EMC² TECHNICAL NOTES

EMC® NetWorker®

Special Uses for the NetWorker nsradmin Program

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This technical note explains how to perform various tasks with the nsradmin command line interface program. The nsradmin program enables one to query and administer NetWorker Server resources. All of the tasks that one can perform from the NMC NetWorker server graphical interface can be performed from the nsradmin program. Additionally, there are some tasks that can only be performed using nsradmin, for example, turning off VSS globally. The nsradmin interface is a useful alternative to administering the NW server for many reasons, in particular:

* To perform bulk changes to attributes of the same resource type
* To perform bulk queries of resources attributes for one or more resource types for data collection
* When automating NetWorker operations
* When the NMC Server graphical interface is not practical to use such as when network bandwidth is a concern.
* When troubleshooting

The following topics are covered:

Terminology

NMC NetWorker server graphical interface — The NetWorker Management Console (NMC), which provides a graphical interface to manage NetWorker servers, their resources, and other managed applications.

Resource — Any NetWorker entity such as a backup client (NSR client), backup group (NSR group), backup schedule (NSR schedule), and so on, that can be queried or modified.

Requirements

Be aware of the following requirements when using the nsradmin program:

- You must be logged in as root or as the Windows Administrator on the NetWorker host
- You must specify an attribute name and value correctly when modifying an attribute. If the attribute name and value are not specified correctly, including proper case, the attribute is not updated. No error message is provided.
- When creating an input file for use with the nsradmin program, ensure that a carriage return is entered after the last line of text in the file.

nsradmin quick start

This section describes how to perform a simple resource query or update operation with the nsradmin program. The examples that follow this section also show how to use input files to automate nsradmin tasks. Input files are especially useful when performing bulk operations on a number of NetWorker hosts.

Opening the nsradmin program

To access the nsradmin program:

1. Log in to the NetWorker server as root or Windows Administrator.

2. Enter the **nsradmin** command at the command-prompt.

Querying a NetWorker resource – quick start

To query a NetWorker resource:

1. Enter the following at the nsradmin prompt:

   nsradmin> **. type:**_NetWorker_resource_**;** _attribute:value_
   nsradmin> **print**

   Above, all attributes for the resource identified by the _attribute:value_ combination will be returned. For example, to query all of the attributes for a NetWorker client resource that is named _Pluto_, type the following :

   nsradmin> **. type:NSR client; name:pluto**
   nsradmin> **print**

Updating a NetWorker resource – quick start

To update a NetWorker resource:

1. Enter the following at the nsradmin prompt:

   ```
   nsradmin>. type:NetWorker_resource; attribute:value
   nsradmin> update action; attribute1:value; attribute2:value
   ```

   Notice that you can update multiple attributes for a resource. Each *attribute:value* combination is separated by a semicolon (;). For example, to enable the autostart attribute and the scheduled backup start time for the backup group resource named *Accounting*:

   ```
   nsradmin> . type:NSR Group; name:Accounting
   nsradmin> update action; autostart:enabled; start time:"23:55"
   ```

   Note: Specify attribute names and values correctly, including the proper case for attribute values. If the attribute name and value are not specified correctly, the attribute is not updated and no error message is provided.

NetWorker resources – quick start

The following list contains the most common NetWorker resources that you will query or update with the nsradmin program:

- ◆ NSR (*NetWorker server resources*)
- ◆ NSR client
- ◆ NSR device
- ◆ NSR directive
- ◆ NSR group
- ◆ NSR jukebox
- ◆ NSR label
- ◆ NSR license
- ◆ NSR notification
- ◆ NSR policy
- ◆ NSR pool
- ◆ NSR schedule
- ◆ NSR stage

In addition to this document, you can find more information about the nsradmin program in the UNIX man pages, the EMC NetWorker Command Reference Guide, and the EMC NetWorker Administration Guide.

Resource query examples

You can perform queries on any NetWorker server or client resource and their attributes. This section includes examples of some useful and commonly used queries.

Listing all attributes for a resource

To list all of the attributes for a specific NetWorker resource, such as a client resource:

1. Log in to the NetWorker server as root or Windows Administrator.

2. Enter the **nsradmin** command at the command-prompt.

3. Enter the following at the nsradmin prompt:

```
nsradmin> . type: NSR client; name: client_name
nsradmin> show
nsradmin> print
```

Where *client_name* is the NetWorker client resource whose attributes you want to display.

