EMC® NetWorker®
Module for Databases and Applications
Release 1.0

Command Reference Guide
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Preface

As part of an effort to improve and enhance the performance and capabilities of its product lines, EMC periodically releases revisions of its hardware and software. Therefore, some functions described in this document may not be supported by all versions of the software or hardware currently in use. For the most up-to-date information about product features, refer to your product release notes.

If a product does not function properly or does not function as described in this document, please contact your EMC representative.

Audience

This document is part of the EMC NetWorker Module for Databases and Applications (NMDA) documentation set, and is intended for use by system administrators or database administrators (DBAs) who are responsible for installing software and maintaining backup and recovery systems for databases or applications. Operators who monitor backups may also find this document useful.

Readers of this document are expected to be familiar with the following topics:

- Backup, recovery, and maintenance of a database or application client
- Backup, recovery, and maintenance of a database or application server
- Disaster recovery procedures on a database or application server

Related documentation

Documentation related to the use of this product can be found at the EMC website, http://Powerlink.EMC.com, including:

- The NetWorker Module for Databases and Applications release 1.0 documentation set:
  - Administration guide
  - Installation guide
  - Release notes
  - Command reference guide
- The NetWorker documentation set:
  - Administration guide
  - Installation guide
  - Release notes
  - Command reference guide
  - Disaster recovery guide
- Other EMC documentation:
  - NetWorker PowerSnap Module documentation
  - Software compatibility guide
  - UNIX man pages

The following additional documentation may be useful:

- Database or application server documentation
- Database or application backup and recovery documentation

Where to get help

EMC support, product, and licensing information can be obtained as follows.

Product information — For documentation, release notes, software updates, or for information about EMC products, licensing, and service, go to the EMC Powerlink website (registration required) at:

`http://Powerlink.EMC.com`

Technical support — For technical support, go to Powerlink and choose **Support**. On the Support page, you will see several options, including one for making a service request. Note that to open a service request, you must have a valid support agreement. Please contact your EMC sales representative for details about obtaining a valid support agreement or with questions about your account.

Your comments

Your suggestions will help us continue to improve the accuracy, organization, and overall quality of the user publications. Please send your opinion of this document to:

`SSGdocumentation@EMC.com`

If you have issues, comments, or questions about specific information or procedures, please include the title and, if available, the part number, the revision (for example, A01), the page numbers, and any other details that will help us locate the subject you are addressing.

NAME

nsrdaadmin − NetWorker Module for Databases and Applications administrative program

SYNOPSIS

nsrdaadmin -M -s *server_name* [*query*]

nsrdaadmin -W -s *server_name* [*query*]

query: [**-c** *client_name*] [**-g** *group_name*] [**-N** *save_set_name*]

nsrdaadmin -P -z *configuration_file_path*

DESCRIPTION

The **nsrdaadmin -M** command is used to perform the conversion of the scheduled backup configuration of a legacy NetWorker Module (NMDB2, NMI, NML, NMO, or NMS) to an NMDA scheduled backup configuration.

The **nsrdaadmin -W** command is used to perform the conversion of an NMDA client-side configuration (created *without* the configuration wizard) to an NMDA server-side configuration (created with the configuration wizard).

Since the **nsrdaadmin** command updates the NetWorker Client resource during a conversion, a user that runs the **nsrdaadmin** command with the **-M** or **-W** option requires the Configure NetWorker privilege. The **nsrdaadmin** command must be run as the root user on UNIX or as a member of the Microsoft Windows Administrators group.

The **nsrdaadmin -P** command is used to set the encrypted password that is required for DB2 and Sybase backups.

The EMC NetWorker Module for Databases and Applications Administration Guide provides more details on use of the **nsrdaadmin** command.

OPTIONS

Conversion options

-M Specifies the conversion of the scheduled backup configuration of a legacy NetWorker Module (NMDB2, NMI, NML, NMO, or NMS) to an NMDA scheduled backup configuration.

-W Specifies the conversion of an NMDA client-side configuration (DB2, Lotus, or Oracle) to an NMDA server-side (wizard) configuration.

−**s** *server_name*
Specifies the NetWorker server for which the configuration conversion is run.

query:

−**c** *client_name*
Specifies the NetWorker client name. If *not* specified, the default value is the hostname of the physical host where the **nsrdaadmin** command runs. For cluster environments, this option must be set to the virtual client name.

−**g** *group_name*
Specifies the NetWorker group name of the client being converted. If *not* specified, this criteria is not used to query the server resource database.

−**N** *save_set_name*
Specifies the save set name used in the Client resource. If *not* specified, this criteria is not used to query the server resource database.

Password encryption options

-P Sets the encrypted password in the specified NMDA configuration file.

−**z** *configuration_file_path*
Specifies the full pathname of the NMDA configuration file.

