

Disk On-line Server

QNAP Systems, Inc.

NAS-110

User Manual

Broadband Network Attached Storage
NAS-110
User Manual (Version: 1.00)



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This manual applies to 1.00 or later firmware versions of NAS-110.
August 12, 2004

CUSTOMER SERVICE

To obtain service or technical support for your system, please refer to the registration card for detailed contacts.

LIMITED WARRANTY

In no event shall the liability of QNAP Systems, Inc. (QNAP) exceed the price paid for the product from direct, indirect, special, incidental, or consequential software, or its documentation. QNAP offers no refunds for its products. QNAP makes no warranty or representation, expressed, implied, or statutory, with respect to its products or the contents or use of this documentation and all accompanying software, and specifically disclaims its quality, performance, merchantability, or fitness for any particular purpose. QNAP reserves the right to revise or update its products, software, or documentation without obligation to notify any individual or entity.

CAUTION

1. Back up your system periodically to avoid any potential data loss.
2. Should you return any components of Disk On-line Server package for refund or maintenance, make sure they are carefully packed for shipping. Any form of damages due to improper packaging will not be compensated.

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Chapter 1 Overview of Disk On-line Server

1.1 Introduction

Thank you for choosing Disk On-line Server (NAS). This product offers the following key features:

- Cross-platform file server / FTP server
- 1 x 3.5" IDE HDD
- Maximum disk capacity up to 300GB
- Portable and mini design
- Share your storage over Microsoft, Unix and Apple network
- Reliable data protection

Note: NAS-110 does not support IP sharing and AP function.

1.2 Package Contents

Your NAS package contains:

- Disk On-line Server (stands inclusive)
- Power cable
- Cat-5 Ethernet cable
- Companion CD (user manual, Quick Install Wizard and software inclusive)
- Quick Installation Guide

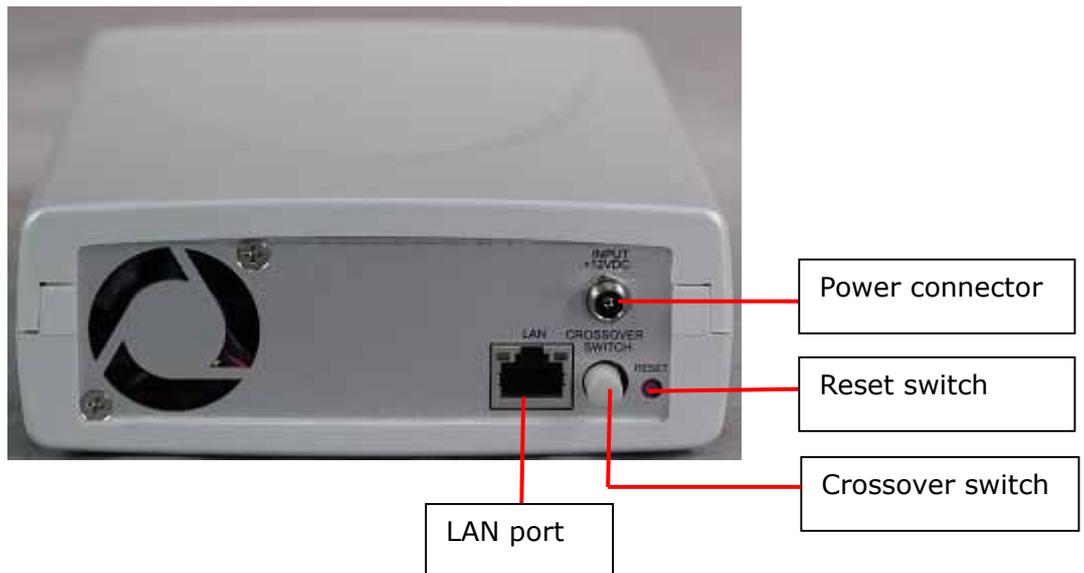
Important Notice: Please back up your disk data periodically to avoid data loss due to improper operation or disk failure of Disk On-line Server.

1.3 System Overview

Front View

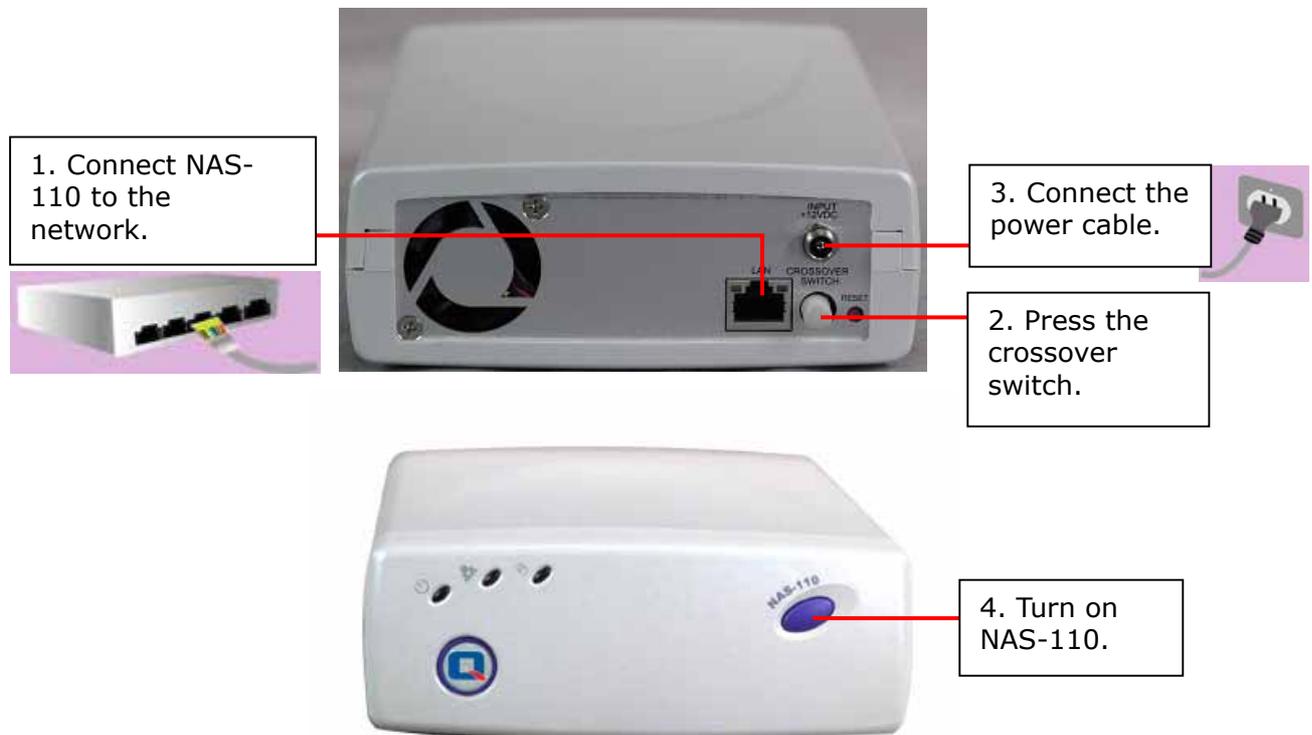


Rear View



Chapter 2 Installation of Disk On-line Server

2.1 Hardware Installation



Note:

1. You can connect NAS-110 to a PC via the LAN port. When doing so, please do NOT press the crossover switch.
2. You can select to place NAS-110 vertically by putting the server on the purple stands.



2.2 Network Configuration

The factory default settings of your Disk On-line Server will search the network via DHCP (Dynamic Host Configuration Protocol) to automatically detect IP address settings. If your network does not support the DHCP protocol, the Disk On-line Server will use the default settings listed below:

IP Address: **192.168.0.1**

Subnet Mask: **255.255.255.0**

If your network does not support the DHCP protocol, you must configure your Disk On-line Server to the proper LAN settings before using it for the first time. (If you do not know your LAN settings, please contact your network administrator).

You can change the default network settings of Disk On-line Server by using the Quick Install Wizard on the CD-ROM to change the basic network settings. For more information, see Appendix A.

Once you complete the Disk On-line Server settings, you can use your web browser to perform further administrative settings.

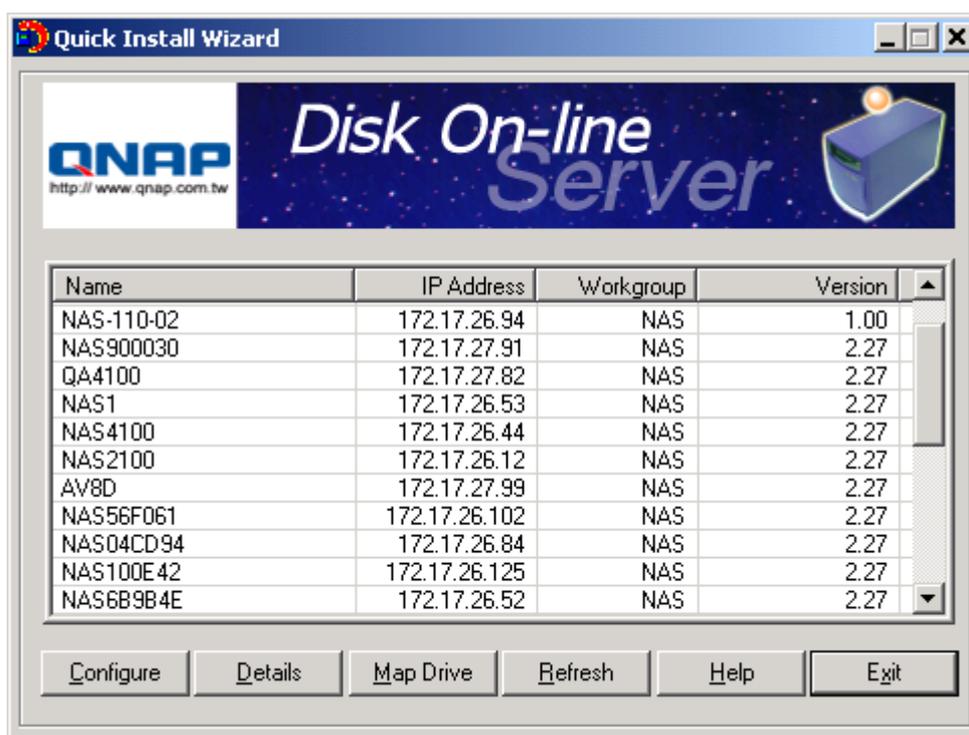
Chapter 3 Administration of Disk On-line Server

When you have installed the Disk On-line Server and connected it to the network, you can use your browser to complete administrative tasks for the server. Disk On-line Server supports Microsoft Internet Explorer 5.0 or later and Netscape Navigator 4.5 or later. Microsoft Internet Explorer 5.5 is recommended.

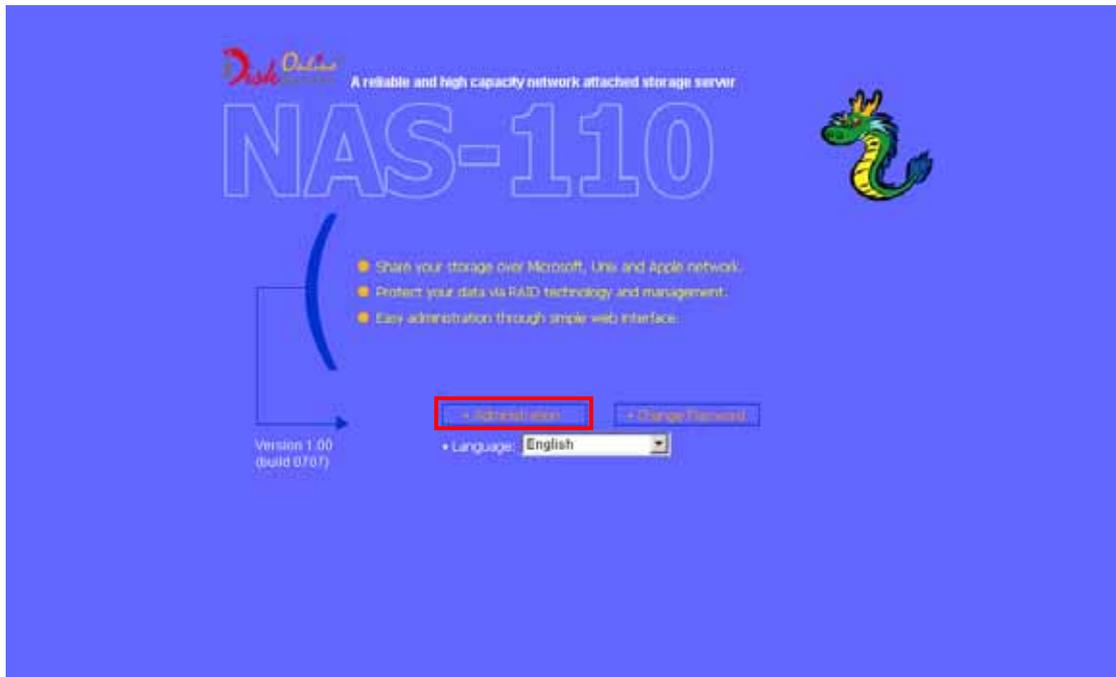
3.1 Accessing Administration Page

You can access your Disk On-line Server via the following method:

1. Use the Quick Install Wizard (see Appendix A) and double-click an entry on the list.



2. On the home page of your Disk On-line Server, click **Administration**.



3. Enter the administrator name and password.



The default user name and password are:

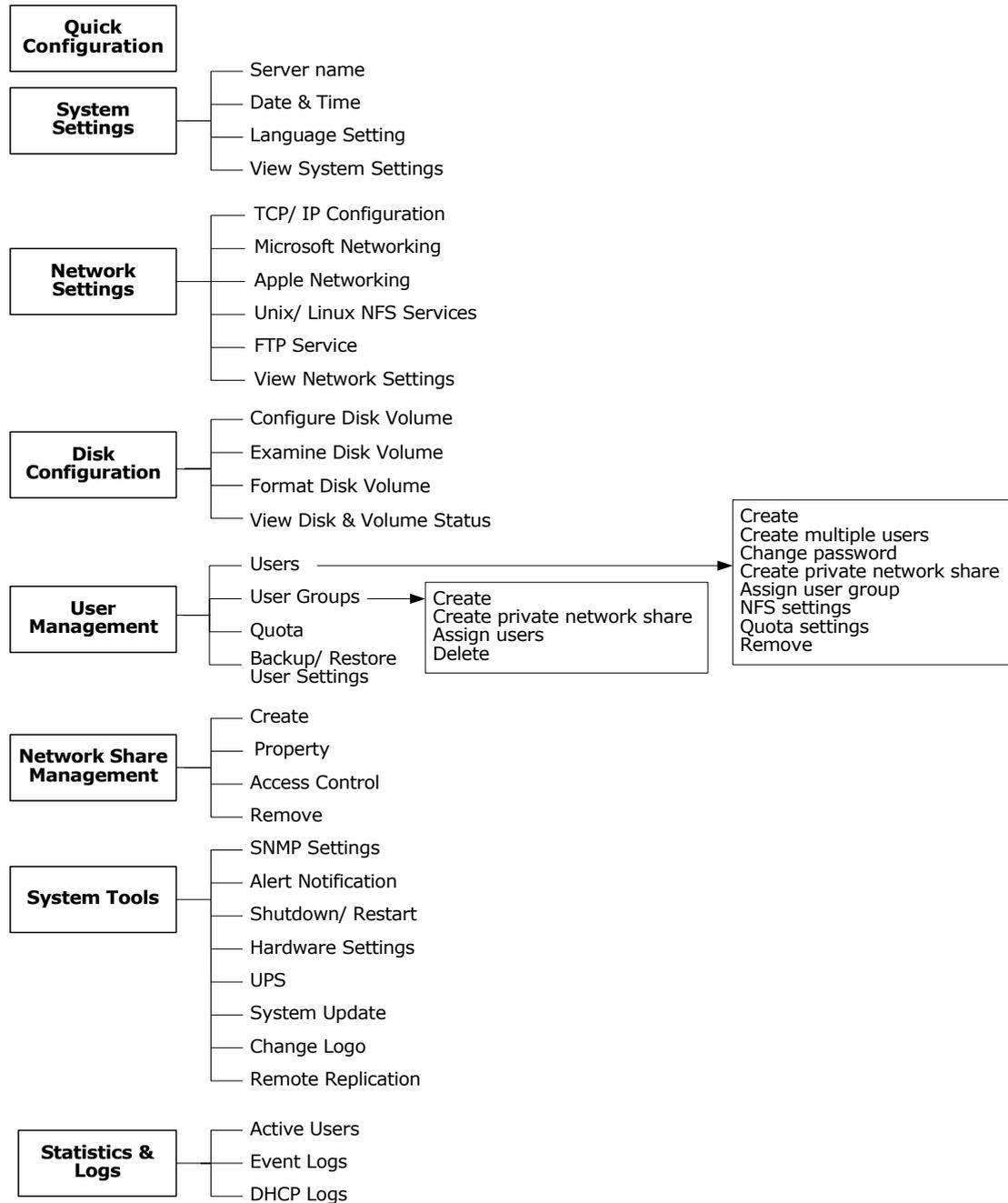
User name: **administrator**

Password: **admin**

The first time you login to the administration page of Disk On-line Server, Quick Configuration page will appear. Please refer to Quick Configuration section for details.

3.2 Server Administration

System administration comprises of the following eight main sections.



3.3 Quick Configuration



You can configure Disk On-line Server step by step in Quick Configuration section.

