NAME
   jbconfig – jukebox resource configuration tool

SYNOPSIS
   jbconfig [ −s server ] [ -l ]

DESCRIPTION
   The jbconfig program provides an interactive script for configuring a jukebox (Media Autochanger Device) for use with a NetWorker server. The script pauses periodically for you to enter a response to a prompt. If you want to accept the default choice displayed in braces, press [RETURN] or [ENTER].

   After the jukebox is configured, use the nsrscap(8) command or the Registration window to enter the enabler code for your Autochanger Software Module. You must have a separate enabler code for each jukebox you want to use with NetWorker.

OPTIONS
   −s server
      Specifies the controlling server, when jbconfig is being used from a storage node. To define a jukebox resident on a storage node, the jbconfig command must be run on the storage node. See nsr_storage_node(5) for additional information on storage nodes.

   −l
      Performs a complete LUN search for all SCSI adapters in the system when performing Autodetection. This argument is accepted on all systems, but does not have any effect on HP-UX systems. Due to the method used to scan for available devices on HP-UX systems, all accessible devices are always shown, and the −l option has no additional effect. On all other systems, the normal behavior is to start checking at LUN 0 for SCSI devices. The first empty LUN found will end the search for a given target ID. With the −l option, all LUNS present on all target IDs for all SCSI busses in the system will be checked for jukeboxes. This can take a very long time and should therefore only be used when necessary. For example, a Fibre Channel adapter can support 126 target IDs, each of which may have 80 or more LUNs. Checking all LUNs on this single adapter may take over 10 minutes.

CONFIGURATION DIALOG
   The first question jbconfig will ask you, is to select a type of jukebox to install.

   1) Install a SmartMedia Jukebox.
   2) Install an Autodetected SCSI Jukebox.
   3) Install an Autodetected NDMP SCSI Jukebox.
   4) Install an SJI Jukebox.
   5) Install an STL Silo.

What kind of Jukebox are you installing?

Enter the number corresponding to the jukebox type you are installing.

An Autodetected SCSI Jukebox is any SCSI (Small Computer System Interface) based jukebox connected to a system that NetWorker can automatically detect.

Autodetected NDMP SCSI Jukebox is any SCSI (Small Computer System Interface) based jukebox connected directly to a NDMP Server and NetWorker will automatically detect with the provided NDMP hostname, user-id, user-password, and jukebox handle. (See example).

An SJI Jukebox is a Standard Jukebox Interface compliant jukebox. This is a list of well known SCSI based jukeboxes, plus any additional third party jukebox devices that adhere to this protocol that you may have added to the system.
If you select the second choice (Install an Autodetected SCSI Jukebox), \texttt{jbconfig} will print out a list of jukeboxes it detects on the system.

For example:

These are the SCSI Jukeboxes currently attached to your system:
1) scsidev@0.2.0: other, Vendor <AIW A>, Product <AL-17D>
2) scsidev@2.2.0: DLI Libra Series
3) scsidev@1.4.1: ARC-DiamondBack

Which one do you want to install?

When this message appears, enter the number corresponding to the jukebox that you wish to configure.

If you choose to install a Serial Jukebox, \texttt{jbconfig} will print out list of known Serial Jukeboxes and ask which one they wish to select.

For example:

Enter the number corresponding to the type of jukebox you are installing:
1) Lago Datawheel (serial)
2) STK-9709/Odetics (serial)
3) ATL (serial)

Choice?

When this messages appears, you should enter the number corresponding to the jukebox that you want to configure.

If you choose to install an SJI compliant jukebox, \texttt{jbconfig} will print out list of known SJI Jukeboxes and will prompt you for the appropriate type that you want to configure.

For example:

Enter the number corresponding to the type of jukebox you are installing:
1) ADIC-1200c/ADIC-1200d
2) ADIC-VLS
3) ARC-DiamondBack
4) Breece Hill
5) DLI Libra Series
6) Quantum DLT/Digital DLT
7) EXB-10e/EXB-10h
8) EXB-10i
9) EXB-60 10) EXB-120 11) EXB-210 12) EXB-218 13) EXB-400 Series
Datawheel 20) IBM 7331/IBM 9427 21) ATL/Odetics SCSI 22) HP-Optical 630MB/1.3GB 23) other

Choice?

When this message appears, enter the number corresponding to the appropriate model, for example, if you are installing an HP optical jukebox select the number "22".