SEE ALSO **nsrdasv**(1m)

NAME nsrdaprobe − NetWorker Module for Databases and Applications probe program for probe-based backups

SYNOPSIS **nsrdaprobe -s** *server_name* **-c** *client_name* **-g** *group_name* [**-t** *state*] [**-o** *cmd_options*] *save_set_name*

cmd_options:

LOG_THRESHOLD= *threshold_number*
NSR_DEBUG_LEVEL= *debug_level*

For Lotus only:
LOTUS_NSF_FILE= *database_filename*

For Oracle only:
ORACLE_SERVICE= *Oracle_Net_service_name*
NSR_ORACLE_CONNECT_FILE= *Oracle_RMAN_connect_filename*

DESCRIPTION The **nsrdaprobe** program is used to automatically start an NMDA backup when a specified number or size of logs has been generated since the previous probe-based backup. The **nsrdaprobe** command should *not* be manually invoked, but should be executed as part of a probe-based **savegrp.**

When the **nsrdaprobe** command is first invoked, it returns success and triggers a probe-based **savegrp** backup. Once the backup has successfully completed, the transaction log state is recorded in the State field of the corresponding NetWorker Probe resource on the NetWorker server.

When the **nsrdaprobe** command is subsequently invoked, a comparison determines the delta (difference) between the current number or size of the transaction logs and the value recorded in the State field. If the delta is greater than or equal to the *threshold_number* value, the backup proceeds.

Use of the **nsrdaprobe** program requires NetWorker server version 7.5 or later.

OPTIONS −**c** *client_name*
Specifies the NetWorker client name.

−**g** *group_name*
Specifies the NetWorker group name.

-o *cmd_options*
Specifies the command options set in the NetWorker Probe resource.

−**s** *server_name*
Specifies the NetWorker server name.

-t *state* Specifies the State attribute value for the NetWorker Probe resource.

EXAMPLES The following example shows a **nsrdaprobe** command for a DB2 probe-based backup, including the arguments passed by the probe-based **savegrp:**

nsrdaprobe -s example.server.com -c example.client.com -g probegroup -o "LOG_THRESHOLD=1000" -t S0004574.LOG DB2:/SAMPLE/NODE0000

SEE ALSO **savegrp**(1m), **nsrdasv**(1m)

NAME nsrdasv − NetWorker Module for Databases and Applications backup command

SYNOPSIS **nsrdasv** [−**z** *configuration_file_path*] [*save_options*]

DESCRIPTION The **nsrdasv** executable program is used to invoke scheduled backups for DB2, Informix, Lotus Domino/Notes, Sybase, and Oracle systems. The **nsrdasv** command must be set in the Backup Command field of the corresponding NetWorker Client resource.

The **nsrdasv** executable program is also used to invoke manual backups of Lotus Domino/Notes and Sybase systems. The **nsrdasv** program cannot be used for manual backups of DB2, Informix, and Oracle systems. Instead, the corresponding database backup command must be used to start a DB2, Informix, or Oracle manual backup.

All the required parameters must to be set in a configuration file, specified by the −**z** *configuration_file_path* option or through the NMDA configuration wizard.

The NetWorker Module for Databases and Applications Administration Guide provides more details.

OPTIONS −**z** *configuration_file_path*

Specifies the full pathname of the NMDA configuration file. Optional parameter used for scheduled backups configured without the NMDA configuration wizard, and manual backups of Lotus Domino/Notes and Sybase systems.

save_options

Specifies other command line options accepted by the **nsrdasv** program and passed by the **savegrp** program. See **savegrp**(1m) for more details.

SEE ALSO **nsrdaadmin**(1m), **savegrp**(1m)

NAME nsrdb2cat − Synchronizes the DB2 history for NMDA DB2 advance copy service backups with the NetWorker indexes

SYNOPSIS nsrdb2cat -s server -c client sstime1 [sstime2]...

DESCRIPTION The **nsrdb2cat** command synchronizes the DB2 history for NMDA DB2 advanced copy service backups with with the NetWorker indexes during pruning operations. It removes snapshot backup entries from the DB2 history as NetWorker prunes entries for expired snapshots from its index.

This command should never be run manually.

The **nsrdb2cat** command is configured by the following parameters in the NMDA DB2 resource file /nsr/res/nmdb2.res:

DB2PATH

Specifies the location of the DB2 binary directory. Mandatory when NSR_DB2CAT_MODE is set to enabled

NSR_DB2CAT_MODE

enabled
Advanced copy service backups will be performed and catalog synchronization will be performed.

disabled (default setting)
Advanced copy service backups will be performed and catalog synchronization will not be performed.

NSR_REMOVE_ON_FAILURE

FALSE (default setting)
NetWorker index entries will not be removed if synchronization of backup records are unsuccessful.

TRUE
NetWorker index entries will be removed even if the synchronization of backup records are unsuccessful.

NSR_DEBUG_LEVEL

Designates the debug level of the operations log file. The default level is 0.

FILES **/nsr/apps/logs/nsrdb2cat.log**

SEE ALSO **nsrsnapck**(1m)

NAME nsrdb2ra − NMDA DB2 backup configuration wizard remote agent

SYNOPSIS **nsrdb2ra** [−**i**] [−**u**]

DESCRIPTION The **nsrdb2ra** command is part of the scheduled backup configuration wizard. The primary function of the **nsrdb2ra** command is to marshall database requests between the wizard and the IBM DB2 application, which runs on a remote host. The secondary function is to register (-i) or unregister (-u) the NMDA DB2 wizard as a plug-in on the client host during installation.