1. Set the name, workgroup and description for this server.

The screenshot shows a configuration step titled '1. Set the name, workgroup and description for this server' in a green header. Below the header, there are three input fields: 'Server Name' with the value 'NAS-110-test', 'Workgroup' with the value 'NAS', and 'Description' with the value 'NAS Server'. At the bottom right, there are two buttons: 'Back' and 'Next'.

2. Change administrator password.

2. Change the administrator's password

Password :

Verify Password :

Use the original password

Note: If you select the "Use the original password" option, the administrator's password will not be changed.

3. Enter date, time, and time zone for the server.

3. Enter the date, time and time zone for this server

Time Zone :

Current date and time of the server :

Change the server's time and date as below:

Date: , , (mm dd, yyyy)

Time: : : AM (hh:mm:ss)

4. Select the language that the server uses for file names.

4. Select the language that this server will use for file names

Language:

5. Enter the IP address, subnet mask and default gateway for this server.

5. Enter the IP address, subnet mask and default gateway for this server

Obtain TCP/IP settings automatically via DHCP

Use the following settings

IP Address:

Subnet Mask:

Default Gateway:

Note: If you don't need a default gateway for this server, please enter "0.0.0.0".

[Back](#) [Next](#)

6. Select network file services to provide on this server

6. Select the network file services that you want to provide on this server

Enable file service for Microsoft networking

Enable AppleTalk file service for Apple networking

Enable NFS service

Enable FTP Service

[Back](#) [Next](#)

7. Configure disk volume.

7. Configure disk volume on this server

You can click on the configuration you want in the **New Disk Volume Configuration** list. The **Current Disk Volume Configuration** list is the current disk volume configuration on this server.

New Disk Volume Configuration



Single Disk Volume
Same configuration as the current one.

Current Disk Volume Configuration

Volume	Total Size	Free Size	Status
Single Disk: Drive 1	74836.73 MB	74804.67 MB	Ready

[Back](#) [Next](#)

8. Manage users and user groups of this server.

8. Manage users of this server

If you want to add one user, enter the user's data in the right fields then click Add. If you want to remove one or more users, choose one or more users from the left list then click Remove.

administrator hulala test	<input type="button" value="Add"/>	User Name	<input type="text"/>
	<input type="button" value="Remove"/>	Password	<input type="text"/>
		Verify Password	<input type="text"/>

Note: For increased security, password should be at least 6 characters.

8-1. Set user groups of this server

If you want to add one user group, enter the user group's name in the right fields, choose one or more users to add to the group from the right list, then click Add. If you want to remove one or more user groups, choose one or more user groups from the left list and then click Remove.

administrators everyone user	<input type="button" value="Add"/>	User Group Name	<input type="text"/>
	<input type="button" value="Remove"/>	administrator hulala test	

You can choose one or more users to add into the user group from the above field.

9. Manage network shares on this server.

9. Manage network shares on this server

If you want to add one network share, first enter the network share's data in the right fields then click Add. If you want to remove one or more network shares, select the shares in the left list then click Remove.

Network Share Name

Volume
Single Disk: Drive1

Comment

10. Finish.

Finish

Congratulations! You have finished all the steps.
To start using the server, please click Finish. If you wish to continue making changes to the settings, please click Back.

It may take several to tens of minutes to complete Quick Configuration, depending on your system settings.

3.4 System Settings

Basic system settings include the server name, date, time, and language settings.

- **Server Name**

Assign a unique name for your Disk On-line Server for ease of identification within the local network. The server name can contain up to 14 characters, which can be a combination of letters (A-Z or a-z), numbers (0-9) and hyphens (-). The server will not accept names containing empty characters, period (.), or names with only numbers.

Next, configure your Disk On-line Server to the workgroup. The workgroup represents a basic computer group within the Microsoft Network. Files are normally shared within the group. Workgroups can accommodate as much as 15 characters but must exclude the following characters:

; : " < > * + = \ | ? , [] /

The first character cannot be a period (.). For the convenience of management and usage, please set your Disk On-line Server and attached computer(s) in the same workgroup.

Moreover, you can enter a description for Disk On-line Server, such as administrator name, department, or location, for ease of identification by users.



- **Date and Time**

1. Set the date, time, and time zone according to your location. If the settings are incorrect, the following problems may occur:
 - ✓ When using a web browser to access or save a file, the time of the file accessed or saved may be out of sync.
 - ✓ The system event log time will be incorrect compared to the actual time an action occurred.
2. Configure NTP server or client setting
 - ✓ User specified NTP server
Select this option to change the date and time of NAS by NTP server. Enter the IP address and time interval for the NTP server.
 - ✓ Enable NTP server
Select this option to enable NTP server. Enter the IP address of the corresponding NTP server. You can click **Test** to test the status of the server. If no IP address of NTP server is entered, the system will refer to the time of the internal clock.

The screenshot shows a web-based configuration interface for 'Date & Time' settings. On the left is a sidebar with 'System Settings' and a list of options: 'Server Name', 'Date & Time' (highlighted), 'Language Setting', and 'View System Settings'. The main panel has a green header 'Date & Time' and contains the following fields and controls:

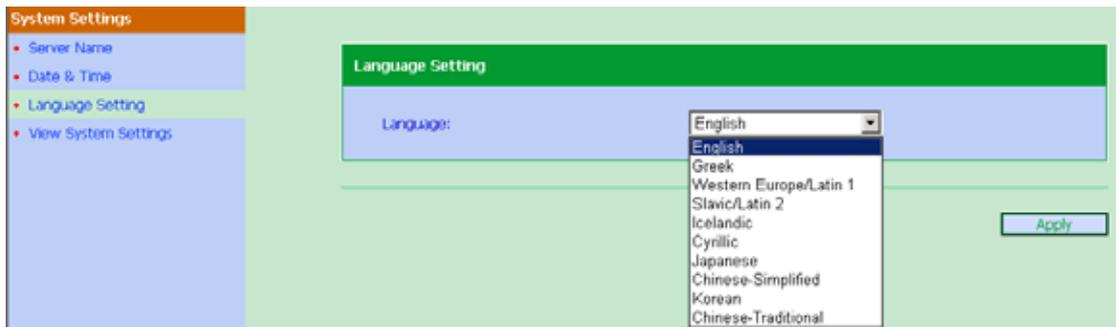
- Time Zone:** A dropdown menu showing '(GMT) Greenwich Mean Time : Dublin, Edinburgh, Lisbon, London'.
- Current date and time of the server:** A text box displaying '1970 / 1 / 1 AM 04 : 59 : 34'.
- Change date and time manually:** An unchecked checkbox. Below it are fields for 'Date' (Month: January, Day: [], Year: [] in MM DD, YYYY format) and 'Time' (Hour: [], Minute: [], Second: [], AM/PM: AM in HH:MM:SS format).
- Configure NTP server or client setting:** A checked checkbox. It contains two radio button options:
 - Use the specified NTP server:** Selected. Includes an 'IP Address of NTP Server' text box with a 'Test' button (Status: --) and a 'Time Interval' dropdown menu set to 'minute(s)'.
 - Enable NTP server:** Unselected. Includes three text boxes for 'NTP Server #1', 'NTP Server #2', and 'NTP Server #3', each with a 'Test' button (Status: --).

An 'Apply' button is located at the bottom right of the main panel.

- **Language Setting**

The server is based on the language settings and uses it accordingly while creating or displaying files and directories. Select the correct language settings to avoid the following problems:

- i. Unable to create files or directories in special characters.
- ii. Unable to display files or directories name in special characters.



- **View System Settings**

You can view all current system settings on this page, e.g. server name and workgroup.



3.5 Network Settings

The network settings include TCP/IP configuration for WAN and LAN, network service settings, router and firewall configuration, etc.

1. TCP/IP Configuration

You can select one of the two ways to set TCP/IP configuration:



- Obtain IP address settings automatically via DHCP
Select this option to obtain IP address and other relevant information automatically if your network supports DHCP protocol.
- Use static IP address
To use fixed IP address for network connection, you need to enter the following information:
 - ✓ Fixed IP Address
IP address is a 32-bit digit used to differentiate each single entity on a network. The IP address is divided into 4 groups of eight bits separated by dots, e.g. 192.168.0.1.
 - ✓ Subnet Mask
Subnet mask defines computers within the same local network. It is a 32-bit digit, e.g. 255.xxx.xxx.xxx.
 - ✓ Default Gateway
Gateway is generally referred to an interchange point that connects two networks, such as LAN and WAN.

- ✓ If you do not need to configure gateway address, please set it as "0.0.0.0".

You can also configure the following settings:

- ✓ Enable DHCP server
If there is no DHCP server in your network, you can enable this option to provide IP address settings to the requested clients.
- ✓ Start IP address
The first IP address to be dynamically allocated for DHCP service.
- ✓ End IP address
The last IP address to be dynamically allocated for DHCP service.
- ✓ Lease time
Define the lease time for the dynamic IP address.
- ✓ Primary DNS server
When the system allocates an IP address to your computer, the primary DNS server address is also specified to it.
- ✓ Secondary DNS Server
When the system allocates an IP address to your computer, the secondary DNS server address is also specified to it.

2. Microsoft Networking



When using Microsoft Windows, you must enable Microsoft networking to access the files on the network share folders. After selecting the option, you must assign the workgroup name, which can be up to 15 characters but must exclude the following:

" + = [] , ; / \ : | * ? < > . "

Note that the first character cannot be a period (.).

To configure Disk On-line Server as a WINS (Windows Internet Naming Service) server, check the option "Enable WINS server". This will help you to easily locate this server within Windows network neighborhood. You may also enter the IP address of your WINS server (if any). If you do not want to enable WINS server support, or you do not have a WINS server on your network, enter 0.0.0.0 in the field for WINS server IP address.

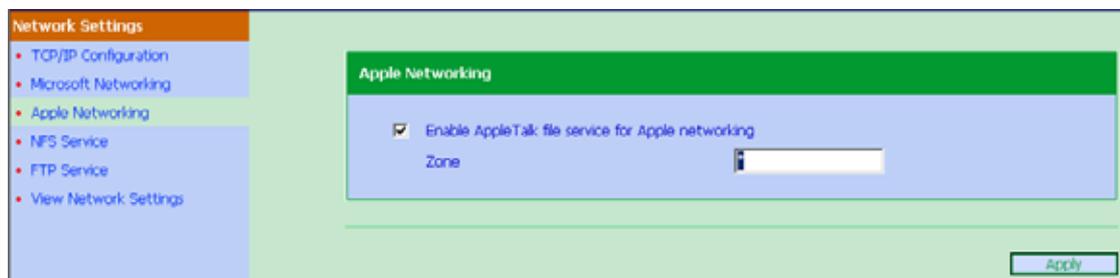
3. Apple Networking

Enable this option if you are using Apple's Macintosh operating system.

If your AppleTalk network uses extended networks, which assigns multiple zones, please assign a zone name. The zone name must not exceed 15 characters and cannot contain the characters:

" / \ : | ? < >

If you do not want to assign a network zone, enter an asterisk (*), i.e. the default setting.



4. NFS Service

Enable NFS service if you are using Unix/ Linux operating system. This system supports NFS version 2.0. To use NFS correctly, you must assign user's UID and IP address. Please go to NFS settings for Users in User Management to modify the settings.



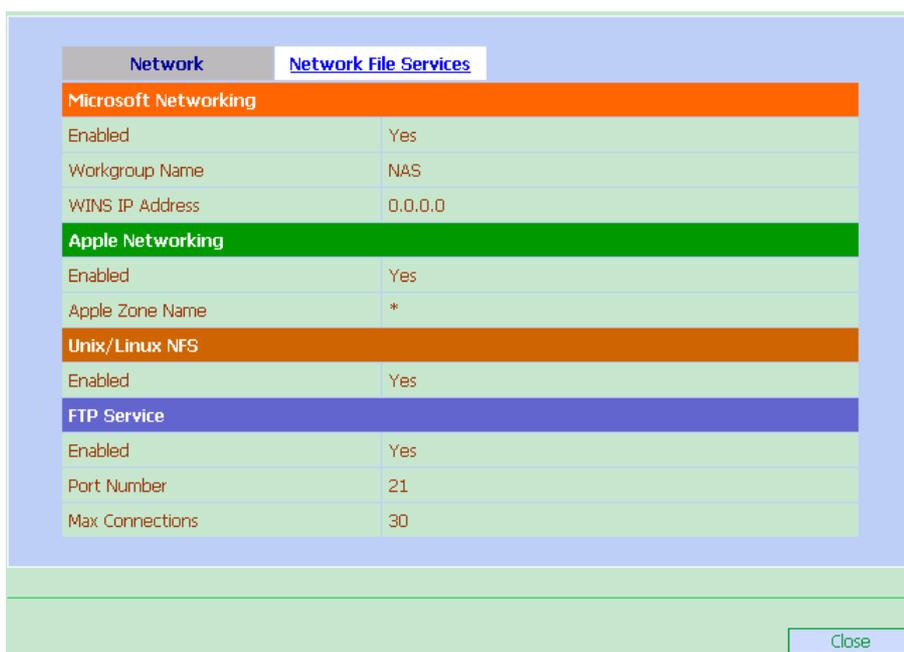
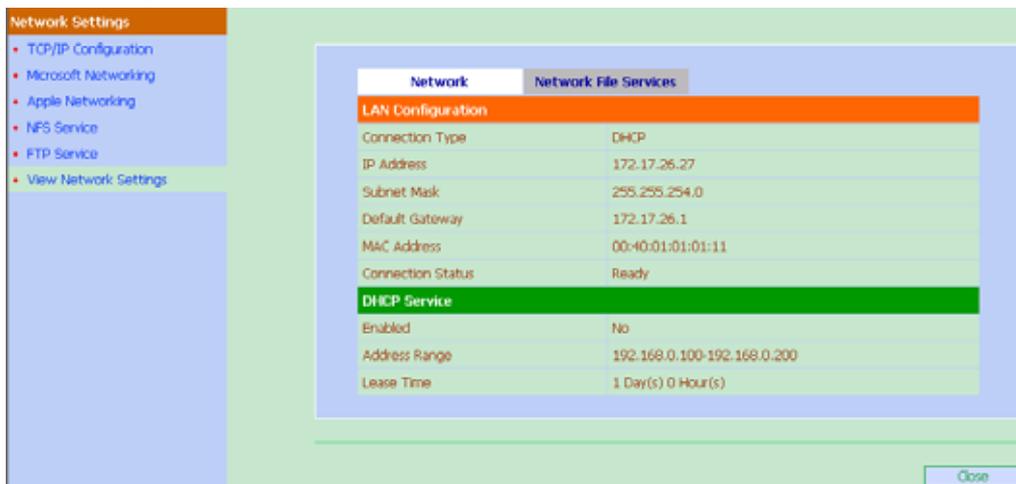
5. FTP Service

To access network share folders via FTP, enable this option.



6. View Network Settings

You can view all current network and service settings of Disk On-line Server on this page.



3.6 Disk Configuration

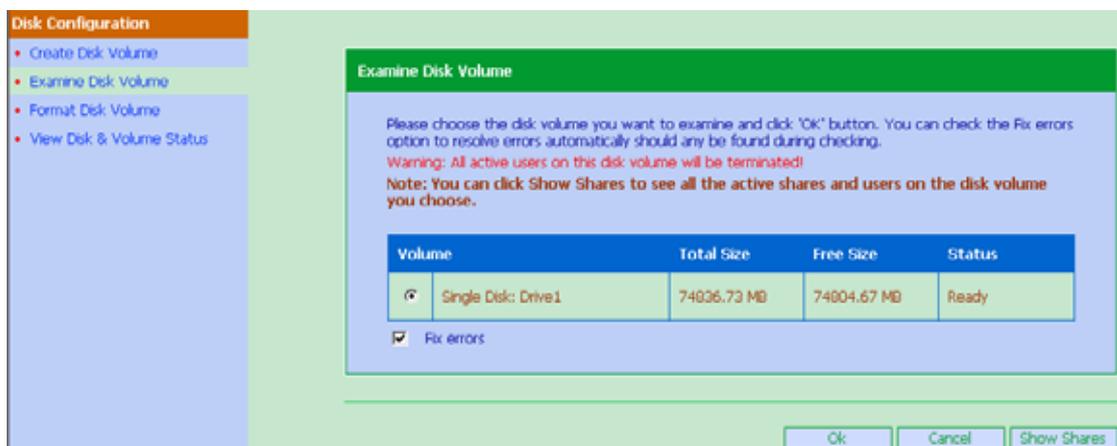
- **Create disk volume**

Single disk volume: Create an individual disk volume. When the disk is damaged, the data will be lost.



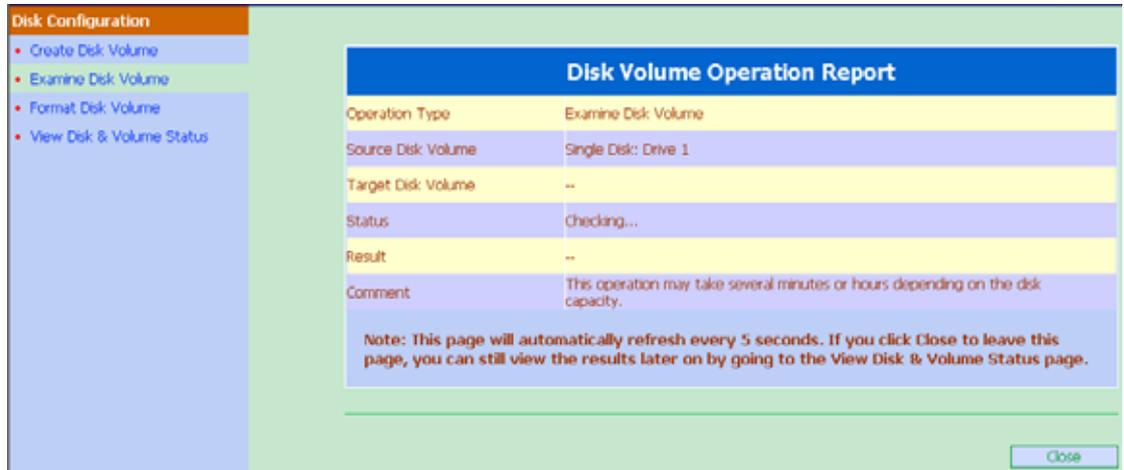
- **Examine disk volume**

This section enables you to examine the disk volume. To check the disk, select the disk volume and click **OK**. You can also check the box **Fix errors** to resolve the errors found during checking. To see all active shares and users on the disk volume, click **Show Shares**.



