

IBM Tivoli Storage Productivity Center
Version 5.1

Command-Line Interface Reference



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Note:

Before using this information and the product it supports, read the information in "Notices" on page 313.

This edition applies to V5, R1 of IBM Tivoli Storage Productivity Center (product numbers 5725F92, 5725F93 and 5725G33) and to all subsequent releases and modifications until otherwise indicated in new editions.

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Preface

IBM® Tivoli® Storage Productivity Center is a storage infrastructure management software product that can centralize, automate, and simplify the management of complex and heterogeneous storage environments.

Who should read this guide

This publication is intended for administrators or users who use the IBM command-line interface (CLI). It contains reference information for the commands associated with IBM Tivoli Storage Productivity Center.

Users of this guide should be familiar with the following topics:

- General procedures for installing software on Microsoft Windows, IBM AIX®, Linux, HP-UX, and Solaris.
- Storage Area Network (SAN) concepts
- IBM Tivoli Storage Productivity Center concepts
- IBM Tivoli Storage Productivity Center for Replication concepts
- IBM DB2® Database for Linux, UNIX, and Windows
- Simple Network Management Protocol (SNMP) concepts
- IBM Tivoli Enterprise Console

Publications

This section lists publications in the IBM Tivoli Storage Productivity Center library and other related publications. It also describes how to access publications online, how to order publications, and how to submit comments on publications.

The publications are available from the IBM Publications Center at <http://www.ibm.com/e-business/linkweb/publications/servlet/pbi.wss>.

Accessing publications online

Publications for this product and other related products are available online.

Information about installing, configuring, upgrading, and uninstalling IBM Tivoli Storage Productivity Center and related products is available online. Use Table 1 to view and download these publications. Translated documents are available for some products.

Table 1. Locations of publications for Tivoli Storage Productivity Center and related products

Product	Online location (see Note)
IBM Tivoli Storage Productivity Center and IBM Tivoli Storage Productivity Center for Replication	<p>http://publib.boulder.ibm.com/infocenter/tivihelp/v59r1/index.jsp. In the left-hand navigation pane, click IBM Tivoli Storage Productivity Center.</p> <p>To obtain PDF documents, click IBM Tivoli Storage Productivity Center > Printable documentation.</p> <p>To view previous versions of the IBM Tivoli Storage Productivity Center Information Center, from the main page click Community and Support > Previous Versions.</p>

Table 1. Locations of publications for Tivoli Storage Productivity Center and related products (continued)

Product	Online location (see Note)
IBM Tivoli Storage Productivity Center for Replication for System z®	<p>http://publib.boulder.ibm.com/infocenter/tivihelp/v59r1/index.jsp. In the left-hand navigation pane, click IBM Tivoli Storage Productivity Center for Replication for System z.</p> <p>To obtain PDF documents, click IBM Tivoli Storage Productivity Center for Replication for System z > Printable documentation.</p> <p>To view previous versions of the IBM Tivoli Storage Productivity Center for Replication Information Center, from the main page, click Community and Support > Previous Versions.</p>
IBM WebSphere® Application Server	<ul style="list-style-type: none"> • http://publib.boulder.ibm.com/infocenter/wasinfo/v7r0/index.jsp • http://publib.boulder.ibm.com/infocenter/wasinfo/v8r0/index.jsp
IBM System Storage® Productivity Center	<p>http://publib.boulder.ibm.com/infocenter/tivihelp/v59r1/index.jsp. In the left-hand navigation pane, click System Storage Productivity Center.</p> <p>To obtain PDF documents, click System Storage Productivity Center > Printable documentation.</p> <p>To view previous versions of the IBM System Storage Productivity Center Information Center, from the main page click Community and Support > Previous Versions.</p>
IBM System Storage DS3000, IBM System Storage DS4000®, or IBM System Storage DS5000	http://www.ibm.com/support/entry/portal/
IBM System Storage DS6000™	http://publib.boulder.ibm.com/infocenter/dsichelp/ds6000ic/index.jsp
IBM System Storage DS8000®	http://publib.boulder.ibm.com/infocenter/dsichelp/ds8000ic/index.jsp
IBM System Storage DS® Open Application Programming Interface publications	<p>http://www.ibm.com/support/entry/portal/Troubleshooting/Hardware/System_Storage/Storage_software/Other_software_products/CIM_Agent_for_DS_Open_(API)/</p> <p>Use these publications for information about how to install, configure, and use the CIM agent.</p>
IBM System Storage SAN Volume Controller	http://publib.boulder.ibm.com/infocenter/svc/ic/index.jsp
IBM Storwize® V7000	http://publib.boulder.ibm.com/infocenter/storwize/ic/index.jsp
IBM Storwize V7000 Unified	http://publib.boulder.ibm.com/infocenter/storwize/unified_ic/index.jsp
IBM XIV® Storage System	http://publib.boulder.ibm.com/infocenter/ibmxiv/r2/index.jsp
IBM DB2 Database for Linux, UNIX, and Windows	http://publib.boulder.ibm.com/infocenter/db2luw/v9r7/index.jsp

Table 1. Locations of publications for Tivoli Storage Productivity Center and related products (continued)

Product	Online location (see Note)
IBM System Storage N series	http://www.ibm.com/systems/storage/network/redbooks.html For more information about IBM System Storage N series, see http://www.ibm.com/systems/storage/network/software/ .
IBM Systems Director	http://www.ibm.com/systems/software/director/index.html
Note: If you print PDF documents on other than letter-sized paper, in the Print window select Fit to Printable Area in the Page Scaling field. This option is available when you click File > Print . Fit to Printable Area ensures that the full dimensions of a letter-sized page print on the paper that you are using.	

IBM Redbooks

The IBM Redbooks® are books on specialized topics.

You can order publications through your IBM representative or the IBM branch office serving your locality. You can also search for and order books of interest to you by visiting the IBM Redbooks home page at <http://www.redbooks.ibm.com/redbooks>.

Translation

Translated publications are available from the information center which is available in certain translated languages. It is displayed in the language that is appropriate for the browser locale setting.

When a locale does not have a translated version, the information center is displayed in English, which is the default language. Translations of the PDFs are available when the information center is translated.

Contact your service representative for more information about the translated publications and whether translations are available in your language.

Ordering publications

Information is provided for the ordering of IBM publications on the Internet or by telephone.

You can order many IBM publications online at <http://www.ibm.com/e-business/linkweb/publications/servlet/pbi.wss>.

You can also order by telephone. In the United States and Canada, call 800-879-2755. In other countries, contact your IBM service representative.

Providing feedback about publications

Your feedback is important to help IBM provide the highest quality information. You can provide comments or suggestions about the documentation from the IBM Tivoli Storage Productivity Center Information Center.

Go to the information center at <http://publib.boulder.ibm.com/infocenter/tivihelp/v59r1/index.jsp>. From any topic page, click the **Feedback** link.

Contacting the IBM Support Center

You can contact IBM Support Center in several ways.

- Go to the IBM Tivoli Storage Productivity Center technical support website at http://www.ibm.com/support/entry/portal/Overview/Software/Tivoli/Tivoli_Storage_Productivity_Center_Standard_Edition.

To receive future support notifications, sign in under **Notifications**. You are required to enter your IBM ID and password. After you are authenticated, you can configure your subscription for Tivoli Storage Productivity Center technical support website updates.

- Customers in the United States can call 1-800-IBM-SERV (1-800-426-7378).
- For international customers, go to the Tivoli Storage Productivity Center technical support website to find support by country. Expand **Contact support** and click **Directory of worldwide contacts**.

You can also review the *IBM Software Support Handbook*, which is available at <http://www14.software.ibm.com/webapp/set2/sas/f/handbook/home.html>.

The support website offers extensive information, including a guide to support services; frequently asked questions (FAQs); and documentation for all IBM Software products, including Redbooks and white papers. Translated documents are also available for some products.

When you contact the IBM Support Center, be prepared to provide identification information for your company so that support personnel can readily assist you. Company identification information might also be needed to access various online services available on the website. See “Reporting a problem.”

Reporting a problem

This topic provides a list of what information you should have ready when you encounter a problem.

Have the following information ready when you report a problem:

- The IBM Tivoli Storage Productivity Center version, release, modification, and service level number.
- The communication protocol (for example, TCP/IP), version, and release number that you are using.
- The activity that you were doing when the problem occurred, listing the steps that you followed before the problem occurred.
- The exact text of any error messages.

Command-line interface

This section describes the IBM Tivoli Storage Productivity Center command-line interface (CLI).

This section includes the following topics:

- CLI requirements
- Command modes
- Syntax diagram conventions
- agentcli commands
- tpctool commands
- Command aliases
- Parameter aliases

CLI requirements

Verify the requirements for running the command-line interpreter and using the command-line interface.

- Verify that the installer checks for and installs the correct version of Java™, and configures the CLI to use the installed Java.
- Verify that IBM Tivoli Storage Productivity Center is installed and running, and that storage devices have been discovered.
- Verify that the CLI is connected to an IBM Tivoli Storage Productivity Center Device server before using all commands. The **encrypt** command is the only exception that does not require the connection.
- Verify that you have a valid user ID, password, and URL before using all commands, except for the **encrypt** command.

Command modes

You can use the CLI to run one command or a series of commands, either interactively or from a script.

Single-shot mode

To run a single command, specify the CLI program and that command at the shell prompt, for example:

```
shell> tpctool lsdev -user me -password mypass -url myhost:myport -l -subsys
```

Interactive mode

Interactive mode is entered by entering the **tpctool** command with no command line options. In the following example, the string "shell>" represents the shell prompt and "tpctool>" represents the prompt from the CLI while in interactive mode. At the CLI prompt, any valid CLI command can be entered.

```
shell> tpctool
tpctool> lsdev -user me -password mypass -url myhost:myport -l -subsys
```

Script mode

To run a set of commands that you defined in a file, start the CLI program and specify a file that contains the commands, for example:

```
shell> tpctool -script ~/bin/containerssetup
shell>
```

Conventions used in this guide

This section provides information about the conventions used in this publication.

This publication uses several conventions for special terms and actions, and operating system-dependent commands and paths.

The following typeface conventions are used in this publication:

Bold

- Flags that appear with text
- Graphical user interface (GUI) elements (except for titles of windows and dialogs)
- Names of keys

Italic

- Variables
- Values you must provide
- New terms
- Words and phrases that are emphasized
- Titles of documents

monospace

- Commands and command options
- Flags that appear on a separate line
- Code examples and output
- Message text
- Names of files and directories
- Text strings you must type, when they appear within text
- Names of Java methods and classes
- HTML and XML tags also appear like this, in monospace type

For syntax notations, remember the following:

- In UNIX, the prompt for the root user is #.
- In UNIX and Linux, the commands are case sensitive, so you must type commands exactly as they are shown.

Syntax diagram conventions

A syntax diagram uses symbols to represent the elements of a command and to specify the rules for using these elements.

Syntax diagrams use position to indicate required, optional, and default values for keywords, variables, and operands.

A keyword represents the name of a command, flag, parameter, or argument. Required keywords indicate the parameters or arguments that must be specified for the command.

To read syntax diagrams, follow the path of the line. Read the diagrams from left-to-right, top-to-bottom, following the main path line.

Main path line

The main path line begins on the left with double arrowheads (>>) and ends on the right with two arrowheads facing each other (><). If a diagram is longer than one line, each line to be continued ends with a single arrowhead (>) and the next line begins with a single arrowhead. The -->< symbol indicates the end of the syntax diagram.

Required keywords

Required keywords appear on the main path line. Mutually exclusive required keywords are stacked vertically. In the following example, you must choose A, B, and C.



Optional keywords

Optional keywords indicate parameters or arguments that you might choose to specify for the command. Optional keywords appear below the main path line. Mutually exclusive optional keywords are stacked vertically. In the following example, you must choose A, B, or C.



When an optional item appears above the main line, the item above the line is the default value when no optional item is specified in the command. In the following example, the user has the same choices as above (A, B, C, or nothing at all), but if nothing is selected, the default value will be A.



Repeatable items

A stack of items followed by an arrow returning to the left means that you can select more than one item or, in some cases, repeat a single item. For example:

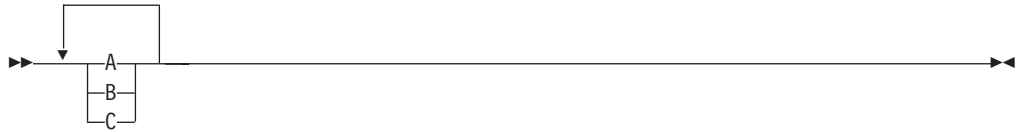
An arrow returning to the left means you can repeat the item.



If one or more characters appear in the arrow's line, those characters are required as a delimiter to separate repeated items.



If you can choose from two or more items, they are displayed vertically in a stack. A stack of items followed by an arrow returning to the left means that you can select more than one item or, in some cases, repeat a single item. In the following example, you can choose any combination of A, B, or C.



Variables

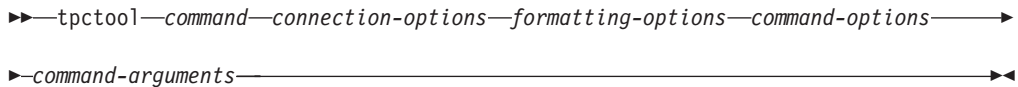
Italicized, lowercase elements denote variables. In the following example, you must specify a variable value when you enter the keyword command:



tpctool command

The **tpctool** command is the Tivoli Storage Productivity Center command line interpreter (CLI) program. The command can be used either on its own, using the associated options and arguments, or interactively by invoking **tpctool** with no options or arguments to start an interactive session.

Syntax



Parameters

command

Either one of the commands (generic, disk, fabric, or reporting) or a command alias.

connection-options

Options used to connect to Tivoli Storage Productivity Center. These options include:

- -user
- -pwd
- -url

These options are described in detail in the following list.

formatting-options

Options used to format output for some of the commands.

command-options

Options associated with commands that define command behavior.

command-arguments

Generally, values used to define command options. They can be defined as lists of string values separated by commas or spaces.

The following arguments and options are valid for **tpctool**:

-user *user_name*

Specifies a valid Tivoli Storage Productivity Center user ID.

-pwd *password*

Specifies the password for the Tivoli Storage Productivity Center user ID.

-url *url*

Specifies the Device server. The format of the URL is: *system:port_number* where *system* represents either the host name or IP address, and *port_number* represents the Tivoli Storage Productivity Center Device server port.

-help | -h | -?

Lists help information for the command.

-ver

Displays the version of the installed Tivoli Storage Productivity Center.

Command aliasing

Tivoli Storage Productivity Center provides the capability for command aliasing using the command configuration file. The default configuration file is `c:\program files\ibm\tpc\cli\libs\tpccli.conf`. With aliasing, you define a name for the alias followed by a value that is the name of a command and any options associated with command. The aliased command string is replaced by the defined value and the entire line is reparsed. Passwords used in aliased commands must first be encrypted using the **encrypt** command.

For example, to shorten a frequently used command you can define the following alias:

```
tpctool>lsperf = lsdev -user dsadmin
-pwd 1ac75d82784ce0a327d45289604ae7b227
-url 9.44.33.126:8990 -fabric -perf
```

After the alias is defined, you can run the **lsperf** command to run the aliased **lsdev** command.

You can provide a short form command targeting different device servers, as follows:

```
tpctool>lsperfd1 = lsdev -user dsadmin
-pwd 1ac75d82784ce0a327d45289604ae7b227
-url hostOne:9161 -perf
```

```
tpctool>lsperfd2 = lsdev -user dsadmin
-pwd 1ac75d82784ce0a327d45289604ae7b227
-url hostTwo:9161 -perf
```

You can specify additional options and arguments for an aliased command:

```
tpctool>lsperfd2 -fabric -ctype port
```

Which would expand to:

```
tpctool>lsdev -user dsadmin
-pwd 1ac75d82784ce0a327d45289604ae7b227
-url hostTwo:9161
-perf -fabric -ctype port
```

You can also nest aliases:

```
tpctool>lsperf = lsdev -user dsadmin
-pwd 1ac75d82784ce0a327d45289604ae7b227
-url hostTwo:9161 -perf -fabric
```

```
tpctool>lsperfd1 = lsdev -user dsadmin
-pwd 1ac75d82784ce0a327d45289604ae7b227
-url hostOne:9161
```

```
tpctool>lsperfd2 = lsdev -user dsadmin
-pwd 1ac75d82784ce0a327d45289604ae7b227
-url hostTwo:9161
```

To unset an alias, type the name of the command alias followed by the equals (=) sign:

```
lsperf =
```

When you use an alias with a key and value pair in the `tpccli.conf` file, note that there is special handling of the value part for back slashes. You must specify four back slashes for each back slash.

For example, this value:

```
ABCDE1 = CLARiion\+ABC01234567890+0
```

Should be specified as:

```
ABCDE1 = CLARiion\\\\+ABC01234567890+0
```

Examples

To start an interactive session for Tivoli Storage Productivity Center:

The following command starts an interactive session. After the session starts, you can use other CLI commands in the session:

```
tpctool
```

To start an interactive session with credentials:

The following command starts an interactive session and specifies the user ID, password, and destination:

```
tpctool -user adminpass
-pwd adminpw1
-url 9.43.124.255:8080
```

Return codes

The following table contains the codes returned by the `tpctool` command.

Code	Description
0	The command completed successfully.
1	The command was unknown to <code>tpctool</code> and was not resolved as an alias.
2	A required option was not provided.

- fabric** *WWN*
Specifies the fabric. The *WWN* variable is the World Wide Name (WWN).
- help | -h | -?**
Lists help information for the command.
- silent**
Suppresses all output for the command. If you omit this parameter, output is included.
- zone_set*
The *zone_set* variable is the name of the zone_set.

Examples

The following commands activate the PARIS zone set:

```
tpctool> -user me -pwd mypass -url myhost:myport
tpctool> start -fabric 100000051E34F6A8
tpctool> actzs -fabric 100000051E34F6A8 PARIS
tpctool> commit -fabric 100000051E34F6A8
```

addtpcondition

Use the **addtpcondition** command to add policy conditions to a tiering policy.

Syntax

The **analyzetzp** command evaluates tiering policies and recommends which storage entities should be migrated from one storage resource group (SRG) to another. By adding conditions to the tiering policy using the **addtpcondition** command, the **analyzetzp** command can use the conditions that you set to make recommendations on which storage entities to migrate.

Volumes must meet all of the qualifying criteria before they can be recommended for migration. For example, the volumes must be in an online storage pool. There must be online storage pools in the destination SRGs that are on the same storage system and that have sufficient space. When there are no suitable destination pools, the **analyzetzp** command cannot make recommendations. Therefore, it is possible that only some or none of the volumes in the source SRG are recommended if the destination SRG does not have sufficient space.

```
▶▶—tpctool—addtpcondition—-user—user_name--pwd—password--url—url—————▶
▶--name—tiering_policy_name—————▶
▶--type—
|   force—————▶
|   ignore—————▶
|   age--value—value--operator—operator--age—age————▶
|   iodensity--value—value--operator—operator————▶
▶—————▶
|   [-fs—character]   [-header]   [-help]   [-qs—character]
|—————|—————|—————|—————|
```

Parameters and arguments

- user** *user_name*
Specifies a valid Tivoli Storage Productivity Center user ID.

-pwd *password*

Specifies the password for the Tivoli Storage Productivity Center user ID.

-url *url*

Specifies the Device server. The format of the URL is: *system:port_number* where *system* represents either the host name or IP address, and *port_number* represents the Tivoli Storage Productivity Center Device server port.

-name *tiering_policy_name*

Specifies the name of the tiering policy to which you are adding a condition. Tiering policy names are case-sensitive. Use the **lstp** command to display a list of available tiering policies.

-type *force | ignore | age | iodensity*

Specifies the type of condition to add to the tiering policy. You must specify one of the following condition types:

force

Specifies that qualifying volumes should be moved.

ignore

Excludes volumes from consideration by lower-priority tiering policies. For example, to exclude a volume from a recommendation to be moved, create a tiering policy for that volume and a policy condition with the **ignore** condition type. Give the tiering policy a priority greater than the priority of policies that have policy conditions with a **force**, **age**, or **iodensity** condition type.

age

Compares the last accessed times of the files in a file system to the specified age. Specify the following parameters:

-value *value*

Specifies a minimum percentage of files that must meet the condition that is defined by the **-operator** and **-age** parameters. The value must be a positive integer in the range of 0 - 100.

-operator *> | >= | < | <= | gt | ge | lt | le*

Specifies an operator, which is used with the **-age** parameter to compare the measured age of the files in a file system on a volume.

-age *1day | 1week | 1month | 2months | 3months | 6months | 9months | 1year*

Specifies a time duration. The duration is used with the **-operator** parameter to compare the measured age of the files in a file system on a volume.

You can apply an **age** condition type to a tiering policy that already has an **iodensity** condition type. To do this, issue the **addtpcondition** command once for each condition type. In this case, both conditions must be met for the volume to satisfy the policy.

iodensity

Compares the measured I/O rate per GB of a volume to the I/O rate that is specified by the **-value** parameter. Specify the following parameters:

-value *value*

Specifies a volume I/O rate per GB, which is used with the **-operator** parameter to compare the measured I/O rate of the volume. The value must be a positive integer.

-operator > | >= | < | <= | gt | ge | lt | le

Specifies an operator, which is used with the **-value** parameter to compare the measured I/O rate of a volume.

You can apply an **iodensity** condition type to a tiering policy that already has an **age** condition type. To do this, issue the **addtpcondition** command once for each condition type. In this case, both conditions must be met for the volume to satisfy the policy.

-fs *character*

Specifies the 7-bit character that separates the information in the output. If you omit this parameter, the information is separated by blank spaces.

-header

Suppresses the column headings in the output. If you omit this parameter, the column headings are included.

-help | **-h** | **-?**

Lists help information for the command.

-qs *character*

Specifies the 7-bit character that surrounds character strings and date stamps in the output. If you omit this parameter, character strings and date stamps are enclosed by double quotation marks ("").

Command aliases

You can use the following predefined **addtpcondition** command aliases. The alias commands are case-sensitive.

- **addtpforce**
- **addTPforce**
- **addTPForce**
- **addtpignore**
- **addTPignore**
- **addTPIgnore**
- **addtpage**
- **addTPPage**
- **addTPAge**
- **addtpiodensity**
- **addTPiodensity**
- **addTPIODensity**

When you specify one of the preceding aliases, you must also specify the required parameters.

Examples

Adding a force condition to a tiering policy

The following command adds the condition that forces a recommendation that volumes are to be moved. The volumes can be recommended if they are not already matched by a higher priority policy and if a recommendation is possible for them.

```
tpctool> addtpcondition -name p3 -type force
```

The following output is returned:

```
Name Status
=====
p3    SUCCESSFUL
```

Adding an age condition to a tiering policy

The following command adds the condition that specifies that at least 70% of the files on the volume have a last access time that is greater than or equal to one month.

```
tpctool> addtpcondition -name p2 -type age -value 70 -operator ge -age 1month
```

The following output is returned:

```
Name Status
=====
p2    SUCCESSFUL
```

Adding a condition to a tiering policy by using the addtpage alias command

The following alias command adds the condition that specifies that at least 70% of the files on the volume have a last access time that is greater than or equal to one month.

```
tpctool> addtpage -name p2 -value 70 -operator >= -age 1month
```

The following output is returned:

```
Name Status
=====
p2    SUCCESSFUL
```

Related reference:

“lstp” on page 92

Use the **lstp** command to list the tiering policies that are defined in Tivoli Storage Productivity Center.

“rmtconditions” on page 132

Use the **rmtconditions** command to remove conditions from a tiering policy. All conditions that are assigned to the policy are removed.

“analyzetp” on page 15

Use the **analyzetp** command to start a tiering-policy analysis job.

addza

Use the **addza** command to add a zone alias to a zone. You must have Fabric administrator authority to use this command.

Syntax

```
►►—tpctool—addza—-user—user_name—-pwd—password—-url—url—-fabric—WWN—►►
►—[—help—] [—silent—] —zone—zone—alias—►►
```

Parameters and arguments

-user *user_name*

Specifies a valid Tivoli Storage Productivity Center user ID.

- pwd** *password*
Specifies the password for the Tivoli Storage Productivity Center user ID.
- url** *url*
Specifies the Device server. The format of the URL is: *system:port_number* where *system* represents either the host name or IP address, and *port_number* represents the Tivoli Storage Productivity Center Device server port.
- fabric** *WWN*
Specifies the fabric. The *WWN* variable is the World Wide Name (WWN).
- help | -h | -?**
Lists help information for the command.
- silent**
Suppresses all output for the command. If you omit this parameter, output is included.
- zone** *zone*
Specifies the name of the zone where you want to add a zone alias.
- alias*
Specifies the name of the zone alias to be added to the zone.

Example

Adding a zone alias

The following commands add the PARIS zone alias to the EUROPE zone:

```
tpctool -user me -pwd mypass -url myhost:myport
tpctool> start -fabric 100000051E34F6A8
tpctool> addza -fabric 100000051E34F6A8 -zone EUROPE PARIS
tpctool> commit -fabric 100000051E34F6A8
```

addzaptops

Use the **addzaptops** command to add ports to a zone alias. You must have Fabric administrator authority to use this command.

Syntax

```
▶▶ tpctool addzaptops --user user_name --pwd password --url url
▶ --fabric WWN [-help] [-silent] --za zone_alias port ▶▶
```

Parameters and arguments

- user** *user_name*
Specifies a valid Tivoli Storage Productivity Center user ID.
- pwd** *password*
Specifies the password for the Tivoli Storage Productivity Center user ID.
- url** *url*
Specifies the Device server. The format of the URL is: *system:port_number* where *system* represents either the host name or IP address, and *port_number* represents the Tivoli Storage Productivity Center Device server port.
- fabric** *WWN*
Specifies the fabric. The *WWN* variable is the World Wide Name (WWN).

-help | -h | -?

Lists help information for the command.

-silent

Suppresses all output for the command. If you omit this parameter, output is included.

-za *zone_alias*

Specifies the name of the zone alias where the port is to be added.

port

Specifies the name of the port to be added to the zone alias.

Examples

Adding a port to a zone alias

The following commands add a port to the PARIS zone alias:

```
tpctool -user me -pwd mypass -url myhost:myport
tpctool> start -fabric 100000051E34F6A8
tpctool> addzaptops -fabric 100000051E34F6A8 -za PARIS 210000E08B0B4C2G
tpctool> commit -fabric 100000051E34F6A8
```

addzone

Use the **addzone** command to add a zone to a zone set. This command must be run as a transaction. See the **start** command for more information. You must have Fabric Administrator authority to use this command.

Syntax

```
▶▶▶ tpctool—addzone—-user—user_name--pwd—password—-url—url—-fabric—WWN—▶▶▶
▶▶▶ [—help] [—silent] —zs—zone_set—zone—▶▶▶
```

Parameters and arguments

-user *user_name*

Specifies a valid Tivoli Storage Productivity Center user ID.

-pwd *password*

Specifies the password for the Tivoli Storage Productivity Center user ID.

-url *url*

Specifies the Device server. The format of the URL is: *system:port_number* where *system* represents either the host name or IP address, and *port_number* represents the Tivoli Storage Productivity Center Device server port.

-fabric *WWN*

Specifies the fabric. The *WWN* variable is the World Wide Name (WWN).

-help | -h | -?

Lists help information for the command.

-silent

Suppresses all output for the command. If you omit this parameter, output is included.

-zs *zone_set*

Specifies the zone set. The *zone_set* variable is the name of the zone set.

zone
Specifies the zone.

Examples

Adding a zone to a zone set

The following commands add the WINDOWSNT zone to the PARIS zone set.

```
tpctool> start -user me -pwd mypass -url myhost:myport -fabric 100000051E34F6A8
tpctool> addzone -fabric 100000051E34F6A8 -zs PARIS WINDOWSNT
tpctool> commit -fabric 100000051E34F6A8
```

addzoneports

Use the **addzoneports** command to add switch ports to a zone. This command must be run as a transaction. You must have Fabric Administrator authority to use this command.

Syntax

```
▶▶ tpctool addzoneports --user user_name --pwd password --url url
▶ --fabric WWN --zone zone [-help] [-silent] [ports]
```

Parameters and arguments

- user** *user_name*
Specifies a valid Tivoli Storage Productivity Center user ID.
- pwd** *password*
Specifies the password for the Tivoli Storage Productivity Center user ID.
- url** *url*
Specifies the Device server. The format of the URL is: *system:port_number* where *system* represents either the host name or IP address, and *port_number* represents the Tivoli Storage Productivity Center Device server port.
- fabric** *WWN*
Specifies the fabric. The *WWN* variable is the World Wide Name (WWN).
- zone** *zone*
Specifies the zone. The *zone* variable is the name of the zone.
- help | -h | -?**
Lists help information for the command.
- silent**
Suppresses all output for the command. If you omit this parameter, output is included.
- ports | -**
Specifies the switch ports. The *ports* variable is a list of worldwide port names (WWPNs). If you specify a single dash (-), the WWPNs are read from standard input.

Examples

Adding a switch port to a zone set

The following commands add several switch ports to the WINDOWSNT zone. The list of WWPNS is read from standard input.

```
tpctool> start -user me -pwd mypass -url myhost:myport -fabric 100000051E34F6A8
tpctool> addzoneports -fabric 100000051E34F6A8 -zone WINDOWSNT -
tpctool> commit -fabric 100000051E34F6A8
```

analyzstp

Use the **analyzstp** command to start a tiering-policy analysis job.

Recommendations are made for migrating storage entities from one storage resource group to another. Tiering policies are analyzed only if they have conditions associated with them.

Use the **lstp** command to display a list of available tiering policies.

Syntax

```
▶▶ tpctool—analyzstp—user—user_name--pwd—password--url—url—————▶
▶ [—policy—tiering_policy_name] [—async] [—s] [—fs—character]————▶
▶ [—header] [—help] [—qs—character]————▶▶
```

Parameters and arguments

-user *user_name*

Specifies a valid Tivoli Storage Productivity Center user ID.

-pwd *password*

Specifies the password for the Tivoli Storage Productivity Center user ID.

-url *url*

Specifies the Device server. The format of the URL is: *system:port_number* where *system* represents either the host name or IP address, and *port_number* represents the Tivoli Storage Productivity Center Device server port.

-policy *tiering_policy_name*

Specifies the name of the tiering policy that you are analyzing. If you omit this parameter, all tiering policies are analyzed.

-async

Returns command processing immediately after the **analyzstp** command is issued, instead of waiting until the command completes processing. If you omit this parameter, the command finishes processing before returning to the system prompt. Use the **gettprec** command to determine whether the analysis job has completed, and to view the recommendations.

-s Specifies the short form of the **analyzstp** command. Instructs the command-line interface not to output the Policy and Subsystem columns.

-fs *character*

Specifies the 7-bit character that separates the information in the output. If you omit this parameter, the information is separated by blank spaces.

-header

Suppresses the column headings in the output. If you omit this parameter, the column headings are included.

-help | -h | -?

Lists help information for the command.

-qs *character*

Specifies the 7-bit character that surrounds character strings and date stamps in the output. If you omit this parameter, character strings and date stamps are enclosed by double quotation marks ("").

Examples

Analyzing tiering policies

The following command analyzes all tiering policies.

```
tpctool> analyzetzp -user root -pwd password -url localhost:9550
```

The following output is returned:

```
[AAJ000101I]The most recent tiering policy analysis job
completed successfully.
Volume      From              To      Policy              Subsystem
=====
db2_vo11   mdiskgrp_raid6_ds8k XIV_pool migrate_to_tier3_tp "SVC-2145-svc 1-IBM"
db2_vo12   mdiskgrp_raid6_ds8k XIV_pool migrate_to_tier3_tp "SVC-2145-svc 1-IBM"
db2_vo13   mdiskgrp_raid6_ds8k XIV_pool migrate_to_tier3_tp "SVC-2145-svc 1-IBM"
db2_vo14   mdiskgrp_raid6_ds8k XIV_pool migrate_to_tier3_tp "SVC-2145-svc 1-IBM"
```

Related reference:

"lstp" on page 92

Use the **lstp** command to list the tiering policies that are defined in Tivoli Storage Productivity Center.

"mktp" on page 110

Use the **mktp** command to create a tiering policy that is associated with specific storage resource groups.

"rmtp" on page 130

Use the **rmtp** command to remove a tiering policy.

"gettprec" on page 40

Use the **gettprec** command to retrieve the results of the tiering-policy analysis that was last run.

assignvol

Use the **assignvol** command to assign host ports to volumes. You must have Disk Administrator authority to use this command.

Syntax

```
▶▶ tpctool—assignvol—user—user_name--pwd—password--url—url—————▶
▶--dev—subsystem--hp—host_port—————▶
   [—hn— host_name] [—ht—host_type]
▶ [—lun—LUN_ID] [—sp—subsystem_port] [—fs—character] [—header]————▶
▶ [—help] [—qs—character] [—silent] [—volume id]————▶▶
```

Parameters and arguments

- user** *user_name*
Specifies a valid Tivoli Storage Productivity Center user ID.
- pwd** *password*
Specifies the password for the Tivoli Storage Productivity Center user ID.
- url** *url*
Specifies the Device server. The format of the URL is: *system:port_number* where *system* represents either the host name or IP address, and *port_number* represents the Tivoli Storage Productivity Center Device server port.
- dev** *subsystem*
Specifies the globally unique identifier (GUID) of a storage subsystem such as that obtained by running the **lsdev -subsys** command.
- hp** *host_port*
Specifies the host ports. The *host_port* variable is a comma-separated list of worldwide port numbers (WWPNs), such as that obtained by running the **lspport** command.
- hn** *host_name*
Specifies the names of the host machines for the ports. The *host_name* variable is a comma-separated list of host machine names. There must be one name for each port in the list of host ports.
- ht** *host_type*
Specifies the type of host machine on which the fiber channel port is located. The *host_type* variable is a comma-separated list of host machine types, such as that obtained by running the **lshtype** command.
- lun** *LUN_ID*
Specifies the logical-unit number (LUN ID) that the hosts map to the volumes. The *LUN_ID* variable is a comma-separated list of LUN IDs. There must be one LUN ID for each volume in the argument list.
- sp** *subsystem_port*
Specifies the worldwide port numbers (WWPNs) that the hosts use to access the volume. The *subsystem_port* variable is a comma-separated list of WWPNs, such as that obtained by running the **lsdevp** command. If you omit this parameter, the default ports are used.
- fs** *character*
Specifies the 7-bit character that separates the information in the output. If you omit this parameter, the information is separated by blank spaces.
- header**
Suppresses the column headings in the output. If you omit this parameter, the column headings are included.
- help | -h | -?**
Lists help information for the command.
- qs** *character*
Specifies the 7-bit character that surrounds character strings and date stamps in the output. If you omit this parameter, character strings and date stamps are enclosed by double quotation marks (").
- silent**
Suppresses all output for the command. If you omit this parameter, output is included.

volume id | -

Specifies the volumes. The *volume_ID* variable is a comma-separated list of volume IDs, such as that obtained by running the **lsvol** command. If a single dash (-) is issued, the volume IDs are read from standard input.

Examples

Assigning a host port to a volume

The following command assigns a host port to a volume:

```
tpctool assignvol -user me -pwd mypass -url myhost:myport -dev 2105.22232+0  
-hp 5005076300C79470 -lun a3
```

autosetarray

Use the **autosetarray** command to extract and save information about storage pools.

You can save information about a storage pool such as the type of back-end storage system, type of RAID, and type of disk. To do this you use a default pattern or create a pattern that matches the names of pools in a subsystem. If the match is successful, the information about the pool is extracted and saved. This command is available for Storwize V7000, Storwize V7000 Unified, and SAN Volume Controller storage systems. You must have Disk Administrator authority to use this command.

Syntax

```
▶▶--tpctool--autosetarray--user--user_name--pwd--password--url--url--▶▶  
▶--subsysid--subsystem_id--▶▶  
└─pattern--conversion_pattern┘  
▶▶  
└─backenddiskcount--disk_count┘ └─test┘ └─fs--character┘  
▶▶  
└─header┘ └─help┘ └─qs--character┘ └─silent┘ └─grouping┘▶▶
```

Pool names and pattern matching

The names of pools must contain the following information:

- A character that represents a valid type of back-end storage system
- A number or character that represents a valid type of back-end RAID
- A series of characters that represent a valid type of back-end disk

Tip: To obtain a list of valid types of back-end storage system, types of disk, and types of RAID, run the following commands: **lsbackendtypes**, **lsbackenddisktypes**, and **lsbackendraidtypes**. If the types of back-end storage system, types of disk, and types of RAID that are used in the pool names are not listed, you can add them to the list. See the descriptions of the following commands: **setbackendtype**, **setbackenddisktype**, and **setbackendraidtype**.

The default pattern is structured as shown in the following table.

Position in pattern	Pattern
1	B
2	x
3	x
4	x
5	x
6	x
7	x
8	D
9	R
10	D
11	D
12	x*

You can use the default pattern or create patterns to match the names of pools in a storage subsystem. A list of the characters that are used to create patterns are provided in the following table.

Character	Represents
B	<p>The character that is used to represent the type of back-end storage system. The matching character:</p> <ul style="list-style-type: none"> • Must be in the position specified by the pattern • Must be of the same length • Must be a valid type of storage system <p>In the default pattern, one character is used to represent the type of back-end storage system.</p>
x	<p>The character that is used to represent insignificant characters. In the default pattern, the second, third, fourth, fifth, sixth, and seventh characters in a matching pool name are ignored.</p>
D	<p>The characters that are used to represent the type of back-end disk. Matching characters:</p> <ul style="list-style-type: none"> • Must be in the position specified by the pattern • Must be of the same length • Must be a valid type of disk <p>In the default pattern, three characters are used to represent the type of back-end disk.</p>
R	<p>The number or character that is used to represent the type of back-end RAID such as 1, or X. The matching character:</p> <ul style="list-style-type: none"> • Must be in the position specified by the pattern • Must be of the same length • Must be a valid type of RAID <p>In the default pattern, one character is used to represent the type of back-end RAID.</p>
x*	<p>The character followed by an asterisk that is used to represent zero or any number of insignificant characters that occur at the end of a pool name. In the default pattern, the 12th character and all subsequent characters in a matching pool name are ignored.</p>

Character	Represents
C	<p>The characters that are used to represent the number of disks. In the default pattern, the number of disks is not specified. To specify the number of disks, use the -backenddiskcount parameter. The default value is 1. You can create a custom pattern to extract the number of disks value from the name of the MDisk group. Matching characters:</p> <ul style="list-style-type: none"> • Must be in the position specified by the pattern • Must use numeric values such as 0 - 9 • Must be of the same length <ul style="list-style-type: none"> - C represents 0 - 9 - CC represents 00 - 99

Sample: Using the default pattern

You issue the **autosetarray** command and the default pattern is used to extract information about the pool CFG1xGGA1071. In the table, each character in the default pattern is matched against the corresponding character in the pool name.

Default pattern	Pool name	Description
B	C	The type of back-end storage system
x	F	The character is ignored
x	G	The character is ignored
x	1	The character is ignored
x	x	The character is ignored
x	G	The character is ignored
x	G	The character is ignored
D	A	The first character of three characters that are used to represent the type of back-end disk
R	1	The type of back-end RAID
D	0	The second character of three characters that are used to represent the type of in the back-end disk
D	7	The third character of three characters that are used to represent the type of back-end disk
x*	1	This character and all subsequent characters are ignored

The information about the pool is extracted and saved.

Information	Extracted values	Description
Type of back-end storage system	C	EMC Clariion
Type of back-end disk	A07	SATA - 7,500 rpm

Information	Extracted values	Description
Type of back-end RAID	1	RAID 1
Number of disks	1	1

Parameters and arguments

-user *user_name*

Specifies a valid Tivoli Storage Productivity Center user ID.

-pwd *password*

Specifies the password for the Tivoli Storage Productivity Center user ID.

-url *url*

Specifies the Device server. The format of the URL is: *system:port_number* where *system* represents either the host name or IP address, and *port_number* represents the Tivoli Storage Productivity Center Device server port.

-subsysid *subsystem_id*

Specifies the ID or the globally unique identifier of the storage subsystem.

-pattern *conversion_pattern*

Specifies the pattern that is used to extract information from pool names. If you do not specify a pattern, the default pattern is used.

-backenddiskcount *disk_count*

Specifies the number of disks. If you use the default pattern or create a pattern that does not extract the number of disks from pool names, you can enter the number of disks. The default number of disks is 1.

-test

Verifies the pattern that is used with a specified storage subsystem. The information is extracted and displayed, but it is not saved.

-fs *character*

Specifies the 7-bit character that separates the information in the output. If you omit this parameter, the information is separated by blank spaces.

-header

Suppresses the column headings in the output. If you omit this parameter, the column headings are included.

-help | -h | -?

Lists help information for the command.

-qs *character*

Specifies the 7-bit character that surrounds character strings and date stamps in the output. If you omit this parameter, character strings and date stamps are enclosed by double quotation marks ("").

-silent

Suppresses all output for the command. If you omit this parameter, output is included.

-grouping

Enables the grouping of numeric values. For example, in English the value 12000 would display as 12,000. The grouping character is determined by the system locale.

Examples

Using patterns to extract and save information about pools

The following command extracts information about pools in the specified storage subsystem that match the default pattern. If a pool name does not match the pattern, an information message is displayed.

```
tpctool> autosetarray -subsysid 00000200A0C0005C+0
```

The following information messages and output are displayed:

```
[AAJ002013E] The pool name mdiskgroup0 is too short to be matched
against the pattern BxxxxxxxDRDDx*.
[AAJ002013E] The pool name Cognos is too short to be matched
against the pattern BxxxxxxxDRDDx*.
[AAJ002013E] The pool name mdiskgrp1 is too short to be matched
against the pattern BxxxxxxxDRDDx*.
[AAJ002013E] The pool name mdiskgrp2 is too short to be matched
against the pattern BxxxxxxxDRDDx*.
```

```
Name of Array Back-end Type Back-end RAID Type Back-end Disk Type
=====
mdiskgroup0 - - -
Cognos - - -
mdiskgrp1 - - -
mdiskgrp2 - - -
Cpool3GA60713 C 6 A07
Cpool2GA607 C 6 A07
Dpool1GA607F D 6 A07
```

```
Back-end Disk Count Status
=====
- No Match
- No Match
- No Match
- No Match
1 Successful
1 Successful
1 Successful
```

“lsbackendtypes” on page 49

Use the **lsbackendtypes** command to list the types of back-end storage systems.

“setbackendtype” on page 145

Use the **setbackendtype** command to set or update the type of back-end storage system.

“lsbackenddisktypes” on page 46

Use the **lsbackenddisktypes** command to list the types of back-end disks and their average input/output.

“setbackenddisktype” on page 142

Use the **setbackenddisktype** command to set or update the type of back-end disk.

“setbackendraidtype” on page 144

Use the **setbackendraidtype** command to set the types of back-end RAID arrays for Storwize V7000 and SAN Volume Controller managed disk groups.

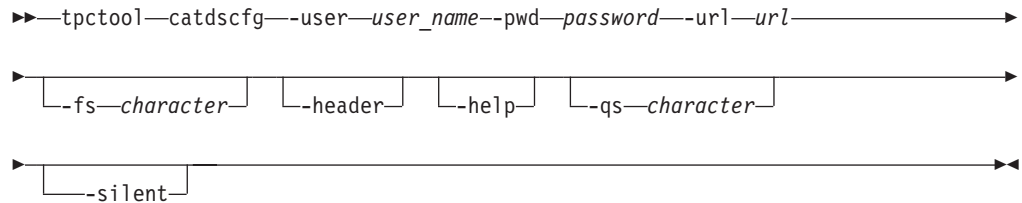
“lsbackendraidtypes” on page 47

Use the **lsbackendraidtypes** command to list the types of back-end RAID arrays available for Storwize V7000 and SAN Volume Controller managed disk groups.

catdscfg

Use the **catdscfg** command to list the contents of the property files for the Device server and to check the status of the Device server. You must have IBM Tivoli Storage Productivity Center administrator authority to use this command.

Syntax



Parameters and arguments

-user *user_name*

Specifies a valid Tivoli Storage Productivity Center user ID.

-pwd *password*

Specifies the password for the Tivoli Storage Productivity Center user ID.

-url *url*

Specifies the Device server. The format of the URL is: *system:port_number* where *system* represents either the host name or IP address, and *port_number* represents the Tivoli Storage Productivity Center Device server port.

-fs *character*

Specifies the 7-bit character that separates the information in the output. If you omit this parameter, the information is separated by blank spaces.

-header

Suppresses the column headings in the output. If you omit this parameter, the column headings are included.

-help | **-h** | **-?**

Lists help information for the command.

-qs *character*

Specifies the 7-bit character that surrounds character strings and date stamps in the output. If you omit this parameter, character strings and date stamps are enclosed by double quotation marks ("").

-silent

Suppresses all output for the command. If you omit this parameter, output is included.

Examples

Listing the contents of the property file

The following command lists the contents of the property file:

```
tpctool> catdscfg -url localhost:9550 -user ***** -pwd *****
```

The following output is returned:

Property	Context	Value
AgentManager.Registration	AM	YES
Fabric.Manager.Password	AM	*****
Fabric.Manager.Username	AM	manager

```

Registration.Server.Host          AM          tivoli12
Registration.Server.Port         AM          9511
Registration.Server.PW           AM          *****
TPCData.Password                 AM          *****
TPCData.UserName                 AM          manager
default.authorization.enabled     CIM         true
default.credential               CIM         default
default.principal                CIM         default
FabricCIMTransactionTimeout      CIM         600
FabricCIMZoneDBChecksumUsage     CIM         true
FabricCIMZSetActivationRetryInterval CIM         20000
FabricCIMZSetActivationRetryMaxCount CIM         9

```

Note: This is a partial sample of the actual output.

chexport

Use the **chexport** command to change the protocol configuration for an export.

An *export* is a shared disk space that is accessible through the protocols that you specify when running the **mkexport** command. You can create exports and enable them for HTTP, FTP, Secure Copy Protocol (SCP), Network File System (NFS), and Common Internet File System (CIFS) protocols. You must have Data Administrator authority to use this command.

Syntax

```

▶▶▶ tpctool chexport --user user_name --pwd password --url url
▶ --export export_id
    |--active
    |--inactive
▶▶▶ tpctool chexport --user user_name --pwd password --url url
▶ --export export_id
    |--cifs
    |--cifsoptions cifs_options
    |--cifsoff
▶ |--ftp
  |--ftpoff
  |--http
  |--httpoff
  |--nfs
  |--nfsoff
  |--nfsoptions nfs_options
▶ |--nfsadd nfs_add
  |--nfschange nfs_change
▶ |--nfsaddposition nfs_add_position
▶ |--nfschangeposition nfs_change_position
  |--nfsremove nfs_remove
▶ |--scp
  |--scpoff
  |--fs character
  |--header
  |--help
  |--qs character

```

▶ `-silent` ◀

Parameters and arguments

-user *user_name*

Specifies a valid Tivoli Storage Productivity Center user ID.

-pwd *password*

Specifies the password for the Tivoli Storage Productivity Center user ID.

-url *url*

Specifies the Device server. The format of the URL is: *system:port_number* where *system* represents either the host name or IP address, and *port_number* represents the Tivoli Storage Productivity Center Device server port.

-export *export_id*

Specifies the name of the export. This name is the export key that is listed in the ID column of the **lsexport** command output.

-active | **-inactive**

Marks the export as temporarily active or inactive. You can access the data only in an active export.

-cifs | **-cifsoff**

Adds or removes the CIFS protocol for the export.

-cifsoptions *cifs_options*

Defines the CIFS protocol options for the export. If the *cifsoptions* name or value contains spaces, the entire option must be enclosed in matching single quotation marks and the quotation marks must be preceded by an escape character.

-ftp | **-ftpoff**

Adds or removes FTP for the export.

-http | **-httpoff**

Adds or removes HTTP for the export.

-nfs | **-nfsoff**

Adds or removes the NFS protocol for the export.

-nfsoptions *nfs_options*

Defines the NFS clients and their options for the export.

-nfsadd *nfs_add*

Adds the NFS clients and their options to the export.

-nfschange *nfs_change*

Modifies the NFS clients and their options for the export.

-nfsaddposition *nfs_add_position*

Specifies the position of a new NFS entry that was specified by the **nfsadd** parameter.

-nfschange *nfs_change_position*

Specifies the position of a modified NFS entry that was specified by the **nfschange** parameter.

-nfsremove *nfs_remove*

Removes one or more NFS clients from the export.

-scp | **-scpoff**

Adds or removes SCP for the export.

-fs character

Specifies the 7-bit character that separates the information in the output. If you omit this parameter, the information is separated by blank spaces.

-header

Suppresses the column headings in the output. If you omit this parameter, the column headings are included.

-help | -h | -?

Lists help information for the command.

-qs character

Specifies the 7-bit character that surrounds character strings and date stamps in the output. If you omit this parameter, character strings and date stamps are enclosed by double quotation marks ("").

-silent

Suppresses all output for the command. If you omit this parameter, output is included.

Examples

Changing the FTP and HTTP options for an export

The following command adds FTP and removes HTTP from the export.

```
tpctool> chexport
-export cindyexport+tpcsonas1.storage.tucson.ibm.com+tpcsonas1.storage.tucson.
  ibm.com+0 -user admin -pwd password -url localhost:9550 -ftp -httpoff
```

The following output is returned:

```
ExportId
=====
cindyexport+tpcsonas1.storage.tucson.ibm.com+tpcsonas1.storage.tucson.ibm.
  com+0

Status
=====
SUCCESS
```

Defining the CIFS options for an export

The following command defines the CIFS protocol options for the export.

```
chexport -export eexp10+kq98n5d.ibm+00000200A22045DC+0 -cifs
-cifsoptions "browseable=no,\''comment=comment for eexp10\''leases=no,
sharemodes=no,syncio=yes,hideunreadable=yes,cifsacl=no,oplocks=no,
locking=no,\''read only\''synconclose=no,\''access control=Everyone:ALLOWED:FULL;
Administrator:ALLOWED:FULL\''"-user db2admin -pwd g0vmware -url localhost:9550
```

The following output is returned:

```
ExportId                               Status
=====
eexp10+kq98n5d.ibm+00000200A22045DC+0 SUCCESS
```

Changing the NFS options for an export

The following command adds, modifies, and removes NFS entries for the export.

```
tpctool> unlnkfset -fileset eefset01+eefs+kq458mv.ibm+00000200A2A0153C+0
-user admin -pwd password -url localhost:9550
```

The following output is returned:

```
ExportId
=====
eexp600+kq98n5d.ibm+00000200A22045DC+0

Status
=====
SUCCESS
```

Changing the NFS options and their positions for an export

The following command adds and modifies NFS entries and their positions for the export.


```
tpctool> chexport -export eexp700+kq98n5d.ibm+00000200A22045DC+0
-nfsadd "host4(ro)" -nfsaddposition host2 -nfschange "host2(ro)"
-nfschangeposition 3 -active -user db2admin -pwd g0vmware
-url localhost:9550
```


The following output is returned:

```
ExportId
=====
eexp700+kq98n5d.ibm+00000200A22045DC+0

Status
=====
SUCCESS
```

Related information:

 <http://publib.boulder.ibm.com/infocenter/sonasic/sonas1ic/index.jsp>
More information about command parameters is available at the IBM SONAS Information Center.

 http://publib.boulder.ibm.com/infocenter/storwize/unified_ic/index.jsp
More information about command parameters is available at the Storwize V7000 Unified Information Center.

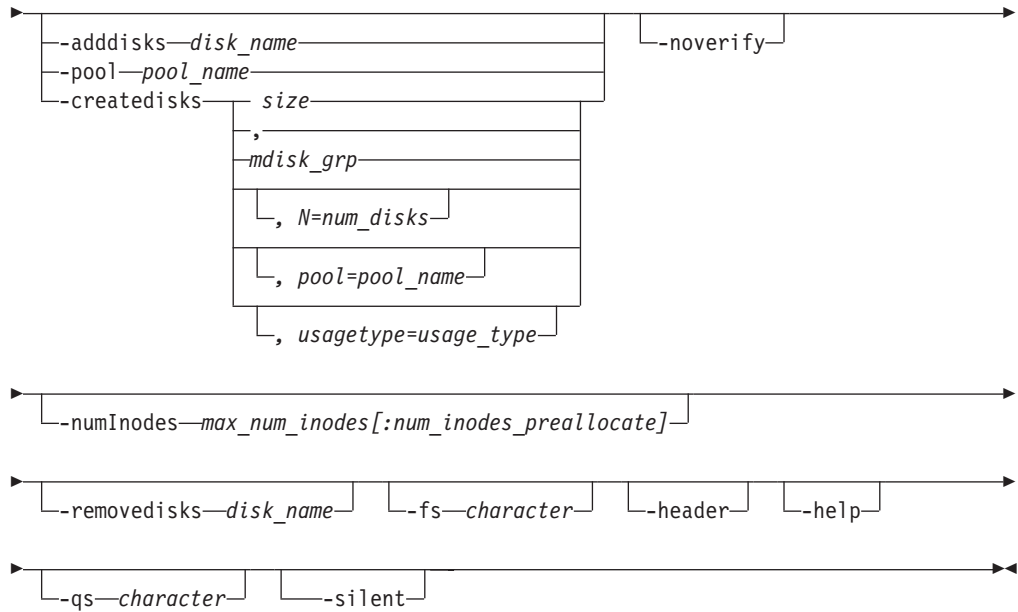
chfs

Use the **chfs** command to change the properties of a file system, and add or remove disks to or from a file system.

If you use this command to both add and remove disks, disks are added first and then disks are removed. Other settings are applied after disks are added or removed. You must have Data Administrator authority to use this command.

Syntax

```
▶▶-tpctool-chfs--user-user_name--pwd-password--url-url-----▶
▶--filesystem-file_system_id-----▶
```



Parameters and arguments

-user *user_name*

Specifies a valid Tivoli Storage Productivity Center user ID.

-pwd *password*

Specifies the password for the Tivoli Storage Productivity Center user ID.

-url *url*

Specifies the Device server. The format of the URL is: *system:port_number* where *system* represents either the host name or IP address, and *port_number* represents the Tivoli Storage Productivity Center Device server port.

-filesystem *file_system_id*

Specifies the ID of file system to be changed.

-adddisks *disk_name*

Specifies the disks to add to the file system. The *disk_name* variable contains a comma-separated list of disk names.

Tip:

You can verify the availability of a disk by running the **lsnsd** command.

-pool *pool_name*

Adds to the file system a set of free disks that have the file system pool name set as *pool*. On IBM Storwize V7000 Unified, all disks in the file system pool must be tagged for this file system can be used.

Tip:

You can list all the disks in a pool by running the **lsnsd** command.

-createdisks *size* | *mdisk_grp* | *N=num_disks* | *pool=pool_name* | *usagetype=usage_type*

Creates disks implicitly, and then adds them to the file system. This option is applicable only for Storwize V7000 Unified.

size Specifies the size of the new disks. Size is specified as an integer with capacity up to petabyte without a space between the size and the unit; for example 17G. Disk sizes must be specified either without suffix

(byte) or with K (kilobyte), M (megabyte), G (gigabyte), T (terabyte), or P (petabyte). Values less than 512 MB are not supported. This parameter is mandatory.

mdisk_grp

Specifies the storage system managed disk (MDisk) group in which the underlying NAS volumes will be created. This parameter is mandatory.

Tip:

You can see a list of available MDisk groups by using the **svcinfolsmdiskgrp** command.

num_disks

Specifies the number of storage system NAS volumes that will be created in each MDisk group. This parameter is optional. The default number of disks is 1.

pool Specifies a pool for the disks. This parameter is optional. The default value is **system**.

usage_type

Specifies the usage type for the disks. This parameter is optional. The valid usage types are:

- dataAndMetadata
- dataOnly
- metadataOnly

The default usage type is **dataAndMetadata**. The only valid usage type for a non-system pool is **dataOnly**.