Listing specific attributes for a NetWorker resource

You can list any NetWorker resource by any of its attributes. This example shows how to list all NetWorker client resources by the following client resource attributes:

- name
- backup schedule
- backup group
- backup command
- backup save sets

To list specific attributes for all client resources, enter the following at the nsradmin prompt:

```
nsradmin> . type: NSR client
nsradmin> show name; schedule; group; backup command; save set
nsradmin> print
```

- Above, *NSR client* is the name of the resource that is being queried.
- Each resource attribute must be separated by a semi-colon.

Listing specific attributes for a specific resource instance

To list a specific attribute, such as the schedule, for a specific resource instance, such as the NetWorker client resource p*luto*, enter the following at the nsradmin prompt:

```
nsradmin> .  type: NSR client; name:pluto
nsradmin> show name; schedule
nsradmin> print
```

Listing all NetWorker clients in a particular group

To list all clients in a particular group. enter the following at the nsradmin prompt:

```
nsradmin> . type: NSR client; group:group_name
nsradmin> show name
nsradmin> print
```

Where *group_name* is the backup group for which you want to display its NetWorker clients.

Listing all registered clients and their operating system

To print a listing of all registered clients and their operating systems, enter the following at the nsradmin prompt:

```
nsradmin> . type: NSR client
nsradmin> show name; Client OS type
nsradmin> print
```

Listing all devices in service mode:

To list all devices that are in service mode, enter the following at the nsradmin prompt:

```
nsradmin> show name:
nsradmin> print type: NSR device; enabled: Service
```

Listing the licenses on a NetWorker server using an input file

When contacting Sales Support and Renewals, you often need to provide a list of enablers in the datazone. Instead of manually copying and pasting licenses from the NMC GUI, use an input file with nsradmin to create a text file of current license enablers and then email the file to Sales and Renewals.

To create a list of license enablers:

1. Log in to the NetWorker server as root or Windows Administrator.

2. Create a nsradmin input file to extract licenses from the NetWorker server resource database. For example, create a text file named show_licences.txt and add the following text:

```
. type: nsr
show name;version;contact name;company;street
address;state/province;zip/postal
code;country;phone;email address;server OS type;site
id;purchase date;product serial number
print
. type: nsr license
show name;comment;enabler code;auth
code;hostid;expiration date
print
```

Note: ensure that you add a carriage return after the last line, which is *print* in this example.

3. Run the following command from the command prompt:

nsradmin -i *path***\show_licenses.txt 1>licenses.txt 2>1**

Where *path* is the location of the show_licenses.txt file.

The file licenses.txt will contain all of the current license enablers on the NetWorker server.

Listing the NetWorker clients that use a NetWorker module license

To list NetWorker clients that use a module license, enter the following at the nsradmin prompt:

```
nsradmin> . type: NSR client
nsradmin> show name;licensed applications;enabler in use
nsradmin> print
```

Resource update examples

NetWorker resources can also be updated with the nsradmin program. This section provides examples of some useful resource update tasks that can be performed with the nsradmin program.

The nsradmin program is particularly useful when used to perform bulk updates to a number of NetWorker client resources. Instead of performing these updates through the NMC GUI or one at a time with the nsradmin program, you can automate the procedure with an input file. Some of the examples in this section use an input file to automate update tasks.

Globally disabling VSS

As of NetWorker 7.4 Service Pack 5, you can use the nsradmin program to disable VSS (Microsoft Volume Shadowcopy Services) for all clients globally or only for clients with a certain Windows operating system.

Note: With Windows Vista and Windows Server 2008 and later releases, VSS is the only available backup method and cannot be disabled.

To disable VSS:

1. Log in as root or as Windows Administrator on the NetWorker server.

   To disable VSS for all NetWorker clients:

   a. Create an input file for the nsradmin program. The input file will eliminate interactive prompting as each client gets updated. For example, create a text file such as disable-vss.txt and type the following into the file:

   ```
   show name; client OS type; Save operations
   print type: NSR client
   update Save operations: "VSS\:*=off"
   print
   ```

   Note: Ensure that a carriage return is entered after the last line of text in the file.

To disable VSS only for clients of a particular Windows operating system such as Windows NT:

a. Create an input text file such as disable-vss-nt.txt and type the following into the file:

```
show name; client OS type; Save operations
print type: NSR client; client OS type: "Windows NT Server
on Intel"
update Save operations: "VSS\:*=off"
print
```

2. Type the following at the command prompt:

nsradmin -i *path***disable-vss.txt**

or

nsradmin -i *path***disable-vss-nt.txt**

where *path* is the location of the input file.

Enabling or disabling scheduled backups for a backup group

To enable a group for scheduled backups:

1. Log in as root or as Windows Administrator on the NetWorker server.

2. Create an input file such as enable_bizgroup.txt and type the following into the file:

```
. type: NSR Group; name: Test
update action; autostart:enabled
```

Where *Test* is the name of the backup group.

