

NetQuestion

GC31-8177-01

## **Installation and Administration**





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**Note**

Before using this information and the product it supports, be sure to read the information in "Notices" on page 59.

**Second Edition (January 1998)**

This edition applies to *IBM NetQuestion for AIX, OS/2, OS/390, Windows NT\*\**, and *AS/400* and to all subsequent releases and modifications until otherwise indicated in new editions or technical newsletters.

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# Welcome!

Having a search facility on your Web site provides better access to its content, improves navigation, and aids its usability. NetQuestion has a search engine, a command interface, and HTML forms that support both Web administration and end user tasks. It enables you to create searchable indexes for the information on your Web site.

Once you create an index, you include a link to the NetQuestion search form on your Web pages, most likely on a home page. Visitors to this page can go to this form and search the Web site for key words and phrases. When they submit the form, NetQuestion will produce a list of links to any pages or files at the site that contain the desired information.

You can create and maintain separate indexes for different sites and groups of pages on your server. You determine which files will be included in a particular index. NetQuestion processes the specified files and uses built-in logic to extract keywords and create the index for you.

## Conventions in this book

<b>Boldface</b>	Indicates the name of an item you need to select, the name of a field or command, or a string you must enter.
<i>Italics</i>	Indicates book titles or variable information that must be replaced by an actual value.
Monospace	Indicates an example, a portion of a file, or a previously entered value.



---

## Chapter 1. Planning for installation and administration

Use this chapter to prepare for installing NetQuestion. The chapter covers the following topics:

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### Hardware and software requirements

- For OS/2, AIX, Windows NT, and Windows 95:
  - Lotus Go Webserver
  - 5.5 MB of disk space
- For OS/390
  - One of the following Web servers:
    - Lotus Go Webserver
    - Internet Connection Secure Server Version 2 Release 2
  - 60 tracks for OpenEdition (3390)
  - 912 tracks for the partitioned dataset
- For AS/400
  - 5769SS1 Operating System/400 V4R2, together with:
    - 5769SS1 OS/400 - QShell Interpreter
    - 5769NCE Internet Connection Secure Server (Int'l)
    - or: 5769NC1 Internet Connection Secure Server (US version)

---

### Disk space requirements for indexes

NetQuestion simplifies the tasks of building and maintaining accurate up-to-date search indexes. You might want to include the NetQuestion search facility on each site you manage. When deciding which Web sites to index, consider the number of documents per site you want to make available for searching. Depending on the number of indexes you plan to have, you may need to change the environment variable that sets the **maximum number of indexes** you can have on your machine. See “Adding environment variables” on page 21 for more information.

Each NetQuestion index requires a permanent directory in which it resides, and a separate working directory used during processing.

When estimating the amount of disk space needed to build and maintain a NetQuestion index, consider the following:

- A permanent directory requires approximately 35 to 50% of the total size of all the indexed documents, with a minimum size of 1 MB.

- A working directory requires approximately twice the space of the permanent directory. You can reduce the amount of space required for the working directory by setting a **slice size** environment variable after you install NetQuestion. See “Adding environment variables” on page 21 for more information.

---

## Additional planning considerations for AIX

- When pre-allocating space on the AIX operating system, be sure your file system is large enough for **all** the document indexes. You will also need to consider the file permissions for the index directories and files.

**Note:** You can simplify your backup procedures by keeping the master indexes in separate directories from the working indexes. Then you will only need to back up the directories with the master indexes. For example, you could have this directory structure:

- /index/data/netqv10/ for the permanent indexes
  - /index/work/netqv10/ for the working indexes
- The NetQuestion installation does not automatically create a user ID and a group ID for its administrative functions. You will have to set up an administrative user and an administrative group for these functions yourself. Once you set up these two items, you can use the **setadmgrp** command to update the file permissions automatically. See the **setadmgrp** command on page 57 for more information.
  - After you create your directories, you have an additional configuration task to perform before you can start NetQuestion and build any indexes. You must configure your NetQuestion server using the **nqconfig** command. This command allows you to specify the master instance directories. See “Configuring NetQuestion on AIX” on page 20 and the **nqconfig** command on page 49 for more information.

---

## Additional planning considerations for OS/390

On OS/390, the NetQuestion executables are loaded into the *prefix*.SEHWMOD1 load library during the SMP/E installation, where *prefix* is a user-specified value. Other files are loaded into the following HFS subdirectories:

- NetQuestion files are loaded into **/usr/lpp/NetQ**
- Help files, search and administrative function files are loaded into **/usr/lpp/internet/server\_root**

When pre-allocating space on the OS/390 system, be sure your file system is large enough for all the document indexes. Also consider the file permissions for the index directories and files.

To simplify backup procedures, keep the master indexes in separate directories from the working indexes. You will only need to back up the directories with the master indexes. For example, you could have this directory structure:

- /index/data/netqv10/ for the permanent indexes
- /index/work/netqv10/ for the working indexes

The NetQuestion installation automatically creates a default user ID *WEBADM* and group ID *IMWEB* for the NetQuestion administrative functions. These IDs are created during Lotus Go Webserver installation. You can use the **setadmgrp** command to update the file permissions automatically. See the **setadmgrp** command on page 57 for more information.

---

## Additional planning considerations for AS/400

On AS/400, the NetQuestion executables are loaded into the library QNETQ. Other files are loaded into the following IFS subdirectories:

- NetQuestion files are loaded into **/QIBM/ProdData/NetQ**
- Help files, search and administrative function files are loaded into **/QIBM/ProdData/NetQ/MRI2924**

Also consider the file permissions for the index directories and files.

To simplify backup procedures, keep the master indexes in separate directories from the working indexes. You will only need to back up the directories with the master indexes. For example, you could have this directory structure:

- **/QIBM/UserData/NetQ/idata** for the permanent indexes
- **/QIBM/UserData/NetQ/iwork** for the working indexes

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## NetQuestion packaging

The NetQuestion package contains the required files for the base functions and an optional package of coding samples and documentation. If you are an experienced programmer and are familiar with the Internet protocols, the optional package information can help you modify the NetQuestion base functions.

---

## Compatibility

NetQuestion uses industry-standard protocols and is compatible with Web clients that are compliant with industry-standard protocols.



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## Chapter 2. Installing NetQuestion

This chapter explains how to install NetQuestion and describes the first tasks you might perform after installation. It covers the following topics:

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### Installing NetQuestion with Lotus Go Webserver

Lotus Go Webserver includes NetQuestion in the U.S. English versions for AIX, OS/2, OS/390, Windows NT, and Windows 95.

For AIX, OS/2, Windows NT, and Windows 95, if you install NetQuestion during the Lotus Go Webserver installation, refer to the procedures documented in the *Quick Beginnings* guide for the appropriate operating system. You do not need to follow the installation instructions documented in this chapter; however, you do need to refer to the configuration instructions found in "What's next?" on page 18.

If you are installing NetQuestion separately, or if you are installing NetQuestion for OS/390, or if you are installing NetQuestion for AS/400, refer to the install instructions in this chapter. You might want to install NetQuestion separately if:

- You chose not to install NetQuestion with Lotus Go Webserver, but want to install NetQuestion at a later time.
- You acquired NetQuestion as part of another product package, and the NetQuestion installation is not integrated with the package installation.
- You acquired NetQuestion separately.

---

## Installing NetQuestion on AIX

Before installing NetQuestion on AIX, you must have root authority to install the software.

You can use the following methods to install software on AIX:

- System Management Interface Tool (SMIT), a graphical interface that uses a mouse or other pointing device to select options.
- SMITTY, a variation of SMIT. Instead of using a pointing device to select options, you use arrow and PF keys.
- Visual System Management (VSM) graphical interface. With VSM, you can install by directly manipulating objects (icons).

This section describes how to install NetQuestion using SMIT. For more information on using SMITTY or the VSM graphical interface, refer to your *AIX Installation Guide*, which is part of the InfoExplorer hypertext library.

### 1 Prepare to install.

- Log on as root.
- Ensure that the hostname command returns your system's correct hostname.
- Insert the CD-ROM that contains the NetQuestion software into the appropriate drive.

### 2 Start the System Management Interface Tool.

At the prompt, enter **smit install\_selectable\_all**.

### 3 Select the input device.

From the Install/Update From All Available Software window:

- Click **List** for the INPUT device / directory for software option. The Single Select List window appears with a list of available input devices.
- From the Single Select List window, click **/dev/cd0 (Multimedia CD-ROM Drive)**.

The INPUT device / directory for software option in the Install/Update From All Available Software window is updated to show you selected the CD-ROM drive.

- Click **OK**.

An updated Install/Update From All Available Software window appears with additional installation options.

### 4 Select installation filesets and packages.

- From the Install/Update From All Available Software window, click **List** for the SOFTWARE to Install option.

The Multi-select List window appears with a list of filesets and packages you can selectively install.

**Notes:**

- a. If a fileset description is preceded by one @ sign, the fileset has already been installed on your system. The two @ signs that precede all fileset names do not indicate install status and can be disregarded. A plus sign (+) indicates that the fileset hasn't been installed.
- b. The NetQuestion documentation is automatically installed.

**5 Click the items you want to install.**

- The following filesets are required to install NetQuestion:
  - NetQuestion Admin Tools
  - NetQuestion CGI executables + icons
  - NetQuestion Client API
  - NetQuestion Client Development Toolkit
  - NetQuestion Client/Server Common files
  - NetQuestion Server

The fileset “CGI executables + icons” lets you use NetQuestion via the HTML forms. Lotus Go Webserver is a prerequisite for this fileset. If you do not have Lotus Go Webserver or choose not to install it, do not install this fileset. NetQuestion is still completely functional and can be used with the command line interface.

After making your selections, click OK. Your selections will appear as the software to install.

- **Complete the installation.**

From the Install/Update From All Available Software window:

- Review the other installation options. You may want to consider some of the other options, such as whether to preview the install before accepting it.
  - To get an explanation of an option, click ? and move your mouse pointer over the option of interest.
  - To change an option, enter the new choice or use the buttons to the right of the option.
- After making all your selections, click **OK**. You'll get a message asking if you are sure. Click **OK**.
- Verify NetQuestion is successfully installed.

When NetQuestion is successfully installed, you will get an OK message in the top right corner of the Install/Update From All Available Software window.

After installing NetQuestion, identify an administration user and group, set file ownership and permissions for this user and group, and configure the AIX server. See “What's next?” on page 18 for information on what to do before you start NetQuestion and begin building your indexes.

---

## Installing NetQuestion on OS/2

This section describes how to install NetQuestion using Software Installer.

**Note:** NetQuestion must be installed on a drive that supports the **HPFS**.

**Note:** When using NetQuestion, check that the name of the configuration file, NETQ.CFG, is in uppercase in the directory on the operating system. If the name of the configuration file is not in uppercase or if the complete pathname is not used when you enter a command, the error Index not created) Server response: The NetQuestion configuration file (NETQ.CFG) is in error or could not be found. (rc=77) occurs. For example, to indicate the complete pathname for the index data and work paths when using the nqcreat command, type nqcreat webindex d:\netq\idxdata d:\netq\idxwork HT.

If you plan to use NetQuestion with Lotus Go Webserver , you can restart the Lotus Go Webserver installation program--you do not need to follow the steps below. From the Lotus Go Webserver installation panels, choose to install only the NetQuestion components.

### 1 Prepare to install.

Insert the CD-ROM that contains the NetQuestion software into the appropriate drive.