-noverify

Specifies that disks should not be verified as belonging to an existing file system. If this option is used, either the **-adddisks** parameter or the **-pool** parameter must also be specified.

-numInodes *max_num_inodes[:num_inodes_preallocate]*

Specifies the maximum number of files for this file system. The *num_inodes_preallocate* variable specifies the number of inodes that the system immediately preallocates. You can specify values in thousands (k) or in millions (M). To specify values of 100 million for the *max_num_inodes* variable and one million for the *num_inodes_preallocate* variable, enter **-numInodes 100M:1M**.

Specifies the maximum number of files for this file system. You can specify values in thousands (k) or millions (M).

-removedisks *disk_name*

Specifies the disks to remove from the file system. On IBM Storwize V7000 Unified, this option completely removes the specified disks and the data on them by deleting the volumes on the storage system.

Tip:

You can verify the availability of a disk by running the **lsnsd** command.

-fs *character*

Specifies the 7-bit character that separates the information in the output. If you omit this parameter, the information is separated by blank spaces.

-header

Suppresses the column headings in the output. If you omit this parameter, the column headings are included.

-help | -h | -?

Lists help information for the command.

-qs *character*

Specifies the 7-bit character that surrounds character strings and date stamps in the output. If you omit this parameter, character strings and date stamps are enclosed by double quotation marks ("").

-silent

Suppresses all output for the command. If you omit this parameter, output is included.

Examples

Changing a file system


The following command changes a file system by removing a disk.


```
tpctool> chfs -filesystem eefs+kq458mv.ibm+00000200A2A0153C+0
-user admin -pwd password -url localhost:9550 -removedisks IFS1319490696615
```

The following output is returned:

```
FilesystemId                Status
=====
eefs+kq458mv.ibm+00000200A2A0153C+0 SUCCESS
```

Related information:

 <http://publib.boulder.ibm.com/infocenter/sonasic/sonas1ic/index.jsp>
More information about command parameters is available at the IBM SONAS Information Center.

 http://publib.boulder.ibm.com/infocenter/storwize/unified_ic/index.jsp
More information about command parameters is available at the Storwize V7000 Unified Information Center.

chfset

Use the **chfset** command to change the attributes of a file set.

You can change the name of, or comment associated with, an existing file set. You can also change the maximum number of inodes and the number of inodes to allocate for an independent file set. You must have Data Administrator authority to use this command.

Syntax

```
▶▶ tpctool chfset --user user_name --pwd password --url url
▶ --fileset file_set_id [ name ] [ comment ]
▶ [ numInodes max_num_inodes [ num_inodes_preallocate ] ] [ fs character ]
▶ [ header ] [ help ] [ qs character ] [ silent ]
```

Parameters and arguments

- user** *user_name*
Specifies a valid Tivoli Storage Productivity Center user ID.
- pwd** *password*
Specifies the password for the Tivoli Storage Productivity Center user ID.
- url** *url*
Specifies the Device server. The format of the URL is: *system:port_number* where *system* represents either the host name or IP address, and *port_number* represents the Tivoli Storage Productivity Center Device server port.
- fileset** *file_set_id*
Specifies the Tivoli Storage Productivity Center key of the file set to be changed. The file set key is listed in the ID column of the **lsfset** command output.
- name** *name*
Specifies the new name for this file set.
- comment** *comment*
Specifies a new comment that displays in the output of the **lsfset** command. The length of this comment can be a maximum of 255 characters. You must enclose comments in double quotation marks.
- numInodes** *max_num_inodes[:num_inodes_preallocate]*
Specifies the maximum number of files for this file set. The *num_inodes_preallocate* variable specifies the number of inodes that the system immediately preallocates. You can specify values in thousands (k) or in millions (M). To specify values of 100 million for the *max_num_inodes* variable and one million for the *num_inodes_preallocate* variable, enter **-numInodes 100M:1M**. GPFS™ defines a minimum number of inodes which might be greater than the maximum specified. The default values for the file set are one million (1M) for the *max_num_inodes* variable and 50,000 (50K) for the *num_inodes_preallocate* variable.
- fs** *character*
Specifies the 7-bit character that separates the information in the output. If you omit this parameter, the information is separated by blank spaces.
- header**
Suppresses the column headings in the output. If you omit this parameter, the column headings are included.
- help | -h | -?**
Lists help information for the command.
- qs** *character*
Specifies the 7-bit character that surrounds character strings and date stamps in the output. If you omit this parameter, character strings and date stamps are enclosed by double quotation marks (").
- silent**
Suppresses all output for the command. If you omit this parameter, output is included.

Examples

Changing the attributes of a file set


The following command changes the name of a file set.


```
tpctool> chfset -fileset eefset+eefs+kq458mv.ibm+00000200A2A0153C+0
-name eefset01 -user admin -pwd password -url localhost:9550
```

The following output is returned:

```
FilesetId                               Status
=====
eefset01+eefs+kq458mv.ibm+00000200A2A0153C+0 SUCCESS
```

Related information:

 <http://publib.boulder.ibm.com/infocenter/sonasic/sonas1ic/index.jsp>
More information about command parameters is available at the IBM SONAS Information Center.

 http://publib.boulder.ibm.com/infocenter/storwize/unified_ic/index.jsp
More information about command parameters is available at the Storwize V7000 Unified Information Center.

chkquota

Use the **chkquota** command to check quota limits for users, user groups, and file sets on a file system and to write the information to the GPFS database.

Because quota information in the database is not updated in real time, you must run the **chkquota** command before the **lsquota** command to refresh the quota information in the GPFS database. You must have Data Administrator authority to use this command.

By specifying a file system, you can use the **chkquota** command to check the quotas for users, user groups, and file sets. This process can be lengthy since these devices can have large numbers of files. When the command completes, the collected data is updated in the GPFS database and is then available to the **lsquota** command for retrieval. The **chkquota** command output displays a completion status of success or error. It does not display the quota information. The **lsquota** displays the data collected by the **chkquota** command.

Syntax

```
▶▶ tpctool—chkquota—-user—user_name--pwd—password--url—url—————→
▶--filesystem—file_system_id—————→▶▶
```

Parameters and arguments

-user *user_name*

Specifies a valid Tivoli Storage Productivity Center user ID.

-pwd *password*

Specifies the password for the Tivoli Storage Productivity Center user ID.

-url *url*

Specifies the Device server. The format of the URL is: *system:port_number* where *system* represents either the host name or IP address, and *port_number* represents the Tivoli Storage Productivity Center Device server port.

-filesystem *file_system_id*

Specifies the ID for the file system that is associated with the quota. You can

use the **lsfs** command to return information, including the IDs, for all file systems that are discovered. The ID is listed in the ID column of the **lsfs** command output.

Examples

Checking a quota for a file system

The following command checks the status of a quota for a file system:

```
tpctool> chkquota -filesystem gpfs1+kq98n5d.ibm+00000200A16045DC+0  
-user admin -pwd password -url localhost:9550
```

The following output is returned:

```
FilesystemId                               Status  
=====
```

FilesystemId	Status
gpfs1+kq98n5d.ibm+00000200A16045DC+0	SUCCESS

Related information:

<http://publib.boulder.ibm.com/infocenter/sonasic/sonas1ic/index.jsp>
More information about command parameters is available at the IBM SONAS Information Center.

http://publib.boulder.ibm.com/infocenter/storwize/unified_ic/index.jsp
More information about command parameters is available at the Storwize V7000 Unified Information Center.

ckzone

Use the **ckzone** command to verify that a fabric contains a zone. You must have Fabric Administrator authority to use this command.

Syntax

```
▶▶ tpctool ckzone --user user_name --pwd password --url url --fabric WWN ▶▶  
▶ [ -help ] [ -silent ] zone ▶▶
```

Parameters and arguments

- user** *user_name*
Specifies a valid Tivoli Storage Productivity Center user ID.
- pwd** *password*
Specifies the password for the Tivoli Storage Productivity Center user ID.
- url** *url*
Specifies the Device server. The format of the URL is: *system:port_number* where *system* represents either the host name or IP address, and *port_number* represents the Tivoli Storage Productivity Center Device server port.
- fabric** *WWN*
Specifies the fabric. The *WWN* variable is the World Wide Name (WWN).
- help | -h | -?**
Lists help information for the command.

The following command determines whether the fabric contains the PARIS zone set.

```
tpctool> ckzs -user me -pwd mypass -url myhost:myport -fabric 100000051E34F6A8 PARIS
```

If the fabric contains the zone set, the following text is returned:

```
Zoneset PARIS found in fabric 100000051E34F6A8
```

commit

Use the **commit** command to commit a transaction. When you commit a transaction, all the commands issued after you started the transaction are enacted. You must have Fabric Administrator authority to use this command.

Syntax

```
▶▶—tpctool—commit—-user—user_name--pwd—password—-url—url—-fabric—WWN—▶▶  
▶▶—help—▶▶
```

Parameters and arguments

-user *user_name*

Specifies a valid Tivoli Storage Productivity Center user ID.

-pwd *password*

Specifies the password for the Tivoli Storage Productivity Center user ID.

-url *url*

Specifies the Device server. The format of the URL is: *system:port_number* where *system* represents either the host name or IP address, and *port_number* represents the Tivoli Storage Productivity Center Device server port.

-fabric *WWN*

Specifies the fabric. The *WWN* variable is the World Wide Name (WWN).

-help | -h | -?

Lists help information for the command.

Examples

Committing a transaction

The following command commits a transaction. The user has previously specified connection options, started a transaction, and issued a fabric-control command:

```
tpctool> commit -fabric 100000051E34F6A8
```

deactzs

Use the **deactzs** command to deactivate the active zone set. This command must be run as a transaction. You must have Fabric Administrator authority to use this command.

Syntax

```
▶▶—tpctool—deactzs—-user—user_name--pwd—password—-url—url—-fabric—WWN—▶▶
```

▶ `-help` `-silent` ▶

Parameters and arguments

- user** *user_name*
Specifies a valid Tivoli Storage Productivity Center user ID.
- pwd** *password*
Specifies the password for the Tivoli Storage Productivity Center user ID.
- url** *url*
Specifies the Device server. The format of the URL is: *system:port_number* where *system* represents either the host name or IP address, and *port_number* represents the Tivoli Storage Productivity Center Device server port.
- fabric** *WWN*
Specifies the fabric. The *WWN* variable is the World Wide Name (WWN).
- help** | **-h** | **-?**
Lists help information for the command.
- silent**
Suppresses all output for the command. If you omit this parameter, output is included.

Examples

Deactivating the active zone set

The following commands deactivate the active zone set:

```
tpctool> start -user me -pwd mypass -url myhost:myport -fabric 100000051E34F6A8
tpctool> deactzs -fabric 100000051E34F6A8
tpctool> commit -fabric 100000051E34F6A8
```

encrypt

Use the **encrypt** command to generate an encrypted password for use in the configuration file. This command takes text from standard input and generates 7-bit ASCII-equivalent characters (uuencode).

Syntax

▶ `tpctool encrypt password` ▶

password
Specifies the password to be encrypted.

Examples

Encrypting a password

The following command encrypts the specified password:

```
tpctool encrypt myverylongpassword
```

getdscfg

Use the **getdscfg** command to list the current value of a property from the property file for the Device server. You must have IBM Tivoli Storage Productivity Center administrator authority to use this command.


```
tpctool> getdscfg -url localhost:9550 -user ***** -pwd ***** -property
SnmpRetryCount -context DeviceServer
```

The following output is returned:

Property	Context	Value
SnmpRetryCount	DeviceServer	3

getdslogopt

Use the **getdslogopt** command to list the properties for the log file associated with the Device server. You must have IBM Tivoli Storage Productivity Center administrator authority to use this command.

Syntax

```
▶▶ tpctool getdslogopt --user user_name --pwd password --url url
└─help┘ └─silent┘
```

Parameters and arguments

- user** *user_name*
Specifies a valid Tivoli Storage Productivity Center user ID.
- pwd** *password*
Specifies the password for the Tivoli Storage Productivity Center user ID.
- url** *url*
Specifies the Device server. The format of the URL is: *system:port_number* where *system* represents either the host name or IP address, and *port_number* represents the Tivoli Storage Productivity Center Device server port.
- help | -h | -?**
Lists help information for the command.
- silent**
Suppresses all output for the command. If you omit this parameter, output is included.

Examples

Listing log file properties

The following command lists the properties of the log file used by the Device server:

```
tpctool> getdslogopt -user me -pwd mypass -url myhost:myport
```

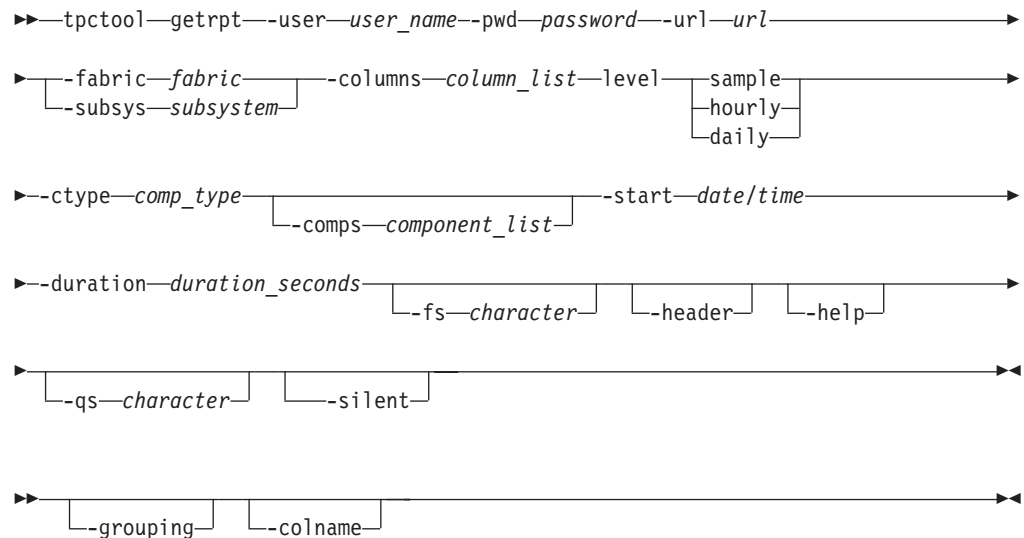
The following output is returned:

Filterkey	Maxfiles	Maxfilesize	Locale	Format
INFO	10	20000 KB	en_US	plain_text

getrpt

Use the **getrpt** command to list a performance report for a specified storage subsystem. You must have Fabric Operator or Disk Operator authority to use this command.

Syntax



Parameters and arguments

- user** *user_name*
Specifies a valid Tivoli Storage Productivity Center user ID.
- pwd** *password*
Specifies the password for the Tivoli Storage Productivity Center user ID.
- url** *url*
Specifies the Device server. The format of the URL is: *system:port_number* where *system* represents either the host name or IP address, and *port_number* represents the Tivoli Storage Productivity Center Device server port.
- fabric** *fabric*
Specifies the name of a switch, such as one returned by the **lsdev** command.
- subsys** *subsystem*
Specifies the name of a storage subsystem, such as one returned by **lsdev**. The name of the storage subsystem is the globally unique identifier (GUID) of that storage subsystem.
- columns** *column_list*
Specifies what columns will appear in the report. The columns are obtained from the **lscounters** and **lsmetrics** commands.
- level** **sample** | **hourly** | **daily**
Specifies the level for which the performance metrics should be summarized. You can specify a sample summary, an hourly summary, or a daily summary.
- ctype** *comp_type*
Specifies that the output should include only components of the specified type. See the **lstype** command for more information about the *comp_type* variable.
- comps** *component_list*
Specifies the component list. The *component_list* variable specifies the components, such as returned by **lscomp**.
- start** *date/time*
Specifies the date and time to start the sampling period. The date and time are formatted as:
yyyy.MM dd:HH:mm:ss

All time zones are relative to the Device server. See the **lstime** command for more information.

-duration *duration_seconds*

Specifies the duration of the sampling period, in seconds. The *duration_seconds* variable is an integer.

-fs *character*

Specifies the 7-bit character that separates the information in the output. If you omit this parameter, the information is separated by blank spaces.

-header

Suppresses the column headings in the output. If you omit this parameter, the column headings are included.

-help | -h | -?

Lists help information for the command.

-qs *character*

Specifies the 7-bit character that surrounds character strings and date stamps in the output. If you omit this parameter, character strings and date stamps are enclosed by double quotation marks ("").

-silent

Suppresses all output for the command. If you omit this parameter, output is included.

-grouping

Enables the grouping of numeric values. For example, in English the value 12000 would display as 12,000. The grouping character is determined by the system locale.

-colname

Displays the name of the counter or metric in the column header. By default, an integer indicating the column or metric type is displayed in the column header.

Examples

Listing performance metrics

The following command lists a report of performance metrics:

```
tpctool> getrpt -user me -pwd mypass -url myhost:myport  
-fabric 100005668 -subsys 2105.22232+0 -level daily
```

Note: If you have multiple volumes in your subsystems, use the *-fs character* option with a comma as a field separator.

```
tpctool> getrpt -subsys 2107.1302541+0 -columns 1,2,4,5,10,11,13,14,22,23,28,29,31,  
32,33,34,35,36,37,38,39,40,41,42,43,44,45,46,47,48,49,50,51,52,53,54,55,56,57,58,5,  
9,828,829,830,831,832,833,801,802,803,804,805,806,807,808,809,810,811,812,813,814,  
815,816,817,818,819,820,821,822,823 -ctype vol -level sample -start 2007.06.27:19:  
01:40 -duration 3600 -fs
```

gettprec

Use the **gettprec** command to retrieve the results of the tiering-policy analysis that was last run.

If an **analyzntp** command was started with the **-async** option and the analysis is not complete, the **gettprec** command returns a warning that the current analysis is not complete and no recommendations are listed.

Syntax

```
▶▶ tptool—gettprec—-user—user_name--pwd—password—-url—url—  
└─s─┘  
└─fs—character─┘ └─header─┘ └─help─┘ └─qs—character─┘▶▶
```

Parameters and arguments

-user *user_name*

Specifies a valid Tivoli Storage Productivity Center user ID.

-pwd *password*

Specifies the password for the Tivoli Storage Productivity Center user ID.

-url *url*

Specifies the Device server. The format of the URL is: *system:port_number* where *system* represents either the host name or IP address, and *port_number* represents the Tivoli Storage Productivity Center Device server port.

-s Specifies the short form of the **gettprec** command. Instructs the command-line interface not to output the Policy and Subsystem columns.

-fs *character*

Specifies the 7-bit character that separates the information in the output. If you omit this parameter, the information is separated by blank spaces.

-header

Suppresses the column headings in the output. If you omit this parameter, the column headings are included.

-help | -h | -?

Lists help information for the command.

-qs *character*

Specifies the 7-bit character that surrounds character strings and date stamps in the output. If you omit this parameter, character strings and date stamps are enclosed by double quotation marks ("").

Examples

Retrieving tiering policy recommendations

The following command displays the recommendations of the most recent analysis of your tiering policy.

```
tptool> gettprec -user admin -pwd password -url localhost:9550
```

The following output is returned:

```
Volume      From                To      Policy                Subsystem  
=====
```

db2_vol1	mdiskgrp_raid6_ds8k	XIV_pool	migrate_to_tier3_tp	"SVC-2145-svc 1-IBM"
db2_vol12	mdiskgrp_raid6_ds8k	XIV_pool	migrate_to_tier3_tp	"SVC-2145-svc 1-IBM"
db2_vol13	mdiskgrp_raid6_ds8k	XIV_pool	migrate_to_tier3_tp	"SVC-2145-svc 1-IBM"
db2_vol14	mdiskgrp_raid6_ds8k	XIV_pool	migrate_to_tier3_tp	"SVC-2145-svc 1-IBM"

Retrieving tiering policy recommendations when analyzetzp command is running

The following command displays the recommendations of the most recent analysis of your tiering policy.

-fileset *file_set_id*

Specifies the Tivoli Storage Productivity Center key of the file set to be linked. The file set key is listed in the **ID** column of the **lsfset** command output.

-path *path*

Specifies the name of the junction. The name must not refer to an existing file system object.

-header

Suppresses the column headings in the output. If you omit this parameter, the column headings are included.

-silent

Suppresses all output for the command. If you omit this parameter, output is included.

-qs *character*

Specifies the 7-bit character that surrounds character strings and date stamps in the output. If you omit this parameter, character strings and date stamps are enclosed by double quotation marks ("").

-fs *character*

Specifies the 7-bit character that separates the information in the output. If you omit this parameter, the information is separated by blank spaces.

Examples

Linking a file set


The following command links the file set named eefset01+eefs+kq458mv.ibm+00000200A2A0153C+0 to the path /ibm/eefs/eefsetdir01.


```
tpctool> linkfset -fileset eefset01+eefs+kq458mv.ibm+00000200A2A0153C+0  
-path /ibm/eefs/eefsetdir01 -user admin -pwd password -url localhost:9550
```

The following output is returned:

FilesetId	Status
eefset01+eefs+kq458mv.ibm+00000200A2A0153C+0	SUCCESS

Related information:

 <http://publib.boulder.ibm.com/infocenter/sonasic/sonas1ic/index.jsp>
More information about command parameters is available at the IBM SONAS Information Center.

 http://publib.boulder.ibm.com/infocenter/storwize/unified_ic/index.jsp
More information about command parameters is available at the Storwize V7000 Unified Information Center.

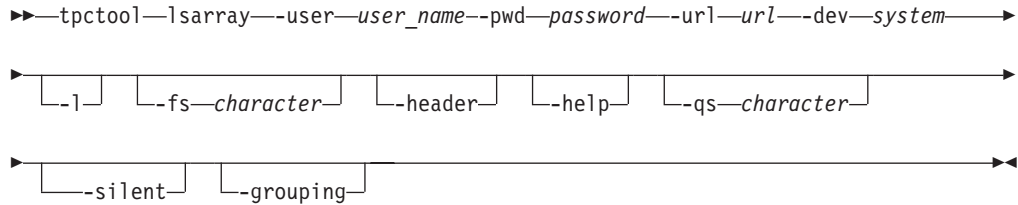
Isarray

Use the **Isarray** command to display information about arrays and back-end storage subsystems.

You must have Disk Administrator authority to use this command. You use the **setarray** command or **autosetarray** command to provide information about

back-end storage subsystems. You can also enter information about back-end storage subsystems on the MDisk Group Details page in the Tivoli Storage Productivity Center GUI.

Syntax



Parameters and arguments

-user *user_name*

Specifies a valid Tivoli Storage Productivity Center user ID.

-pwd *password*

Specifies the password for the Tivoli Storage Productivity Center user ID.

-url *url*

Specifies the Device server. The format of the URL is: *system:port_number* where *system* represents either the host name or IP address, and *port_number* represents the Tivoli Storage Productivity Center Device server port.

-dev *system*

Specifies the globally unique identifier (GUID) of the storage system. You can use the **lsdev** command to return information, including the GUID, for all storage systems that are discovered by Tivoli Storage Productivity Center.

-l Specifies that the detailed version of information about arrays is provided. If you issue the **lsarray** command and do not specify the **-l** parameter, only the array ID is displayed.

Column label	Details
Array	The ID of the array.
Label	The name of the managed disk (MDisk) group.
Total Size (GB)	The total amount of storage space.
Free Size (GB)	The total amount of available storage space.
Status	The operational status of the MDisk group that hosts the array.
Types of Disk	The types of disk that host the arrays such as: <ul style="list-style-type: none"> • Solid State for solid-state disks • Non-Solid State for hard disks • Mixed for solid-state disks and hard disks
Encrypted	Shows whether arrays are hosted on encrypted disks.
Read I/O Capability	Shows the read I/O capability in seconds of storage arrays. The calculation of read I/O capability is based on: <ul style="list-style-type: none"> • The type of storage system • The type of RAID • The type of disk • The number of disks

Column label	Details
Back-end Type	The type of back-end storage system that manages disk group storage.
Back-end RAID Type	The type of Random Access Independent Disk (RAID) that the back-end storage system uses.
Back-end Disk Type	The type of disk that the back-end storage system uses.
Back-end Disk Count	The total number of disks.

Tip: To find out how to set values for back-end storage subsystems, see the description of the **setarray** command.

-fs *character*

Specifies the 7-bit character that separates the information in the output. If you omit this parameter, the information is separated by blank spaces.

-header

Suppresses the column headings in the output. If you omit this parameter, the column headings are included.

-help | -h | -?

Lists help information for the command.

-qs *character*

Specifies the 7-bit character that surrounds character strings and date stamps in the output. If you omit this parameter, character strings and date stamps are enclosed by double quotation marks ("").

-silent

Suppresses all output for the command. If you omit this parameter, output is included.

-grouping

Enables the grouping of numeric values. For example, in English the value 12000 would display as 12,000. The grouping character is determined by the system locale.

Examples

Listing array information

The following command lists IDs for the arrays on the specified system:

```
tpctool> lsarray -user me -pwd mypass -url myhost:9550 -dev 2107.75DG000+0
```

The following output is returned:

```
Array
=====
IBMTSDS:IBM.2107-75DG000-P17+2107.75DG000+0
IBMTSDS:IBM.2107-75DG000-P16+2107.75DG000+0
IBMTSDS:IBM.2107-75DG000-P15+2107.75DG000+0
IBMTSDS:IBM.2107-75DG000-P14+2107.75DG000+0
IBMTSDS:IBM.2107-75DG000-P1+2107.75DG000+0
IBMTSDS:IBM.2107-75DG000-P0+2107.75DG000+0
```

Listing detailed information about an array

The following command provides detailed information about the array on the specified system:

```
tpctool> lsarray -dev 0000020064405BA0+0 -l
```

The following output is returned:

```
Array                               Label      Total Size (GB) Free Size (GB)
=====
0000020064405BA0:0+0000020064405BA0+0 mdisk_grp  407.38      310.25

Status  Types of Disk      Encrypted Read I/O Capability Back-end Type
=====
NORMAL  Non-Solid State    No          0                      D

Back-end RAID Type Back-end Disk Type Back-end Disk Count
=====
5          F10                160
```

lsbackenddisktypes

Use the **lsbackenddisktypes** command to list the types of back-end disks and their average input/output.

This command applies only to Storwize V7000 and SAN Volume Controller disks. You must have Disk Administrator authority to use this command.

Syntax

```
▶▶ tpctool lsbackenddisktypes --user user_name --pwd password --url url
└─fs character┘ └─header┘ └─help┘ └─qs character┘
▶
└─silent┘ └─grouping┘
▶▶
```

Parameters and arguments

When you issue the **lsbackenddisktypes** command, the following information is displayed:

Backend Disk Type

The type of back-end disk. For example: A07 "Sata - 7500 rpm"

Description

A description of the type of back-end disk

IOPS Input/output (I/O) per second. The average number of input/output operations per second for the disk.

Tip: Use the **setbackenddisktype** command to set or update the type of a back-end disk.

-user *user_name*

Specifies a valid Tivoli Storage Productivity Center user ID.

-pwd *password*

Specifies the password for the Tivoli Storage Productivity Center user ID.

-url *url*

Specifies the Device server. The format of the URL is: *system:port_number* where *system* represents either the host name or IP address, and *port_number* represents the Tivoli Storage Productivity Center Device server port.

-fs *character*

Specifies the 7-bit character that separates the information in the output. If you omit this parameter, the information is separated by blank spaces.

-header

Suppresses the column headings in the output. If you omit this parameter, the column headings are included.

-help | -h | -?

Lists help information for the command.

-qs *character*

Specifies the 7-bit character that surrounds character strings and date stamps in the output. If you omit this parameter, character strings and date stamps are enclosed by double quotation marks ("").

-silent

Suppresses all output for the command. If you omit this parameter, output is included.

-grouping

Enables the grouping of numeric values. For example, in English the value 12000 would display as 12,000. The grouping character is determined by the system locale.

Examples

Listing back-end disk types

The following command lists the types of back-end disks:

```
tpctool> lsbackenddisktypes
```

If the command is successful, a list of the types of back-end disks is displayed:

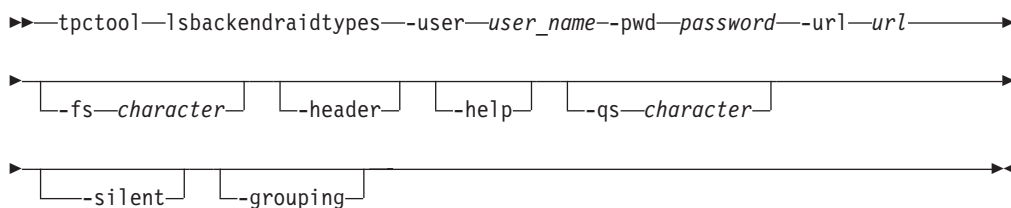
Back-end Disk Type	Description	IOPS
A07	"Sata - 7 500 rpm"	40
F10	"Fiber - 10 000 rpm"	120
F15	"Fiber - 15 000 rpm"	150
DEFAULT	"DEFAULT TYPE FOR UNCONFIGURED DEVICES"	0

lsbackendraidtypes

Use the **lsbackendraidtypes** command to list the types of back-end RAID arrays available for Storwize V7000 and SAN Volume Controller managed disk groups.

This command applies only to Storwize V7000 and SAN Volume Controller disks. You must have Disk Administrator authority to use this command.

Syntax



Parameters and arguments

When you issue the **lsbackendraidtypes** command, the following information is displayed:

Backend RAID Type

The type of back-end RAID array. Possible values are DEFAULT, 1, 5, 6, X, or an array type that has been set with the **setbackendraidtype** command.

Weighted IO

The weighted input/output of the RAID type.

Tip: Use the **setbackendraidtype** command to set or update the type of a back-end RAID array.

-user *user_name*

Specifies a valid Tivoli Storage Productivity Center user ID.

-pwd *password*

Specifies the password for the Tivoli Storage Productivity Center user ID.

-url *url*

Specifies the Device server. The format of the URL is: *system:port_number* where *system* represents either the host name or IP address, and *port_number* represents the Tivoli Storage Productivity Center Device server port.

-fs *character*

Specifies the 7-bit character that separates the information in the output. If you omit this parameter, the information is separated by blank spaces.

-header

Suppresses the column headings in the output. If you omit this parameter, the column headings are included.

-help | -h | -?

Lists help information for the command.

-qs *character*

Specifies the 7-bit character that surrounds character strings and date stamps in the output. If you omit this parameter, character strings and date stamps are enclosed by double quotation marks ("").

-silent

Suppresses all output for the command. If you omit this parameter, output is included.

-grouping

Enables the grouping of numeric values. For example, in English the value 12000 would display as 12,000. The grouping character is determined by the system locale.

Examples

Listing back-end RAID types

The following command lists the available types of back-end RAID types:

```
tpctool> lsbackendraidtypes
```

If the command is successful, a list of the available types of back-end RAID types is displayed:

```
Back-end RAID Type Weighted IO
=====
X                               1
```

6	6
5	4
1	2
DEFAULT	1

lsbackendtypes

Use the **lsbackendtypes** command to list the types of back-end storage systems.

Additional information, such as the name, description, and cache hit ratio of the back-end type of the storage system is also provided. This command is available for Storwize V7000, Storwize V7000 Unified, and SAN Volume Controller storage systems. You must have Disk Administrator authority to use this command.

Syntax

```

▶▶ tptool1 lsbackendtypes --user user_name --pwd password --url url
└─fs character┘ └─header┘ └─help┘ └─qs character┘
└─silent┘ └─grouping┘
▶▶▶

```

Parameters and arguments

When you issue the **lsbackendtypes** command, the following information is displayed:

Back-end Type

The type of back-end storage system such as *D*

Name The name associated with the type of back-end storage system. For example, the name *DS8000* is associated with type *D*

Cache Hit Ratio

Estimated read cache hit ratio

Description

A description of the type of back-end storage system

Tip: Use the **setbackendtype** command to set or update the type of back-end storage system.

-user *user_name*

Specifies a valid Tivoli Storage Productivity Center user ID.

-pwd *password*

Specifies the password for the Tivoli Storage Productivity Center user ID.

-url *url*

Specifies the Device server. The format of the URL is: *system:port_number* where *system* represents either the host name or IP address, and *port_number* represents the Tivoli Storage Productivity Center Device server port.

-fs *character*

Specifies the 7-bit character that separates the information in the output. If you omit this parameter, the information is separated by blank spaces.

-header

Suppresses the column headings in the output. If you omit this parameter, the column headings are included.

-help | -h | -?

Lists help information for the command.

-qs *character*

Specifies the 7-bit character that surrounds character strings and date stamps in the output. If you omit this parameter, character strings and date stamps are enclosed by double quotation marks ("").

-silent

Suppresses all output for the command. If you omit this parameter, output is included.

-grouping

Enables the grouping of numeric values. For example, in English the value 12000 would display as 12,000. The grouping character is determined by the system locale.

Examples

Displaying a list of types of back-end storage systems

The following command provides a list of the types of back-end storage systems:

```
tpctool> lsbackendtypes
```

A list of the types of back-end storage subsystem is displayed:

Back-end Type	Name	Cache Hit Ratio
Fake	F800	100
X	XIV	70
D	DS8000	50
V	DS4000	50
S	"EMC Symmetrix"	50
C	"EMC Clariion"	50
DEFAULT	DEFAULT	0

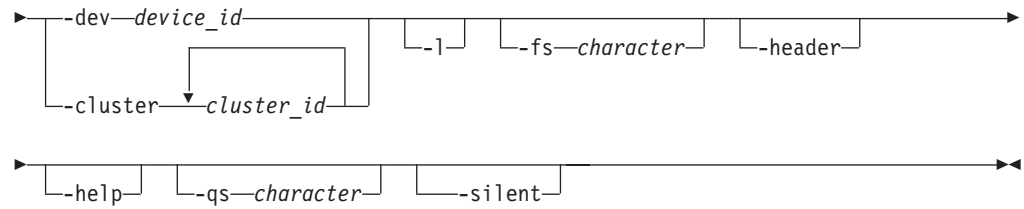
Description
 =====
 "Theoretical All Cache subsystem"
 "IBM XIV"
 "DS8K Disk Controller"
 "DS5K Disk Controller"
 "DMX BE Cache Hit Ratio"
 "CX BE Cache Hit Ratio"
 "DEFAULT TYPE FOR UNCONFIGURED DEVICES"

Iscluster

Use the **Iscluster** command to list all clusters or specified clusters that are on a Storwize V7000 Unified or IBM SONAS storage system. You must have Data Operator authority to use this command.

Syntax

```
▶▶—tpctool—lscluster—-user—user_name--pwd—password—-url—url—————▶▶
```



Parameters and arguments

-user *user_name*

Specifies a valid Tivoli Storage Productivity Center user ID.

-pwd *password*

Specifies the password for the Tivoli Storage Productivity Center user ID.

-url *url*

Specifies the Device server. The format of the URL is: *system:port_number* where *system* represents either the host name or IP address, and *port_number* represents the Tivoli Storage Productivity Center Device server port.

-dev *dev_id* | **-cluster** *cluster_id...*

The **-dev** parameter specifies that information is displayed for all clusters that are on a storage system. This parameter requires the globally unique identifier (GUID) of the storage system. You can use the **lsdev** command to return information, including the GUID, for all storage systems that were discovered.

The **-cluster** parameter specifies that information is displayed only for specific clusters. You can enter one or multiple cluster IDs. Use a comma to separate multiple IDs.

-l

Specifies that the following information is listed:

ID An ID for the cluster that is composed of the cluster name, storage system name, and storage system format.

Cluster

The name of the cluster.

Cluster ID

The cluster ID as defined by the Storwize V7000 Unified file module or IBM SONAS.

Type One or more of the following types: interface, management, or storage.

If you omit this parameter, only the ID is returned.

-fs *character*

Specifies the 7-bit character that separates the information in the output. If you omit this parameter, the information is separated by blank spaces.

-header

Suppresses the column headings in the output. If you omit this parameter, the column headings are included.

-help | **-h** | **-?**

Lists help information for the command.

-qs *character*

Specifies the 7-bit character that surrounds character strings and date stamps in

the output. If you omit this parameter, character strings and date stamps are enclosed by double quotation marks ("").

-silent

Suppresses all output for the command. If you omit this parameter, output is included.

Examples

Listing all clusters that are on a storage system

The following command generates a list of all clusters that are on a Storwize V7000 Unified storage system:

```
tpctool> lscluster -dev 00000200A0E0005C+0 -l
```

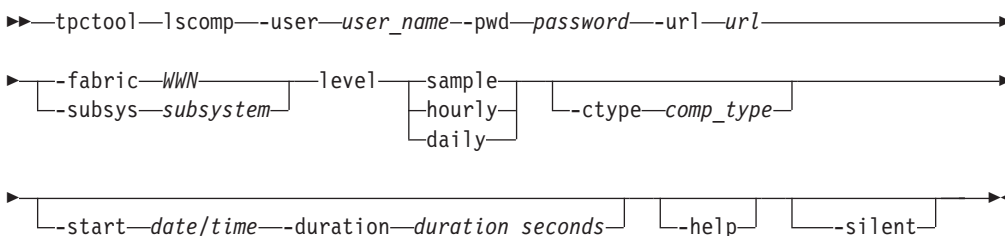
The following output is returned:

```
ID                                     Cluster
=====
tpcsonas2.storage.tucson.ibm.com+00000200A0E0005C+0 tpcsonas2.storage.tucson.ibm.com
Cluster ID          Type
=====
12402779238946656959 interface,storage
```

lscomp

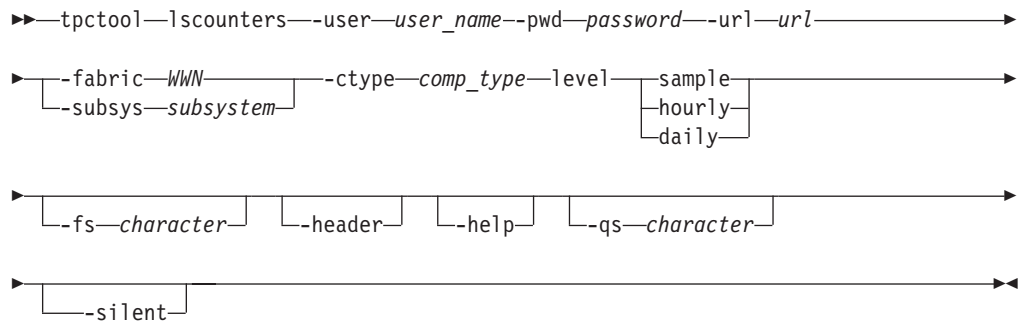
Use the **lscomp** command to list the components for which performance data has been collected. You must have Fabric operator or Disk operator authority to use this command.

Syntax



Parameters and arguments

- user user_name**
Specifies a valid Tivoli Storage Productivity Center user ID.
- pwd password**
Specifies the password for the Tivoli Storage Productivity Center user ID.
- url url**
Specifies the Device server. The format of the URL is: *system:port_number* where *system* represents either the host name or IP address, and *port_number* represents the Tivoli Storage Productivity Center Device server port.
- fabric WWN**
Specifies the fabric. The WWN variable is the World Wide Name (WWN).
- subsys subsystem**
Specifies the storage subsystem. The subsystem variable is the GUID of the



Parameters and arguments

-user *user_name*

Specifies a valid Tivoli Storage Productivity Center user ID.

-pwd *password*

Specifies the password for the Tivoli Storage Productivity Center user ID.

-url *url*

Specifies the Device server. The format of the URL is: *system:port_number* where *system* represents either the host name or IP address, and *port_number* represents the Tivoli Storage Productivity Center Device server port.

-fabric *WWN*

Specifies the fabric. The *WWN* variable is the World Wide Name (WWN).

-subsys *subsystem*

Specifies the storage subsystem. The subsystem variable is the GUID of the storage subsystem. You can use the **lsdev** command to return information, including the GUID, for all storage subsystems that are discovered by IBM Tivoli Storage Productivity Center.

-ctype *comp_type*

Specifies that the output should include only components of the specified type. See the **lstype** command for more information about the *comp_type* variable.

-level *sample | hourly | daily*

Specifies the level for which the performance counters should be summarized. You can specify a sample summary, an hourly summary, or a daily summary.

-fs *character*

Specifies the 7-bit character that separates the information in the output. If you omit this parameter, the information is separated by blank spaces.

-header

Suppresses the column headings in the output. If you omit this parameter, the column headings are included.

-help | -h | -?

Lists help information for the command.

-qs *character*

Specifies the 7-bit character that surrounds character strings and date stamps in the output. If you omit this parameter, character strings and date stamps are enclosed by double quotation marks ("").

-silent

Suppresses all output for the command. If you omit this parameter, output is included.

Examples

Listing performance counters

The following command generates a list of performance counters for volumes on the specified storage subsystem:

```
tpctool> lscounters -user me -pwd mypass -url myhost:myport  
-subsys 2105.22232+0 -ctype vol -level sample
```

The following output is returned.

Counter	Value
Read I/O Count (normal)	1
Read I/O Count (sequential)	2
Write I/O Count (normal)	4
Write I/O Count (sequential)	5
Read Cache Hit Count (normal)	10
Read Cache Hit Count (sequential)	11
Write Cache Hit Count (normal)	13
Write Cache Hit Count (sequential)	14
Read Data Count	22
Write Data Count	23
Read Service Periods	28
Write Service Periods	29
Disk to Cache Transfers (normal)	31
Disk to Cache Transfers (sequential)	32
Cache to Disk Transfers	33
NVS Allocation Count	34
DFW I/O Count (normal)	35
DFW I/O Count (sequential)	36
NVS Delayed I/O Count	37
Cache Delayed I/O Count	38
Record-Mode-Read I/O Count	39
Record-Mode-Read Cache Hit Count	40
Quick Write Promote Count	41

lsdev

Use the **lsdev** command to list information about storage subsystems, fabrics, and switches. This information includes the globally-unique identifier (GUID) or world-wide name (WWN) for fabric, user-defined name, device type, status, and the time that the status was updated. You must have Disk Administrator authority to use this command.

Syntax

```
▶▶▶ tpctool -lsdev --user user_name --pwd password --url url [-perf]
▶ level [-sample] [-hourly] [-daily] [-fabric] [-subsys] [-l] [-fs character]
▶▶▶ [-header] [-help] [-qs character] [-silent]
```

Parameters and arguments

-user *user_name*

Specifies a valid Tivoli Storage Productivity Center user ID.

- pwd** *password*
Specifies the password for the Tivoli Storage Productivity Center user ID.
- url** *url*
Specifies the Device server. The format of the URL is: *system:port_number* where *system* represents either the host name or IP address, and *port_number* represents the Tivoli Storage Productivity Center Device server port.
- perf**
Specifies that the devices for which performance data is collected should be listed. You must have the applicable authority to view the devices.
- level** **sample** | **hourly** | **daily**
Specifies the level for which the information should be summarized. You can specify a sample summary, an hourly summary, or a daily summary.
- fabric**
Specifies that only fabric devices should be listed. You must have Fabric administrator authority to use this option and Fabric Manager must be enabled.
- subsys**
Specifies that only storage subsystems should be listed. Disk Manager must be enabled.
- l**
Specifies that the long version should be listed:
 - GUID or WWN
 - User-defined name
 - Device type
 - Status
 - Time that the status was updated
 If you omit this parameter, only the GUID or WWN is listed.
- fs** *character*
Specifies the 7-bit character that separates the information in the output. If you omit this parameter, the information is separated by blank spaces.
- header**
Suppresses the column headings in the output. If you omit this parameter, the column headings are included.
- help** | **-h** | **-?**
Lists help information for the command.
- qs** *character*
Specifies the 7-bit character that surrounds character strings and date stamps in the output. If you omit this parameter, character strings and date stamps are enclosed by double quotation marks ("").
- silent**
Suppresses all output for the command. If you omit this parameter, output is included.

Command Aliases

You can run the following lsdev command aliases that have been predefined by IBM.

lsfabric
lsdev -fabric

```

lsperf  lsdev -perf
lssubsys
          lsdev -subsys
lstape  lsdev -tape

```

Examples

Listing all devices

The following command lists the GUIDs for all storage subsystems in the Tivoli Storage Productivity Center environment:

```
tpctool> lsdev -user me -pwd mypass -url myhost:myport -subsys
```

The following output is returned:

```

GUID
=====
9.47.97.159:0000020065400048+0
9.47.97.161:0000020060C0002A+0
1750.13AAW2A+0
1750.13AB1WA+0
2107.1302541+0
2107.1301901+0
2105.22232+0
2105.20870+0

```

Listing the long version of information

The following command lists the long version of information for fabric devices.

```
tpctool> lsdev -user me -pwd mypass -url myhost:myport -fabric -l
```

The following output is returned:

GUID	Name	Type	Status	Timestamp
100000051E34F6A8	100000051E34F6A8	-	UNKNOWN	2004.12.31:00:00:00
10000060695130FD	1000006069514262	-	UNKNOWN	2004.12.31:00:00:00
1000006069514262	10000060695130FD	-	UNKNOWN	2004.12.31:00:00:00

lsdevp

Use the **lsdevp** command to list world-wide port names (WWPNs) for a subsystem. You must have Disk Administrator authority to use this command.

Syntax

```

▶▶▶ tpctool -l sdevp --user user_name --pwd password --url url
▶ --dev subsystem [-l] [-fs character] [-header] [-help]
▶ [-qs character] [-silent]

```

Parameters and arguments

-user *user_name*

Specifies a valid Tivoli Storage Productivity Center user ID.

-pwd *password*

Specifies the password for the Tivoli Storage Productivity Center user ID.

- url** *url*
Specifies the Device server. The format of the URL is: *system:port_number* where *system* represents either the host name or IP address, and *port_number* represents the Tivoli Storage Productivity Center Device server port.
- dev** *subsystem*
Specifies the globally unique identifier (GUID) of the storage subsystem. You can use the **lsdev** command to return information, including the GUID, for all storage subsystems that are discovered by Tivoli Storage Productivity Center.
- l** Specifies that the long version of the information should be listed.
- fs** *character*
Specifies the 7-bit character that separates the information in the output. If you omit this parameter, the information is separated by blank spaces.
- header**
Suppresses the column headings in the output. If you omit this parameter, the column headings are included.
- help | -h | -?**
Lists help information for the command.
- qs** *character*
Specifies the 7-bit character that surrounds character strings and date stamps in the output. If you omit this parameter, character strings and date stamps are enclosed by double quotation marks ("").
- silent**
Suppresses all output for the command. If you omit this parameter, output is included.

Examples

Listing worldwide port names

The following command lists the WWPNs for the specified subsystem:

```
tpctool> lsdevp -user me -pwd mypass -url myhost:myport -dev 2105.22232+0
```

The following output is returned:

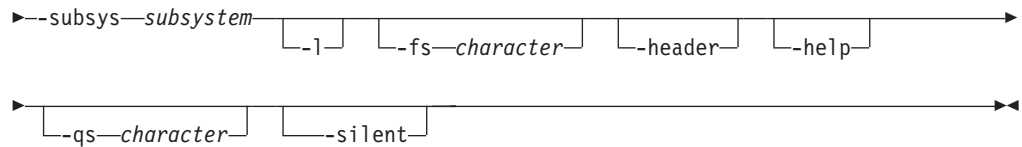
```
WWPN
=====
5005076300C79470
5005076300D09470
5005076300CB9470
5005076300CC9470
5005076300C29470
5005076300CF9470
5005076300C89470
5005076300C39470
```

lsdisk

Use the **lsdisk** command to list all the physical disks on a specified storage subsystem. You must have Fabric Operator or Disk Operator authority to use this command.

Syntax

```
▶▶—tpctool—lsdisk—user—user_name--pwd—password--url—url—————▶▶
```



Parameters and arguments

-user *user_name*

Specifies a valid Tivoli Storage Productivity Center user ID.

-pwd *password*

Specifies the password for the Tivoli Storage Productivity Center user ID.

-url *url*

Specifies the Device server. The format of the URL is: *system:port_number* where *system* represents either the host name or IP address, and *port_number* represents the Tivoli Storage Productivity Center Device server port.

-sysys *subsystem*

Specifies the GUID of the storage subsystem. You can use the **lsdev** command to return information, including the GUID, for all storage subsystems that have been discovered.

-l

Specifies that long information is listed. This includes the following information:

- Key
- Label
- Vendor
- Model
- Serial Number
- Capacity
- Speed
- Encrypted
- Solid State

If this parameter is not issued, only the host name is returned.

-fs *character*

Specifies the 7-bit character that separates the information in the output. If you omit this parameter, the information is separated by blank spaces.

-header

Suppresses the column headings in the output. If you omit this parameter, the column headings are included.

-help | -h | -?

Lists help information for the command.

-qs *character*

Specifies the 7-bit character that surrounds character strings and date stamps in the output. If you omit this parameter, character strings and date stamps are enclosed by double quotation marks ("").

-silent

Suppresses all output for the command. If you omit this parameter, output is included.

Examples

To display a list of physical disks on a storage subsystem

The following command generates a list of physical disks on a specified storage subsystem:

```
lsdisk -subsys 2107-1300361+0 -l
```

The following output is returned:

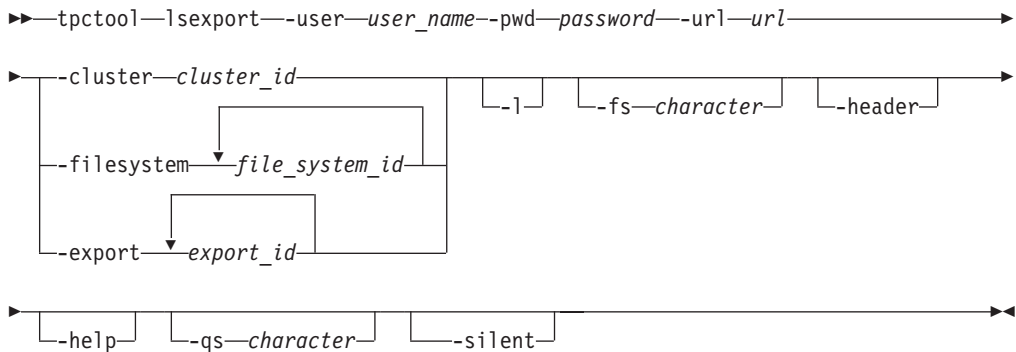
```
Key                               Label                               Vendor  Model
=====
8000350BFC0D00D+IBM.2107-1300361 U2107.D01.Q000004-P1-D14 Seagate S0AE146

Serial Number  Capacity Speed Encrypted Solid State
=====
8000350BFC0D00D 146.0   -      No       No
```

lsexport

Use the **lsexport** command to list all exports or specified exports that are associated with a cluster that is on a Storwize V7000 Unified or IBM SONAS storage system. You can also list exports by file system. You must have Data Operator authority to use this command.

Syntax



Parameters and arguments

- user** *user_name*
Specifies a valid Tivoli Storage Productivity Center user ID.
- pwd** *password*
Specifies the password for the Tivoli Storage Productivity Center user ID.
- url** *url*
Specifies the Device server. The format of the URL is: *system:port_number* where *system* represents either the host name or IP address, and *port_number* represents the Tivoli Storage Productivity Center Device server port.
- cluster** *cluster_id* | **-filesystem** *file_system_id...* | **-export** *export_id...*
The **-cluster** parameter specifies that information is displayed for the for all exports that are associated with a cluster. You can use the **lscluster** command to return information, including the cluster IDs, for all clusters that were discovered.

The **-filesystem** parameter specifies that information is displayed only for exports that are associated with specific file systems. You can enter one or multiple file system IDs. Use a comma to separate multiple IDs. You can use the **lsfs** command to return information, including the file system IDs, for all file systems that have been discovered.

The **-export** parameter specifies that information is displayed only for specific exports. You can enter one or multiple export IDs. Use a comma to separate multiple IDs.

-l

Specifies that the following information is listed:

ID An ID for the cluster that is composed of the export name, storage system name, and storage system format.

Export The name of the export.

Path The path on the computer where the export is located.

Protocol

The protocol for the export can be one of following values: HTTP, FTP, SCP, CIFS, or NFS.

Active Indicates whether the export is active or inactive in the cluster. The value can be true or false. If an export is inactive, it is included in the list of exports, but the data that is associated with the export cannot be accessed.

Options

The configuration options that were set for the export. This column contains information only if the protocol is CIFS or NFS.

If you omit this parameter, only the ID is returned.

-fs *character*

Specifies the 7-bit character that separates the information in the output. If you omit this parameter, the information is separated by blank spaces.

-header

Suppresses the column headings in the output. If you omit this parameter, the column headings are included.

-help | -h | -?

Lists help information for the command.

-qs *character*

Specifies the 7-bit character that surrounds character strings and date stamps in the output. If you omit this parameter, character strings and date stamps are enclosed by double quotation marks ("").

-silent

Suppresses all output for the command. If you omit this parameter, output is included.

Examples

Listing all nodes that are on a cluster

The following command generates a list of all exports that are on a Storwize V7000 Unified cluster:

```
tpctool> lsexport -cluster tpcsonas2.storage.tucson.ibm.com+00000200A0E0005C+0 -l
```

The following output is returned:

```

ID                                                                                               Export
=====
RandomExport1+tpcsonas2.storage.tucson.ibm.com+00000200A0E0005C+0 RandomExport1
RandomExport1+tpcsonas2.storage.tucson.ibm.com+00000200A0E0005C+0 RandomExport1
RandomExport1+tpcsonas2.storage.tucson.ibm.com+00000200A0E0005C+0 RandomExport1
testadd+tpcsonas2.storage.tucson.ibm.com+00000200A0E0005C+0      testadd
testadd+tpcsonas2.storage.tucson.ibm.com+00000200A0E0005C+0      testadd
smcho2+tpcsonas2.storage.tucson.ibm.com+00000200A0E0005C+0      smcho2
smcho2+tpcsonas2.storage.tucson.ibm.com+00000200A0E0005C+0      smcho2
smcho2+tpcsonas2.storage.tucson.ibm.com+00000200A0E0005C+0      smcho2
smcho2+tpcsonas2.storage.tucson.ibm.com+00000200A0E0005C+0      smcho2
Path          Active Protocol Options
=====
/ibm/gpfs0/randomexport1 false NFS      tb1435 (rw,no_wdelay)
/ibm/gpfs0/randomexport1 false CIFS    access control=Everyone:ALLOWED:FULL
/ibm/gpfs0/randomexport1 false HTTP
/ibm/testadd      true  NFS      tb1435 (rw,no_wdelay)
/ibm/testadd      true  CIFS    read only;access control=Everyone:
ALLOWED:FULL
/ibm/gpfs0/smcho  true  CIFS    access control=Everyone:ALLOWED:FULL
/ibm/gpfs0/smcho  true  HTTP
/ibm/gpfs0/smcho  true  FTP
/ibm/gpfs0/smcho  true  SCP

```

Isextent

Use the **isextent** command to display a list of all the storage extents on a specified storage subsystem. An example of a storage extent is an MDisk on a SAN Volume Controller. You must have Fabric Operator or Disk Operator authority to use this command.

Syntax

```

▶▶—tpctool—lsextent—-user—user_name--pwd—password—-url—url—————▶
▶--subsys—subsystem—————▶

```

Parameters and arguments

-user *user_name*

Specifies a valid Tivoli Storage Productivity Center user ID.

-pwd *password*

Specifies the password for the Tivoli Storage Productivity Center user ID.

-url *url*

Specifies the Device server. The format of the URL is: *system:port_number* where *system* represents either the host name or IP address, and *port_number* represents the Tivoli Storage Productivity Center Device server port.

-subsys *subsystem*

Specifies the GUID of the storage subsystem. You can use the **lsdev** command to return information, including the GUID, for all storage subsystems that have been discovered.

-l

Specifies that long information is listed. This includes the following information:

- Key

- Label
- Total Capacity
- Free Space
- Virtual

If this parameter is not issued, only the host name is returned.

-fs *character*

Specifies the 7-bit character that separates the information in the output. If you omit this parameter, the information is separated by blank spaces.