The **nsrdb2ra** command is invoked only by:

(1) The NetWorker Management Console (NMC) during the creation or modification of a scheduled backup configuration.

(2) The packaging subsystem during NMDA installation or uninstallation.

The **nsrdb2ra** command should not be run on the command line without instructions from NetWorker Customer Support.

NAME nsrdb2rlog − Recover DB2 database logs from storage to disk with NetWorker

SYNOPSIS **nsrdb2rlog**
[−**s** *server*] [−**a** *database*] [−**d** *destination dir*] [−**C** *chain id*] [−**S** *starting log*] [−**E** *ending log*] [−**N** *node number*] [−**F**]

DESCRIPTION The **nsrdb2rlog** command runs a utility that is used to exercise EMC operations without the presence of a database. Any computer with this utility can retrieve logs from a remote server and recover them to a file instead of tape.

This utility allows the user to explicitly enter the log numbers they want to retrieve. It gives the freedom to pick any existing logs available on the server. **nsrinfo** can be used to find which logs reside on a server.

Example: nsrdb2rlog -s serverA -a sample

The above example recovers the logs numbered 10 to 53 with the chain id 0 from the database named "sample" on the server named "serverA".

OPTIONS −**a** *database*
Specifies the name of the database which the logs belong to.

−**C** *chain id*
Specifies the chain ID of the logs to be used.

The number entered can range from 0 to 9999999.

Example: If the logs list in **nsrinfo** are in the form \C0000007_S0000004.LOG. Then the chain id would be 7 to retrieve this chain of logs.

−**d** *destination dir*
Specifies the directory that the log files should be recovered to. If the directory does not exist then nsrdb2rlog will try and create it. If it is unable to create the directory, nsrdb2rlog will exit without recovering the logs.

−**E** *ending log*
Specifies the last log number to retrieve.

The number entered can range from 0 to 9999999.

Example: If the last log listed from **nsrinfo** is \C0000000_S0000150.LOG. Then 150 would be used as the last log value in order to retrieve all logs from the starting log value to here.

−**N** *node number*
The unique node number which identifies the database partition server. For example, if the node was NODE0012, this value should be 12.

The default value is 0.

−**S** *starting log*
Specifies the first log number to retrieve.

The number entered can range from 0 to 9999999.

Example: If the first log listed from **nsrinfo** is \C0000000_S0000004.LOG. Then 4 would be used as the last log value in order to retrieve all logs from here to

the ending log value.

−**s** *server*
Specifies the computer name on which the databases resides.

−**F** Forces overwrite if the recovery file already exists.

SEE ALSO **nsrinfo**(1m)

NAME nsrdocrc − NetWorker Module for Databases and Applications recovery command for deleted Lotus Notes documents.

SYNOPSIS **nsrdocrc** −**z** *configuration_file_path*

DESCRIPTION The **nsrdocrc** executable program provides an effective method of restoring documents deleted from a Domino/Notes database since a specified backup of the database.

The **nsrdocrc** program works by first recovering the specified version of the database to a temporary directory and applying transaction logs if necessary, and then copying the deleted documents from this database to the existing database. Once the deleted documents are copied, the database recovered to the temporary directory is deleted.

−**z** *configuration_file_path*

Specifies the full pathname of the configuration file to use during the recovery. The file contains parameters describing what database to restore and where. For more information on the configuration file, refer to the NetWorker Module for Databases and Applications Administration Guide.

SEE ALSO **nsrdasv(1m), nsrnotesrc(1m)**

NAME nsrnotesrc − NetWorker Module for Databases and Application recovery command for Lotus Notes/Domino data

SYNOPSIS **nsrnotesrc** −**z** *configuration_file_path*

DESCRIPTION The **nsrnotesrc** executable program is used to restore Lotus data (including data stored in a DB2 database) that was backed up to a NetWorker server with the **nsrdasv** program. The information contained in the NetWorker client and media indexes is used for restoring data from the NetWorker backups.

The NetWorker Module for Databases and Applications recovery command for Notes databases allows a user to identify the scope of restore and restore to different clients and directories when needed. For details on regular recovery and disaster recovery, refer to the NetWorker Module for Databases and Applications Administration Guide.

−**z** *configuration_file_path*

Specifies the full pathname of the configuration file to use during the recovery. The file contains parameters describing what to recover and how. It can be used for regular recovery and disaster recovery. For more information on the configuration file, refer to the NetWorker Module for Databases and Applications Administration Guide.