### 2 Start Software Installer.

- Run the **install** command that resides in the directory containing NetQuestion. This directory varies depending on how your version of NetQuestion was packaged.

When NetQuestion is distributed separately from Lotus Go Webserver, you'll find the OS/2 version in the OS2 subdirectory. In this case, you would enter the following **install** command at an OS/2 command prompt:

```
d:\OS2\install
```

- Read the License Agreement information and click **Continue**.
- From the Install window, click **OK**.

### 3 Select the installation packages.

From the Install - directories window, select the product components that you want to install.

The following components are required to install NetQuestion:

- NetQuestion for OS/2 Base
- NetQuestion: HTTP support

If you plan to modify the NetQuestion base functions, select:

- NetQuestion: Coding Samples

### 4 Change the default installation directories.

Optionally, use the fields in the bottom half of the Install - directories window to change the default installation directories. These directories define where you want to install the NetQuestion components.

You can change these paths by clicking **Disk space** and selecting the drive where you want the directories installed.

## 5 Start the installation.

Click **Install**.

## 6 Complete the installation.

From the NetQuestion Installation window, click **Exit** to complete the installation.

If the installation procedure updated your CONFIG.SYS file, you will be prompted to reboot your system before starting NetQuestion.

See "What's next?" on page 18 for information on what to do before you start NetQuestion and begin building your indexes.

---

# Installing NetQuestion on Windows NT and Windows 95

This section describes how to install NetQuestion on Windows NT and Windows 95 using InstallShield\*\*.

## 1 Prepare to install.

Insert the CD-ROM that contains the NetQuestion software into the appropriate drive.

## 2 Start InstallShield\*\*.

- For both Windows 95 and Windows NT, run the **setup** command that resides in the directory containing the Windows NT version of NetQuestion. This directory varies depending on how your version of NetQuestion was packaged.

When NetQuestion is distributed separately from Lotus Go Webserver, you'll find the Windows NT version in the NT subdirectory. In this case, you would enter the following **setup** command from an MS-DOS prompt:

```
e:\NT\setup
```

Alternatively, on Windows NT 4.0 or Windows 95, you can click Start!Run on the taskbar. Then use the Browse button to find the **setup** command.

- From the Welcome window, click **Next**.
- From the User Information window:
  - Enter your name and your company.
  - Click **Next**.

## 3 Select the destination directory.

From the Choose Destination Location window:

- Verify that the desired destination directory is displayed or click **Browse** to select the desired directory.
- When the correct directory is displayed, click **Next**.

## 4 Select installation files and folder.

- From the Setup Type window, select the type of install you want to perform.
  - Select **Typical** to install the required NetQuestion files:

- NetQuestion base application
- NetQuestion HTTP support
- Select **Custom** to also choose the optional file:
  - NetQuestion code samples

You will need this file only if you plan to modify the NetQuestion base functions.

- Click **Next**.
- From the Select Program Folder window:
  - Verify or change the name of the NetQuestion start-up folder.
  - Click **Next**.

## 5 Complete the installation.

- From the Start Copying Files window:
  - Verify your selections.
  - Click **Next** to proceed with the installation or click **Back** to go back and change your selections.
- From the Setup Complete window:
  - Select **Yes, I want to restart my computer now**.
  - Click **Finish** to complete the installation and reboot.

See “What's next?” on page 18 for information on what to do before you start NetQuestion and begin building your indexes.

---

## Installing NetQuestion on OS/390

This section describes the procedures for installing NetQuestion in an OS/390 OpenEdition environment.

### Loading the NetQuestion objects onto your system

On OS/390, NetQuestion is installed during the SMP/E installation. If you received NetQuestion with OS/390 Version 2.4.0, or later, you have already loaded all required objects.

### Getting started

To configure and customize NetQuestion, you must know the following information from the SMP/E installation:

1. The user-specified *prefix* of the target libraries where the NetQuestion objects are installed
2. The NetQuestion directories (and subdirectories) that have been allocated with sample job EHWMKDIR

**Note:** The default main directories are `/usr/lpp/NetQ` and `/etc/NetQ`. The Web server root directory is `/usr/lpp/internet/server_root`.

3. The Administrator User ID and the Group ID that were created during installation, if the defaults `WEBADMIN` and `IMWEB` were not used.

The OS/390 system provides menu screens, along with online help, for finalizing the NetQuestion install and for activating the facility. Online help is available for selecting menu items and entering user data.

Figure 1 shows the menu used to install and customize NetQuestion. You must execute each step, even if you are assuming the default settings, because the install program obtains some of the parameters from your local environment.

```
REXX Procedure ehwcust - Install and Customize NetQuestion

Type in selection number to execute or type in ?n (n = selection number)
get help and press ENTER.

0. End
1. Customize Installation and Application Parameters - file ehwparm
2. Create a List of All Parameters - file ehwparm.list
3. Display the List of All Parameters using 'pg ehwparm.list'
4. Update REXX Procedures, Shell Scripts, Parameter Files
5. Display update logging file using 'pg ehwupdt.log'
6. Display activity logging file using 'pg ehwcust.log'
7. Process final installation steps
8. Display final installation logging file ehwfinst.log
9. Enter Your Own Shell Command

Please enter your selection:
====>
```

Figure 1. Customizing Netquestion - Menu

The main log file, ehwcust.log, tracks the install events and whether those events completed successfully.

### Verify the OS/390 OpenEdition environment

The PATH environment variable determines whether you can access programs and procedures in the working directory.

1. Verify the setting of the PATH environment variable. On an OS/390 command line, enter:

```
echo $PATH
```

The entry . or ./ indicates that you can access programs and procedures in the current working directory.

2. If the entry is not returned, change the PATH environment variable as required.
3. Change the current working directory to the directory that contains the REXX procedures and OpenEdition shell scripts by using the command:

```
cd /usr/lpp/NetQ/nqproc
```

4. From an OS/390 OpenEdition command line, enter

```
ehwcust
```

to pull up the screen shown in Figure 1.

## Create a list of all parameters

The NetQuestion installation menu provides an option to create a list of your current parameter values in **ehwparm**. The system returns one of the following return codes:

- 0** Parameter values have been set. All directory paths have been found.
- 4** Parameter values have been set, but there are warnings. See the parameter list file for details.
- 8** Errors are detected in the parameter file. See the parameter list file for details.

**Note:** During initial install, this return code may indicate that you did not use the default directories for NetQuestion and have not yet allocated the directories.

- 12** A fatal error has been detected. This return code can indicate:

- The environment path setting is incorrect.
- An error occurred during SMP/E installation.

See the parameter list file for details.

To print the list file, select the menu item 9, "Enter Your Own Shell Command," and enter a print command.

The parameters, with default settings, can be specified:

**IMNSERVPATH=/usr/lpp/internet/server\_root/Admin**

Specifies the main directory for the Web server.

**IMNSVADM=/usr/lpp/internet/server\_root/Admin**

Specifies the directory that will contain the HTML help files. This parameter is required.

**IMNSVADMBIN=/usr/lpp/internet/server\_root/admin-bin**

Specifies the directory that will contain the administration executable files. This parameter is required.

**IMNICONPATH=/usr/lpp/internet/server\_root/icons**

Specifies the directory that will contain the icons that are displayed by the Web browser. This parameter is required.

**IMNCGIPATH=/usr/lpp/internet/server\_root/cgi-bin**

Specifies the directory that will contain the cgi scripts that support searching. This parameter is required.

**IMNPUBPATH=/usr/lpp/internet/server\_root/pub**

Specifies the directory that will contain the Web server documentation. This parameter is required.

**IMNHLQ=EHW**

Specifies the prefix value of the NetQuestion target libraries installed during the SMP/E installation. This value must match the value used by the EHWALLOC SMP/E installation. This parameter is required.

**IMNDIRPATH=/usr/lpp**

Specifies the directory where the NetQuestion objects were installed.

**IMNNETQ=NetQ**

Specifies the install directory for the NetQuestion objects.

**IMNNETQPATH=/usr/lpp/NetQ**

Specifies the directory where you installed NetQuestion. This entry automatically builds as the concatenation of IMNDIRPATH and IMNNETQ.

**IMNETCPATH=/etc/NetQ**

Specifies the directory that holds the individual working files and executables for each NetQuestion instance that is being run.

**EXCMAXINDEXES=10**

Specifies the maximum number of indexes for your installation

**EXCSLICESIZE=2000000**

Specifies the disk space that is used for indexes during index updates. You can specify **M** for millions, for example, 30M for 30000000. Refer to “Changing the amount of disk space for work indexes” on page 22 for more information.

**SERVER-NAME=SERVER**

Specifies the name of the NetQuestion server. The server name is used to start, monitor, and stop the server.

**TIME-LIMIT=150**

Specifies the number of seconds a session can remain inactive before NetQuestion closes it.

**INDEX-MASTER-PATH=/usr/lpp/NetQ/iindex**

Specifies the directory where the permanent primary and secondary indexes reside.

**INDEX-WORK-PATH=/usr/lpp/NetQ/iwork**

Specifies the directory where temporary working files can be written while the index is being processed.

**ADM-GRP=IMADM**

Specifies the group ID used for administrative functions.

**ADM-UID=WEBADM**

Specifies the user ID used for administrative functions.

**Modify the parameter list values**

You can use the menu items shown in Figure 1 on page 11 to modify the parameters in **ehwparm**.

- Use menu item 1 to change the current parameter values.
- Use menu item 2 to create a new parameter list.
- Use menu item 3 to display current parameter list values.
- Use menu item 9 to print the current parameter list.

**Note:** Menu item 9 can be used to create new directories if needed.

## Update procedures for final installation and configuration

This step updates procedures and files that contain entries that can be customized.

1. Select menu item 4 to update the procedures and parameter files. You will receive a return code of 8 if there are missing directories; you can use menu item 9 to create new directories.
2. Select menu item 5 to display the update log.
3. Verify that the log does not contain errors or warnings. Ignore any messages such as:

```
>>>> Parameter 1 does not exist
>>>> Parameter 1) does not exist
```

## Finalize the HFS installation

Before finalizing the installation, you must have write access to the following:

- Application directories
  - /usr/lpp/NetQ/nqproc
  - /usr/lpp/NetQ/nqdrv
- Instance directory, as specified by the IMNETCPATH parameter in the ehwparm file.
- The etc directory

This directory holds the file, ehwisinf, that contains the environment information used to process NetQuestion functions.
- Master index path directory, as specified by the INDEX-MASTER-PATH parameter in the ehwparm file.
- Master work path directory, as specified by the INDEX-WORK-PATH parameter in the ehwparm file.
- Web server main directory and subdirectories as specified by the IMNSERVPATH, IMNSVADM, IMNSVADMBIN, IMNICONPATH, IMNCGIPATH, and IMNPUBPATH parameters in the ehwparm file.

To finalize the installation:

1. Select menu item 7 to update the procedures and parameter files. You will receive a return code of 8 if there are missing directories; you can use menu item 9 to create new directories.
2. Select menu item 8 to display the final installation log.

**Note:** During the initial install, the log will not contain any error or warning messages. If you have already installed NetQuestion, the log will contain warning messages which can be ignored.
3. Select menu item 0 to end the procedure.

## Configure the NetQuestion server

To configure the NetQuestion server, you need to have SuperUser (SU) authority.

