



# **Transfer data using ndmpcopy**

## **ONTAP 9**

NetApp  
February 24, 2023

# Table of Contents

- Transfer data using ndmpcopy ..... 1
  - Transfer data using ndmpcopy overview ..... 1
  - Options for the ndmpcopy command ..... 3

# Transfer data using ndmpcopy

## Transfer data using ndmpcopy overview

The `ndmpcopy` nodeshell command transfers data between storage systems that support NDMP v4. You can perform both full and incremental data transfers. You can transfer full or partial volumes, qtrees, directories, or individual files.

### About this task

Using ONTAP 8.x and earlier releases, incremental transfers are limited to a maximum of two levels (one full and up to two incremental backups).

Beginning with ONTAP 9.0 and later releases, incremental transfers are limited to a maximum of nine levels (one full and up to nine incremental backups).

You can run `ndmpcopy` at the nodeshell command line of the source and destination storage systems, or a storage system that is neither the source nor the destination of the data transfer. You can also run `ndmpcopy` on a single storage system that is both the source and the destination of the data transfer.

You can use IPv4 or IPv6 addresses of the source and destination storage systems in the `ndmpcopy` command. The path format is `/vserver_name/volume_name \[path\]`.

### Steps

1. Enable NDMP service on the source and destination storage systems:

If you are performing data transfer at the source or destination in...	Use the following command...
SVM-scoped NDMP mode	<div><pre>vserver services ndmp on</pre></div> <div><div>For NDMP authentication in the admin SVM, the user account is <code>admin</code> and the user role is <code>admin</code> or <code>backup</code>. In the data SVM, the user account is <code>vsadmin</code> and the user role is <code>vsadmin</code> or <code>vsadmin-backup</code> role.</div></div>
Node-scoped NDMP mode	<pre>system services ndmp on</pre>

2. Transfer data within a storage system or between storage systems using the `ndmpcopy` command at the nodeshell:

```
::> system node run -node <node_name> < ndmpcopy [options]
source_IP:source_path destination_IP:destination_path [-mcs {inet|inet6}] [-
mcd {inet|inet6}] [-md {inet|inet6}]
```



DNS names are not supported in `ndmcopy`. You must provide the IP address of the source and the destination. The loopback address (127.0.0.1) is not supported for the source IP address or the destination IP address.

- The `ndmcopy` command determines the address mode for control connections as follows:
  - The address mode for control connection corresponds to the IP address provided.
  - You can override these rules by using the `-mcs` and `-mcd` options.
- If the source or the destination is the ONTAP system, then depending on the NDMP mode (node-scoped or SVM-scoped), use an IP address that allows access to the target volume.
- `source_path` and `destination_path` are the absolute path names till the granular level of volume, qtree, directory or file.
- `-mcs` specifies the preferred addressing mode for the control connection to the source storage system.

`inet` indicates an IPv4 address mode and `inet6` indicates an IPv6 address mode.

- `-mcd` specifies the preferred addressing mode for the control connection to the destination storage system.

`inet` indicates an IPv4 address mode and `inet6` indicates an IPv6 address mode.

- `-md` specifies the preferred addressing mode for data transfers between the source and the destination storage systems.

`inet` indicates an IPv4 address mode and `inet6` indicates an IPv6 address mode.

If you do not use the `-md` option in the `ndmcopy` command, the addressing mode for the data connection is determined as follows:

- If either of the addresses specified for the control connections is an IPv6 address, the address mode for the data connection is IPv6.
- If both the addresses specified for the control connections are IPv4 addresses, the `ndmcopy` command first attempts an IPv6 address mode for the data connection.

If that fails, the command uses an IPv4 address mode.



An IPv6 address, if specified, must be enclosed within square brackets.

This sample command migrates data from a source path (`source_path`) to a destination path (`destination_path`).

```
> ndmcopy -sa admin:<ndmp_password> -da admin:<ndmp_password>
  -st md5 -dt md5 192.0.2.129:/<src_svm>/<src_vol>
  192.0.2.131:/<dst_svm>/<dst_vol>
```

This sample command explicitly sets the control connections and the data connection to use IPv6 address mode:

```
> ndmpcopy -sa admin:<ndmp_password> -da admin:<ndmp_password> -st
md5 -dt md5 -mcs inet6 -mcd inet6 -md
    inet6 [2001:0db8:1:1:209:6bff:feae:6d67]:/<src_svm>/<src_vol>
    [2001:0ec9:1:1:200:7cgg:gfd7:7e78]:/<dst_svm>/<dst_vol>
```

## Options for the ndmpcopy command

You should understand the options available for the `ndmpcopy nodeshell` command to successfully transfer data.