✓ Disk Volume Operation Report

This page shows the current status and information of the ongoing disk volume operation.



• **Format disk volume**

When creating a disk volume, it is formatted automatically. You can then create network shares to access files on it directly. If you choose to format a disk, all data and network shares on the disk volume will be removed.



To view all active share and users on the disk volume, click **Show Shares**.

- **View disk & volume status**

You can view the current status and usage of all physical hard drives and logical disk drives on the system. If you have just created or deleted a disk volume, you may have to wait before you can see the result.

The screenshot shows a 'Disk Configuration' window with a sidebar on the left and a main content area. The sidebar contains a menu with the following items:

- Create Disk Volume
- Examine Disk Volume
- Format Disk Volume
- View Disk & Volume Status

The main content area is divided into two sections:

Physical Disks

Disk	Model	Capacity	Status
Drive 1	WDC WD600BB-53DKA0 77.0	76319.09MB	Ready

Logical Volumes

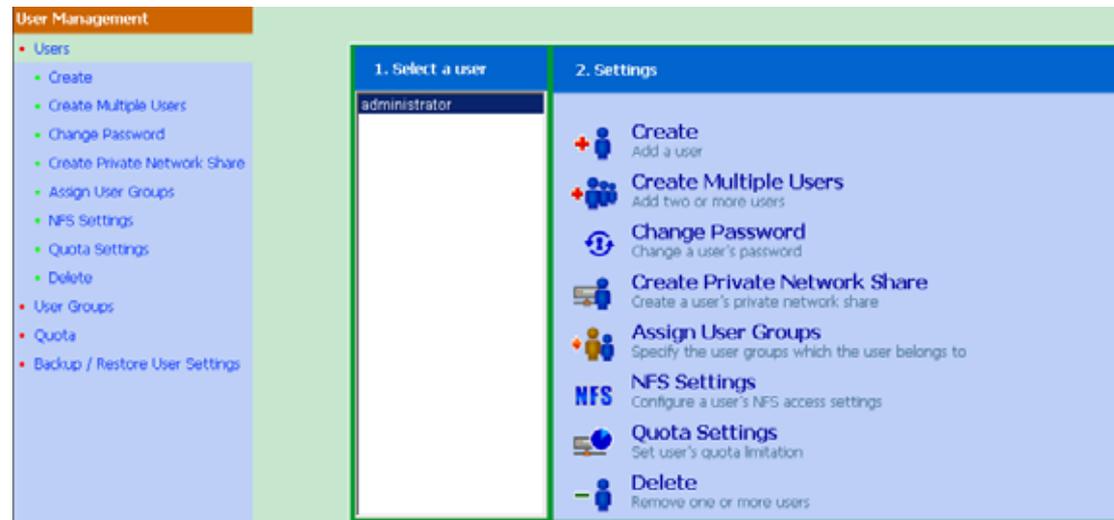
Volume	Total Size	Free Size	Status
Single Disk: Drive 1	74836.73 MB	74804.66 MB	Ready

At the bottom right of the main content area, there are two buttons: 'Refresh' and 'Close'.

Note: Make sure no users are connected to Disk On-line Server when configuring hard disk settings. Otherwise, the data in the hard disk will be damaged and cannot be used again.

3.7 User Management

Disk On-line Server can be shared by multiple users. For easier management and better control of users' access right, you have to organize users, user groups and their access right control.



- **Users**

The default user accounts created by factory default are:

Administrator

Administrator is the default user of the administrator group created by Disk On-line Server with administrator access right. You cannot delete administrator.

Guest

When you use a non-registered user name to login, the server recognizes it as a guest and will allow limited access. A guest does not belong to any user group. You cannot delete the user guest or create a password.

Anonymous

When you connect to the server by FTP service, you can use the name to login as a guest. You cannot delete this user or change its password.

You can create a new user according to your needs. The following information is required to create a new user:

1. User name

The user name must not exceed 32 characters. It is case-insensitive and can contain double-byte characters, such as Chinese, Japanese, and Korean, except the characters below:

" / \ [] : ; | = , + * ? < > ` '

2. Password

The password must not exceed 16 characters. Due to security concerns, the password must be at least 6 characters. Try to avoid using codes that are easily decipherable.

You can also manage users in the following ways:

- ✓ Create
- ✓ Create multiple users
- ✓ Change password
- ✓ Create private network share
- ✓ Assign user groups
- ✓ NFS settings
- ✓ Quota settings
- ✓ Backup/ restore user settings

- **User groups**

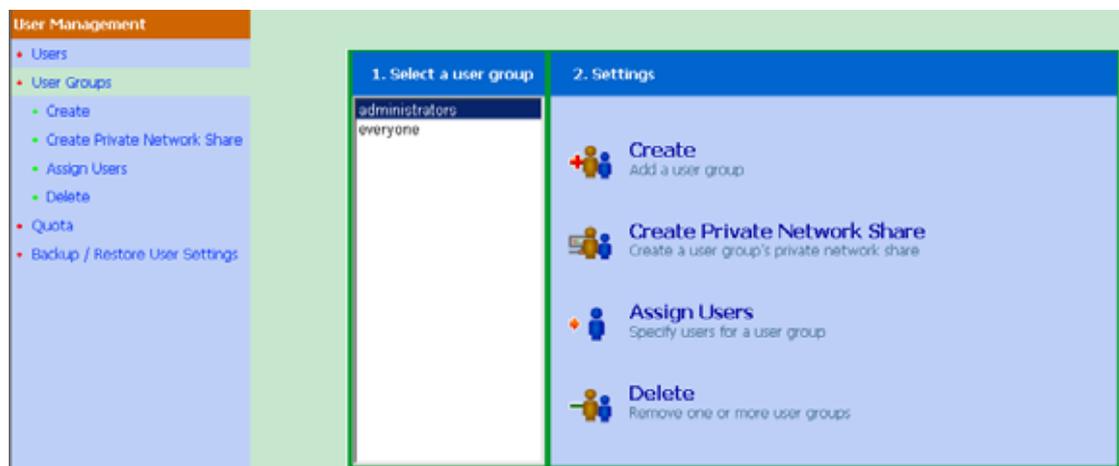
To administer access rights, you can create user groups. User groups are a collection of users with the same access rights to files or folders. Disk On-line Server contains the following default user groups:

Administrators

All members of the administrator group have the rights to perform system management. You cannot delete the administrator user group.

Everyone

All registered users belongs to everyone group. You cannot delete the user group "everyone" or any users belonging to that group.



You can administer user group with the following options:

- ✓ Create User Groups
- ✓ Create Private Network Share
- ✓ Assign Users
- ✓ Delete User Groups

User groups name must not exceed 256 characters. It is case insensitive and can contain double-byte characters, such as Chinese, Japanese, and Korean, except the characters below:

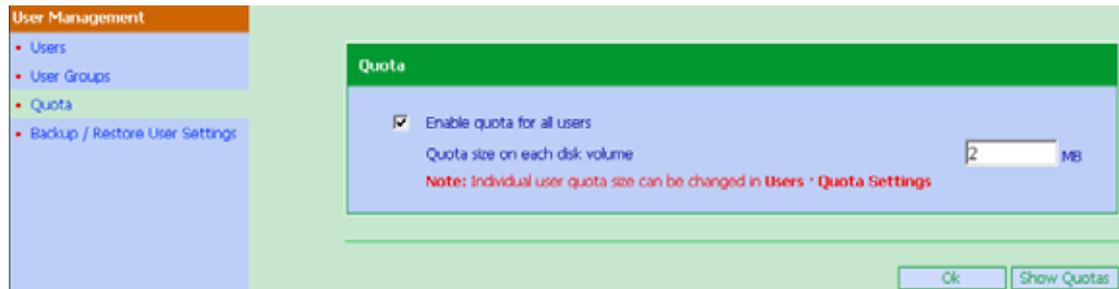
" / \ [] : ; | = , + * ? < > ` '

To properly manage security, it is very important to manage users and user groups. You may set the share access parameters of each user or user group accordingly.

- **Quota**

To allocate disk volume efficiently, you can specify the quota that can be used by each user. When the quota is set, users are not allowed to further use disk space once they have reached their quota limit. By default, no limitations are set for the users. You can modify the following two options:

- ✓ Enable quota for all users
- ✓ Quota size on each disk volume



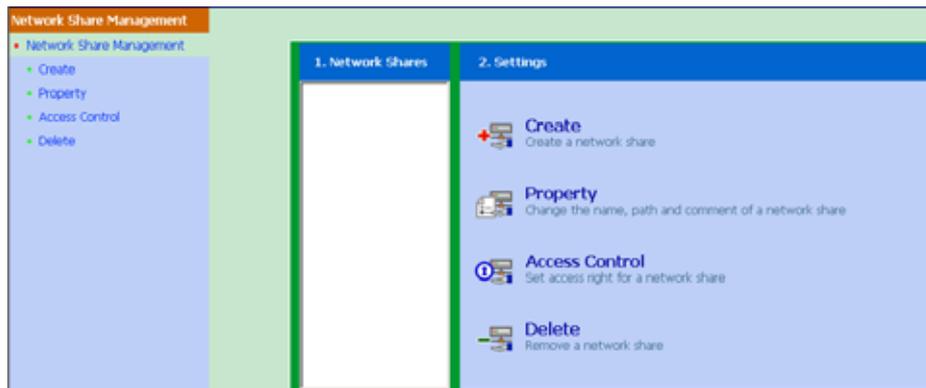
- **Backup/ Restore User Settings**

You can back up all current user settings to your computer, or restore data to your Disk On-line Server.



3.8 Network Share Management

The primary purpose of network storage is file sharing. In a standard operation environment, you can create different network share folders for various types of files, or provide different file access rights to users or user groups. By factory default, a "public" share folder is created. The share folder gives full access to all users or guests.



There are four options in Network Share Management:

- i. Create a network share
- ii. Change the name, path and comment of a network share
- iii. Set access right for a network share
- iv. Remove a network share

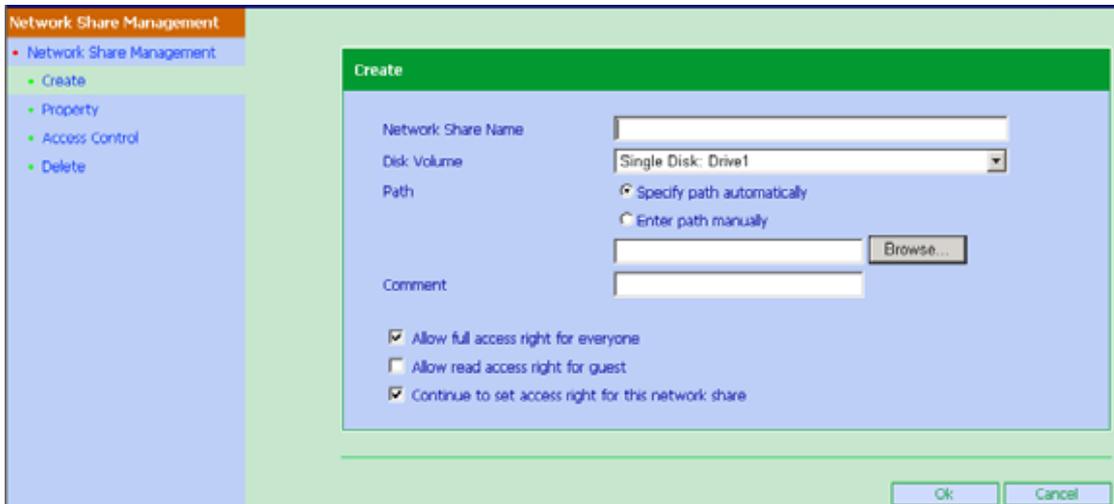
- **Create**

When creating a network share, enter the following information:

- ✓ Network share name
The share name must not exceed 12 characters and cannot contain the following characters:
" . + = / \ : | * ? < > ; [] %
- ✓ Disk volume
This area shows the disk volume status.
- ✓ Path
All data are stored under the assigned path onto the disk volume. You can select "Specify Path Automatically" to allow the server to automatically create a new path on the disk volume to store network share files. Or you can assign a specific path for the share folder. The path cannot exceed 256 characters and cannot contain the characters:
" \ : | * ? < > ; ` `

✓ Comment

The Comment field allows a brief description of the share folder to help users identify its purpose in a network neighborhood window. The comment cannot exceed 128 characters.



Once the network share is created, you can assign access rights to users or user groups:

✓ Deny access

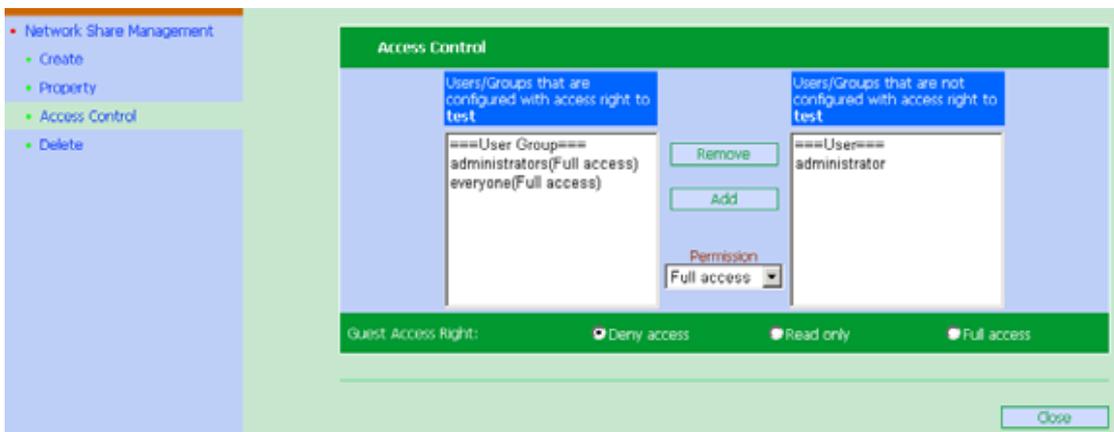
Access to the network share will be denied when this option is selected.

✓ Read only

Users can read the files only on the network share when read only is assigned.

✓ Full access

Users with full access are allowed to read, write, create, or delete files and folders on the network share.



3.9 System Tools

System Tools enables you to optimize the maintenance and management of Disk On-line Server.

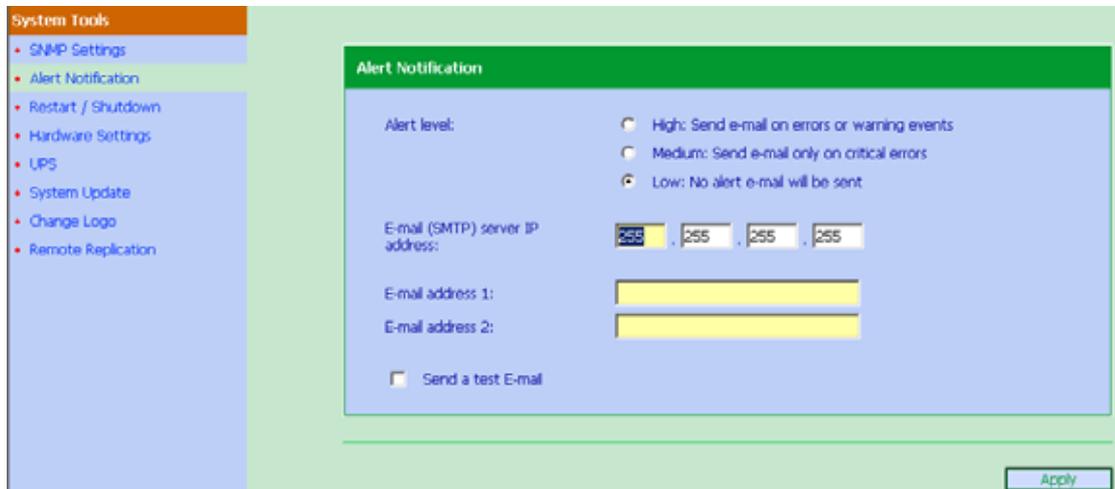
- **SNMP Settings**

To use Simple Network Management Protocol (SNMP) to manage the Disk On-line Server's network components, enable SNMP service.



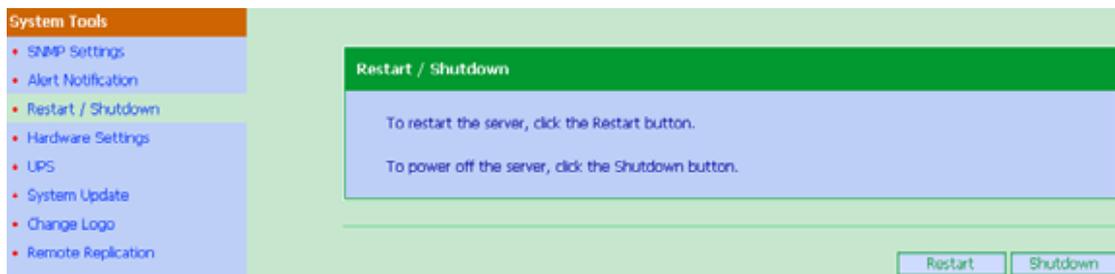
- **Alert Notification**

Enter the e-mail address that and the IP address of SMTP server to which an e-mail will be sent in case of warning or malfunction.