1. From an OS/390 OpenEdition command line, enter:
  - . ehwexprt

This command adapts your current environment to the NetQuestion administration functions. The command begins with a period (.) and space character.

2. From an OS/390 command line, enter:

```
ehwconf
```

This command line configures the NetQuestion server. The system asks whether to run the configuration, select **y**.

3. Select menu item 0 to end the procedure when the system displays the following message:

```
Request successfully completed
```

## Verify the installation

After configuring NetQuestion, you need to verify the installation by entering the **ehwivp** command on an OS/390 OpenEdition command line. If NetQuestion installed correctly, the system returns a message indicating that NetQuestion is installed. If NetQuestion is not installed correctly, the system returns a message indicating that NetQuestion is not properly installed. If the message indicates that you should check the IPC values, verify the IPC settings in SYS1.PARMLIB(BPXPRMxx):

- IPCSHMPAGES should be greater than or equal to 2048.
- IPCSEMNSEMS should be greater than or equal to 50.

## Provide user access to NetQuestion administrative functions

To grant users of your administrative group (imweb) access to the NetQuestion administrative functions, each user can invoke the OpenEdition shell script command, ehwexprt. The recommended method is to add the ehwexprt shell script to the user profile.

## Provide user access to NetQuestion through the Web server

The *Program Directory for OS/390* provides instructions for giving users access to NetQuestion through the Web server.

---

## Installing NetQuestion on AS/400

This section describes the procedures for installing NetQuestion in an AS/400 environment.

## Loading the NetQuestion objects onto your system

On AS/400, NetQuestion is installed with the AS/400 RSTLICPGM command. For installing NetQ/400 on the AS/400 you should use \*QSECOFR userid with special authority: \*ALLOBJ. Now you should call the RSTLICPGM command:

The AS/400 system provides menu screens, along with online help, for finalizing the NetQuestion install and for activating the facility. Online help is available for selecting menu items and entering user data.

## Restore Licensed Program (RSTLICPGM)

Type choices, press Enter.

```
Product ..... 5798NC5      Character value
Device ..... *SAVF        Name, *SAVF
      + for more values
Optional part to be restored . . *BASE      *BASE, 1, 2, 3, 4, 5, 6
Type of object to be restored . *ALL       *ALL, *PGM, *LNG
Language for licensed program . *PRIMARY    Character value, *PRIMA
Output ..... *NONE       *NONE, *PRINT
Release ..... *FIRST     Character value, *FIRST
Replace release ..... *ONLY Character value, *ONLY,
```

Figure 2. RSTLICPGM command

The **RSTLICPGM** create the product library **QNETQ** with all executables.

Also it creates several new directories in the **Integrated File System (IFS)** of AS/400.

These directories are for NetQuestion data.

## Product Directory Structure

```
/QIBM/ProdData/NetQ/MRI2924
/QIBM/ProdData/NetQ/MRI2924/macro
/QIBM/ProdData/NetQ/idata
/QIBM/ProdData/NetQ/idata/cballidx
/QIBM/ProdData/NetQ/iwork
/QIBM/ProdData/NetQ/iwork/cballwrk
/QIBM/ProdData/NetQ/data
/QIBM/ProdData/NetQ/data/netqv10mst
/QIBM/ProdData/NetQ/data/netqv10wrk
/QIBM/ProdData/NetQ/data/config
/QIBM/ProdData/NetQ/data/icons
/QIBM/ProdData/NetQ/pub
/QIBM/ProdData/NetQ/pub/recipe
/QIBM/ProdData/NetQ/pub/doclist
/QIBM/ProdData/NetQ/bin
```

## Configure the NetQuestion server

To configure the NetQuestion server, you need to have \*SECADM authority.

1. From an AS/400 command line, enter:

```
qsh
```

This command starts the QShell environment.

2. Verify the setting of the PATH environment variable. On a QShell command line, enter:

```
echo $PATH
```

The entry . or ./ indicates that you can access programs and procedures in the current working directory.

3. If the entry is not returned, change the PATH environment variable as required:

```
PATH=/QIBM/ProdData/NetQ/bin:$PATH
```

Now enter:

```
export $PATH
```

4. Now end the NetQ server with:

```
netq stop server
```

The system displays the following message:

```
Request successfully completed
```

5. Now start the NetQ server with:

```
netq start server
```

The system displays the following message:

```
Request successfully completed
```

**Note:** To omit step 2. & 3 you can also add in **\$Home/.profile** the two statements:

```
PATH=/QIBM/ProdData/NetQ/bin:$PATH
```

```
export $PATH
```

This solution is preferred, since it defines this path permanently.

Exit now QShell with PF-Key 'F3=Exit'.

To check the NetQ configuration, do the following:

1. From an AS/400 command line, enter:

```
cd ('/QIBM/ProdData/NetQ/data/netqv10mst')
call qnetq/qnqbxdp parm('/D:S')
```

The system should display the following messages:

```
comm_type= 'local communication'
Max parallel service tasks : 10
Service tasks kept available: 0
```

2. From an AS/400 command line, enter:

```
call qnetq/qnqbdstf parm('/QIBM/ProdData/NetQ/data/.netqv10')
```

The system should display the following information:

```
EXCDATASRV=/QIBM/ProdData/NetQ/data/netqv10mst
EXCWORKSRV=/QIBM/ProdData/NetQ/data/netqv10wrk
EXCNLPSSRV=/QIBM/ProdData/NetQ/data/dicts
EXCSRVMEMID=/QIBM/ProdData/NetQ/data/netqv10wrk/server
EXCSLIZESIZE=20000000
```

---

## What's next?

After you complete the installation, there are a few things to consider before you start NetQuestion:

- Unless you are running OS/390, be sure to check the NetQuestion README file for any late changes to the product. Also, you can verify your installation against the inventory of installed files that is included with the product. You can find these files in the NetQuestion root directory.

### **On AIX**

```
/etc/NetQ/readme.netq and /etc/NetQ/filelist
```

### **On OS/2, Windows NT, and Windows 95**

```
lnetq\README.NETQ
```

where *lnetq* is the directory in which you installed NetQuestion

- **On AIX only**, you must configure the NetQuestion server. Follow the steps detailed in “Configuring NetQuestion on AIX” on page 20.
- **On AIX, OS/2, Windows NT, and Windows 95**, you can add environment variables to your system to change some default values.

- **On AS/400 only**, you must configure the Internet Connection Secure Server server. Follow the steps detailed in “Configuring Internet Connection Secure Server on AS/400” on page 19

## Configuring Internet Connection Secure Server on AS/400

Before you start NetQuestion on AS/400 you have to set up and define your HTTP configuration.

Several instances can run under AS/400. NetQ/400 is running under instance NETQV10. It's defined in the file QUSRSYS/QATMHINSTC. The '-r' in QATMHINSTC/NETQV10 points to the member where the configuration is stored. The new QUSRSYS/QATMHTTPC/NETQV10 member is defined during install. So this minimal configuration is able to update & search the sample index and documents, which are delivered with the product.

Use the **wrkhttpcfg cfg(netqv10)** command if you want to display/update the existing configuration file NETQV10.

Since the administration tasks of NetQuestion for AS/400 are protected (see **protection-class ADMIN-PROT** under wrkhttpcfg cfg(netqv10)) you need to define the user's, who can do administration: Do the following:

1. Create a NetQuestion validation list in library QNETQ

```
CRTVLDL VLDL(qnetq/qnqbvld1)
      TEXT('NetQuestion validation list')
      GRTOBJAUT OBJ(qnetq/qnqbvld1) OBJTYPE(*vld1)
      USER(qtmhhttp) AUT(*use)
```

2. 'Protection Setup' for ADMIN-PROT class:

Use 'Protection Setup' under the official ICSS admin. & config. page (HTTP-instance = \*ADMIN) to change/display existing protection definition:

The Group File is a subdirectory in '/QIBM/Proddata/NetQ/data' and has the name **NETQADMGRP**.

The Validation List is in the product library 'QNETQ' and has the name **QNBVLDL**.

3. Add/Delete/Check Users:

Use this existing tools under the official ICSS admin. & config. page (HTTP-instance = \*ADMIN) to define the users, who are allowed to do administration for NetQuestion for AS/400.

4. Change **hostname** in NETQV10 Config file:

```
wrkhttpcfg cfg(netqv10))
```

Start remaining steps you need to enable NetQuestion under HTTP:

1. Start TCP/IP (if it's not active)

```
strtcp
```

2. End HTTP server for NetQ (if it's active)

```
endtcpsvr server(*http) httpsvr(netqv10)
```

3. Start HTTP server for NetQ:

```
strtcpsvr server(*http) httpsvr(netqv10 '-p 2609')
```

The system should display the following messages:

HTTP server starting.

## Configuring NetQuestion on AIX

Before you start NetQuestion on AIX or add any environment variables, you must set file permissions for the administrative user and group, and then configure the NetQuestion server.

1. Log in as the root user.
2. Using AIX commands or the SMIT tool, create a user and a group to administer NetQuestion.
3. Use the **setadmgrp** command to set the the ownership and file permissions on the NetQuestion files for this user and group.

For example, if you created an administrative user NETQ and group NQADMIN, you would enter:

```
setadmgrp NETQ NQADMIN
```

See the **setadmgrp** command on page 57 for further details.

For the following steps, log in as the administrator to NetQuestion. Do **not** perform the following steps as the root user.

1. Log in as the administrator to NetQuestion.
2. Use the **nqconfig** command to specify the master work and index directories to use with this installation. For example:

```
nqconfig -mi /index/data/netqv10 -mw /index/work/netqv10
```

## Update the service settings on Windows NT 4.0

Have you installed the Lotus Go Webserver as a Windows NT 4.0 service? If you have, you must change the configuration of the Lotus Go Webserver service before using NetQuestion. This section tells you what changes to make.

When installed as an NT service, Lotus Go Webserver is installed with a startup type of "manual" and with the logon account set to the Windows NT system account. With these settings, Lotus Go Webserver does not start as a service automatically. You must start it manually from the Services dialog in Windows NT. And when you do start Lotus Go Webserver, it logs on as the NT system account.

Usually these settings work well. NetQuestion, however, uses some Windows NT functions that are not allowed from the system account. Consequently, you must change the Services settings so that Lotus Go Webserver logs on as some other account.

Follow these steps to change the Services settings for Lotus Go Webserver:

1. Open the Services dialog window. (On the Windows NT 4.0 taskbar, click Start!Settings! Control Panel. Then double-click the Services icon on the Control Panel.)
2. Select Lotus Go Webserver in the services window by clicking it.

3. Click Startup.
4. You will see another dialog that displays the current settings for the Lotus Go Webserver. Under "Log On As," click the radio button next to "This account."
 

In the text entry field next to "This account" specify the name of the account to be used (for example, your administration account). To choose from a list of available accounts, click the button next to the text entry field.

You must overtype the password for the account in the Password and Confirm Password fields.
5. Click OK.

The next time you start the Lotus Go Webserver service, it will log on to an account other than the system account, and you'll be able to use NetQuestion.

## Adding environment variables

You can add environment variables to your system to change the default values for:

- The maximum number of indexes allowed on your system
- The amount of disk space required for work indexes

**Note:** The environment variables have different prefixes on each operating system. AIX and AS/400 use and OS/390 use EXC, OS/2 uses EHS, and both Windows NT and Windows 95 use EHN.

### Changing the maximum number of indexes

The **maximum number of indexes** environment variable lets you specify the maximum number of indexes allowed on your system.