SEE ALSO **nsrdasv(1m), nsrdocrc(1m)**

NAME nsroraadmin − Resource database management command

SYNOPSIS **nsroraadmin** [−**D**] −r list [ResourceName] | [SidName]

nsroraadmin [−**D**] −r add ResourceName ResourceValue

nsroraadmin [−**D**] −r add sid=SidName home=OracleHome connect=ConnectFilePath [tns=TNSpath] [lib=LibraryPath]

nsroraadmin [−**D**] −r update ResourceName ResourceValue

nsroraadmin [−**D**] −r update sid=SidName [home=OracleHome] [connect=ConnectFilePath] [tns=TNSpath] [lib=LibraryPath]

nsroraadmin [−**D**] -r delete SidName

nsroraadmin −M [−**Y**] [−**D debug_level**] −s server [−**g group**] [−**c client_name**] [**-N save_set_name**]

nsroraadmin −P [−**D debug_level**] −s server [−**g group**] [−**c client_name**] [**-N save_set_name**]

DESCRIPTION The **nsroraadmin** command creates, updates, and deletes resources from the resource file.

The **nsroraadmin** command can only be run by the root user.

The **nsroraadmin** command creates and updates the resource file which is located at /nsr/res/nwora.res on the host where NMDA is installed. A resource file is automatically created during the NMDA installation process when NMDA is not installed to the default location. The resource file created during installation only contains the resources required for a regular (nonproxy) NMDA backup. The NMDA resource file must be updated or created before performing proxy copy backups.

When **nsroraadmin** accesses the resource file for the first time, the resources required for proxy copy backups are automatically added to the resource file. The added resources are initialized with default values. If the file does not exist it is created and the resources are initialized with default values.

There are two types of resources. The first type is the parameter resource. A parameter resource is a single line that follows the *NAME=VALUE* format, where *NAME* is the name of the parameter, and *VALUE* is what the parameter is set to.

The second type of resource is the SID resource. An SID resource contains all the information **nsroraclecat**(1m) requires to synchronize an RMAN repository. An SID resource contains several parameters which are described in the **nsroraclecat**(1m) man page. Each parameter is represented by a keyword on the **nsroraadmin** command line:

sid: NSR_ORACLE_SID

home: NSR_ORACLE_HOME

connect: NSR_ORACLE_CONNECT_FILE

tns: NSR_ORACLE_TNS_ADMIN

lib: NSR_ORACLE_LIB_PATH

The resource file is automatically backed up by **nsrdasv**(1m) during scheduled backups.

OPTIONS

−D Specifies that debug information should be printed to stdout.

−r Several keywords specify the operation the **−r** option will perform:

list

The **list** keyword causes **nsroraadmin** to list the contents of the resource file. If *ResourceName* is specified only the parameter resource that matches *ResourceName* will be printed. If *SidName* is specified only the SID resource for the specified Oracle SID will be printed.

add

The **add** keyword causes **nsroraadmin** to add a new resource to the resource file. If the 'sid', 'home' and 'connect' keywords appears in the parameters following **add** an NWORA SID resource is added to the resource file. The 'tns' and 'lib' keywords are optional. If the parameters following **add** do not contain the 'sid', 'home' and 'connect' keywords it is assumed that the parameters are the *ResourceName* and *ResourceValue* of an parameter resource.

update

The **update** keyword causes **nsroraadmin** to change the value of the specified resource. A parameter resource is specified with the same semantics used by the **add** keyword. When updating SID resources only the 'sid' keyword is mandatory. The 'sid' keyword specifies which SID resource will be updated. The 'sid' of an SID resource cannot be changed. The 'home', 'connect', 'tns' and 'lib' keywords specify which parameters will be updated. See the **EXAMPLES** section for more information.

delete

The **delete** keyword causes **nsroraadmin** to delete an SID resource from the resource file. The parameter after the **delete** keyword is the name of the SID resource without the 'sid=' prefix. Only SID resources can be deleted.

EXAMPLES

The following lists the entire contents of the resource file:

```
nsroraadmin -r list
```

The following lists the parameter resource NSR_ORACLECAT_MODE:

```
nsroraadmin -r list NSR_ORACLECAT_MODE
```

The following lists the SID parameter resource for the ORACLE_SID 'orcl815':

```
nsroraadmin -r list orcl815
```

The following adds the parameter resource NSR_ORACLECAT_MODE:

nsroraadmin -r add NSR_ORACLECAT_MODE enabled

The following adds the SID resource 'orcl815':

nsroraadmin -r add sid=orcl815 home=/dbapps/orcl815
connect=/dbapps/orcl815/connect.file

The following updates the parameter resource NSR_ORACLECAT_MODE:

nsroraadmin -r update NSR_ORACLECAT_MODE disabled

The following updates the NSR_ORACLE_TNS_ADMIN parameter of the SID resource 'orcl815':

nsroraadmin -r update sid=orcl815 tns=/dbapps/orcl815/orcl815net8

The following deletes the SID resource 'orcl815':

nsroraadmin -r delete orcl815

FILES **/nsr/res/nwora.res** The resource file.

SEE ALSO **nsrdasv**(1m), **nsroraclecat**(1m)

NAME nsroraclecat − Synchronizes the RMAN repository with the NetWorker indexes

SYNOPSIS **nsroraclecat**

DESCRIPTION NMDA Oracle proxy copy backups are periodically pruned from the NetWorker indexes when the snapshots they are stored on expire. The **nsroraclecat** binary keeps RMAN repositories and the NetWorker indexes synchronized during the pruning operations by removing the backup piece entries of the snapshot backup from the RMAN repository. **nsroraclecat** is started automatically by **nsrsnapck**(1m) during pruning. The RMAN repository entries are removed by forking an RMAN session. The **nsroraclecat** binary should never be run manually.