- **Restart/ Shutdown**

Select to restart or shut down Disk On-line Server.



- **Hardware Settings**

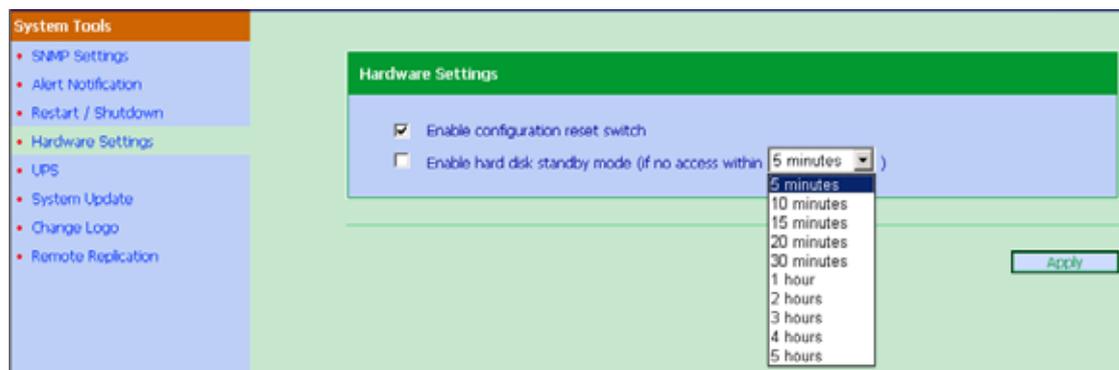
You can enable or disable the hardware functions of Disk On-line Server.

1. Enable configuration reset switch

Press the reset switch of Disk On-line Server for a few seconds, the administrator password and network configuration of the server will be restored to default.

2. Enable hard disk standby mode

Specify the time for the hard disk to turn to standby mode when there is no access to Disk On-line Server.



- **UPS**

By enabling UPS (Uninterruptible Power Supply) support, you can protect your system from abnormal system shutdown caused by power outage. In case of utility power failure, the system will shut down automatically by probing the power status of the connected UPS unit.

- ✓ **Enable UPS support**

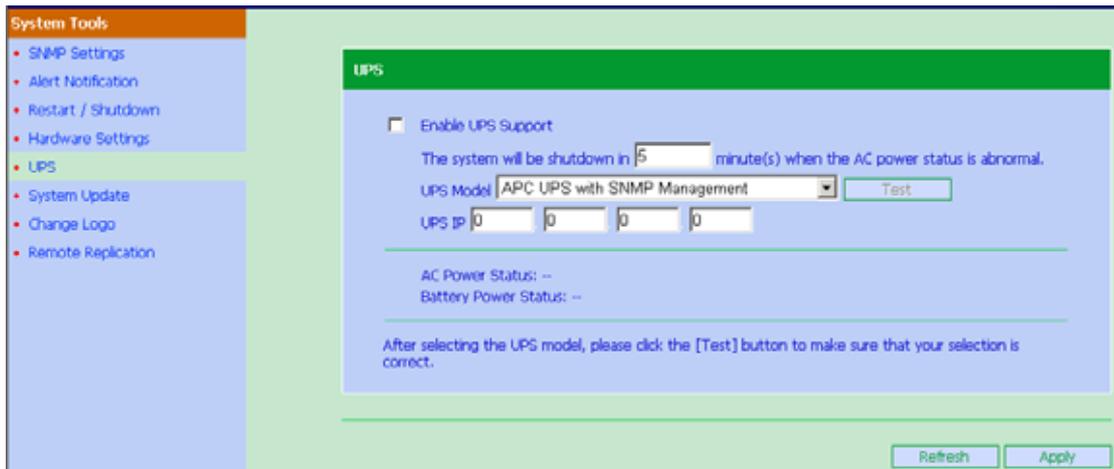
To activate UPS support, select this option. You can set the shutdown timer to power off the system automatically after the system detects the AC power is abnormal. In general, UPS can keep supplying the power for the system for about 5 to 10 minutes, depending on the maximum load of the UPS and the number of the loads connected to it.

UPS Model

Select the UPS model from the list. If the UPS model you are using is not available on the list, please contact our technical support.

UPS IP

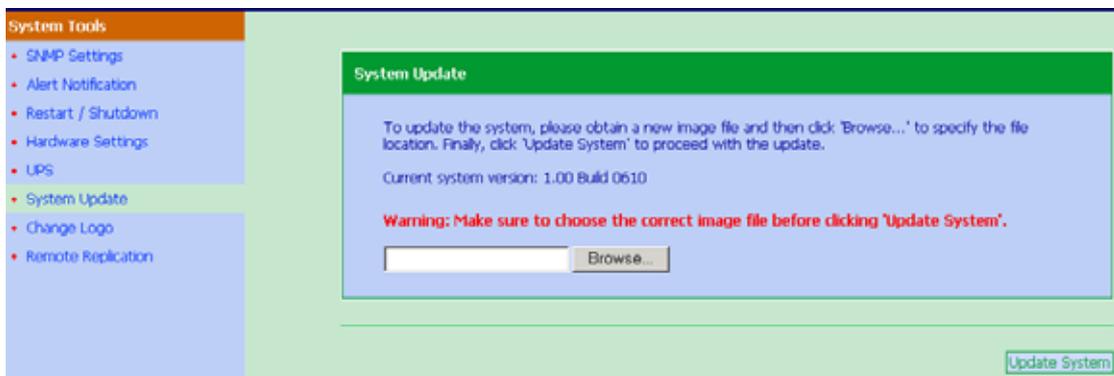
If you have selected APC UPS with SNMP for UPS model, enter the IP address of the UPS.



Note: If you do not select Enable UPS support, the Test button will not function.

- **System Update**

To update the firmware version of Disk On-line Server, make sure the image file you want to update is of correct version. It is suggested to back up all existing data on the Disk On-line Server before updating the image. The current settings will remain unchanged after the system is upgraded.



- **Change Logo**

You can upload an image file to the top right hand corner of the login page for Disk On-line Server. Make sure the image size is less than 20K and the file type is supported by the web browser.

System Tools

- SNMP Settings
- Alert Notification
- Restart / Shutdown
- Hardware Settings
- UPS
- System Update
- Change Logo
- Remote Replication

Change Logo

Please select an image from the **[To be displayed]** pull-down menu. Then click the **[Apply]** button to confirm the change.

You also can upload your own image. Please click the "Browse.." button to select an image first. Then click the **Upload** button to upload it.

At last, select the image you want to replace from the **[To be replaced to]** pull-down menu and then click the **[Apply]** button to replace it.

Upload new image:

To be replaced to:

To be displayed:

Note: To perform the best image quality, the size of the upload image is recommended to be 100 X 100 pixels.

- **Remote Replication**

Remote Replication enables you to replicate local files to remote folders on another server. The files will be compressed before the replication process in order to save time for data transfer. The system enables the choices for immediate and scheduled replication.

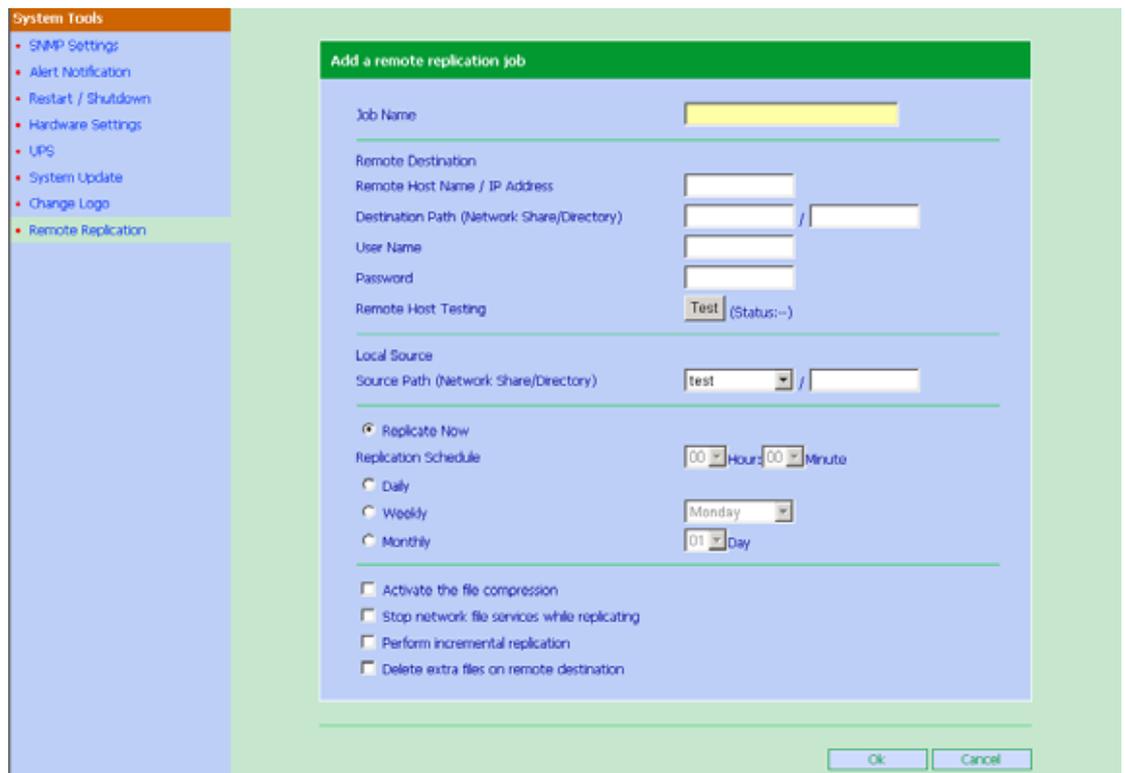
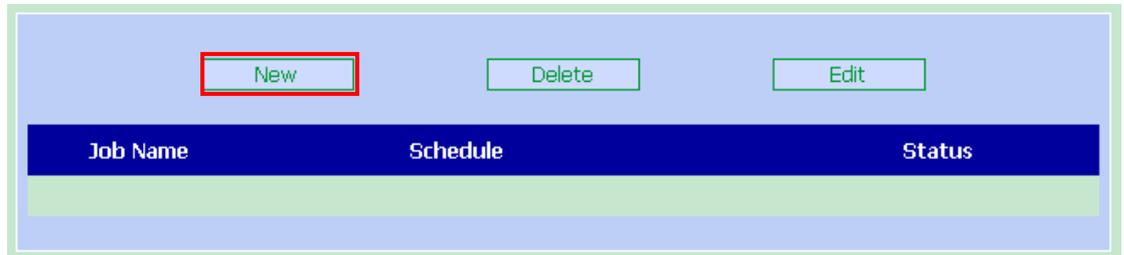
Using Remote Replication

Login Disk On-line Server, go to Remote Replication in System Tools.



i. New

- a. Click **New** to enter the following page.

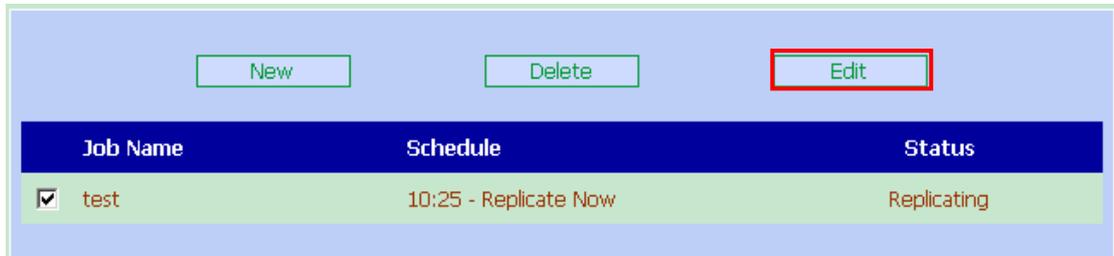


- b. Complete all settings and click **OK** to save or **Cancel** to quit.

Note: To use remote replication, enable Microsoft Networking service, make sure the destination network share and directory have been created, and the user name and password are valid to login the destination folder.

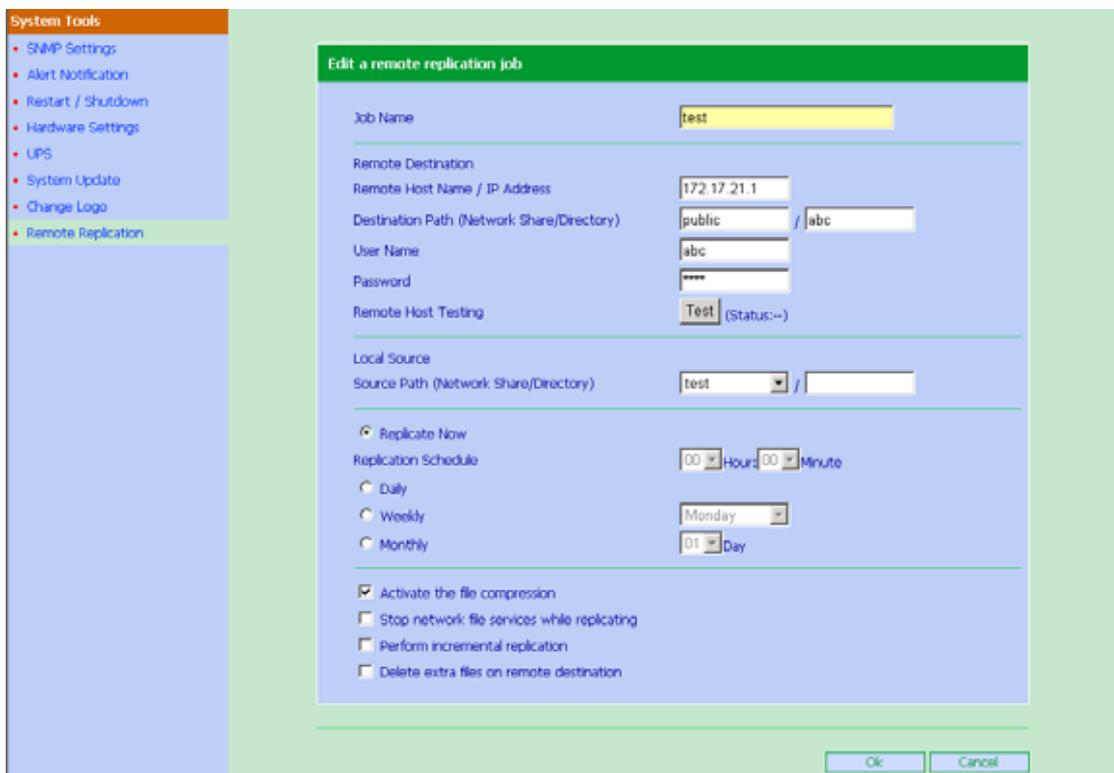
ii. Edit

- Select the job to be edited.
- Click **Edit**.
- Modify the settings.
- Click **OK** to save or **Cancel** to quit.



The screenshot shows a window with three buttons at the top: 'New', 'Delete', and 'Edit'. The 'Edit' button is highlighted with a red border. Below the buttons is a table with three columns: 'Job Name', 'Schedule', and 'Status'. The table contains one row with a checked checkbox, the job name 'test', the schedule '10:25 - Replicate Now', and the status 'Replicating'.

Job Name	Schedule	Status
<input checked="" type="checkbox"/> test	10:25 - Replicate Now	Replicating



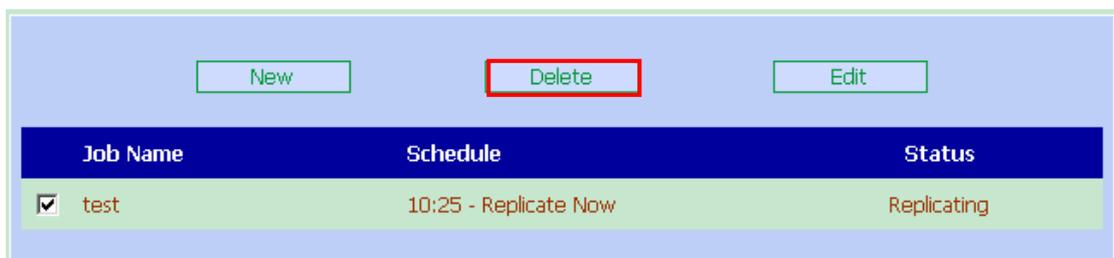
The screenshot shows the 'Edit a remote replication job' dialog box. It has a sidebar on the left with 'System Tools' and 'Remote Replication' selected. The main area contains the following fields and options:

- Job Name: test
- Remote Destination:
 - Remote Host Name / IP Address: 172.17.21.1
 - Destination Path (Network Share/Directory): public / abc
 - User Name: abc
 - Password: ****
 - Remote Host Testing: Test (Status:--)
- Local Source:
 - Source Path (Network Share/Directory): test /
- Replication Schedule:
 - Replicate Now
 - Daily
 - Weekly (Monday)
 - Monthly (01 Day)
- Options:
 - Activate the file compression
 - Stop network file services while replicating
 - Perform incremental replication
 - Delete extra files on remote destination

Buttons: Ok, Cancel

iii. Delete

- Select the job to be deleted.
- Click **Delete**.