To add this environment variable:

- |                      |                                                                                                                                                                                                                                                                          |
|----------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>On AIX</b>        | Edit /etc/NetQ/.netqv10 and add EXCMAXINDEXES and the desired value. On OS/390 and AIX, the default is a maximum of 50 indexes.                                                                                                                                          |
| <b>On OS/2</b>       | Edit your CONFIG.SYS file and add EHSMAXINDEXES and the desired value. On OS/2, the default is a maximum of 16 indexes.                                                                                                                                                  |
| <b>On Windows NT</b> | From the menu bar at the bottom of your screen, select <b>Start, Settings, Control Panel, and System</b> . Click the <b>Environment</b> tab, then add EHNMAXINDEXES and the desired value. On Windows NT, the default is a maximum of 16 indexes.                        |
| <b>On Windows 95</b> | From the taskbar, select <b>Start, Programs, MS-DOS Prompt</b> to open an MS-DOS window. Then enter a SET command for EHNMAXINDEXES. For example, to set EHNMAXINDEXES to 55, you would enter:<br><br>set ehmaxindexes=55<br><br>The default is a maximum of 16 indexes. |
| <b>On OS/390</b>     | Edit /etc/NetQ/.netqv210 and add EXCMAXINDEXES and the desired value. On OS/390 the default is a maximum of 10 indexes.                                                                                                                                                  |

**On AS/400**

Edit /QIBM/ProdData/NetQ/data/.netqv10 and add EXCMAXINDEXES and the desired value. On AS/400 the default is a maximum of 10 indexes.

For example, to set EXCMAXINDEXES to xx, you would enter:

```
call qnetq/qnbqcenv parm('excmaxindexes=xx')
```

## Changing the amount of disk space for work indexes

The **slice size** environment variable allows you to specify a slice size for index updates that can reduce the amount of disk space required for the work indexes.

Because NetQuestion updates indexes in incremental segments or slices, the working index does not need to have all the space required to process the full index available at one time. By setting the slice size environment variable, you can limit the working space that is available for updating. NetQuestion will process a portion of the index at a time, using only the specified number of bytes, and repeat the process incrementally until all the input is processed.

For example: If the size of the input files is 20 MB, they require approximately 40 MB of space in the working directory for the working indexes. If you set the slice size to 4000000 (4 MB), you can reduce the amount of disk space in the working directory for this index to 4 MB. NetQuestion will update this index in 10 increments using 4 MB at a time.

The default slice size is 10000000 (ten million bytes) on OS/2 and Windows NT. On OS/390 and AS/400 and AIX, the default slice size is 20000000 (twenty million bytes).

To change this environment variable:

**On AIX**

Edit /etc/NetQ/.netqv10 and change the value of EXCSLICESIZE.

**On OS/2**

Edit your CONFIG.SYS file and change the value of EHSSLICESIZE.

**On Windows NT**

From the menu bar at the bottom of your screen, select **Start, Settings, Control Panel, and System**. Click the **Environment** tab, then change the value of EHNSLICESIZE.

**On Windows 95**

From the taskbar, select **Start, Programs, MS-DOS Prompt** to open an MS-DOS window. Then enter a SET command for EHNSLICESIZE. For example, to set EHNSLICESIZE to 4000000, you would enter:

```
set ehnslicesize=4000000
```

**On OS/390**

Edit /etc/NetQ/.netqv210 and change the value of EXCSLICESIZE.

**On AS/400**

Edit /QIBM/ProdData/NetQ/data/.netqv10 and change the value of EXCSLICESIZE.

For example, to set EXCSLICESIZE to nnnnnnn, you would enter:

```
call qnetq/qnbqcenv parm('excslicesize=nnnnnn')
```

---

## Chapter 3. Starting and stopping NetQuestion

This chapter outlines the commands for starting and stopping NetQuestion. It covers the following topics:

Starting and stopping NetQuestion on AIX . . . . .	23
Starting and stopping NetQuestion on OS/2, Windows NT, and Windows 95 . . . . .	23
From a command prompt . . . . .	23
From the desktop . . . . .	23
Starting and stopping NetQuestion on OS/390 . . . . .	24
Starting and stopping NetQuestion on AS/400 . . . . .	24
Checking the NetQuestion server availability . . . . .	24

After installing and configuring NetQuestion, you can start it from a command prompt or, on OS/2, Windows NT, and Windows 95 from its desktop icon.

**Note:** NetQuestion must be started before you can use the NetQuestion commands for index administration. Both NetQuestion and Lotus Go Webserver must be started before you can use the HTML forms for index administration or searches.

---

### Starting and stopping NetQuestion on AIX

You start and stop the NetQuestion server by entering at a command prompt:

```
netq start server
```

```
netq stop server
```

**Note:** To stop NetQuestion, you must use the same user ID used to start NetQuestion.

---

### Starting and stopping NetQuestion on OS/2, Windows NT, and Windows 95

You can start and stop NetQuestion from either a command prompt or the desktop.

#### From a command prompt

```
netq start server
```

```
netq stop server
```

#### From the desktop

The NetQuestion installation creates a desktop folder that contains icons for starting and stopping the server. To start or stop NetQuestion, open the NetQuestion folder and double-click on the appropriate icon.

**Note:** If you install NetQuestion as a component of Lotus Go Webserver on OS/2, the NetQuestion icons are located in the Lotus Go Webserver folder on the OS/2 Desktop.

---

## Starting and stopping NetQuestion on OS/390

You start and stop the NetQuestion server by entering the following on an OS/390 OE command line:

```
netq start server
```

```
netq stop server
```

**Note:** To stop NetQuestion, you must use the same user ID used to start NetQuestion.

---

## Starting and stopping NetQuestion on AS/400

You start and stop the NetQuestion server by entering the following on a QShell command line:

```
netq start server
```

```
netq stop server
```

**Note:** To stop NetQuestion, you must use the same user ID used to start NetQuestion.

---

## Checking the NetQuestion server availability

To verify that a NetQuestion search server is running (and whether the search service is available), you can use the **netq status** command.

```
netq status server
```

The output indicates whether the server (called the “controller” in the command output) is running and indicates whether the administration task is running. The administration task runs when an **nqreorg** or an **nqupdat** command is in progress. See the **netq** command on page 47 for more information.

---

## Chapter 4. Building and maintaining indexes

This chapter explains how to build and maintain NetQuestion indexes, using the command interface or the administration forms. It covers the following topics:

Overview	25
Building a new index	26
Refreshing an index	27
Handling the redirection of URLs	28
Merging and compressing your indexes	29
Querying the status of an index	29
Listing all your indexes	29
Clearing an index	29
Deleting an index	30
Handling errors	30
Modifying operation of the trace facility	32

---

### Overview

First select the sites where you want to include the NetQuestion search facility. You also need to determine which files are related to the target sites and which of those files are appropriate for visitors to search. Another important decision is how often you want to refresh the indexes. Consider how dynamic the Web site's content is and how often the files change.

Once you have made these decisions, you need to perform the following activities for each Web site that will include the NetQuestion search facility.

1. For each new index that you want to build, create an input file that lists all the files that you want included in a search for a particular Web site. This is called a document input list.
2. Use the NetQuestion commands or the HTML forms to read these files and build the indexes. NetQuestion processes one input file and creates one index at a time.
3. Update the NetQuestion search form (search.html) and advanced search form (searcha.html) to include your indexes in the selection list of available indexes.
4. Add a link on each of the Web sites to the NetQuestion search form.
5. Create a maintenance process and schedule for keeping each index up-to-date.
6. Use the NetQuestion commands or the HTML forms to rebuild and refresh the indexes according to your maintenance schedules. You can create your own automated processes to execute the NetQuestion commands on a routine schedule, and you can use the HTML forms for tasks you perform intermittently.

There are two ways to perform most of the following tasks: by using the NetQuestion commands or by using the NetQuestion administration forms. To locate these forms, go to your Lotus Go Webserver's front page, click **Configuration and Administration Forms**, and then click **NetQuestion Administration**. Refer to Chapter 7, "NetQuestion commands" on page 45 for the command syntax.

---

## Building a new index

To build a new index:

1. Create the document input list

NetQuestion builds an index of searchable keywords using the content of all the files it finds in its document input list. You must create this input list yourself; at the present time, there is no automated procedure that can do this for you. The input list must be a sequential file in your server's file system. It contains a simple list of fully-qualified names for all the files you want processed for the index. Each name must be on a line by itself (that is, a new-line character must separate the names). Acceptable file types are files with HTML markup and plain ASCII text files without markup. You cannot mix file types in the same input list.

2. Create an empty index with the **nqcreat** command.

For AIX, NT, and OS/2, use

For AIX, NT, AS/400 and OS/2, use the **HT** option on the **nqcreat** command when you are indexing files with HTML markup. Use the **FS** option when you are indexing plain ASCII text files that do not contain markup.

3. Build the index in a two-step process.

- a. Process the document input list with the **nqadd** command to create a temporary file of index entries (known as the *index queue*). You will use this file in the next step to update the actual index.
- b. Update the index from the temporary file of index entries with the **nqupdat** command.

4. Add the name of your index to search.html and searcha.html. You can find these files in the HTML directory for Lotus Go Webserver. The default HTML directory on AIX and OS/390 is /usr/lpp/internet/server\_root/pub. On OS/2, Windows NT, and Windows 95, the default is \\WWWHTML. On AS/400 the default is /QIBM/ProdData/NetQ/MRI2924

In search.html and searcha.html, you will see a <SELECT> tag near the beginning of the file.

```
<SELECT NAME="SelectIndex">
```

Modify that selection list so that it consists of entries for your indexes. You must add an <OPTION> tag for each index you want to make available for searching. If, for example, you create indexes named mypages and dptpages, you might modify the selection list as follows:

```
<SELECT NAME="SelectIndex">
<!-- (instructions already in the files) -->
<OPTION Selected value="DPTPAGES">Department Pages
<OPTION value="MYPAGES">My Pages
</SELECT>
```

If you don't want to use descriptive names on the <OPTION> tags, you can just specify the names of the indexes, like this:

```
<SELECT NAME="SelectIndex">
<!-- (instructions already in the files) -->
<OPTION Selected>DPTPAGES
<OPTION>MYPAGES
</SELECT>
```

**Note:** You must type the index names on the <OPTION> tags in uppercase, even if you used lowercase letters when creating the index. If you do not use all uppercase letters, NetQuestion will not be able to find your index.

**Note:** (AS/400 only) The html forms of NetQuestion for AS/400 are in /QIBM/ProdData/NetQ/MRI2924. To change it, you first copy it in a physical file with **CPYFRMSTMF**. Edit it. Then copy it back with **CPYTOMSTMF STMFCODPAGE(819)**. Codepage should be 819. It's a general requirement for NetQuestion/400 that stream-files in IFS are in this codepage.

5. Test your index by searching for various words and phrases. When testing is complete, link to your search page from other site pages. See Chapter 5, "Customizing and using the NetQuestion search facility" on page 33 for additional details on testing and using the search facility.

You can perform steps 2 and 3 by using NetQuestion commands (**nqcreat**, **nqadd**, and **nqupdat**) or by using the NetQuestion administration forms. With the administration forms, you can choose to have the index updated immediately, and the two processes within step 3 will run in succession.