-header

Suppresses the column headings in the output. If you omit this parameter, the column headings are included.

-help | -h | -?

Lists help information for the command.

-qs *character*

Specifies the 7-bit character that surrounds character strings and date stamps in the output. If you omit this parameter, character strings and date stamps are enclosed by double quotation marks ("").

-silent

Suppresses all output for the command. If you omit this parameter, output is included.

Examples

To display a list of storage extents on a storage subsystem

The following command generates a list of storage extents on a specified storage subsystem:

```
tpctool> lsextent -subsys 2107-1300361+0 -l
```

The following output is returned:

Key	Label	Total Capacity
IBM.2107-1300361-R8+2107-1300361+0	IBM.2107-1300361-R8	581.0
IBM.2107-1300361-R7+2107-1300361+0	IBM.2107-1300361-R7	1688.0
IBM.2107-1300361-R6+2107-1300361+0	IBM.2107-1300361-R6	519.0

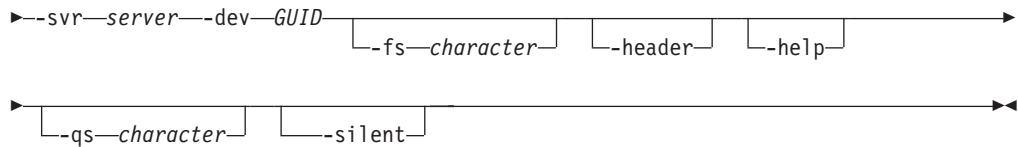
Free Space	Virtual
0.0	No
0.0	No
0.0	No

lsfcpath

Use the **lsfcpath** command to list the paths for data transmission between a system with a fibre-channel host bus adapter (HBA) and a storage subsystem. You must have Fabric Administrator authority to use this command.

Syntax

```
▶▶ tpctool—lsfcpath—-user—user_name--pwd—password—-url—url—————▶▶
```



Parameters and arguments

- user** *user_name*
Specifies a valid Tivoli Storage Productivity Center user ID.
- pwd** *password*
Specifies the password for the Tivoli Storage Productivity Center user ID.
- url** *url*
Specifies the Device server. The format of the URL is: *system:port_number* where *system* represents either the host name or IP address, and *port_number* represents the Tivoli Storage Productivity Center Device server port.
- svr** *server*
Specifies a system with a fibre-channel HBA. The *server* variable is the host name of the system.
- dev** *GUID*
Specifies the storage subsystem. The *GUID* variable is the globally unique identifier (GUID).
- fs** *character*
Specifies the 7-bit character that separates the information in the output. If you omit this parameter, the information is separated by blank spaces.
- header**
Suppresses the column headings in the output. If you omit this parameter, the column headings are included.
- help | -h | -?**
Lists help information for the command.
- qs** *character*
Specifies the 7-bit character that surrounds character strings and date stamps in the output. If you omit this parameter, character strings and date stamps are enclosed by double quotation marks ("").
- silent**
Suppresses all output for the command. If you omit this parameter, output is included.

Examples

Listing data paths

The following command lists the paths on which data can be transmitted between MARKETING and the storage subsystem 2105.20870+0:

```
tpctool> lsfcpath -user me -pwd mypass -url myhost:myport -svr
MARKETING -dev 2105.20870+0
```

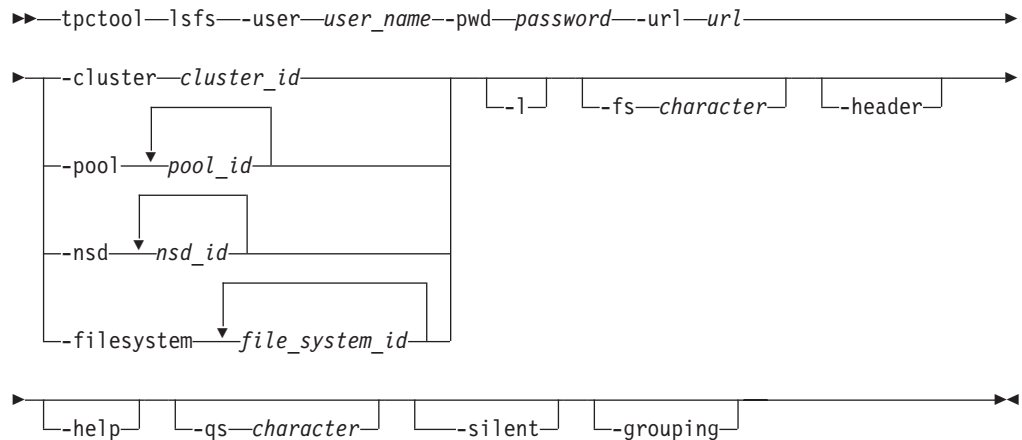
The following output is returned:

```
ServerPort      SubsystemPort
=====
210000E08B1Co9E  710000E08W1Co8F
```

lsfs

Use the **lsfs** command to list all file systems or specified file systems that are associated with a cluster that is on a Storwize V7000 Unified or IBM SONAS storage system. You can also list file systems by pool or Network Shared Disk (NSD). You must have Data Operator authority to use this command.

Syntax



Parameters and arguments

-user *user_name*

Specifies a valid Tivoli Storage Productivity Center user ID.

-pwd *password*

Specifies the password for the Tivoli Storage Productivity Center user ID.

-url *url*

Specifies the Device server. The format of the URL is: *system:port_number* where *system* represents either the host name or IP address, and *port_number* represents the Tivoli Storage Productivity Center Device server port.

-cluster *cluster_id* | **-pool** *pool_id...* | **-nsd** *nsd_id...* | **-filesystem** *file_system_id...*

The **-cluster** parameter specifies that information is displayed for the for all file systems that are on a cluster. You can use the **lscluster** command to return information, including the cluster IDs, for all clusters that were discovered.

The **-pool** parameter specifies that information is displayed only for file systems that are associated with specific pools. You can enter one or multiple pool IDs. Use a comma to separate multiple IDs. You can use the **lspool** command to return information, including the pool IDs, for all pools that were discovered.

The **-nsd** parameter specifies that information is displayed only for file systems that are associated with specific NSDs. You can enter one or multiple NSD IDs. Use a comma to separate multiple IDs. You can use the **lsnsd** command to return information, including the NSD IDs, for all NSDs that were discovered.

The **-filesystem** parameter specifies that information is displayed only for specific file systems. You can enter one or multiple file system IDs. Use a comma to separate multiple IDs.

-l

Specifies that the following information is listed:

ID An ID for the cluster that is composed of the file system name, cluster name, storage system name, and storage system format.

File System

The name of the file system.

Mount Point

The name or mount point (UNIX/Linux) of the file system (for example, c:\, d;\, /opt, or /export/home).

Cluster

The name of the cluster that is associated with the file system.

Capacity (GB)

The capacity of the file system.

Used Space (GB)

Amount of used storage space in the file system.

Available Space (GB)

The amount of unused storage space in the file system.

Maximum File Count

Total number of files in a file system. This value does not include files on file systems that were not scanned.

Used I-Nodes

The number of used inodes in the file system.

Free I-Nodes

The number of unused inodes in the file system.

If you omit this parameter, only the ID is returned.

-fs character

Specifies the 7-bit character that separates the information in the output. If you omit this parameter, the information is separated by blank spaces.

-header

Suppresses the column headings in the output. If you omit this parameter, the column headings are included.

-help | -h | -?

Lists help information for the command.

-qs character

Specifies the 7-bit character that surrounds character strings and date stamps in the output. If you omit this parameter, character strings and date stamps are enclosed by double quotation marks ("").

-silent

Suppresses all output for the command. If you omit this parameter, output is included.

-grouping

Enables the grouping of numeric values. For example, in English, the value 12000 would display as 12,000. The grouping character is determined by the system locale.

Examples

Listing all file systems that are on a cluster

The **-fileset** parameter specifies that information is displayed only for specific file sets. You can enter one or multiple file set IDs. Use a comma to separate multiple IDs.

-l

Specifies that information is listed. This includes the following information:

ID An ID for the file set that is composed of the file set name, file system name, cluster name, storage system name, and storage system format.

File Set

The name of the file set.

Path The path for the file set. The path is displayed only if linked is displayed in the Status column.

File System

The name of the file system that is associated with the file set.

Status The status of the file set can be one of the following values: linked or unlinked.

Used Space (GB)

The amount of space that is used by the file set.

Used I-Nodes

The number of used inodes in the file set.

If you omit this parameter, only the ID is returned.

-fs *character*

Specifies the 7-bit character that separates the information in the output. If you omit this parameter, the information is separated by blank spaces.

-header

Suppresses the column headings in the output. If you omit this parameter, the column headings are included.

-help | -h | -?

Lists help information for the command.

-qs *character*

Specifies the 7-bit character that surrounds character strings and date stamps in the output. If you omit this parameter, character strings and date stamps are enclosed by double quotation marks ("").

-silent

Suppresses all output for the command. If you omit this parameter, output is included.

-grouping

Enables the grouping of numeric values. For example, in English, the value 12000 would display as 12,000. The grouping character is determined by the system locale.

Examples

Listing all file sets that are on a specified file system

The following command generates a list of all file sets that are on a file system:

```
tpctool> lsfsset -filesystem  
testadd+tpcsonas2.storage.tucson.ibm.com+00000200A0E0005C+0 -l
```


The following output is returned:

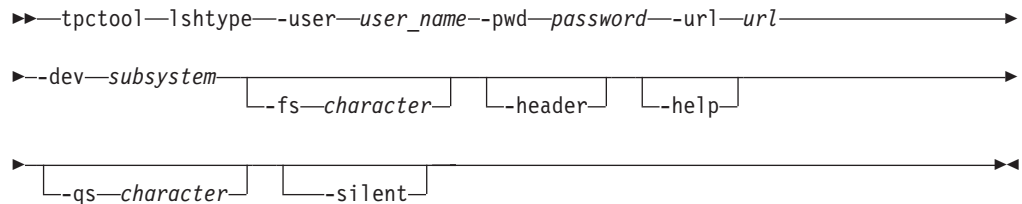
ID	File Set
root+testadd+tpcsonas2.storage.tucson.ibm.com+00000200A0E0005C+0	root
smcho+testadd+tpcsonas2.storage.tucson.ibm.com+00000200A0E0005C+0	smcho
testset+testadd+tpcsonas2.storage.tucson.ibm.com+00000200A0E0005C+0	testset

Path	Status	Used Space (GB)	Used I-Nodes
/ibm/testadd	linked	0	0
/ibm/testadd/smcho	linked	0	0
--	unlinked	0	0

lshtype

Use the **lshtype** command to list host types. You must have Disk Administrator authority to use this command.

Syntax



Parameters and arguments

-user *user_name*

Specifies a valid Tivoli Storage Productivity Center user ID.

-pwd *password*

Specifies the password for the Tivoli Storage Productivity Center user ID.

-url *url*

Specifies the Device server. The format of the URL is: *system:port_number* where *system* represents either the host name or IP address, and *port_number* represents the Tivoli Storage Productivity Center Device server port.

-dev *subsystem*

Specifies the globally unique identifier (GUID) of the storage subsystem. You can use the **lsdev** command to obtain information, including the GUID, for all storage subsystems that are discovered.

-fs *character*

Specifies the 7-bit character that separates the information in the output. If you omit this parameter, the information is separated by blank spaces.

-header

Suppresses the column headings in the output. If you omit this parameter, the column headings are included.

-help | **-h** | **-?**

Lists help information for the command.

-qs *character*

Specifies the 7-bit character that surrounds character strings and date stamps in the output. If you omit this parameter, character strings and date stamps are enclosed by double quotation marks ("").

Parameters and arguments

-user *user_name*

Specifies a valid Tivoli Storage Productivity Center user ID.

-pwd *password*

Specifies the password for the Tivoli Storage Productivity Center user ID.

-url *url*

Specifies the Device server. The format of the URL is: *system:port_number* where *system* represents either the host name or IP address, and *port_number* represents the Tivoli Storage Productivity Center Device server port.

-fabric *WWN*

Specifies the fabric. The *WWN* variable is the World Wide Name (WWN).

-subsys *subsystem*

Specifies the storage subsystem. The subsystem variable is the GUID of the storage subsystem. You can use the **lsdev** command to return information, including the GUID, for all storage subsystems that are discovered by Tivoli Storage Productivity Center.

-ctype *comp_type*

Specifies that the output should include only components of the specified type. See the **lstype** command for more information about the *comp_type* variable.

-level **sample** | **hourly** | **daily**

Specifies the level for which the performance metrics should be summarized. You can specify a sample summary, an hourly summary, or a daily summary.

-fs *character*

Specifies the 7-bit character that separates the information in the output. If you omit this parameter, the information is separated by blank spaces.

-header

Suppresses the column headings in the output. If you omit this parameter, the column headings are included.

-help | **-h** | **-?**

Lists help information for the command.

-qs *character*

Specifies the 7-bit character that surrounds character strings and date stamps in the output. If you omit this parameter, character strings and date stamps are enclosed by double quotation marks (").

-silent

Suppresses all output for the command. If you omit this parameter, output is included.

Examples

Listing performance metrics

The following command generates a list of performance metrics for switch ports on the specified fabric:

```
tpctool lsmetrics -user me -pwd mypass -url myhost:myport  
-fabric 100000051E34F6A8 -ctype switch_port -level sample
```

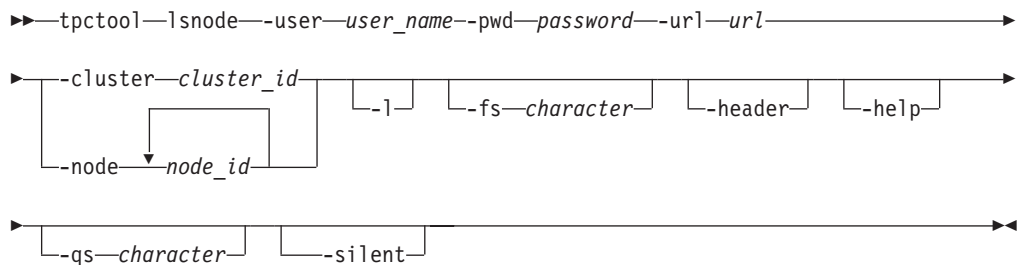
The following output is returned:

Metric	Value
Port Send Packet Rate	855
Port Receive Packet Rate	856
Total Port Packet Rate	857
Port Send Data Rate	858
Port Receive Data Rate	859
Total Port Data Rate	860
Port Peak Send Data Rate	861
Port Peak Receive Data Rate	862
Port Send Packet Size	869
Port Receive Packet Size	870
Overall Port Packet Size	871
Error Frame Rate	872
Dumped Frame Rate	873
Link Failure Rate	874

lsnode

Use the **lsnode** command to list all nodes or specified nodes that are associated with a cluster that is on a Storwize V7000 Unified or IBM SONAS storage system. You must have Data Operator authority to use this command.

Syntax



Parameters and arguments

- user user_name**
Specifies a valid Tivoli Storage Productivity Center user ID.
- pwd password**
Specifies the password for the Tivoli Storage Productivity Center user ID.
- url url**
Specifies the Device server. The format of the URL is: *system:port_number* where *system* represents either the host name or IP address, and *port_number* represents the Tivoli Storage Productivity Center Device server port.
- cluster cluster_id | -node node_id...**
The **-cluster** parameter specifies that information is displayed for all nodes that are on a cluster. This parameter requires the ID for the cluster. You can use the **lscluster** command to return information, including the cluster IDs, for all clusters that were discovered.

The **-node** parameter specifies that information is displayed only for specific nodes. You can enter one or multiple node IDs. Use a comma to separate multiple IDs.
- l**
Specifies that the following information is listed:

ID An ID for the node that is composed of the node name, cluster name, storage system name, and storage system format.

Node The name of the node.

Description
The description of the node.

IP Address
The IP address for the node.

Role One or more of the following roles: interface, management, or storage.

Status One of the following values: NORMAL, CRITICAL, or WARNING.

If you omit this parameter, only the ID is returned.

-fs character
Specifies the 7-bit character that separates the information in the output. If you omit this parameter, the information is separated by blank spaces.

-header
Suppresses the column headings in the output. If you omit this parameter, the column headings are included.

-help | -h | -?
Lists help information for the command.

-qs character
Specifies the 7-bit character that surrounds character strings and date stamps in the output. If you omit this parameter, character strings and date stamps are enclosed by double quotation marks ("").

-silent
Suppresses all output for the command. If you omit this parameter, output is included.

Examples

Listing all nodes that are on a cluster

The following command generates a list of all nodes that are on a IBM SONAS cluster:

```
tpctool> lsnode -cluster tpcsonas2.storage.tucson.ibm.com+00000200A0E0005C+0 -l
```

The following output is returned:

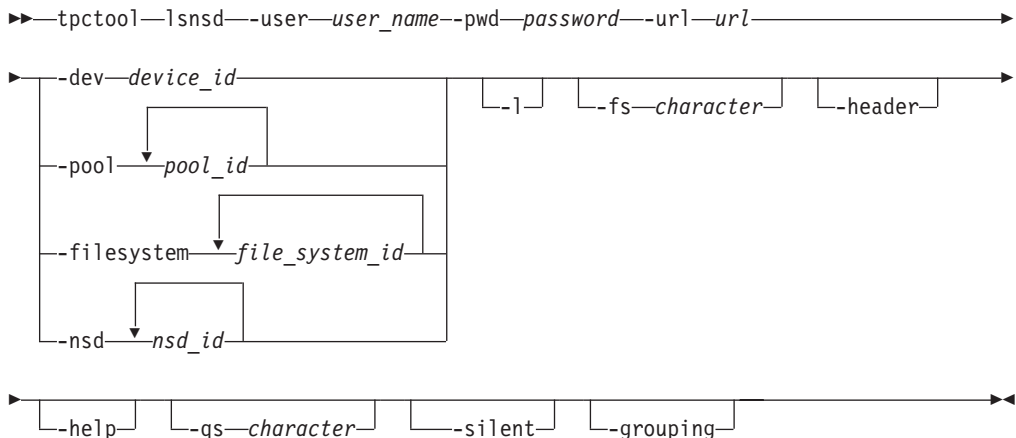
ID	Node
int001st001+tpcsonas2.storage.tucson.ibm.com+00000200A0E0005C+0	int001st001
strg002st001+tpcsonas2.storage.tucson.ibm.com+00000200A0E0005C+0	strg002st001
strg001st001+tpcsonas2.storage.tucson.ibm.com+00000200A0E0005C+0	strg001st001
mgmt001st001+tpcsonas2.storage.tucson.ibm.com+00000200A0E0005C+0	mgmt001st001
int002st001+tpcsonas2.storage.tucson.ibm.com+00000200A0E0005C+0	int002st001

Description	IP Address	Role	Status
int001st001	9.11.123.208,9.11.123.209	interface	NORMAL
strg002st001	172.31.134.2	storage	NORMAL
strg001st001	172.31.134.1	storage	NORMAL
mgmt001st001	172.31.136.2	management	NORMAL
int002st001	172.31.132.2	interface	WARNING

lsnsd

Use the **lsnsd** command to list all Network Shared Disks (NSDs) or specified NSDs that are on a Storwize V7000 Unified or IBM SONAS storage system. You can also list NSDs by file system, pool, or both. You must have Data Operator authority to use this command.

Syntax



Parameters and arguments

-user *user_name*

Specifies a valid Tivoli Storage Productivity Center user ID.

-pwd *password*

Specifies the password for the Tivoli Storage Productivity Center user ID.

-url *url*

Specifies the Device server. The format of the URL is: *system:port_number* where *system* represents either the host name or IP address, and *port_number* represents the Tivoli Storage Productivity Center Device server port.

-dev *dev_id* | **-pool** *pool_id...* | **-filesystem** *file_system_id...* | **-nsd** *nsd_id...*

The **-dev** parameter specifies that information is displayed for all NSDs that are associated with a storage system. This parameter requires the globally unique identifier (GUID) of the storage system. You can use the **lsdev** command to return information, including the GUID, for all storage systems that were discovered.

The **-pool** parameter specifies that information is displayed only for NSDs that are associated with specific pools. You can enter one or multiple pool IDs. Use a comma to separate multiple IDs. You can use the **lspool** command to return information, including the pool IDs, for all pools that were discovered.

The **-filesystem** parameter specifies that information is displayed only for NSDs that are associated with specific file systems. You can enter one or multiple file system IDs. Use a comma to separate multiple IDs. You can use the **lsfs** command to return information, including the file system IDs, for all file systems that were discovered.

The **-nsd** parameter specifies that information is displayed only for specific NSDs. You can enter one or multiple NSD IDs. Use a comma to separate multiple IDs.

-l

Specifies that the following information is listed:

ID An ID for the NSD that composed of the NSD name, storage system name, and storage system format.

NSD NSD: The name of the NSD.

Cluster ID

The ID for the cluster that is associated with the NSD as defined by the Storwize V7000 Unified file module or IBM SONAS.

Failover Group

The failure group that the NSD belongs to.

Type One or more of the following types: dataAndMetadata, dataOnly, metadataOnly.

Pool The pool that the NSD is associated with.

Status One of the following values: NORMAL, CRITICAL, WARNING, or UNREACHABLE.

Disk Space (GB)

The total disk space for the NSD.

Available Space (GB)

The amount of unused disk space for the NSD.

File System

The file system that the NSD is associated with.

If you omit this parameter, only the ID is returned.

-fs *character*

Specifies the 7-bit character that separates the information in the output. If you omit this parameter, the information is separated by blank spaces.

-header

Suppresses the column headings in the output. If you omit this parameter, the column headings are included.

-help | -h | -?

Lists help information for the command.

-qs *character*

Specifies the 7-bit character that surrounds character strings and date stamps in the output. If you omit this parameter, character strings and date stamps are enclosed by double quotation marks ("").

-silent

Suppresses all output for the command. If you omit this parameter, output is included.

-grouping

Enables the grouping of numeric values. For example, in English, the value 12000 would display as 12,000. The grouping character is determined by the system locale.

Examples

Listing all NSDs that are on a storage system

The following command generates a list of all NSDs that are on a Storwize V7000 Unified storage system:

```
tpctool> lsnsd -dev 00000200A0E0005C+0 -l
```

The following output is returned:

```

ID
=====
array0_sas_60001ff07996c0089b00000+00000200A0E0005C+0 array0_sas_60001ff07996c0089b00000
array0_sas_60001ff07996c0289b20002+00000200A0E0005C+0 array0_sas_60001ff07996c0289b20002
array1_sas_60001ff07996c0389b30003+00000200A0E0005C+0 array1_sas_60001ff07996c0389b30003
array1_sas_60001ff07996c0189b10001+00000200A0E0005C+0 array1_sas_60001ff07996c0189b10001
array0_sas_60001ff07996c0489b40004+00000200A0E0005C+0 array0_sas_60001ff07996c0489b40004
Cluster ID          Failover Group Type          Pool  Status
=====
12402779238946656959 1          dataAndMetadata system NORMAL
12402779238946656959 1          dataAndMetadata system NORMAL
12402779238946656959 4005      dataAndMetadata system NORMAL
12402779238946656959 1          dataAndMetadata system NORMAL
12402779238946656959 4002      dataAndMetadata system NORMAL

Disk Space (GB) Available Space (GB) File System
=====
4280                3144      gpfs0
4280                4278.46  gpfs1
4280                4278.46  ma_19037
4280                4128.4   testadd
4280                4280     testadd

```

lspool

Use the **lspool** command to list all file system pools that are on a specified Storwize V7000 Unified or IBM SONAS storage system. You can also list the pools by file system. You must have Data Operator authority to use this command.

Syntax

```

▶▶ tpctool -lspool --user user_name --pwd password --url url

```

```

▶ -dev device_id
  |
  | -filesystem -> file_system_id
  |
  | -pool -> pool_id
  |
  | -l
  | -fs character
  | -header

```

```

▶ -help
  | -qs character
  | -silent
  | -grouping
  | pool_id...

```

Parameters and arguments

-user *user_name*

Specifies a valid Tivoli Storage Productivity Center user ID.

-pwd *password*

Specifies the password for the Tivoli Storage Productivity Center user ID.

-url *url*

Specifies the Device server. The format of the URL is: *system:port_number* where *system* represents either the host name or IP address, and *port_number* represents the Tivoli Storage Productivity Center Device server port.

-dev *dev_id* | **-filesystem** *file_system_id...* | **-pool** *pool_id...*

The **-dev** parameter specifies that information is displayed for all pools that are associated with a storage system. This parameter requires the globally unique identifier (GUID) of the storage system. You can use the **lsdev** command to return information, including the GUID, for all storage systems that were discovered.

The **-filesystem** parameter specifies that information is displayed only for pools that are associated with specific file systems. You can enter one or multiple file system IDs. Use a comma to separate multiple IDs. You can use the **lsfs** command to return information, including the file system IDs, for all file systems that were discovered.

The **-pool** parameter specifies that information is displayed only for specific pools. You can enter one or multiple pool IDs. Use a comma to separate multiple IDs.

-l

Specifies that the following information is listed:

ID An ID for the pool that is composed of the pool name, storage system name, and storage system format.

Pool The name of the pool.

Capacity (GB)
The capacity of the pool.

Available Space (GB)
The amount of unused space that is in the pool.

If you omit this parameter, only the ID is returned.

-fs *character*

Specifies the 7-bit character that separates the information in the output. If you omit this parameter, the information is separated by blank spaces.

-header

Suppresses the column headings in the output. If you omit this parameter, the column headings are included.

-help | **-h** | **-?**

Lists help information for the command.

-qs *character*

Specifies the 7-bit character that surrounds character strings and date stamps in the output. If you omit this parameter, character strings and date stamps are enclosed by double quotation marks ("").

-silent

Suppresses all output for the command. If you omit this parameter, output is included.

-grouping

Enables the grouping of numeric values. For example, in English, the value 12000 would display as 12,000. The grouping character is determined by the system locale.

Examples

Listing all file system pools that are on a storage system

The following command generates a list of all file system pools that are on a Storwize V7000 Unified storage system:

```
tpctool> lspool -dev 00000200A0E0005C+0 -l
```

The following output is returned:

ID	Pool	Capacity (GB)	Available Space (GB)
system+00000200A0E0005C+0	system	21400	20109.43

Isport

Use the **Isport** command to list the ports located on a fibre-channel host bus adapter (HBA). You must have Fabric Administrator authority to use this command.

Syntax

```
▶▶ tpctool -lspool --user user_name --pwd password --url url --svr server
▶
┌ -l ─┘ ┌ -fs character ─┘ ┌ -header ─┘ ┌ -help ─┘ ┌ -qs character ─┘
▶
└ -silent ─┘
```

Parameters and arguments

-user *user_name*

Specifies a valid Tivoli Storage Productivity Center user ID.

-pwd *password*

Specifies the password for the Tivoli Storage Productivity Center user ID.

-url *url*

Specifies the Device server. The format of the URL is: *system:port_number* where *system* represents either the host name or IP address, and *port_number* represents the Tivoli Storage Productivity Center Device server port.

-svr *server*

Specifies a system with a fibre-channel HBA. The *server* variable is the host name of the system.

-l

Specifies that the long version of the information should be listed:

- World wide port name (WWPN)
- Name
- Status

If you omit this parameter, only the WWPN is returned.

-fs *character*

Specifies the 7-bit character that separates the information in the output. If you omit this parameter, the information is separated by blank spaces.

-header

Suppresses the column headings in the output. If you omit this parameter, the column headings are included.

-help | -h | -?

Lists help information for the command.

-qs *character*

Specifies the 7-bit character that surrounds character strings and date stamps in the output. If you omit this parameter, character strings and date stamps are enclosed by double quotation marks ("").

-silent

Suppresses all output for the command. If you omit this parameter, output is included.

Examples

Listing port information

The following command lists the long version of information about the ports associated with the fibre-channel HBA:

```
tpctool> lsport -user me -pwd mypass -url myhost:myport -svr <server> -l
```

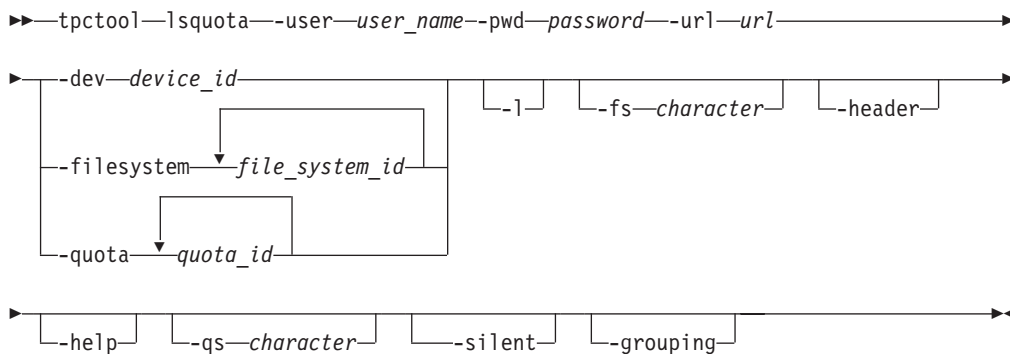
The following output is returned:

WWPN	Name	Status
210000E08B1Co9E	Marketing	Active

lsquota

Use the **lsquota** command to list all quotas or specified quotas that are on a Storwize V7000 Unified or IBM SONAS storage system. You can also list quotas by file system. You must have Data Operator authority to use this command.

Syntax



Parameters and arguments

-user *user_name*

Specifies a valid Tivoli Storage Productivity Center user ID.

-pwd *password*

Specifies the password for the Tivoli Storage Productivity Center user ID.

-url *url*

Specifies the Device server. The format of the URL is: *system:port_number* where *system* represents either the host name or IP address, and *port_number* represents the Tivoli Storage Productivity Center Device server port.

-dev *dev_id* | **-filesystem** *file_system_id...* | **-quota** *quota_id...*

The **-dev** parameter specifies that information is displayed for all quotas that are associated with a storage system. This parameter requires the globally

unique identifier (GUID) of the storage system. You can use the **lsdev** command to return information, including the GUID, for all storage systems that were discovered.

The **-filesystem** parameter specifies that information is displayed only for quotas that are associated with specific file systems. You can enter one or multiple file system IDs. Use a comma to separate multiple IDs. You can use the **lsfs** command to return information, including the file system IDs, for all file systems that were discovered.

The **-quota** parameter specifies that information is displayed only for specific quotas. You can enter one or multiple quota IDs. Use a comma to separate multiple IDs.

-l

Specifies that the following information is listed:

ID: The identifier for the quota.

Name: The name of the user, group, or file set that the quota is associated with.

File System: The file system that the quota is associated with.

Type: The type of quota can be on of the following values: user, fileset, or group.

SL Usage (GB): The soft limit for storage space usage.

HL Usage (GB): The hard limit for storage space usage.

Used Space (GB): The amount of used storage space.

SL I-Nodes: The soft limit for inode usage.

HL I-Nodes: The hard limit for inode usage.

Used I-Nodes: The number of used inodes.

Gracetime Usage (sec.): The timeframe in which storage space usage must be brought below the quota.

Gracetime I-Nodes (sec.): The timeframe in which inode usage must be brought below the quota.

In Doubt (KB): The amount of data for which the quota was not updated.

If you omit this parameter, only the ID is returned.

-fs *character*

Specifies the 7-bit character that separates the information in the output. If you omit this parameter, the information is separated by blank spaces.

-header

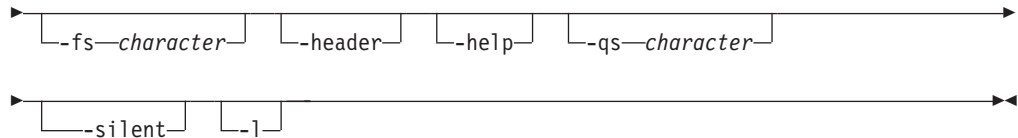
Suppresses the column headings in the output. If you omit this parameter, the column headings are included.

-help | **-h** | **-?**

Lists help information for the command.

-qs *character*

Specifies the 7-bit character that surrounds character strings and date stamps in the output. If you omit this parameter, character strings and date stamps are enclosed by double quotation marks ("").



Parameters and arguments

-user *user_name*

Specifies a valid Tivoli Storage Productivity Center user ID.

-pwd *password*

Specifies the password for the Tivoli Storage Productivity Center user ID.

-url *url*

Specifies the Device server. The format of the URL is: *system:port_number* where *system* represents either the host name or IP address, and *port_number* represents the Tivoli Storage Productivity Center Device server port.

-fs *character*

Specifies the 7-bit character that separates the information in the output. If you omit this parameter, the information is separated by blank spaces.

-header

Suppresses the column headings in the output. If you omit this parameter, the column headings are included.

-help | -h | -?

Lists help information for the command.

-qs *character*

Specifies the 7-bit character that surrounds character strings and date stamps in the output. If you omit this parameter, character strings and date stamps are enclosed by double quotation marks ("").

-silent

Suppresses all output for the command. If you omit this parameter, output is included.

-l

Specifies that long information is listed, which includes the following information:

- Type of Storage Resource Group
- User Defined Property 1
- User Defined Property 2
- User Defined Property 3

If this parameter is not issued, only the group name is returned.

Examples

To display a list of Storage Resource Groups

The following command generates a list of Storage Resource Groups known to Tivoli Storage Productivity Center:

```
tpctool>lssrg -l
```

The following output is returned:

Name	Type	Description	UDP1	UDP2	UDP3
administrator.my-example-srg	Cloud Capacity Pool				

Issrgmembers

Use the **Issrgmembers** command to list of members of a specified Storage Resource Group. You must have Fabric Operator or Disk Operator authority to use this command.

Syntax

```

▶▶ tptctool -lssrgmembers --user user_name --pwd password --url url
▶ [ -fs character ] [ -header ] [ -help ] [ -qs character ]
▶ [ -silent ] [ -l ] -name SRGName

```

Parameters and arguments

-user *user_name*

Specifies a valid Tivoli Storage Productivity Center user ID.

-pwd *password*

Specifies the password for the Tivoli Storage Productivity Center user ID.

-url *url*

Specifies the Device server. The format of the URL is: *system:port_number* where *system* represents either the host name or IP address, and *port_number* represents the Tivoli Storage Productivity Center Device server port.

-fs *character*

Specifies the 7-bit character that separates the information in the output. If you omit this parameter, the information is separated by blank spaces.

-header

Suppresses the column headings in the output. If you omit this parameter, the column headings are included.

-help | -h | -?

Lists help information for the command.

-qs *character*

Specifies the 7-bit character that surrounds character strings and date stamps in the output. If you omit this parameter, character strings and date stamps are enclosed by double quotation marks ("").

-silent

Suppresses all output for the command. If you omit this parameter, output is included.

-l

Specifies that long information is listed. This includes the following information:

- User Defined Property 1
- User Defined Property 2
- User Defined Property 3

If this parameter is not issued, only the host name is returned.

- Key - a combination of the GUID, the hostname, and the IP address

If this parameter is not issued, only the host name is returned.

-fs character

Specifies the 7-bit character that separates the information in the output. If you omit this parameter, the information is separated by blank spaces.

-header

Suppresses the column headings in the output. If you omit this parameter, the column headings are included.

-help | -h | -?

Lists help information for the command.

-qs character

Specifies the 7-bit character that surrounds character strings and date stamps in the output. If you omit this parameter, character strings and date stamps are enclosed by double quotation marks ("").

-silent

Suppresses all output for the command. If you omit this parameter, output is included.

Examples

Listing long information for all systems discovered by Fabric Manager

The following commands list long information for all systems that are discovered by Fabric Manager:

```
tpctool
tpctool> lssvr -l
```

The following output is returned:

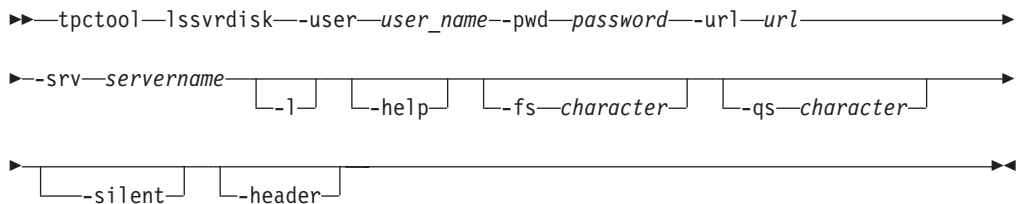
```
Name      OS      IP      Status
=====
Marketing Windows 9.32.245.164 NORMAL

Key
=====
bfcf0e0192a111dc9ac60011258d9a29+tb142-wi+9.47.97.149+++
```

lssvrdisk

Use the **lssvrdisk** command to list all the physical disks known to a specified server.

Syntax



Parameters and arguments

-user *user_name*

Specifies a valid Tivoli Storage Productivity Center user ID.

-pwd *password*

Specifies the password for the Tivoli Storage Productivity Center user ID.

-url *url*

Specifies the Device server. The format of the URL is: *system:port_number* where *system* represents either the host name or IP address, and *port_number* represents the Tivoli Storage Productivity Center Device server port.

-svrservername

Specifies the key of a server that has a Tivoli Storage Productivity Center agent deployed to it. Use the **lssvr -l** command to retrieve a list of servers and the associated keys.

-l

Specifies that long information is listed. This includes the following information:

- Key - a combination of the GUID, the hostname, and the IP address
- Driver
- Vendor
- Model
- Serial Number
- Capacity
- Path

If this parameter is not issued, only the host name is returned.

-header

Suppresses the column headings in the output. If you omit this parameter, the column headings are included.

-help | -h | -?

Lists help information for the command.

-qs *character*

Specifies the 7-bit character that surrounds character strings and date stamps in the output. If you omit this parameter, character strings and date stamps are enclosed by double quotation marks ("").

-silent

Suppresses all output for the command. If you omit this parameter, output is included.

Examples

Listing long information for all physical disks known to a specified server

The following commands list long information for all physical disks that are known to a specified server::

```
tpctool
tpctool> lssvrdisk -svr bfcf0e0192a111dc9ac60011258d9a29+tb142-wi.beaverton.
ibm.com+9.47.97.149+++ -l
```

The following output is returned:

```

Key                Driver                Vendor  Model
=====
3HX30J0X000075154506 Adaptec AIC-7902B - Ultra320 SCSI IBM-ESXS ST336753LC FN

Serial Number      Capacity  Path
=====
3HX30J0X000075154506 36401479680 Disk 0

```

lsswitch

Use the **lsswitch** command to display a list of all switches in a specified fabric. . You must have Fabric Administrator authority to use this command.

Syntax

```

▶▶▶ tptctool -lsswitch --user user_name --pwd password --url url
▶ --fabric fabric [-l] [-help] [-fs character] [-qs character]
▶ [-silent] [-header]

```

Parameters and arguments

-user *user_name*

Specifies a valid Tivoli Storage Productivity Center user ID.

-pwd *password*

Specifies the password for the Tivoli Storage Productivity Center user ID.

-url *url*

Specifies the Device server. The format of the URL is: *system:port_number* where *system* represents either the host name or IP address, and *port_number* represents the Tivoli Storage Productivity Center Device server port.

-header

Suppresses the column headings in the output. If you omit this parameter, the column headings are included.

-help | -h | -?

Lists help information for the command.

-qs *character*

Specifies the 7-bit character that surrounds character strings and date stamps in the output. If you omit this parameter, character strings and date stamps are enclosed by double quotation marks ("").

-silent

Suppresses all output for the command. If you omit this parameter, output is included.

-fabric *fabric*

Specifies the WWN of the fabric associated with the switches. Use the **lsdev -l** command to see a list of available fabrics.

-l

Specifies that long information is listed. This includes the following information:

- WWN
- Label

- Type
- Vendor
- Model
- Status

If this parameter is not issued, only the host name is returned.

Examples

Listing long information for all switches on a specified fabric.

The following command lists long information for all switches in the specified fabric:

```
tpctool
tpctool> lsswitch -fabric 10000800880476F0 -l
```

The following output is returned:

WWN	Label	Type	Vendor	Model	Status
100000051E34AEE1	tb500_sw	Physical	Unknown	26.2	UNREACHABLE

Istapedrive

Use the `lstapedrive` command to display a list of all tape drives in the specified tape library.

Syntax

```
▶▶tpctool-lstapedrive--user--user_name--pwd--password--url--url-----▶▶
▶--tapelibrary--tapelibrary-----▶▶
```

Parameters and arguments

-url *url*

Specifies the Device server. The format of the URL is: *system:port_number* where *system* represents either the host name or IP address, and *port_number* represents the Tivoli Storage Productivity Center Device server port.

-fs *character*

Specifies the 7-bit character that separates the information in the output. If you omit this parameter, the information is separated by blank spaces.

-header

Suppresses the column headings in the output. If you omit this parameter, the column headings are included.

-help | -h | -?

Lists help information for the command.

-qs *character*

Specifies the 7-bit character that surrounds character strings and date stamps in the output. If you omit this parameter, character strings and date stamps are enclosed by double quotation marks (").

-silent

Suppresses all output for the command. If you omit this parameter, output is included.

-tapelibrary *tapelibrary*

The unique tape library key for which you would like to retrieve the tape drives. Tape library keys can be obtained from the command `lstapelib`.

-l Specifies that long information is listed. If this parameter is not issued, only the host name is returned.

Istapelib

Use the **Istapelib** command to list all tape libraries known to the Tape Manager. You must have Fabric Administrator authority to use this command.

Syntax

```
▶▶ tptool -l stapelib --user user_name --pwd password --url url [ -l ]
▶ [ -help ] [ -fs character ] [ -qs character ] [ -silent ]
▶ [ -header ]
```

Parameters and arguments

-user *user_name*

Specifies a valid Tivoli Storage Productivity Center user ID.

-pwd *password*

Specifies the password for the Tivoli Storage Productivity Center user ID.

-url *url*

Specifies the Device server. The format of the URL is: *system:port_number* where *system* represents either the host name or IP address, and *port_number* represents the Tivoli Storage Productivity Center Device server port.

-fs *character*

Specifies the 7-bit character that separates the information in the output. If you omit this parameter, the information is separated by blank spaces.

-header

Suppresses the column headings in the output. If you omit this parameter, the column headings are included.

-help | -h | -?

Lists help information for the command.

-qs *character*

Specifies the 7-bit character that surrounds character strings and date stamps in the output. If you omit this parameter, character strings and date stamps are enclosed by double quotation marks ("").

-silent

Suppresses all output for the command. If you omit this parameter, output is included.

-l

Specifies that long information is listed. This includes the following information:

- Key

- Label
- Vendor
- Model
- Status

If this parameter is not issued, only the host name is returned.

Examples

Listing long information for all tape libraries known to Tape Manager

The following command lists long information for all tape libraries that are known to Tape Manager:

```
tpctool
tpctool> lstapelib -l
```

The following output is returned:

Key	Label	Vendor	Model	Status
9.47.98.17:IBM \+3584 \+1311051+16	Tape-3584-1311051-IBM	IBM	3584	NORMAL

Istapemc

Use the `lstapemc` command to display a list of all tape media changers in the specified tape library.

Syntax

```
▶▶ tpctool -lstapemc --user user_name --pwd password --url url ▶▶
▶ --tapelibrary tapelibrary ▶▶
```

Parameters and arguments

-url *url*

Specifies the Device server. The format of the URL is: *system:port_number* where *system* represents either the host name or IP address, and *port_number* represents the Tivoli Storage Productivity Center Device server port.

-fs *character*

Specifies the 7-bit character that separates the information in the output. If you omit this parameter, the information is separated by blank spaces.

-header

Suppresses the column headings in the output. If you omit this parameter, the column headings are included.

-help | -h | -?

Lists help information for the command.

-qs *character*

Specifies the 7-bit character that surrounds character strings and date stamps in the output. If you omit this parameter, character strings and date stamps are enclosed by double quotation marks ("").

-silent

Suppresses all output for the command. If you omit this parameter, output is included.

-tapelibrary *tapelibrary*

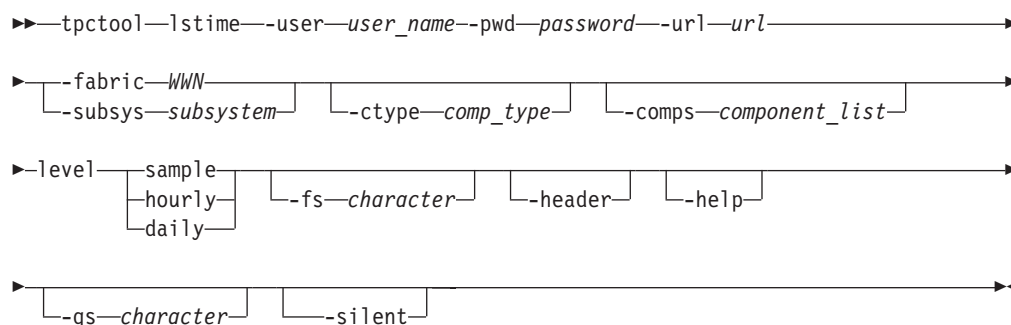
The unique tape library key for which you'd like to retrieve the tape media changers. Tape library keys can be obtained from the command `lstapelib`.

-l Specifies that long information is listed. If this parameter is not issued, only the host name is returned.

Istime

Use the **Istime** command to print a list of time ranges for which performance data is available. You must have Fabric operator or Disk operator authority to use this command.

Syntax



Parameters and arguments

-user *user_name*

Specifies a valid Tivoli Storage Productivity Center user ID.

-pwd *password*

Specifies the password for the Tivoli Storage Productivity Center user ID.

-url *url*

Specifies the Device server. The format of the URL is: *system:port_number* where *system* represents either the host name or IP address, and *port_number* represents the Tivoli Storage Productivity Center Device server port.

-fabric *WWN*

Specifies the fabric. The *WWN* variable is the World Wide Name (WWN).

-subsys *subsystem*

Specifies the storage subsystem. The *subsystem* variable is the GUID of the storage subsystem. You can use the **lsdev** command to return information, including the GUID, for all storage subsystems that are discovered by Tivoli Storage Productivity Center.

-level **sample** | **hourly** | **daily**

Specifies the level for which the time ranges for performance data that is available should be summarized. You can specify a sample summary, an hourly summary, or a daily summary.

-ctype *comp_type*

Specifies that the output should include only components of the specified type. See the **Istype** command for more information about the *comp_type* variable.

-comps *component_list*

Specifies the component list. The *component_list* variable specifies the components, such as returned by **lscomp**.

-fs *character*

Specifies the 7-bit character that separates the information in the output. If you omit this parameter, the information is separated by blank spaces.

-header

Suppresses the column headings in the output. If you omit this parameter, the column headings are included.

-help | -h | -?

Lists help information for the command.

-qs *character*

Specifies the 7-bit character that surrounds character strings and date stamps in the output. If you omit this parameter, character strings and date stamps are enclosed by double quotation marks ("").

-silent

Suppresses all output for the command. If you omit this parameter, output is included.

Examples

Displaying a list of time ranges

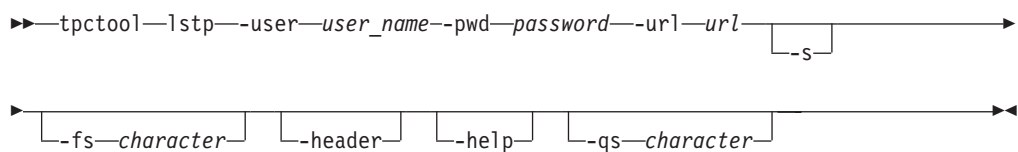
The following command generates a list of time ranges for performance data:

```
tpctool> lstime -user me -pwd mypass -url myhost:myport  
-fabric 100000051E34F6A8 -ctype switch_port -level sample
```

lstp

Use the **lstp** command to list the tiering policies that are defined in Tivoli Storage Productivity Center.

Syntax



Parameters and arguments

-user *user_name*

Specifies a valid Tivoli Storage Productivity Center user ID.

-pwd *password*

Specifies the password for the Tivoli Storage Productivity Center user ID.

-url *url*

Specifies the Device server. The format of the URL is: *system:port_number* where *system* represents either the host name or IP address, and *port_number* represents the Tivoli Storage Productivity Center Device server port.

-s Specifies the short form of the **lstp** command. Displays only the names of the tiering policies. If you do not specify this parameter, the long form of the command output is shown.

-fs *character*

Specifies the 7-bit character that separates the information in the output. If you omit this parameter, the information is separated by blank spaces.

-header

Suppresses the column headings in the output. If you omit this parameter, the column headings are included.

-help | -h | -?

Lists help information for the command.

-qs *character*

Specifies the 7-bit character that surrounds character strings and date stamps in the output. If you omit this parameter, character strings and date stamps are enclosed by double quotation marks ("").

Examples

Listing the available tiering policies

The following command lists the tiering policies that are known to Tivoli Storage Productivity Center.

```
tpctool> lstp -user admin -pwd password -url localhost:9550
```

The following output is returned:

Name	Candidates	Destinations	Priority	Condition(s)
migrate_to_tier3_tp	root.svc2_bkds8k_42	root.svc2_xiv	1	"IODENSITY >= 800"

Related reference:

“mktp” on page 110

Use the **mktp** command to create a tiering policy that is associated with specific storage resource groups.

“rmtp” on page 130

Use the **rmtp** command to remove a tiering policy.

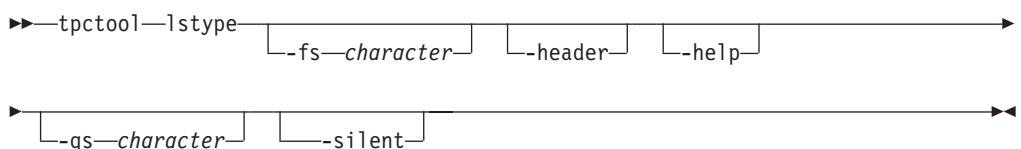
“addtpcondition” on page 8

Use the **addtpcondition** command to add policy conditions to a tiering policy.

lstype

Use the **lstype** command to list the components that are recognized by IBM Tivoli Storage Productivity Center. No authorization is required to run this command.

Syntax



Parameters and arguments

-fs *character*

Specifies the 7-bit character that separates the information in the output. If you omit this parameter, the information is separated by blank spaces.

-header

Suppresses the column headings in the output. If you omit this parameter, the column headings are included.

-help | -h | -?

Lists help information for the command.

-qs *character*

Specifies the 7-bit character that surrounds character strings and date stamps in the output. If you omit this parameter, character strings and date stamps are enclosed by double quotation marks ("").

-silent

Suppresses all output for the command. If you omit this parameter, output is included.

Examples

Listing all component types:

The following command lists the component types that are recognized by Tivoli Storage Productivity Center:

```
tpctool> lstype
```

The following output is returned:

Name	Type
all	-1
unknown	0
subsystem	1
subsys_port	2
controller	3
stor_pool	4
svc_iogrp	5
ds_rio	6
svc_mdgrp	7
da	8
ds_rank	9
array	10
svc_mdisk	11
vol	12
switch	13
switch_port	14

lsvmdisk

Use the **lsvmdisk** command to list all the VMWare Virtual Machine Disks known to the given virtual machine or hypervisor. You must have Fabric Administrator authority to use this command.

Syntax

```
▶▶ tpctool -lsvmdisk --user user_name --pwd password --url url [ ]
▶ [ -help ] [ -fs-character ] [ -qs-character ] [ -silent ]
```



Parameters and arguments

-user *user_name*

Specifies a valid Tivoli Storage Productivity Center user ID.

-pwd *password*

Specifies the password for the Tivoli Storage Productivity Center user ID.

-url *url*

Specifies the Device server. The format of the URL is: *system:port_number* where *system* represents either the host name or IP address, and *port_number* represents the Tivoli Storage Productivity Center Device server port.

-svr *servername*

A server key that represents either a virtual machine or hypervisor. Server keys can be obtained using the **lssvr -l** command.

-l

Specifies that long information is listed. If this parameter is not issued, only the host name is returned.

-fs *character*

Specifies the 7-bit character that separates the information in the output. If you omit this parameter, the information is separated by blank spaces.

-header

Suppresses the column headings in the output. If you omit this parameter, the column headings are included.

-help | -h | -?

Lists help information for the command.

-qs *character*

Specifies the 7-bit character that surrounds character strings and date stamps in the output. If you omit this parameter, character strings and date stamps are enclosed by double quotation marks ("").

-silent

Suppresses all output for the command. If you omit this parameter, output is included.

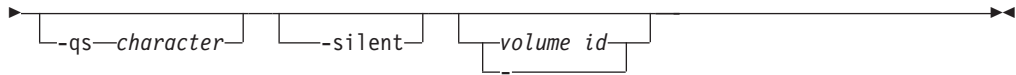
lsvol

Use the **lsvol** command to list all volumes on a system, list a specific volume or volumes, or list volumes on a specific array. You must have Disk administrator authority to use this command.

Syntax

▶▶ `tpctool -lsvol --user=user_name --pwd=password --url=url --dev=GUID` ▶▶

▶ `[array=array] [-l] [-fs=character] [-header] [-help]` ▶



Parameters and arguments

- user** *user_name*
Specifies a valid Tivoli Storage Productivity Center user ID.
- pwd** *password*
Specifies the password for the Tivoli Storage Productivity Center user ID.
- url** *url*
Specifies the Device server. The format of the URL is: *system:port_number* where *system* represents either the host name or IP address, and *port_number* represents the Tivoli Storage Productivity Center Device server port.
- dev** *GUID*
Specifies the storage subsystem. The *GUID* variable is the globally unique identifier (GUID).
- array** *array*
Specifies the array. The *array* variable is the array ID. You can use the **lsarray** command to return information, including array IDs, about the arrays on a specific storage subsystem.
- l** Specifies that long information is listed. In addition to the volume ID, the volume size and FlashCopy relationship information are also listed.
- fs** *character*
Specifies the 7-bit character that separates the information in the output. If you omit this parameter, the information is separated by blank spaces.
- header**
Suppresses the column headings in the output. If you omit this parameter, the column headings are included.
- help | -h | -?**
Lists help information for the command.
- qs** *character*
Specifies the 7-bit character that surrounds character strings and date stamps in the output. If you omit this parameter, character strings and date stamps are enclosed by double quotation marks ("").
- silent**
Suppresses all output for the command. If you omit this parameter, output is included.
- volume id | -**
Specifies the volumes. The *volume_ID* variable is a comma-separated list of volume IDs, such as that obtained by running the **lsvol** command. If a single dash (-) is issued, the volume IDs are read from standard input.

Examples

Listing the volumes on a subsystem

The following commands list all volumes on a specified subsystem. The **-dev** option specifies your system. Additional information for the volumes can be displayed as specified with the **-l** option.

```
tpctool> lsvol -user me -pwd mypass -url myhost:9550 -dev 2107.75DG000+0 -l
```

FlashCopy

Indicates if the volume is in a FlashCopy (FC) relationship and whether it is an FC source or FC target. Volumes that are not in an FC relationship are displayed with a None value whether or not the volume is on a system that supports FC.

Note:

- This value is available for volumes of the following systems only: IBM TotalStorage Enterprise Storage Server® (ESS), IBM System Storage DS6000, IBM System Storage DS8000, and IBM System Storage SAN Volume Controller.
- TotalStorage Enterprise Storage Server systems must have at least the following microcode levels: `ess800mincodelevel = 2.4.3.56`, `essf20mincodelevel = 2.3.3.89`. Tivoli Storage Productivity Center does not report FlashCopy information if the TotalStorage Enterprise Storage Server systems do not meet this requirement.

Real Used

The amount of space, in gigabytes, that a volume is actually using. Tivoli Storage Productivity Center allocates the entire space for regular volumes when they are created. For thin provisioned volumes, it does not. This column displays the space that is actually being used.

Note:

- If a system is new and there is no data in the volumes, the value is zero. For example, the Size field might show 16 GB but the Real Used is 0.
- For non-thin provisioned volumes, the Real Used value always matches the Size value.
- Thin provisioned volumes always have an asterisk in front of their name (Label).
- Thin provisioned volumes of other storage systems are not supported by Tivoli Storage Productivity Center. The Real Used value is displayed as N/A.

