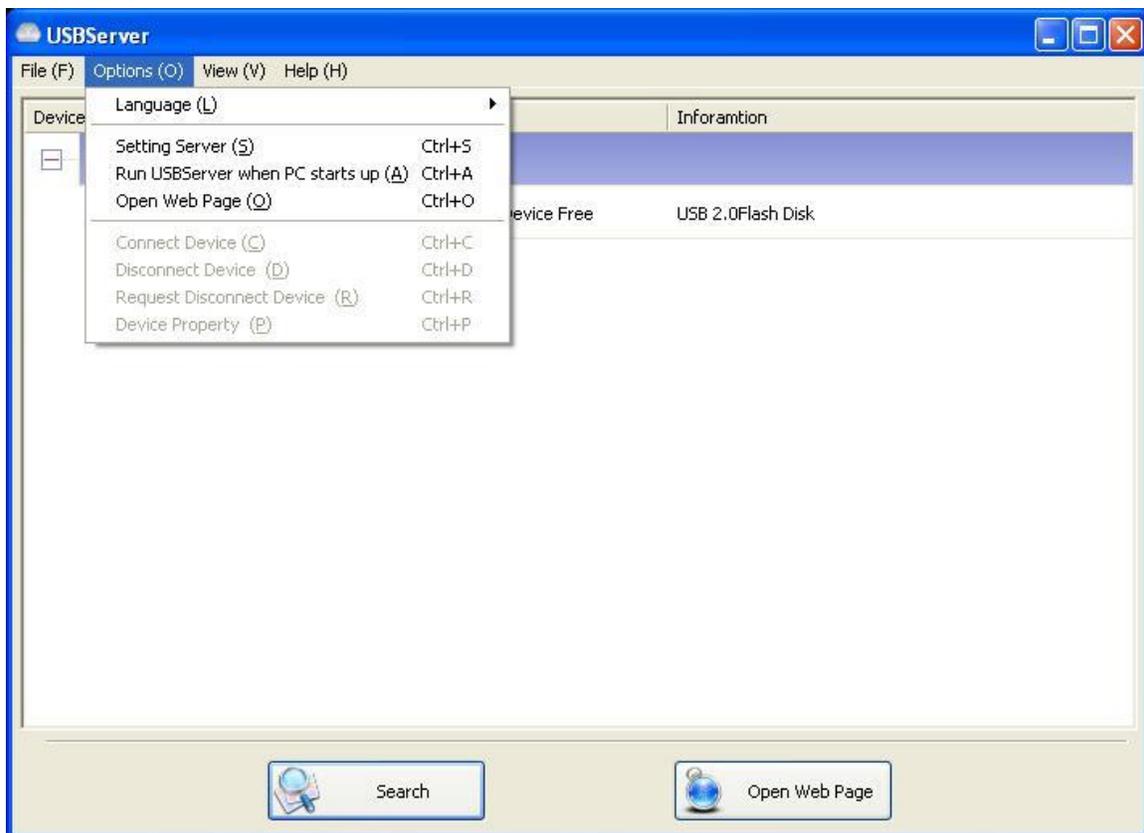
Quit

The **Quit** function exits the program.