The configuration of **nsroraclecat** is stored in the NMDA Oracle resource file which is administered by **nsroraadmin**(1m). The following resources specify the **nsroraclecat** configuration:

NSR_ORACLEAT_MODE
The default setting of NSR_ORACLECAT_MODE is 'undetermined'. When NSR_ORACLECAT_MODE is set to 'undetermined' NMDA will not perform proxy copy backups. To use proxy copy backups the NMDA administrator must set NSR_ORACLECAT_MODE to 'enabled' or 'disabled'. If NSR_ORACLECAT_MODE is set to 'disabled' catalog synchronization will not be performed.

NSR_REMOVE_ON_FAILURE
When NSR_REMOVE_ON_FAILURE is set to 'FALSE' **nsrsnapck**(1m) will not remove the NetWorker index entries for backup pieces that were not successfully synchronized.

NSR_ORACLECAT_LOG_FILE
Designates the location of the **nsroraclecat** operations log file. All operational messages are written to this file. If NSR_ORACLECAT_LOG_FILE is not set the operations messages go to the default log file /nsr/applogs/nsroraclecat.log.

NSR_ORACLECAT_DEBUG_FILE
Designates the location of the **nsroraclecat** debug log file. All debugging messages are written to this file. If NSR_ORACLECAT_DEBUG_FILE is not set no debug logging is done.

An SID resource must be configured for each Oracle database that has an RMAN repository that will be synchronized. An SID resource has the following parameters:

NSR_ORACLE_CONNECT_FILE
Specifies the location of the file that contains the connection strings for the RMAN repository.

NSR_ORACLE_HOME
The ORACLE_HOME of the Oracle Server installation. It is used to locate the copy of RMAN that is used to prune the RMAN repository entries.

NSR_ORACLE_LIB_PATH

Some Oracle Server installations require the system shared library path to be set when using NMDA. The name of the environment variable used to set the shared library path varies from system to system (It is LD_LIBRARY_PATH on Solaris and HP-UX 64-bit, SHLIB_PATH on HP-UX 32 bit, LIBPATH on AIX, etc). NSR_ORACLE_LIB_PATH must be set to the value of the shared library path environment variable. If Oracle Server installation does not require the shared library path NSR_ORACLE_LIB_PATH does not have to be set.

NSR_ORACLE_SID

The ORACLE_SID of the Oracle database instance that performed the proxy copy backup. NMDA caches the ORACLE_SID in the NetWorker online indexes when NMDA Oracle proxy copy backups are performed. The cached copy of the ORACLE_SID is then used by **nsroraclecat** as a key to locate the required SID resource during catalog synchronizations.

NSR_ORACLE_TNS_ADMIN

The location of the Oracle Net configuration files required by the Oracle Sever installation whose RMAN will perform the catalog synchronization. If the Oracle Net configuration files are in the default location NSR_ORACLE_TNS_ADMIN does not have to be set.

FILES **/nsr/applogs/nsroraclecat.log** The default **nsroraclecat** log file.

SEE ALSO **nsroraadmin**(1m), **nsrsnapck**(1m)

NAME nsrorainfo − Lists the NetWorker volumes required for a restore

SYNOPSIS **nsrorainfo** [−**s** *server]* [−**c** *client]* [−**f** *file*] [*backup_piece ...*]

DESCRIPTION The **nsrorainfo** binary lists the NetWorker volumes required to restore the backup pieces specified on the command line or in a file. The volumes listed are the ones the NetWorker server intends to use at the time the **nsrorainfo** command is run. If volumes are removed from NetWorker devices or if volumes are deleted after the **nsrorainfo** command was run the NetWorker server may use different volumes than those specified by **nsrorainfo** when restore is performed.

The **nsrorainfo** command will list clones of volumes if the original volumes are not available.

OPTIONS −**s** server
The NetWorker server to query.

−**c** *client*
The NetWorker client index that contains the backup pieces.

−**f** *file* A file containing a list of backup pieces to query.

EXAMPLES Display the volumes for backup piece 'bckupc_1' for the client mars on the NetWorker server jupiter:

nsrorainfo -s jupiter -c mars bckupc_1

Display the volumes for bacukp pieces 'bckupc_1', 'bckupc_2' and 'bckupc_3' for the client mars on the NetWorker server jupiter:

nsrorainfo -s jupiter -c mars bckupc_1 bckupc_2 bckupc_3

Display the volumes for the backup pieces listed in file bckupc.txt for the client mars on the NetWorker server Jupiter:

nsrorainfo -s jupiter -c mars -f bckupc.txt

Display the volumes for the backup pieces listed in file bckupc.txt and for 'bckupc_1' for the client mars on the NetWorker server jupiter:

nsrorainfo -s jupiter -c mars -f bckupc.txt bckupc_1

SEE ALSO **nsrdasv**(1m), **nsroraadmin**(1m), **save**(1m), **savegrp**(1m)

NAME nsrorara − NMDA Oracle scheduled backup and recovery configuration wizard remote agent

SYNOPSIS **nsrorara** [−**i**] [−**u**]

DESCRIPTION The **nsrorara** command is part of the scheduled backup configuration wizard and NMDA Oracle recovery configuration wizard. The primary function of the **nsrorara** command is to perform operations on behalf of the wizard on the local or remote NMDA Oracle host. Those operations include, but are not limited to, the database queries to the Oracle server. The secondary function is to register (-i) or unregister (-u) the wizard as a plug-in on the client host during installation.