Encrypted

Indicates if the volumes are on encrypted disks (Yes or No).

lszone

Use the **lszone** command to list the zones in a zone set. You must have Fabric Administrator authority to use this command.

Syntax

```
▶▶ tpctool -lszone --user user_name --pwd password --url url --fabric WWN ▶▶
▶ [ -active ] [ -fs character ] [ -header ] [ -help ] [ -qs character ] ▶▶
▶ [ -silent ] zone_set ▶▶
```

Parameters and arguments

-user *user_name*

Specifies a valid Tivoli Storage Productivity Center user ID.

-pwd *password*

Specifies the password for the Tivoli Storage Productivity Center user ID.

-url *url*

Specifies the Device server. The format of the URL is: *system:port_number* where *system* represents either the host name or IP address, and *port_number* represents the Tivoli Storage Productivity Center Device server port.

-fabric *WWN*

Specifies the fabric. The *WWN* variable is the World Wide Name (WWN).

-active

Specifies that only the active zones are listed. If this option is not issued, all zones are listed.

-fs *character*

Specifies the 7-bit character that separates the information in the output. If you omit this parameter, the information is separated by blank spaces.

-header

Suppresses the column headings in the output. If you omit this parameter, the column headings are included.

-help | **-h** | **-?**

Lists help information for the command.

-qs *character*

Specifies the 7-bit character that surrounds character strings and date stamps in the output. If you omit this parameter, character strings and date stamps are enclosed by double quotation marks ("").

-silent

Suppresses all output for the command. If you omit this parameter, output is included.

zone_set

Specifies the zone set. The *zone_set* variable is the name of the zone set.

Examples

Listing all zones

The following command lists the names of all zones in the PARIS zone set:

```
tpctool> lszone -user me -pwd mypass -url myhost:myport  
-fabric 100000051E34F6A8 PARIS
```

The following output is returned:

```
Name  
=====  
WINDOWSNT  
SUNSOLARIS  
TEST  
...
```

Listing only the active zones

The following command lists the active zones:

```
tpctool> lszone -user me -pwd mypass -url myhost:myport
-fabric 100000051E34F6A8 -active PARIS
```

The following output is returned:

```
Name
=====
SUNSOLARIS
```

lszs

Use the **lszs** command to list information about zone sets. This information includes the zone-set name and status. You must have Fabric Administrator authority to use this command.

Syntax

```
▶▶ tpctool -lszs --user user_name --pwd password --url url --fabric WWN
┌ -active ─┘ ┌ -l ─┘ ┌ -fs character ─┘ ┌ -header ─┘ ┌ -help ─┘
▶────────────────────────────────────────────────────────────────────────────────▶
┌ -qs character ─┘ ┌ -silent ─┘
▶────────────────────────────────────────────────────────────────────────────────▶▶
```

Parameters and arguments

-user *user_name*

Specifies a valid Tivoli Storage Productivity Center user ID.

-pwd *password*

Specifies the password for the Tivoli Storage Productivity Center user ID.

-url *url*

Specifies the Device server. The format of the URL is: *system:port_number* where *system* represents either the host name or IP address, and *port_number* represents the Tivoli Storage Productivity Center Device server port.

-fabric *WWN*

Specifies the fabric. The *WWN* variable is the World Wide Name (WWN).

-active

Specifies that only information about the active zone set should be listed. If you omit this option, information about all zone sets is listed.

-l Specifies that the long version of the information should be listed:

- Name
- Status: active or inactive

If you omit this option, only the name of the zone is listed.

-fs *character*

Specifies the 7-bit character that separates the information in the output. If you omit this parameter, the information is separated by blank spaces.

-header

Suppresses the column headings in the output. If you omit this parameter, the column headings are included.

-help | **-h** | **-?**

Lists help information for the command.

-qs *character*

Specifies the 7-bit character that surrounds character strings and date stamps in the output. If you omit this parameter, character strings and date stamps are enclosed by double quotation marks ("").

-silent

Suppresses all output for the command. If you omit this parameter, output is included.

Examples

Listing the long version of information for all zone sets

The following command lists the long version of information for all zone sets:

```
tpctool> lszs -user me -pwd mypass -url myhost:myport
-fabric 100000051E34F6A8 -l
```

The following output is returned:

```
Name      Status
=====
PARIS     ACTIVE
LONDON    INACTIVE
```

Listing the active zone set

The following command lists the name of the active zone set:

```
tpctool> lszs -user me -pwd mypass -url myhost:myport
-fabric 100000051E34F6A8 -active
```

The following output is returned:

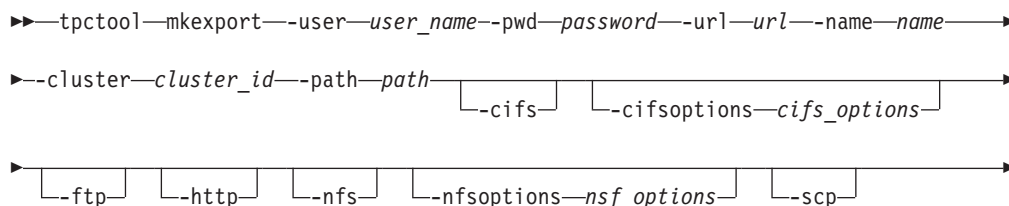
```
Name
=====
PARIS
```

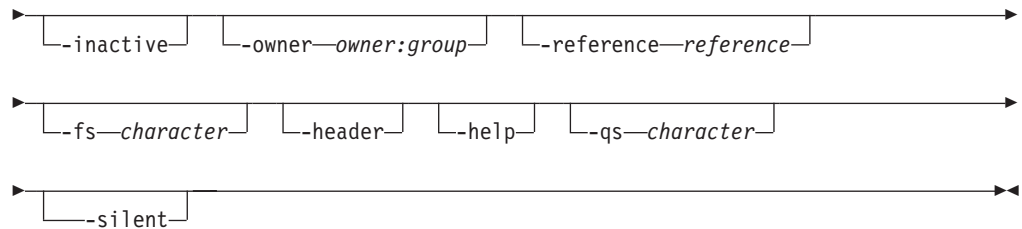
mkexport

Use the **mkexport** command to create an export to access data through a data transfer protocol.

An *export* is a shared disk space that is accessible through the protocols that you specify when running the **mkexport** command. You can create exports and enable them for HTTP, FTP, Secure Copy Protocol (SCP), Network File System (NFS), and Common Internet File System (CIFS) protocols. You must have Data Administrator authority to use this command.

Syntax





Parameters and arguments

-user *user_name*

Specifies a valid Tivoli Storage Productivity Center user ID.

-pwd *password*

Specifies the password for the Tivoli Storage Productivity Center user ID.

-url *url*

Specifies the Device server. The format of the URL is: *system:port_number* where *system* represents either the host name or IP address, and *port_number* represents the Tivoli Storage Productivity Center Device server port.

-name *name*

Specifies the name of the export.

-cluster *cluster_id*

Specifies the name of the Tivoli Storage Productivity Center cluster key. The cluster key is listed in the ID column of the **lscluster** command output. This value is different from the Cluster ID output from the **lscluster** command.

-path *path*

Specifies the path for the export.

-cifs

Configures the CIFS protocol for the export.

-cifsoptions *cifs_options*

Defines the CIFS protocol options for the export. If the *cifsoptions* name or value contains spaces, the entire option must be enclosed in matching single quotation marks and the quotation marks must be preceded by an escape character.

-ftp

Configures FTP for the export.

-http

Configures HTTP for the export.

-nfs

Configures the NFS protocol for the export.

-nfsoptions *nfs_options*

Defines the NFS clients and their options for the export.

-scp

Configures SCP for the export.

-inactive

Marks the export as inactive. An inactive export is added to the list of exports, however you cannot access the data. You can use this parameter to modify the access control lists (ACLs) before later activating the export with the **chexport -active** command.

-owner | -reference

Where **owner** *owner:group* sets the owner/owner group for the directory or **reference** *reference* sets the directory owner to the owner of the reference file. The reference file name must be an existing file or directory.

-fs character

Specifies the 7-bit character that separates the information in the output. If you omit this parameter, the information is separated by blank spaces.

-header

Suppresses the column headings in the output. If you omit this parameter, the column headings are included.

-help | -h | -?

Lists help information for the command.

-qs character

Specifies the 7-bit character that surrounds character strings and date stamps in the output. If you omit this parameter, character strings and date stamps are enclosed by double quotation marks ("").

-silent

Suppresses all output for the command. If you omit this parameter, output is included.

Examples

Creating an export enabled for HTTP, SCP, and NFS protocols

The following command creates an export to access data through HTTP, SCP, and the NFS protocol:

```
tpctool> mkexport -name cindyexport
-cluster tpcsonas1.storage.tucson.ibm.com+tpcsonas1.storage.tucson.ibm.com+0
-path /ibm/gpfs0/cindy -user admin -pwd password -url localhost:9550
-http -scp -nfs
```

The following output is returned:

```
ExportId
=====
cindyexport+tpcsonas1.storage.tucson.ibm.com+tpcsonas1.storage.tucson.ibm.com+0

Status
=====
SUCCESS
```

Creating an export enabled for CIFS protocol

The following command creates an export to access data through the CIFS protocol:

```
tpctool mkexport -name eexp10 -path /ibm/gpfs0/eexp10
-cluster kq98n5d.ibm+00000200A22045DC+0 -cifs
-cifsoptions "browseable=no,\comment=comment for eexp10\',leases=no,
sharemodes=no,syncio=yes,hideunreadable=yes,cifsacl=no,oplocks=no,
locking=no,\read only\',synconclose=no,\access control=Everyone:ALLOWED:FULL;
Administrator:ALLOWED:FULL\'" -user db2admin -pwd g0vmw are -url localhost:9550
```

The following output is returned:


```
ExportId
=====
eexp10+kq98n5d.ibm+00000200A22045DC+0
```


Status

=====

SUCCESS

Related information:

 <http://publib.boulder.ibm.com/infocenter/sonasic/sonas1ic/index.jsp>
More information about command parameters is available at the IBM SONAS Information Center.

 http://publib.boulder.ibm.com/infocenter/storwize/unified_ic/index.jsp
More information about command parameters is available at the Storwize V7000 Unified Information Center.

mkfs

Use the **mkfs** command to create a GPFS file system to manage files on a storage device.

You can access the file system content by using file services like Common Internet File System (CIFS) or Network File System (NFS). You must have Data Administrator authority to use this command.

Syntax

```
▶▶tpctool—mkfs—user—user_name--pwd—password--url—url--name—name————▶▶
▶▶--cluster—cluster_id————▶▶
    └─mountpoint—mount_point└─noverify└─▶▶
▶▶└─numInodes—max_num_inodes[:num_inodes_preallocate]└─▶▶
▶▶└─numNodes—num_nodes└─disks—disk_name└─pool—pool_name└─▶▶
▶▶└─discoverdisks└─createdisks—size└─▶▶
    └─, └─mdisk_grp1└─▶▶
    └─, └─mdisk_grp2└─▶▶
    └─, └─N=num_disks└─▶▶
▶▶└─fs—character└─header└─help└─qs—character└─▶▶
▶▶└─silent└─▶▶
```

Parameters and arguments

-user *user_name*

Specifies a valid Tivoli Storage Productivity Center user ID.

-pwd *password*

Specifies the password for the Tivoli Storage Productivity Center user ID.

- url** *url*
Specifies the Device server. The format of the URL is: *system:port_number* where *system* represents either the host name or IP address, and *port_number* represents the Tivoli Storage Productivity Center Device server port.
- name** *name*
Specifies the name of the file system. The name must be unique and can be a maximum of 256 characters.
- cluster** *cluster_id*
Specifies the name of the Tivoli Storage Productivity Center cluster key. The cluster key is listed in the ID column of the **lscluster** command output.

Tip: This value is different from the Cluster ID output from the **lscluster** command.
- mountpoint** *mount_point*
Specifies the mount point directory of the GPFS file system.
- noverify**
Specifies that the disk descriptor is not verified, so that disks that contain an old descriptor can be reused. Specify the **-noverify** parameter only when you want to reuse disks that are no longer needed for an existing file system. If the command is interrupted for any reason, you must use the **-noverify** parameter when you run the command again.
- numInodes** *max_num_inodes[:num_inodes_preallocate]*
Specifies the maximum number of files for this file system. The *num_inodes_preallocate* variable specifies the number of inodes that the system immediately preallocates. You can specify values in thousands (k) or in millions (M). To specify values of 100 million for the *max_num_inodes* variable and one million for the *num_inodes_preallocate* variable, enter **-numInodes 100M:1M**.
- numNodes** *num_nodes*
Specifies the estimated number of nodes that will be mounted with the file system.
- disks** *disk_name*

Specifies the disks to create the file system on. The *disk_name* variable contains a comma-separated list of disk names.

Tip:
You can verify the availability of a disk by running the **lsnsd** command.
- pool** *pool_name*
Specifies the file system pool to create the file system on.

Tip:
You can list all the disks in a pool by running the **lsnsd** command.
- discoverdisks**
Specifies that Tivoli Storage Productivity Center detects and uses free GPFS Network Shared Disks (NSDs) automatically, which are tagged for a specified file system but not yet included. This option is applicable only for Storwize V7000 Unified.

Tip:
You can verify the availability of a disk by running the **lsnsd** command.

-createdisks *size* | *mdisk_grp1* | *mdisk_grp2* | *N=num_disks*

Creates disks implicitly, before creating the file system, and then adds them to the file system. This option is applicable only for Storwize V7000 Unified.

size Specifies the size of the new disks. Size is specified as an integer with capacity up to petabyte without a space between the size and the unit; for example 17G. Disk sizes must be specified either without suffix (byte) or with K (kilobyte), M (megabyte), G (gigabyte), T (terabyte), or P (petabyte). Values less than 512 MB are not supported. This parameter is mandatory.

mdisk_grp1

Specifies the storage system managed disk (MDisk) group in which the underlying NAS volumes will be created. This parameter is mandatory.

Tip:

You can see a list of available MDisk groups by using the **svcinfolsmdiskgrp** command.

mdisk_grp2

Specifies the second storage system MDisk group in which the underlying NAS volumes will be created. This parameter is optional.

Tip:

You can see a list of available MDisk groups by using the **svcinfolsmdiskgrp** command.

num_disks

Specifies the number of storage system NAS volumes that will be created in each MDisk group. This parameter is optional. The default number of disks is 3.

-fs *character*

Specifies the 7-bit character that separates the information in the output. If you omit this parameter, the information is separated by blank spaces.

-header

Suppresses the column headings in the output. If you omit this parameter, the column headings are included.

-help | **-h** | **-?**

Lists help information for the command.

-qs *character*

Specifies the 7-bit character that surrounds character strings and date stamps in the output. If you omit this parameter, character strings and date stamps are enclosed by double quotation marks ("").

-silent

Suppresses all output for the command. If you omit this parameter, output is included.

Examples

Creating a file system using the **createdisks** parameter

The following command first creates one disk of 20 GB and then creates a file system.

```
tpctool> mkfs -name eefs05 -cluster kq98n5d.ibm+00000200A20045DC+0  
-createdisks 20G,0,N=1 -user admin -pwd password -url localhost:9550
```

The following output is returned:

```
FilesystemId                      Status
=====
eefs05+kq98n5d.ibm+00000200A20045DC+0 SUCCESS
```

Creating a file system using the pool parameter

The following command creates a file system on a specified pool.

```
tpctool> mkfs -name eefs06 -cluster kq98n5d.ibm+00000200A20045DC+0
-pool s1pool -user admin -pwd password -url localhost:9550
```

The following output is returned:

```
FilesystemId                      Status
=====
eefs06+kq98n5d.ibm+00000200A20045DC+0 SUCCESS
```

Creating a file system using the discoverdisks parameter

The following command discovers all the disks tagged to the file system eefs07, creates the file system eefs07, and finally adds the disks to it.

```
tpctool> mkfs -name eefs07 -cluster kq98n5d.ibm+00000200A20045DC+0
-discoverdisks -user admin -pwd password -url localhost:9550
```

The following output is returned:

```
FilesystemId                      Status
=====
eefs07+kq98n5d.ibm+00000200A20045DC+0 SUCCESS
```

Creating a file system using the disks parameter


The following command creates a file system on the specified disks.


```
tpctool> mkfs -name eefs01 -cluster tpcsonas3.storage.tucson.ibm.com+9.11.92.174+0
-disks array0_sas_60001ff078c3a0789ff0001,array1_sas_60001ff078c3a0689fe0000
-user admin -pwd password -url localhost:9550
```

The following output is returned:

```
FilesystemId                      Status
=====
eefs01+tpcsonas3.storage.tucson.ibm.com+9.11.92.174+0 SUCCESS
```

Related information:

 <http://publib.boulder.ibm.com/infocenter/sonasic/sonas1ic/index.jsp>
More information about command parameters is available at the IBM SONAS Information Center.

 http://publib.boulder.ibm.com/infocenter/storwize/unified_ic/index.jsp
More information about command parameters is available at the Storwize V7000 Unified Information Center.

mkfset

Use the **mkfset** command to create a file set that is associated with a file system on a Storwize V7000 File Module storage system or on a IBM SONAS system. With file sets, you can use functions such as snapshots or quotas within a file system. You must have Data Administrator authority to use this command.

The new file set is empty except for a root directory, and is not shown in the directory name space until you run the **linkfset** command. When you create a file set, you can establish policies and quotas on the file set before linking the file set to the name space. You can create a maximum of 10,000 file sets per file system.

Syntax

```

▶▶—tpctool—mkfset—-user—user_name--pwd—password—-url—url—-name—name—▶▶
▶--filesystem—file_system_id—▶▶
    |--owner—owner_file_set_name—|
    |--independent—|
▶▶
▶--comment—comment—|
▶▶
▶--numInodes—max_num_inodes[:num_inodes_preallocate]—| |--fs—character—|
▶▶
▶--header—| |--help—| |--qs—character—| |--silent—|
▶▶

```

Parameters and arguments

-user *user_name*

Specifies a valid Tivoli Storage Productivity Center user ID.

-pwd *password*

Specifies the password for the Tivoli Storage Productivity Center user ID.

-url *url*

Specifies the Device server. The format of the URL is: *system:port_number* where *system* represents either the host name or IP address, and *port_number* represents the Tivoli Storage Productivity Center Device server port.

-name *name*

Specifies the name of the file set.

-filesystem *file_system_id*

Specifies the Tivoli Storage Productivity Center file system key. The file system key is listed in the ID column of the **lsfs** command output.

-owner *owner_file_set_name*

Specifies the name of the independent file set where the new file set is allocated. This parameter is mutually exclusive with the **-independent** parameter. Both file sets must belong to the same file system.

-independent

Specifies whether you want to create an independent file set with its own allocated inodes. Otherwise, the file set is created as a dependent file set, and is allocated on the file system or in an independent file set. This parameter is mutually exclusive with the **-owner** parameter.

-comment *comment*

Specifies a comment that displays in the output of the **lsfset** command. The length of this comment can be a maximum of 255 characters. You must enclose comments in double quotation marks.

-numInodes *max_num_inodes[:num_inodes_preallocate]*

Specifies the maximum number of files for a new, independent file set. This

parameter can only be used with the **-independent** parameter. The *num_inodes_preallocate* variable specifies the number of inodes that the system immediately preallocates. You can specify values in thousands (k) or in millions (M). To specify values of 100 million for the *max_num_inodes* variable and one million for the *num_inodes_preallocate* variable, enter `-numInodes 100M:1M`. GPFS defines a minimum number of inodes which might be greater than the maximum specified. The default values for the file set are one million (1M) for the *max_num_inodes* variable and 50,000 (50K) for the *num_inodes_preallocate* variable.

-fs character

Specifies the 7-bit character that separates the information in the output. If you omit this parameter, the information is separated by blank spaces.

-header

Suppresses the column headings in the output. If you omit this parameter, the column headings are included.

-help | -h | -?

Lists help information for the command.

-qs character

Specifies the 7-bit character that surrounds character strings and date stamps in the output. If you omit this parameter, character strings and date stamps are enclosed by double quotation marks ("").

-silent

Suppresses all output for the command. If you omit this parameter, output is included.

Examples

Creating a file system


The following command creates a file set on a specified file system.


```
tpctool> mkfset -name eefset
-filessystem eefs+kq458mv.ibm+00000200A2A0153C+0
-user admin -pwd password -url localhost:9550
```

The following output is returned:

```
FilesetId                               Status
=====
eefset+eefs+kq458mv.ibm+00000200A2A0153C+0 SUCCESS
```

Related information:

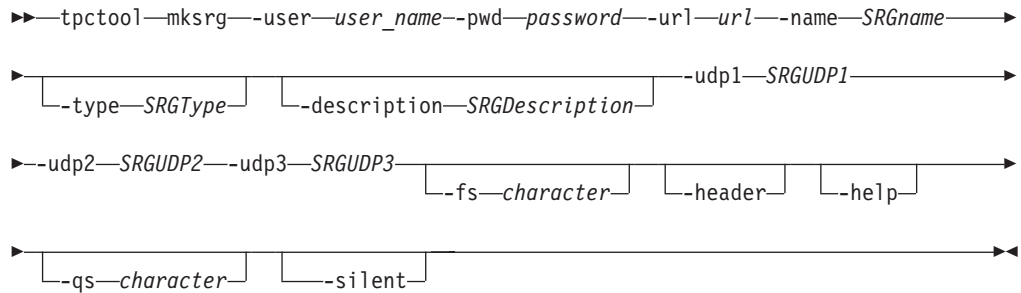
 <http://publib.boulder.ibm.com/infocenter/sonasic/sonas1ic/index.jsp>
More information about command parameters is available at the IBM SONAS Information Center.

 <http://publib.boulder.ibm.com/infocenter/storwize/ic/index.jsp>
More information about command parameters is available at the Storwize V7000 Unified Information Center.

mksrg

Use this command to create a Storage Resource Group with a specific name, type, description, and user-defined properties.

Syntax



Parameters and arguments

-user *user_name*

Specifies a valid Tivoli Storage Productivity Center user ID.

-pwd *password*

Specifies the password for the Tivoli Storage Productivity Center user ID.

-url *url*

Specifies the Device server. The format of the URL is: *system:port_number* where *system* represents either the host name or IP address, and *port_number* represents the Tivoli Storage Productivity Center Device server port.

-name *SRGname*

A unique name not already in use, less than 60 characters long. It cannot contain any of the following characters:

`\ / : * ? " < > | .`

The user name of the user creating the Storage Resource Group is added to the beginning of the Storage Resource Group name, followed by the name specified in the **name** variable.

-type *SRGType*

(optional) The type of Storage Resource Group that you want to create. Valid values are:

0 A Storage Resource Group that consists of a combination of storage entities such as storage systems, switches, fabrics, and other entities. These storage entities can be a logical grouping based on a particular application or usage, such as accounting-related storage entities.

If you do not provide the **-type** parameter, the default type is 0.

1 A Storage Resource Group that is used specifically for cloud automation. This type of storage resource group is used by applications that provide cloud automation services.

-description *SRGDescription*

(optional) The description can contain any alphanumeric characters, and must be less than 255 characters long.

-udp1 *SRGUDP1*

(optional) A user-defined property that can contain anything of significance to the Storage Resource Group administrator. The UDP can contain any alphanumeric character, and must be less than 255 characters long.

-udp2 *SRGUDP2*

(optional) A user-defined property that can contain anything of significance to

the Storage Resource Group administrator. The UDP can contain any alphanumeric character, and must be less than 255 characters long.

-udp3 *SRGUDP3*

(optional) A user-defined property that can contain anything of significance to the Storage Resource Group administrator. The UDP can contain any alphanumeric character, and must be less than 255 characters long.

-fs *character*

Specifies the 7-bit character that separates the information in the output. If you omit this parameter, the information is separated by blank spaces.

-header

Suppresses the column headings in the output. If you omit this parameter, the column headings are included.

-help | -h | -?

Lists help information for the command.

-qs *character*

Specifies the 7-bit character that surrounds character strings and date stamps in the output. If you omit this parameter, character strings and date stamps are enclosed by double quotation marks ("").

-silent

Suppresses all output for the command. If you omit this parameter, output is included.

Examples

To create a Storage Resource Group

The following command creates a Storage Resource Group with the specified attributes:

```
tpctool> mksrg -name testsrg -type 1 -description Test-SRG-Description  
-udp1 myudp1 -udp2 myudp2 -udp3 myudp3
```

The following output is returned:

```
Name                Status  
=====
```

Administrator.testsrg	SUCCESS
-----------------------	---------

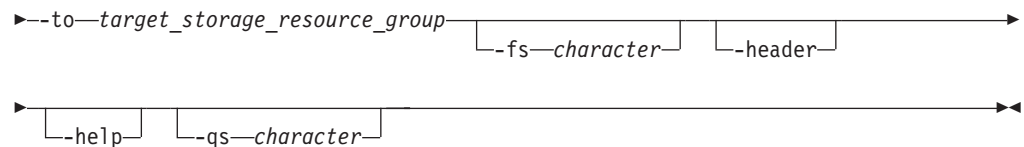
mktp

Use the **mktp** command to create a tiering policy that is associated with specific storage resource groups.

When you add conditions to the policy, they are evaluated during tiering-policy analysis by using the **analyzstp** command. Recommendations are made for migrating storage entities from one storage resource group to another. Tiering policies are analyzed only if they have conditions associated with them.

Syntax

```
▶▶ tpctool -mktp --user user_name --pwd password --url url  
▶ --name tiering_policy_name --from source_storage_resource_group
```



Parameters and arguments

-user *user_name*

Specifies a valid Tivoli Storage Productivity Center user ID.

-pwd *password*

Specifies the password for the Tivoli Storage Productivity Center user ID.

-url *url*

Specifies the Device server. The format of the URL is: *system:port_number* where *system* represents either the host name or IP address, and *port_number* represents the Tivoli Storage Productivity Center Device server port.

-name *tiering_policy_name*

Specifies the name of the tiering policy that you are creating. Tiering policy names are case sensitive and must be unique. Names must contain fewer than 60 characters and cannot contain the following characters: / \ : * ? " ' < > |

-from *source_storage_resource_group*

Specifies the name of the storage resource group from which volumes are considered for migration. The source storage resource group must contain volumes, pools, or storage devices. These may be migrated to another storage pool in the target storage resource group. Only volumes on SAN Volume Controller, Storwize V7000, and Storwize V7000 Unified storage systems are considered for tiering policies; other storage types are ignored.

-to *target_storage_resource_group*

Specifies the name of the storage resource group containing pools to which volumes can be recommended for migration. This storage resource group must contain the same storage system or pools from the same storage system as the volumes in the from storage resource group. Recommendations are only generated for moving volumes to different storage pools within the same storage system.

-fs *character*

Specifies the 7-bit character that separates the information in the output. If you omit this parameter, the information is separated by blank spaces.

-header

Suppresses the column headings in the output. If you omit this parameter, the column headings are included.

-help | **-h** | **-?**

Lists help information for the command.

-qs *character*

Specifies the 7-bit character that surrounds character strings and date stamps in the output. If you omit this parameter, character strings and date stamps are enclosed by double quotation marks (").

Examples

Creating a tiering policy

The following command creates a tiering policy that can be used by Tivoli Storage Productivity Center to make recommendations for moving storage pools from one storage resource group to another.

```
tpctool> mktp -policy migrate_to_tier3_tp -from svc_bkds8k_42 -to svc3_xiv
-user admin -pwd password -url localhost:9550
```

The following output is returned:

Name	Status
migrate_to_tier3_tp	SUCCESSFUL

Related reference:

“lstp” on page 92

Use the **lstp** command to list the tiering policies that are defined in Tivoli Storage Productivity Center.

“rmtp” on page 130

Use the **rmtp** command to remove a tiering policy.

“analyztp” on page 15

Use the **analyztp** command to start a tiering-policy analysis job.

“addtpcondition” on page 8

Use the **addtpcondition** command to add policy conditions to a tiering policy.

mkvol

Use the **mkvol** command to create volumes. You must have Disk Administrator authority to use this command.

Syntax

```
▶▶ tpctool -mkvol --user user_name --pwd password --url url --array array
▶ --size size --lss lss
└─count count┘ └─fs character┘ └─header┘
▶ └─help┘ └─qs character┘ └─silent┘
```

Parameters and arguments

-user *user_name*

Specifies a valid Tivoli Storage Productivity Center user ID.

-pwd *password*

Specifies the password for the Tivoli Storage Productivity Center user ID.

-url *url*

Specifies the Device server. The format of the URL is: *system:port_number* where *system* represents either the host name or IP address, and *port_number* represents the Tivoli Storage Productivity Center Device server port.

-array *array*

Specifies the array. The *array* variable is the array ID. You can use the **lsarray** command to return information, including array IDs, about the arrays on a specific storage subsystem. The array must not be a count, key, or data (CKD) format array.

-size *size*

Specifies the volume size. The *size* variable is the volume size.

Parameters and arguments

-user *user_name*

Specifies a valid Tivoli Storage Productivity Center user ID.

-pwd *password*

Specifies the password for the Tivoli Storage Productivity Center user ID.

-url *url*

Specifies the Device server. The format of the URL is: *system:port_number* where *system* represents either the host name or IP address, and *port_number* represents the Tivoli Storage Productivity Center Device server port.

-fabric *WWN*

Specifies the fabric. The *WWN* variable is the World Wide Name (WWN).

-zone *zone*

Specifies the zone. The *zone* variable is the name of the zone.

-help | **-h** | **-?**

Lists help information for the command.

-silent

Suppresses all output for the command. If you omit this parameter, output is included.

ports | **-**

Specifies the switch ports. The *ports* variable is a list of worldwide port names (WWPNs). If you specify a single dash (-), the WWPNs are read from standard input.

Examples

Creating a zone

Important:

- An orphan zone is one that does not belong to a zone set. If the zone that you are creating is an orphan zone and the switch and Data Source that you are using support orphan zones, use only the **mkzone** command to create the zone. However, if the switch and Data Source that you are using do not support orphan zones, you must use the **addzone** command within the same transaction to add the zone to a zone set. Specify the **addzone** command *after* you create the zone using the **mkzone** command. For details about adding a zone to a zone set, see the **addzone** command.
- To activate your changes to a zone set, use the **actzs** command. For details, see the **actzs** command.

The switch that you are using does not support orphan zones. To create the SUNSOLARIS zone, add the zone to a zone set, and activate the zone set, enter the following commands. Specify all zoning changes within one transaction, from start to commit, and then activate the zone set using the **actzs** command. The list of WWPNs is read from standard input.

```
tpctool> start -user me -pwd mypass -url myhost:myport -fabric 100000051E34F6A8
tpctool> mkzone -fabric 100000051E34F6A8 -zone SUNSOLARIS -
tpctool> addzone -fabric 100000051E34F6A8 -zs PARIS SUNSOLARIS
tpctool> commit -fabric 100000051E34F6A8
tpctool> actzs -fabric 100000051E34F6A8 PARIS
```

mkzs

Use the **mkzs** command to create a zone set. This command must be run as a transaction. You must have Fabric Administrator authority to use this command.

Syntax

```
▶▶ tpctool mkzs --user user_name --pwd password --url url --fabric WWN ▶▶
▶ [ -help ] [ -silent ] zone_set ▶▶
```

Parameters and arguments

-user *user_name*

Specifies a valid Tivoli Storage Productivity Center user ID.

-pwd *password*

Specifies the password for the Tivoli Storage Productivity Center user ID.

-url *url*

Specifies the Device server. The format of the URL is: *system:port_number* where *system* represents either the host name or IP address, and *port_number* represents the Tivoli Storage Productivity Center Device server port.

-fabric *WWN*

Specifies the fabric. The *WWN* variable is the World Wide Name (WWN).

-help | -h | -?

Lists help information for the command.

-silent

Suppresses all output for the command. If you omit this parameter, output is included.

zone_set

Specifies the zone set. The *zone_set* variable is the name of the zone set.

Tip: To create a zone set, you must include at least one zone.

Examples

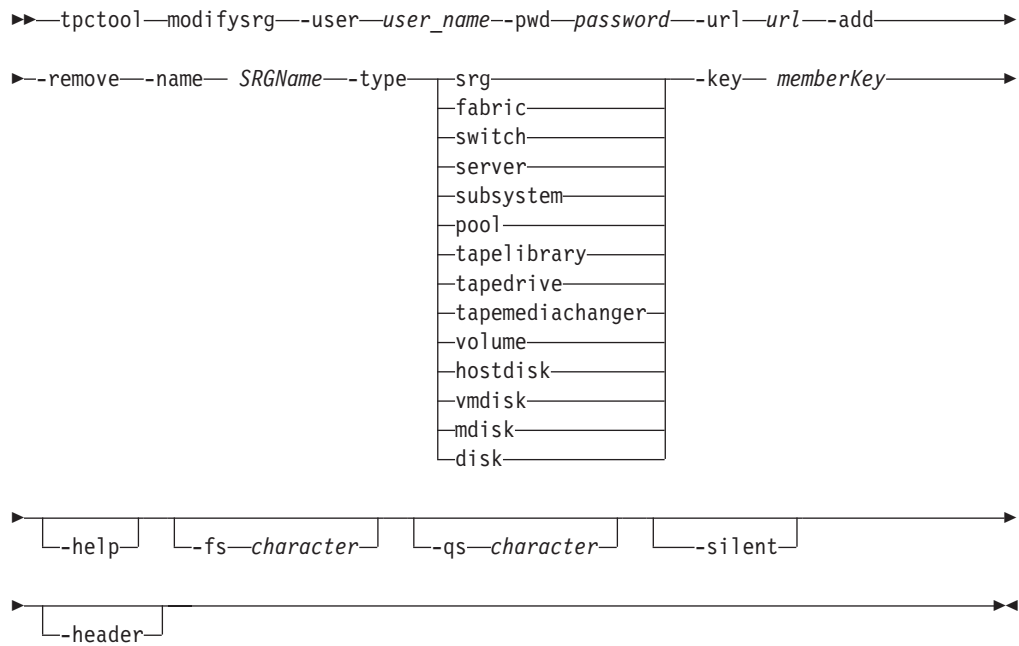
The following commands create the PARIS zone set, which includes the SUNSOLARIS zone:

```
tpctool> start -user me -pwd mypass -url myhost:myport -fabric 100000051E34F6A8
tpctool> mkzone -fabric 100000051E34F6A8 -zone SUNSOLARIS -
tpctool> mkzs -fabric 100000051E34F6A8 PARIS
tpctool> addzone -fabric 100000051E34F6A8 -zs PARIS SUNSOLARIS
tpctool> commit -fabric 100000051E34F6A8
```

modifysg

Use the **modifysg** to modify an existing Storage Resource Group. You can add and remove members by specifying the member type, such as switch or volume, and the key for the member you want to add or remove.

Syntax



Parameters and arguments

-user *user_name*

Specifies a valid Tivoli Storage Productivity Center user ID.

-pwd *password*

Specifies the password for the Tivoli Storage Productivity Center user ID.

-url *url*

Specifies the Device server. The format of the URL is: *system:port_number* where *system* represents either the host name or IP address, and *port_number* represents the Tivoli Storage Productivity Center Device server port.

-add

Adds a new member to the specified Storage Resource Group, designated by the specified member type and key.

-remove

Removes an existing member from the specified Storage Resource Group, designated by the specified member type and key. Use the **lssrgmembers** **-name** *SRGName* to see a list of members and member keys for a specified Storage Resource Group.

-name *SRGName*

Indicates the unique Storage Resource Group where the member is added or removed. See the output of the **lssrg** command.

-type *srg* | *fabric* | *switch* | *server* | *subsystem* | *pool* | *tapelibrary* | *tapedrive* | *tapemediachanger* | *volume* | *hostdisk* | *vmdisk* | *mdisk* | *disk*

Denotes the type of element that corresponds to the unique key in the **key** parameter of this function.

-key *memberKey*

The unique key that corresponds to the member and member type specified in the **type** parameter.

-fs *character*

Specifies the 7-bit character that separates the information in the output. If you omit this parameter, the information is separated by blank spaces.

-header

Suppresses the column headings in the output. If you omit this parameter, the column headings are included.

-help | -h | -?

Lists help information for the command.

-qs *character*

Specifies the 7-bit character that surrounds character strings and date stamps in the output. If you omit this parameter, character strings and date stamps are enclosed by double quotation marks ("").

-silent

Suppresses all output for the command. If you omit this parameter, output is included.

Examples

To add or remove members of a Storage Resource Group

The following command allows you to add or remove members of a specified Storage Resource Group:

```
tpctool
tpctool> modifysrg -remove -name test.srg -type srg
-key IBM.2107-1300361-R8+2107-1300361+0
```

The following output is returned:

```
Name                               Status
=====
Administrator.my-new-example-srg SUCCESS
```

modifytp

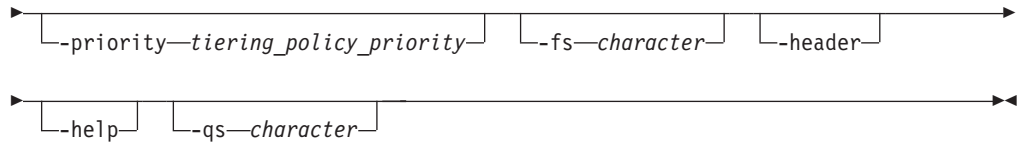
Use the **modifytp** command to modify the attributes of a tiering policy. You can modify the *from*, *to*, and *priority* attributes, or any combination of those attributes, by using this command.

Use the **lstp** command to verify the changes to the tiering policy.

To modify the conditions for a tiering policy, use the **rmtpconditions** and **addtpconditions** commands.

Syntax

```
▶▶ tpctool—modifytp—user—user_name—pwd—password—url—url—————▶
▶—name—tiering_policy_name—[—from—source_storage_resource_group]————▶
▶[—to—target_storage_resource_group]—————▶
```



Parameters and arguments

- user** *user_name*
Specifies a valid Tivoli Storage Productivity Center user ID.
- pwd** *password*
Specifies the password for the Tivoli Storage Productivity Center user ID.
- url** *url*
Specifies the Device server. The format of the URL is: *system:port_number* where *system* represents either the host name or IP address, and *port_number* represents the Tivoli Storage Productivity Center Device server port.
- name** *tiering_policy_name*
Specifies the name of the tiering policy you are modifying. Use the **lstp** command to display a list of available tiering policies.
- from** *source_storage_resource_group*
Specifies the name of the storage resource group from which volumes are considered for migration. The source storage resource group must contain volumes, pools, or storage devices. These volumes can be migrated to another storage pool in another storage resource group. Only volumes on SAN Volume Controller, Storwize V7000, and Storwize V7000 Unified storage systems are considered for tiering policies. Other storage types are ignored.
- to** *target_storage_resource_group*
Specifies the name of the storage resource group that contains pools to which volumes can be recommended for migration. This storage resource group must contain the same storage system or pools from the same storage system as the volumes in the *from* storage resource group. Recommendations are made only to move volumes to different storage pools within the same storage system.
- priority** *tiering_policy_priority*
Specifies the priority of the recommendations that are returned for this tiering policy. The priority can be a value in the range 1 to *n*, where 1 is the highest priority, and *n* is the number of defined policies. Higher priority policies are evaluated before lower priority policies.
- fs** *character*
Specifies the 7-bit character that separates the information in the output. If you omit this parameter, the information is separated by blank spaces.
- header**
Suppresses the column headings in the output. If you omit this parameter, the column headings are included.
- help | -h | -?**
Lists help information for the command.
- qs** *character*
Specifies the 7-bit character that surrounds character strings and date stamps in the output. If you omit this parameter, character strings and date stamps are enclosed by double quotation marks (").

Examples

Modifying a tiering policy

The following command modifies the storage resource group defined as the target and the priority of the tiering policy.

```
tpctool> modifytp -name migrate_to_tier3_tp -to svc4_tier3 -priority 3  
-user admin -pwd password -url localhost:9550
```

The following output is returned:

Name	Status
migrate_to_tier3_tp	SUCCESSFUL

Related reference:

“addtpcondition” on page 8

Use the **addtpcondition** command to add policy conditions to a tiering policy.

“lstp” on page 92

Use the **lstp** command to list the tiering policies that are defined in Tivoli Storage Productivity Center.

“rmtppconditions” on page 132

Use the **rmtppconditions** command to remove conditions from a tiering policy. All conditions that are assigned to the policy are removed.

mountfs

Use the **mountfs** command to mount a file system on all interface and management nodes or a specified subset. You must have Data Administrator authority to use this command.

Syntax

```
▶▶ tpctool mountfs --user user_name --pwd password --url url  
▶ --filesystem file_system_id [-nodes nodes] [-fs character]  
▶ [-header] [-help] [-qs character] [-silent]
```

Parameters and arguments

-user *user_name*

Specifies a valid Tivoli Storage Productivity Center user ID.

-pwd *password*

Specifies the password for the Tivoli Storage Productivity Center user ID.

-url *url*

Specifies the Device server. The format of the URL is: *system:port_number* where *system* represents either the host name or IP address, and *port_number* represents the Tivoli Storage Productivity Center Device server port.

-filesystem *file_system_id*

Specifies the ID of file system to be mounted.

-nodes *nodes*

Lists the nodes to mount the file system on in a comma-separated list. Specify

only the interface node, management node, or both. If you omit this parameter, the file system is mounted on all interface and management nodes.

-fs *character*

Specifies the 7-bit character that separates the information in the output. If you omit this parameter, the information is separated by blank spaces.

-header

Suppresses the column headings in the output. If you omit this parameter, the column headings are included.

-help | -h | -?

Lists help information for the command.

-qs *character*

Specifies the 7-bit character that surrounds character strings and date stamps in the output. If you omit this parameter, character strings and date stamps are enclosed by double quotation marks ("").

-silent

Suppresses all output for the command. If you omit this parameter, output is included.

Examples

Mounting a file system

The following command mounts a file system on a management node.


```
tpctool> mountfs -filesystem eefs+kq458mv.ibm+00000200A2A0153C+0  
-user admin -pwd password -url localhost:9550 -nodes mgmt001st001
```


The following output is returned:

```
FilesystemId                               Status  
=====
```

eefs+kq458mv.ibm+00000200A2A0153C+0	SUCCESS
-------------------------------------	---------

Related information:

 <http://publib.boulder.ibm.com/infocenter/sonasic/sonas1ic/index.jsp>
More information about command parameters is available at the IBM SONAS Information Center.

 http://publib.boulder.ibm.com/infocenter/storwize/unified_ic/index.jsp
More information about command parameters is available at the Storwize V7000 Unified Information Center.

rmbackenddisktype

Use the **rmbackenddisktype** command to remove a back-end type of disk.

This command is available for Storwize V7000, Storwize V7000 Unified, and SAN Volume Controller storage systems. You must have Disk Administrator authority to use this command.

When you issue the **rmbackenddisktype** command to remove a back-end type of disk:

- The type is removed from the set of back-end types of disk.
- The type is reset to *DEFAULT* in back-end storage subsystems that are set to the type of disk that is removed.

Tip: You can use the following commands to set the back-end type of disk:

- **setarray**
- **setbackenddisktype**

You can also set the back-end type of disk for storage systems on the MDisk Group Details page in the Tivoli Storage Productivity Center graphical user interface.

Syntax

```
▶▶ tptool1 rmbackenddisktype --type disk_type
▶ --user user_name --pwd password --url url
   └─fs─character┘ └─header┘
▶ └─help┘ └─qs─character┘ └─silent┘ └─grouping┘
```

Parameters and arguments

-type *disk_type*

Specifies the back-end type of disk. Specify a back-end type of disk or enter one of the following values:

Value	Description
A07	Sata - 7,500 rpm
F10	Fiber - 10,000 rpm
F15	Fiber - 15,000 rpm
DEFAULT	Default value

-pwd *password*

Specifies the password for the Tivoli Storage Productivity Center user ID.

-url *url*

Specifies the Device server. The format of the URL is: *system:port_number* where *system* represents either the host name or IP address, and *port_number* represents the Tivoli Storage Productivity Center Device server port.

-fs *character*

Specifies the 7-bit character that separates the information in the output. If you omit this parameter, the information is separated by blank spaces.

-header

Suppresses the column headings in the output. If you omit this parameter, the column headings are included.

-help | -h | -?

Lists help information for the command.

-qs *character*

Specifies the 7-bit character that surrounds character strings and date stamps in the output. If you omit this parameter, character strings and date stamps are enclosed by double quotation marks ("").

-silent

Suppresses all output for the command. If you omit this parameter, output is included.

-grouping

Enables the grouping of numeric values. For example, in English the value 12000 would display as 12,000. The grouping character is determined by the system locale.

Examples

Removing a back-end type of disk

The following command removes a back-end type of disk:

```
tpctool> rmbackenddisktype -type A07
```

The back-end type of disk that has been removed is displayed:

```
Back-end Disk Type Status
=====
A07                      Succeeded
```

rmbackendraidtype

Use the **rmbackendraidtype** command to remove a back-end RAID array type from the set of RAID array types available for Storwize V7000 and SAN Volume Controller managed disk groups.

This command applies only to Storwize V7000 and SAN Volume Controller RAID arrays. You must have Disk Administrator authority to use this command.

Syntax

```
▶▶▶tpctool—rmbackendraidtype—type—raid_type—————▶▶▶
▶—user—user_name—pwd—password—url—url—————▶▶▶
      └─fs—character┘ └─header┘
▶└─help┘ └─qs—character┘ └─silent┘ └─grouping┘▶▶▶
```

Parameters and arguments

-type *raid_type*

Specifies the type of the back-end RAID array to remove. You can specify a value that you have set or one of the following values:

Tip: Use the **lsbackendraidtypes** command to list the types of back-end RAIDs

Value	Description
DEFAULT	The default RAID type.
1	RAID 1
5	RAID 5
6	RAID 6
X	The RAID type used by IBM XIV Storage System.

-user *user_name*

Specifies a valid Tivoli Storage Productivity Center user ID.

- pwd** *password*
Specifies the password for the Tivoli Storage Productivity Center user ID.
- url** *url*
Specifies the Device server. The format of the URL is: *system:port_number* where *system* represents either the host name or IP address, and *port_number* represents the Tivoli Storage Productivity Center Device server port.
- fs** *character*
Specifies the 7-bit character that separates the information in the output. If you omit this parameter, the information is separated by blank spaces.
- header**
Suppresses the column headings in the output. If you omit this parameter, the column headings are included.
- help | -h | -?**
Lists help information for the command.
- qs** *character*
Specifies the 7-bit character that surrounds character strings and date stamps in the output. If you omit this parameter, character strings and date stamps are enclosed by double quotation marks ("").
- silent**
Suppresses all output for the command. If you omit this parameter, output is included.
- grouping**
Enables the grouping of numeric values. For example, in English the value 12000 would display as 12,000. The grouping character is determined by the system locale.

Examples

Removing a type of back-end RAID

The following command removes a type of back-end RAID array:

```
tpctool> rmbackendraidtype -type testing
```

If the command is successful, a list of the types of back-end RAID types that have been removed is displayed:

```
Back-end Type Status
=====
testing          Succeeded
```

rmbackendtype

Use the **rmbackendtype** command to remove a type of back-end storage system.

This command is available for Storwize V7000, Storwize V7000 Unified, and SAN Volume Controller storage systems. You must have Disk Administrator authority to use this command.

When you issue the **rmbackendtype** command to remove a type of back-end storage system, the following actions occur:

- The type is removed from the set of back-end types.
- The type is reset to *DEFAULT* in back-end storage systems that are set to the back-end type that is removed.

Tip: You can use the following commands to set the type of back-end storage system:

- **setarray**
- **setbackendtype**

You can also set the type of back-end storage system on the MDisk Group Details page in the Tivoli Storage Productivity Center graphical user interface.

Syntax

```
▶▶ tptool1 rmbbackendtype --type storage_system_type
▶ --user user_name --pwd password --url url
    [-fs character] [-header]
▶ [-help] [-qs character] [-silent] [-grouping]
```

Parameters and arguments

-type *storage_system_type*

Specifies the type of back-end storage system that manages most of the storage pool resources. Specify a type of back-end storage system or enter one of the following values:

Tip: Use the **lsbackendtypes** command to show a list of back-end storage systems.

Value	Description
C	EMC Clariion
D	IBM System Storage DS8000
S	EMC Symmetrix
X	IBM XIV Storage System
V	IBM System Storage DS4000
DEFAULT	Default value

-user *user_name*

Specifies a valid Tivoli Storage Productivity Center user ID.

-pwd *password*

Specifies the password for the Tivoli Storage Productivity Center user ID.

-url *url*

Specifies the Device server. The format of the URL is: *system:port_number* where *system* represents either the host name or IP address, and *port_number* represents the Tivoli Storage Productivity Center Device server port.

-fs *character*

Specifies the 7-bit character that separates the information in the output. If you omit this parameter, the information is separated by blank spaces.

-header

Suppresses the column headings in the output. If you omit this parameter, the column headings are included.

-help | -h | -?

Lists help information for the command.

-qs *character*

Specifies the 7-bit character that surrounds character strings and date stamps in the output. If you omit this parameter, character strings and date stamps are enclosed by double quotation marks ("").

-silent

Suppresses all output for the command. If you omit this parameter, output is included.

-grouping

Enables the grouping of numeric values. For example, in English the value 12000 would display as 12,000. The grouping character is determined by the system locale.

Examples

Removing a type of back-end storage system

The following command removes the specified type of back-end storage system:

```
tpctool> rmbackendtype -type L
```

The type of back-end storage system that is removed is displayed:

```
Back-end Type Status
=====
L                Succeeded
```

rmexport

Use the **rmexport** command to remove an export.

Removing an export does not remove the data or folder from the file system. You must have Data Administrator authority to use this command.

When you remove an export, the system behaves differently according to the export protocols. When an NFS export is removed, all connections to that shared space are immediately closed. When a CIFS export is removed, any user who is connected to the shared space can continue to write to that space. However, if the user disconnects, reconnects, and then attempts to write to the space again, the write operation fails.

Syntax

```
▶▶ tpctool -rmexport --user user_name --pwd password --url url
▶ --export export_id [-fs character] [-header] [-help]
▶ [-qs character] [-silent]
```

Parameters and arguments

-user *user_name*

Specifies a valid Tivoli Storage Productivity Center user ID.

- pwd** *password*
Specifies the password for the Tivoli Storage Productivity Center user ID.
- url** *url*
Specifies the Device server. The format of the URL is: *system:port_number* where *system* represents either the host name or IP address, and *port_number* represents the Tivoli Storage Productivity Center Device server port.
- export** *export_id*
Specifies the name of the export. This is the export key that is listed in the ID column of the **lsexport** command output.
- fs** *character*
Specifies the 7-bit character that separates the information in the output. If you omit this parameter, the information is separated by blank spaces.
- header**
Suppresses the column headings in the output. If you omit this parameter, the column headings are included.
- help | -h | -?**
Lists help information for the command.
- qs** *character*
Specifies the 7-bit character that surrounds character strings and date stamps in the output. If you omit this parameter, character strings and date stamps are enclosed by double quotation marks ("").
- silent**
Suppresses all output for the command. If you omit this parameter, output is included.

Examples

Removing an export

The following command deletes the specified export:


```
tpctool> rmexport -export cindyexport+tpcsonas1.storage.tucson.ibm.com+tpcsonas1.storage.tucson.ibm.com+0 -user admin -pwd password -url localhost:9550
```


The following output is returned:

```
ExportId
=====
cindyexport+tpcsonas1.storage.tucson.ibm.com+tpcsonas1.storage.tucson.ibm.com+0

Status
=====
SUCCESS
```

Related information:

 <http://publib.boulder.ibm.com/infocenter/sonasic/sonas1ic/index.jsp>
More information about command parameters is available at the IBM SONAS Information Center.

 http://publib.boulder.ibm.com/infocenter/storwize/unified_ic/index.jsp
More information about command parameters is available at the Storwize V7000 Unified Information Center.

rmfs

Use the **rmfs** command to remove a file system from an active management node.

Attention: When you remove a file system, all the data on that file system is deleted.

Before you can delete a file system, you must unmount it on all nodes. Use the **unmountfs** command to unmount a file system.

Syntax

```
▶▶ tptctool—rmfs—user—user_name--pwd—password—url—url—————▶▶
▶▶ --filesystem—file_system_id—————▶▶
    └─fs—character┘ └─header┘ └─help┘
▶▶ └─qs—character┘ └─silent┘—————▶▶
```

Parameters and arguments

-user *user_name*

Specifies a valid Tivoli Storage Productivity Center user ID.

-pwd *password*

Specifies the password for the Tivoli Storage Productivity Center user ID.

-url *url*

Specifies the Device server. The format of the URL is: *system:port_number* where *system* represents either the host name or IP address, and *port_number* represents the Tivoli Storage Productivity Center Device server port.

-filesystem *file_system_id*

Specifies the ID of file system to be removed.

-fs *character*

Specifies the 7-bit character that separates the information in the output. If you omit this parameter, the information is separated by blank spaces.

-header

Suppresses the column headings in the output. If you omit this parameter, the column headings are included.

-help | -h | -?

Lists help information for the command.

-qs *character*

Specifies the 7-bit character that surrounds character strings and date stamps in

the output. If you omit this parameter, character strings and date stamps are enclosed by double quotation marks ("").

-silent

Suppresses all output for the command. If you omit this parameter, output is included.

Examples

Removing a file system

The following command removes a file system.


```
tpctool> rmfs -filesystem eefs+kq458mv.ibm+00000200A2A0153C+0  
-user admin -pwd password -url localhost:9550
```


The following output is returned:

```
FilesystemId          Status  
=====
```

FilesystemId	Status
eefs+kq458mv.ibm+00000200A2A0153C+0	SUCCESS

Related information:

 <http://publib.boulder.ibm.com/infocenter/sonasic/sonas1ic/index.jsp>
More information about command parameters is available at the IBM SONAS Information Center.







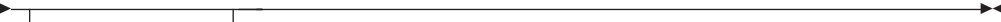

 http://publib.boulder.ibm.com/infocenter/storwize/unified_ic/index.jsp
More information about command parameters is available at the Storwize V7000 Unified Information Center.

rmfset

Use the **rmfset** command to remove a file set from a file system. You must have Data Administrator authority to use this command.

Important: You must use the **unlinkfset** command to unlink a file set from a file system before you can remove it.

Syntax

```
▶▶ tpctool -rmfset --user user_name --pwd password --url url    
  
▶ --fileset file_set_id      
  
▶  
```

Parameters and arguments

-user *user_name*

Specifies a valid Tivoli Storage Productivity Center user ID.

-pwd *password*

Specifies the password for the Tivoli Storage Productivity Center user ID.

-url *url*

Specifies the Device server. The format of the URL is: *system:port_number* where *system* represents either the host name or IP address, and *port_number* represents the Tivoli Storage Productivity Center Device server port.

-help | -h | -?

Lists help information for the command.

-fileset *file_set_id*

Specifies the Tivoli Storage Productivity Center key of the file set to be removed. The file set key is listed in the **ID** column of the **lsfset** command output.

-header

Suppresses the column headings in the output. If you omit this parameter, the column headings are included.

-silent

Suppresses all output for the command. If you omit this parameter, output is included.

-qs *character*

Specifies the 7-bit character that surrounds character strings and date stamps in the output. If you omit this parameter, character strings and date stamps are enclosed by double quotation marks ("").

-fs *character*

Specifies the 7-bit character that separates the information in the output. If you omit this parameter, the information is separated by blank spaces.