For all jukebox types, \texttt{jbconfig} prompts you for the name you want to call this jukebox. This is a convenient way for you to identify the jukebox for yourself and NetWorker, for example, Engineering Autochanger. NetWorker will store this name as a NetWorker resource (see \texttt{nsr_resource}(5)). When defining a jukebox attached to a storage node, \texttt{jbconfig} prefixes the hostname of the storage node to the beginning of the names using the remote device syntax ("rd=hostname:"). See \texttt{nsr_storage_node}(5) for additional information on storage nodes.
For all jukebox types, \texttt{jbconfig} prompts you for a \textit{description} of this jukebox. This is another convenient way for you to identify the jukebox for yourself, for example, Engineering 4 Drive DLT Autochanger on Rack #2.

For all jukebox types, \texttt{jbconfig} prompts you for the name of the control port associated with the jukebox being configured. For Autodetected SCSI jukeboxes, the correct name is presented as the default choice, because autodetection involves determining the correct name. The name is in the form of \texttt{libscsi} devices (see \texttt{libscsi(8)}). For Serial jukeboxes, the default name varies based on the appropriate serial line name used for the platform which NetWorker is located (for example, \texttt{/dev/ttya} for SunOS or Solaris, or \texttt{/dev/tty0} for AIX). For SII compliant jukeboxes, no default selection exists. The name you enter should either be the device name for the device as described in any third party SII compliant driver installed, or the format used for autodetected jukeboxes. A list of attached autochangers can be obtained by running the \texttt{changers(8)} command.

Once a control port is entered, \texttt{jbconfig} will check to see if the model selected is a SCSI or SII based jukebox. If the jukebox model is a SCSI or SII based jukebox, \texttt{jbconfig} will attempt to query the jukebox about various internal parameters (for example, number of slots and drives). If this query fails, it is possible that there is a device driver installation problem or hardware problem. If the jukebox is a Serial jukebox, \texttt{jbconfig} attempts to establish serial communications with it. If this fails, then there is either a setup problem or a hardware problem.

Next, if the jukebox contains tape devices you are asked if automated cleaning of devices in the jukeboxes should be turned on. If automated cleaning is enabled the jukebox and all devices in the jukebox are configured for automated cleaning. If the jukebox is successfully installed, the information that pertains to device cleaning from the jukebox and all devices in the jukebox is displayed.

For each device in the jukebox, \texttt{jbconfig} asks for the hostname that owns the device. This prompt allows the devices within a jukebox to be controlled by more than one host. Note that all of the owning hosts must be storage nodes within the same server's domain.

\texttt{jbconfig} then asks whether the devices to be configured are Network Data Management Protocol (NDMP) devices. NDMP devices require a user name and password to be entered for each device. The user name and password correspond to the entries set in the NDMP server.

\texttt{jbconfig} prompts you to enter the pathnames for all the media devices configured in the jukebox. You must add an entry for each device. If the device has not been configured for NetWorker, then you are prompted to enter the media device type.

If you select Autodetected SCSI jukeboxes, NetWorker determines the name of each media device by sending inquiries for information to the jukebox. Not all jukeboxes support this capability, but many do (for example, the Exabyte 210). This inquiry does not take place when the owning host is different than where \texttt{jbconfig} is running.

Finally, NetWorker asks you if the jukebox supports a bar code label reader, and if so, whether NetWorker support for it should be turned on. If support for the bar code label reader is turned on, then you are asked if the media volume labels should match the bar code labels on the media. If you select this option, the label templates will not be used by the jukebox, and each media volume must have a readable bar code label.

If the jukebox has been configured successfully you will see the following message:

\begin{verbatim}
Jukebox has been added successfully
\end{verbatim}

\textbf{JBCONFIG FILE}

The file \texttt{/nsr/jbconfig} is the jukebox models configuration file. This file can be used to configure a non-standard list of jukebox models.
**VECTOR-TYPE MODEL-NAME**

where **VECTOR-TYPE** is either SJI (the Standard Jukebox Interface) or ATL (RS232-based devices speaking the IGM-ATL serial communications protocol). The **MODEL-NAME** can be any string.

**EXAMPLES**

(User entries are in italics).