The **nsrorara** command is invoked only by:

(1) The NetWorker Management Console (NMC) during the creation or modification of a scheduled backup configuration.

(2) The packaging subsystem during NMDA installation or uninstallation.

The **nsrorara** command should not be run on the command line without instructions from EMC Customer Support.

NAME nsrsybcc − Consistency check of Sybase databases

SYNOPSIS

nsrsybcc [−**hqv?**] [−**o ckdb**] [−**o ckdbnoidx**] [−**o ckal**] [−**o ckcat**] [−**o ckstor**]
−**U** *username* −**P** *password* [−**c** *client_name*] [−**s** *server_name*]
{ **SYBASE:/***ASE_server_name* |
SYBASE:/*ASE_server_name/database_name*
[**SYBASE:/***ASE_server_name/database_name ...*] }

DESCRIPTION

The **nsrsybcc** program performs consistency checking of the Sybase ASE Server databases by running ASE Server **dbcc** consistency checks on the databases.

The databases to be checked are specified by the **SYBASE:/***ASE_server_name[/database_name]* value. The *database_name* is optional; if it is omitted, all the databases on the ASE Server are checked except the tempdb database.

The *username* and *password* provide the information necessary to log in to the ASE Server to be backed up. The username must have sufficient permissions to run the **dbcc** command on the databases to be checked.

If no checking options are supplied, the default option is **-o ckstor** when the **dbcc** database has been set up. If the **dbcc** database does not exist, the default option is a combination of the **-o ckdbnoidx**, **-o ckal**, and **-o ckcat** options.

The **-o ckstor** option is preferable to the other options because it provides higher concurrency. The **-o ckal** option may occasionally cause errors 2540 or 2546 to occur when no real error conditions exist. Running the ASE Server in single user mode prevents these conditions from being incorrectly reported. The ASE Server Troubleshooting and Error Messages Guide provides more information on interpreting these and other consistency check errors.

The results of the consistency check are written to stdout. There may be a large number of informational messages. The informational messages may be suppressed by using the −**q** flag.

OPTIONS

−**h** Displays usage.

−**q** Quiet mode. Displays only error messages.

−**v** Verbose mode. Causes the **nsrsybcc** program to report in great detail what it is doing as it proceeds.

−**?** Displays usage.

−**o ckdb**
Performs a **dbcc checkdb** check on the given databases. This checks index and data pages, the sorting of indices, pointers, and data rows for each table in the database.

−**o ckdbnoidx**
Performs a **dbcc checkdb** check on the given databases with the skip nonclustered index option. Nonclustered indexes may be easily (although not necessarily quickly) recreated, and this option only checks clustered indexes. It causes a faster consistency check at the cost of possibly greater recovery time if one of the nonclustered indexes is corrupt.

−**o ckal**
Performs a **dbcc checkalloc** check on the given databases. The **checkalloc** option checks the page allocations of the database for inconsistency.

−**o ckcat**
Performs a **dbcc checkcatalog** check on the given databases. This checks the

system tables in the database for consistency.

−**o ckstor**
Performs a **dbcc checkstorage** check on the given databases. This performs a faster consistency check than the other options, and has greater concurrency capabilities than the −**o ckal** option.

−**U** *username*
Specifies the ASE Server user that will check the databases.

−**P** *password*
Specifies the password for the ASE Server user that will perform the consistency checks.

−**s** *server_name*
Specifies the machine to use as the NetWorker server.

−**c** *client_name*
Specifies the client name for querying the username and password. This is useful on clients with multiple network interfaces, and hence multiple hostnames. It can be used to create multiple index databases for the same physical client. Note that this does not specify the network interface to use. This is specified in the Server Network Interface attribute of the Client resource (see **nsr_client**(5)).

EXAMPLES

Consistency checking a database:

To consistency check the database "accounting" on ASE Server "production", run the following command:

nsrsybcc -U sa -P *password* **SYBASE:/production/accounting**

This command performs the default consistency checks with the options **-o ckal**, **-o ckdbnoidx**, and **-o ckcat** if the **dbcc** database does not exist on the Sybase ASE server. If the **dbcc** database has been set up, this command performs a consistency check with the **-o ckstor** option.

Consistency checking all the databases on the ASE Server:

To consistency check all the databases on the ASE Server "production" with the **-o ckdb** and **-o ckal** options, run the following command:

nsrsybcc -U sa -P *password* **-o ckdb -o ckal SYBASE:/production**

SEE ALSO

nsrsybrc(1m)

DIAGNOSTICS

Exit Codes

0 Normal exit. The consistency check completed without errors.
1 Abnormal exit. There may be consistency errors in the checked databases.