Examples

Removing a file set


The following command removes the file set named eefset01+eefs+kq458mv.ibm+00000200A2A0153C+0.


```
tpctool> rmfset -fileset eefset01+eefs+kq458mv.ibm+00000200A2A0153C+0  
-user admin -pwd password -url localhost:9550
```

The following output is returned:

FilesetId	Status
===== eefset01+eefs+kq458mv.ibm+00000200A2A0153C+0	SUCCESS

Related information:

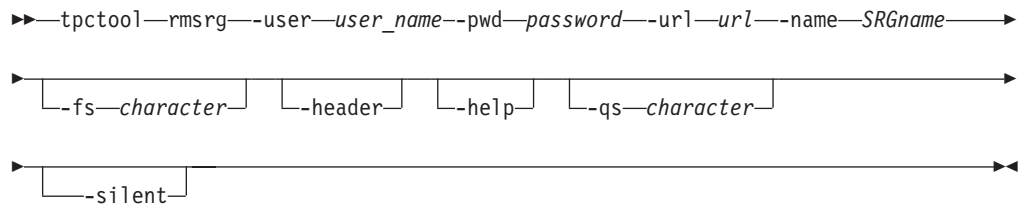
 <http://publib.boulder.ibm.com/infocenter/sonasic/sonas1ic/index.jsp>
More information about command parameters is available at the IBM SONAS Information Center.

 http://publib.boulder.ibm.com/infocenter/storwize/unified_ic/index.jsp
More information about command parameters is available at the Storwize V7000 Unified Information Center.

rmsrg

Use the **rmsrg** command to delete the specified Storage Resource Group.

Syntax



Parameters and arguments

-user *user_name*

Specifies a valid Tivoli Storage Productivity Center user ID.

-pwd *password*

Specifies the password for the Tivoli Storage Productivity Center user ID.

-url *url*

Specifies the Device server. The format of the URL is: *system:port_number* where *system* represents either the host name or IP address, and *port_number* represents the Tivoli Storage Productivity Center Device server port.

-name *SRGname*

The name of the Storage Resource Group to be deleted.

-fs *character*

Specifies the 7-bit character that separates the information in the output. If you omit this parameter, the information is separated by blank spaces.

-header

Suppresses the column headings in the output. If you omit this parameter, the column headings are included.

-help | **-h** | **-?**

Lists help information for the command.

-qs *character*

Specifies the 7-bit character that surrounds character strings and date stamps in the output. If you omit this parameter, character strings and date stamps are enclosed by double quotation marks ("").

-silent

Suppresses all output for the command. If you omit this parameter, output is included.

Examples

To delete a Storage Resource Group

The following command deletes a specified Storage Resource Group:

```
tpctool
tpctool> rmsrg -name Administrator.testsrsg
```

The following output is returned:

```
Name                Status
=====
Administrator.testsrsg SUCCESS
```

rmtpl

Use the **rmtpl** command to remove a tiering policy.

Removing a policy also removes any recommendations previously generated by this policy. If these recommendations prevented other policies from generating certain recommendations, run the analysis again in order to receive updated recommendations.

Use the **lstp** command to display a list of available tiering policies.

Syntax

```

▶▶ tpctool rmtpt -user user_name -pwd password -url url
▶ -name tiering_policy_name [-fs character] [-header] [-help]
▶ [-qs character]

```

Parameters and arguments

-user *user_name*

Specifies a valid Tivoli Storage Productivity Center user ID.

-pwd *password*

Specifies the password for the Tivoli Storage Productivity Center user ID.

-url *url*

Specifies the Device server. The format of the URL is: *system:port_number* where *system* represents either the host name or IP address, and *port_number* represents the Tivoli Storage Productivity Center Device server port.

-name *tiering_policy_name*

Specifies the name of the tiering policy that you are deleting. Tiering policy names are case sensitive.

-fs *character*

Specifies the 7-bit character that separates the information in the output. If you omit this parameter, the information is separated by blank spaces.

-header

Suppresses the column headings in the output. If you omit this parameter, the column headings are included.

-help | **-h** | **-?**

Lists help information for the command.

-qs *character*

Specifies the 7-bit character that surrounds character strings and date stamps in the output. If you omit this parameter, character strings and date stamps are enclosed by double quotation marks ("").

Examples

Removing a tiering policy

The following command removes a tiering policy.

```

tpctool> rmtpt -name migrate_to_tier3_tp -user admin -pwd password
-url localhost:9550

```

The following output is returned:

Name	Status
=====	=====
migrate_to_tier3_tp	SUCCESSFUL

Related reference:

“lstp” on page 92

Use the **lstp** command to list the tiering policies that are defined in Tivoli Storage Productivity Center.

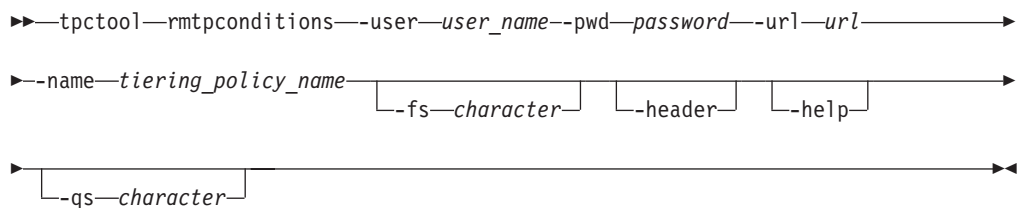
“mktp” on page 110

Use the **mktp** command to create a tiering policy that is associated with specific storage resource groups.

rmtptconditions

Use the **rmtptconditions** command to remove conditions from a tiering policy. All conditions that are assigned to the policy are removed.

Syntax



Parameters and arguments

-user *user_name*

Specifies a valid Tivoli Storage Productivity Center user ID.

-pwd *password*

Specifies the password for the Tivoli Storage Productivity Center user ID.

-url *url*

Specifies the Device server. The format of the URL is: *system:port_number* where *system* represents either the host name or IP address, and *port_number* represents the Tivoli Storage Productivity Center Device server port.

-name *tiering_policy_name*

Specifies the name of the tiering policy from which you are deleting conditions. Tiering policy names are case-sensitive. Use the **lstp** command to display a list of available tiering policies.

-fs *character*

Specifies the 7-bit character that separates the information in the output. If you omit this parameter, the information is separated by blank spaces.

-header

Suppresses the column headings in the output. If you omit this parameter, the column headings are included.

-help | -h | -?

Lists help information for the command.

-qs *character*

Specifies the 7-bit character that surrounds character strings and date stamps in the output. If you omit this parameter, character strings and date stamps are enclosed by double quotation marks ("").

Examples

Removing conditions from a tiering policy

The following command removes all conditions from a tiering policy.

```
tpctool> rmtconditions -name p3
```

The following output is returned:

```
Name Status
=====
p3    SUCCESSFUL
```

Related reference:

“lstp” on page 92

Use the **lstp** command to list the tiering policies that are defined in Tivoli Storage Productivity Center.

“addtpcondition” on page 8

Use the **addtpcondition** command to add policy conditions to a tiering policy.

rmvol

Use the **rmvol** command to remove volumes. You must have Disk Administrator authority to use this command.

Syntax

```
▶▶ tpctool rmvol --user user_name --pwd password --url url [ -f ]
▶ [ -fs character ] [ -header ] [ -help ] [ -qs character ]
▶ [ -silent ] [ volume_id ] ▶▶
```

Parameters and arguments

-user *user_name*

Specifies a valid Tivoli Storage Productivity Center user ID.

-pwd *password*

Specifies the password for the Tivoli Storage Productivity Center user ID.

-url *url*

Specifies the Device server. The format of the URL is: *system:port_number* where *system* represents either the host name or IP address, and *port_number* represents the Tivoli Storage Productivity Center Device server port.

-f Turns off the confirmation message that is displayed before the volumes are removed.

-fs *character*

Specifies the 7-bit character that separates the information in the output. If you omit this parameter, the information is separated by blank spaces.

-header

Suppresses the column headings in the output. If you omit this parameter, the column headings are included.

-silent

Suppresses all output for the command. If you omit this parameter, output is included.

-zone *zone*

Specifies the zone. The *zone* variable is the name of the zone.

zone_alias

Specifies the name or names of the zone aliases to be removed from the zone.

Examples

Removing zone aliases from a zone

The following commands remove the PARIS zone alias from the EUROPE zone:

```
tpctool -user me -pwd mypass -url myhost:myport
tpctool> start -fabric 100000051E34F6A8
tpctool> rmza -fabric 100000051E34F6A8 -zone EUROPE PARIS
tpctool> commit -fabric 100000051E34F6A8
```

rmzports

Use the **rmzports** command to remove a port or ports from a zone alias. You must have Fabric Administrator authority to use this command.

Syntax

```
▶▶ tpctool rmzports --user user_name --pwd password --url url
▶ --fabric WWN [-help] [-silent] --za zone_alias port ▶▶
```

Parameters and arguments

-user *user_name*

Specifies a valid Tivoli Storage Productivity Center user ID.

-pwd *password*

Specifies the password for the Tivoli Storage Productivity Center user ID.

-url *url*

Specifies the Device server. The format of the URL is: *system:port_number* where *system* represents either the host name or IP address, and *port_number* represents the Tivoli Storage Productivity Center Device server port.

-fabric *WWN*

Specifies the fabric. The *WWN* variable is the World Wide Name (WWN).

-help | -h | -?

Lists help information for the command.

-silent

Suppresses all output for the command. If you omit this parameter, output is included.

-za *zone_alias*

Specifies the name of the zone alias from which the ports to be removed.

port

Specifies the name or names of the ports to be removed from the zone alias.

Examples

Removing a port from a zone alias

The following commands remove a port from the PARIS zone alias:

```
tpctool> -user me -pwd mypass -url myhost:myport
tpctool> start -fabric 100000051E34F6A8
tpctool> rmzaports -fabric 100000051E34F6A8 -za PARIS 210000E08B0B4C2G
tpctool> commit -fabric 100000051E34F6A8
```

rmzone

Use the **rmzone** command to delete a zone or remove a zone from a zone set. If you remove or delete the last zone in a zone set, the zone set is also deleted. This command must be run as a transaction. You must have Fabric Administrator authority to use this command.

Syntax

```
▶▶ tpctool -rmzone --user user_name --pwd password --url url --fabric WWN →
▶ --zone zone [ -zs zone_set ] [ -help ] [ -silent ] ▶▶
```

Parameters and arguments

-user *user_name*

Specifies a valid Tivoli Storage Productivity Center user ID.

-pwd *password*

Specifies the password for the Tivoli Storage Productivity Center user ID.

-url *url*

Specifies the Device server. The format of the URL is: *system:port_number* where *system* represents either the host name or IP address, and *port_number* represents the Tivoli Storage Productivity Center Device server port.

-fabric *WWN*

Specifies the fabric. The *WWN* variable is the World Wide Name (WWN).

-zone *zone*

Specifies the zone. The *zone* variable is the name of the zone. If the last zone in the zone set is removed or deleted, the zone set also is deleted.

-zs *zone_set*

Specifies that zone is removed from the zone set. The *zone_set* variable is the name of the zone set. If this option is not issued, the zone is deleted.

-help | -h | -?

Lists help information for the command.

-silent

Suppresses all output for the command. If you omit this parameter, output is included.

Tip: To delete a zone from a zone set, the zone must be included in another zone set.

Examples

Deleting a zone

The following commands delete the WINDOWSNT zone:

```
tpctool> start -user me -pwd mypass -url myhost:myport -fabric 100000051E34F6A8
tpctool> rmzone -fabric 100000051E34F6A8 -zone WINDOWSNT
tpctool> commit -fabric 100000051E34F6A8
```

Removing a zone from a zone set

The following commands remove the WINDOWSNT zone from the PARIS zone set:

```
tpctool> start -user me -pwd mypass -url myhost:myport -fabric 100000051E34F6A8
tpctool> rmzone -fabric 100000051E34F6A8 -zone WINDOWSNT -zs PARIS
tpctool> commit -fabric 100000051E34F6A8
```

rmzoneports

Use the **rmzoneports** command to remove switch ports from a zone. This command must be run as a transaction. You must have Fabric Administrator authority to use this command.

Syntax

```
▶▶ tpctool—rmzoneports—-user—user_name--pwd—password--url—url—————▶
▶--fabric—WWN--zone—zone—┌_help_┐ ┌_silent_┐ ┌_ports_┐—————▶▶
```

Parameters and arguments

-user *user_name*

Specifies a valid Tivoli Storage Productivity Center user ID.

-pwd *password*

Specifies the password for the Tivoli Storage Productivity Center user ID.

-url *url*

Specifies the Device server. The format of the URL is: *system:port_number* where *system* represents either the host name or IP address, and *port_number* represents the Tivoli Storage Productivity Center Device server port.

-fabric *WWN*

Specifies the fabric. The *WWN* variable is the World Wide Name (WWN).

-zone *zone*

Specifies the zone. The *zone* variable is the name of the zone.

-help | **-h** | **-?**

Lists help information for the command.

-silent

Suppresses all output for the command. If you omit this parameter, output is included.

ports | **-**

Specifies the switch ports. The *ports* variable is a list of worldwide port names (WWPNs). If you specify a single dash (-), the WWPNs are read from standard input.

Examples

Removing switch ports from a zone set

The following commands remove several switch ports from the SUNSOLARIS zone. The list of WWPNs is read from standard input:

```
tpctool> start -user me -pwd mypass -url myhost:myport -fabric 100000051E34F6A8
tpctool> rmzoneports -fabric 100000051E34F6A8 -zone SUNSOLARIS -
tpctool> commit -fabric 100000051E34F6A8
```

rmzs

Use the **rmzs** command to delete a zone set. This command must be run as a transaction. You must have Fabric Administrator authority to use this command.

Syntax

```
▶▶▶ tpctool -rmzs --user user_name --pwd password --url url --fabric WWN ▶▶▶
▶▶▶ [ -help ] [ -silent ] zone_set ▶▶▶
```

Parameters and arguments

-user *user_name*

Specifies a valid Tivoli Storage Productivity Center user ID.

-pwd *password*

Specifies the password for the Tivoli Storage Productivity Center user ID.

-url *url*

Specifies the Device server. The format of the URL is: *system:port_number* where *system* represents either the host name or IP address, and *port_number* represents the Tivoli Storage Productivity Center Device server port.

-fabric *WWN*

Specifies the fabric. The *WWN* variable is the World Wide Name (WWN).

-help | -h | -?

Lists help information for the command.

-silent

Suppresses all output for the command. If you omit this parameter, output is included.

zone_set

Specifies the zone set. The *zone_set* variable is the name of the zone set.

Tip: To delete a zone set, it must be inactive. If you attempt to delete a zone set that is empty, the zone set is not deleted and no error message is given.

Examples

Deleting a zone set

The following commands delete the PARIS zone set:

```
tpctool> start -user me -pwd mypass -url myhost:myport -fabric 100000051E34F6A8
tpctool> rmzs -fabric 100000051E34F6A8 PARIS
tpctool> commit -fabric 100000051E34F6A8
```

rollback

Use the **rollback** command to erase any commands that were issued since you started the transaction. You must have Fabric Administrator authority to use this command.

Syntax

```
►►—tpctool—rollback—-user—user_name--pwd—password—-url—url—————►  
►—fabric—WWN—————►  
    └—help—┘
```

Parameters and arguments

-user *user_name*

Specifies a valid Tivoli Storage Productivity Center user ID.

-pwd *password*

Specifies the password for the Tivoli Storage Productivity Center user ID.

-url *url*

Specifies the Device server. The format of the URL is: *system:port_number* where *system* represents either the host name or IP address, and *port_number* represents the Tivoli Storage Productivity Center Device server port.

-fabric *WWN*

Specifies the fabric. The *WWN* variable is the World Wide Name (WWN).

-help | -h | -?

Lists help information for the command.

Examples

Rolling back a transaction

The following command rolls back a transaction. The user has previously issued connection options, started a transaction, and issued a fabric-control command:

```
tcptool> rollback -fabric 100000051E34F6A8
```

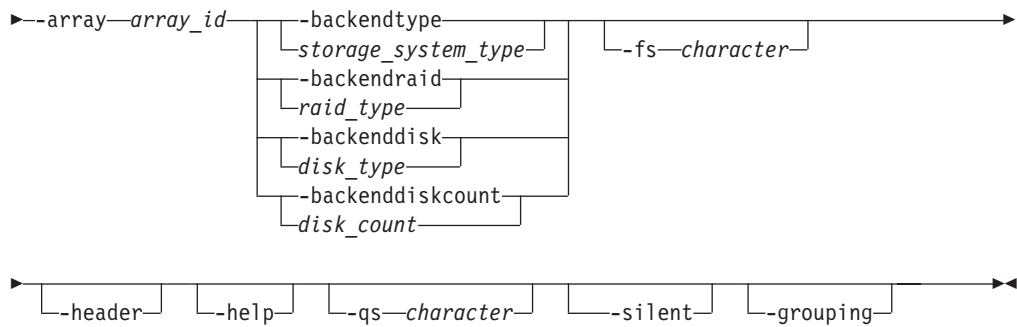
setarray

Use the **setarray** command to set the type of back-end storage system, type of Redundant Array of Independent Disks (RAID), type of disk, and number of disks for an array.

This command is available for Storwize V7000, Storwize V7000 Unified, and SAN Volume Controller storage systems. You must have Disk Administrator authority to use this command.

Syntax

```
►►—tpctool—setarray—-user—user_name--pwd—password—-url—url—————►
```



Parameters and arguments

When you issue the **setarray** command, you must enter a value for the **array** parameter and at least one of the following parameters:

- **-backendtype**
- **-backendraid**
- **-backenddisk**
- **-backenddiskcount**

The default value is used for the parameters that you do not set.

Tip: You can set the values for back-end storage systems on the MDisk Group Details page in the Tivoli Storage Productivity Center graphical user interface.

-user *user_name*

Specifies a valid Tivoli Storage Productivity Center user ID.

-pwd *password*

Specifies the password for the Tivoli Storage Productivity Center user ID.

-url *url*

Specifies the Device server. The format of the URL is: *system:port_number* where *system* represents either the host name or IP address, and *port_number* represents the Tivoli Storage Productivity Center Device server port.

-array *array_id*

Specifies the ID of the array.

-backendtype *storage_system_type*

Specifies the type of back-end storage system that manages most of the subsystem pool resources. You can enter a type that you added or use one of the following values.

Tip: Use the **lsbackentypes** command to provide a list of existing back-end types of storage systems and use the **setbackendtype** command to add new back-end types of storage systems.

Value	Name
C	EMC Clariion
D	DS8000
S	EMC Symmetrix
X	XIV
V	DS4000
DEFAULT	Default value

-backendraid *raid_type*

Specifies the type of RAID associated with the back-end storage system. You can enter a type that you added or use one of the following values.

Tip: Use the **lsbackendraidtypes** command to provide a list of existing back-end types of RAID and use the **setbackendraidtype** command to add new back-end types of RAID.

Value	Description
1	RAID 1
5	RAID 5
6	RAID 6
X	RAID X
DEFAULT	Default value

-backenddisk *disk_type*

Specifies the type of disk. You can enter a type that you added or use one of the following values.

Tip: Use the **lsbackenddisktypes** command to provide a list of existing back-end types of disk and use the **setbackenddisktype** command to add new back-end types of disk.

Value	Description
A07	Sata - 7,500 rpm
F10	Fiber - 10,000 rpm
F15	Fiber - 15,000 rpm
DEFAULT	Default value

-backenddiskcount *disk_count*

Specifies the number of disks.

-fs *character*

Specifies the 7-bit character that separates the information in the output. If you omit this parameter, the information is separated by blank spaces.

-header

Suppresses the column headings in the output. If you omit this parameter, the column headings are included.

-help | -h | -?

Lists help information for the command.

-qs *character*

Specifies the 7-bit character that surrounds character strings and date stamps in the output. If you omit this parameter, character strings and date stamps are enclosed by double quotation marks ("").

-silent

Suppresses all output for the command. If you omit this parameter, output is included.

-grouping

Enables the grouping of numeric values. For example, in English the value 12000 would display as 12,000. The grouping character is determined by the system locale.

Examples

Setting back-end storage subsystem values

The following command sets the back-end storage system, type of RAID, type of disk, and the number of disks for the specified array:

```
tpctool> setarray -array 0000020064405BA0:0+0000020064405BA0+0 -backendtype D  
-backendraidthe 5 -backenddisktype F10 -backenddiskcount 160
```

The array ID and the status of the message is displayed:

```
Array List                               Status  
=====
```

0000020064405BA0:0+0000020064405BA0+0	Succeeded.
---------------------------------------	------------

setbackenddisktype

Use the **setbackenddisktype** command to set or update the type of back-end disk.

This command applies only to Storwize V7000 and SAN Volume Controller. You must have Disk Administrator authority to use this command.

Syntax for setting and updating back-end disk types

Use this syntax to **set** a new type of back-end disk:

```
▶▶ tpctool—setbackenddisktype—-user—user_name--pwd—password--url—url————▶  
▶--type—disk_type--iops—disk_iops--description—description————▶  
▶ [__fs__character] [__header] [__help] [__qs__character]————▶  
▶ [__silent] [__grouping]————▶
```

Use this syntax to **update** the type of a back-end disk:

```
▶▶ tpctool—setbackenddisktype—-user—user_name--pwd—password--url—url————▶  
▶--type—disk_type--iops—disk_iops [__description—description]————▶  
▶ [__fs__character] [__header] [__help] [__qs__character]————▶  
▶ [__silent] [__grouping]————▶
```

Parameters and arguments

-user *user_name*

Specifies a valid Tivoli Storage Productivity Center user ID.

-pwd *password*

Specifies the password for the Tivoli Storage Productivity Center user ID.

-url *url*

Specifies the Device server. The format of the URL is: *system:port_number* where *system* represents either the host name or IP address, and *port_number* represents the Tivoli Storage Productivity Center Device server port.

-type *disk_type*

Specifies the type of the back-end disk that manages most of the back-end pool resources. The maximum number of characters that you can enter is 10. You can specify a back-end disk type or use one of the following values:

Value	Description
A07	Sata - 7 500 rpm
F10	Fiber - 10 000 rpm
F15	Fiber - 15 000 rpm
DEFAULT	Default type for unconfigured devices

-iops *disk_iops*

The average number of input/output operations per second for the disk. You can specify a value or use one of the following values:

IOPS Value	Back-end Disk Type
40	A07
120	F10
150	F15
0	Default value for unconfigured devices

-description *description*

Provides additional information about the type of back-end disk. The maximum number of characters that you can enter is 256.

-fs *character*

Specifies the 7-bit character that separates the information in the output. If you omit this parameter, the information is separated by blank spaces.

-header

Suppresses the column headings in the output. If you omit this parameter, the column headings are included.

-help | -h | -?

Lists help information for the command.

-qs *character*

Specifies the 7-bit character that surrounds character strings and date stamps in the output. If you omit this parameter, character strings and date stamps are enclosed by double quotation marks ("").

-silent

Suppresses all output for the command. If you omit this parameter, output is included.

-grouping

Enables the grouping of numeric values. For example, in English the value 12000 would display as 12,000. The grouping character is determined by the system locale.

Examples

Setting a back-end disk type

The following command sets the type of back-end disk for a back-end disk pool:
tpctool> setbackenddisktype -type testing -description testing -iops 99

If the command is successful, the following message is displayed:

```
Back-end Disk Type Status
=====
testing                Succeeded.
```

setbackendraidtype

Use the **setbackendraidtype** command to set the types of back-end RAID arrays for Storwize V7000 and SAN Volume Controller managed disk groups.

This command applies only to Storwize V7000 and SAN Volume Controller. You must have Disk Administrator authority to use this command.

Syntax

```
▶▶▶ tpctool—setbackendraidtype—-user—user_name--pwd—password—-url—url————▶▶▶
▶▶▶ -type—raid_type—-weightedio—weighted_io—-fs—character—-header————▶▶▶
▶▶▶ —-help—-qs—character—-silent—-grouping————▶▶▶
```

Parameters and arguments

-type *raid_type*

Specifies the type of the back-end RAID array. You can specify a back-end RAID type or use one of the following values:

Value	Description
DEFAULT	The default RAID type.
1	RAID 1
5	RAID 5
6	RAID 6
X	The RAID type used by IBM XIV Storage System.

Tip: Use the **lsbackendraidtypes** command to list the available types of back-end RAID types.

-weightedio *weighted_io*

The weighted input/output of the RAID type.

- user** *user_name*
Specifies a valid Tivoli Storage Productivity Center user ID.
- pwd** *password*
Specifies the password for the Tivoli Storage Productivity Center user ID.
- url** *url*
Specifies the Device server. The format of the URL is: *system:port_number* where *system* represents either the host name or IP address, and *port_number* represents the Tivoli Storage Productivity Center Device server port.
- fs** *character*
Specifies the 7-bit character that separates the information in the output. If you omit this parameter, the information is separated by blank spaces.
- header**
Suppresses the column headings in the output. If you omit this parameter, the column headings are included.
- help | -h | -?**
Lists help information for the command.
- qs** *character*
Specifies the 7-bit character that surrounds character strings and date stamps in the output. If you omit this parameter, character strings and date stamps are enclosed by double quotation marks ("").
- silent**
Suppresses all output for the command. If you omit this parameter, output is included.
- grouping**
Enables the grouping of numeric values. For example, in English the value 12000 would display as 12,000. The grouping character is determined by the system locale.

Examples

Setting back-end RAID types

The following command sets a type of back-end RAID:

```
tpctool> setbackendraidtype -type testing -weightedio 15
```

If the command is successful, the following message displays:

```
Back-end RAID Type Weighted IO
=====
testing                Succeeded.
```

setbackendtype

Use the **setbackendtype** command to set or update the type of back-end storage system.

This command is available for Storwize V7000, Storwize V7000 Unified, and SAN Volume Controller storage systems. You must have Disk Administrator authority to use this command.

Syntax for setting and updating back-end types of storage systems

Use this syntax to set a new type of back-end storage system:

```
▶▶ tpctool—setbackendtype—user—user_name--pwd—password--url—url————▶
▶--type—storage_system_type————▶
▶--cachehit—cache_hit_ratio--description—description————▶
└──fs—character┘
▶
└──header┘ └──help┘ └──qs—character┘ └──silent┘ └──grouping┘▶▶
```

Use this syntax to update a type of back-end storage system:

```
▶▶ tpctool—setbackendtype—user—user_name--pwd—password--url—url————▶
▶--type—storage_system_type————▶
└──name—storage_system_name┘
▶
└──cachehit—cache_hit_ratio┘ └──description—description┘
▶
└──fs—character┘ └──header┘ └──help┘ └──qs—character┘
▶
└──silent┘ └──grouping┘▶▶
```

Parameters and arguments

-user *user_name*

Specifies a valid Tivoli Storage Productivity Center user ID.

-pwd *password*

Specifies the password for the Tivoli Storage Productivity Center user ID.

-url *url*

Specifies the Device server. The format of the URL is: *system:port_number* where *system* represents either the host name or IP address, and *port_number* represents the Tivoli Storage Productivity Center Device server port.

-type *storage_system_type*

Specifies the type of back-end storage system that manages most of the subsystem pool resources. The maximum number of characters that you can enter is 10. You can enter a type or use one of the following values:

Value	Name of storage system
C	EMC Clariion
D	DS8000
S	EMC Symmetrix
X	XIV
V	DS4000

Value	Name of storage system
DEFAULT	Default value

-name *storage_system_name*

Specifies the name of the back-end type of storage system. The maximum number of characters that you can enter is 256. The name of the type of storage system is displayed on the MDisk Group Details page in the Tivoli Storage Productivity Center graphical user interface. You can enter a name or use one of the following values.

Tip: If you enter a value for the **-name** or **-description** parameter that contains spaces, you must enclose the value in double quotation marks such as "My Description".

Description value	Associated type value
"EMC Clariion"	C
DS8000	D
"EMC Symmetrix"	S
XIV	X
DS4000	V
DEFAULT	DEFAULT

-cachehit *cache_hit_ratio*

Specifies the ratio of cache hits for read operations. The maximum number of characters that you can enter is 4. You can specify a value or use one of the following values:

Value	Back-end storage system
50	EMC Clariion
50	DS8000
70	EMC Symmetrix
50	DS4000
50	XIV
0	Default value

-description *description*

Provides additional information about the type of back-end storage system. The maximum number of characters that you can enter is 256. You can enter a description or use one of the following values:

Value	Description
"CX BE Cache Hit Ratio"	EMC Clariion
"DS8K Disk Controller"	DS8000
"DMX BE Cache Hit Ratio"	EMC Symmetrix
"IBM XIV"	XIV
"DS5K Disk Controller"	DS4000
"DEFAULT TYPE FOR UNCONFIGURED DEVICES"	0 (default value)

-fs *character*

Specifies the 7-bit character that separates the information in the output. If you omit this parameter, the information is separated by blank spaces.

-header

Suppresses the column headings in the output. If you omit this parameter, the column headings are included.

-help | -h | -?

Lists help information for the command.

-qs *character*

Specifies the 7-bit character that surrounds character strings and date stamps in the output. If you omit this parameter, character strings and date stamps are enclosed by double quotation marks ("").

-silent

Suppresses all output for the command. If you omit this parameter, output is included.

-grouping

Enables the grouping of numeric values. For example, in English the value 12000 would display as 12,000. The grouping character is determined by the system locale.

Examples

Setting a new type of back-end storage system

The following command sets a new type of back-end storage system:

```
setbackendtype -type L -name test3 -cachehit 90 -description test_3
```

The following message is displayed:

```
Back-end Type Status
=====
L                Succeeded.
```

setdscfg

Use the **setdscfg** command to set the value of a property in the property file for the Device server. You must have IBM Tivoli Storage Productivity Center administrator authority to use this command.

Syntax

```
▶▶ tptool -setdscfg --user user_name --pwd password --url url -help ▶▶
-silent -property property_key value -context context ▶▶
```

Parameters and arguments

-user *user_name*

Specifies a valid Tivoli Storage Productivity Center user ID.

-pwd *password*

Specifies the password for the Tivoli Storage Productivity Center user ID.

-url *url*

Specifies the Device server. The format of the URL is: *system:port_number* where *system* represents either the host name or IP address, and *port_number* represents the Tivoli Storage Productivity Center Device server port.

-help | -h | -?

Lists help information for the command.

-silent

Suppresses all output for the command. If you omit this parameter, output is included.

-property *property_key value*

Specifies the value to set for the indicated property key. The *property_key* variable is the property key and the *value* variable is the value.

-context *context*

Specifies a classification or category for a configuration property. The *context* variable is the context properties. For example:

-context DeviceServer

This parameter applies to the Tivoli Storage Productivity Center device server only.

-context PerformanceManager

This parameter applies to the Tivoli Storage Productivity Center performance manager only.

Examples

Setting a property value

The following command sets the value of the SnmpRetryCount property to 3:

```
tpctool setdscfg -url localhost:9550 -user ***** -pwd ***** -property  
SnmpRetryCount -context DeviceServer 3
```

setdslogopt

Use the **setdslogopt** command to set options for the log file used by the Device server. You must have IBM Tivoli Storage Productivity Center administrator authority to use this command.

Syntax

```
▶▶ tpctool setdslogopt --user user_name --pwd password --url url →  
▶ --filterkey 

|       |
|-------|
| INFO  |
| ERROR |
| WARN  |

 --maxfiles number --maxfilesize size →  
▶ --format 

|            |
|------------|
| plain_text |
| pdxml      |

 [-help] [-silent] →
```

Parameters and arguments

-user *user_name*

Specifies a valid Tivoli Storage Productivity Center user ID.

- pwd** *password*
Specifies the password for the Tivoli Storage Productivity Center user ID.
- url** *url*
Specifies the Device server. The format of the URL is: *system:port_number* where *system* represents either the host name or IP address, and *port_number* represents the Tivoli Storage Productivity Center Device server port.
- filterkey** **INFO | ERROR | WARN**
Specifies the types of messages that should be logged in the message log file. Enter one of the following values in uppercase:
 - INFO, to log informational, warning, and error messages.
 - ERROR, to log only error messages.
 - WARN, to log warning and error messages.
- maxfiles** *number*
Specifies the maximum number of log files. The *number* variable is an integer.
- maxfilesize** *size*
Specifies the maximum size (in MB) of the log file. The *size* variable is an integer.
- format** **plain_text | pdxml**
Specifies the format of the log file.
- help | -h | -?**
Lists help information for the command.
- silent**
Suppresses all output for the command. If you omit this parameter, output is included.

Examples

Setting log file options

The following command sets options for the log file used by the Device server:

```
tpctool> setdslogopt -user me -pwd mypass -url myhost:myport -filterkey character
-maxfiles 4 -maxfilesizes 10 -format plain_text
```

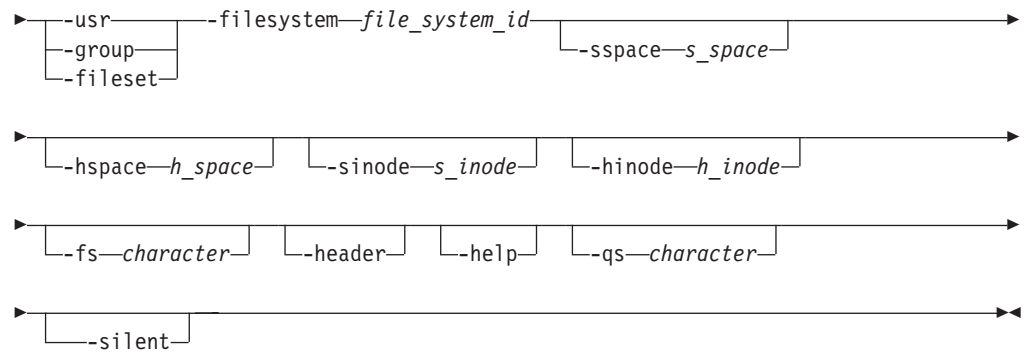
setquota

Use the **setquota** command to set the amount of disk space and number of inodes that are assigned on a file system for a specified user name, group, or file set.

A file system consists of attributes that includes user names, groups, and file sets. You can set the amount of disk space and the number of inodes that are assigned for each attribute, so that none of these attributes uses more than the maximum amount of space or inodes that it was assigned. You must have Data Administrator authority to use this command.

Syntax

```
▶▶—tpctool—setquota—--user—user_name--pwd—password—-url—url—————▶
```



Parameters and arguments

-user *user_name*

Specifies a valid Tivoli Storage Productivity Center user ID.

-pwd *password*

Specifies the password for the Tivoli Storage Productivity Center user ID.

-url *url*

Specifies the Device server. The format of the URL is: *system:port_number* where *system* represents either the host name or IP address, and *port_number* represents the Tivoli Storage Productivity Center Device server port.

-usr | -group | -fileset

Specifies the type of quota.

-filesystem *file_system_id*

Specifies the ID for the file system that is associated with the quota. You can use the **lsfs** command to view information, including the IDs, for all file systems that have been discovered. The ID is listed in the ID column of the **lsfs** command output.

-sspace *s_space*

Specifies the usage soft limit or level of disk space below which the user, group, or file set can safely operate. If you enter a size without a suffix, then the unit of measurement is byte. Otherwise, enter the suffix k (kilobyte), m (megabyte), g (gigabyte), t (terabyte), or p (petabyte).

-hspace *h_space*

Specifies the usage hard limit or maximum disk space which the user, group, or file set can accumulate. If you enter a size without a suffix, then the unit of measurement is byte. Otherwise, enter the suffix k (kilobyte), m (megabyte), g (gigabyte), t (terabyte), or p (petabyte).

-sinode *s_inode*

Specifies the soft limit or the number of inodes below which user, group, or file set can safely operate. You can enter inode limits with only k (kilobyte), or m (megabyte) suffixes. The maximal value that you can specify is 2 GB.

-hinode *h_inode*

Specifies the hard limit or maximum number of inodes which the user, group, or file set can accumulate. You can enter inode limits with only k (kilobyte), or m (megabyte) suffixes. The maximal value that you can specify is 2 GB.

-fs *character*

Specifies the 7-bit character that separates the information in the output. If you omit this parameter, the information is separated by blank spaces.

-header

Suppresses the column headings in the output. If you omit this parameter, the column headings are included.

-help | -h | -?

Lists help information for the command.

-qs *character*

Specifies the 7-bit character that surrounds character strings and date stamps in the output. If you omit this parameter, character strings and date stamps are enclosed by double quotation marks ("").

-silent

Suppresses all output for the command. If you omit this parameter, output is included.

Examples

Setting a quota for a user (-usr)

The following command sets the amount of disk space and number of inodes that are assigned on a file system for the **usr** tpcuser:

```
tpctool> setquota -filesystem ee_fs03+kq98n5d.ibm+00000200A20045DC+0
-usr tpcuser -sspace 70M -hspace 100M -user admin -pwd password
-ur1 localhost:9550
```

The following output is returned:

```
QuotaId                               Status
=====
4971_U_tpcuser+00000200A20045DC+0 SUCCESS
tpctool>
```

Setting a quota for a group

The following command sets the amount of disk space and number of inodes that are assigned on a file system for the **group** users:

```
tpctool> setquota -filesystem ee_fs03+kq98n5d.ibm+00000200A20045DC+0
-group users -sspace 50M -hspace 100M -user admin -pwd password
-ur1 localhost:9550
```

The following output is returned:

```
QuotaId                               Status
=====
4971_G_users+00000200A20045DC+0 SUCCESS
```

Setting a quota for a file set


The following command sets the amount of disk space and number of inodes that are assigned on a file system for the **fileset** testfset:


```
tpctool> setquota -filesystem ee_fs03+kq98n5d.ibm+00000200A20045DC+0
-fileset testfs -sspace 50M -hspace 100M -user admin -pwd password
-ur1 localhost:9550
```

The following output is returned:

```
QuotaId                               Status
=====
4971_F_testfs+00000200A20045DC+0 SUCCESS
```

Related information:

 <http://publib.boulder.ibm.com/infocenter/sonasic/sonas1ic/index.jsp>
More information about command parameters is available at the IBM SONAS Information Center.

 http://publib.boulder.ibm.com/infocenter/storwize/unified_ic/index.jsp
More information about command parameters is available at the Storwize V7000 Unified Information Center.

start

Use the **start** command to start a transaction. You must have Fabric Administrator authority to use this command.

Syntax

```
▶▶—tpctool—start—-user—user_name--pwd—password—-url—url—-fabric—WWN—▶▶
```

└─help─┘

Parameters and arguments

-user *user_name*

Specifies a valid Tivoli Storage Productivity Center user ID.

-pwd *password*

Specifies the password for the Tivoli Storage Productivity Center user ID.

-url *url*

Specifies the Device server. The format of the URL is: *system:port_number* where *system* represents either the host name or IP address, and *port_number* represents the Tivoli Storage Productivity Center Device server port.

-fabric *WWN*

Specifies the fabric. The *WWN* variable is the World Wide Name (WWN).

-help | **-h** | **-?**

Lists help information for the command.

Examples

Starting a transaction

The following command starts a transaction:

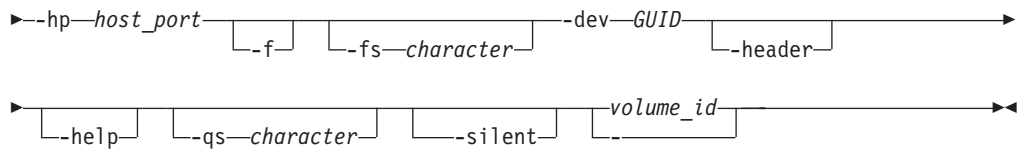
```
tpctool> start -user me -pwd mypass -url myhost:myport -fabric 100000051E34F6A8
```

unassignvol

Use the **unassignvol** command to remove the host ports from the assignment list for a volume. You must have Disk Administrator authority to use this command.

Syntax

```
▶▶—tpctool—unassignvol—-user—user_name--pwd—password—-url—url—▶▶
```



Parameters and arguments

- user** *user_name*
Specifies a valid Tivoli Storage Productivity Center user ID.
- pwd** *password*
Specifies the password for the Tivoli Storage Productivity Center user ID.
- url** *url*
Specifies the Device server. The format of the URL is: *system:port_number* where *system* represents either the host name or IP address, and *port_number* represents the Tivoli Storage Productivity Center Device server port.
- hp** *host_port*
Specifies the host ports. The *host_port* variable is a comma-separated list of worldwide port numbers (WWPNs).
- f** Turns off the confirmation message that is displayed before the ports are removed from the assignment list.
- fs** *character*
Specifies the 7-bit character that separates the information in the output. If you omit this parameter, the information is separated by blank spaces.
- dev** *GUID*
Specifies the storage subsystem. The *GUID* variable is the globally unique identifier (GUID) of the storage subsystem as returned by the **lsdev -subsys** command.
- header**
Suppresses the column headings in the output. If you omit this parameter, the column headings are included.
- help | -h | -?**
Lists help information for the command.
- qs** *character*
Specifies the 7-bit character that surrounds character strings and date stamps in the output. If you omit this parameter, character strings and date stamps are enclosed by double quotation marks (").
- silent**
Suppresses all output for the command. If you omit this parameter, output is included.
- volume_id | -**
Specifies the volumes. The *volume_ID* variable is a comma-separated list of volume IDs, such as that obtained by running the **lsvol** command. If a single dash (-) is issued, the volume IDs are read from standard input.

Examples

Removing host ports

The following command removes three host ports from the assignment list for the indicated volume:

```
tpctool> unassignvol -user me -pwd mypass -url myhost:myport
-hp 5005076300C79470,5005076300D09470,5005076300CB9470 2105.22232
```

The following output is returned:

Volume ID	PoolID	Status
2105.22232	P0	SUCCESS
2105.22232	P1	SUCCESS
2105.22232	P2	SUCCESS

unlinkfset

Use the **unlinkfset** command to unlink a file set. You must have Data Administrator authority to use this command.

Unlinking a file set makes all the files in the file set inaccessible for as long as the file set remains unlinked. The files are not deleted; they are only inaccessible.

Syntax

```
▶▶ tpctool unlinkfset --user user_name --pwd password --url url [-help]
▶ --fileset file_set_id [-f] [-header] [-silent]
▶ [-qs character] [-fs character]
```

Parameters and arguments

-user *user_name*

Specifies a valid Tivoli Storage Productivity Center user ID.

-pwd *password*

Specifies the password for the Tivoli Storage Productivity Center user ID.

-url *url*

Specifies the Device server. The format of the URL is: *system:port_number* where *system* represents either the host name or IP address, and *port_number* represents the Tivoli Storage Productivity Center Device server port.

-help | -h | -?

Lists help information for the command.

-fileset *file_set_id*

Specifies the Tivoli Storage Productivity Center key of the file set to be unlinked. The file set key is listed in the **ID** column of the **lsfset** command output.

-f

Forces the files to be unlinked. If you use this option, the command forcibly closes any open files, causing the ESTALE error the next time the file is used.

-header

Suppresses the column headings in the output. If you omit this parameter, the column headings are included.

-silent

Suppresses all output for the command. If you omit this parameter, output is included.

-qs *character*

Specifies the 7-bit character that surrounds character strings and date stamps in the output. If you omit this parameter, character strings and date stamps are enclosed by double quotation marks ("").

-fs *character*

Specifies the 7-bit character that separates the information in the output. If you omit this parameter, the information is separated by blank spaces.

Examples**Unlinking a file set**


The following command unlinks the file set named eefset01+eefs+kq458mv.ibm+00000200A2A0153C+0.


```
tpctool> unlinkfset -fileset eefset01+eefs+kq458mv.ibm+00000200A2A0153C+0
-user admin -pwd password -url localhost:9550
```

The following output is returned:

```
FilesetId                               Status
=====
eefset01+eefs+kq458mv.ibm+00000200A2A0153C+0 SUCCESS
```

Related information:

 <http://publib.boulder.ibm.com/infocenter/sonasic/sonas1ic/index.jsp>
More information about command parameters is available at the IBM SONAS Information Center.

 http://publib.boulder.ibm.com/infocenter/storwize/unified_ic/index.jsp
More information about command parameters is available at the Storwize V7000 Unified Information Center.

unmountfs

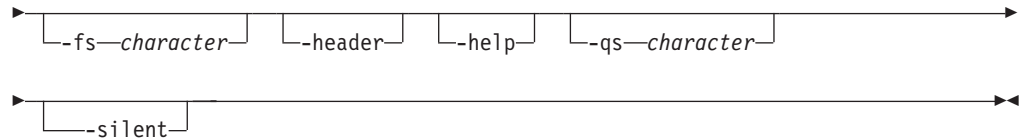
Use the **unmountfs** command to unmount a file system.

The **unmountfs** command unmounts a file system on all interface nodes, management nodes, or a specified subset. You must have Data Administrator authority to use this command.

Attention: Exports of the file system can block the unmount. Before the unmount, the active exports of the file system should be inactive.

Syntax

```
▶▶-tpctool-unmountfs--user-user_name--pwd-password--url-url----->
▶--filesystem-file_system_id-[-nodes-nodes-][-wait-]----->
```

Parameters and arguments

-user *user_name*

Specifies a valid Tivoli Storage Productivity Center user ID.

-pwd *password*

Specifies the password for the Tivoli Storage Productivity Center user ID.

-url *url*

Specifies the Device server. The format of the URL is: *system:port_number* where *system* represents either the host name or IP address, and *port_number* represents the Tivoli Storage Productivity Center Device server port.

-filesystem *file_system_id*

Specifies the ID of file system to be unmounted.

-nodes *nodes*

Lists the nodes to unmount the file system on, in a comma-separated list. Specify only the interface node, management node, or both. If you omit this parameter, the file system is unmounted on all nodes.

-wait

Indicates that the system waits until the file system is unmounted on all the nodes. An error occurs after the system waits 3 minutes.

-fs *character*

Specifies the 7-bit character that separates the information in the output. If you omit this parameter, the information is separated by blank spaces.

-header

Suppresses the column headings in the output. If you omit this parameter, the column headings are included.

-help | **-h** | **-?**

Lists help information for the command.

-qs *character*

Specifies the 7-bit character that surrounds character strings and date stamps in the output. If you omit this parameter, character strings and date stamps are enclosed by double quotation marks ("").

-silent

Suppresses all output for the command. If you omit this parameter, output is included.

Examples

Unmounting a file system

The following command unmounts a file system on a management node.

```
tpctool> unmountfs -filesystem eefs+kq458mv.ibm+00000200A2A0153C+0
-user admin -pwd password -url localhost:9550 -nodes mgmt001st001
```


The following output is returned:


```

FilesystemId                               Status
=====
eefs+kq458mv.ibm+00000200A2A0153C+0 SUCCESS

```

Related information:

 <http://publib.boulder.ibm.com/infocenter/sonasic/sonas1ic/index.jsp>
 More information about command parameters is available at the IBM SONAS Information Center.

 http://publib.boulder.ibm.com/infocenter/storwize/unified_ic/index.jsp
 More information about command parameters is available at the Storwize V7000 Unified Information Center.

updatesrg

This command updates the attributes of the specified Storage Resource Group with a new name, description, or user-defined properties.

Syntax

```

▶▶ tptool1 updatesrg --user user_name --pwd password --url url
▶ --currentname currentSRGName --newname newSRGName
▶ [ newdescription newdescription ] --newudp1 user-defined-property1
▶ --newudp2 user-defined-property2 --newudp3 user-defined-property3
▶ [ -fs-character ] [ -header ] [ -help ] [ -qs-character ]
▶ [ --silent ]

```

Parameters and arguments

- user** *user_name*
Specifies a valid Tivoli Storage Productivity Center user ID.
- pwd** *password*
Specifies the password for the Tivoli Storage Productivity Center user ID.
- url** *url*
Specifies the Device server. The format of the URL is: *system:port_number* where *system* represents either the host name or IP address, and *port_number* represents the Tivoli Storage Productivity Center Device server port.
- currentname** *currentSRGName*
A unique name already in use, less than 60 characters long. It cannot contain any of the following characters:
 \ / : * ? " < > | .

The name of the user who created the Storage Resource Group forms the beginning of the name. Use the `lssrg -l` command to display a list of Storage Resource Groups.

-newname *newSRGName*

A unique name not already in use, less than 60 characters long. It cannot contain any of the following characters:

\ / : * ? " < > | .

The name of the user creating the Storage Resource Group is added to the beginning of the Storage Resource Group name, followed by the name specified in the *newSRGName* variable.

-newdescription *newdescription*

The description can contain any alphanumeric characters, and must be less than 255 characters long.

-newudp1 *user-defined-property1*

(optional) A user-defined property that may contain anything of significance to the Storage Resource Group administrator. The UDP can contain any alphanumeric character, and must be less than 255 characters long.

-newudp2 *user-defined-property2*

(optional) A user-defined property that may contain anything of significance to the Storage Resource Group administrator. The UDP can contain any alphanumeric character, and must be less than 255 characters long.

-newudp3 *user-defined-property3*

(optional) A user-defined property that may contain anything of significance to the Storage Resource Group administrator. The UDP can contain any alphanumeric character, and must be less than 255 characters long.

-fs *character*

Specifies the 7-bit character that separates the information in the output. If you omit this parameter, the information is separated by blank spaces.

-header

Suppresses the column headings in the output. If you omit this parameter, the column headings are included.

-help | **-h** | **-?**

Lists help information for the command.

-qs *character*

Specifies the 7-bit character that surrounds character strings and date stamps in the output. If you omit this parameter, character strings and date stamps are enclosed by double quotation marks ("").

-silent

Suppresses all output for the command. If you omit this parameter, output is included.

Examples

To update the attributes of a Storage Resource Group

The following command updates a Storage Resource Group with the specified attributes:

```
tpctool
tpctool> updatesrg -currentname currentSRGName -newname newSRGName
-newdescription newdescription -newudp1 user-defined-property1
-newudp2 user-defined-property2 -newudp3 user-defined-property3
```

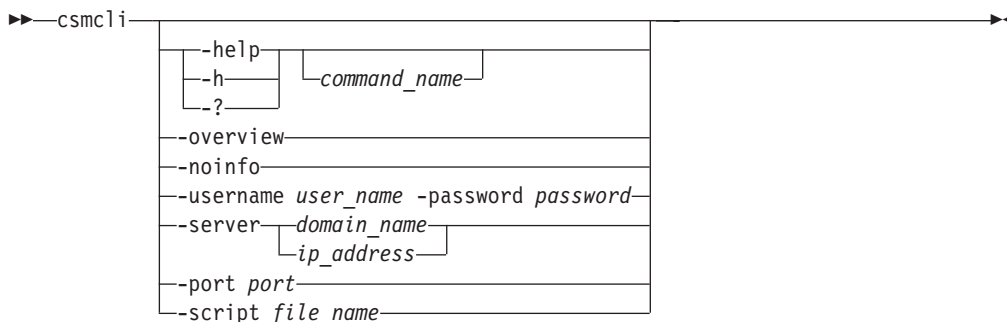
The following output is returned:

Name	Status
=====	
Administrator.my-new-example-srg	SUCCESS

csmcli command

The **csmcli** command is the IBM Tivoli Storage Productivity Center for Replication command line interpreter (CLI) program. This command can be used either on its own, using the associated options and arguments, or interactively by invoking **csmcli** with no parameters or arguments to start an interactive session.

Syntax



Parameters

-help | -h | -? [command_name]

Displays help for the specified command. If you do not specify a command name, this option displays help for the **csmcli** command. If you specify additional parameters and arguments other than a command name, those parameters and arguments are ignored.

-overview

Displays overview information about using the CLI program.

-noinfo

Removes the copyright, version, and build information when you start the **csmcli**.

-username user_name

Specifies the IBM Tivoli Storage Productivity Center for Replication user name with which you want to log in.

-password password

Specifies the password for the IBM Tivoli Storage Productivity Center for Replication user name with which you want to log in.

Important: When you specify this option, the password is displayed as plain text. Using this form of authentication could cause a security exposure.

If you specify a user name but not a password, and IBM Tivoli Storage Productivity Center for Replication does not find the password in an authentication file, you are prompted for the password. If prompted for the password, the password *does not* display in plain text.

-server {domain_name | ip_address}

Sets the domain name or IP address of the IBM Tivoli Storage Productivity Center for Replication server to which you want to connect.

Note: The server domain name or IP address is used only during this CLI session.

-port*port*

Sets the port number to be used by the CLI program to connect to the IBM Tivoli Storage Productivity Center for Replication server. The default value is 5110.

Note: The port number is used only during this CLI session.

-script *file_name*

Runs the set of command strings in the specified file outside of an interactive CLI session. If you specify this parameter, you must specify a file name.

The format options specified using the **setoutput** command apply to all commands in the script.

command_string

Runs the specified command string outside of an CLI session.

Description

You can run **cscli** commands locally from the management server or remotely by accessing the management server using a remote-access utility, such as secure shell (SSH) or Telnet.

Invoking the **cscli** command without any parameters, except the user name and password, starts a interactive CLI session.

Note: You can also go to the installation directory and double-click the `cscli.bat` or `cscli.sh` file to start a `cscli` session in interactive mode. For example, on a Windows system, the `cscli.bat` file is located in `C:\Program Files\IBM\TPC\cli`.

Note: On Linux systems, you must enter the CLI program name (**cscli**) lower case. Command input can be either lowercase, uppercase, or mixed case, unless specific command parameters require case sensitivity.

Each CLI command issues a return value and message. Warning and informational messages are written to the standard output stream (stdout). Error messages are written to stderr. If a syntax error occurs while one of the commands in the script is running, the script exits at the point of failure and returns to the system prompt.

Example

1. Start an interactive CLI session

This example illustrates how to start an CLI session if you have not set up an authentication configuration file.

```
shell> cscli -username admin -password admin
cscli>
```

2. Set the server and port for the management server

This example illustrates how to set the server domain name to `localhost` and port number to 5110 for the local management server.

```
shell> cscli -server localhost -port 5110
```

3. Run several commands using a script file

This example illustrates how to run several commands using a script file name `cli_script.txt`.

```
shell> cscli -script cli_script.txt
```

Command-line interface conventions

This topic provides information about using the CLI program for IBM Tivoli Storage Productivity Center for Replication. It includes information about command conventions and modes, command format requirements, and other usage information.

Presentation of command information

This topic describes how information is presented in the command descriptions.

A *syntax diagram* uses symbols to represent the elements of a command and to specify the rules for using these elements. A *keyword* represents the name of a command, flag, parameter, or argument. Required key words indicate the parameters or arguments that must be specified for the command.

Syntax diagrams conventions

To read syntax diagrams, follow the path of the line.

- Required keywords are displayed on the main path line. Mutually exclusive required keywords are stacked vertically. Optional key words indicate the parameters or arguments you can choose to specify for the command. Optional keywords appear under the main path line. Mutually exclusive optional keywords are stacked vertically.
- The main path line begins with double arrowheads (>>) and ends with two arrowheads facing each other (><). If a diagram is longer than one line, each line to be continued ends with a single arrowhead (>) and the next line begins with a single arrowhead. The -->< symbol indicates the end of the syntax diagram.
- A dash (-) indicates that you must supply parameters from the stdin file rather than entering parameters.
- An arrow returning to the start of an item means you can repeat the item. A character or space within the arrow means you must separate repeated items with that character or space.
- A stack of items followed by an arrow returning to the start of the stack means that you can select more than one item or, in some cases, repeat a single item.
- When a group of parameters is lengthy or a section is used more than once in a command, it is shown as a separate fragment following the main diagram.

Syntax diagrams use position to indicate required, optional, and default values for keywords, variables, and operands:

- If an element is shown on the line, the element is required. If an element is shown under the line, the element is optional. If an element is shown over the line, the element is the default.
- If an operand has a default value, the operand is shown both over and under the main line. A value under the main line indicates that the operand must be specified. You must specify the default value or one of the other valid values that are shown. If an operand is not specified, the default value over the main line is used.
- When one or more items are shown under the main line, all of the items are optional.

Command emphasis

The following typefaces are used to show command emphasis:

boldface

Text in **boldface** represents command names.

italics Text in *italics* is used for variables for which you supply actual values, such as a default directory or the name of a cluster.

monospace

Text in monospace identifies the data or commands that you type, samples of command output, examples of program code or messages from the system, or names of command flags, parameters, arguments, and name-value pairs.