**Example 1)**

```
# jbconfig
1) Install a SmartMedia Jukebox.
2) Install an Autodetected SCSI Jukebox.
3) Install an Autodetected NDMP SCSI Jukebox.
4) Install an SJI Jukebox.
5) Install an STL Silo.
```

What kind of Jukebox are you installing? [2] <RETURN>

These are the SCSI Jukeboxes currently attached to your system:

1) scsidev@0.6.0: EXB-210

Which one do you want to install? 1<RETURN>

Installing an `EXB-210` jukebox.

Name you would like to assign to the jukebox device? *Engineering*<RETURN>

Pathname of the control port for the jukebox device? [scsidev@0.6.0] <RETURN>

Do you want automated device cleaning support enabled? (yes/no) yes<RETURN>

Are devices NDMP devices? (yes/no) no<RETURN>

Enter hostname that owns media drive 1: ? [host1]<RETURN>

Enter pathname of media drive 1: [/dev/rmt/0mbn]<RETURN>

Enter hostname that owns media drive 2: ? [host1]<RETURN>

Enter pathname of media drive 2: [/dev/rmt/1mbn]<RETURN>

Following are attributes that define cleaning cartridge support for the jukebox `Engineering`:

```
auto clean: Yes
default cleanings: 12
cleaning slots: 1
Cleaning cartridge volumes Slot number
-------------------------------
Cleaning Tape (12 uses left) 1
```

Make sure that the slots set aside for cleaning cartridges containing cleaning cartridges with the designated number of usable cleanings left.

Following are attributes that define the cleaning schedule for each device in the jukebox.

```
name: /dev/rmt/0mbn
  date last cleaned: Thu Apr 13 11:41:58 1995
  cleaning interval: 2 weeks
  cleaning required: No

name: /dev/rmt/1mbn
  date last cleaned: Thu Apr 13 11:41:58 1995
  cleaning interval: 2 weeks
  cleaning required: No
```
Verify that the values for these attributes are appropriate for your installation. If not check documentation on how to set up automated cleaning cartridge support.
Jukebox has been added successfully

**Example 2)**

Here is an example of a SmartMedia autoloader configured with NDMP devices on a storage node.

```
# jbconfig -s server
```

On a storage node, the hostname is a prefix to the jukebox name.
Enter the hostname to use as a prefix? [brown.legato.com] <RETURN>
using "brown.legato.com" as the hostname prefix

1) Install a SmartMedia Jukebox.
2) Install an Autodetected SCSI Jukebox.
3) Install an Autodetected NDMP SCSI Jukebox.
4) Install an SJI Jukebox.
5) Install an STL Silo.

What kind of Jukebox are you installing? [1] <RETURN>
Installing an SmartMedia jukebox.
Name you would like to assign to the SmartMedia jukebox? myautoloader<RETURN>

Name of host machine for SmartMedia server? [brown.legato.com] <RETURN>
Port number of SmartMedia server? [44444] <RETURN>

How many devices are to be configured (1 to 64)? [4] 2<RETURN>
Are devices NDMP devices? (yes/no) yes <RETURN>
Enter hostname that owns logical device 1: ? [brown.legato.com] <RETURN>
Enter name of logical device 1: ? stk1<RETURN>
Enter NDMP user name: ? root<RETURN>
Enter NDMP password (characters will not be echoed): password<RETURN>
Enter hostname that owns logical device 2: ? [brown.legato.com] <RETURN>
Enter name of logical device 2: ? stk2<RETURN>
Enter NDMP user name: ? root<RETURN>
Enter NDMP password (characters will not be echoed): password<RETURN>

Enter application name defined in SmartMedia for NetWorker? [NetWorker@server] <RETURN>
Enter application key defined in SmartMedia for NetWorker? [<none>] <RETURN>

The barcode reader is enabled and volume labels are set to match barcode labels.

Jukebox has been added successfully
Would you like to configure another jukebox? (yes/no) no<RETURN>

**Example 3)**

Here is an example of configuring a Celestra/Solaris NDMP jukebox.

```
# jbconfig
```

1) Install a SmartMedia Jukebox.
2) Install an Autodetected SCSI Jukebox.
3) Install an Autodetected NDMP SCSI Jukebox.
4) Install an SJI Jukebox.
5) Install an STL Silo.
What kind of Jukebox are you installing? 3
Enter NDMP Server name: amx
Enter NDMP user name: root
Enter NDMP password (characters will not be echoed): password
Enter NDMP jukebox handle: /dev/rsjb0
What is the NDMP type of 'amx'? 1) Celestra. 2) NetApp.
Choice? 1
Communicating to devices on NDMP Server 'amx', this may take a while...