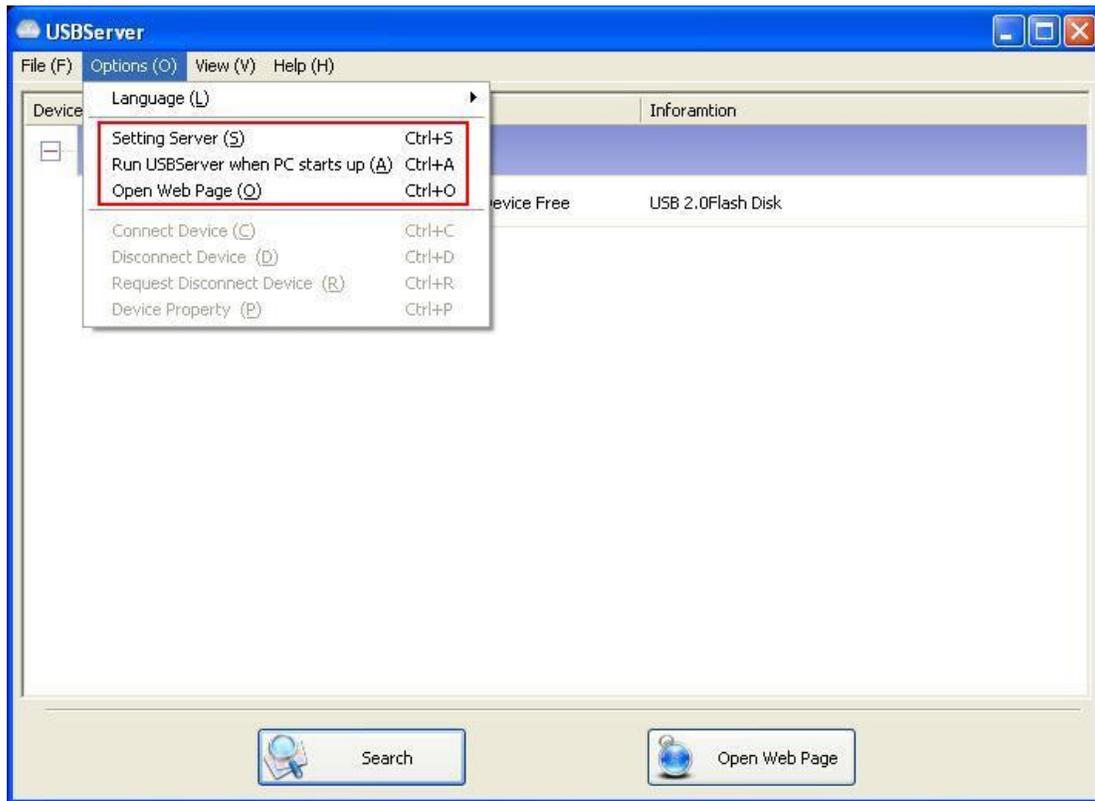
Options

Language



You can change the utility's language with this option. The default language would be the same as your system's language.