Special characters

The following special characters are used in the command descriptions:

minus sign (-)

Flags are prefixed with a minus sign (-). Flags define the action of a command or modify the operation of a command. You can use multiple flags, followed by parameters, when you issue a command. This character cannot be used as the first character of an object name.

vertical bar (|)

A vertical bar signifies that you choose only one value.

For example, [a | b] indicates that you can choose a, b, or nothing. Similarly, { a | b } indicates that you must choose either a or b.

quotation marks (" ")

Quotation marks around a string indicate that the value can include spaces, for example, "my session name."

brackets ([])

Brackets indicate optional options, parameters, and arguments.

braces ({ })

Braces indicate a required choice between two or more options or arguments.

ellipsis (...)

Ellipses indicate repetition or multiple values or arguments.

Command entry

This topic describes how to enter commands in a valid format.

Order of parameters

Parameters can be entered in any order, with the following exceptions:

- The first argument following the command name must be the action that is to be performed.
- If you are performing an action on a specific object, the object ID or name must be the last argument in the line.

Multiple values

For any commands that accept multiple input values of the same type, delimit the values with a comma with no spaces in the input string (for example, -v01 3,5,8,9).

For any commands that require multiple value types in one string, delimit the value types with a period. For example, if a volume requires a device number and a volume number, you might specify `-vol FCA86.3,FCA78.5,FCA96.8`. When input values are of different types but specified in the same flag, use a colon. For example, to specify a minimum and maximum value in the same flag, you would type `-size min:max`.

Multiple arguments

IBM Tivoli Storage Productivity Center for Replication supports multiple arguments for the commands **chauth**, **chsess**, **lsdevice**, **lssess**, **lssessactions**, **lsvol**, and **rmsess**. If you invoke a command with multiple arguments, the command will be applied for each of the arguments. For example, you might issue the following command to remove `session_a`, `session_b`, and `session_c`.

```
#rmsess session_a session_b session_c
```

When a command runs on more than one argument, the CLI program establishes a single security session to run the command on each of the multiple arguments.

Volumes and locations

The following volume values are valid:

ESS devices

Valid volume values include the device type, component type, device ID, subsystem ID, logical subsystem ID, and volume ID, with each separated by a period or colon. For example:

ESS single volume

```
ESS:2105.65312:VOL:202F (ESS:ELEMENTTYPE.DEVICEID:VOL:LSSVOLNUM)
```

User-defined objects

These are the requirements for valid user-defined object names:

- User-defined object names can be 250 characters or fewer, unless otherwise noted.
- Valid characters are A-Z, a-z, 0 - 9, dash (-), underscore (_), period (.), and colon (:).
- Object names must start with an alphanumeric character.
- Most object names cannot contain any blank spaces. However, you can include blanks in session names and location names.
- Do not translate user-defined objects or otherwise modify them from the user's entry (they should remain case-sensitive).

User-defined descriptions

These are the requirements for valid user-defined descriptions:

- If a description contains spaces, it must be enclosed in matching double quotation marks or single quotation marks.
- If a description that is already enclosed in matching quotation marks includes an asterisk, the asterisk must be preceded by an escape character, for example, `-desc "This is the * pool"`.
- If a description that is already enclosed in matching quotation marks includes quotation marks or single quotation marks within the actual text string, these

characters must be escaped. For example, `-desc "This is Hanna\'s description"` or `-desc "This is the pool I call \"Foo\"."`

- User-defined descriptions can be 250 characters or fewer. They cannot contain any leading blank spaces.
- User-defined descriptions should not be translated or otherwise modified from the user's entry, (that is they should remain case-sensitive).
- The CLI is sensitive to case when interpreting user-defined object names given as input. For example, object F00 is different than object foo.

Command modes

You can use the command line interface (CLI) to run a single command or a series of commands, either interactively or from a script.

Single-shot mode

If you want to run only a single command, specify the `csmdi` program and the command that you want to run from the shell prompt, for example:

```
shell> csmdi lslocation
Location  Details
=====
1         Boulder
3         Marana
2         Tucson
shell>
```

Interactive mode

If you want to run several commands, start an CLI session using the `csmdi` program with no parameters or arguments, and then enter each command at the `csmdi>` shell prompt, for example:

```
shell> csmdi
csmdi> rmsess expm_session
Are you sure that you want to remove session expm_session? [y/n]:y
Session expm_session removed
csmdi> exit
shell>
```

Script mode

If you want to run a set of commands that you defined in a file, use the `csmdi` program with the `-script` parameter, for example:

```
shell> tpctool -script ~/bin/containersetup
shell>
```

You can add comments to the script file by placing a pound sign (#) in the first column, for example:

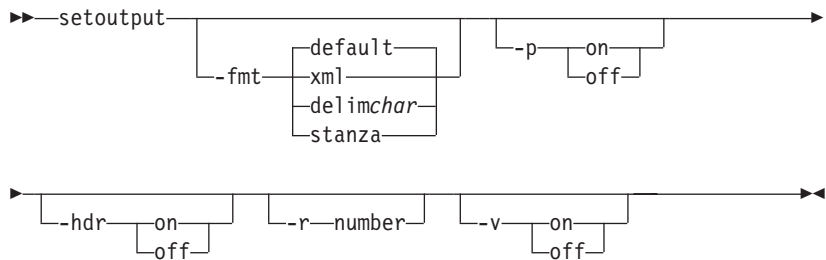
```
# This script file lists the default storage pool.
lspool -l -type default
```

The CLI program recognizes these built-in commands in interactive mode:

setoutput

Specifies various command-output format options. All settings specified with **setoutput** remain in effect for the duration of the interactive command session unless reset either with a command option or with **setoutput**. With no options, **setoutput** displays the current settings in the default output format. Settings from the **setoutput** command do not apply to help pages; help pages are shown in text output only.

Syntax



Parameters and arguments:

-fmt { default | xml | delim | stanza }

Specifies the format of the output. You can specify one of these values:

default

Specifies that the output is displayed in tabular format using spaces as delimiters between columns. This is the default value.

xml Specifies that the output is displayed in XML format.

delim Specifies that output is displayed in a tabular format using commas as delimiters between columns.

To use a character other than a comma as the delimiter, specify `-fmt delim -delim char`, where *char* represents the character that you want to use as the delimiter. For example, if you want to use a colon (:) as the delimiter, use the following `-fmt` parameter:

```
-fmt delim -delim :
```

If you use a shell metacharacter as the delimiting character, enclose the character in quotation marks or single quotation marks. A blank space is not a valid character.

stanza Specifies that the output is displayed as one keyword-value pair per line.

-p { on | off }

Specifies whether to display one page of text at a time or all text at once.

on Displays one page of text at a time. Pressing any key displays the next page. This is the default value when the command is run in interactive mode.

off Displays all text at once. This is the default value when the command is run in single-shot mode.

-hdr { on | off }

Specifies whether to display the table header. You can specify one of these values:

on Displays the table header. This is the default value.

off Hides the table header.

-r *number*

Specifies the number of rows per page to display when the **-p** parameter is specified. You can specify a value of 1 - 100. The default value is 22.

-v { **on** | **off** }

Specifies whether to enable verbose mode. You can specify one of these values:

on Enable verbose mode.

off Disable verbose mode. This is the default value.

help Displays a list of commands available from the CLI session.

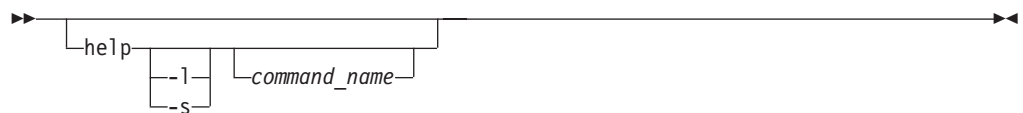
exit Exits from the CLI session.

quit Exits from the CLI session.

User assistance for commands

You can get user assistance for the any **csmlcli** command using the **help** command.

Syntax



Parameters

-l Displays a list of all available commands and syntax for each if no other options are specified. If a command name is also specified, this option displays syntax for that command.

-s Displays a list of all available commands and a brief description of each if no other options are specified. If a command name is also specified, this option displays a brief description for that command.

command_name

Displays detailed help for the specified command

Description

If this command is invoked without any parameters, it displays a list of all available commands.

You can use the command-help parameters (**-help**, **-h**, or **-?**) that are supported by each command to display a detailed description of the specified command. For more information about the command-help parameters, see the description for each command.

Output from command processing

This topic describes command output and how to specify the output format.

Confirmation prompts

When commands might cause an irrecoverable operation, loss of data, memory drain, or a long-running task, or might have an impact on concurrent operations,

you receive an interactive confirmation prompt that asks if you are sure that you want to continue with the specific action, such as:

Are you sure you want to xxx? Y/N

All confirmation prompts accept the following input:

YES, yes, Y, y

Confirm action and continue.

NO, no, N, n

Cancel action.

Messages

Messages are returned in the format of `IWNCxxxxy`, `IWNRxxxxy`, `IWNHxxxxy`, or `IWNExxxxy`, where `xxxx` is the number of the message and `y` indicates that the message type is I (information), W (warning), or E (error).

Each CLI command issues a return value and message. These messages are output as follows:

- Warning and informational messages are written to stdout.
- Error messages are written to stderr.
- Messages include an explanation of the problem, if one exists.

Suppression of confirmation prompts and messages

You can use these flags to modify command input:

- To force destructive action, such as making a volume even if the LUN already has a label, use the `-f` flag. This flag suppresses confirmation and error messages.
- To suppress confirmation prompts and messages, use the `-quiet` flag. This flag answers yes to all confirmation prompts.

Exit codes

The following exit codes apply to all commands that you enter using the CLI program.

Table 2. Exit codes for CLI commands

Code	Category	Description
0	Success	The command was successful.
2	Syntax error	The syntax of the command was not correct.
3	Connection error	A connectivity error or protocol error occurred.
4	Server error	An error occurred during a function call to the application server.
5	Authentication error	An error was detected during authentication checking.
6	Application error	An error occurred during processing that is performed by the MetaProvider client application.

Notes:

- In single-shot mode, an exit code is provided after each command.

- In interactive and script mode, an exit code is not provided after each command. Instead, output is echoed to stdout for status information.
- In single-shot and interactive mode, with commands that act on more than one argument if one or more operations fail, the CLI will:
 - Complete execution of all operations that it can continue executing
 - Report on all successful completions
 - Report on any failures
- In script mode, the CLI will operate the same way. However, if one or more operations fail in the file specified, the CLI issues a failure exit code and automatically exits from the script mode after the failed command.

Options for setting the output format of listings

The standard format parameters set the output format of the listing (**ls**) commands in the CLI program. These parameters can be used either in one of the listing commands or in the **setoutput** command. The format settings remain in effect for the duration of the session or until you reset the parameters either by specifying these parameters in a listing command (commands that start with **ls**) or using the **setoutput** command.

- **-p** specifies whether to display one page of text at a time or all text at once.
- **off** displays all text at one time. This is the default value when the **csmdi** command is run in single-shot mode.
- **on** displays one page of text at time. Pressing any key displays the next page. This is the default value when the command is run in interactive mode.
- **-r number** specifies the number of rows per page to display when the **-p** parameter is on. The default value is 24. You can specify a value of 1 - 100.
- **-fmt** specifies the format of the output. You can specify one of the following values:
 - **default** specifies that output be displayed in a tabular format using spaces as the delimiter between the columns. This is the default value.
 - **delim character** specifies that output be displayed in a tabular format using the specified character to separate the columns. If you use a shell metacharacter as the delimiting character, enclose the character in quotation marks or single quotation marks. A blank space is not a valid character.
 - **xml** specifies that output using XML format.
 - **-hdr** specifies whether to display the table header. Use the default value of **on** to display the table header. This is the default value. Use **off** to hide the table header.
- **-v** specifies whether to enable verbose mode. Use the default value of **off** to disable verbose mode. This is the default value. Use **on** to enable verbose mode.

These standard listing options modify command output in any CLI mode:

- **lsubject-s** lists only the objects without other columns of information. For example, **lssess -s** lists only the name header and the session names.
- **lsubject-l** lists all the objects with all defined columns, including the description.

Example of using the setoutput command to define output formats

You can set output formats using the **setoutput** command in interactive or script modes or using the corresponding standard command options in single-shot mode.

setoutput with no options

When you issue **setoutput** with no options, the CLI always displays the current output settings in the default format (space-separated plain-text table), regardless of the values of the output settings. For example, enter the following command:

```
csmdi> setoutput
Paging  Rows  Format  Header  Verbose
=====
off     -      default on      off
```

setoutput -fmt delim char

To obtain long output in comma-separated format for the default storage pool only, enter the following commands:

```
csmdi> setoutput -fmt delim ,
csmdi> lssess -l -type default
```

The following output is then returned:

```
Name,Status,State,Copy Type,
Recoverable,Copying,Copy Sets,Error
=====
session1,Inactive,Defined,Global Mirror Failover/Failback w/ Practice,
No,No,8,No
session2,Inactive,Defined,Global Mirror Failover/Failback,
No,No,0,No
```

To turn off headers, enter the command as shown in the following example:

```
csmdi> setoutput -fmt delim , -hdr off
csmdi> lssess -l -type default
```

The output would then be returned as follows:

```
session1,Inactive,Defined,Global Mirror Failover/Failback w/ Practice,
No,No,8,No
session2,Inactive,Defined,Global Mirror Failover/Failback,
No,No,0,No
```

setoutput -fmt xml

To obtain the long output in XML format for the default storage pool only, enter the following command:

```
csmdi> setoutput -fmt xml
csmdi> lssess -l -type default
```

The output is then returned in XML format as shown in the following example:

```
<IRETURNVALUE>
<INSTANCE CLASSNAME="STC_StoragePool"><PROPERTY NAME="Name" TYPE="string">
<VALUE>DEFAULT_POOL</VALUE></PROPERTY><PROPERTY NAME="PoolType" TYPE="uint32">
<VALUE>1</VALUE></PROPERTY><PROPERTY NAME="PartitionSize" TYPE="uint64">
<VALUE>16</VALUE></PROPERTY>
<PROPERTY NAME="AlertPercentage" TYPE="uint16"><VALUE>80</VALUE></PROPERTY>
<PROPERTY NAME="Size" TYPE="uint64"><VALUE>0</VALUE></PROPERTY>
<PROPERTY NAME="SizeAllocated" TYPE="uint64">
<VALUE>0</VALUE></PROPERTY><PROPERTY NAME="SizeAllocatedPercentage" TYPE="uint16">
<VALUE>0</VALUE></PROPERTY>
<PROPERTY NAME="NumberOfVolumes" TYPE="uint32"><VALUE>0</VALUE></PROPERTY>
<PROPERTY NAME="Description" TYPE="string"><VALUE>Default storage pool</VALUE>
</PROPERTY></INSTANCE>
</IRETURNVALUE>
```

setoutput -fmt default

To return the output format to the default (space-separated columns), enter the command as follows:

```

csmcli> setoutput -fmt default
csmcli> lssess -l type default

```

The output is then returned as follows:

```

Name      Type      Size(GB)  Used(GB)  Used(%)  Alert(%)  Volumes
=====
DEFAULT   Default  10000     2500      25        80         10
Partition Size(MB)  Description
=====
64                Default Storage Pool

```

setoutput -fmt stanza

When columns are wide, output can be difficult to visually align. However, the stanza format option eliminates this problem. To obtain long output in stanza format for the default storage pool only, enter the command as follows:

```

csmcli> setoutput -fmt stanza
csmcli> lssess -l -type default

```

The output is then returned in the following format:

```

Name              DEFAULT
Type              Default
Size (GB)         10000
Used (GB)         2500
Used (%)          25
Alert (%)         80
Volumes           10
Partition Size (MB) 64
Description       Default storage pool

Name              Personnel
Type              System
Size (GB)         10000
Used (GB)         2500
Used (%)          25
Alert (%)         80
Volumes           20
Partition Size (MB) 64
Description       Personnel data

```

Customizing the command-line interface

This information describes how to customize the command-line interface.

Configuring the command-line interface

This information describes how to modify the properties files to configure the command-line interface.

There are three properties files that are used to configure the command-line interface:

repli.properties

Contains the server and port information used to communicate with the IBM Tivoli Storage Productivity Center for Replication server and the command-line interface.

rmserver.properties

Contains configuration information about logging.

tpcrcli-auth.properties

Contains authorization information for signing on to the CLI automatically without entering your user name and password.

Setting up automatic login to the CLI

You can set up the command line interface to automatically log you in without specifying your user name or password each time you issue a **csmdi** command or enter the **csmdi** shell. Use the `tpcrcli-auth.properties` file to create a persistent copy of the user name and encrypted password used for automatic authentication and authorization.

Perform these steps to set up automatic login authentication:

1. Locate the `tpcrcli-auth.properties` template file. The template is located in the following directories by default, based on the operating system running on the management server.

Operating system	Default directory
Windows	<code>install_root/cli</code>
AIX and Linux	<code>install_root/cli</code>
z/OS®	<code>tpcr_production_root/cli</code>

2. Create a directory named `tpcr-cli` in your home directory (for example, `C:\Documents and Settings\joe\tpcr-cli\` on Windows) and copy the template to this directory.
3. Edit the file, and add your user name and password.
4. Issue a **csmdi** command or enter the **csmdi** shell to encrypt the password in the `tpcrcli-auth.properties` file.

csmdi command descriptions

The following table provides a brief description and authorization role for each command in the command-line interface.

Sessions and copy sets

Command	Description	Roles
"chsess" on page 187	Use the chsess command to change the description or options set of an existing session. To change the session type, you must delete the session and create a new one.	Administrator Operator
"cmdsess" on page 197	Use the cmdsess command to run a specific action against a session.	Administrator Operator
"exportcsv" on page 203	Use the exportcsv command to export the copy sets in a session to a comma-separated values (CSV) file or to the console. You are prompted to overwrite the CSV file if it exists.	Administrator Operator Monitor
"importcsv" on page 208	Use the importcsv command to parse a comma-separated values (CSV) file to create copy sets for a session.	Administrator
"lscpset" on page 213	Use the lscpset command to list the IDs of copy sets in a session.	Administrator Operator Monitor
"lscptypes" on page 216	Use the lscptypes command to display all the supported session (copy) types that you can use with the mk sess command.	Administrator Operator Monitor

Command	Description	Roles
"lspair" on page 232	Use the lspair command to list the copy pairs for a specified role pair or to list the copy pairs for a specified copy set.	Administrator Operator Monitor
"lsparameter" on page 236	Use the lsparameter command to list Metro Mirror heartbeat setting.	Administrator Operator Monitor
"lsrolepairs" on page 243	Use the lsrolepairs command to display role pairs in a session.	Administrator Operator Monitor
"lsrolescpset" on page 246	Use the lsrolescpset command to list the volume roles in the specified session.	Administrator Operator Monitor
"lssess" on page 248	Use the lssess command to display sessions and their status.	Administrator Operator Monitor
"lssessactions" on page 251	Use the lssessactions command to list all the session actions (commands) that can be run for a session.	Administrator Operator Monitor
"lssessdetails" on page 253	Use the lssessdetails command to display the details of a session.	Administrator Operator Monitor
"mkcpset" on page 271	Use the mkcpset command to create copy sets.	Administrator Operator
"mksess" on page 275	Use the mksess command to create a session.	Administrator Operator
"rmcpset" on page 282	Use the rmcpset command to remove a copy set.	Administrator Operator
"rmsess" on page 287	Use the rmsess command to remove a session.	Administrator Operator
"setparameter" on page 291	Use the setparameter command to set the system parameters.	Administrator
"showcpset" on page 292	Use the showcpset command to display properties for a copy set.	Administrator Operator Monitor
"showsess" on page 301	Use the showsess command to display properties for a selected session, including name, description, group managed, and copy type.	Administrator Operator Monitor

Storage systems and connections

Command	Description	Roles
"adddevice" on page 176	Use the adddevice command to add a storage system.	Administrator
"addmc" on page 179	Use the addmc command to add a management console connection and all the storage systems that are managed by that management console.	Administrator

Command	Description	Roles
"addstorsys" on page 180	Use the addstorsys command to add a specific storage system and its volumes that are attached to the IBM Tivoli Storage Productivity Center for Replication server to the IBM Tivoli Storage Productivity Center for Replication configuration through a z/OS connection.	Administrator
"chdevice" on page 182	Use the chdevice command to change user names and passwords for accessing storage systems.	Administrator
"chlocation" on page 184	Use the chlocation command to change the location associated with the specified storage systems.	Administrator
"chmc" on page 185	Use the chmc command to set or change the hardware credentials for the hardware management console (HMC).	Administrator
"chvol" on page 196	Use the chvol command to change the protection setting associated with a volume.	Administrator
"lsavailports" on page 212	Use the lsavailports command to display the port configuration types for a specific path.	Administrator Operator Monitor
"lsdevice" on page 218	Use the lsdevice command to list storage systems and properties.	Administrator Operator Monitor
"lslocation" on page 226	Use the lslocation command to list all defined locations.	Administrator Operator Monitor
"lsyss" on page 228	Use the lsyss command to list the logical subsystems (LSSes) for the specified DS or ESS storage system. You can use this output with the mkpath command.	Administrator Operator Monitor
"lsmc" on page 230	Use the lsmc command to display a summary of management consoles and settings.	Administrator Operator Monitor
"lspath" on page 238	Use the lspath command to display paths between ESS and DS devices. You can then use this information for a remote copy.	Administrator Operator Monitor
"lspool" on page 241	Use the lspool to list pools that are on XIV systems.	Administrator Operator Monitor
"lsstorcandidate" on page 263	Use the lsstorcandidate command to list the storage systems that can be discovered through an IBM z/OS connection. This command does not list storage systems that are already added to the IBM Tivoli Storage Productivity Center for Replication configuration.	Administrator Operator Monitor
"lsvol" on page 265	Use the lsvol command to display detailed information about volumes.	Administrator Operator Monitor
"mkpath" on page 274	Use the mkpath command to create a Fibre Channel path or paths between a source logical subsystem (LSS) and a target LSS.	Administrator Operator
"rmdevice" on page 283	Use the rmdevice command to remove a direct connection to a storage system.	Administrator
"rmmc" on page 285	Use the rmmc command to remove a management console.	Administrator

Command	Description	Roles
"rmpath" on page 286	Use the rmpath command to remove a path or paths between a source logical subsystem (LSS) and a target LSS.	Administrator Operator
"rmstorsys" on page 289	Use the rmstorsys command to remove a specific storage system and its volumes that are attached to the IBM Tivoli Storage Productivity Center for Replication server from the IBM Tivoli Storage Productivity Center for Replication configuration through a z/OS connection.	Administrator
"showdevice" on page 293	Use the showdevice command to display storage system properties.	Administrator
"showmc" on page 300	Use the showmc command to display the properties of a management console.	Administrator

Management servers

Command	Description	Roles
"hareconnect" on page 207	Use the hareconnect command to reconnect the active and standby servers for high availability (HA).	Administrator
"hatakeover" on page 207	Use the hatakeover command to change the standby server to the active server.	Administrator
"lshaservers" on page 222	Use the lshaservers command to show the status of each active and standby management server.	Administrator Operator Monitor
"lssnmp" on page 262	Use the lssnmp command to list the SNMP managers to which IBM Tivoli Storage Productivity Center for Replication is configured to send SNMP alerts.	Administrator Operator Monitor
"mkbackup" on page 270	Use the mkbackup command to create a backup of IBM Tivoli Storage Productivity Center for Replication configuration data (including storage systems, sessions, and copy sets) in the zero-administration embedded repository.	Administrator
"mklogpkg" on page 273	Use the mklogpkg command to create a log package. The log package is written to the file that is specified in the properties file.	Administrator
"mksnmp" on page 278	Use the mksnmp command to add a specified manager to the list of servers to which SNMP traps are sent. SNMP traps are not specific to any particular session. All traps for any session are sent to each server.	Administrator
"rmactive" on page 280	Use the rmactive command to remove an active management server.	Administrator
"rmsnmp" on page 287	You can use the rmsnmp command to remove the specified manager from the list of servers to which SNMP traps are sent.	Administrator
"rmstdby" on page 288	Use the rmstdby command to remove a standby management server.	Administrator

Command	Description	Roles
"setasstdby" on page 290	Use the setasstdby command to set a management server to be the standby management server of another active management server.	Administrator
"setstdby" on page 291	Use the setstdby command to set the standby management server for an active management server.	Administrator
"showha" on page 299	Use the showha command to display the high-availability status.	Administrator Operator Monitor
"ver" on page 304	Use the ver command to display the current version of IBM Tivoli Storage Productivity Center for Replication.	Administrator Operator Monitor

Security

Command	Description	Roles
"chauth" on page 181	Use the chauth command to change the authorization level of a user.	Administrator
"lsauth" on page 210	Use the lsauth command to lists the name, authorization level, and session permission for each user or user group.	Administrator Operator Monitor
"mkauth" on page 269	Use the mkauth command to grant monitor, administrator, or operator authorization to a user.	Administrator
"rmauth" on page 281	Use the rmauth command to remove monitor, administrator, or operator authorization from a user or user group.	Administrator
"whoami" on page 305	Use the whoami command to display the name of the user that is currently logged in.	Administrator Operator Monitor

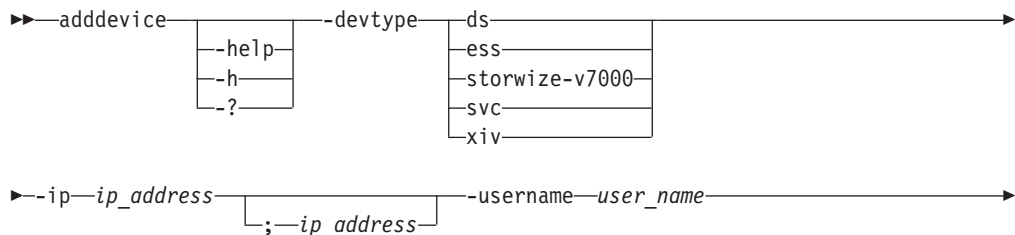
adddevice

Use the **adddevice** command to add a storage system.

To add a storage system that is attached through an IBM z/OS connection, use the **addstorsys** command.

To change the location of a storage system, use the **chlocation** command.

Syntax





Parameters

-help | -h | -?

Lists help for the command. If you specify additional parameters and arguments, those parameters and arguments are ignored.

-devtype { ds | ess | storwize-v7000 | svc | xiv }

Specifies the type of storage system. Supported storage systems are:

- **ds**: IBM System Storage DS8000 or System Storage DS6000
- **ess**: IBM TotalStorage Enterprise Storage Server Model 800
- **storwize-v7000**: IBM Storwize V7000 and IBM Storwize V7000 Unified
- **svc**: IBM System Storage SAN Volume Controller
- **xiv**: IBM XIV Storage System

-ip ip_address [; ip_address]

Specifies the IP address or host name of the clusters or nodes that are used by the storage system.

The following storage systems use two clusters. You must specify the IP address or host name for each cluster using a semicolon between the addresses (for example, 192.0.2.0;192.0.2.1):

- TotalStorage Enterprise Storage Server Model 800
- System Storage DS8000
- System Storage DS6000

The following storage systems use one node and require only one address or host name:

- System Storage SAN Volume Controller
- Storwize V7000
- Storwize V7000 Unified

XIV system uses multiple nodes. Specify the IP address or host name for one node and the remaining nodes are discovered automatically.

-username user_name [; user_name]

Specifies the user name for the clusters or nodes.

For the following storage systems, you can provide one user name, which is used for both clusters, or you can specify two user names. If you have separate user names, include a semicolon between the user name for cluster 0 and cluster 1.

- TotalStorage Enterprise Storage Server Model 800
- System Storage DS8000
- System Storage DS6000

For the following storage systems, provide one user name:

- System Storage SAN Volume Controller
- Storwize V7000
- Storwize V7000 Unified
- XIV system

Important: After you enter the parameters for the **adddevice** command, you are prompted to enter the password for this user name. The password is not displayed in the command window.

-port *port* [*;port*]

Specifies the port to use for accessing the clusters or nodes.

For the following storage systems, you can provide one port number, which is used for both clusters, or you can provide two port numbers. If you have separate port numbers, include a semicolon between the port for cluster 0 and cluster 1. The default port number is 2433.

- TotalStorage Enterprise Storage Server Model 800
- System Storage DS8000
- System Storage DS6000

For XIV system, provide one port number, which is used for all nodes. The default port number is 7778.

The following storage systems do not require this parameter.

- System Storage SAN Volume Controller
- Storwize V7000
- Storwize V7000 Unified

Examples

Adding a TotalStorage Enterprise Storage Server Model 800 storage system

The following command adds a TotalStorage Enterprise Storage Server Model 800 storage system to Tivoli Storage Productivity Center for Replication.

```
csmlcli> adddevice -devtype ess -ip sts596c0;sts596c1 -username admin
```

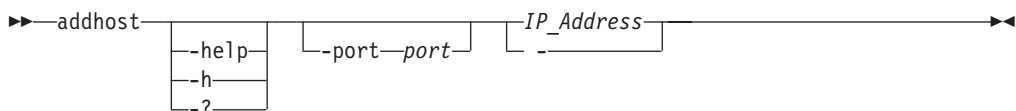
The following output is returned:

```
Please enter a password for the device cluster 0 userid of admin:  
IWNH1612I The connection sts596c0:sts596c1 was successfully added.
```

addhost

Use the **addhost** command to add host system connections to the IBM Tivoli Storage Productivity Center for Replication server.

Syntax



Parameters

-help | -h | -?

Lists help for the command. If you specify additional parameters and arguments, those parameters and arguments are ignored.

-port *port*

This is an optional parameter that specifies the port to use to access the host system. If a port is not specified, the default port 9930 is used.

IP_Address | -

Specifies the IP address or host name of the host system.

Alternatively, use the dash (-) to specify that input for this parameter comes from an input stream (stdin). The dash is supported only in single-shot mode.

Example

• Adding host systems

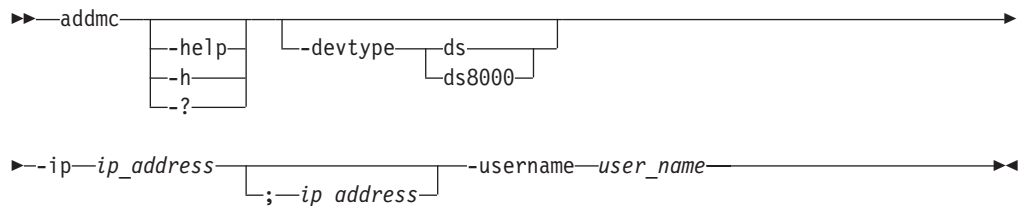
The following command shows how to add a host system with IP address 9.11.223.43. In this example, you could omit the -port parameter because port 9930 is the default.

```
csmdi> addhost -port 9930 9.11.223.43
```

addmc

Use the **addmc** command to add a management console connection and all the storage systems that are managed by that management console.

Syntax



Parameters

-help | -h | -?

Lists help for the command. If you specify additional parameters and arguments, those parameters and arguments are ignored.

-devtype { ds | ds8000 }

Specifies the type of hardware device. You can specify either ds or ds8000.

-ip ip_address [; ip_address]

Specifies the IP addresses of the management consoles to be added. For dual-management console configurations, both IP addresses must be specified with a semicolon in between (for example, 192.0.2.0;192.0.2.1).

-username user_name

Specifies the user name for the management console. For dual management console configurations, the management consoles must have the same user name.

Important: After you enter the parameters for the **addmc** command, you are prompted to enter the password for this user name. For security, the password is not displayed in the command window.

Example

Adding a management console

The following command adds a management console to IBM Tivoli Storage Productivity Center for Replication.

```
csmdi> addmc -devtype ds -ip 127.0.0.1 -username admin
```

The following output is returned:

Please enter a password for the device userid of admin:
IWNH1612I The connection HMC:127.0.0.1 was successfully added.

addstorsys

Use the **addstorsys** command to add a specific storage system and its volumes that are attached to the IBM Tivoli Storage Productivity Center for Replication server to the IBM Tivoli Storage Productivity Center for Replication configuration through a z/OS connection.

Syntax

```
▶▶ addstorsys 

|        |
|--------|
| --help |
| --h    |
| --?    |

 --conntype zos --dev device_id ▶▶
```

Parameters

-help | -h | -?

Lists help for the command. If you specify additional parameters and arguments, those parameters and arguments are ignored.

-conntype zos

Specifies the type of connection that the storage system uses. Currently, you can specify only *zos* for a z/SO connection.

-dev *device_id*

Specifies the ID of the DS or ESS storage system that is to be added to the IBM Tivoli Storage Productivity Center for Replication configuration.

Tip: Use the **lsdevice** command to display a list of valid storage system IDs.

Description

Important:

- You must have Administrator privileges to run this command.
- You can run this command only from the IBM Tivoli Storage Productivity Center for Replication server that is installed on a system running z/OS.
- You can use this command to add only DS and ESS type storage systems.

If the storage system has been previously added through another connection type, then z/OS is added to the storage system's connection types.

To add a storage system that is attached through a direct connection, use the **adddevice** command. To add a storage system that is attached through a hardware-management-console (HMC) connection, use the **addmc** command.

To change the location of the storage system, use the **chlocation** command.

Example

1. Adding an ESS storage system

This example illustrates how to add the storage system with ID ESS:BOX:2105.12345 to the IBM Tivoli Storage Productivity Center for Replication configuration through the z/OS connection.

```
csmdi> addstorsys -dev ESS:BOX:2105.12345 -conntype zos
```


The following output is returned:

```
IWNH1612I The connection ESS:BOX:2105.12345 was successfully added.
```

2. Adding an DS8000 storage system

This example illustrates how to add the storage system with ID DS8000:BOX:2107.MV492 to the IBM Tivoli Storage Productivity Center for Replication configuration through the z/OS connection.

```
csmdi> addstorsys -dev DS8000:BOX:2107.MV492 -conntype zos
```

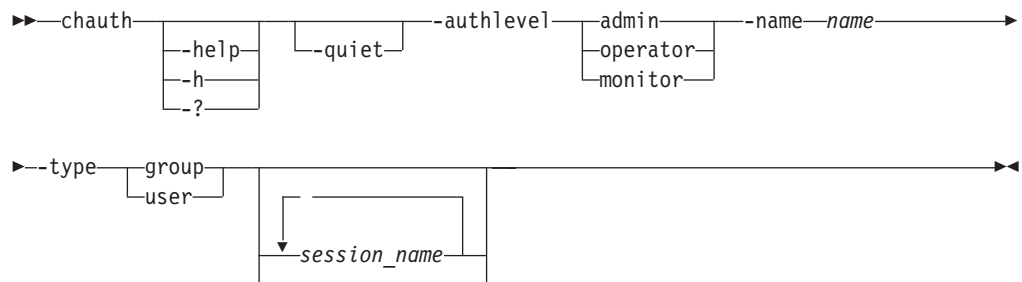
The following output is returned:

```
IWNH1619I The storage device 2107.MV492 at ZOS was successfully added.
```

chauth

Use the **chauth** command to change the authorization level of a user.

Syntax



Parameters

-help | -h | -?

Lists help for the command. If you specify additional parameters and arguments, those parameters and arguments are ignored.

-quiet

Suppresses the confirmation prompt for this command. This flag answers yes to all confirmation prompts.

--authlevel { admin | operator | monitor }

Specifies the new authorization level. You can specify one of these authorization levels: admin, operator, or monitor.

--name name

Specifies a user ID or group name for which you are changing the authorization level.

--type group | user

Specifies whether authorization is to be changed for a user group or user.

session_name... | -

Specifies one or more sessions that the user can access. Separate multiple session names using a blank space. Use this parameter when you are changing the authorization level from user to operator. This parameter does not apply to monitors or administrators.

If no session name is specified, all sessions are used by default, unless another filter is used.

Alternatively, use the dash (-) to specify that input for this parameter comes from an input stream (stdin). The dash is supported only in single-shot mode.

Example

1. Changing user authorization to administrator

The following command changes the authorization level for the user `csmuser` to operator privileges with permission to manage session `session1`.

```
csmcli> chauth -name csmuser -type user -authlevel operator session1
```

The following output is returned:

```
Are you sure you want to change access for user csmuser? [y/n]:y
IWNR4016I Successfully granted the session operator role to csmuser.

IWNR4026I Successfully granted permission for session session1 for
user Guest.
```

2. Changing user authorization to monitor

The following command changes the authorization level for the user `Guest` to monitor privileges.

```
csmcli> chauth -name Guest -type user -authlevel monitor
```

The following output is returned:

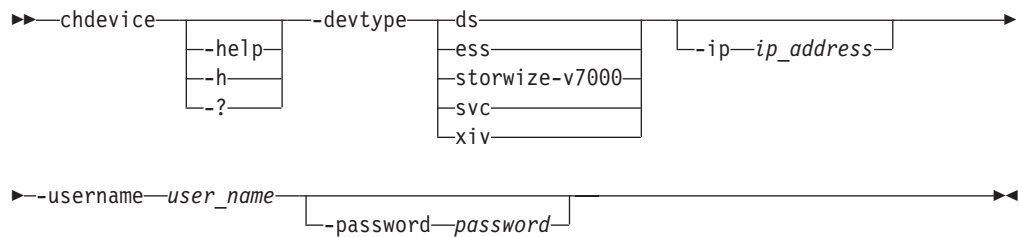
```
Are you sure you want to change access for user Guest? [y/n]:y
IWNR4017I Successfully granted the monitor role to Guest.
```

chdevice

Use the **chdevice** command to change user names and passwords for accessing storage systems.

Tip: To change the location of storage systems, use the **chlocation** command.

Syntax



Parameters

-help | -h | -?

Lists help for the command. If you specify additional parameters and arguments, those parameters and arguments are ignored.

-devtype { ds | ess | storwize-v7000 | svc | xiv }

Specifies the type of storage system. Supported devices are:

- **ds**: IBM System Storage DS8000 or System Storage DS6000
- **ess**: IBM TotalStorage Enterprise Storage Server Model 800
- **storwize-v7000**: IBM Storwize V7000 and IBM Storwize V7000 Unified
- **svc**: IBM System Storage SAN Volume Controller
- **xiv**: IBM XIV Storage System

-ip ip_address [;ip_address]

Specifies the IP address or host name of the clusters or nodes that are used by the storage system.

The following storage systems use two clusters. You must specify the IP address or host name for each cluster using a semicolon between the addresses (for example, 192.0.2.0;192.0.2.1):

- TotalStorage Enterprise Storage Server Model 800
- System Storage DS8000
- System Storage DS6000

The following storage systems use one node and require only one address or host name:

- System Storage SAN Volume Controller
- Storwize V7000
- Storwize V7000 Unified

XIV system uses multiple nodes. Specify the IP address or host name for one node and the remaining nodes are discovered automatically.

Tip: To list the IP address of storage system clusters or nodes, use the **lsdevice** command.

-username *user_name* [**;***user_name*]

Specifies the user name for the clusters or nodes that are used by the storage system. Enter the user name or user names that you want to change. If you want to change passwords associated with user names (but not the user names), enter the currently valid user names.

For the following storage systems, you can provide one user name, which is used for both clusters, or you can specify two user names. If you have separate user names, include a semicolon between the user name for cluster 0 and cluster 1.

- TotalStorage Enterprise Storage Server Model 800
- System Storage DS8000
- System Storage DS6000

For the following storage systems, provide one user name:

- System Storage SAN Volume Controller
- Storwize V7000
- Storwize V7000 Unified
- XIV system

-password *password* [**;***password*]

If you want to change passwords, enter the new passwords for the user names that you specified. If you want to change user names, but not the passwords associated with the user names, enter the currently valid passwords. If you do not enter a password, you are prompted to do so.

Examples

Changing user names and passwords

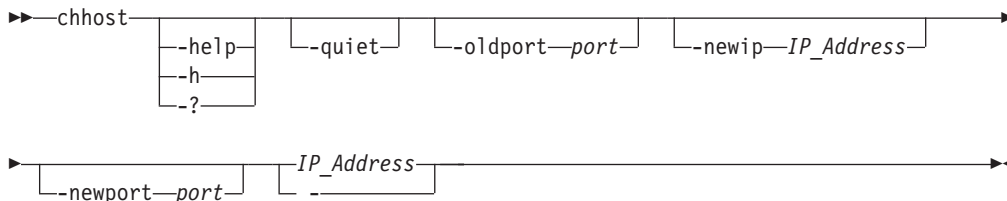
The following command shows how to change the IP address or host name and port number for a host system connection. The following output is returned:

```
Please enter a password for the device cluster 0 userid of admin:
IWNH1613I User profile information for the storage device at
ds8kboxc0.domain.company.com;ds8kboxc1.domain.company.com was successfully updated.
```

chhost

Use the **chhost** command to change credentials for host systems that are connected to the IBM Tivoli Storage Productivity Center for Replication server.

Syntax



Parameters

-help | -h | -?

Lists help for the command. If you specify additional parameters and arguments, those parameters and arguments are ignored.

-quiet

Suppresses the confirmation prompt for this command. This flag answers yes to all confirmation prompts.

-oldport port

Specifies the old port number for the host system connection to be modified.

-newip IP_Address

Specifies the new IP address or host name of the host system connection to be modified.

-newport port

Specifies the new port number for the host system connection to be modified.

IP_Address | -

Specifies the IP address or host name of the host system connection to be modified.

Alternatively, use the dash (-) to specify that input for this parameter comes from an input stream (stdin). The dash is supported only in single-shot mode.

Example

Changing host system credentials

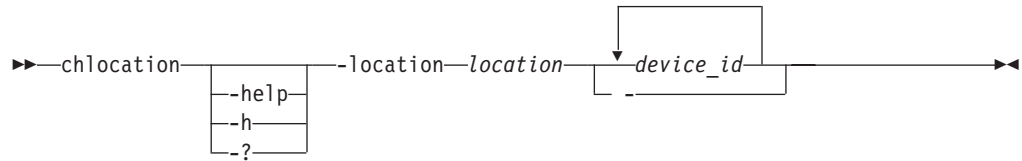
The following command shows how to change the IP address or host name and port number for a host system connection.

```
csmlcli> chhost -oldport 9930 -newip 9.11.224.23 -newport 9931 9.11.223.43
```

chlocation

Use the **chlocation** command to change the location associated with the specified storage systems.

Syntax



Parameters

-help | -h | -?

Lists help for the command. If you specify additional parameters and arguments, those parameters and arguments are ignored.

-location *location*

Specifies the location to associate with the specified storage systems. The location can be up to 32 alphanumeric characters.

device_id... | -

Specifies the ID of one or more storage systems whose location is to be changed, separated by a space.

Alternatively, use the dash (-) to specify that input for this parameter comes from an input stream (stdin). The dash is supported only in single-shot mode.

Tip: Use the **lsdevice** command to list the valid storage system IDs.

Description

Important: You must have Administrator privileges to run this command.

To list the locations that have already been associated with storage systems, use the **lslocation** command.

Example

Changing the location of multiple storage systems

The following command changes the location of multiple storage systems to Tucson.

```
tpctool> lshtype -user me -pwd mypass -url myhost:myport -dev 2105.22232+0
```

The following command changes the location of multiple storage systems to Tucson.

```
csmcli> chlocation -location Tucson ESS:BOX:2105.18596 DS8000:BOX:2107.NK791
```

The following output is returned:

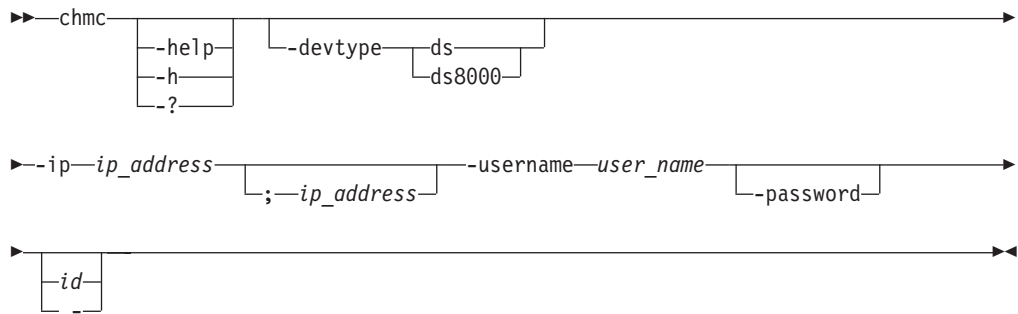
```
IWNH1222I The site location for storage system ESS:BOX:2105.18596 was
successfully changed to Tucson.
```

```
IWNH1222I The site location for storage system DS8000:BOX:2107.NK791 was
successfully changed to Tucson.
```

chmc

Use the **chmc** command to set or change the hardware credentials for the hardware management console (HMC).

Syntax



Parameters

-help | -h | -?

Lists help for the command. If you specify additional parameters and arguments, those parameters and arguments are ignored.

-devtype ds | ds8000

Specifies the hardware type.

-ip ip_address[;ip_address]

Specifies the IP addresses of the primary and secondary management consoles. For single HMC configurations only one IP address is necessary. For dual HMC configurations, two IP addresses must be specified separated with a semicolon (;).

-username user_name

Specifies the user names of the management console.

-password

Prompts you for a new password for the device.

id | -

Specifies the ID of the management console to change.

Alternatively, use the dash (-) to specify that input for this parameter comes from an input stream (stdin). The dash is supported only in single-shot mode.

Tip: Use the **lsmc** command to list the management console IDs.

Description

To change the location of a storage system behind a HMC connection, use the **chlocation** command.

Example

Changing hardware credentials

The following command change the user name and password for the HMC with ID HMC:127.0.0.1 and IP address 9.11.222.33.

```
csmlcli> chmc -devtype ds -ip 127.0.0.1 -username admin -password HMC:127.0.0.1
```

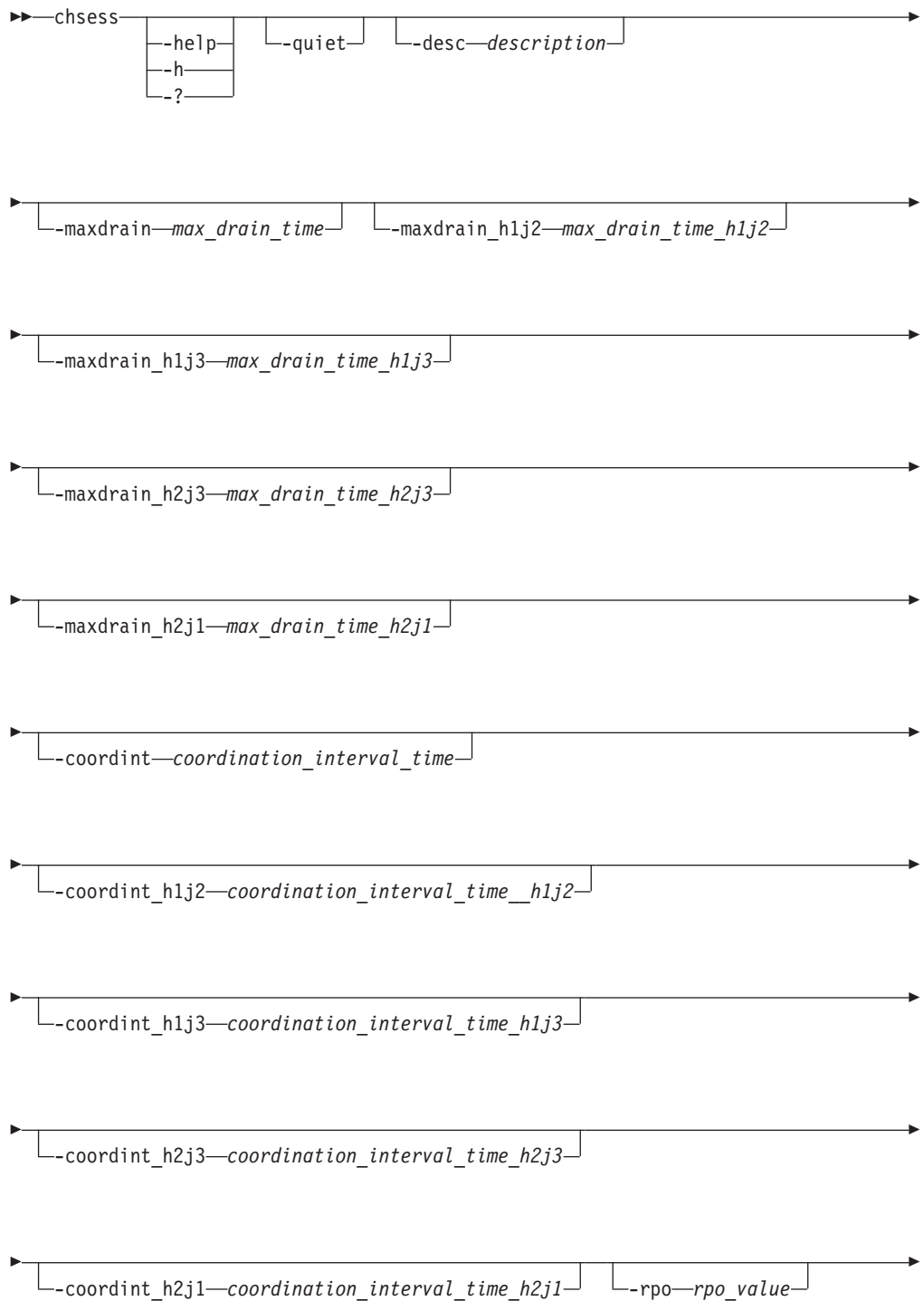
The following output is returned:

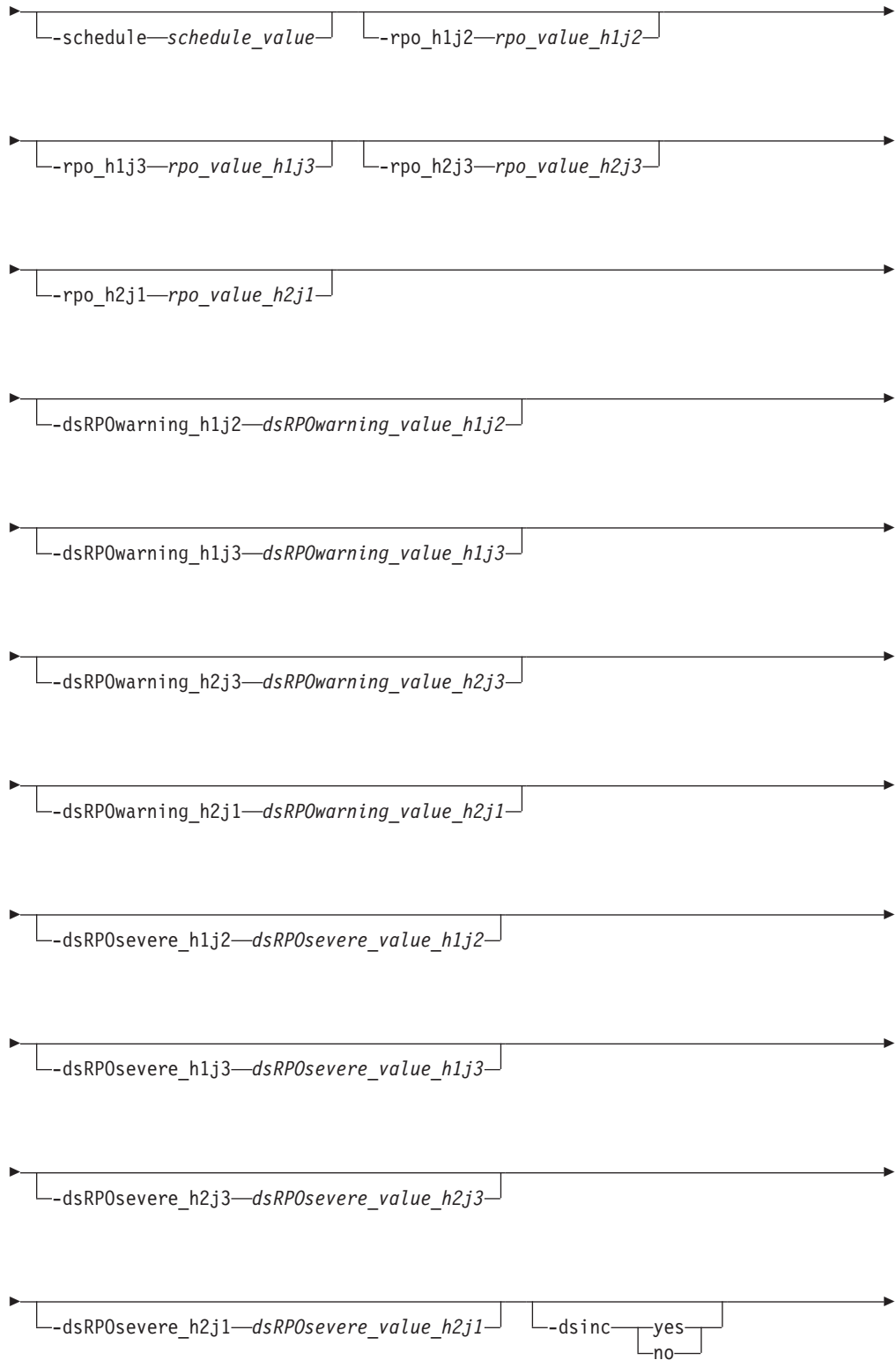
```
Please enter a password for the device userid of admin: *****
IWNH1613I The storage device at HMC:127.0.0.1 successfully updated.
```

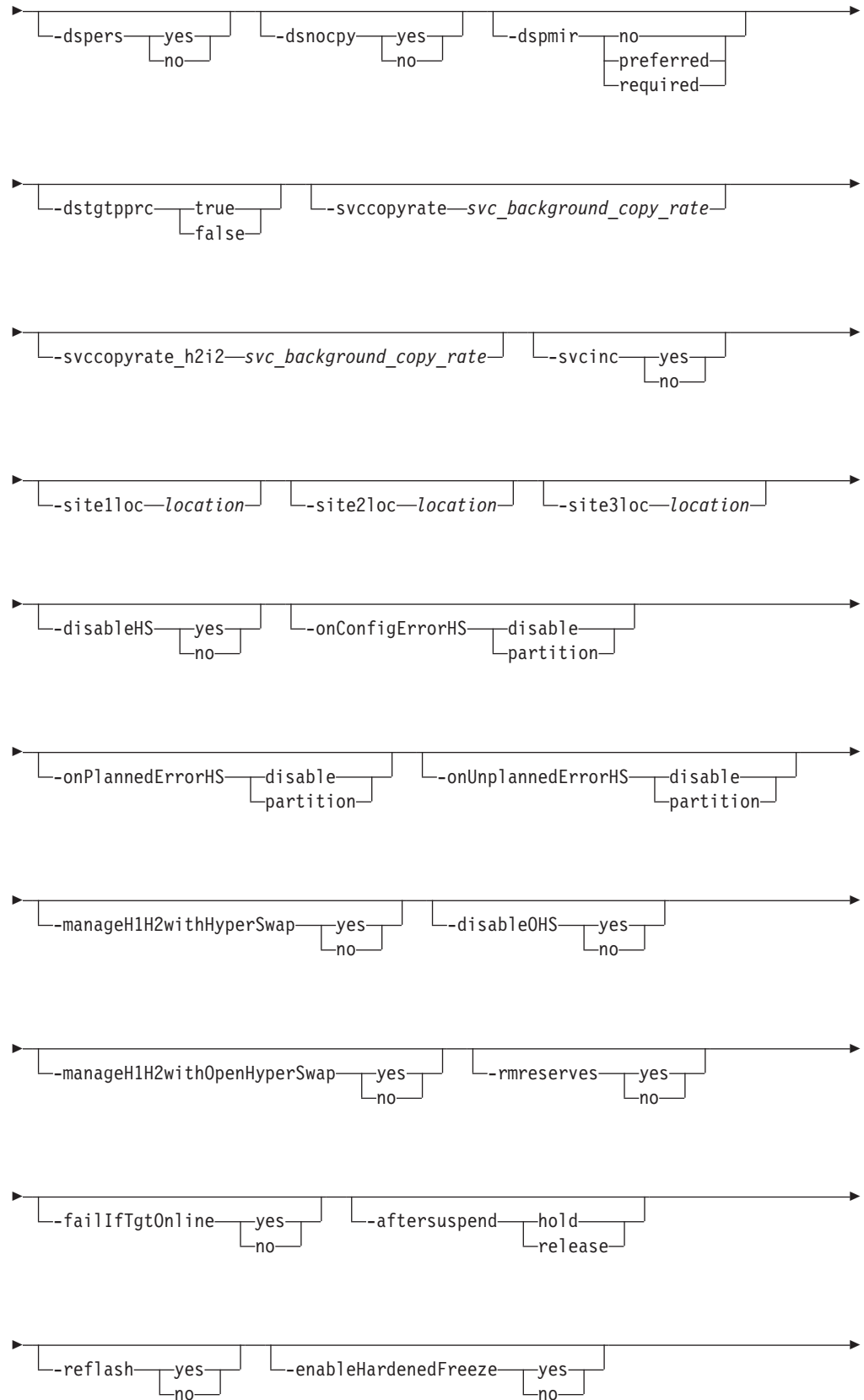
chsess

Use the **chsess** command to change the description or options set of an existing session. To change the session type, you must delete the session and create a new one.