Messages

The following is a partial listing of common error messages. Refer to the Administration Guide for a more complete listing of error messages and how to resolve them.

The context allocation routine failed...
Cannot access file */sybase/***config/objectid.dat**

This message indicates that the $SYBASE environment variable was not set. This environment variable needs to be set so that the **nsrsybcc** program can find the Sybase localization files required at runtime. The $SYBASE environment variable should be set to the directory where Sybase was installed (where the interfaces file is located.) This error may also appear if the Sybase Open Client software is not installed. Sybase Open Client must be installed for the **nsrsybcc** program to run.

Error from server: Msg *number*, **Level** *number*, **State** *number*
Error text

This message indicates that there was an error message returned from Sybase. Refer to the Sybase Troubleshooting and Errors Guide for an explanation of the error and its resolution.

NAME nsrsybrc − Recover Sybase databases from the NetWorker server

SYNOPSIS

nsrsybrc [−**hkpqv?**] [−**U** *username*] [−**P** *password*] [−**d** **SYBASE:/***ASE_server_name[/database_name]*] [−**s** *server_name*] [−**c** *client_name*] [−**t** *date*] [−**e** *AES_pass_phrase*]
{ **SYBASE:/***ASE_server_name* |
SYBASE:/*ASE_server_name/database_name*
[**SYBASE:/***ASE_server_name/database_name***...**] }

DESCRIPTION

The **nsrsybrc** command restores Sybase ASE Server database backups from the NetWorker server. The progress of a restore with **nsrsybrc** can be monitored with the Java-based NetWorker Management Console, or with the curses(3X)-based **nsrwatch**(1m) program for other terminal types.

The databases to be restored are specified by the **SYBASE:/***ASE_server_name[/database_name]* value. The *database_name* is optional; if it is omitted, all the databases on the Sybase ASE Server are restored except the master database.

The **nsrsybrc** command should be issued from the same operating system user ID that launched the Sybase Backup Server. This user ID owns the backups, and should be used to restore them. Other operating system user IDs might be unable to see the save sets that the Sybase Backup Server created.

Note: The master database must be restored before the other system and user databases.

The order for restoring a complete Sybase ASE Server system is to first restore the master database and then restore the remaining databases. To restore the master database, you must restart the Sybase ASE Server in master recovery mode, with the −**m** option of the **startserver** command. You must first issue the **nsrsybrc** command. For example:
nsrsybrc -U sa -P password SYBASE:/ASE_server_name/master

Once this command successfully restores the master database, the Sybase ASE Server automatically shuts itself down. You must restart the Sybase ASE server and restore the remaining databases with the **nsrsybrc** command. For example:
nsrsybrc -U sa -P password SYBASE:/ASE_server_name

This command restores the remaining system databases and the user databases.

Exercise extreme caution when restoring the master database. If you restore the master database to a new database, remember that it has pathnames to the device files. If you restore the master database to another Sybase ASE Server on the same machine, the new Sybase ASE Server attempts to use the same device files as the old Sybase ASE Server.

The *username* and *password* options provide the information required to log in to the Sybase ASE Server to be restored. The *username* must have sufficient permissions to perform database loads on the databases to be restored.

OPTIONS

−**h** Specifies to display usage.

−**k** Specifies to perform a database consistency check on each database once it is restored. The results of the database consistency check are written to stdout. The default is to not perform a database consistency check, and if this option is supplied, the consistency check is performed with the default options described in the man page for **nsrsybcc**(1m).

−**p** Specifies that the database should not be brought online after the recovery is

completed.

−**q** Specifies the quiet mode, in which the **nsrsybrc** command displays only summary information and error messages.

−**v** Specifies the verbose mode, in which the **nsrsybrc** command reports in great detail what it is doing as it proceeds.

−**?** Specifies to display usage.

−**U** *username*
Specifies the Sybase ASE Server user to perform the backups.

−**P** *password*
Specifies the password for the Sybase ASE Server user that performs the backups.

-d SYBASE:/*ASE_server_name[/database_name]*
Specifies a new destination for the database. If this option is not used, the database is restored to its original Sybase ASE Server and database name. If this option is used, the database is restored to the new destination. This option can be used to restore a database to a new Sybase ASE Server and database name, or to a new database name in the same Sybase ASE Server. If a new destination is supplied, only one database name (or ASE_server_name) can be specified on the command line for the restore. The destination databases must already exist; the **nsrsybrc** command does not create the databases automatically. To enable the fastest loading, create new databases for the restore by using the **for load** option.

−**s** *server_name*
Specifies the machine to use as the NetWorker server.

−**c** *client_name*
Specifies the client name for starting the restore session. This option is useful on clients with multiple network interfaces and multiple hostnames, when multiple index databases are used for the same physical client. Note that this option does not specify the network interface to use. The network interface is specified in the **server network interface** attribute of the NetWorker Client resource (see **nsr_client**(5)).