Server Settings

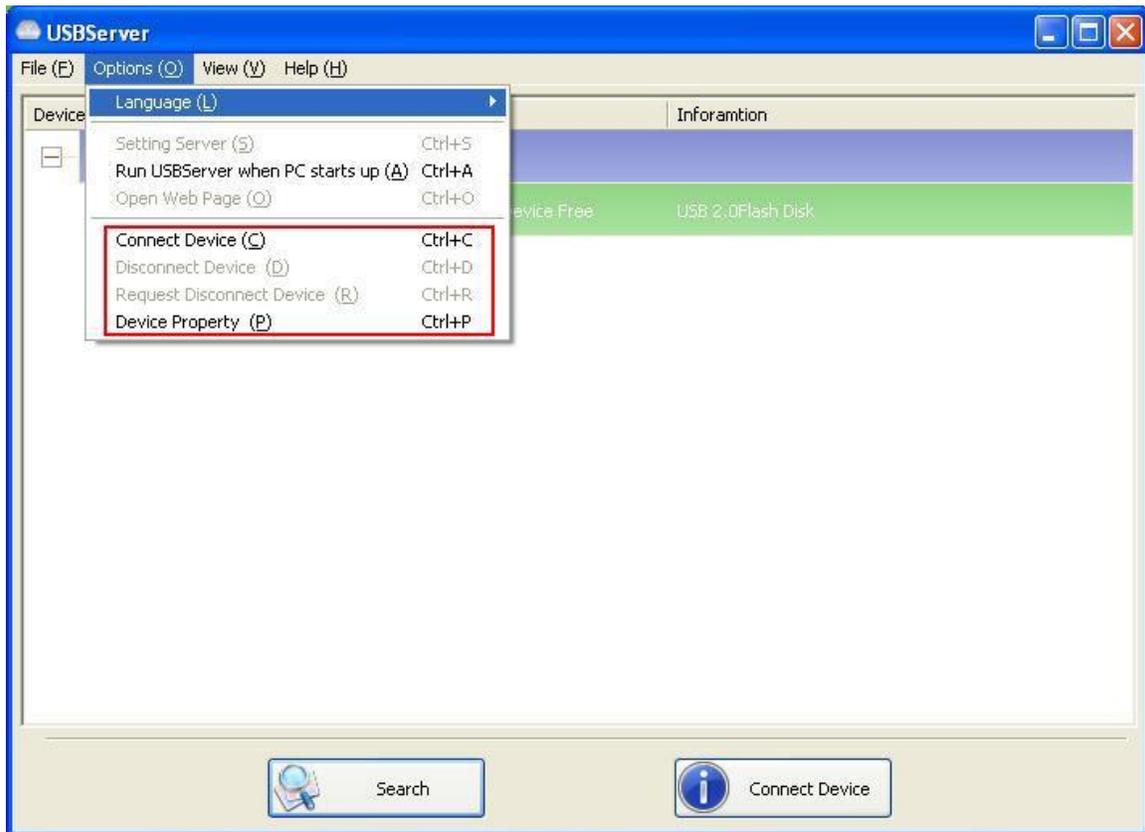


Setting Server: Same function as the “Setting Server” option by right clicking the Server icon menu. (see page 18)

Run USB Server When PC Starts Up: This utility automatically runs when your system starts up.

Open Web Page: Brings up the server’s configuration web pages.