### **Commands**

**nqcreat** page 50  
**nqadd** page 48  
**nqupdat** page 55

---

## **Refreshing an index**

You can refresh an existing index by adding or deleting documents. The process for refreshing an index that already exists is similar to the process you follow to build a new index. The difference is that you do not have to create an empty index.

1. You will need a separate input list for documents you are adding and for documents you are deleting. If you are adding documents to the index, use the **nqadd** command. If you are deleting documents that you no longer want in the index, put them in a separate input list and use the **nqdel** command.
2. Refresh the index in a two-step process.
  - a. Process the document input list with **nqadd** or **nqdel** to create a temporary file of index entries. You will use this file in the next step to update the actual index.
  - b. Update the index from the temporary file of index entries with the **nqupdat** command.

You can perform these steps by using NetQuestion commands (**nqadd** or **nqdel**, and **nqupdat**) or by using the NetQuestion administration forms. With the administration forms, you can choose to have the index updated immediately, and the two processes within step 2 will run in succession.

You can refresh an index at any time. For optimum performance, however, it is best to avoid periods of peak activity. The current index is always available for searching.

### **Commands**

**nqadd** page 48

**nqdel** page 51

**nqupdat** page 55

---

## **Handling the redirection of URLs**

The Lotus Go Webserver lets you define resource mapping rules so that it responds to URL requests with files from different file systems. You can also take advantage of these resource mappings in your index search results.

One way to do this is to use the **nqurl** command. This command will extract the mapping rules from the server's configuration file and create a table that NetQuestion can use when processing a search. This will ensure that your search results will contain the correct hypertext links for redirected URLs.

For example, suppose you had a Pass directive that instructed the server on the ABC host to respond to all document requests that started with /omni by returning a document from the /omni/newstuff path

```
Pass /omni/* /omni/newstuff/*
```

If you run **nqurl** before doing the search, a document, such as /omni/newstuff/orderlist.html, will appear in the result list as http://ABC/omni/orderlist.html.

The **nqurl** command creates a file named *nnnurl.dat*, where *nnn* varies depending on the operating system. The prefix *exc* is used for AS/400 and OS/390 and AIX, *ehs* is used for OS/2, and *ehn* is used for Windows NT and Windows 95.

When you update your indexes using the NetQuestion administration forms, the **nqurl** command is automatically invoked for you. (except for AS/400) You will need to invoke this command yourself if you have changed your mapping rules or if you have used the **nqupdat** command to update your indexes.

### **Command**

**nqurl** page 56

On OS/390 and AIX, there is another way to do this. You can create a symbolic link in your server's server\_root/pub directory that points to the files you want to index. Then use this path in your document input list. For example, if your orderlist.html document was in the /omni/newstuff directory:

- Create a symbolic link in server\_root/pub for a docs directory:

```
docs/ -> /omni/newstuff/*
```

- Use this path in your document input list:

```
/usr/lpp/internet/server_root/docs/orderlist.html.
```

---

## Merging and compressing your indexes

When you build a new index with **nqcreat**, **nqadd**, and **nqupdat**, NetQuestion creates a set of files in the index data directory forming what is called the primary index. Subsequent calls to **nqadd/nqdel** followed by **nqupdat** create additional files forming what is called the secondary index. This allows the primary index to be available for searching while an update is performed. As the size of the secondary index grows, the amount of redundant information between the primary and second index increases. Eventually you will want to merge the primary and the secondary index into just one index so that you can recover disk space.

You can merge and compress an index using the **nqreorg** command. You can also do it using the administration forms. If you have both primary and secondary indexes and no other processing is underway, the merge function appears as an available task on the status information page.

**Note:** For the **nqspell** command (see page 54) to work correctly, there must be only one index. Therefore, a call to **nqreorg** before using **nqspell** is mandatory.

### *Command*

**nqreorg** page 53

---

## Querying the status of an index

You can query the status of any NetQuestion index using the **nqidxsta** command or by using the NetQuestion Configuration and Administration Forms. The status report shows you how many documents are in the primary index, how many are in the secondary index, and how many are in the temporary file (on the scheduling queue) ready to run. It will also tell you if an update or merge process is running and, based on that, what other tasks are available for you to perform on that index.

---

## Listing all your indexes

You can list all the NetQuestion indexes by using the **nqlisti** command or by using the NetQuestion administration forms. The index list shows the index name of all the indexes.

### *Command*

**nqlisti** page 53

---

## Clearing an index

You can clear all the documents from an index and return the index to an empty state with the **nqclear** command. Once an index is empty, you can reuse it in the build process. See “Building a new index” on page 26.

**Note:** The **nqclear** command does not display a confirmation prompt. Rebuilding an index that was accidentally cleared can be an expensive process, so be careful in using this command.

### *Command*

---

## Deleting an index

When you no longer need a particular index, you can delete it from your server. All the primary and secondary index files are deleted. To do this, use the **nqdelet** command or the NetQuestion administration forms.

**Note:** The **nqdelet** command does not display a confirmation prompt. Rebuilding an index that was accidentally deleted can be an expensive process, so be careful in using this command.

### *Command*

**nqdelet** page 52

---

## Handling errors

This section describes common errors that occur during index administration, explains how NetQuestion handles those errors, and describes what you need to do to return NetQuestion to regular operation.

Most errors are caused by problems writing to disk. Often NetQuestion encounters these problems when updating or reorganizing an index. During the update process, errors can occur when NetQuestion writes temporary data. During a reorganization, errors can occur when NetQuestion writes permanent index information.

Some errors are caused by problems reading from disk. A read error is one of the few conditions under which a search operation would result in an error. Read problems can have several causes. On OS/390 and AIX, for example, read problems can be caused if permissions are changed. It is also possible that the index files have been corrupted and are not readable.

NetQuestion's internal operations are organized as *function groups*. There are three function groups that you can access using commands or the NetQuestion Configuration and Administration Forms:

- Updating
- Reorganizing
- Searching

For each of these function groups, NetQuestion maintains an internal status. If an internal error occurs in one of the function groups, the function group is locked and is no longer available for use. To make the functions available again, you must unlock the function group explicitly. All other function groups of that index are still available.

For example, suppose an update operation on an index fails because the process is running out of disk space. The index will be locked for further update operations, but it will still be searchable. In this case, search would operate on all documents that were present in the index before the failed update operation. (For information on estimating the amount of disk space needed for creating an index, see "Disk space requirements for indexes" on page 1.)

The **nqidxsta** command lists, among other information about the index, the status for all three function groups. You can use this information to help determine what caused the error. This might lead you to check the directories where the index files reside for available space or for correct permissions. (The directories and files must be set to provide read and write access for the NetQuestion administrative user.)

After handling the cause of the error (perhaps by resetting the permissions, or providing for more disk space), use the **nqreset** command to unlock the locked function groups. The **nqreset** command always re-enables all function groups simultaneously.

For more complex error situations, NetQuestion has a built-in trace facility that you can use to get more detailed information about what caused an internal error.

On AIX, use the **nqtrace** command to configure the trace facility. On OS/2, Windows NT, and Windows 95, use the parameters on the **netq** command. See the documentation for **nqtrace** and **netq** for examples and details about the syntax.

The trace facility has three possible states of operation:

- no trace
- internal trace
- external trace

By default, internal tracing is enabled for all platforms. (except for AS/400)

**Note:** There is a certain amount of overhead caused by internal tracing. This overhead is most noticeable when updating or reorganizing an index. If performance of these operations is critical to your application, consider disabling the trace facility before indexing a large amount of data.

The performance of the search function of NetQuestion is not significantly affected by internal tracing.

With internal tracing enabled, any error that causes one of the function groups to be locked triggers trace output to be written to the work directory of the index. The output is written to abend files named *PRE*abend.*NNN*, where *PRE* is EXC for OS/390 and AIX, EHS for OS/2, and EHN for Windows NT and Windows 95. The file extension, *NNN*, ranges from 000 to 009. Each error writes a separate abend file, cycling *NNN* from 000 to 009, and starting over at 000 if needed. Use the time stamps of the abend files to determine which abend files are relevant to the most recent error condition.

Entries in the abend files are marked with time stamps. The first entry, chronologically, that is marked with 'ERROR' has the information about the initial cause of the error. All subsequent ERROR entries are usually just follow-up errors caused by the initial one.

If internal tracing does not reveal enough information about the cause of an error, you can enable external tracing. External tracing traces every operation of the NetQuestion engine, independent of whether it can be carried out successfully or whether it results in an error.

External tracing writes to files called *PREtrace.EXT*, in order not to interfere with the information that was collected during internal trace. *PRE* is EHS, EXC, EHN, as before. *EXT* is some arbitrary, but unique three character string.

Note that external tracing can produce a huge amount of data in the work directory of the index. Avoid enabling external tracing during regular operation of NetQuestion.

## Modifying operation of the trace facility

To modify the trace status of your index use the **nqtrace** command on AIX, and the **netq** command on OS/2, Windows NT, and Windows 95. For AIX, you must stop and restart the server for the change in trace status to take effect. Note that the **netq start** command needs an extra flag */U* in this case.

To enable external tracing on AIX, enter:

```
nqtrace index-name E 255
```

To enable internal tracing on AIX, enter:

```
nqtrace index-name I 255
```

To disable tracing entirely on AIX (which is desirable before indexing a large amount of documents), enter:

```
nqtrace index-name X 255
```

To enable external tracing on OS/2, Windows NT, and Windows 95, enter

```
netq service index-name /TE /L255
```

To enable internal tracing use

```
netq service index-name /TI /L255
```

To disable tracing entirely (before indexing a large amount of documents):

```
netq service index-name /TX /L255
```

### **Command**

**nqreset** page 54

---

## Chapter 5. Customizing and using the NetQuestion search facility

This chapter describes the NetQuestion search capabilities and helps you get NetQuestion up and running on your Web site. This chapter covers the following topics:

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Testing NetQuestion . . . . .	34
Adding NetQuestion to your Web site . . . . .	34
Modifying NetQuestion . . . . .	34
Changing the HTML search forms . . . . .	35
Replacing the masthead image . . . . .	35
Changing NetQuestion functions and CGI scripts . . . . .	35
Optimizing your NetQuestion searches . . . . .	35
Using wildcards in your search phrases . . . . .	36
Using the SpellWizard . . . . .	36
Using the advanced search logic . . . . .	36

---

### Understanding the NetQuestion search functions

NetQuestion comes with both a simple search form and an advanced search form that you can use to perform searches against your indexes.

- The simple search accepts one or more words and searches the index for occurrences of your word or phrase. This is called a **free text** search. You can choose to search for an exact match or a close match ("in any form"). All search results (documents found) are returned as an HTML page containing a list of links.
- The advanced search form offers the same free text search and allows you to combine it with a **Boolean** search. A Boolean search allows you to specify words or phrases occurring in your indexed documents in a relationship you define using logical combinations of AND, OR, and NOT. On the advanced search form you can request a free text search, a Boolean search, or a **hybrid** search, which is a combination of a Boolean and a free text search. See "Using the advanced search logic" on page 36 for more information.

When you select the **Sort** option, NetQuestion ranks the resulting list of documents according to how closely they matched your criteria. The ranking is weighted by the number of times the search words appear relative to the document size, and by how closely the text in your criteria matches the text in the document.

**Note:** The results from a free text query will **always** be ranked and sorted, whether or not you select the Sort option on the form.

When you select to search for a term **in any form**, NetQuestion lexically expands the words in your search criteria. For example, it creates plural nouns and the gerund and past tense forms of verbs.