The screenshot shows a window with three buttons at the top: 'New', 'Delete', and 'Edit'. The 'Delete' button is highlighted with a red border. Below the buttons is a table with three columns: 'Job Name', 'Schedule', and 'Status'. The table contains one row with a checked checkbox, the job name 'test', the schedule '10:25 - Replicate Now', and the status 'Replicating'.

Job Name	Schedule	Status
<input checked="" type="checkbox"/> test	10:25 - Replicate Now	Replicating

3.10 Statistics & Logs

You can view the event logs of all currently online users on Disk On-line Server for system monitoring.



- **Active Users**
This page shows all users that are currently logged on to the system.
- **Event Logs**
The Disk On-line Server can store thousands of recent event logs, including warning, error and information messages. In the event of a system malfunction, the event logs can be retrieved to help diagnose the system problem.
- **DHCP Logs**
If the DHCP server function is activated, you can use it to monitor all of the assigned dynamic addresses, client MAC addresses and other information.

Chapter 4 Accessing Disk On-line Server

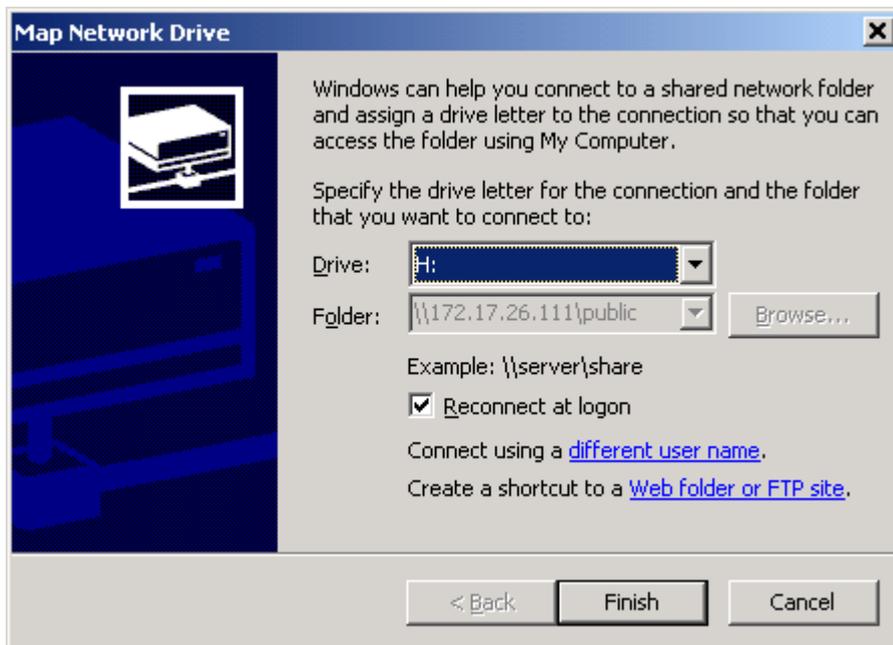
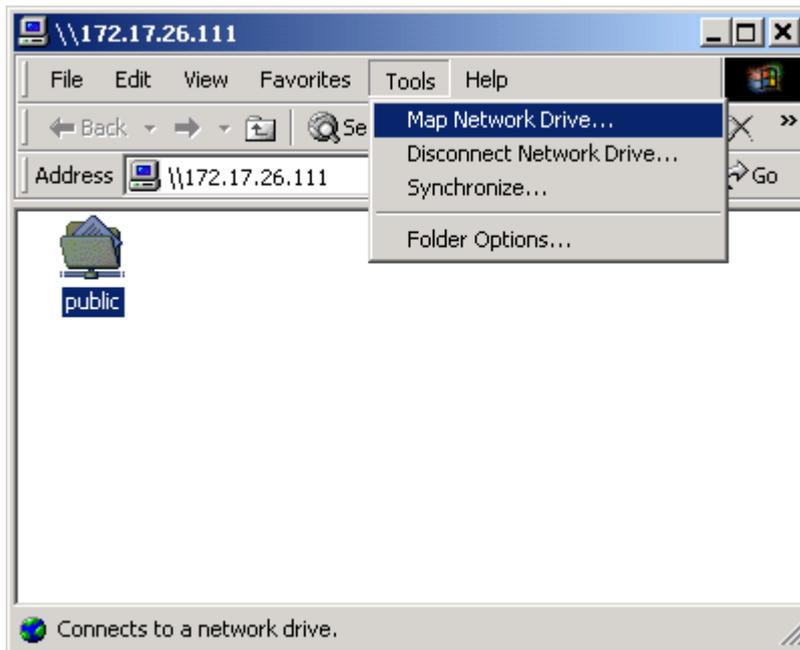
4.1 Using Microsoft Windows

Follow the steps below to access Disk On-line Server in Microsoft Windows OS:

1. You can locate and connect to your Disk On-line Server in the following ways:
 - By Quick Install Wizard. For further information, please refer to Appendix A.
 - You may also look for the Disk On-line Server within the Network Neighborhood. Locate the workgroup and find the name of your Disk On-line Server. When the server is found, double-click the server name to connect.
 - You may also use the "Search for Computers" function to look for your Disk On-line Server in Windows. Under Windows ME or Windows 2000, please follow these steps:
 - i. Open "My Network Places".
 - ii. Under the tool bar, click **Search**.
 - iii. Enter the name of Disk On-line Server in Computer Name field.
 - iv. Click **Search**.

When the Disk On-line Server is found, double click the item to access the server.

2. Once the connection to the Disk On-line Server is successful, all listing on your available network share are displayed. Select an appropriate network share folder and select **Map Network Drive** by right clicking on the item. If you wish to make the share folder available for your next start-up, check the "Reconnect at logon" box on the popup window and click **OK** to make the network share as one disk drive in your system.



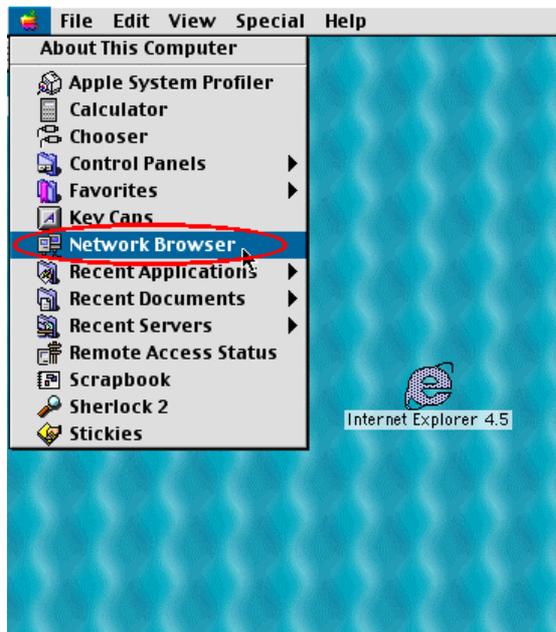
Once the network share is a part of your system disk drives, you can locate the network share in "My Computer" and access it as a regular hard disk drive.

4.2 Using Apple Mac OS

If you are an Apple Mac user, access Disk On-line Server by the following ways:

1. Using network browser

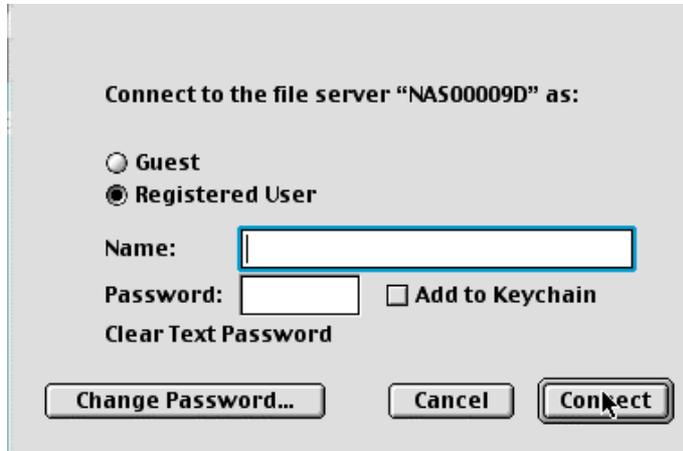
- a. Choose "Network Browser" in the Apple menu.



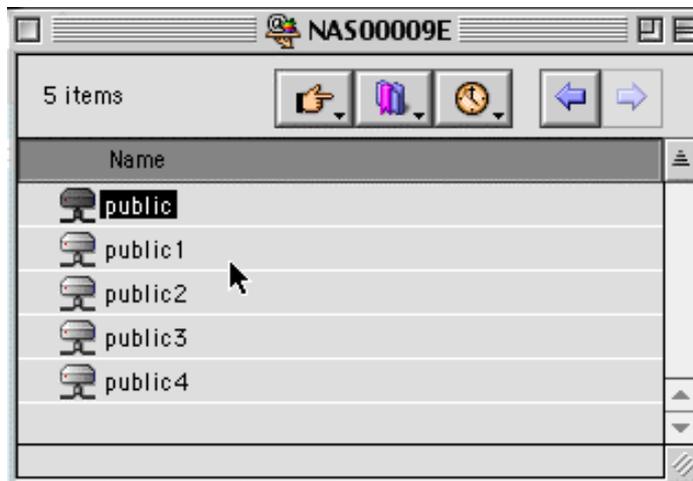
- b. In "Network Browser", choose AppleTalk. A list of computers on the AppleTalk network will appear. Choose Disk On-line Server.



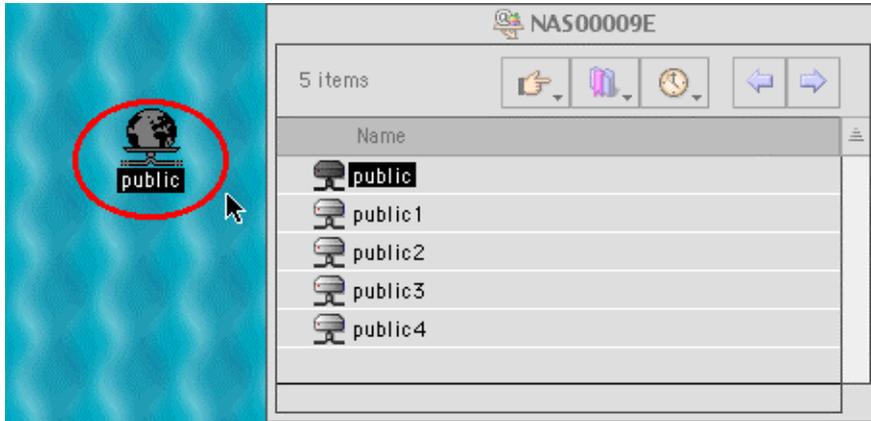
- c. Once the Disk On-line Server is chosen, the system will ask you to input the login name and password. Click **Connect** or use **Guest** to enter. When the login name and password are confirmed, connection to the Disk On-line Server is made.



- d. When the Disk On-line Server is connected, the network browser displays all the network shares. You can then access or drag & drop the share folders.

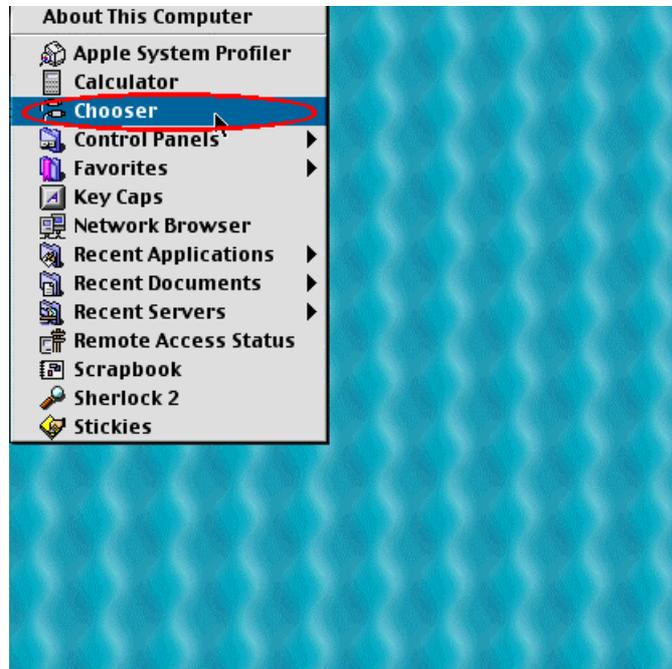


- e. Choose either one of the network shares to start to link. The network share appears on the Mac OS desktop.

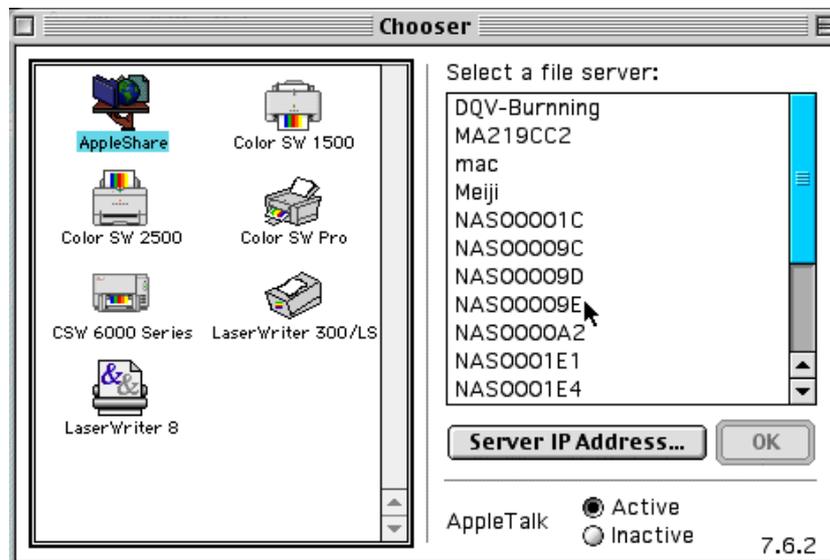


2. Using Chooser

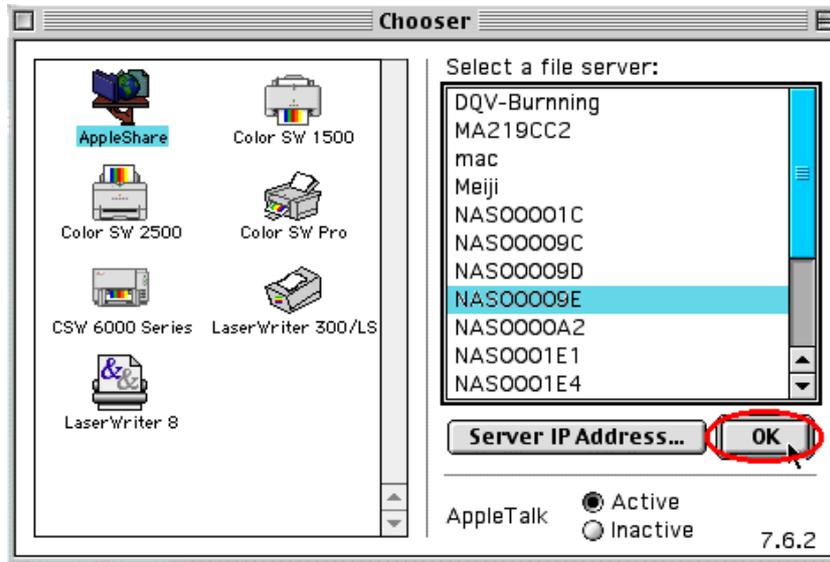
- a. Select **Chooser** on Apple menu bar.



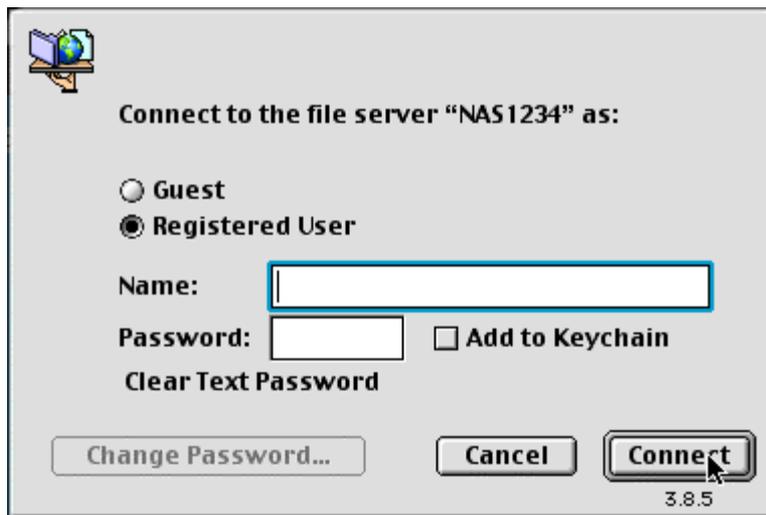
- b. Click **AppleShare**. The name of the Disk On-line Server will appear on the right side of the window.