Device Settings

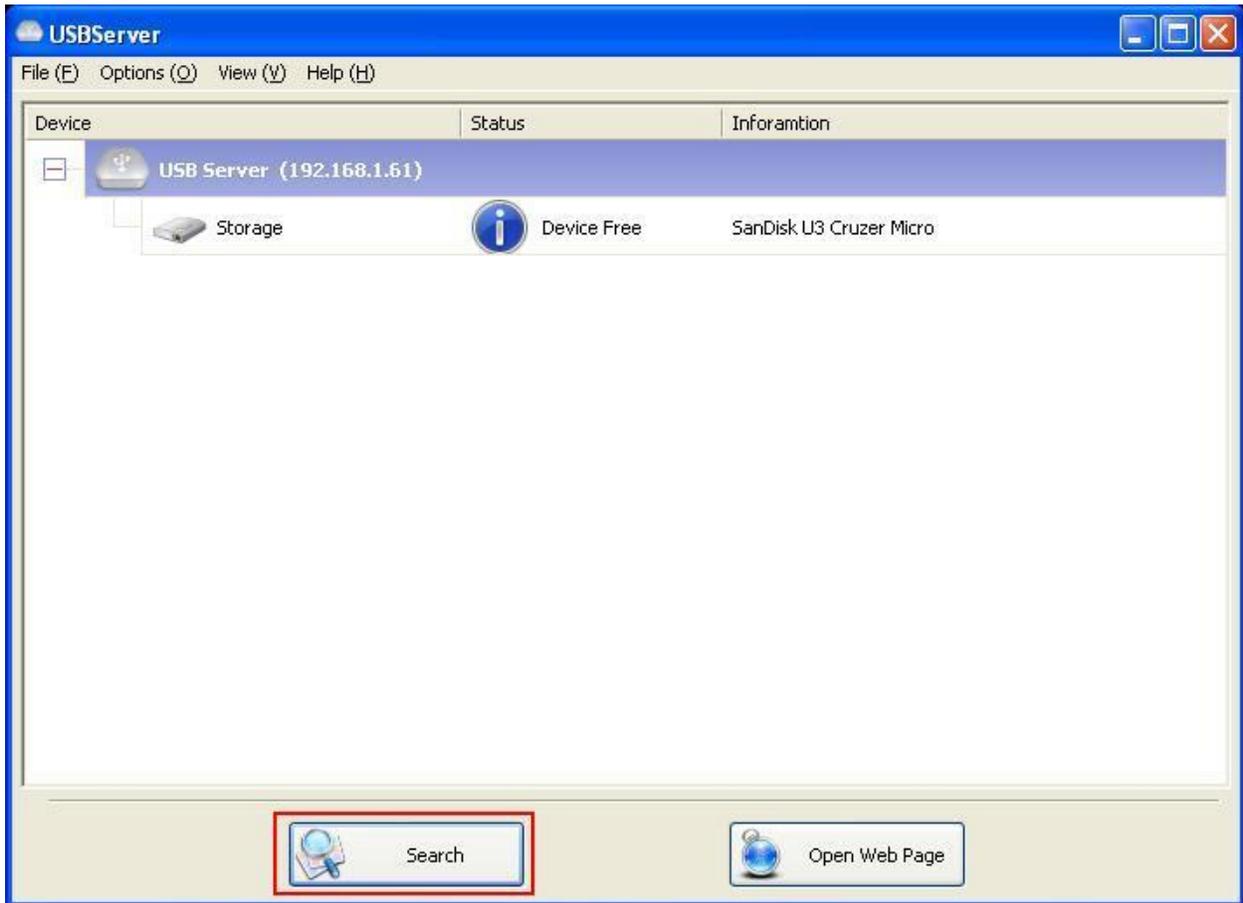


Connect Device and Disconnect Device: Connects and disconnects the selected device.

Request Disconnect Device: When you want to use a device occupied by other user, you can highlight that device and use this function. This sends a message to the occupying user with your request. The occupying user would either release the device or deny the request if she or he is still using the device.

Search

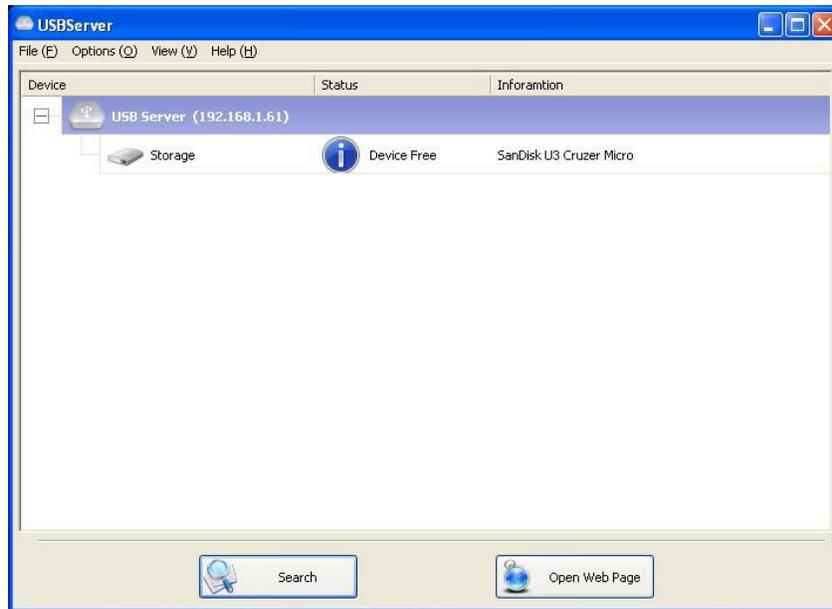
When you are in need of knowing the status of all the USB servers and USB devices immediately, use the “**Search**” button.