The following table lists the available options. For more information, see the `ndmpcopy` man pages available through the nodeshell.

Option	Description
<code>-sa username:[password]</code>	<p>This option sets the source authentication user name and password for connecting to the source storage system. This is a mandatory option.</p> <p>For a user without admin privilege, you must specify the user's system-generated NDMP-specific password. The system-generated password is mandatory for both admin and non-admin users.</p>
<code>-da username:[password]</code>	<p>This option sets the destination authentication user name and password for connecting to the destination storage system. This is a mandatory option.</p>
<code>-st {md5 text}</code>	<p>This option sets the source authentication type to be used when connecting to the source storage system. This is a mandatory option and therefore the user should provide either the <code>text</code> or <code>md5</code> option.</p>
<code>-dt {md5 text}</code>	<p>This option sets the destination authentication type to be used when connecting to the destination storage system.</p>
<code>-l</code>	<p>This option sets the dump level used for the transfer to the specified value of level. Valid values are 0, 1, to 9, where 0 indicates a full transfer and 1 to 9 specifies an incremental transfer. The default is 0.</p>
<code>-d</code>	<p>This option enables generation of <code>ndmpcopy</code> debug log messages. The <code>ndmpcopy</code> debug log files are located in the <code>/mroot/etc/log</code> root volume. The <code>ndmpcopy</code> debug log file names are in the <code>ndmpcopy.yyyymmdd</code> format.</p>

Option	Description
-f	This option enables the forced mode. This mode enables system files to be overwritten in the <code>/etc</code> directory on the root of the 7-Mode volume.
-h	This option prints the help message.
-p	<p>This option prompts you to enter the password for source and destination authorization. This password overrides the password specified for <code>-sa</code> and <code>-da</code> options.</p> <div>  <p>You can use this option only when the command is running in an interactive console.</p> </div>
-exclude	This option excludes specified files or directories from the path specified for data transfer. The value can be a comma-separated list of directory or file names such as <code>.pst</code> or <code>.txt</code> .

## Copyright information

Copyright © 2023 NetApp, Inc. All Rights Reserved. Printed in the U.S. No part of this document covered by copyright may be reproduced in any form or by any means—graphic, electronic, or mechanical, including photocopying, recording, taping, or storage in an electronic retrieval system—without prior written permission of the copyright owner.

Software derived from copyrighted NetApp material is subject to the following license and disclaimer:

THIS SOFTWARE IS PROVIDED BY NETAPP “AS IS” AND WITHOUT ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, WHICH ARE HEREBY DISCLAIMED. IN NO EVENT SHALL NETAPP BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

NetApp reserves the right to change any products described herein at any time, and without notice. NetApp assumes no responsibility or liability arising from the use of products described herein, except as expressly agreed to in writing by NetApp. The use or purchase of this product does not convey a license under any patent rights, trademark rights, or any other intellectual property rights of NetApp.

The product described in this manual may be protected by one or more U.S. patents, foreign patents, or pending applications.

LIMITED RIGHTS LEGEND: Use, duplication, or disclosure by the government is subject to restrictions as set forth in subparagraph (b)(3) of the Rights in Technical Data -Noncommercial Items at DFARS 252.227-7013 (FEB 2014) and FAR 52.227-19 (DEC 2007).

Data contained herein pertains to a commercial product and/or commercial service (as defined in FAR 2.101) and is proprietary to NetApp, Inc. All NetApp technical data and computer software provided under this Agreement is commercial in nature and developed solely at private expense. The U.S. Government has a non-exclusive, non-transferrable, nonsublicensable, worldwide, limited irrevocable license to use the Data only in connection with and in support of the U.S. Government contract under which the Data was delivered. Except as provided herein, the Data may not be used, disclosed, reproduced, modified, performed, or displayed without the prior written approval of NetApp, Inc. United States Government license rights for the Department of Defense are limited to those rights identified in DFARS clause 252.227-7015(b) (FEB 2014).

## Trademark information

NETAPP, the NETAPP logo, and the marks listed at <http://www.netapp.com/TM> are trademarks of NetApp, Inc. Other company and product names may be trademarks of their respective owners.