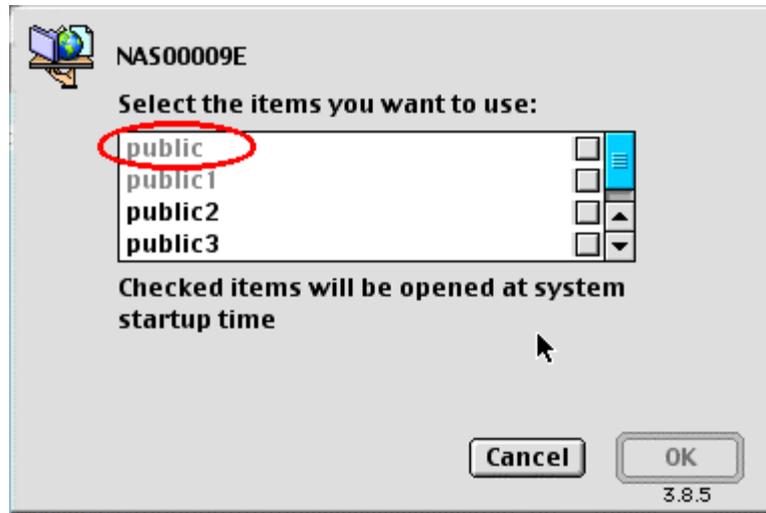
- c. Use the mouse to highlight the Disk On-line Server and click **OK**.



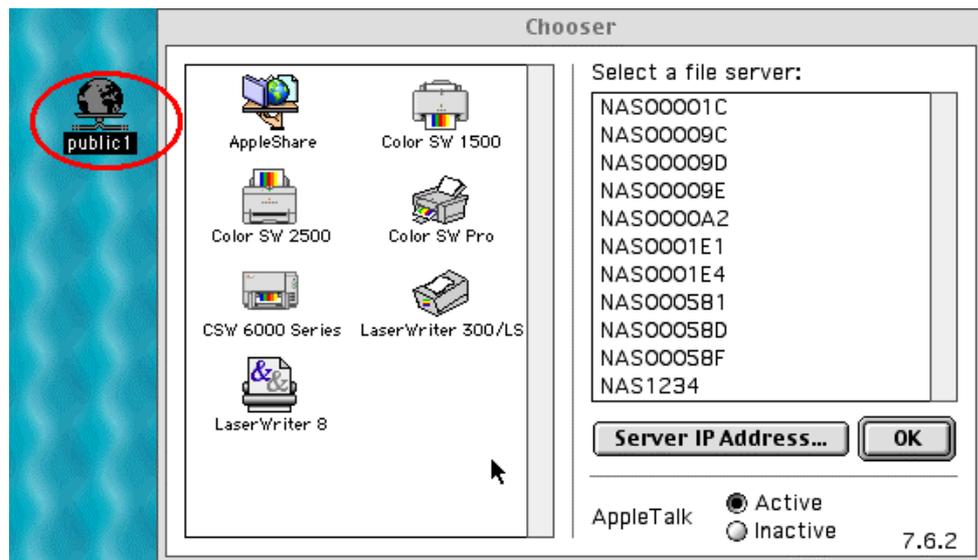
- d. Enter the correct login name and password or use "Guest" to login, and click **Connect**.



- e. All available network shares will be listed. Select a network share and click **OK**.



- f. You can then close the Chooser program. Double click the icon on the desktop to access your files.



4.3 Using Unix/ Linux OS

In addition to Microsoft and Mac OS, your Disk On-line Server supports Unix based systems such as IBM AIX, HP-UX, Sun Solaris, Linux, Free BSD, etc. through the NFS service:

Note: Configure NFS settings in User Management page for users who use this feature before proceeding to the steps below.

1. On Unix, run the commands:

```
mount -t nfs <Disk On-line Server IP address>:/<Network Share Name>  
<Directory to Mount>
```

For example, if your Disk On-line server's IP address is 192.168.0.1 and you want to link the network share folder "public" under the /mnt/pub directory, use the following command.

```
mount -t nfs 192.168.0.1:/public /mnt/pub
```

Note: You must login as "root" user to initiate the above command.

2. Logged in as the user id that you defined, you can use the mounted directory to access your network share files.

4.4 Using File Transfer Protocol (FTP)

In addition to working with multiple operating systems, Disk On-line Server also supports FTP. You can use popular FTP software and enter the user name and password to connect to the Disk On-line Server. Or you may key in anonymous as the user name in order to access public network share folders that is open to guest users.

Chapter 5 Disk On-line Server— Maintenance

Disk On-line Server has been specially designed to run 24 x 7 and be ready at all times against system crash caused by power outage. This section provides a general overview on system maintenance.

5.1 Shut down/ Restart the Server

To restart or shut down Disk On-line Server,

1. Ask all active users of NAS to save their files and disconnect from the server.
2. Enter the administration page and select Shutdown/ Restart in System Tools.

5.2 Reset Administrator Password and Network Settings

To reset the administrator password and network settings of Disk On-line Server,

1. Press the reset button at the back of Disk On-line Server for a few seconds. A beep sound will be heard.
2. Login Disk On-line Server with the following default password:

Name: **administrator**

Password: **admin**

You can then administer your server again.

Note: If the configuration reset switch is disabled in the System Tools- Hardware Settings page, you are no longer able to use this function.

5.3 Disk Failure or Malfunction

In case of disk malfunction or failure, please do the following:

1. Record the malfunction status or error message.
2. Stop using the failed Disk On-line Server and turn off the server.
3. Contact customer service officer for technical maintenance.

Note: Your Disk On-line Server must be repaired by professional technicians, please do not try to repair the server yourself.

Please back up any important files or folders to avoid potential data loss due to disk crash.

5.4 Power Outage or Abnormal Shutdown

In case of power outage or improper shutdown of Disk On-line Server, the system will resume to the state before it is shut down. If your server is not functioning properly after restart, please follow the steps below:

1. If the system configuration is lost, please manually configure the system again.
2. In the event of abnormal operation of the server, please contact customer service officers for technical support.

To avoid the above situations, please back up your data periodically and make sure you have done the following:

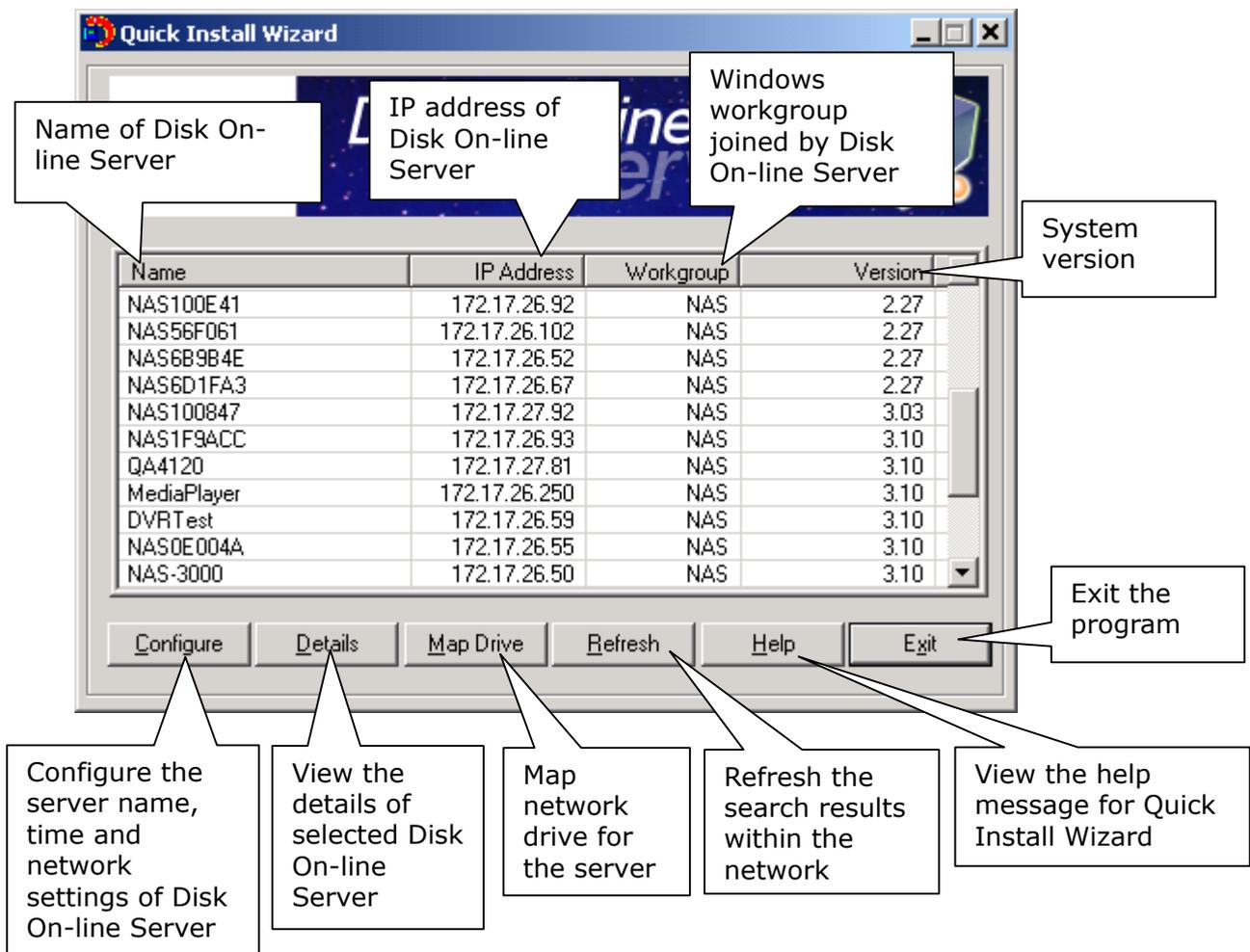
2. Follow the instructions described to shut down or restart the server in Chapter 5.1.
3. In case of an anticipated power outage, back up all important data and turn off the server properly until the power supply is resumed.

Appendix A Quick Install Wizard

Introduction

Quick Install Wizard enables you to search for all available Disk On-line Servers within the local network, and view the server name, IP address, and workgroup etc. You can also configure the disk name, date and time, etc. via Quick Install Wizard.

Screenshot



Operation Help

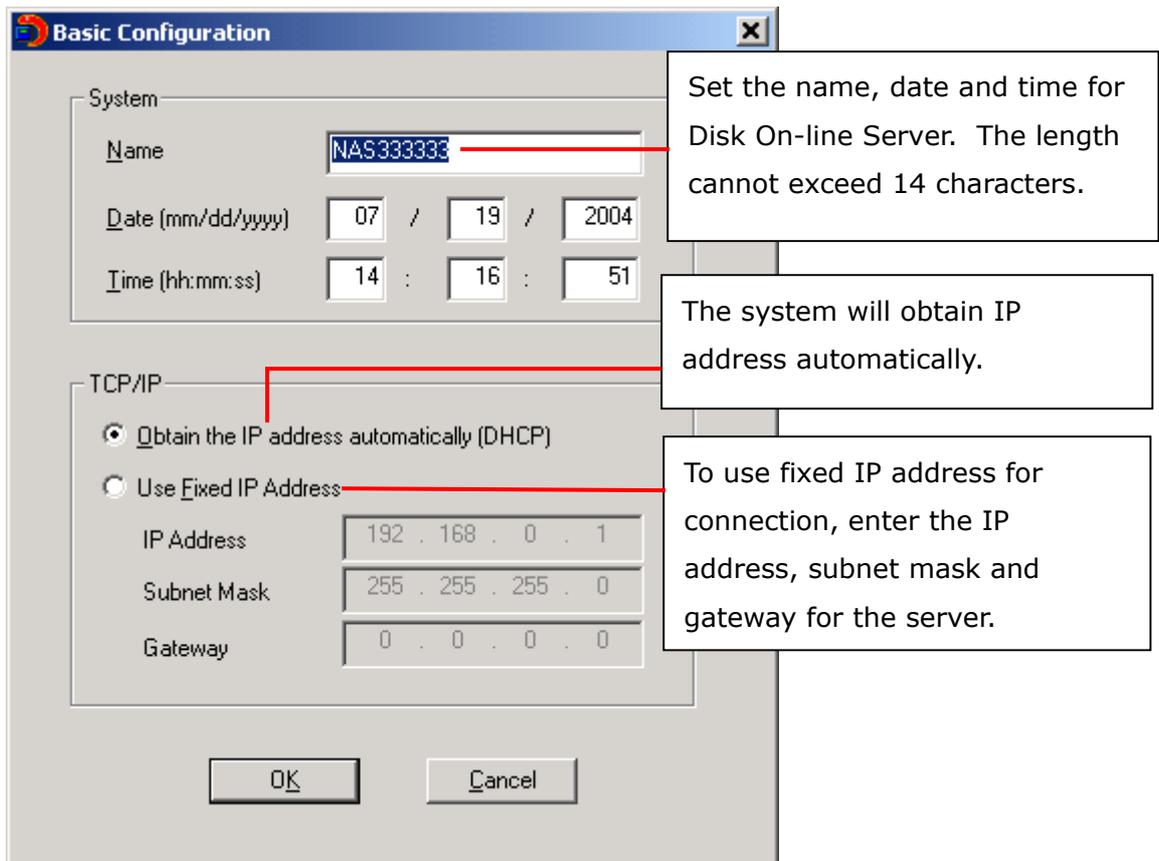
1. Configure Disk On-line Server

Select a Disk On-line Server displayed on Quick Install Wizard and click **Configure**. Enter the administrator password.



The image shows a dialog box titled "Administrator Login". It has two input fields: "Administrator Name" with the text "Administrator" entered, and "Administrator Password" which is empty. Below the fields are two buttons: "OK" and "Cancel".

Upon successful login, the following screen will appear. Enter the configuration values and click **OK**.



The image shows a dialog box titled "Basic Configuration". It is divided into two sections: "System" and "TCP/IP".

System Section:

- Name:** A text field containing "NAS333333". A red line points from this field to a callout box: "Set the name, date and time for Disk On-line Server. The length cannot exceed 14 characters."
- Date (mm/dd/yyyy):** Three spinners showing "07", "19", and "2004".
- Time (hh:mm:ss):** Three spinners showing "14", "16", and "51".

TCP/IP Section:

- Obtain the IP address automatically (DHCP):** A radio button that is selected. A red line points from this option to a callout box: "The system will obtain IP address automatically."
- Use Fixed IP Address:** An unselected radio button. A red line points from this option to a callout box: "To use fixed IP address for connection, enter the IP address, subnet mask and gateway for the server."
- IP Address:** A text field with "192 . 168 . 0 . 1".
- Subnet Mask:** A text field with "255 . 255 . 255 . 0".
- Gateway:** A text field with "0 . 0 . 0 . 0".

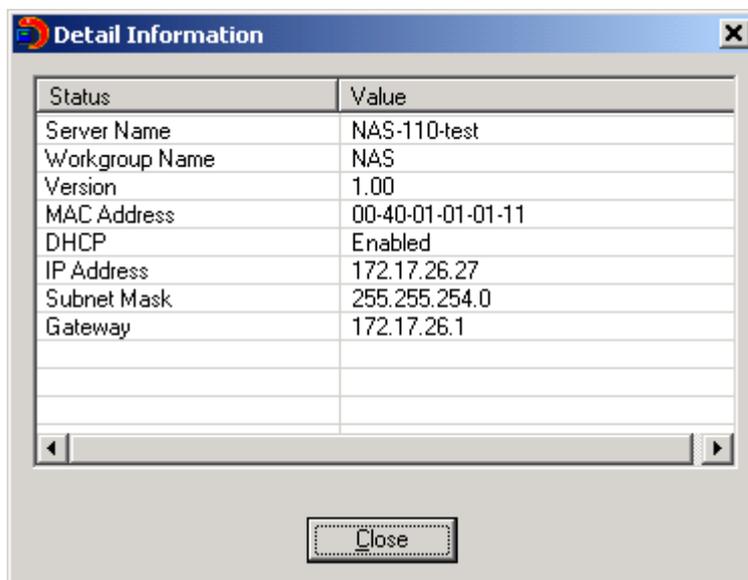
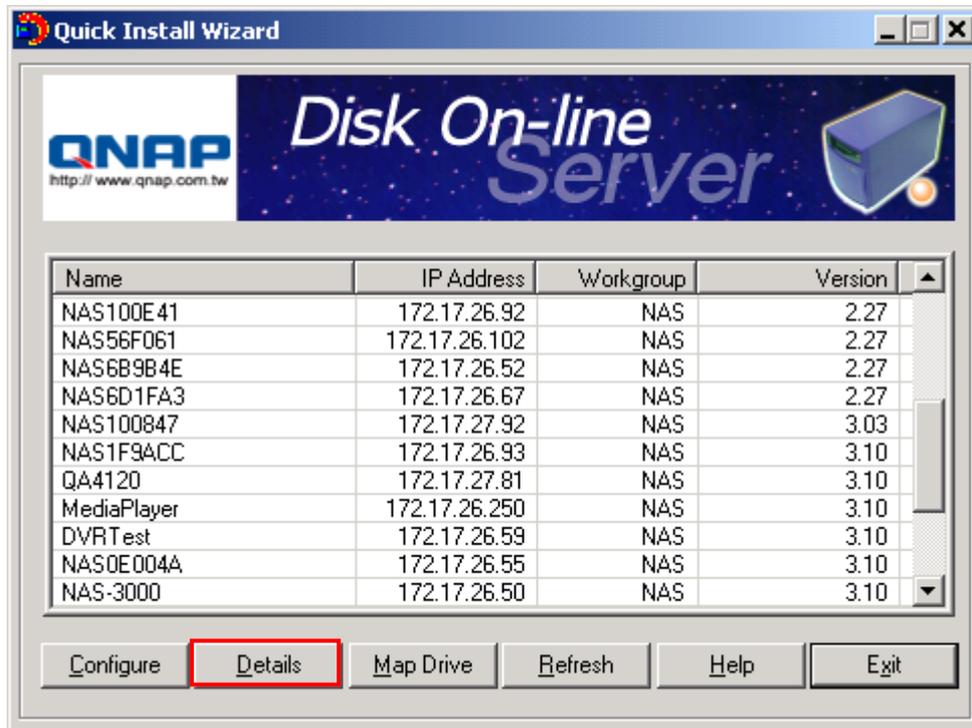
At the bottom of the dialog are "OK" and "Cancel" buttons.