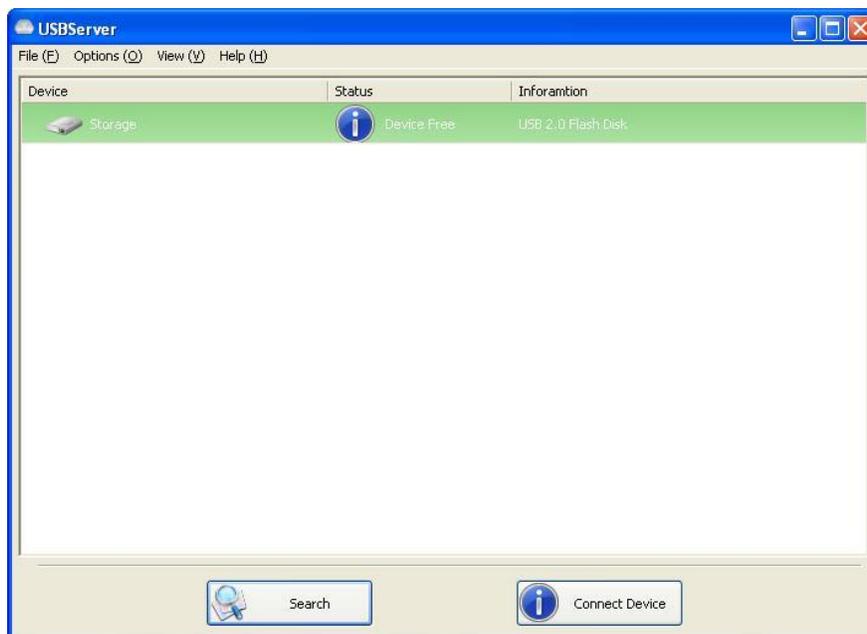
Clicking on the “**Search**” button triggers the program to immediately poll the network for the status of all the servers and devices. The result will be updated to the tree view.

View

The tree view in the main dialog has two display modes: “Servers and Devices” mode and “Devices Only” mode. The default setting is “Devices Only” mode. You can toggle between these two display modes with the “View” option on the control menu:

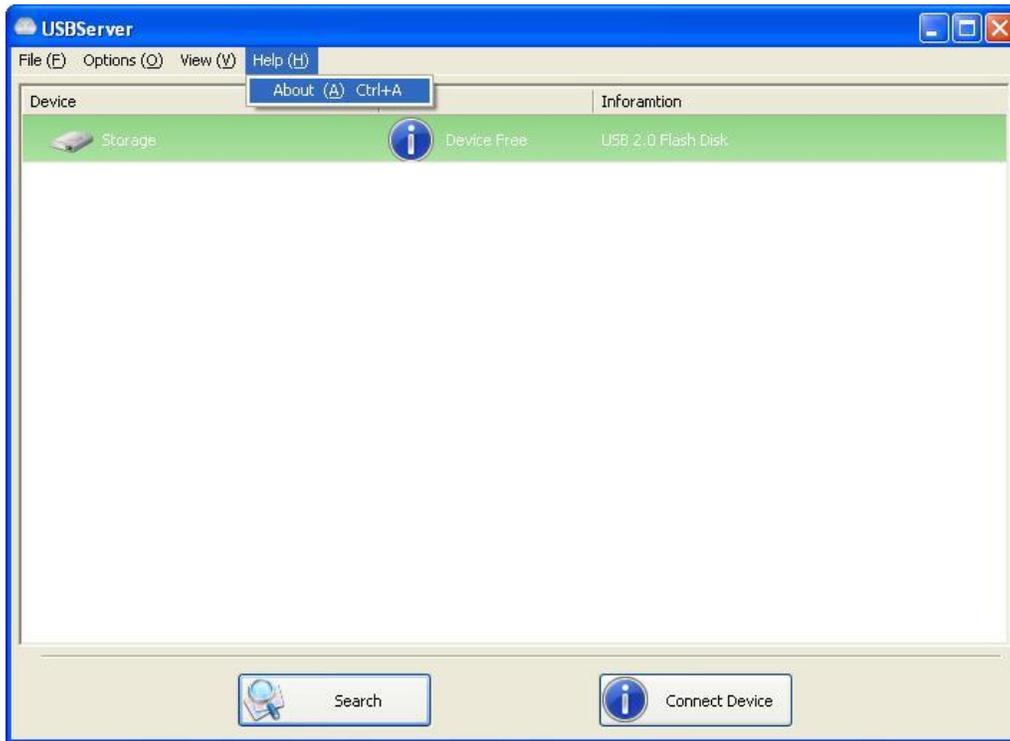


Servers and Devices view

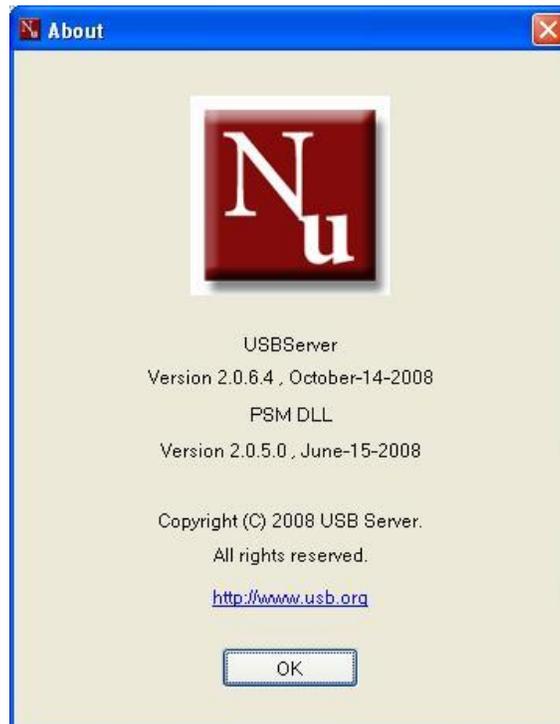


Device Only View

Help -> About



“**About**” option brings up a dialog box with legal and other relative information displayed:



Additional Information

USB Server Status LED's

The LED's determine the USB Server and Device status on the USB server.



“PWR” (Power) LED:

The “**PWR**” (Power) LED indicates the NetUSB-100iX4 is powered on.

Ethernet Status LED's:

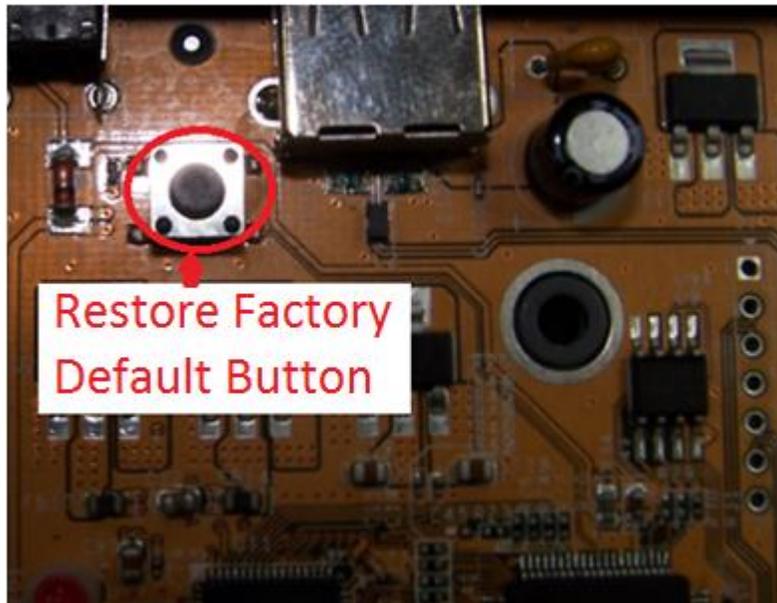
The “**Yellow** 1000M” status LED in the Ethernet Connector signals indicate a 1Gigabit/s Ethernet is connected.

The “**Green** 10/100M” status LED in the Ethernet Connector signals indicate a 10 Mbit/s or 100 Mbit/s Ethernet is connected. The LED will flash, when the Ethernet data is transmitted or received.

Note: The older 10 Mbit/s Ethernet is not a good base for USB server support anyway.

Hardware Restore Factory Default Button

The NetUSB-100iX4 USB server supports Hardware Factory Defaults button to restore the default settings (like IP Address). You will need to open up the case. When the NetUSB-100iX4 is powered on, press the factory default push button for 5 seconds. It will restore the default settings for the NetUSB-100iX4 USB Server.



Hardware Reset Button

The NetUSB-100iX4 USB server supports Hardware Reset Button to reset the hardware. When the Hardware Reset Button is pressed for a short duration, it will reset the NetUSB-100iX4 USB server system.