When NetQuestion builds indexes for your documents, it ignores the small inconsequential words called **stopwords**. Stopwords are articles and conjunctions, such as **a, the, and, but, or**. NetQuestion also ignores stopwords in your search

query. This is why a search for the phrase “to be or not to be” will not return any documents even if you indexed the complete works of William Shakespeare—the query consists of stopwords only.

---

## Testing NetQuestion

After building your indexes and updating the search forms, you can test the indexes by trying to search for words or phrases you know are in the indexed documents.

1. Ensure that your Lotus Go Webserver is running.
2. Start NetQuestion.
3. Use your browser to go to the basic search form:  
**http://your-server/search.html**
4. Enter a word or phrase that you know is in the documents that were in your input list.
5. Check **exact match** and **sort**.
6. Click **Search**.
7. NetQuestion will return a sorted list of links to the documents in your index that contain an exact match for the words you specified.
8. Using the same words, click **unsorted** and compare the results.
9. Using the same words, click **in any form** and compare the results.
10. Click **advanced search** and test the results when you add words that must appear in certain relationships.

---

## Adding NetQuestion to your Web site

Once you have tested your indexes and are certain that they are ready for your users, you can add the search forms to your Web site.

If the forms are acceptable for your use exactly as they are, just add links in a prominent place. You can add links to both forms or to whichever one you think would be most useful. Each search form already contains a link to the other. These forms are installed in the Lotus Go Webserver default directories, /usr/lpp/internet/server\_root/pub on AIX and OS/390 or \WWWHTML on OS/2, Windows NT, and Windows 95

The files are:

<b>Simple search</b>	search.html
<b>Advanced search</b>	searcha.html

---

## Modifying NetQuestion

NetQuestion consists of HTML forms, CGI scripts and C source code. You are able to make some simple modifications to change the HTML forms and replace the image for the masthead on the search results page. All other modifications require programming skills and experience with Internet protocols.

## Changing the HTML search forms

You can make changes to the search forms without any impact to the NetQuestion function if you **change only the HTML**.

When changing the HTML, you **must not**:

- Change the name or the types of the fields of the form. The exception is that you may change the value of the SelectIndex field.
- Remove fields from the form.
- Add static text to the search input fields (free-text and query\_wordx).
- Specify hidden attributes for some of the fields when user interaction is not an option.

## Replacing the masthead image

The search results page includes an GIF image, **searchr.gif** that is used as a masthead. This page is generated from a CGI script. To replace this with a masthead more suitable for your organization:

- Create your own image and save it as a GIF file.
- Give it the name **searchr.gif**.
- Store it in the NetQuestion icons directory to replace (overwrite) the masthead file that is shipped with the product.
- When installed with Lotus Go Webserver, NetQuestion uses the same icons and graphics directory that was specified when Lotus Go Webserver was installed. On OS/2, Windows NT, and Windows 95, the default location for the Lotus Go Webserver graphics and icons directory is c:\www\icons. On OS/390 and AIX, the file resides in /usr/lpp/internet/server\_root/icons.

## Changing NetQuestion functions and CGI scripts

If you are an experienced programmer who is familiar with the Internet protocols, you can use the information supplied in the code samples to help you make functional changes to NetQuestion. This would include changes such as modifying the CGI scripts and commands or adding Java enhancements. You can find the code samples in the NetQuestion toolkit subdirectory:

### On AIX

/usr/lpp/NetQ/misc/tools

### On OS/2, Windows NT, and Windows 95

lnetq\TOOLKIT

where *lnetq* is the directory in which you installed NetQuestion

---

## Optimizing your NetQuestion searches

You can optimize your index searches by using wildcards in your search phrases on the advanced search form, by using the SpellWizard, and by using the advanced search logic.

## Using wildcards in your search phrases

You can use wildcards as single-character and multiple-character replacements **only** in the Boolean fields on the advanced searches. Wildcards do not work in the free text search fields. The default wildcard characters are a question mark (?) for only one letter and an asterisk (\*) for zero or more letters.

You can use either of the wildcard characters to mask the front, back, or middle of a word. For example (assuming all these words were in your documents):

- '?ister' would match mister and sister
- '\*ister' would match ister, mister, sister, and twister
- 'm?ster' would match mister, muster, and master
- 'm?ster\*' would match mister, muster, and master plus mystery and mysterious
- 'm\*ster' would match mster, mister, muster, and master, plus monster, meister, and mixmaster.

You can use an asterisk (multiple-character wildcard) to replace a complete word in a string of words. For example, 'open \* \* file' would match all occurrences of the words open and file that have up to two words between them, such as:

- open file
- open a file
- open the file
- open the input file
- open any error file

**Note:** When a wildcard character returns matching strings, stopwords **are** included. However, when making a query using wildcards, do not include stop words such as the, or, and, etc.

## Using the SpellWizard

NetQuestion contains an optional SpellWizard that allows for possible misspellings in your indexed documents. It will find words in your indexed documents that may be misspellings of the words in your search criteria, and will also return those as successful matches.

To enable the SpellWizard, you must first create a cross-referenced list of the misspelled words in your indexed documents.

1. Ensure that the index you want to cross-reference consists only of a primary index. If it has a secondary index, use the **nqreorg** command to merge and compress the index. (After **nqreorg** completes, the index consists of only a primary index.)
2. Use the **nqspell** command to produce a cross-referenced list for each index that NetQuestion will access during index searches.

Refer to the **nqreorg** command on page 53 and the **nqspell** command on page 54.

## Using the advanced search logic

Using the hybrid search on the advanced search form, you can extend the search criteria to limit the set of documents that NetQuestion returns. The hybrid search lets you specify words or phrases to include or exclude from the search criteria.

For example, with the simple search, if you search for "comets, meteors, and asteroids", many of the highest ranked documents in the result list might be related

to information on "Hale-Bopp". If you were not interested in the Hale-Bopp comet, you would have to scroll down to other documents to find what you were seeking.

With the advanced search, you can additionally specify **Not** from the drop-down box and type "Hale-Bopp" in the first input field. This would return only the documents that qualify for the general search input "comets, meteors, and asteroids" and do not contain any references to "Hale-Bopp."



---

## Chapter 6. Maintaining NetQuestion

This chapter describes how to perform maintenance tasks for NetQuestion. It covers the following topics:

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Updating NetQuestion for AIX . . . . .	39
Removing a NetQuestion server from AIX . . . . .	39
Uninstalling NetQuestion on AIX . . . . .	40
Managing NetQuestion for OS/390 . . . . .	40
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---

### Managing NetQuestion for AIX

There are three tasks related to the management of NetQuestion on AIX:

- Installing an update to NetQuestion
- Removing an instance of NetQuestion
- Uninstalling NetQuestion completely.

These tasks are described in the following sections.

### Updating NetQuestion for AIX

To install an update to NetQuestion, do the following steps:

1. Stop the NetQuestion server by entering a **netq stop** command:  

```
netq stop server
```
2. Update the NetQuestion software with SMIT.

The update does not affect data files belonging to the server. Consequently, you do not need to reconfigure your server with the **nqconfig** command.

### Removing a NetQuestion server from AIX

To remove an instance of a NetQuestion server (there is only one instance on your machine), do the following steps:

1. Clear and delete all indexes belonging to the instance. You can do this either by using the HTML interface (provided that you have Lotus Go Webserver and the "NetQuestion CGI executables + icons" files set installed) or by using the command line utilities **nqclear** and **nqdel**. If you've cleared and deleted all the indexes, the **nqlisti** command should no longer list any indexes.
2. Remove any files containing internal trace information that were created due to NetQuestion errors. On AIX, these files are named `excabend.xxx`. You can

find the files in the work directories for each index. (These files exist for an index if you've ever had to enter **nqreset** to unlock the index.)

3. Stop the instance of the NetQuestion server by entering:

```
netq stop server
```

4. Remove all files in the master data and work directories. (You might want to keep the directories themselves in case you decide you want to create a new instance.) The names of the master work and data directories are listed in the file `.netqv10` in `/etc/NetQ`.
5. Remove the files `.netqv10`, `exccxcom.cfg`, and `exccxcom.bak`.

The instance of the server is now completely removed.

## Uninstalling NetQuestion on AIX

To completely uninstall NetQuestion, so the following steps:

1. Clear and delete all indexes belonging to the instance. You can do this either by using the HTML interface (provided that you have Lotus Go Webserver and the "NetQuestion CGI executables + icons" files set installed) or by using the command line utilities **nqclear** and **nqdel**. If you've cleared and deleted all the indexes, the **nqlisti** command should no longer list any indexes.
2. Remove any files containing internal trace information that were created due to NetQuestion errors. On AIX, these files are named `excabend.xxx`. You can find the files in the work directories for each index. (These files exist for an index if you've ever had to enter **nqreset** to unlock the index.)
3. Stop the instance of the NetQuestion server by entering:

```
netq stop server
```
4. Remove all files in the master data and work directories. The names of the master work and data directories are listed in the file `.netqv10` in `/etc/NetQ`.
5. Remove the file `.netqv10`

Currently, NetQuestion supports only one instance. Should NetQuestion support multiple instances of the server in future updates, you would need to repeat the above steps for each instance.

After completing the above steps uninstall the NetQuestion software, using SMIT or SMITTY or VSM.

---

## Managing NetQuestion for OS/390

There are three tasks related to the management of NetQuestion on OS/390:

- Installing an update to NetQuestion
- Removing an instance of NetQuestion
- Uninstalling NetQuestion completely.

These tasks are described in the following sections.

## Updating NetQuestion for OS/390

To install an update to NetQuestion, do the following steps:

1. Stop the NetQuestion server by entering a **netq stop** command:  
`netq stop server`
2. Read the PTF cover letter for further information

## Removing a NetQuestion server for OS/390

To remove an instance of a NetQuestion server, do the following steps:

1. Clear and delete all indexes belonging to the instance. To do so, you can use the HTML interface or the command line utilities **nqclear** and **nqdelet**. Once you clear and delete all indexes, the **nqlisti** should no longer list any indexes.
2. Remove any files containing internal trace information that were created due to NetQuestion errors. These files are named `excabend.xxx` and are found in the work directories of each index. They can be found in the directory listed in the file `.netqv210` in `etc/NetQ`.

**Note:** These files exist for an index if you have ever had to enter **nqreset** to unlock the index.

3. Stop the instance of the NetQuestion server by entering:  
`netq stop server`
4. Remove all files in the master data and work directories. The names of the master work and data directories are listed in the file `.netqv210` in `/etc/NetQ`. You can keep the directories in case you want to create a new instance.
5. Remove the file `.netqv210`.

## Uninstalling NetQuestion on OS/390

To completely uninstall NetQuestion, do the following:

1. Clear and delete all indexes belonging to the instance. To do so, use the HTML interface or the command line utilities **nqclear** and **nqdelet**. Once you clear and delete all the indexes, the **nqlisti** should no longer list any indexes.
2. Remove any files containing internal trace information that were created due to NetQuestion errors. These files are named `excabend.xxx` and found in the work directories of each index. (These files exist for an index if you have ever had to enter **nqreset** to unlock the index.)
3. Stop the instance of the NetQuestion server by entering:  
`netq stop server`
4. Remove all files in the master data and work directories. The names of the master work and data directories are listed in the file `.netqv210` in `/etc/NetQ`. You can keep the directories in case you want to create a new instance.
5. Remove the file `.netqv210`.