For further configuration of the system, please login the administration page of Disk On-line Server via web browser.

Note: You may have to restart Disk On-line Server after changing the network configuration.

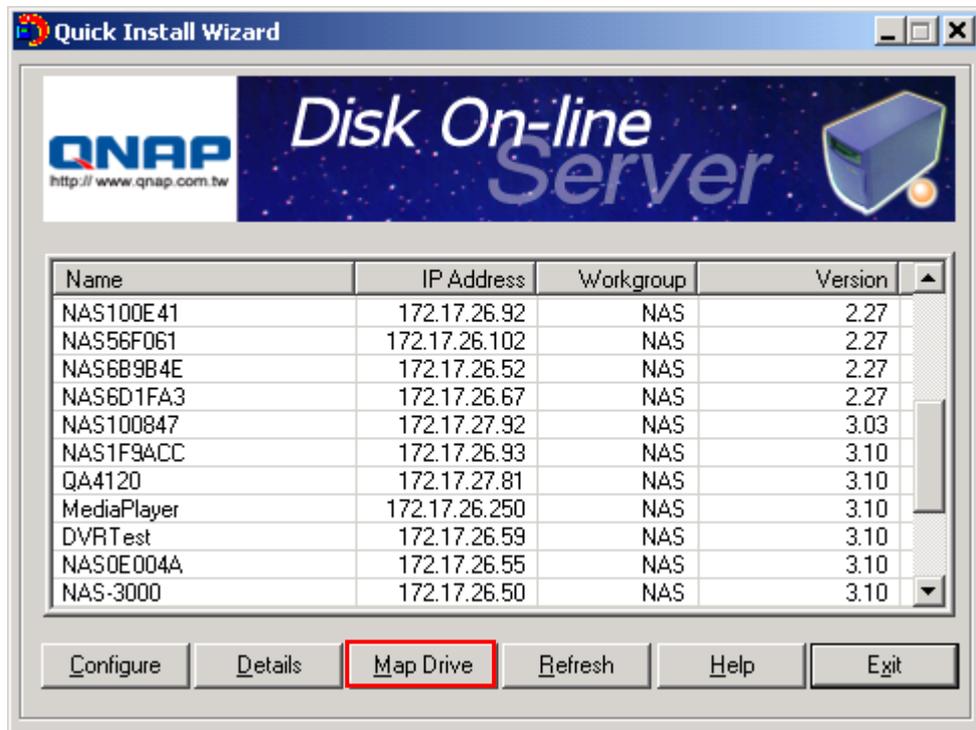
2. View Disk On-line Server details

Select a Disk On-line Server available on Quick Install Wizard and click **Details**. The following screen will be shown:

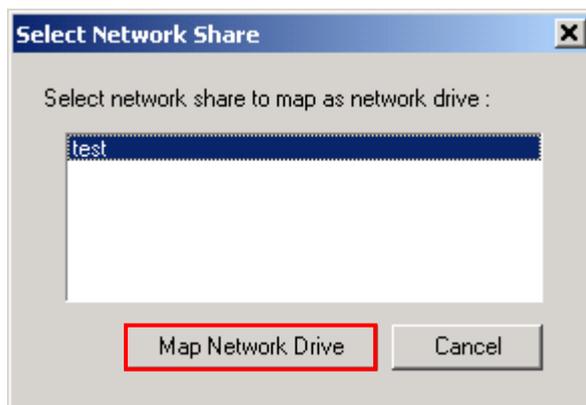


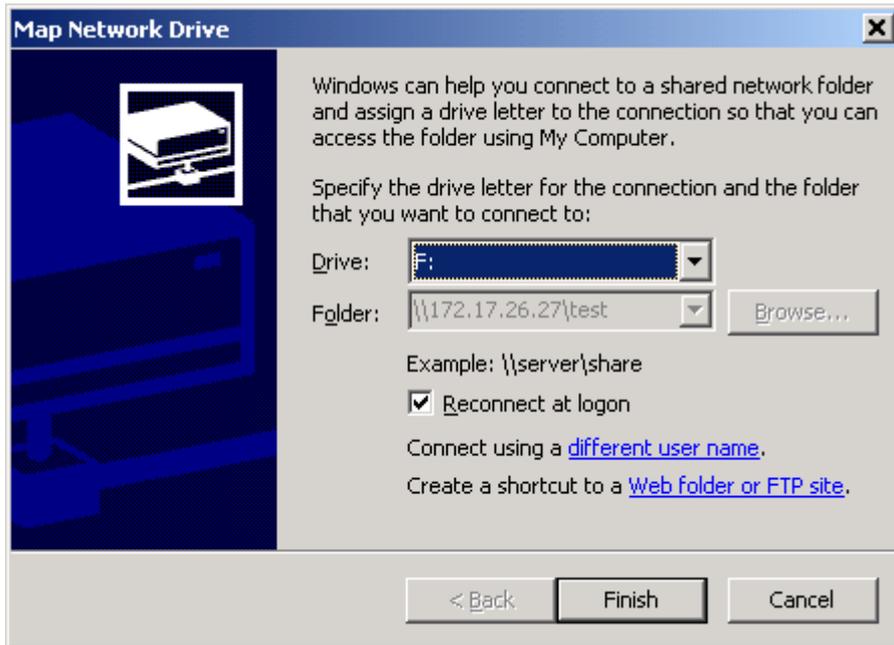
3. Map drive

- a. Select a Disk On-line Server and click **Map Drive**.

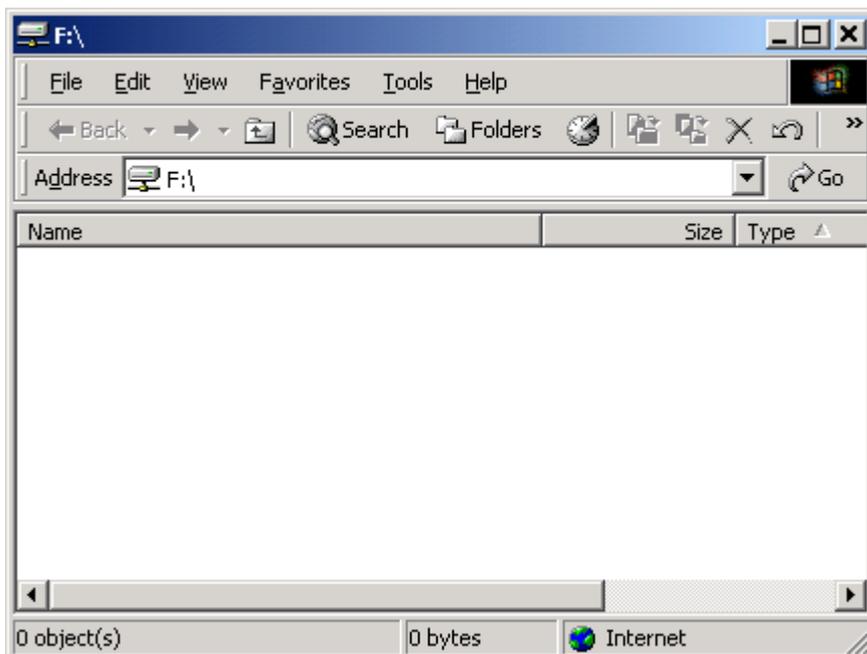


- b. Select the correct network share and click **Map Network Drive**. Then select the drive letter for the connection.



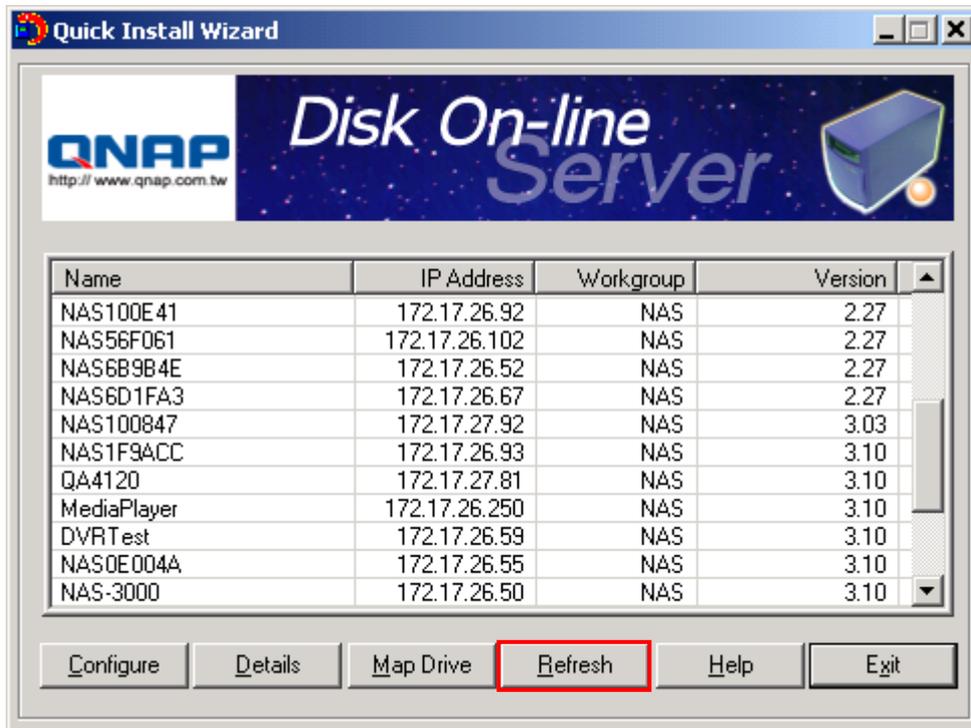


- c. Enter the password for the network drive.



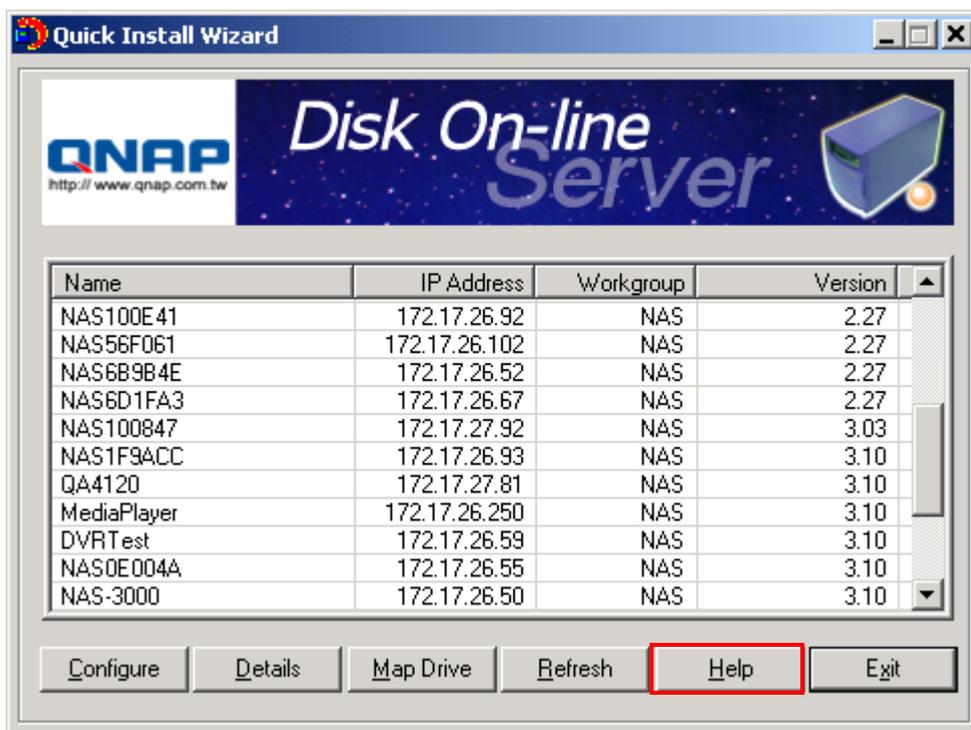
4. Search for all available Disk On-line Server again

To refresh the search results, click **Refresh** to display all available servers within the network.



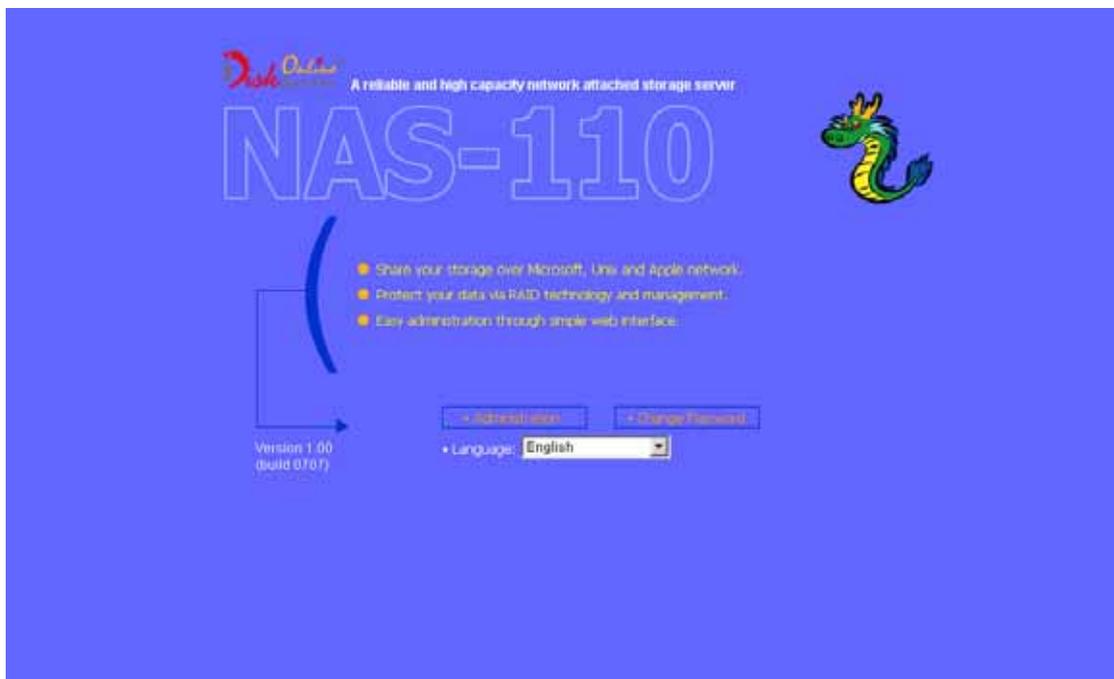
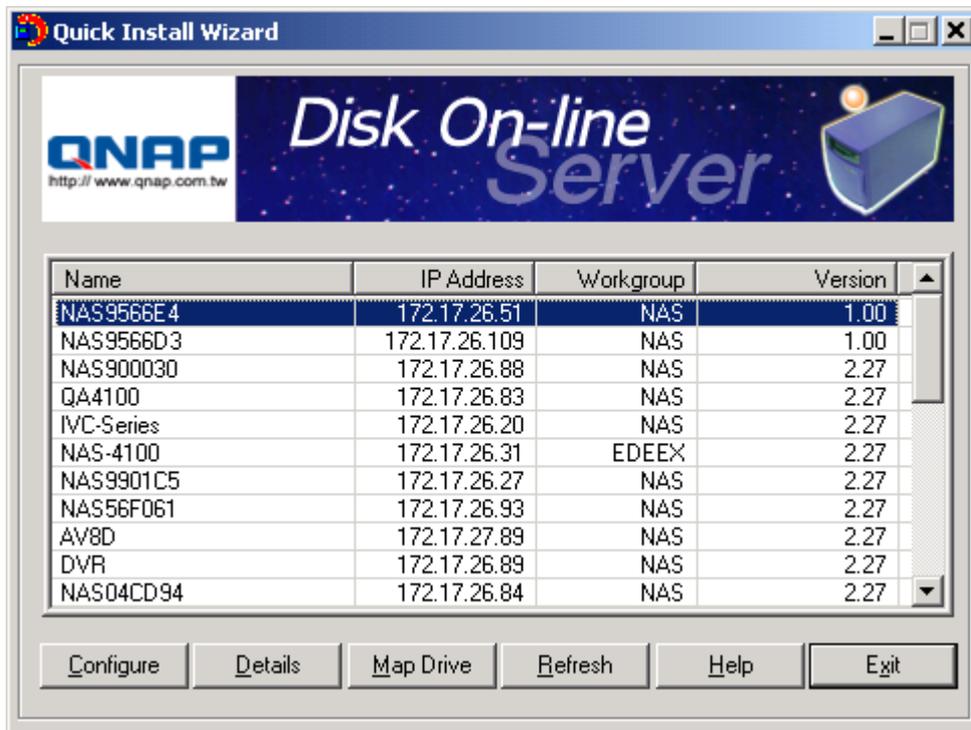
5. Help

Click **Help** to view the instructions of Quick Install Wizard.



6. Enter the home page of Disk On-line Server

Double click Disk On-line Server to enter the administration page.



Appendix B NetBak Replicator

NetBak Replicator is a program installed in user's system (Windows only) for data backup. You can upload any files or folders to server and back up the data.

Main Functions

- **Backup**

- ✓ File Filter

You can select particular file types to be excluded from backup. The system will filter all files belonging to these file types when backing up the data.

- ✓ Schedule

You can specify a schedule for backing up data with this option, e.g. 12:00 every day or 05:00 every Saturday.

- ✓ Monitor

When this option is enabled, the system will upload all files or folders to the server instantly for backup when the files or folders are modified.