−**t** *date* Specifies the date and time to restore to. The current date and time are used by default. This option specifies time to use as the "until_time" that the database is restored to.

−**e** *AES_pass_phrase*
Specifies an additional pass phrase to use for recovery of files that were backed up with AES encryption. By default, the recovery attempts to use the current datazone encryption key and the key generated from the default pass phrase. The −**e** option causes the **nsrsybrc** command to generate an encryption key from the supplied pass phrase and use it if the default and datazone pass phrase keys do not work. The −**e** option can be specified multiple times.

Restoring a database:
To restore the model database in the Sybase ASE Server named production to the current time from the NetWorker server named networker, run the following command:

nsrsybrc −U sa −P password −s networker SYBASE:/production/model

Restoring the master database:
To restore the master database in the Sybase ASE server named production to the current time, restart the server named production in master recover mode (with the −**m** option) and run the following command:

nsrsybrc −U sa −P password −s networker SYBASE:/production/master

Once the master database is restored, the Sybase ASE Server shuts itself down. To restore the remaining databases, restart the Sybase ASE Server and run the following command:

nsrsybrc −U sa −P password −s networker SYBASE:/production

This command restores the remaining databases on the production Sybase ASE Server.

Restoring a database to a new server:

To restore a database to a new server, use the **−d** option to specify the new server name. To restore the database named accounting from the Sybase server named production to the Sybase server named test, run the following command:

nsrsybrc −U sa −P password −s networker −d SYBASE:/test/accounting SYBASE:/production/accounting

The destination database must already exist in the server, and the username and password must apply to the test server.

SEE ALSO

curses(3X), **nsr_getdate**(3), **nsr**(5), **nsr**(1m), **nsr_client**(5), **nsr_device**(5), **nsr_group**(5), **nsr_service**(5), **nsrd**(1m), **nsrim**(1m), **nsrindexd**(1m), **nsrmm**(1m), **nsrmmd**(1m), **nsrsybcc**(1m), **nsrsybsv**(1m), **nsrwatch**(1m), **recover**(1m), **savefs**(1m), **savegrp**(1m)

DIAGNOSTICS

Exit Codes

0 Normal exit. The databases were correctly restored.

1 Abnormal exit. The databases were not all restored.

Messages

This is a partial listing of common error messages. The Administration Guide provides a more complete listing of error messages and how to resolve them.

The context allocation routine failed...
Cannot access file */sybase/***config/objectid.dat**

This message indicates that the $SYBASE environment variable was not set. This environment variable must be set so that the **nsrsybrc** command can find the Sybase localization files required at runtime. The $SYBASE environment variable should be set to the directory where Sybase was installed (the one where the **interfaces** file is.) This error might also appear if the Sybase Open Client software is not installed. Sybase Open Client must be installed in order for the **nsrsybrc** command to run.

Archive API error...Unable to open API library for device...
Library path is */sybase/***lib/libbms**.*ext*

This message indicates that the symbolic link to the libbms.*ext* library is missing from the $SYBASE/lib directory. Ensure that the link exists. The libbms.*ext* file to link to is in the same directory as the NetWorker binary files.

Archive API error...Attempting to open byte stream device...
network error (Severity 5 Number 12): Business Suite Module for Sybase has not been properly enabled.

This message indicates that the server from which you are restoring is not enabled for Sybase. Install an enabler for NMDA on the server and retry the operation.

Archive API error...Attempting to open byte stream device...
network error (Severity 5 Number 13): *client* **is not a registered client**

This message indicates that the client where the **nsrsybrc** command is run is not a registered client of the server from which the backup is to be restored. Create a NetWorker Client resource for this client on the server and rerun the operation.

Error: no backup was found for database *database_name*

This message indicates that no backups were found for the database requested. Ensure that the operating system user that was specified to restore the backups is the same as the user that created the backups. Run the **nsrinfo** command to see the objectowner field for each backup. =The objectowner is the operating system user that must restore the data.

Error from server: Msg 3108, Level 16, State 1
LOAD DATABASE must be used in single user mode if trying to restore the Master database.

In order to restore the master database, the Sybase ASE Server must be restarted in single user mode. Shut down the Sybase ASE Server and restart it with the **−m** option.

CT_LIBRARY error: ...operation terminated due to disconnect
CT_LIBRARY error: ...The connection has been marked dead.

These messages are expected when the master database is recovered. They indicate that the Sybase ASE Server was shut down after the successful restoration of the master database. The Sybase ASE Server must be restarted in order to restore the user databases or to make it available to users.

Not restoring database master. It needs to be loaded separately before the rest of the instance is loaded.

This message indicates that the entire Sybase ASE server is being restored (because no *database_name* was specified on the command line), and that the master database will not be restored. The master database must be restored before all of the other databases, and it will shut down the Sybase ASE Server once it is restored. Therefore, no other databases can be restored at the same time as the master database.

Error from server: Msg *number*, **Level** *number*, **State** *number*
Error text

This message indicates that an error message was returned from Sybase. Refer to the Sybase Troubleshooting and Errors Guide for an explanation of the error and its resolution.