After completing the uninstallation, run the script **ehwunist** and delete the directories `/etc/NetQ` and `/usr/lpp/NetQ` by entering the commands:

```
rm -rf /etc/NetQ
rm -rf /usr/lpp/NetQ
```

---

## Managing NetQuestion for AS/400

There are three tasks related to the management of NetQuestion on AS/400:

- Installing an update to NetQuestion
- Uninstalling NetQuestion completely.

These tasks are described in the following sections.

## Updating NetQuestion for AS/400

To install an update to NetQuestion, do the following steps:

1. Stop the NetQuestion server by entering a **netq stop** command:  
`netq stop server`
2. Read the PTF cover letter for further information

## Uninstalling NetQuestion on AS/400

To completely uninstall NetQuestion, do the following:

1. Clear and delete all indexes belonging to the instance. To do so, use the HTML interface or the command line utilities **nqclear** and **nqdelet**. Once you clear and delete all the indexes, the **nqlisti** should no longer list any indexes.
2. Remove any files containing internal trace information that were created due to NetQuestion errors. These files are named `excabend.xxx` and found in the work directories of each index. (These files exist for an index if you have ever had to enter **nqreset** to unlock the index.)
3. Stop the instance of the NetQuestion server by entering:  
`netq stop server`
4. Remove all files in the master data and work directories. This is done by executing the **DLTLICPGM** command. Hit the Prompt Key ('F4=Prompt') and you see the following panel:

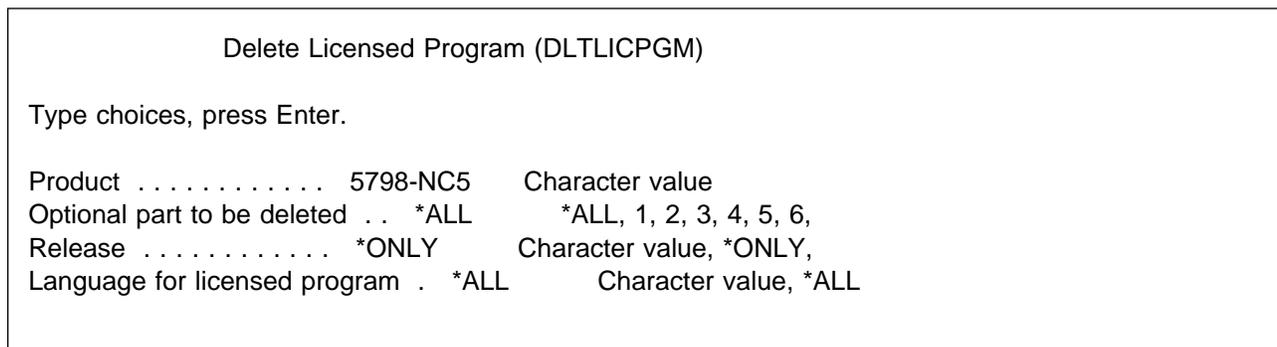


Figure 3. DLTICPGM command

**Remark:** Possible 'Shared Memory Problems' (after IPL, shutdown ...) can be fixed by deleting Shared Memory Id and restart NetQ with:

```
netq stop server
netq start server
```

---

## Uninstalling NetQuestion for OS/2

To uninstall NetQuestion for OS/2, do the following steps:

1. Ensure that the NetQuestion server is running by entering:  
`netq status server`
2. Remove all indexes by using the administration Web pages or by entering **nqdelet** commands:
  - a. Retrieve a list of available indexes by entering:  
`nqlisti`
  - b. For each index, enter:  
`nqdelet index-name`
3. Stop the NetQuestion server:  
`netq stop server`
4. Remove any files containing internal trace information that were created due to NetQuestion errors. On OS/2, these files are named `ehsabend.xxx`. You can find the files in the work directories for each index. (These files exist for an index if you've ever had to enter **nqreset** to unlock the index.)
5. Remove the NetQuestion component from your system by using the Installation Utility, which was optionally installed when you installed Lotus Go Webserver. You can find the Installation Utility in the Lotus Go Webserver folder (usually installed on your OS/2 desktop):
  - a. Double-click the Installation Utility icon to open the program.
  - b. Click Action-Delete.
  - c. On the Delete dialog, select the NetQuestion components you wish to remove.
  - d. Click Delete.
  - e. CONFIG.SYS will be updated. Restart your system to put the changes into effect.

---

## Uninstalling NetQuestion for Windows NT and Windows 95

To uninstall NetQuestion for Windows NT and Windows 95, do the following steps:

1. Ensure that the NetQuestion server is running:  
`netq status server`
2. Remove all indexes by using the administration Web pages or by entering **nqdelet** commands:
  - a. Retrieve a list of available indexes by entering:  
`nqlisti`
  - b. For each index, enter:  
`nqdelet index-name`
3. Stop the NetQuestion server:  
`netq stop server`

4. Remove any files containing internal trace information that were created due to NetQuestion errors. On Windows NT and Windows 95, these files are named ehnbend.xxx. You can find the files in the work directories for each index. (These files exist for an index if you've ever had to enter **nqreset** to unlock the index.)
5. Remove the NetQuestion component from your system by using the NetQuestion Uninstall program:
  - a. Click Start-Programs-NetQuestion-Uninstall NetQuestion.
  - b. Click the NetQuestion components you wish to delete.
  - c. Restart your system.

---

## Chapter 7. NetQuestion commands

Use this chapter to perform NetQuestion administration tasks using the command interface. The commands are in alphabetical order.

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nqclear command	49
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nqcreat command	50
nqdel command	51
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nqreset command	54
nqspell command	54
nqtrace command (AIX only)	55
nqupdat command	55
nqurl command	56
setadmgrp command (OS/390 and AIX only)	57

---

### Command syntax and parameters

You can use most of the commands on all the supported operating systems, but the syntax may differ.

**Note:** When using NetQuestion on OS/2 check that the name of the configuration file, NETQ.CFG, is in uppercase in the directory on the operating system. If the name of the configuration file is not in uppercase or if the complete pathname is not used when you enter a command, the error Index not created) Server response: The NetQuestion configuration file (NETQ.CFG) is in error or could not be found. (rc=77) occurs. For example, to indicate the complete pathname for the index data and work paths when using the nqcreat command, type nqcreat webindex d:\netq\idxdata d:\netq\idxwork HT.

**Note:** When using **NetQuestion on AS/400** all commands are running in **QShell environment**. During install symbolic links are defined in the subdirectory: /QIBM/ProdData/NetQ/bin

So when you for example run the QShell command netq the program /qsys.lib/qnetq.lib/qnqbnetq.pgm is executed.

To start QShell environment just do the following:

- From an AS/400 command line, enter:  
qsh  
This command starts QShell

- From the QShell command line, enter:

```
cd '/QIBM/ProdData/NetQ/bin
```

This sets current directory.

- With:

```
pwd
```

you can check this.

Now you can enter your first NetQ command.

To omit the **ChangeDirectory** command you can add in **\$Home/.profile** the two statements:

```
PATH=/QIBM/ProdData/NetQ/bin:$PATH
```

```
export $PATH
```

This solution is preferred, since it defines this path permanently.

---

## Index files

When creating an index, the user specifies a directory in which to store the index files. To identify the files in the directory, use the following list:

<i>preadmtb.dat</i>	administration table
<i>preiq.dat</i>	document scheduling queue
<i>preurl.dat</i>	—URL mapping table
<i>precsref.dat</i>	SpellWizard cross reference list
<i>predocer.dat</i>	document error table (internal)
<i>predocin.dat</i>	dummy document input table
<i>precanXXdat</i>	actual index file 1
<i>precoxXXdat</i>	actual index file 1
<i>predexXXdat</i>	actual index file 1
<i>predexXXidx</i>	actual index file 1
<i>predicXXdat</i>	actual index file 1
<i>predicXXidx</i>	actual index file 1
<i>predixXXdat</i>	actual index file 1
<i>predixXXidx</i>	actual index file 1
<i>predoxXX.dat</i>	actual index file 1
<i>prefixXXdat</i>	actual index file 1

where:

*pre*

is the file prefix for the operating system:

exc—OS/390 and AIX and AS/400

ehs—OS/2

ehn—Windows NT and Windows 95

*XX*

indicates primary or secondary index files as follows:

p1 or p2 for primary index files

u1 or u2 for secondary index files

---

## netq command

Starts, stops, or queries the status of the NetQuestion server. On OS/2, Windows NT, and Windows 95, this command can also be used to modify the trace status of an index. (Use the **nqtrace** command to modify trace status on AIX.)

### Syntax

For AIX, OS/390, AS/400, OS/2, Windows NT, and Windows 95:

```
netq start server
netq stop server
netq status server
```

**Note:** On AIX, specify **netq start server/U** to restart the server after modifying the trace status of an index with the **nqtrace** command.

For OS/2, Windows NT, and Windows 95, you can use these commands to modify the trace status:

```
netq service index-name /TE /L255
netq service index-name /TI /L255
netq service index-name /TX /L255
```

### Parameters

*index-name*

Specify the name of the index for which you want to modify tracing status. Index names are not case sensitive.

**/TE /L255**

Enables external tracing.

**/TI /L255**

Enables internal tracing.

**/TX /L255**

Disables tracing entirely.

**/U** Indicates that the NetQuestion server run with tracing enabled. This parameter is required for AIX.

### Examples

For AIX, OS/2, Windows NT, and Windows 95:

```
netq start server/U
netq stop server
netq status server
```

The **netq status server** command displays status information similar to the following:

```
NetQuestion status for service: SERVER

NetQuestion controller is running

NetQuestion administration task running: no

NetQuestion communication service is in local mode
```

The first line indicates that the status is for SERVER. The second line indicates whether the server (that is, the controller) is running. The third line indicates whether the administration task is running. The administration task runs when an **nqreorg** or an **nqupdat** command is in progress. The last line indicates that the communications are in local mode.

For OS/2, Windows NT, and Windows 95, the following examples show how to modify tracing status for an index:

```
netq service icsidx01 /TE /L255
netq service icsidx01 /TI /L255
netq service icsidx01 /TX /L255
```

---

## nqadd command

Processes the document input list and creates a temporary file of index entries that will be added to the index.

### Syntax

For AS/400, OS/390 and AIX:

```
nqadd -i index-name
      -f input-document-list
```

For OS/2, Windows NT, and Windows 95:

```
nqadd index-name input-document-list
```

### Parameters

*index-name*

Specify the name of the index to which entries will be added. Index names are not case sensitive.

*input-document-list*

Specify the complete path of the input file containing a list of documents. The new index entries will be generated from this list of documents.

When creating the file, be sure to use an editor that inserts a new-line character when you press Enter at the end of the line. A new-line character must separate each document listed in the file.

### Examples

For AS/400, OS/390 and AIX:

```
nqadd -i icsidx01 -f /u/idxlists/icsidx01.txt
```

For OS/2, Windows NT, and Windows 95:

```
nqadd icsidx01 d:\idxlists\icsidx01.txt
```

### Remark (AS/400 only)

If you want to create a list of documents to be indexed, use the program **QNQBDOCL** in library QNETQ:

```
call qnetq/qnqbdocl
```

You get a help about parameters.

---

## nqclear command

Removes all the index entries from an existing index. The index will then be **empty**. Be careful when using the **nqclear** command; it does not ask for a confirmation before removing the index entries. Rebuilding a large index can be time-consuming.