Syntax









Parameters

Restriction: Parameters that begin with `ds`, such as `-dsinc`, apply only to TotalStorage Enterprise Storage Server Model 800, System Storage DS8000, and System Storage DS6000. For practice sessions, the `-dspers` parameter is available only for System Storage DS8000 version 4.2, or later.

Parameters that begin with `svc`, such as `-svcinc`, apply only to System Storage SAN Volume Controller, Storwize V7000, and Storwize V7000 Unified.

-help | -h | -?

Lists help for the command. If you specify additional parameters and arguments, those parameters and arguments are ignored.

-quiet

Suppresses the confirmation prompt for this command. This flag answers yes to all confirmation prompts.

-desc *description*

Specifies the new description for the session. This description can have up to 250 alphanumeric characters. If the description contains white space, enclose it in single quotation marks.

-maxdrain *max_drain_time*

Specifies the new maximum drain time for Global Mirror type sessions. This parameter is meant to be used by advanced users.

If you specify **-maxdrain 0**, the DS storage system uses its default value instead of zero. Any other positive integer in the valid range is accepted by the DS storage system. However, when a zero is sent to the DS storage system, the DS storage system is instructed to set the value back to its default value.

The **-maxdrain** parameter is related to the DS **-drain** parameter. The default value for the **-drain** parameter is 30 seconds; the maximum value for the **-maxdrain** parameter is 65 535 seconds. For more information, see the **mkgmir** command in the *IBM TotalStorage DS8000 Command-Line Interface User's Guide*. The **-maxdrain_h1j3** and **-maxdrain_h2j3** parameters relate to a Metro Global Mirror session. The **-maxdrain_h1j3** parameter refers to the Global Mirror portion of a Metro Global Mirror session when the session is running from site 1 to site 3 and the **-maxdrain_h2j3** parameter refers to the Global Mirror portion of a Metro Global Mirror session that is running between site 2 and site 3. **-maxdrain_h2j1** relate to a Global Mirror session. The **-maxdrain_h2j1** parameter refers to the Global Mirror portion of a Metro Global Mirror session when the session is running between site 2 and site 1.

-coordint *coordination_interval_time*

Specifies the new coordination interval time for Global Mirror type sessions. This parameter is meant to be used by advanced users. **-coordint_h1j3**, **-coordint_h2j1**, and **-coordint_h2j3** relate to the role pair.

-rpo *rpo_value*

For TotalStorage Enterprise Storage Server Model 800, System Storage DS8000, or System Storage DS6000, this value specifies the new consistency group interval time in seconds for the XX-XX role pair. The value of data exposure for

the session will trend toward this value. This parameter applies only to Global Mirror session types and copy types where RPO is mapped. A value of 0 specifies that the storage system continuously attempt to form consistency groups. Parameters **-rpo_h1j2**, **-rpo_h1j3**, **-rpo_h2j1**, and **-rpo_h2j3** relate to the role pair.

For the XIV system, this value specifies the RPO threshold for the session in seconds. The **-rpo** parameter works with the **-schedule** parameter to determine the following:

- How often the XIV system attempts to form a consistency group.
- Whether the RPO value exceeds the threshold.

If the RPO on the storage system exceeds the RPO threshold for the session, the session changes to the Severe state and an alert is generated. The possible range of values is 30 - 86400. The default is 30.

-schedule *schedule*

For an XIV system Global Mirror session, this option specifies how often the XIV system should form a consistency group to ensure consistency on the secondary side and achieve the RPO that is set by the **-rpo** option.

The following are the possible values for **-schedule**: {never | min_interval | 00:00:30 | 00:00:40 | 00:00:50 | 00:01:00 | 00:01:10 | 00:01:20 | 00:01:30 | 00:01:40 | 00:01:50 | 00:02:00 | 00:05:00 | 00:10:00 | 00:15:00 | 00:30:00 | 01:00:00 | 02:00:00 | 03:00:00 | 04:00:00 | 06:00:00 | 08:00:00 | 12:00:00}

The default is min_interval, which is 20 seconds.

-dsRPOwarning *dsRPOwarning_value*

Specifies whether an alert is generated when an RPO threshold is exceeded for a role pair. This parameter applies only to Global Mirror and Metro Global Mirror sessions.

The range of values is 0 - 65535. The default is 0, which specifies that no alerts are generated.

Parameters **-dsRPOwarning_h1j2**, **-dsRPOwarning_h1j3**, **-dsRPOwarning_h2j1**, and **-dsRPOwarning_h2j3**, and relate to the role pair.

-dsRPOsevere *dsRPOsevere_value*

Specifies whether an alert is generated and the session status is changed to Severe when an RPO threshold is exceeded for a role pair. This parameter applies only to Global Mirror and Metro Global Mirror sessions.

The range of values is 0 - 65535. The default is 0, which specifies that no alerts are generated.

Parameters **-dsRPOsevere_h1j2**, **-dsRPOsevere_h1j3**, **-dsRPOsevere_h2j1**, and **-dsRPOsevere_h2j3** relate to the role pair.

-dsinc { **yes** | **no** }

For a point-in-time session, specifies whether the FlashCopy® relationship is incremental for the next Flash or Start command. Valid values are yes or no.

-dspers { **yes** | **no** }

Specifies whether the next FlashCopy relationship for this session will be persistent. Valid values are yes or no.

-dsnocpy { yes | no }

For a point-in-time session, specifies whether the FlashCopy relationship is established with a background copy for the next Flash or Start command. Valid values are yes or no.

-dspmir { no | preferred | required }

Specifies the Preserve Mirror option for storage systems. You must specify no, preferred, or required. If this option is not specified, the default is no preserve mirror options.

-dstgtpprc { true | false }

Allows the FlashCopy target volume to be a remote mirror and copy source volume if the option is set to true. This parameter must be set to true for the **dspmir** parameter to take effect. The default option for this parameter is false.

-svccopyrate *svc_background_copy_rate*

Specifies the copy rate that the storage systems use to perform the background copy of the FlashCopy relationships. Specify a percentage of 0 - 100; the default is 50.

When you specify 0, you are specifying the equivalent of the no-copy option for a TotalStorage Enterprise Storage Server or System Storage DS series FlashCopy session. If the session is performing a background copy when you change the option, Tivoli Storage Productivity Center for Replication immediately modifies the background copy rate of the consistency group on the storage system.

The consistency group immediately uses the new rate to complete the background copy that it is performing.

-svccopyrate_h2i2 *svc_background_copy_rate*

Specifies the copy rate that the storage systems use to perform the background copy of the FlashCopy role pair. Specify a percentage of 0 - 100; the default is 50.

A value of 0 is the equivalent of specifying the no-copy option for a TotalStorage Enterprise Storage Server or System Storage DS series FlashCopy session. If the session is performing a background copy when you change the option, Tivoli Storage Productivity Center for Replication immediately modifies the background copy rate of the consistency group on the storage system. The consistency group immediately uses the rate to complete the background copy that it is performing.

-svcinc {yes | no }

For a point-in-time session, specifies whether the FlashCopy relationship for the storage systems is incremental for the next Flash or Start command. Valid values are yes or no.

-site1loc *location*

Specifies a location to associate with the site 1 volume role.

-site2loc *location*

Specifies a location to associate with the site 2 volume role.

-site3loc *location*

Specifies a location to associate with the site 3 volume role.

-disableHS { yes | no }

Disables HyperSwap® in Basic HyperSwap, Metro Mirror Failover/Failback with HyperSwap, and Metro Global Mirror with HyperSwap sessions. If HyperSwap detects a triggering event while it is disabled, it does not perform a swap.

Issuing the **-disableHS no** parameter resets the disable command (**-disableHS yes**), but does not necessarily mean that HyperSwap is enabled. It might mean only that HyperSwap is no longer disabled for operator reasons. This would be the case, for example if the HyperSwap address spaces were not started, a new member was in the process of joining the sysplex, or there was a HyperSwap in progress.

To determine the reasons that HyperSwap might be disabled, see the Session Messages panel by selecting the **View Messages** from the **Actions** list on the Sessions panel.

This parameter is applicable only if the **-manageH1H2withHyperSwap** parameter is set to **yes**.

-onConfigErrorHS { disable | partition }

Specifies the policy for the action to be taken for a configuration error. Valid policies are:

disable

HyperSwap is disabled.

partition

New member is not allowed to join the sysplex and is partitioned out.

All members of a z/OS sysplex must be able to access all devices in a Basic HyperSwap, Metro Mirror Failover/Failback with HyperSwap, or Metro Global Mirror with HyperSwap session. If a new member joining the sysplex cannot access all devices, it fails validation and it must be partitioned out of the sysplex, or HyperSwap must be disabled until the problem is resolved.

Similarly, all members of the sysplex must be able to perform HyperSwap commands. If the HyperSwap API address space is unavailable on one system, that system must either be partitioned out of the sysplex, or HyperSwap must be disabled until the problem is resolved.

-onPlannedErrorHS { disable | partition }

This optional parameter specifies the policy for the action to be taken when an error occurs during a planned HyperSwap: partition or disable. Valid policies are:

disable

HyperSwap processing is stopped and backed up, and HyperSwap is disabled.

partition

Systems that cannot perform the swap are partitioned out of the sysplex, and the HyperSwap continues with the remaining members of the sysplex. This is the default value.

-onUnplannedErrorHS { disable | partition }

Specifies the policy for the action to be taken when an error occurs during an unplanned HyperSwap. Valid policies are:

disable

HyperSwap processing is stopped and backed up, HyperSwap is disabled, and a permanent I/O error is returned to any users of the failing device.

partition

Systems that cannot perform the swap are partitioned out of the sysplex, and the HyperSwap continues with the remaining members of the sysplex. This is the default value.

-manageH1H2withHyperSwap { yes | no }

Enables Basic HyperSwap support for Metro Mirror Failover/Failback and Metro Global Mirror sessions.

yes

The following HyperSwap options are supported for the Metro Mirror Failover/Failback or Metro Global Mirror session:

- **-disableHS yes | no**
- **-onConfigErrorHS disable | partition**
- **-onPlannedErrorHS disable | partition**
- **-onUnplannedErrorHS disable | partition**

no HyperSwap options are not supported. All Metro Mirror Failover/Failback and Metro Global Mirror functions are still supported.

-disableOHS { yes | no }

Disables Open HyperSwap in Metro Mirror Failover/Failback sessions. This parameter is applicable only if the `manageH1H2withOpenHyperSwap` parameter is set to `yes`. The default option for this parameter is `no`.

-manageH1H2withOpenHyperSwap { yes | no }

Enables Open HyperSwap support for Metro Mirror Failover/Failback sessions.

yes

The following Open HyperSwap option is supported for the Metro Mirror Failover/Failback session:

- **-disableOHS{ yes | no }**

no Open HyperSwap options are not supported. All Metro Mirror Failover/Failback functions are still supported. If `no` is specified and the session had previously loaded a configuration on the hosts and one of the volumes is `OPEN`, the `manageH1H2withOpenHyperSwap` option remains `yes`.

-rmreserves { yes | no }

Removes the persistent reserve on the target volume to allow the establishment of a Metro Mirror session. Once set on, the setting for the `-rmreserves` parameter continues to persist for a session, and the setting remains until you remove it. However, warnings are displayed to indicate that the value is set when you attempt to start the session.

-failIfTgtOnline { yes | no }

Determines whether the `Start` command fails if the target is online. If the parameter is set to `yes`, the target is determined to be online to a host, and `Start` command will fail.

Notes:

- Tivoli Storage Productivity Center for Replication cannot determine with absolute certainty whether the target is online to a host.
- This parameter affects only count key data (CKD) volumes.
- Online means that path groups are present. A path group is necessary, but is not enough to indicate that the volume is online. For example, an LPAR that is not part of a sysplex can be taken down (for example, through a power-off without a shutdown) and path groups will display as present, but no LPAR will have the volume online. That is, the path groups are present, but z/OS software might think the volumes are offline.

-aftersuspend{ hold | release }

(Metro Mirror sessions) Specifies the session operation after a suspend occurs. Valid policies are:

hold Does not allow any updates to the primary volume after a suspend.

release

allow updates to the primary volume after a suspend.

-reflash { yes | no }

Specifies whether a FlashCopy replication should be created between the I2 and J2 volumes after the recovery of a Global Mirror session. Valid values are yes or no. If you enter no, a FlashCopy replication is created only between the I2 and H2 volumes.

-enableHardenedFreeze { yes | no }

Specifies whether the z/OS Input/Output Supervisor (IOS) is used to manage freeze operations. If this parameter is set to yes, the following actions can occur:

- A freeze can occur regardless of whether the Tivoli Storage Productivity Center for Replication server is started or stopped.
- You can include z/OS system volumes such as paging, database, and WebSphere Application Server hierarchical file system (HFS) volumes as Metro Mirror volumes in the session. When you set the **-enableHardenedFreeze** parameter to yes, IOS manages the freeze operations for all Metro Mirror volumes in the session, which prevents Tivoli Storage Productivity Center for Replication from freezing the volumes and possibly freezing itself. This parameter does not enable IOS to manage freeze operations for Global Mirror volumes.

If the **-manageH1H2withHyperSwap** parameter is set to yes, this parameter is ignored. IOS support for managing freeze operations is included with HyperSwap.

Requirement: This parameter requires two z/OS address spaces: the Basic HyperSwap Management address space and the Basic HyperSwap API address space. For instructions about how to start these address spaces, see the information about preparing to use Basic HyperSwap from z/OS in the *IBM Tivoli Storage Productivity Center for Replication for System z Installation and Configuration Guide*.

session_name... | -

Specifies the name of the session that is to be modified.

Alternatively, use the dash (-) to specify that input for this parameter comes from an input stream (stdin). The dash is supported only in single-shot mode.

Examples

Changing the description of a session

The following command changes the description of the session `session1` to `MGM session`.

```
csmlcli> chsess -desc "MGM session" session1
```

The following output is returned:

```
Are you sure you want to change session session1? [y/n]:y
```

```
IWNR1124I The description for session session1 was modified successfully.  
The new description is MGM session.
```

Changing the session site locations

The following command changes location of each site in Metro Global Mirror session `session1`.

```
csmdi> chsess -site1loc Boulder -site2loc Tucson -site3loc Marana session1
```

The following output is returned:

```
IWNR1096I The locations for sessions session1 and Site 3 were set successfully.
```

Disabling HyperSwap

The following command disables HyperSwap for session `session1`.

```
csmdi> chsess -disableHS yes session1
```

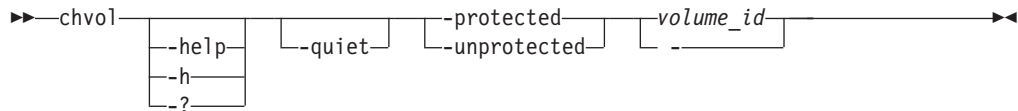
The following output is returned:

```
IWNR5411E Basic HyperSwap is disabled by operator for session session1.
```

chvol

Use the **chvol** command to change the protection setting associated with a volume.

Syntax



Parameters

-help | **-h** | **-?**

Lists help for the command. If you specify additional parameters and arguments, those parameters and arguments are ignored.

-quiet

Suppresses the confirmation prompt for this command. This flag answers yes to all confirmation prompts.

-protected

Marks the volume or volumes as protected. It specifies that the volumes cannot be used in an add copy set action.

-unprotected

Marks the volume or volumes as unprotected. It specifies that the volumes can be used in an add copy set action.

volume_id | **-**

Specifies a volume ID for which to can change the protection setting.

Alternatively, use the dash (-) to specify that input for this parameter comes from an input stream (stdin). The dash is supported only in single-shot mode.

Example

1. Protecting volumes

The following command marks the volume with ID `DS8000:2107.04131:VOL:0001` as protected.

```
csmdi> chvol -protected DS8000:2107.04131:VOL:0001
```

The following output is returned:


```
Are you sure you want to change volume DS8000:2107.04131:VOL:0001? [y/n]:y
IWNE9300I The set protection command completed without any errors. There
were 1 element(s) protected and 0 element(s) unprotected.
```

```
IWNE9302I The element DS8000:2107.04131:VOL:0001 has been protected.
```

2. Unprotecting volumes

The following command marks the volume with ID DS8000:2107.04131:VOL:0001 as unprotected.

```
csmcli> chvol -unprotected DS8000:2107.04131:VOL:0001
```

The following output is returned:

```
Are you sure you want to change volume DS8000:2107.04131:VOL:0001? [y/n]:y
IWNE9300I The set protection command completed without any errors. There
were 0 element(s) protected and 1 element(s) unprotected.
```

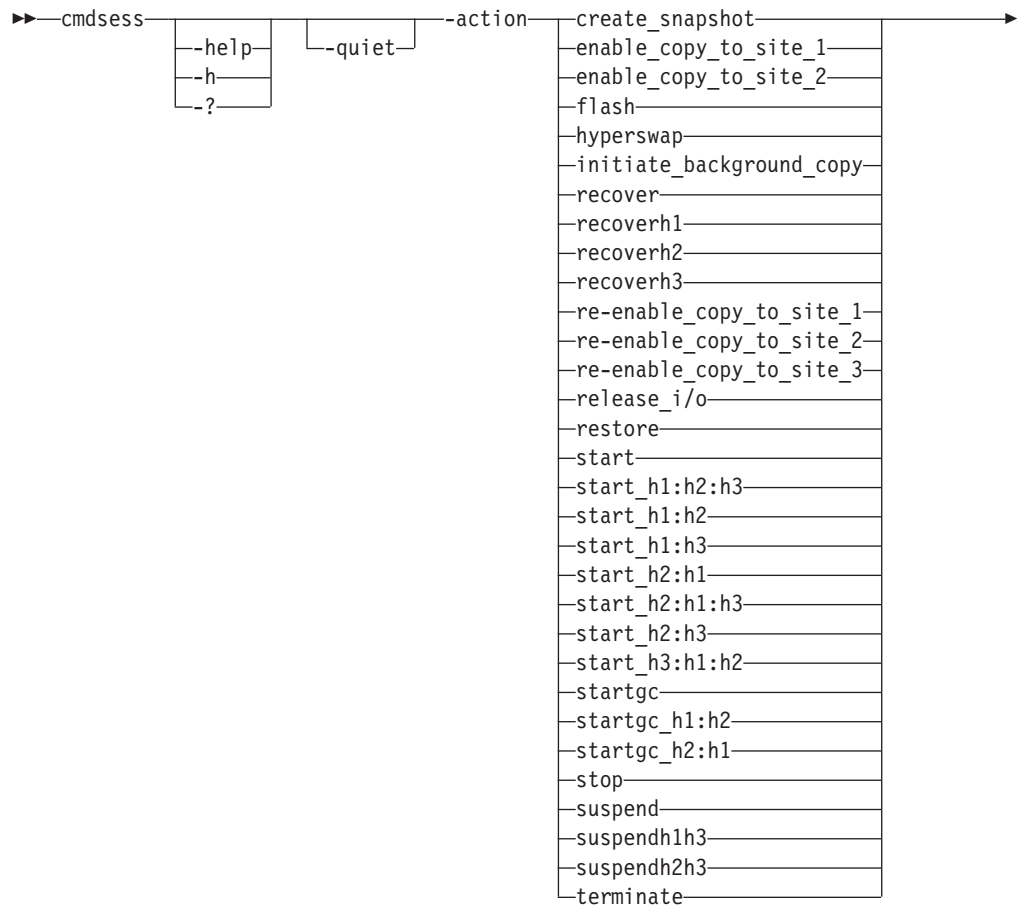
```
IWNE9303I The element DS8000:2107.04131:VOL:0001 has been unprotected.
```

cmdsess

Use the **cmdsess** command to run a specific action against a session.

Tip: To list all of the session actions that can be run for a session, use the **lsessactions** command.

Syntax



The following output is returned:

```
IWNR1813W This command will initiate the copying of data from Site 1 to Site 2 and Site 3 for session session1, overwriting any data on Site 2 and Site 3 for any inactive copy sets. For ESS/DS devices, exactly one path will be established between each LSS pair without existing paths. Do you want to continue? [y/n]:y
```

```
IWNR1027I The command Start H1->H2->H3 in session session1 has completed successfully.
```

Reversing the direction of replication

The following command runs the **Enable Copy to Site 1** action on session session1 without prompting for confirmation:

```
csmdi> cmdsess -quiet -action enable_copy_to_site_1 session1
```

The following output is returned:

```
IWNR1027I The command Enable Copy to Site 1 in session session1 has completed successfully.
```

Creating a snapshot group in an XIV system Snapshot session

The following command creates a snapshot group in session snap1:

```
csmdi> cmdsess -action create_snapshot snap1
```

The following output is returned:

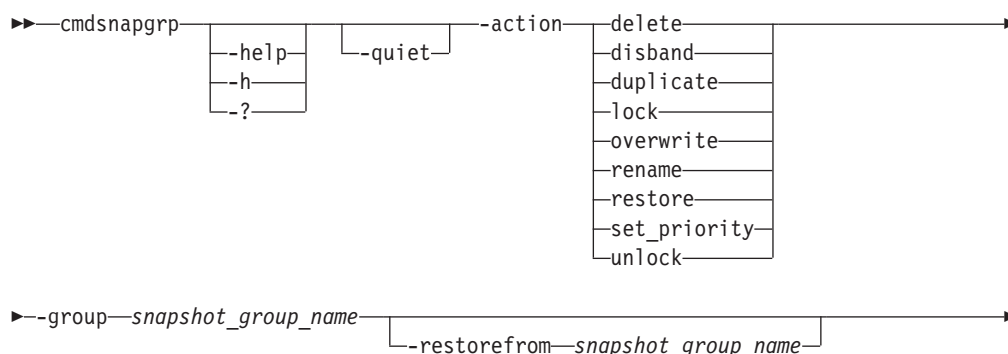
```
IWNR1855W This command will create a new snapshot group containing snapshots of the source volumes in session snap1. Do you want to continue? [y/n]:y  
IWNR1026I The Create Snapshot command in session snap1 has completed.
```

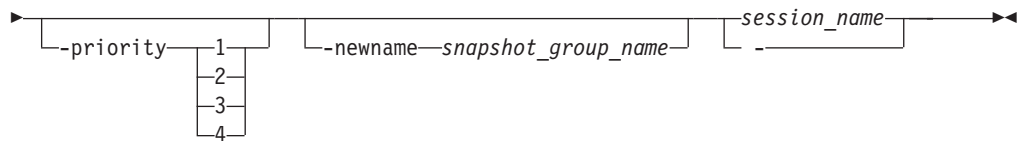
cmdsnapgrp

Use the **cmdsnapgrp** command to run a specific action against a snapshot group that is in an IBM XIV Storage System Snapshot session.

A snapshot group is a grouping of snapshots of individual volumes in a consistency group at a specific point in time.

Syntax





Parameters

-help | -h | -?

Lists help for the command. If you specify additional parameters and arguments, those parameters and arguments are ignored.

-quiet

Suppresses the confirmation prompt for this command. This flag answers yes to all confirmation prompts.

-action *action_type*

Specifies the action that you want to complete for a snapshot group in a session. The valid values are:

delete Deletes the snapshot group and all the individual snapshots that are in the group from the session and from XIV system.

If the deleted snapshot group is the last snapshot group that is associated with the session, the session returns to the Defined state.

disband

Disbands the snapshot group. When a snapshot group is disbanded, the snapshot group no longer exists. All snapshots in the snapshot group become individual snapshots that are no longer associated to the consistency group or the session.

After a snapshot group is disbanded, it is no longer shown in or managed by IBM Tivoli Storage Productivity Center for Replication. If the disbanded snapshot group is the last snapshot group that is associated with the session, the session returns to the Defined state.

duplicate

Duplicates the snapshot group. When a snapshot group is duplicated, a new snapshot group is created with new snapshots for all volumes that are in the duplicated group. A name for the duplicated snapshot group is generated automatically by XIV system.

lock Locks a snapshot group. If the snapshot group is locked, write operations to the snapshots within the snapshot group are prevented. By default, a snapshot group is locked when it is created.

This action is valid only if the snapshot group is unlocked.

overwrite

Overwrites the snapshot group to reflect the data that is on the master volume.

rename

Renames the snapshot group.

To specify the new name, use the **-newname** parameter.

restore

Restores the contents of a snapshot group using another snapshot group in the session. Both of the snapshot groups must contain the same subset of volumes.

To specify the snapshot group from which you want to restore, use the **-restorefrom** parameter.

set_priority

Sets the priority in which a snapshot group is deleted. The value is the number 1 - 4. A value of 1 specifies that the snapshot group is deleted last. A value of 4 specifies that the snapshot group is deleted first.

To set the deletion priority, use the **-priority** parameter.

unlock

Unlocks a snapshot group. If the snapshot group is unlocked, write operations to the snapshots within the snapshot group are enabled and the snapshot group is shown as modified if you run the **lssnapgrp** command.

This action is valid only if the snapshot group is locked.

-group *snapshot_group_name*

Specifies the name of the snapshot group that you want to run the action against.

-restorefrom *snapshot_group_name*

Specifies the name of the snapshot group that you want to use to restore the snapshot group that is defined by the **-group** parameter.

This parameter is required if the **-action** parameter value is restore.

-priority { 1 | 2 | 3 | 4 }

Specifies the priority in which the snapshot group will be deleted from the session. The value is the number 1 - 4. A value of 1 specifies that the snapshot group is deleted last. A value of 4 specifies that the snapshot group is deleted first.

This parameter is required if the **-action** parameter value is set_priority.

-newname *snapshot_group_name*

Specifies the new name for the snapshot group.

This parameter is required if the **-action** parameter value is rename.

session_name | -

Specifies the name of the session that contains the snapshot group.

Alternatively, use the dash (-) to specify that input for this parameter comes from an input stream (stdin). The dash is supported only in single-shot mode.

Examples

Deleting a snapshot group

The following command deletes the snapshot group `snap1_002.snap_group_00018` in the session `snap1`.

```
csmdi> cmdsnapgrp -group snap1_002.snap_group_00018 -action delete -quiet snap1
```

The following output is returned:

```
IWNR1322I The Delete command has completed for snapshot groups  
snap1_002.snap_group_00018 in session snap1.
```

Disbanding a snapshot group

The following command disbands the snapshot group snap1_002.snap_group_00017 in the session snap1.

```
csmdi> cmdsnapgrp -group snap1_002.snap_group_00017 -action disband -quiet snap1
```

The following output is returned:

```
IWNR1322I The Disband command has completed for snapshot groups  
snap1_002.snap_group_00017 in session snap1.
```

Duplicating a snapshot group

The following command duplicates the snapshot group snap1_002.snap_group_0001 in the session snap1.

```
csmdi> cmdsnapgrp -group snap1_002.snap_group_0001 -action duplicate -quiet snap1
```

The following output is returned:

```
IWNR1322I The Duplicate command has completed for snapshot groups  
snap1_002.snap_group_0001 in session snap1.
```

Locking a snapshot group

The following command locks the snapshot group snap1_002.snap_group_0001 in the session snap1.

```
csmdi> cmdsnapgrp -group snap1_002.snap_group_0001 -action lock -quiet snap1
```

The following output is returned:

```
IWNR1322I The Lock command has completed for snapshot groups  
snap1_002.snap_group_0001 in session snap1.
```

Overwriting a snapshot group

The following command overwrites the snapshot group snap1_002.snap_group_0001 in the session snap1.

```
csmdi> cmdsnapgrp -group snap1_002.snap_group_0001 -action overwrite -quiet snap1
```

The following output is returned:

```
IWNR1322I The Overwrite command has completed for snapshot groups  
snap1_002.snap_group_0001 in session snap1.
```

Renaming a snapshot group

The following command renames the snapshot group snap1_002.snap_group_00016 to snapgroup1 in the session snap1.

```
csmdi> cmdsnapgrp -group snap1_002.snap_group_00016 -action rename  
-newname snapgroup1 -quiet snap1
```

The following output is returned:

```
IWNR1326I The snapshot group snap1_002.snap_group_00016 in session snap1 was renamed  
to snapgroup1.
```

Restoring a snapshot group

The following command restores the snapshot group snap1_002.snap_group_0001 from snap1_002.snap_group_00017 in the session snap1.

```
csmdi> cmdsnapgrp -group snap1_002.snap_group_0001 -action restore  
-restorefrom snap1_002.snap_group_00017 -quiet snap1
```

The following output is returned:

```
IWNR1325I The snapshot group snap1_002.snap_group_0001 in session snap1 was restored from snapshot group snap1_002.snap_group_00017.
```

Setting the deletion priority for a snapshot group

The following command sets a deletion priority of 4 for the snapshot group snap1_002.snap_group_0001 in the session snap1.

```
csmdi> cmdsnapgrp -group snap1_002.snap_group_0001 -action set_priority -priority 4 -quiet snap1
```

The following output is returned:

```
IWNR1324I The deletion priority for snapshot groups snap1_002.snap_group_0001 in session snap1 was set to 4.
```

Unlocking a snapshot group

The following command unlocks the snapshot group snap1_002.snap_group_0001 in the session snap1.

```
csmdi> cmdsnapgrp -group snap1_002.snap_group_0001 -action unlock -quiet snap1
```

The following output is returned:

```
IWNR1322I The Unlock command has completed for snapshot groups snap1_002.snap_group_0001 in session snap1.
```

exportcsv

Use the **exportcsv** command to export the copy sets in a session to a comma-separated values (CSV) file or to the console. You are prompted to overwrite the CSV file if it exists.

Syntax

```
►► exportcsv [-help] [-file file_name] [session_name] ►►
```

The diagram shows the syntax for the `exportcsv` command. It starts with a double arrow pointing to the command name `exportcsv`. To its right, there are three optional arguments in brackets: `-help`, `-file file_name`, and `session_name`. A second double arrow points to the right, indicating the end of the command line.

Parameters

-help | -h | -?

Lists help for the command. If you specify additional parameters and arguments, those parameters and arguments are ignored.

-file file_name

Specifies the name and path of the CSV file. If you do not specify this parameter, the CSV output is displayed on the command-line interface.

session_name | -

Specifies the name of the session from which you are exporting the copy sets.

Examples

Exporting copy sets to a file

The following command exports the copy sets in session session1 to the file `c:\session1.csv`.

```
csmdi> exportcsv -file c:\session1.csv session1
```

The following output is returned:

```
Exporting...
IWNC6506I The export copy set command for session session1 succeeded. The
file was exported to the path: c:\session1.csv.
```

Exporting copy sets to standard out

The following command exports the copy sets in session session1 to standard output.

```
csmcli> exportcsv session1
```

The following output is returned:

```
Exporting...
#203
#Metro Global Mirror w/ Practice
#Aug 25 1:44:16 PM

H1,H2,H3,I3,J3
DS8000:2107.NK791:VOL:1500,DS8000:2107.MW931:VOL:1500,
DS8000:2107.04131:VOL:1500,DS8000:2107.04131:VOL:1505,
DS8000:2107.04131:VOL:150A
DS8000:2107.NK791:VOL:1501,DS8000:2107.MW931:VOL:1501,
DS8000:2107.04131:VOL:1501,DS8000:2107.04131:VOL:1506,
DS8000:2107.04131:VOL:150B
DS8000:2107.NK791:VOL:1502,DS8000:2107.MW931:VOL:1502,
DS8000:2107.04131:VOL:1502,DS8000:2107.04131:VOL:1507,
DS8000:2107.04131:VOL:150C
DS8000:2107.NK791:VOL:1503,DS8000:2107.MW931:VOL:1503,
DS8000:2107.04131:VOL:1503,DS8000:2107.04131:VOL:1508,
DS8000:2107.04131:VOL:150D
DS8000:2107.NK791:VOL:1504,DS8000:2107.MW931:VOL:1504,
DS8000:2107.04131:VOL:1504,DS8000:2107.04131:VOL:1509,
DS8000:2107.04131:VOL:150E
ESS:2105.FCA57:VOL:1500,DS8000:2107.NF111:VOL:1505,
DS8000:2107.04131:VOL:1600,DS8000:2107.04131:VOL:1605,
DS8000:2107.04131:VOL:160A
ESS:2105.FCA57:VOL:1501,DS8000:2107.NF111:VOL:1506,
DS8000:2107.04131:VOL:1601,DS8000:2107.04131:VOL:1606,
DS8000:2107.04131:VOL:160B
ESS:2105.FCA57:VOL:1502,DS8000:2107.NF111:VOL:1507,
DS8000:2107.04131:VOL:1602,DS8000:2107.04131:VOL:1607,
DS8000:2107.04131:VOL:160C
ESS:2105.FCA57:VOL:1503,DS8000:2107.NF111:VOL:1508,
DS8000:2107.04131:VOL:1603,DS8000:2107.04131:VOL:1608,
DS8000:2107.04131:VOL:160D
ESS:2105.FCA57:VOL:1504,DS8000:2107.NF111:VOL:1509,
DS8000:2107.04131:VOL:1604,DS8000:2107.04131:VOL:1609,
DS8000:2107.04131:VOL:160E
```

```
IWNR1301I The export of a copy set for session session1 succeeded.
```

Exporting copy sets to standard out (XIV system sessions)

The following command exports the copy sets in the XIV system Global Mirror Failover/Failback session xiv_gm_1 to standard output.

```
csmcli> exportcsv xiv_gm_1
```

The following output is returned. For all XIV system session types, the volume nickname rather than the volume ID is provided in the output. In the following out example, myvolume is the volume nickname for both the H1 and H2 volumes.


```
Exporting...
#xiv_gm_1
#Global Mirror Failover/Failback
##Aug 25 9:48:26 AM

H1,H2
XIV:VOL:7803448:myvolume,XIV:VOL:7804988:myvolume

IWNR1301I The export of a copy set for session xiv_gm_1 succeeded.
```

exportgmdata

Use the **exportgmdata** command to export data for a Global Mirror role pair to a comma-separated value (CSV) file. You can then use the data in the CSV file to analyze trends in your storage environment that affect your recovery point objective (RPO).

Attention: Because historical data is purged when you delete a session or set the management server as the standby server, export data before you perform these actions.

This command can create two types of CSV files: a file that contains data about the RPO and a file that contains data about logical subsystem (LSS) out-of-sync tracks. You can use both files to better analyze trends.

For example, the file that contains data for the RPO might show that the RPO threshold is often exceeded on a particular day and time. You can then view the file that contains data for LSS out-of-sync tracks to see whether a particular LSS or set of LSSs have high out-of-sync track values for that day and time.

Syntax

This command is available for the following storage systems:

- TotalStorage Enterprise Storage Server Model 800
- System Storage DS6000
- System Storage DS8000

```
►--exportgmdata --help
┌--h
└--?

┌--rpohistory--rpo_start--startdate--rpo_end--enddate
└--

┌--lssos--lssos_start--startdate--lssos_end--enddate
└--

►--rolepair--rolepair--session_name
```

Parameters

-help | -h | -?

Lists help for the command. If you specify additional parameters and arguments, those parameters and arguments are ignored.

-rpohistory

Specifies that the CSV file contains data for the RPO. The data includes the average RPO for the dates that you select and information related to the formation of consistency groups.

-rpo_start *startdate*

Specifies the start date for the RPO data that is in the CSV file. The format is yyyy-mm-dd.

By default, the date range maximum is 31 days of data.

This parameter is required if the **-rpohistory** parameter is present.

-rpo_end *enddate*

Specifies the end date for the RPO data that is in the CSV file. The format is yyyy-mm-dd.

This parameter is required if the **-rpohistory** parameter is present.

-lsssoos

Specifies that the export file contains data for the out-of-sync tracks in that are in the LSSs.

-lsssoos_start *startdate*

Specifies the start date for the LSS out-of-sync track data that is in the CSV file. The format is yyyy-mm-dd.

By default, the date range maximum is seven days of data.

This parameter is required if the **-lsssoos** parameter is present.

-lsssoos_end *enddate*

Specifies the end date for the LSS out-of-sync track data that is in the CSV file. The format is yyyy-mm-dd.

This parameter is required if the **-lsssoos** parameter is present.

-rolepair *rolepair*

Specifies the role pair for which you are exporting the data.

session_name | -

Specifies the name of the session for which you are exporting the data.

Examples**Exporting RPO data to an export file**

The following command exports RPO data to the file `session1H1-J2rpo2012-02-28-16-18-25.csv`. The confirmation message contains the path to the file.

```
csmdi> exportgmdata -rpohistory -rpo_start 2012-02-01 -rpo_end 2012-02-28  
-rolepair h1-j2 gmsession1
```

The following output is returned:

```
IWNRI262I The data for session gmsession1 was exported.  
The CSV file is located on the server at: C:\Program Files\IBM\TPC\  
ewas\profiles\ReplicationServerProfile\exportdir\  
gmsession1H1-J2rpo2012-02-28-16-18-25.csv
```

Exporting LSS out-of-sync track data to an export file

The following command exports LSS out-of-sync track data to the file `session1H1-J2lsssoos2012-02-28-16-45-46.csv`. The confirmation message contains the path to the file.

-quiet

Suppresses the confirmation prompt for this command. This flag answers yes to all confirmation prompts.

Description

Note: For the several commands that implement high-availability with the definition of a standby server, the standby server must be at the same level of IBM Tivoli Storage Productivity Center for Replication code as the active server.

Example**Changing the standby server to the active server**

The following command changes the standby server to the active server.

```
csmdi> hatakeover
```

The following output is returned:

```
IWNR3063I Successfully issued the takeover to the standby server  
tpc2.storage.tucson.ibm.com with the active HA server  
tpc1.storage.tucson.ibm.com.
```

importcsv

Use the **importcsv** command to parse a comma-separated values (CSV) file to create copy sets for a session.

The CSV file is parsed and copy sets are created from the data in the file. The CSV file must contain data for all the necessary roles in the session for which the copy sets are being created.

The following is an example CSV file for storage systems other than XIV system.

```
#Session1,  
#FlashCopy,  
#Oct 2 10:03:18 AM  
  
H1,T1  
DS8000:2107.FRLL1:VOL:1004,DS8000:2107.FRLL1:VOL:1104  
DS8000:2107.FRLL1:VOL:1011,DS8000:2107.FRLL1:VOL:1101  
DS8000:2107.FRLL1:VOL:1005,DS8000:2107.FRLL1:VOL:1105
```

Each line represents source and target volumes for the copy sets. The values for the volumes consist of the following information delimited by a colon:

- The storage system type
- The numeric value for the storage system type (this is not included for all storage system types)
- The serial number
- The volume ID preceded by VOL:.

The following is an example CSV file for an XIV system.

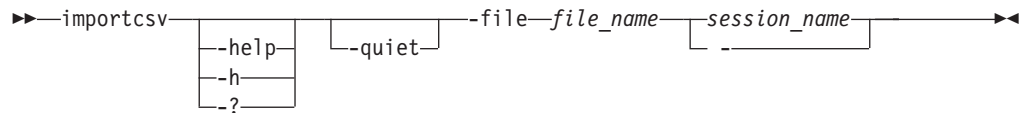
```
#xiv_gm_1  
#Global Mirror Failover/Failback  
##Aug 25 9:48:26 AM  
  
H1,H2  
XIV:VOL:7803448:myvolume,XIV:VOL:7804988:myvolume
```

The values for the volumes consist of the following information delimited by a colon:

- The storage system type
- The serial number preceded by VOL:.
- The volume ID or volume nickname. In the preceding example, the volume nickname myvolume is provided.

Commented lines in a CSV file must start with #.

Syntax



Parameters

-help | -h | -?

Lists help for the command. If you specify additional parameters and arguments, those parameters and arguments are ignored.

-quiet

Suppresses the confirmation prompt for this command. This flag answers yes to all confirmation prompts.

-file file_name

A required parameter that specifies the name of the CSV file.

session_name | -

Specifies the name of the session for which you are creating copy sets.

Alternatively, use the dash (-) to specify that input for this parameter comes from an input stream (stdin). The dash is supported only in single-shot mode.

Examples

Importing a CSV file for a System Storage DS8000 session

The following command imports the file name exportcsvtest.csv into session session1 without prompting for a confirmation.

```
csmlcli> importcsv -quiet -file exportcsvtest.csv session1
```

The following output is returned:

```
IWNR2001I The pair was successfully created in session session1 for copy set DS8000:2107.FRLL1:VOL:1004 with source DS8000:2107.FRLL1:VOL:1004 and target DS8000:2107.FRLL1:VOL:1104.
```

```
IWNR2001I The pair was successfully created in session session1 for copy set DS8000:2107.FRLL1:VOL:1011 with source DS8000:2107.FRLL1:VOL:1011 and target DS8000:2107.FRLL1:VOL:1101.
```

```
IWNR2001I The pair was successfully created in session session1 for copy set DS8000:2107.FRLL1:VOL:1005 with source DS8000:2107.FRLL1:VOL:1005 and target DS8000:2107.FRLL1:VOL:1105.
```

Importing a CSV file for a XIV system session

The following command imports the file name `xiv_gm_1.csv` into session `xiv_gm_1` without prompting for a confirmation.

```
csmlcli> importcsv -quiet -file xiv_gm_1.csv xiv_gm_1
```

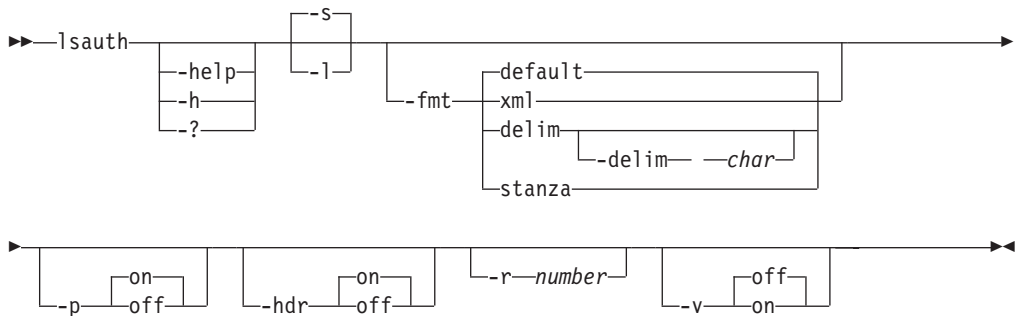
The following output is returned:

```
IWNR2001I The pair was successfully created in session xiv_gm_1 for copy set
XIV:VOL:7803448:myvolume with source XIV:VOL:7803448:myvolume and target
XIV:VOL:7804988:myvolume.
```

lsauth

Use the **lsauth** command to lists the name, authorization level, and session permission for each user or user group.

Syntax



Parameters

-help | -h | -?

Lists help for the command. If you specify additional parameters and arguments, those parameters and arguments are ignored.

-s Displays default information about each user and user group, including the name, classification, and role.

-l Displays detailed information for each user and user group, including:

Column label	Details
User name	The user name for each authorization and session that the user has permission to manage.
Classification	The type: user or group.
Role	The role: Administrator, Operator, or Monitor
Session	The session name if the role is Operator, or a dash (-) if the role is Administrator or Monitor.

-fmt { default | xml | delim | stanza }

Specifies the format of the output. You can specify one of these values:

default

Specifies that the output is displayed in tabular format using spaces as delimiters between columns. This is the default value.

xml

Specifies that the output is displayed in XML format.

delim

Specifies that output is displayed in a tabular format using commas as delimiters between columns.

To use a character other than a comma as the delimiter, specify `-fmt delim -delim char`, where *char* represents the character that you want to use as the delimiter. For example, if you want to use a colon (:) as the delimiter, use the following `-fmt` parameter:

```
-fmt delim -delim :
```

If you use a shell metacharacter as the delimiting character, enclose the character in quotation marks or single quotation marks. A blank space is not a valid character.

stanza Specifies that the output is displayed as one keyword-value pair per line.

-p { on | off }

Specifies whether to display one page of text at a time or all text at once.

on Displays one page of text at a time. Pressing any key displays the next page. This is the default value when the command is run in interactive mode.

off Displays all text at once. This is the default value when the command is run in single-shot mode.

-hdr { on | off }

Specifies whether to display the table header. You can specify one of these values:

on Displays the table header. This is the default value.

off Hides the table header.

-r number

Specifies the number of rows per page to display when the **-p** parameter is specified. You can specify a value of 1 - 100. The default value is 22.

-v { on | off }

Specifies whether to enable verbose mode. You can specify one of these values:

on Enable verbose mode.

off Disable verbose mode. This is the default value.

Example

1. Listing all users and user groups

The following command lists all currently defined users and user groups.

```
csmdi> lsauth
```

The following output is returned:

```
Name      Classification Role
=====
csmuser User           Administrator
```

2. Listing detailed authorization information

The following command lists detailed information about the user `csmuser`.

```
csmdi> lsauth -l
```

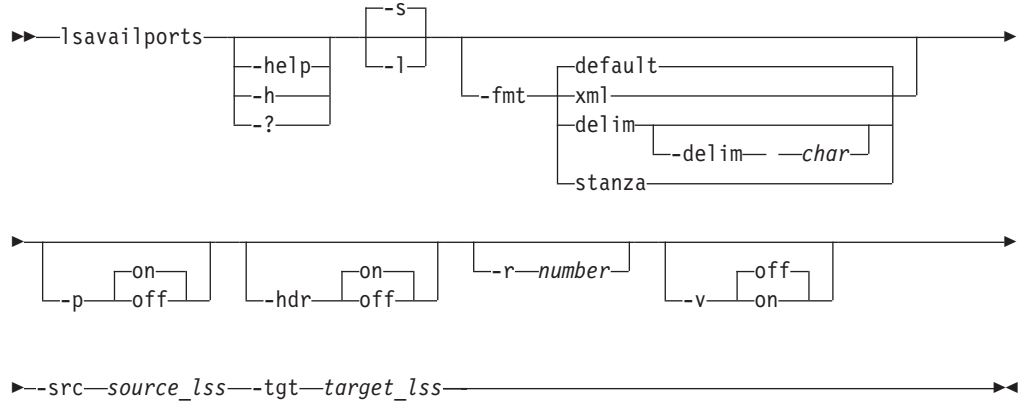
The following output is returned:

```
Name      Classification Role           Session
=====
csmuser User           Administrator -
```

lsavailports

Use the **lsavailports** command to display the port configuration types for a specific path.

Syntax



Parameters

-help | -h | -?

Lists help for the command. If you specify additional parameters and arguments, those parameters and arguments are ignored.

-s

Displays default information, including the source and target LSS and the type of port configuration.

-l

Displays detailed information for each port, including:

Column label	Details
Source	Origin of the path; for ESS, an LSS.
Target	Target of the path; for ESS, an LSS.
Type	The configuration of the port (such as Enterprise Systems Connection [ESCON®] or Fibre Channel).

-fmt { default | xml | delim | stanza }

Specifies the format of the output. You can specify one of these values:

default

Specifies that the output is displayed in tabular format using spaces as delimiters between columns. This is the default value.

xml

Specifies that the output is displayed in XML format.

delim

Specifies that output is displayed in a tabular format using commas as delimiters between columns.

To use a character other than a comma as the delimiter, specify **-fmt delim -delim char**, where *char* represents the character that you want to use as the delimiter. For example, if you want to use a colon (:) as the delimiter, use the following **-fmt** parameter:

```
-fmt delim -delim :
```


If you use a shell metacharacter as the delimiting character, enclose the character in quotation marks or single quotation marks. A blank space is not a valid character.

stanza Specifies that the output is displayed as one keyword-value pair per line.

-p { on | off }

Specifies whether to display one page of text at a time or all text at once.

on Displays one page of text at a time. Pressing any key displays the next page. This is the default value when the command is run in interactive mode.

off Displays all text at once. This is the default value when the command is run in single-shot mode.

-hdr { on | off }

Specifies whether to display the table header. You can specify one of these values:

on Displays the table header. This is the default value.

off Hides the table header.

-r number

Specifies the number of rows per page to display when the **-p** parameter is specified. You can specify a value of 1 - 100. The default value is 22.

-v { on | off }

Specifies whether to enable verbose mode. You can specify one of these values:

on Enable verbose mode.

off Disable verbose mode. This is the default value.

-src source_lss

Specifies the source LSS (for example, ESS:2105.FCA57:LSS:21).

-tgt target_lss

Specifies the target LSS (for example, ESS:2105.FCA57:LSS:21).

Example

Listing port configuration for paths

The following command lists the port configuration used for each path with source LSS DS8000:2107.04131:LSS:15 and target LSS ESS:2105.FCA57:LSS:15.

```
csmdi> lsavailports -src DS8000:2107.04131:LSS:15 -tgt ESS:2105.FCA57:LSS:15
```

The following output is returned:

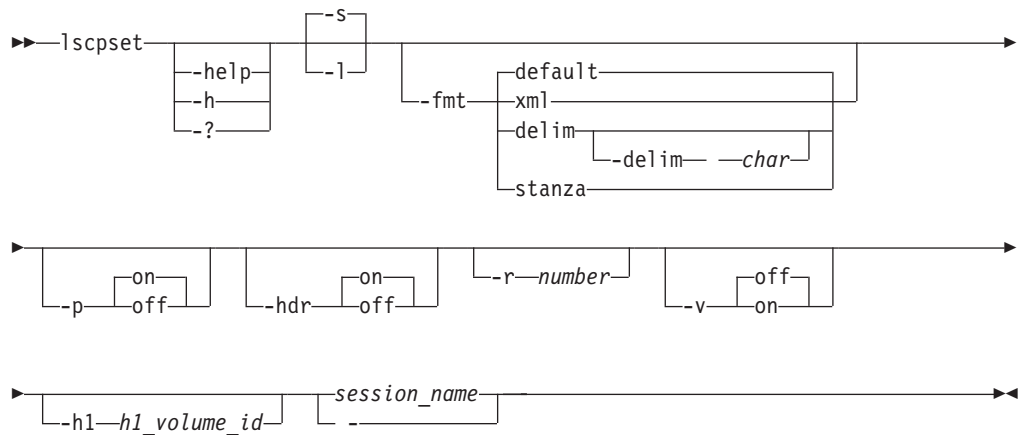
Source	Target	Type
DS8000:2107.04131:LSS:15.0x0330	ESS:2105.FCA57:LSS:15.0x008C	Fibre Channel
DS8000:2107.04131:LSS:15.0x0110	ESS:2105.FCA57:LSS:15.0x000C	Fibre Channel
DS8000:2107.04131:LSS:15.0x0110	ESS:2105.FCA57:LSS:15.0x008C	Fibre Channel
DS8000:2107.04131:LSS:15.0x0110	ESS:2105.FCA57:LSS:15.0x0088	Fibre Channel
DS8000:2107.04131:LSS:15.0x0110	ESS:2105.FCA57:LSS:15.0x0028	Fibre Channel

lscpset

Use the **lscpset** command to list the IDs of copy sets in a session.

Tip: Use the **showcpset** command to list the volumes in a copy set and use the **lsvol** command to display the status of volumes in a copy set.

Syntax



Parameters

-help | -h | -?

Lists help for the command. If you specify additional parameters and arguments, those parameters and arguments are ignored.

-s | -1

Displays the following information:

Column Label	Details
H1 Volume ID	The ID of the volume at host site 1 which is used to identify copy sets in a session
Session	The name of the session that contains the copy sets
Volumes	The number of volumes associated with the copy set

-fmt { default | xml | delim | stanza }

Specifies the format of the output. You can specify one of these values:

default

Specifies that the output is displayed in tabular format using spaces as delimiters between columns. This is the default value.

xml

Specifies that the output is displayed in XML format.

delim

Specifies that output is displayed in a tabular format using commas as delimiters between columns.

To use a character other than a comma as the delimiter, specify **-fmt delim -delim char**, where *char* represents the character that you want to use as the delimiter. For example, if you want to use a colon (:) as the delimiter, use the following **-fmt** parameter:

```
-fmt delim -delim :
```

If you use a shell metacharacter as the delimiting character, enclose the character in quotation marks or single quotation marks. A blank space is not a valid character.

stanza Specifies that the output is displayed as one keyword-value pair per line.

-p { on | off }

Specifies whether to display one page of text at a time or all text at once.

on Displays one page of text at a time. Pressing any key displays the next page. This is the default value when the command is run in interactive mode.

off Displays all text at once. This is the default value when the command is run in single-shot mode.

-hdr { on | off }

Specifies whether to display the table header. You can specify one of these values:

on Displays the table header. This is the default value.

off Hides the table header.

-r number

Specifies the number of rows per page to display when the **-p** parameter is specified. You can specify a value of 1 - 100. The default value is 22.

-v { on | off }

Specifies whether to enable verbose mode. You can specify one of these values:

on Enable verbose mode.

off Disable verbose mode. This is the default value.

-h1 h1_volume_id

Specifies the volume ID at host site 1.

session_name | -

Specifies the name of the session that contains the copy sets.

Alternatively, use the dash (-) to specify that input for this parameter comes from an input stream (stdin). The dash is supported only in single-shot mode.

Examples

Listing the IDs of copy sets in a session

The following command lists copy set IDs and the number of volumes that are associated with the copy sets in a session called `session1`:

```
csmdi> lscpset session1
```

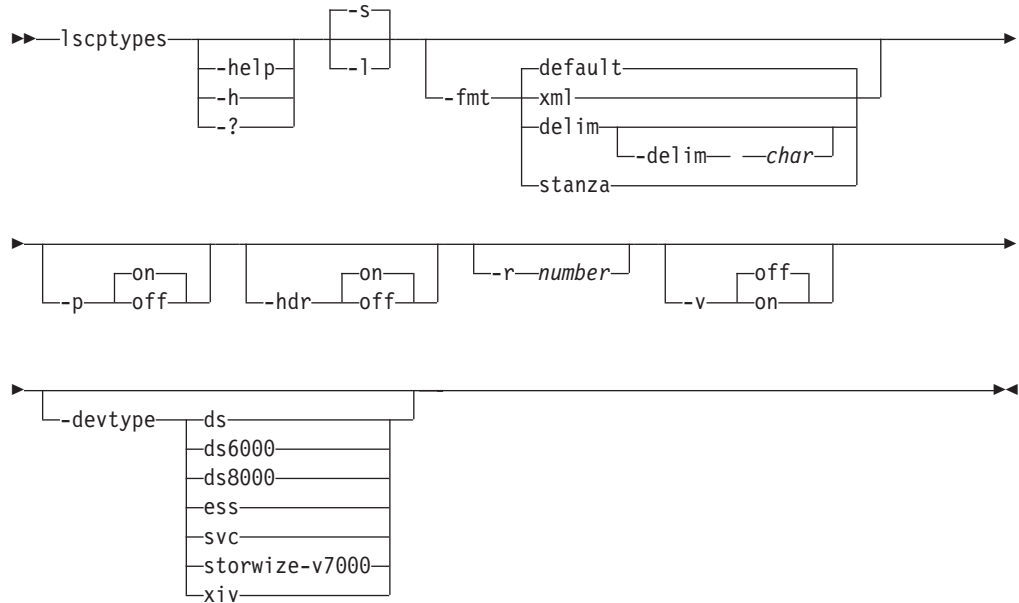
The following output is returned:

H1 Volume ID	Session	Volumes
DS8000:2107.NK791:VOL:1500	session1	5
DS8000:2107.NK791:VOL:1501	session1	5
DS8000:2107.NK791:VOL:1502	session1	5
DS8000:2107.NK791:VOL:1503	session1	5
DS8000:2107.NK791:VOL:1504	session1	5
ESS:2105.FCA57:VOL:1500	session1	5
ESS:2105.FCA57:VOL:1501	session1	5
ESS:2105.FCA57:VOL:1502	session1	5
ESS:2105.FCA57:VOL:1503	session1	5
ESS:2105.FCA57:VOL:1504	session1	5

Isctypes

Use the **Isctypes** command to display all the supported session (copy) types that you can use with the **mksses** command.