These are the SCSI Jukeboxes currently attached to your system:
1) scsidev@1024.0.0: Standard SCSI Jukebox, Vendor <HP>, Product <C7200-8000>
2) scsidev@1025.1.0: Standard SCSI Jukebox, Vendor <ADIC>, Product <Scalar DLT 448>

Which one do you want to install? 1
Installing an 'Standard SCSI Jukebox' jukebox.
Name you would like to assign to the jukebox device? hp
Pathname of the control port for the jukebox device? [scsidev@1024.0.0] 
Do you want automated device cleaning support enabled? (yes/no) yes
Enter hostname that owns media drive 1: [boxster] amx
Enter pathname of media drive 1: /dev/rmt/0mbn
using 'rd=amx:/dev/rmt/0mbn' as device name
Should the drive be configured as a NDMP device? (yes/no) yes

This media device has not been configured yet. Please select a media device type for rd=amx:/dev/rmt/0mbn.

1) 3480 21) sdlt
2) 3570 22) tz85
3) 3590 23) tz86
4) 4890 24) tz87
5) 4mm 25) tz88
6) 4mm 4GB 26) tz89
7) 4mm 8GB 27) tz89
8) 4mm 12GB 28) tkz90
9) 4mm 20GB 29) dst (NT)
10) 8mm 30) dst
11) 8mm 5GB 31) dtf
12) 8mm 20GB 32) himt
13) 8mm AIT 33) LTO Ultrium
14) 8mm AIT-2 34) qic
15) 8mm Mammoth-2 35) SD3
16) 9490 36) vhs
17) 9840 37) VXA-1
Choice? 20<RETURN>
Enter NDMP user name: root<RETURN>
Enter NDMP password (characters will not be echoed): password<RETURN>

Your jukebox has a bar code reader.
Do you want bar code reader support enabled? (yes/no) yes<RETURN>
Do you want volume labels to match bar code labels? (yes/no) no<RETURN>

Following are attributes that define cleaning cartridge support for the jukebox ‘hp’:

<table>
<thead>
<tr>
<th>attribute</th>
<th>value</th>
</tr>
</thead>
<tbody>
<tr>
<td>auto clean:</td>
<td>Yes</td>
</tr>
<tr>
<td>default cleanings:</td>
<td>5</td>
</tr>
<tr>
<td>cleaning slots:</td>
<td>19</td>
</tr>
<tr>
<td>Cleaning cartridge volumes</td>
<td>Slot number</td>
</tr>
<tr>
<td>-------------------</td>
<td>---------------</td>
</tr>
<tr>
<td></td>
<td>19</td>
</tr>
</tbody>
</table>

Make sure that the slots set aside for cleaning cartridges contain cleaning cartridges. Networker must know the number of times it can use each cleaning cartridge. You can control how many times Networker will use each cleaning cartridge by using the command - nsrjb -U (number of uses) -S (slot number) For more details please refer to nsrjb man pages.

Following are attributes that define the cleaning schedule for each device in the jukebox.

<table>
<thead>
<tr>
<th>attribute</th>
<th>value</th>
</tr>
</thead>
<tbody>
<tr>
<td>name:</td>
<td>rd=amx:/dev/rmt/0mbn</td>
</tr>
<tr>
<td>date last cleaned:</td>
<td></td>
</tr>
<tr>
<td>cleaning interval:</td>
<td>2 weeks</td>
</tr>
<tr>
<td>cleaning required:</td>
<td>No</td>
</tr>
</tbody>
</table>

Verify that the values for these attributes are appropriate for your installation. If not check documentation on how to set up automated cleaning cartridge support.

Jukebox has been added successfully
Would you like to configure another jukebox? (yes/no) no<RETURN>

SEE ALSO
jbexercise(8), nsr_device(5), nsr_jukebox(5), nsr_storage_node(5), nsr(5), nsrcap(8).

DIAGNOSTICS
unknown model invalid choice for 'model' (35022)

**Problem:** The NetWorker system does not recognize the model chosen. If you added a /nsr/jbconfig* file after starting the daemons, you will see this error. **Solution:** Restart NetWorker.

root on computer host is not on type:NSR's administrator list

**Problem:** The user ‘root’ on the storage node ‘host’ is not on the administrator list of the NetWorker server. **Solution:** Add such an entry to the NetWorker server’s administrator list. Note that the entry can be removed after this command completes.