- **Restore**

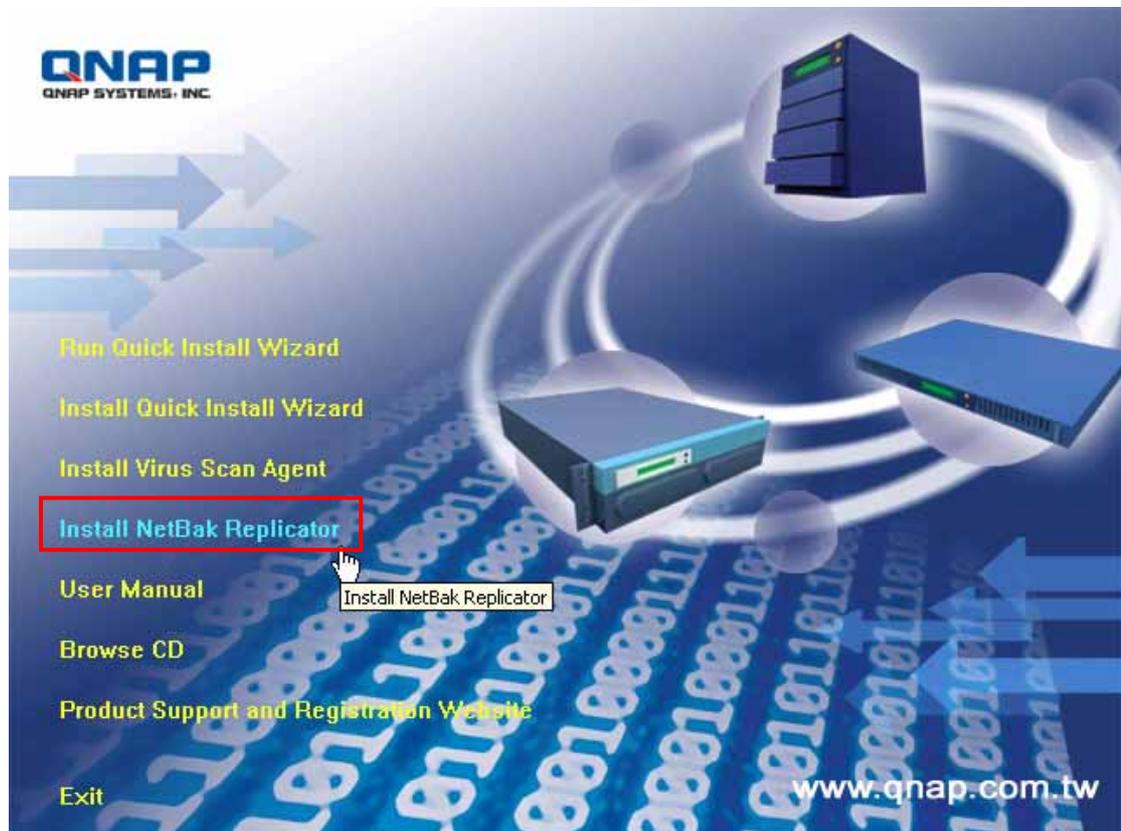
Select this option to restore backed up data to the original location of the file or to a new directory.

- **Log**

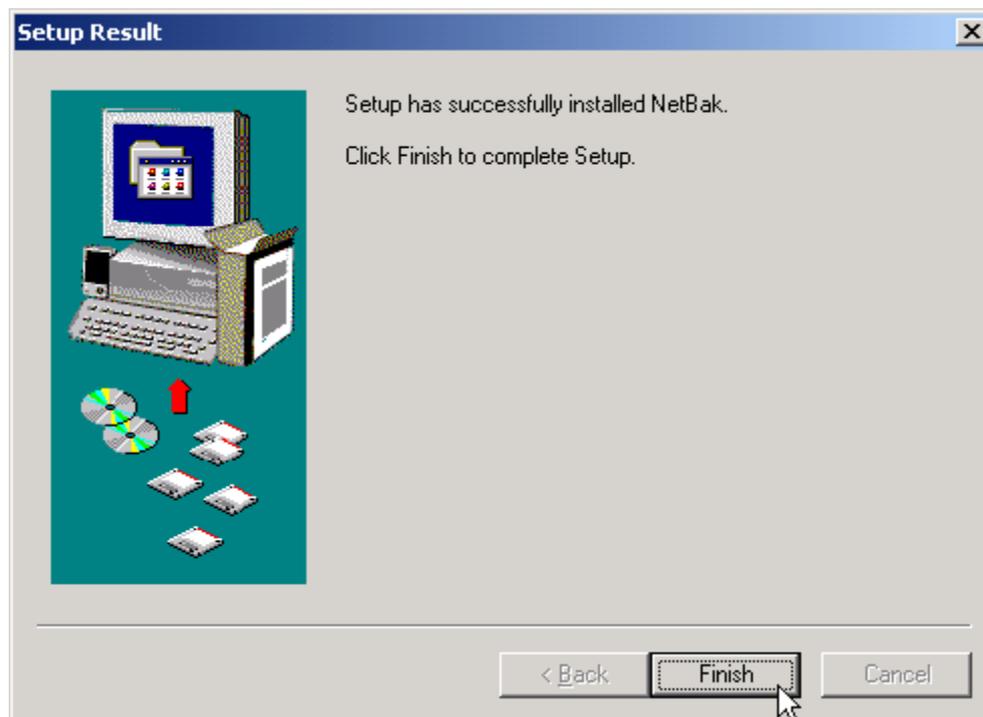
Enable this option to record events of NetBak Replicator, e.g. the time when NetBak Replicator starts and terminates, Restore and Monitor, backup time and original location of all files, etc.

Installing Netbak Replicator

1. Run Install NetBak Replicator in the companion CD.



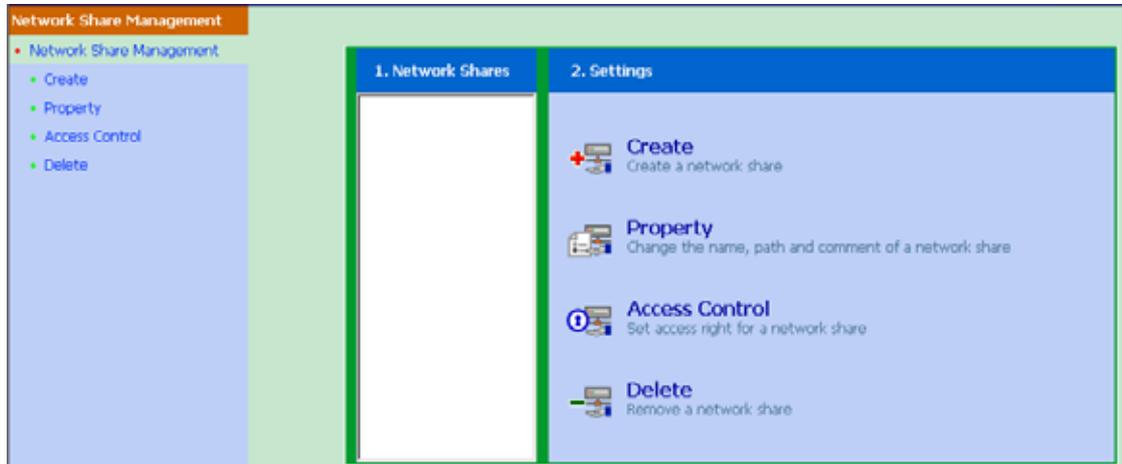
2. Follow the steps to install NetBak Replicator. Then click Finish.



3. Upon successful installation, a shortcut icon  will be shown on the Desktop.

Using NetBak Replicator

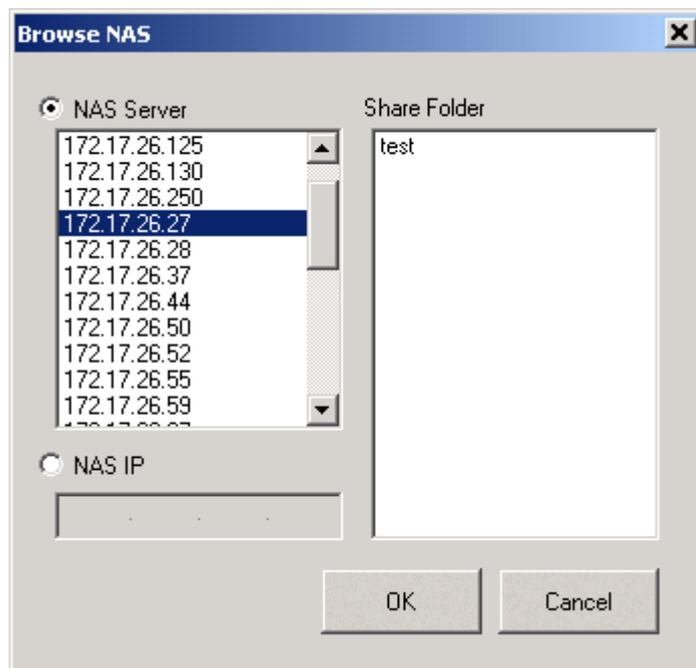
1. Create a share folder for backup in NAS.



2. Run Netbak Replicator. Click . All NAS and their share folders within the network will be displayed.



3. Select the NAS and share folder, or enter the IP address of NAS for data backup. Then click **OK**.



Note: Only authorized users can access the share folders. Double click the folder. The system will prompt for user name and password to authenticate the access privilege of the users.

4. You can start the backup procedure upon successful connection to the NAS.

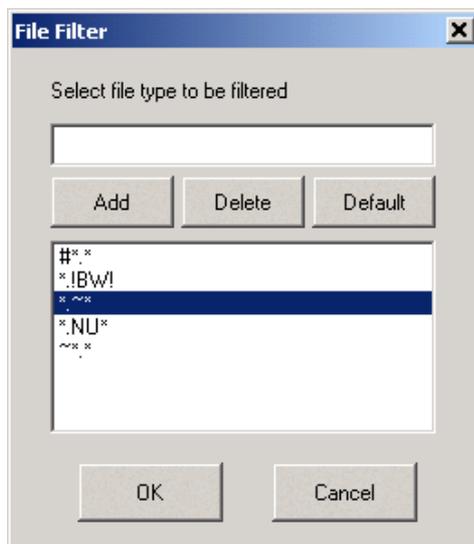
- **Backup**

Select files and folders for backup.



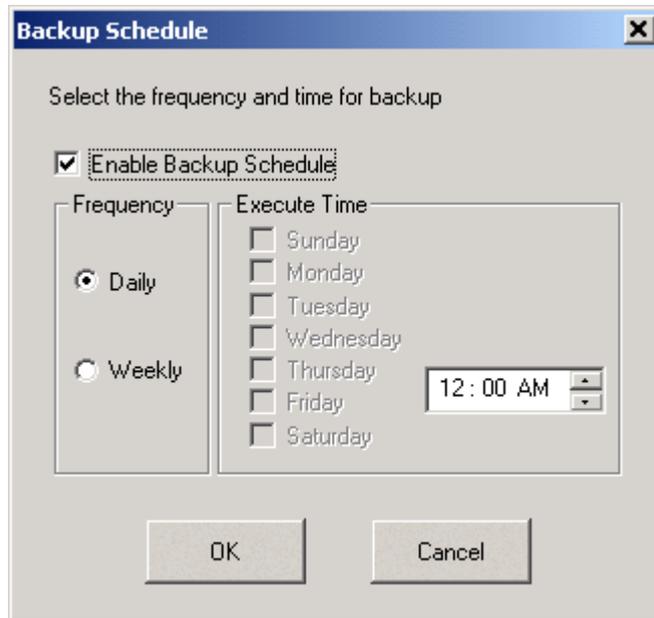
- ✓ **File Filter**

Click **File Filter** to select file format to be skipped from backup. Then click **OK**.



✓ Schedule

Click **Schedule** on NetBak Replicator main page. Then check the box "Enable Backup Schedule" and select the frequency and time for backup. Click **OK** to confirm.



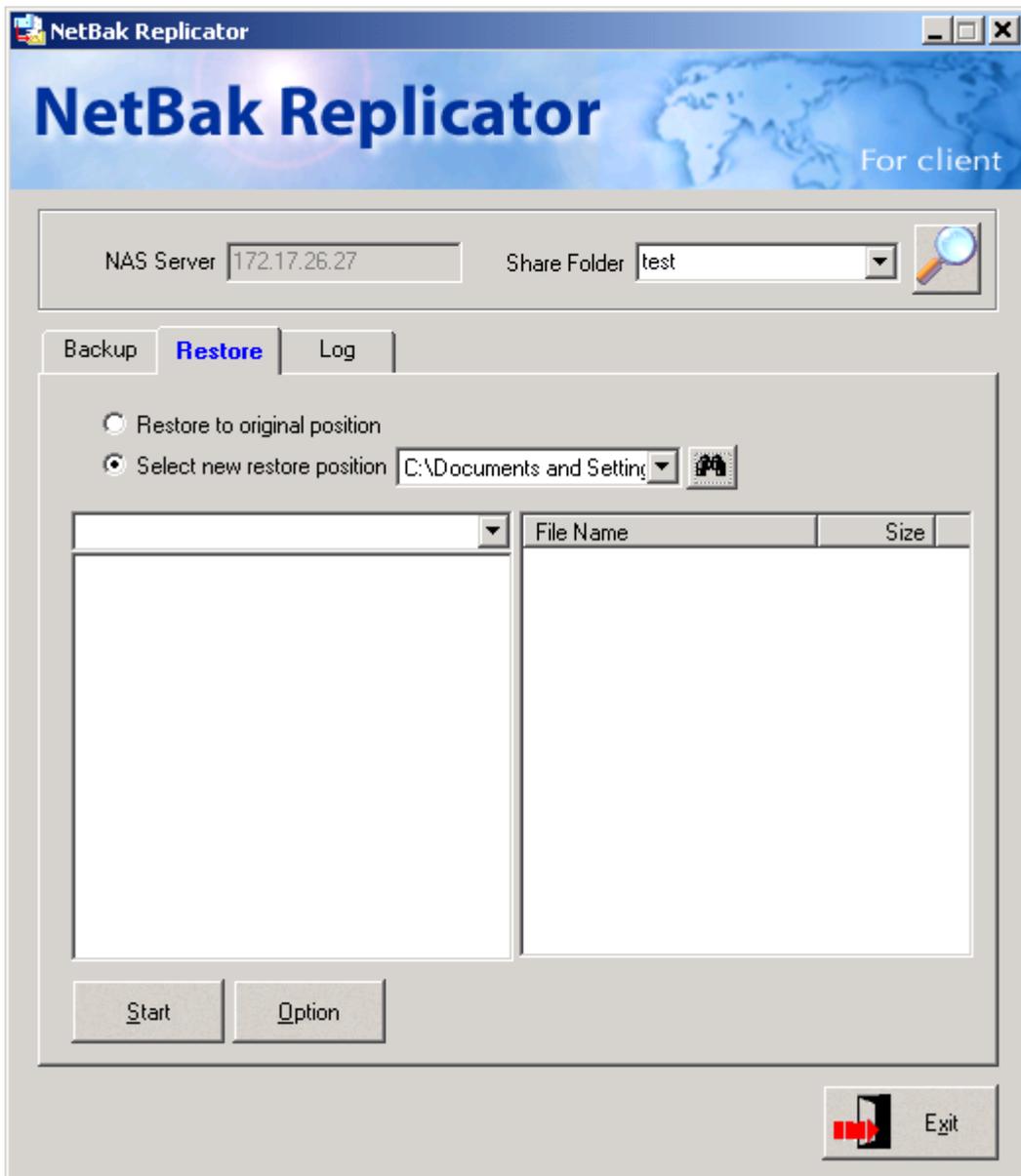
✓ Monitor

Select the files and folders for monitoring. Then click **Monitor**.

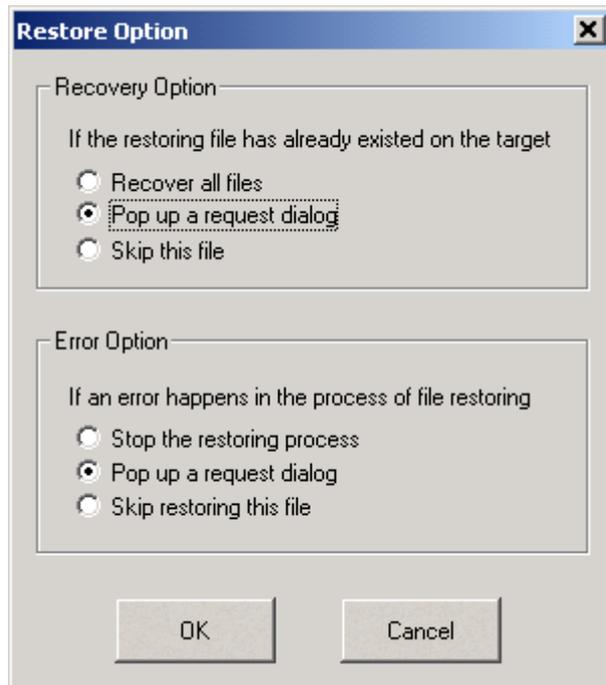


- **Restore**

- a. Restore to original position: Select the location that the data will be restored to.
- b. Select new restore position: Click  to select the directory to restore data to or select a previously chosen location from the drop-down menu.
- c. Start: Select the folder(s) and sub-folder(s) for restoring data.



d. Option: Select recovery option and error option.



- **Log**

- a. Clear All: Click this button to clear all logs.
- b. Option: Select the type of logs to be recorded— “Record all logs” or “Record error logs only”.