3. Enter the following at the command line:

nsradmin -i *path***enable_bizgroup.txt**

Where *path* is the location of the file.

To disable a group for scheduled backups:

2. Create an input file such as disable_bizgroup.txt and type the following into the file:

```
. type: NSR Group; name: Test
update action; autostart:disabled
```

3. Enter the following at the command line:

nsradmin -i *path***disable_bizgroup.txt**

Performing bulk updates to all resource instances

A powerful feature of the nsradmin program is the ability to perform bulk updates to all resources of a given type. In this example, we are updating all NetWorker client resources with a new browse policy named *8_months*.

To change the browse policy for all NetWorker clients, enter the following at the command line:

```
nsradmin . type NSR client;browse
update browse:8_months
```

Where *8_months* is the new browse policy to give all NetWorker clients.

Changing the control port for a library

A change in the control port of the robotic arm of a library is characterized by the inability to perform library operations, such as labeling, mounting, unmounting, and inventorying. You may see the error "no such file or directory."

To update NetWorker to use the new control port:

1. Run the **inquire** command to determine the SCSI device address of the library arm and to confirm that a serial number is reported. If a serial number is not reported go to step 5 .

2. If the serial number of the arm is reported, follow the procedure at "Scanning for libraries and devices" on page 105 to scan the library for devices.

3. Click **Monitoring**, then click to **Logs** tab and locate the message:

```
media info: The control port of the disabled library
'library_name' has been changed to 'scsidev@b.t.l' on storage
node 'storage_node_name'!
```

4. Enable the library

    a. In the **Administration** window, click **Devices**.

    b. Expand the Libraries folder and right-click the library and select **Enabled/Disable**.

5. If the serial number was not reported in step 1 , or if scanning for devices does not detect the control port change, use the nsradmin program to change the control port:

    a. Log in as root or as Windows administrator on the NetWorker client.

    b. Enter the **nsradmin** command at the command-prompt.

    c. Disable the library by typing the following at the nsradmin prompt:
        ```
        . type: NSR jukebox
        update enabled:no
        ```
        When prompted to update the resource, enter **yes**.

    d. Update the control port by typing the following at the nsradmin prompt:
        ```
        update control port:scsidev@b.t.l
        ```
        Where b.t.l is the bus.target.lun of the library's robotic arm (as reported by the inquire command in step 1).

        When prompted to update the resource, enter **yes**.

    e. Reenable the library:
        ```
        update enabled:yes
        ```
        When prompted to update the resource, enter **yes**.

    f. To verify that the control port was changed and the library is now enabled, enter **print** at the nsradmin prompt.

Setting the range of available service ports

The default value for the service ports range is: 7937-9936, although it can be narrowed down. The ports required by various daemons are selected at random from the service ports range.

This procedure addresses the range for service ports only. The connection port range should be kept as wide as possible. There are no security concerns in keeping this range as wide as possible although performance problems or random malfunctions may occur if the range is too narrow. In release 7.2 the default value for this range is: 10001-30000. In NetWorker 7.3, the default value, which is 0-0, indicates that the NetWorker software will allow the operating system to select the port for TCP clients. The value 0-0 applies only to NetWorker 7.3 and later.

Note: You must have root or Windows Administrator access to the NetWorker host whose service port range is being set.

1. View the current service port range on a system by entering:

    ```
    nsradmin -p nsrexec -s shadow.xyz.com

    NetWorker administration program.
    Use the "help" command for help, "visual" for full-screen
    mode.
    nsradmin> p type:nsr system port ranges
        type: NSR system port ranges;
        service ports: 7937-9936;
        connection ports: 0-0;
        administrator: *@localhost;
    nsradmin>
    ```

2. To update the service ports range, enter:

    ```
    nsradmin -p nsrexec -s shadow.xyz.com

    nsradmin> . type:nsr system port ranges
    Current query set
    nsradmin> update service ports:7937-7938, 9000-9100
                    service ports: 7937-7938, 9000-9100;

    Update? Y
    updated resource id
    0.11.3.224.0.0.0.0.0.0.0.0.67.30.89.123.137.69.154.98(6)
    nsradmin>
    ```

    Multiple port ranges were created in the previous example. Notice that each range is separated by a comma.

3. Restart all NetWorker processes on the host so that the changes will take effect.

Automating the entry of license enabler and authorization codes

Entering a large number of enabler codes and authorization codes can be time consuming. To speed the process, you cans enter NetWorker enablers and authorization codes in a batch process using nsradmin and an input file rather than navigating through the NMC GUI and entering the codes individually. For more information, refer to the Powerlink Knowledgebase article, *esg105468*.