### Syntax

For AS/400, OS/390 and AIX:

```
nqclear -i index-name
```

For OS/2, Windows NT, and Windows 95:

```
nqclear index-name
```

### Parameters

*index-name*

Specify the name of the index to be cleared. Index names are not case sensitive.

### Examples

For AS/400, OS/390 and AIX:

```
nqclear -i icsidx01
```

For OS/2, Windows NT, and Windows 95 :

```
nqclear icsidx01
```

---

## nqconfig command (AIX only)

Configures NetQuestion servers on the AIX operating system.

Use this command to create a NetQuestion server or to display the server settings.

### Syntax

```
nqconfig  
-mi master-index-path  
-mw master-work-path
```

```
nqconfig -display
```

### Parameters

*master-index-path*

Specify a path name. NetQuestion uses this path to store files related to the server instance. When creating indexes, do not specify this directory on the **nqcreat** command. Indexes must not be stored in this directory.

*master-work-path*

Specify a path name. NetQuestion uses this path to store work files related to the server instance. When creating indexes, do not specify this directory on the **nqcreat** command. Indexes must not be stored in this directory.

Both *master-index-path* and *master-work-path* directories must exist when the **nqconfig** command is issued, and must be owned by the user and group of the NetQuestion administrative user.

## Examples

For AIX:

```
nqconfig -mi /index/data/netqv10 -mw /index/work/netqv10

nqconfig -display
```

---

## nqcreat command

Creates a new empty index.

### Syntax

For AIX and AS/400

```
nqcreat -i index-name
          -d index-data-path
          -w index-work-path
          -l lib-service-identifier
```

For OS/390:

```
nqcreat -i index-name
          -d index-data-path
          -w index-work-path
```

For OS/2, Windows NT, and Windows 95:

```
nqcreat index-name index-data-path
          index-work-path [ lib-service-identifier ]
```

### Parameters

*index-name*

Specify the name of the index to be created. The maximum length is 8 characters. Index names are not case sensitive.

*index-data-path*

Specify a complete path where index data is to be stored.

On AIX, do not specify either of the paths used on the **nqconfig** command.

*index-work-path*

Specify a complete path where index work data is to be stored.

On AIX, do not specify either of the paths used on the **nqconfig** command.

*lib-service-identifier*

Specify the type of files you are indexing, as follows:

**HT**        HTML documents

**FS**        ASCII text files that do not contain HTML markup.

These values are not case sensitive.

This parameter is required on AIX and AS/400. If this parameter is omitted on OS/2, Windows NT, or Windows 95, NetQuestion assumes that the documents contain HTML markup.

## Examples

For AIX or AS/400

```
nqcreat -i icsidx01 -d /u/netq/idxdata -w /u/netq/idxwork -l HT
```

FOR OS/390:

```
nqcreat -i icsidx01 -d /u/netq/idxdata -w /u/netq/idxwork'
```

For OS/2, Windows NT, and Windows 95:

```
nqcreat icsidx01 d:\netq\idxdata d:\netq\idxwork HT
```

---

## nqdel command

Processes the document input list and creates a temporary file of index entries that will be deleted from the index.

Be careful when using the **nqdel** command. It can be expensive to replace index entries that were deleted accidentally.

### Syntax

For AS/400, OS/390 and AIX:

```
nqdel -i index-name  
        -f input-document-list
```

For OS/2, Windows NT, and Windows 95:

```
nqdel index-name input-document-list
```

### Parameters

*index-name*

Specify the name of the index from which entries will be deleted. Index names are not case sensitive.

*input-document-list*

Specify the complete path of the input file containing a list of documents. The index entries that to are be deleted will be generated from this list of documents.

When creating the file, be sure to use an editor that inserts a new-line character when you press Enter at the end of the line. A new-line character must separate each document listed in the file.

### Examples

For AS/400, OS/390 and AIX:

```
nqdel -i icsidx01 -f /u/idxlists/icsidx01.txt
```

For OS/2, Windows NT, and Windows 95:

```
nqdel icsidx01 d:\idxlists\icsidx01.txt
```

---

## nqdelet command

Deletes an index from your server, including all its primary and secondary indexes.

Be careful when using the **nqdelet** command. It does not ask for a confirmation before deleting the index. Rebuilding a large index can be very expensive.

### Syntax

For AS/400, OS/390 and AIX:

```
nqdelet -i index-name
```

For OS/2, Windows NT, and Windows 95:

```
nqdelet index-name
```

### Parameters

*index-name*

Specify the name of the index to be deleted. Index names are not case sensitive.

### Examples

For AS/400, OS/390 and AIX:

```
nqdelet -i icsidx01
```

For OS/2, Windows NT, and Windows 95:

```
nqdelet icsidx01
```

---

## nqidxsta command

Displays status information for an index.

This command reports about the number of documents currently contained in the primary index, secondary index (if it exists), and input queue. (The input queue contains documents that are scheduled for updating the index.)

The command also reports on the internal status of the index, including:

- start and stop timestamps for the most recent successful update and reorganization
- current administrative tasks (update or reorganization) along with their start times
- locking status for all three function groups of the index (update, reorganization, and search). See the documentation for the **nqreset** command for further information on this status.

Only one administrative task can be active for any index. If the **nqidxsta** command reports that an administrative task is currently active for an index, do **not** use the **nqupdat** or **nqreorg** command for that index. Doing so results in a "conflicting tasks" error condition (rc=64).

### **Syntax**

For AS/400, OS/390 and AIX:

```
nqidxsta -i index-name
```

For OS/2, Windows NT, and Windows 95:

```
nqidxsta index-name
```

### **Parameters**

*index-name*

Specify the name of the index for which you want to display status.

### **Example**

For AS/400, OS/390 and AIX:

```
nqidxsta -i icsidx01
```

For OS/2, Windows NT, and Windows 95:

```
nqidxsta icsidx01
```

---

## **nqlisti command**

Returns the names of all the indexes on the server.

The **nqlisti** command returns the index names in all uppercase, which is how NetQuestion uses them internally, no matter how they were entered when the index was created.

### **Syntax**

For AS/400, OS/390, AIX, OS/2, Windows NT, and Windows 95:

```
nqlisti
```

### **Example**

For AS/400, OS/390, AIX, OS/2, Windows NT, and Windows 95:

```
nqlisti
```

---

## **nqreorg command**

Merges primary and secondary indexes into one new primary index.

### **Syntax**

For AS/400, OS/390, AIX:

```
nqreorg -i index-name
```

For OS/2, Windows NT, and Windows 95:

```
nqreorg index-name
```

## Parameters

*index-name*

Specify the name of the index to be merged. Index names are not case sensitive.

## Examples

For AS/400, OS/390, AIX:

```
nqreorg -i icsidx01
```

For OS/2, Windows NT, and Windows 95:

```
nqreorg icsidx01
```

---

## nqreset command

Unlocks indexes that were locked during processing as a result of unexpected errors. The **nqreset** command also reports the reason why the index was locked.

## Syntax

For AS/400, OS/390 and AIX:

```
nqreset -i index-name
```

For OS/2, Windows NT, and Windows 95:

```
nqreset index-name
```

## Parameters

*index-name*

Specify the name of the index to be reset. Index names are not case sensitive.

## Examples

For AS/400, OS/390 and AIX:

```
nqreset -i icsidx01
```

For OS/2, Windows NT, and Windows 95:

```
nqreset icsidx01
```

---

## nqspell command

Checks the documents in your index for possible misspellings and creates a cross-referenced list that NetQuestion will use during search processing when the SpellWizard is enabled.

**Note:** This command looks at only primary indexes; be sure to compress the index with the **nqreorg** command before running **nqspell**.

## Syntax

For AS/400, OS/390 and AIX:

```
nqspell -i index-name
```

For OS/2, Windows NT, and Windows 95:

```
nqspell index-name
```

## Parameters

*index-name*

Specify the name of the index to be checked for possible misspellings. Index names are not case sensitive.

## Examples

For AS/400, OS/390 and AIX:

```
nqspell -i icsidx01
```

For OS/2, Windows NT, and Windows 95:

```
nqspell icsidx01
```

---

## nqtrace command (AIX only)

Modifies the trace status of an index. The NetQuestion server must be stopped with **netq stop server** before you can modify the trace status of an index. After the **nqtrace** command has executed, use the **netq start server/U** command to restart the server.

Initially, tracing is disabled.

## Syntax

```
nqtrace index-name E 255  
nqtrace index-name I 255  
nqtrace index-name X 255
```

## Parameters

*index-name*

Specify the name of the index for which you want to modify tracing status. Index names are not case sensitive.

### E 255

Enables external tracing.

### I 255

Enables internal tracing.

### X 255

Disables tracing entirely.

## Examples

```
nqtrace icsidx01 E 255  
nqtrace icsidx01 I 255  
nqtrace icsidx01 X 255
```

---

## nqupdat command

Updates an index with entries from the temporary file.

The **nqupdat** command appears to complete quickly because it only triggers the indexing process. The indexing process continues to run in the background after **nqupdat** completes and does not report explicitly about its termination. You can check the status of the update process by using the **nqidxsta** command, or by

using the NetQuestion administration forms (assuming that Lotus Go Webserver was installed with NetQuestion.)

### **Syntax**

For AS/400, OS/390 and AIX:

```
nqpdatt -i index-name
```

For OS/2, Windows NT, and Windows 95:

```
nqpdatt index-name
```

### **Parameters**

*index-name*

Specify the name of the index to be updated. Index names are not case sensitive.

### **Examples**

For AS/400, OS/390 and AIX:

```
nqpdatt -i icsidx01
```

For OS/2, Windows NT, and Windows 95:

```
nqpdatt icsidx01
```

---

## **nqurl command**

Extracts the mapping rules from the Lotus Go Webserver's configuration file and creates a table that NetQuestion can use when processing searches.

This command allows search results to resolve the server's redirection of URLs.

### **Syntax**

For AS/400, OS/390 and AIX:

```
nqurl -i index-name
```

For OS/2, Windows NT, and Windows 95:

```
nqurl index-name [install-drive]
```

### **Parameters**

*index-name*

Specify the name of the index that the mapping file will be associated with. Index names are not case sensitive.

*install-drive*

Specify the drive where Lotus Go Webserver was installed. This parameter is optional. The default is C.

### **Examples**

For AS/400, OS/390 and AIX:

```
nqurl -i icsidx01
```

For OS/2, Windows NT, and Windows 95:

```
nqurl icsidx01
```

---

## setadmgrp command (OS/390 and AIX only)

Sets the file ownership and permissions on all the NetQuestion files for the user and group you specify as input. The user and group will get the execute, read, and write permissions needed for performing NetQuestion administration.

Following the initial NetQuestion install, you must execute **setadmgrp** before attempting any administrative task, such as configuring, starting, or stopping the server. Subsequent commands must be run as the NetQuestion administrative user.

### Syntax

```
setadmgrp user-name group-name
```

### Parameters

*user-name*

Specify the name to the user to be given permissions on NetQuestion files.

*group-name*

Specify the name of the group to be given permissions on NetQuestion files.

### Example

```
setadmgrp NETQ NETQADM
```



---

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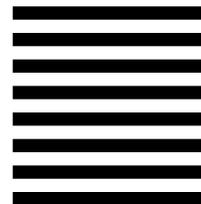
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