Syntax



Parameters

-help | -h | -?

Lists help for the command. If you specify additional parameters and arguments, those parameters and arguments are ignored.

-s

Lists default information about the session types being used, including the full name and description.

-l

Displays detailed information for each session types, including:

Column label	Details
Copy Type	The abbreviated name of the session type that you can specify with the mksses command (for example, mgm).
Full Name	The full name of the session type (for example, Metro Global Mirror).
Device Types	The device types that are supported by the session type. The device type values are: DS, DS6000, DS8000, ESS, SAN Volume Controller, and STORWIZE-V7000, XIV.

-fmt { default | xml | delim | stanza }

Specifies the format of the output. You can specify one of these values:

default

Specifies that the output is displayed in tabular format using spaces as delimiters between columns. This is the default value.

xml

Specifies that the output is displayed in XML format.

delim

Specifies that output is displayed in a tabular format using commas as delimiters between columns.

To use a character other than a comma as the delimiter, specify `-fmt delim -delim char`, where *char* represents the character that you want to use as the delimiter. For example, if you want to use a colon (:) as the delimiter, use the following `-fmt` parameter:

```
-fmt delim -delim :
```

If you use a shell metacharacter as the delimiting character, enclose the character in quotation marks or single quotation marks. A blank space is not a valid character.

stanza

Specifies that the output is displayed as one keyword-value pair per line.

-p { on | off }

Specifies whether to display one page of text at a time or all text at once.

on

Displays one page of text at a time. Pressing any key displays the next page. This is the default value when the command is run in interactive mode.

off

Displays all text at once. This is the default value when the command is run in single-shot mode.

-hdr { on | off }

Specifies whether to display the table header. You can specify one of these values:

on

Displays the table header. This is the default value.

off

Hides the table header.

-r number

Specifies the number of rows per page to display when the `-p` parameter is specified. You can specify a value of 1 - 100. The default value is 22.

-v { on | off }

Specifies whether to enable verbose mode. You can specify one of these values:

on

Enable verbose mode.

off

Disable verbose mode. This is the default value.

-devtype { ds | ds6000 | ds8000 | ess | svc | storwize-v7000 | xiv }

Specifies the session types supported by hardware device.

Example**Listing all session types for a System Storage DS8000 or System Storage DS6000 session**

The following command lists all the session types that you can use.

```
csmdi> lscstypes
```

The following output is returned:

Copy Type	Full Name	Device Types
fc	FlashCopy	DS8000, DS6000, ESS, SVC, STORWIZE-V7000
snap	Snapshot	XIV
mmsd	Metro Mirror Single Direction	DS8000, DS6000, ESS, SVC, STORWIZE-V7000
mmfofb	Metro Mirror Failover/Failback	DS8000, DS6000, ESS, SVC, STORWIZE-V7000
mmfofbxiv	Metro Mirror Failover/Failback	XIV
pmm	Metro Mirror Failover/Failback w/ Practice	DS8000, DS6000, ESS
pmmsvc	Metro Mirror Failover/Failback w/ Practice	SVC, STORWIZE-V7000
gmsd	Global Mirror Single Direction	DS8000, DS6000, ESS
gmsdsvc	Global Mirror Single Direction	SVC, STORWIZE-V7000
gmfofb	Global Mirror Failover/Failback	DS8000, DS6000, ESS
gmfofbsvc	Global Mirror Failover/Failback	SVC, STORWIZE-V7000
gmfofbxiv	Global Mirror Failover/Failback	XIV
pgm	Global Mirror Failover/Failback w/ Practice	DS8000, DS6000, ESS
pgmsvc	Global Mirror Failover/Failback w/ Practice	SVC, STORWIZE-V7000
pgm2s	Global Mirror Either Direction w/ Two Site Practice	DS8000, DS6000, ESS
mgm	Metro Global Mirror	DS8000, ESS
pmgm	Metro Global Mirror w/ Practice	DS8000, ESS

Listing session types supported for System Storage DS8000 and System Storage DS6000 storage systems

```
csmlcli> lsctypes -devtype ds
```

The following output is returned:

Copy Type	Full Name	Device Types
fc	FlashCopy	DS8000, DS6000, ESS, SVC, STORWIZE-V7000
mmsd	Metro Mirror Single Direction	DS8000, DS6000, ESS, SVC, STORWIZE-V7000
mmfofb	Metro Mirror Failover/Failback	DS8000, DS6000, ESS, SVC, STORWIZE-V7000
pmm	Metro Mirror Failover/Failback w/ Practice	DS8000, DS6000, ESS
gmsd	Global Mirror Single Direction	DS8000, DS6000, ESS
gmfofb	Global Mirror Failover/Failback	DS8000, DS6000, ESS
pgm	Global Mirror Failover/Failback w/ Practice	DS8000, DS6000, ESS
pgm2s	Global Mirror Either Direction w/ Two Site Practice	DS8000, DS6000, ESS
mgm	Metro Global Mirror	DS8000, ESS
pmgm	Metro Global Mirror w/ Practice	DS8000, ESS

Listing session types supported for an XIV system

```
csmlcli> lsctypes -devtype xiv
```

The following output is returned:

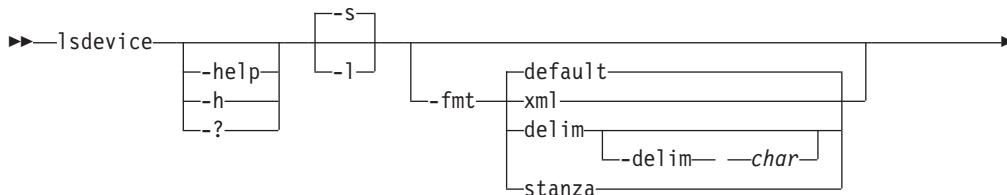
Copy Type	Full Name	Device Types
snap	Snapshot	XIV
mmfofbxiv	Metro Mirror Failover/Failback	XIV
gmfofbxiv	Global Mirror Failover/Failback	XIV

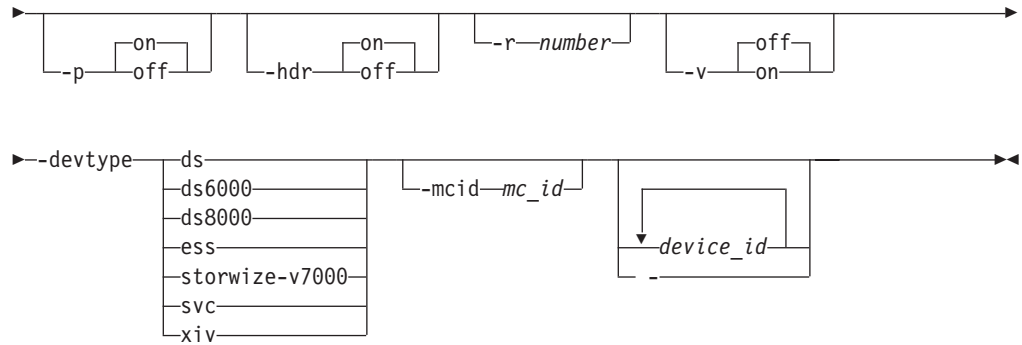
lsdevice

Use the **lsdevice** command to list storage systems and properties.

Tip: To list storage systems that can be discovered through an IBM z/OS connection, use the **lsstorcandidate** command.

Syntax





Parameters

-help | -h | -?

Lists help for the command. If you specify additional parameters and arguments, those parameters and arguments are ignored.

-s

Specifies that default information for each storage system is displayed. This information includes the device ID, connection type, device type, and local server connection status.

-l

Specifies that detailed information for each storage system is displayed, including:

Column Label	Details
Device ID	The name, nickname, or model-serial-manufacturer of the storage system.
Connection Type	The connection type: Direct, HMC, or z/OS.
Device Type	The storage system type: DS6000, DS8000, ESS, SAN Volume Controller, STORWIZE-V7000, or XIV.
Device IP Address	The IP address or host name for the nodes or clusters that are used by the storage system. If there are multiple nodes or clusters, the values in this column are delimited by a semicolon (for example, <i>ip_address;ip_address</i>).
Local Server Connection	The state of the direct connections to the local management server. If there are multiple servers, the values in this column are delimited by a semicolon (for example, <i>cluster0_status;cluster1_status</i>).
Remote Server Connection	The state of the direct connections to the remote management server. If there are multiple servers, the values in this column are delimited by a semicolon (for example, <i>cluster0_status;cluster1_status</i>).
Management Console ID	The ID of the Hardware Management Console (HMC). This parameter applies only to System Storage DS8000 storage systems that are using HMCs to connect.
Location	The location of the storage system.
Manufacturer	The manufacturer of the storage system.
Device Name	The user-defined name of the storage system.

-fmt { default | xml | delim | stanza }

Specifies the format of the output. You can specify one of these values:

default

Specifies that the output is displayed in tabular format using spaces as delimiters between columns. This is the default value.

xml Specifies that the output is displayed in XML format.

delim Specifies that output is displayed in a tabular format using commas as delimiters between columns.

To use a character other than a comma as the delimiter, specify `-fmt delim -delim char`, where *char* represents the character that you want to use as the delimiter. For example, if you want to use a colon (:) as the delimiter, use the following `-fmt` parameter:

```
-fmt delim -delim :
```

If you use a shell metacharacter as the delimiting character, enclose the character in quotation marks or single quotation marks. A blank space is not a valid character.

stanza Specifies that the output is displayed as one keyword-value pair per line.

-p { on | off }

Specifies whether to display one page of text at a time or all text at once.

on Displays one page of text at a time. Pressing any key displays the next page. This is the default value when the command is run in interactive mode.

off Displays all text at once. This is the default value when the command is run in single-shot mode.

-hdr { on | off }

Specifies whether to display the table header. You can specify one of these values:

on Displays the table header. This is the default value.

off Hides the table header.

-r number

Specifies the number of rows per page to display when the `-p` parameter is specified. You can specify a value of 1 - 100. The default value is 22.

-v { on | off }

Specifies whether to enable verbose mode. You can specify one of these values:

on Enable verbose mode.

off Disable verbose mode. This is the default value.

-devtype { ess | ds | ds6000 | ds8000 | storwize-v7000 | svc | xiv }

Specifies the type of storage system. Supported storage systems are:

- **ds**: IBM System Storage DS8000 or System Storage DS6000
- **ds6000**: System Storage DS6000
- **ds8000**: IBM System Storage DS8000
- **ess**: IBM TotalStorage Enterprise Storage Server Model 800
- **storwize-v7000**: IBM Storwize V7000 and IBM Storwize V7000 Unified
- **svc**: IBM System Storage SAN Volume Controller
- **xiv**: IBM XIV Storage System

-mcid *mc_id*

Specifies storage systems that are connected through a specific management console.

device_id... | -

Specifies one or more storage systems by ID. The storage system ID is in the element ID format (for example, `ess:box:2105.fca57`). Separate multiple storage system IDs with a space.

Alternatively, use the dash (-) to specify that input for this parameter comes from an input stream (stdin). The dash is supported only in single-shot mode.

Examples

Listing all System Storage DS8000 and System Storage DS6000 storage systems

The following command lists information for all System Storage DS8000 and System Storage DS6000 series storage systems.

```
csmdi> lsdevice -devtype ds
Device ID          Connection Type Device Type Local Server Connection
=====
DS8000:BOX:2107.04131 Direct          DS8000    Connected;Connected
DS8000:BOX:2107.MW931 Direct          DS8000    Connected;Connected
DS8000:BOX:2107.NF111 Direct          DS8000    Connected;Connected
DS8000:BOX:2107.NK791 Direct          DS8000    Connected;Connected
DS6000:BOX:1750.AAXYA Direct          DS6000    Connected;Connected
```

Listing detailed attributes for a storage system

The following command lists detailed information for the storage system DS8000:BOX:2107.04131.

```
csmdi> lsdevice -devtype ds -l -fmt stanza DS8000:BOX:2107.04131
```

The following output is returned:

```
Device ID          DS8000:BOX:2107.04131
Connection Type    Direct
Device Type        DS8000
Device IP Address  stg8k05c0;stg8k05c1
Local Server Connection Connected;Connected
Remote Server Connection -
Management Console ID -
Location           Boulder
Manufacturer       IBM
```

Listing all XIV systems

The following command lists information for a all XIV systems.

```
csmdi> lsdevice -devtype XIV
```

The following output is returned:

```
Device ID          Connection Type Device Type Local Server Connection
=====
XIV:BOX:7803441 Direct          XIV         Connected;Connected;Connected
XIV:BOX:7803448 Direct          XIV         Connected;Connected;Connected
```

Listing detailed attributes for all XIV systems

The following command lists detailed information for all XIV systems.

```
csmdi> lsdevice -devtype XIV -l
```

The following output is returned:

```

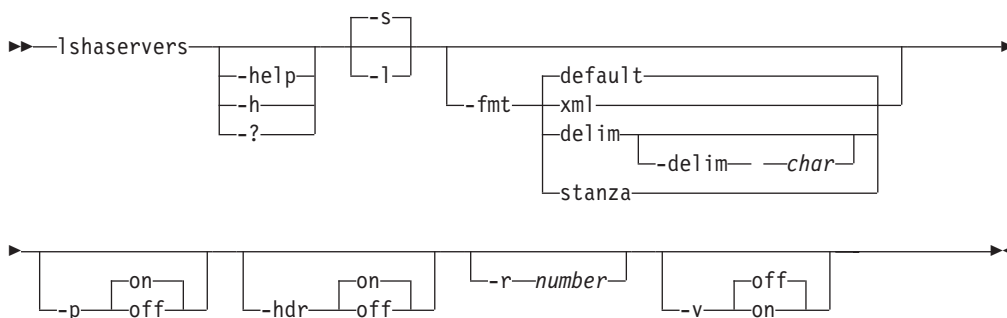
Device ID      Connection Type Device Type Device IP Address
=====
XIV:BOX:7803441 Direct      XIV      tpcr_xiva2.storage.tucson.ibm.com
XIV:BOX:7803448 Direct      XIV      tpcr_xivb2.storage.tucson.ibm.com
Local Server Connection Remote Server Connection Management Console ID
=====
Disconnected   -              -
Disconnected   -              -
Location Manufacturer Device Name
=====
Tucson  IBM      XIV_A
Phoenix IBM      XIV_B

```

Ishaservers

Use the **Ishaservers** command to show the status of each active and standby management server.

Syntax



Parameters

-help | -h | -?

Lists help for the command. If you specify additional parameters and arguments, those parameters and arguments are ignored.

-l | -s

Displays detailed information for each management server, including:

Column label	Details
Server	The domain or IP address of the management server
Role	The role of management server: Active or Standby
Status	The status of the relationship

Column label	Details
Port	<p>The standby management server port number. This port is used for communication between the active and standby management server.</p> <p>This port number is initially set at installation time. Important: The standby management server port number must be the same on both the management server and the standby management server in a high-availability relationship. If you change the standby management server port number on either the management server or the standby management server, you must also change the port number on the other server.</p>

-fmt { default | xml | delim | stanza }

Specifies the format of the output. You can specify one of these values:

default

Specifies that the output is displayed in tabular format using spaces as delimiters between columns. This is the default value.

xml

Specifies that the output is displayed in XML format.

delim

Specifies that output is displayed in a tabular format using commas as delimiters between columns.

To use a character other than a comma as the delimiter, specify `-fmt delim -delim char`, where *char* represents the character that you want to use as the delimiter. For example, if you want to use a colon (:) as the delimiter, use the following `-fmt` parameter:

```
-fmt delim -delim :
```

If you use a shell metacharacter as the delimiting character, enclose the character in quotation marks or single quotation marks. A blank space is not a valid character.

stanza

Specifies that the output is displayed as one keyword-value pair per line.

-p { on | off }

Specifies whether to display one page of text at a time or all text at once.

on

Displays one page of text at a time. Pressing any key displays the next page. This is the default value when the command is run in interactive mode.

off

Displays all text at once. This is the default value when the command is run in single-shot mode.

-hdr { on | off }

Specifies whether to display the table header. You can specify one of these values:

on

Displays the table header. This is the default value.

off

Hides the table header.

-r number

Specifies the number of rows per page to display when the `-p` parameter is specified. You can specify a value of 1 - 100. The default value is 22.

-v { on | off }

Specifies whether to enable verbose mode. You can specify one of these values:

on Enable verbose mode.

off Disable verbose mode. This is the default value.

Example

Listing management server status

The following command lists the status of the active and standby management servers.

```
csmlcli> lshaservers
```

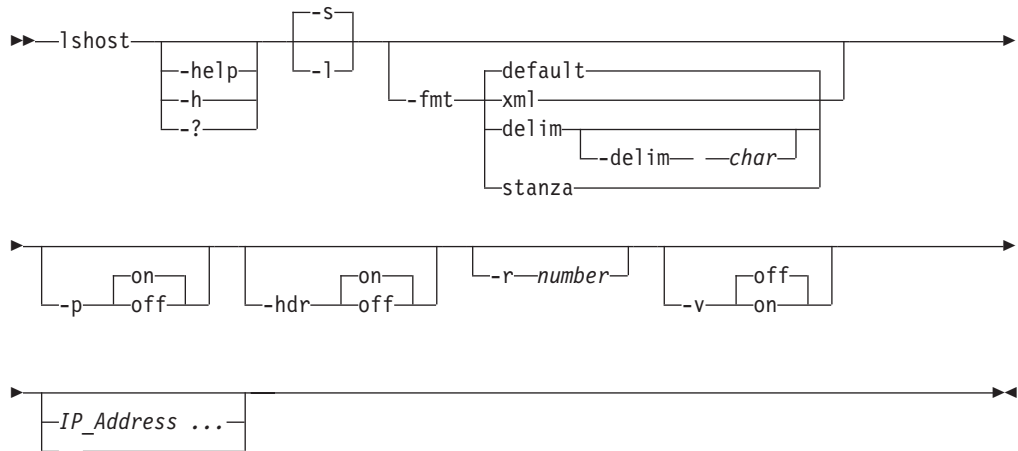
The following output is returned:

```
Server                               Role    Status    Port
-----
tpc1.storage.tucson.ibm.com  ACTIVE  Synchronized  5120
tpc2.storage.tucson.ibm.com  STANDBY Synchronized  5120
```

lshost

Use the **lshost** command to view host systems that have been added to IBM Tivoli Storage Productivity Center for Replication.

Syntax



Parameters

-help | -h | -?

Lists help for the command. If you specify additional parameters and arguments, those parameters and arguments are ignored.

-s Specifies that default information for each host system is displayed.

-l Specifies that detailed information for each host system is displayed, including:

Column Label	Details
Host System	The IP address or host name of the host system.

Column Label	Details
Port	The port number for the connection to the host system.
Type	The type of host system.
Local Status	The status of the connection between the Tivoli Storage Productivity Center for Replication server and the host system.
Remote Status	In high availability environments that have an active and standby management server, the status of the connection between the remote Tivoli Storage Productivity Center for Replication server and the host system. If you are running the lshost command on the active server, the remote server is the standby server. If you are running the command on the standby server, the remote server is the active server.
Sessions	The sessions that are associated with the host system.

-fmt { default | xml | delim | stanza }

Specifies the format of the output. You can specify one of these values:

default

Specifies that the output is displayed in tabular format using spaces as delimiters between columns. This is the default value.

xml Specifies that the output is displayed in XML format.

delim Specifies that output is displayed in a tabular format using commas as delimiters between columns.

To use a character other than a comma as the delimiter, specify **-fmt delim -delim *char***, where *char* represents the character that you want to use as the delimiter. For example, if you want to use a colon (:) as the delimiter, use the following **-fmt** parameter:

```
-fmt delim -delim :
```

If you use a shell metacharacter as the delimiting character, enclose the character in quotation marks or single quotation marks. A blank space is not a valid character.

stanza Specifies that the output is displayed as one keyword-value pair per line.

-p { on | off }

Specifies whether to display one page of text at a time or all text at once.

on Displays one page of text at a time. Pressing any key displays the next page. This is the default value when the command is run in interactive mode.

off Displays all text at once. This is the default value when the command is run in single-shot mode.

-hdr { on | off }

Specifies whether to display the table header. You can specify one of these values:

on Displays the table header. This is the default value.

off Hides the table header.

-r *number*

Specifies the number of rows per page to display when the **-p** parameter is specified. You can specify a value of 1 - 100. The default value is 22.

-v { **on** | **off** }

Specifies whether to enable verbose mode. You can specify one of these values:

on Enable verbose mode.

off Disable verbose mode. This is the default value.

IP_Address ... | -

If you want to view specific host systems only, specifies the IP address or host name of the host system that you want to view. You can enter multiple IP addresses or host names.

Alternatively, use the dash (-) to specify that input for this parameter comes from an input stream (stdin). The dash is supported only in single-shot mode.

Example

• Listing all host systems

The following command lists information about all host systems that have been added to Tivoli Storage Productivity Center for Replication.

```
csmdi> lshost
```

The following output is returned:

```
Host System Port Type Local Status Sessions
=====
9.11.223.43 9930 AIX Connected MyMMSession
9.11.223.85 9990 Unknown Disconnected -
```

• Listing detailed information for host systems

The following command lists detailed information about the host systems.

```
csmdi> lshost -l
```

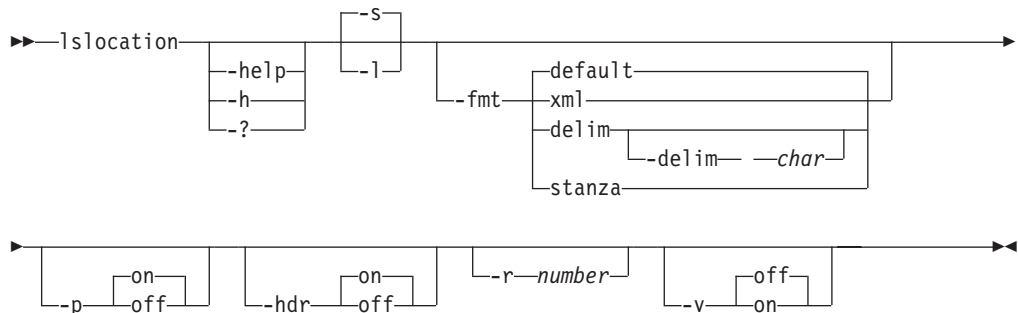
The following output is returned:

```
Host System Port Type Local Status Remote Status Sessions
=====
9.11.223.43 9930 AIX Connected Connected -
9.11.223.85 9990 Unknown Disconnected Disconnected -
```

lslocation

Use the **lslocation** command to list all defined locations.

Syntax



Parameters

-help | -h | -?

Lists help for the command. If you specify additional parameters and arguments, those parameters and arguments are ignored.

-l | -s

Displays detailed information for each location, including:

Column label	Details
Location	An integer representing the location.
Details	The alphanumeric text string that was given to the location. The string can be descriptive of the location.

-fmt { default | xml | delim | stanza }

Specifies the format of the output. You can specify one of these values:

default

Specifies that the output is displayed in tabular format using spaces as delimiters between columns. This is the default value.

xml

Specifies that the output is displayed in XML format.

delim

Specifies that output is displayed in a tabular format using commas as delimiters between columns.

To use a character other than a comma as the delimiter, specify `-fmt delim -delim char`, where *char* represents the character that you want to use as the delimiter. For example, if you want to use a colon (:) as the delimiter, use the following `-fmt` parameter:

```
-fmt delim -delim :
```

If you use a shell metacharacter as the delimiting character, enclose the character in quotation marks or single quotation marks. A blank space is not a valid character.

stanza

Specifies that the output is displayed as one keyword-value pair per line.

-p { on | off }

Specifies whether to display one page of text at a time or all text at once.

on

Displays one page of text at a time. Pressing any key displays the next page. This is the default value when the command is run in interactive mode.

off

Displays all text at once. This is the default value when the command is run in single-shot mode.

-hdr { on | off }

Specifies whether to display the table header. You can specify one of these values:

on

Displays the table header. This is the default value.

off

Hides the table header.

-r number

Specifies the number of rows per page to display when the `-p` parameter is specified. You can specify a value of 1 - 100. The default value is 22.

-v { on | off }

Specifies whether to enable verbose mode. You can specify one of these values:

- on** Enable verbose mode.
- off** Disable verbose mode. This is the default value.

Example

Listing locations

The following command lists all locations.

```
csmlcli> lslocation
```

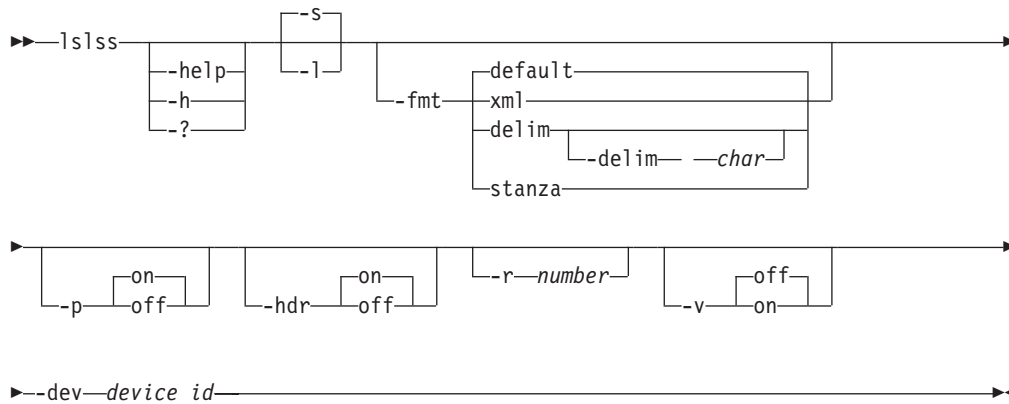
The following output is returned:

```
Location Details
=====
1         Boulder
3         Marana
2         Tucson
```

lslss

Use the **lslss** command to list the logical subsystems (LSSes) for the specified DS or ESS storage system. You can use this output with the **mkpath** command.

Syntax



Parameters

-help | -h | -?

Lists help for the command. If you specify additional parameters and arguments, those parameters and arguments are ignored.

-l | -s

Displays detailed information for each storage system, including:

Column label	Details
Device	Storage system of the LSSs
LSS ID	LSS identifier

-fmt { default | xml | delim | stanza }

Specifies the format of the output. You can specify one of these values:

default

Specifies that the output is displayed in tabular format using spaces as delimiters between columns. This is the default value.

xml

Specifies that the output is displayed in XML format.

delim

Specifies that output is displayed in a tabular format using commas as delimiters between columns.

To use a character other than a comma as the delimiter, specify `-fmt delim -delim char`, where *char* represents the character that you want to use as the delimiter. For example, if you want to use a colon (:) as the delimiter, use the following `-fmt` parameter:

```
-fmt delim -delim :
```

If you use a shell metacharacter as the delimiting character, enclose the character in quotation marks or single quotation marks. A blank space is not a valid character.

stanza

Specifies that the output is displayed as one keyword-value pair per line.

-p { on | off }

Specifies whether to display one page of text at a time or all text at once.

on

Displays one page of text at a time. Pressing any key displays the next page. This is the default value when the command is run in interactive mode.

off

Displays all text at once. This is the default value when the command is run in single-shot mode.

-hdr { on | off }

Specifies whether to display the table header. You can specify one of these values:

on

Displays the table header. This is the default value.

off

Hides the table header.

-r *number*

Specifies the number of rows per page to display when the `-p` parameter is specified. You can specify a value of 1 - 100. The default value is 22.

-v { on | off }

Specifies whether to enable verbose mode. You can specify one of these values:

on

Enable verbose mode.

off

Disable verbose mode. This is the default value.

-dev *device_id*

Lists information for the specified DS or ESS storage system.

Example**Listing LSS for a storage system**

The following command lists all available LSSs associated with the storage system DS8000:BOX:2107.04131.

```
csmlcli> ls1ss -dev DS8000:BOX:2107.04131
```

The following output is returned:

```

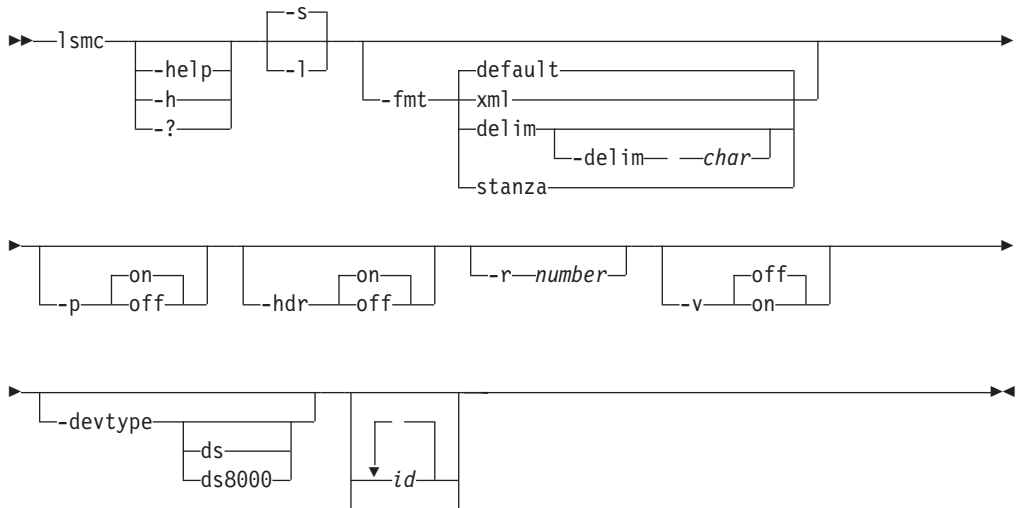
Device          LSS
=====
DS8000:BOX:2107.04131 DS8000:2107.04131:LSS:00
DS8000:BOX:2107.04131 DS8000:2107.04131:LSS:01
DS8000:BOX:2107.04131 DS8000:2107.04131:LSS:02
DS8000:BOX:2107.04131 DS8000:2107.04131:LSS:03
DS8000:BOX:2107.04131 DS8000:2107.04131:LSS:04
DS8000:BOX:2107.04131 DS8000:2107.04131:LSS:05
DS8000:BOX:2107.04131 DS8000:2107.04131:LSS:06
DS8000:BOX:2107.04131 DS8000:2107.04131:LSS:07
DS8000:BOX:2107.04131 DS8000:2107.04131:LSS:08
DS8000:BOX:2107.04131 DS8000:2107.04131:LSS:09
DS8000:BOX:2107.04131 DS8000:2107.04131:LSS:0A
DS8000:BOX:2107.04131 DS8000:2107.04131:LSS:0B
DS8000:BOX:2107.04131 DS8000:2107.04131:LSS:0C
DS8000:BOX:2107.04131 DS8000:2107.04131:LSS:0D
DS8000:BOX:2107.04131 DS8000:2107.04131:LSS:0E
DS8000:BOX:2107.04131 DS8000:2107.04131:LSS:0F
DS8000:BOX:2107.04131 DS8000:2107.04131:LSS:10
DS8000:BOX:2107.04131 DS8000:2107.04131:LSS:11
DS8000:BOX:2107.04131 DS8000:2107.04131:LSS:12
DS8000:BOX:2107.04131 DS8000:2107.04131:LSS:14

```

lsmc

Use the **lsmc** command to display a summary of management consoles and settings.

Syntax



Parameters

-help | -h | -?

Lists help for the command. If you specify additional parameters and arguments, those parameters and arguments are ignored.

-s

Displays default information for each management console, including the ID and local server connection.

-l Displays detailed information for each management console, including:

Column label	Details
Management console ID	The ID of the management console.
Management console IP	The cluster 0 IP address or domain.
Local Server Connection	The connection status of the management console to the local server.
Location	The associated location of the management console or None.

-fmt { default | xml | delim | stanza }

Specifies the format of the output. You can specify one of these values:

default

Specifies that the output is displayed in tabular format using spaces as delimiters between columns. This is the default value.

xml Specifies that the output is displayed in XML format.

delim Specifies that output is displayed in a tabular format using commas as delimiters between columns.

To use a character other than a comma as the delimiter, specify `-fmt delim -delim char`, where *char* represents the character that you want to use as the delimiter. For example, if you want to use a colon (:) as the delimiter, use the following `-fmt` parameter:

```
-fmt delim -delim :
```

If you use a shell metacharacter as the delimiting character, enclose the character in quotation marks or single quotation marks. A blank space is not a valid character.

stanza Specifies that the output is displayed as one keyword-value pair per line.

-p { on | off }

Specifies whether to display one page of text at a time or all text at once.

on Displays one page of text at a time. Pressing any key displays the next page. This is the default value when the command is run in interactive mode.

off Displays all text at once. This is the default value when the command is run in single-shot mode.

-hdr { on | off }

Specifies whether to display the table header. You can specify one of these values:

on Displays the table header. This is the default value.

off Hides the table header.

-r number

Specifies the number of rows per page to display when the `-p` parameter is specified. You can specify a value of 1 - 100. The default value is 22.

-v { on | off }

Specifies whether to enable verbose mode. You can specify one of these values:

on Enable verbose mode.

off Disable verbose mode. This is the default value.

-devtype ds | ds8000

Displays information for the specified device type. You can specify one of these values:

- ds** - any DS device
- ds8000** - only DS8000 devices

id... | -

Displays only the threshold settings for one or more specified management console IDs. The management console ID is in the element ID format (for example, HMC:9.11.222.333). Separate multiple IDs with a blank space.

Alternatively, use the dash (-) to specify that input for this parameter comes from an input stream (stdin). The dash is supported only in single-shot mode.

Example

Listing management consoles

The following command lists the management consoles and settings for all DS storage systems.

```
csmdi> lsmc -devtype ds -l
```

The following output is returned:

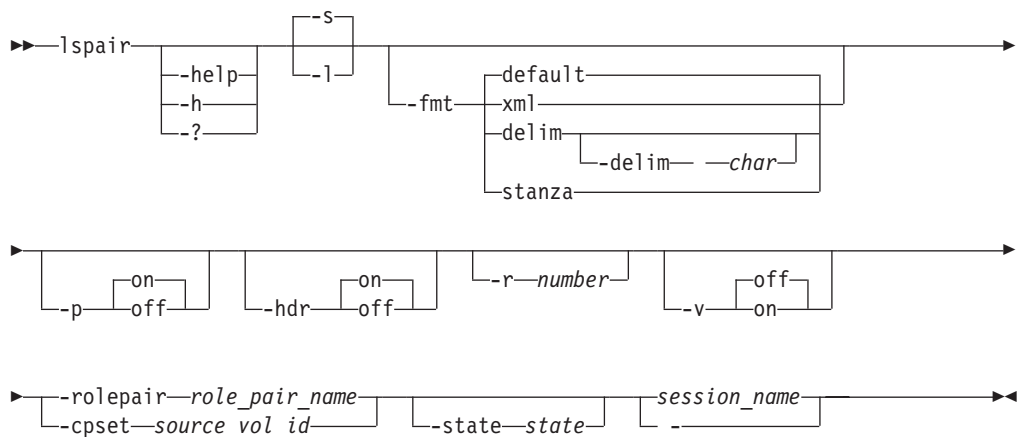
```
MC ID          HMC:2002:90B:E006:222:9:11:223:2
MC IP address   2002:90b:e006:222:9:11:223:2
Local Server Connection Connected
Location        tucson
```

lspair

Use the **lspair** command to list the copy pairs for a specified role pair or to list the copy pairs for a specified copy set.

Important: The **lspair** command is not used for IBM XIV Storage System Snapshot sessions because copy pairs do not exist in this session type.

Syntax



Parameters

-help | -h | -?

Lists help for the command. If you specify additional parameters and arguments, those parameters and arguments are ignored.

-s Specifies that default information for each copy pair is displayed. The default information is the source and target volumes in the pair and the role pair.

-l Displays detailed information for each copy pair, including:

Column Label	Details
Source Volume	The ID of the source volume in the copy pair.
Target Volume	The ID of the target volume in the copy pair.
Role Pair	The associated role pair for the copy pair. See the -rolepair for sample role pair values.
State	The state of the copy pair. The valid values include: Defined Preparing Prepared TargetAvailable Suspended SuspendedInconsistent
Recoverable	Specifies Yes or No to indicate if the copy pair is recoverable.
Copying	Specifies Yes or No to indicate if the copy pair is in the process of copying data.
Progress	The overall copy progress that is associated with the copy pair (if applicable).
New	Specifies Yes or No to indicate if the copy pair is a new pair.
Copy Set	The host site 1 volume ID of the copy set with which the copy pair is associated.
Timestamp	The date and time that the copy pair was suspended (if applicable).
Last Result	The last message that was issued for the copy pair. If message ends in E or W, the copy pair is an exception pair.

-fmt { default | xml | delim | stanza }

Specifies the format of the output. You can specify one of these values:

default

Specifies that the output is displayed in tabular format using spaces as delimiters between columns. This is the default value.

xml Specifies that the output is displayed in XML format.

delim Specifies that output is displayed in a tabular format using commas as delimiters between columns.

To use a character other than a comma as the delimiter, specify **-fmt delim -delim char**, where *char* represents the character that you want to use as the delimiter. For example, if you want to use a colon (:) as the delimiter, use the following **-fmt** parameter:

-fmt delim -delim :

If you use a shell metacharacter as the delimiting character, enclose the character in quotation marks or single quotation marks. A blank space is not a valid character.

stanza Specifies that the output is displayed as one keyword-value pair per line.

-p { on | off }

Specifies whether to display one page of text at a time or all text at once.

on Displays one page of text at a time. Pressing any key displays the next page. This is the default value when the command is run in interactive mode.

off Displays all text at once. This is the default value when the command is run in single-shot mode.

-hdr { on | off }

Specifies whether to display the table header. You can specify one of these values:

on Displays the table header. This is the default value.

off Hides the table header.

-r number

Specifies the number of rows per page to display when the **-p** parameter is specified. You can specify a value of 1 - 100. The default value is 22.

-v { on | off }

Specifies whether to enable verbose mode. You can specify one of these values:

on Enable verbose mode.

off Disable verbose mode. This is the default value.

-rolepair role_pair_name

Specifies that only copy pairs that are associated with the specified role pair name are displayed. Role pair names are defined by the **lsrolepairs** command.

The following list provides sample role-pair names:

- h1-h2
- h1-h3
- h1-i1
- h1-i2
- h1-i3
- h1-j2
- h1-t1
- h2-i1
- h2-i2
- h2-i3
- h2-j1
- h2-j3
- h3-i3
- i1-j1
- i2-j2
- i3-j3

This parameter is mutually exclusive with the **-cpset** parameter.

-cpset source_vol_id

Specifies that only copy pairs that are associated with the specified source volume ID of a copy set are displayed.

This parameter is mutually exclusive with the **-rolepair** parameter.

-state state

Specifies that only copy pairs in a specified state are displayed. You can specify one of these states:

- Defined
- Preparing
- Prepared
- TargetAvailable
- Suspended
- SuspendedInconsistent

session_name | -

Specifies that only copy pairs for the specified session are displayed.

Alternatively, use the dash (-) to specify that input for this parameter comes from an input stream (stdin). The dash is supported only in single-shot mode.

Examples

Listing all copy pairs for a specific role pair

The following command lists the copy pairs that are associated with role pair h1-h2 in the session session1:

```
csmdi> lspair -rolepair h1-h2 session1
```

The following output is returned:

Source Volume	Target Volume	Role Pair
DS8000:2107.NK791:VOL:1500	DS8000:2107.MW931:VOL:1500	H1-H2
DS8000:2107.NK791:VOL:1501	DS8000:2107.MW931:VOL:1501	H1-H2
DS8000:2107.NK791:VOL:1502	DS8000:2107.MW931:VOL:1502	H1-H2
DS8000:2107.NK791:VOL:1503	DS8000:2107.MW931:VOL:1503	H1-H2
DS8000:2107.NK791:VOL:1504	DS8000:2107.MW931:VOL:1504	H1-H2
ESS:2105.FCA57:VOL:1500	DS8000:2107.NF111:VOL:1505	H1-H2
ESS:2105.FCA57:VOL:1501	DS8000:2107.NF111:VOL:1506	H1-H2
ESS:2105.FCA57:VOL:1502	DS8000:2107.NF111:VOL:1507	H1-H2
ESS:2105.FCA57:VOL:1503	DS8000:2107.NF111:VOL:1508	H1-H2
ESS:2105.FCA57:VOL:1504	DS8000:2107.NF111:VOL:1509	H1-H2

Listing all copy pairs in a specific state

The following command lists the copy pairs that are associated with role pair h2-i3 in the session session1 and are in the Suspended state:

```
csmdi> lspair -rolepair h2-i3 -state Suspended session1
```

The following output is returned:

Source Volume	Target Volume	Role Pair
DS8000:2107.MW931:VOL:1500	DS8000:2107.04131:VOL:1505	H2-I3
DS8000:2107.MW931:VOL:1501	DS8000:2107.04131:VOL:1506	H2-I3
DS8000:2107.MW931:VOL:1502	DS8000:2107.04131:VOL:1507	H2-I3
DS8000:2107.MW931:VOL:1503	DS8000:2107.04131:VOL:1508	H2-I3
DS8000:2107.MW931:VOL:1504	DS8000:2107.04131:VOL:1509	H2-I3
DS8000:2107.NF111:VOL:1505	DS8000:2107.04131:VOL:1605	H2-I3
DS8000:2107.NF111:VOL:1506	DS8000:2107.04131:VOL:1606	H2-I3
DS8000:2107.NF111:VOL:1507	DS8000:2107.04131:VOL:1607	H2-I3
DS8000:2107.NF111:VOL:1508	DS8000:2107.04131:VOL:1608	H2-I3
DS8000:2107.NF111:VOL:1509	DS8000:2107.04131:VOL:1609	H2-I3

Listing detailed information for all copy pairs for a specific copy set

The following command lists detailed information about the copy pairs that are associated with the copy set DS8000:2107.NK791:VOL:1500 in the session session1. The **-fmt stanza** parameter specifies that the output is displayed as one keyword-value pair per line.

```
csmlcli> lspair -l -fmt stanza -cpset DS8000:2107.NK791:VOL:1500 session1
```

The following output is returned:

```
Source Volume DS8000:2107.04131:VOL:1500
Target Volume DS8000:2107.04131:VOL:1505
Role Pair     H3-I3
State        Defined
Recoverable   No
Copying       No
Progress      -
New          Yes
Copy Set      DS8000:2107.NK791:VOL:1500
Timestamp     n/a
Last Result   IWRN2024I
```

```
Source Volume DS8000:2107.04131:VOL:1505
Target Volume DS8000:2107.04131:VOL:150A
Role Pair     I3-J3
State        Defined
Recoverable   No
Copying       No
Progress      -
New          Yes
Copy Set      DS8000:2107.NK791:VOL:1500
Timestamp     n/a
Press Enter To Continue...
```

```
Last Result   IWRN2013I
```

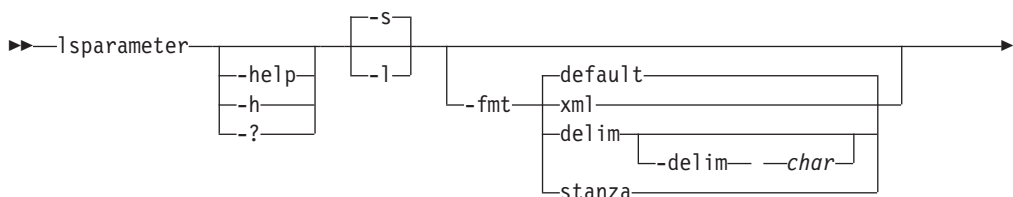
```
Source Volume DS8000:2107.MW931:VOL:1500
Target Volume DS8000:2107.04131:VOL:150A
Role Pair     H2-J3
State        Defined
Recoverable   No
Copying       No
Progress      -
New          Yes
Copy Set      DS8000:2107.NK791:VOL:1500
Timestamp     n/a
Last Result   IWRN2024I
```

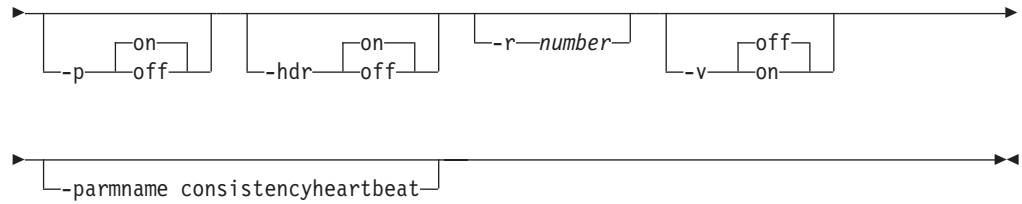
...

lsparameter

Use the **lsparameter** command to list Metro Mirror heartbeat setting.

Syntax





Parameters

-help | -h | -?

Lists help for the command. If you specify additional parameters and arguments, those parameters and arguments are ignored.

-s Displays default information for each system parameter, including the parameter name and value.

-l Displays detailed information for each system parameter, including:

Column label	Details
Parameter Name	Value of the system parameter
Value	The value of the system parameter (for example, Yes or No).
Parm Name	Name of the system parameter

-fmt { default | xml | delim | stanza }

Specifies the format of the output. You can specify one of these values:

default

Specifies that the output is displayed in tabular format using spaces as delimiters between columns. This is the default value.

xml Specifies that the output is displayed in XML format.

delim Specifies that output is displayed in a tabular format using commas as delimiters between columns.

To use a character other than a comma as the delimiter, specify `-fmt delim -delim char`, where *char* represents the character that you want to use as the delimiter. For example, if you want to use a colon (:) as the delimiter, use the following `-fmt` parameter:

```
-fmt delim -delim :
```

If you use a shell metacharacter as the delimiting character, enclose the character in quotation marks or single quotation marks. A blank space is not a valid character.

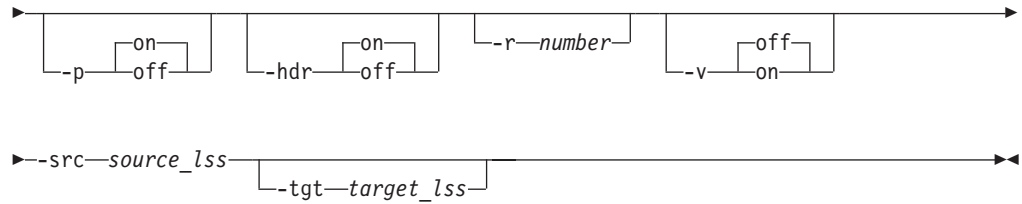
stanza Specifies that the output is displayed as one keyword-value pair per line.

-p { on | off }

Specifies whether to display one page of text at a time or all text at once.

on Displays one page of text at a time. Pressing any key displays the next page. This is the default value when the command is run in interactive mode.

off Displays all text at once. This is the default value when the command is run in single-shot mode.



Parameters

-help | -h | -?

Lists help for the command. If you specify additional parameters and arguments, those parameters and arguments are ignored.

-s Displays default information for each path, including the source and target LSS, path type, status, and whether the path was auto-generated.

-l Displays detailed information for each path, including:

Column label	Details
Source	Origin of the path. For ESS, this is an LSS. See the mkpath command for the format of this field.
Target	Target of the path. For ESS this is an LSS. See the mkpath command for the format of this field.
Type	ESCON (ESS or DS only) or Fibre Channel.
Status	Whether the path is currently established or not.
Auto-Generated	Yes, if the path was generated by the IBM Tivoli Storage Productivity Center for Replication component. No, if you specified the path.

-fmt { default | xml | delim | stanza }

Specifies the format of the output. You can specify one of these values:

default

Specifies that the output is displayed in tabular format using spaces as delimiters between columns. This is the default value.

xml Specifies that the output is displayed in XML format.

delim Specifies that output is displayed in a tabular format using commas as delimiters between columns.

To use a character other than a comma as the delimiter, specify `-fmt delim -delim char`, where `char` represents the character that you want to use as the delimiter. For example, if you want to use a colon (`:`) as the delimiter, use the following `-fmt` parameter:

```
-fmt delim -delim :
```

If you use a shell metacharacter as the delimiting character, enclose the character in quotation marks or single quotation marks. A blank space is not a valid character.

stanza Specifies that the output is displayed as one keyword-value pair per line.

-p { on | off }

Specifies whether to display one page of text at a time or all text at once.

- on** Displays one page of text at a time. Pressing any key displays the next page. This is the default value when the command is run in interactive mode.
 - off** Displays all text at once. This is the default value when the command is run in single-shot mode.
- hdr { on | off }**
 Specifies whether to display the table header. You can specify one of these values:
- on** Displays the table header. This is the default value.
 - off** Hides the table header.
- r number**
 Specifies the number of rows per page to display when the **-p** parameter is specified. You can specify a value of 1 - 100. The default value is 22.
- v { on | off }**
 Specifies whether to enable verbose mode. You can specify one of these values:
- on** Enable verbose mode.
 - off** Disable verbose mode. This is the default value.
- src source_lss**
 Specifies the source LSS. This must be specified in the format *type.serial.lss(hex).port(hex)* (for example, ESS:2105.FCA18:LSS:10.00FF).
- tgt target_lss**
 Specifies the target LSS. This must be specified in the format *type.serial.lss(hex).port(hex)* (for example, ESS:2105.FCA18:LSS:10.00FF).

Example

1. Listing all paths with the same source LSS

The following command lists all paths that use source LSS DS8000:2107.04131:LSS:15.

```
csmdi> lspath -src DS8000:2107.04131:LSS:15
```

The following output is returned:

Source	Target	Type
DS8000:2107.04131:LSS:15.0x0330	DS8000:2107.NF111:LSS:15.0x0030	Fibre Channel
DS8000:2107.04131:LSS:15.0x0110	ESS:2105.FCA57:LSS:15.0x000C	Fibre Channel
DS8000:2107.04131:LSS:15.0x0110	DS8000:2107.NK791:LSS:15.0x0032	Fibre Channel

Status Auto-Generated
 =====
 Established Yes
 Established Yes
 Established Yes

2. Listing information about a specific path

The following command lists information about the path with source LSS DS8000:2107.04131:LSS:15.

```
csmdi> lspath -src DS8000:2107.04131:LSS:15 -tgt ESS:2105.FCA57:LSS:15
```

The following output is returned:

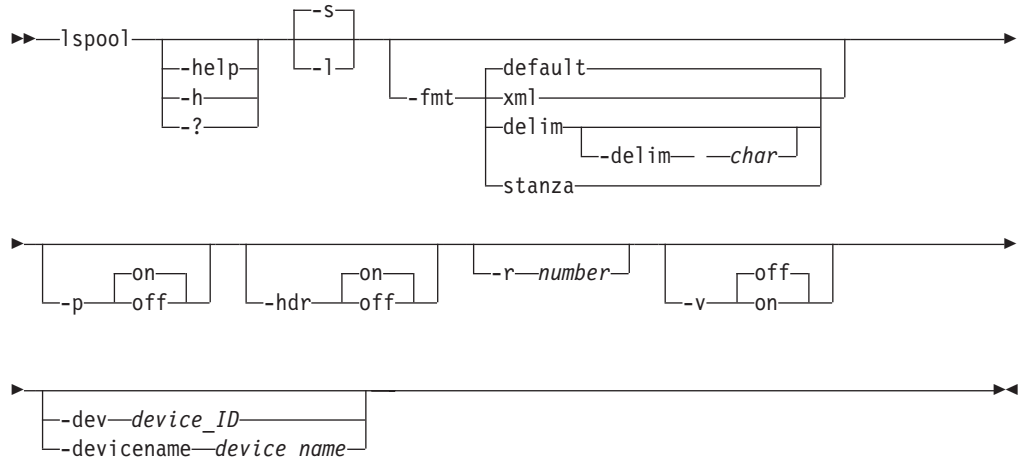
Source	Target	Type
DS8000:2107.04131:LSS:15.0x0110	ESS:2105.FCA57:LSS:15.0x000C	Fibre Channel

Status Auto-Generated
 =====
 Established Yes

lspool

Use the **lspool** to list pools that are on XIV systems.

Syntax



Parameters

-help | -h | -?

Lists help for the command. If you specify additional parameters and arguments, those parameters and arguments are ignored.

-s | -l

Displays the following information:

Column Label	Details
Device Name	The name of the XIV system that contains the pools.
Device ID	The ID of the XIV system that contains the pools.
Pool Name	The name of the pool.
Pool ID	The ID for the pool.

-fmt { default | xml | delim | stanza }

Specifies the format of the output. You can specify one of these values:

default

Specifies that the output is displayed in tabular format using spaces as delimiters between columns. This is the default value.

xml Specifies that the output is displayed in XML format.

delim Specifies that output is displayed in a tabular format using commas as delimiters between columns.

To use a character other than a comma as the delimiter, specify **-fmt delim -delim char**, where *char* represents the character that you want

to use as the delimiter. For example, if you want to use a colon (:) as the delimiter, use the following `-fmt` parameter:

```
-fmt delim -delim :
```

If you use a shell metacharacter as the delimiting character, enclose the character in quotation marks or single quotation marks. A blank space is not a valid character.

stanza Specifies that the output is displayed as one keyword-value pair per line.

-p { on | off }

Specifies whether to display one page of text at a time or all text at once.

on Displays one page of text at a time. Pressing any key displays the next page. This is the default value when the command is run in interactive mode.

off Displays all text at once. This is the default value when the command is run in single-shot mode.

-hdr { on | off }

Specifies whether to display the table header. You can specify one of these values:

on Displays the table header. This is the default value.

off Hides the table header.

-r number

Specifies the number of rows per page to display when the **-p** parameter is specified. You can specify a value of 1 - 100. The default value is 22.

-v { on | off }

Specifies whether to enable verbose mode. You can specify one of these values:

on Enable verbose mode.

off Disable verbose mode. This is the default value.

-dev device_ID and -devicename device_name

Both of these parameters specify that only pools on a specific storage system are displayed. The **-dev** parameter specifies that the storage system is determined by the ID for the system. The **-devicename** parameter specifies that the storage system is determined by the name of the storage system.

The **-dev** and **-devicename** parameters are mutually exclusive.

If the **-dev** or **-devicename** parameter is not provided, the output shows the pools for all XIV systems.

Examples

Listing pools on all XIV systems

The following command lists the pools that are on all XIV systems.

```
csmdi> lspool -l
```

The following output is returned:

Device Name	Device ID	Pool Name	Pool ID
XIV 1300202 Troy	XIV:BOX:1300202	mysnappool1	XIV:POOL:1300202:100929
XIV 1300202 Troy	XIV:BOX:1300202	mysnappool2	XIV:POOL:1300202:100930
XIV 1300202 Troy	XIV:BOX:1300202	mysnappool3	XIV:POOL:1300202:100931

XIV 1300202 Troy	XIV:BOX:1300202	mysnappool14	XIV:POOL:1300202:112412
XIV_B	XIV:BOX:1566078	healthcare	XIV:POOL:1566078:436473
XIV_B	XIV:BOX:1566078	mysnappool1	XIV:POOL:1566078:436474
XIV_B	XIV:BOX:1566078	yogapool	XIV:POOL:1566078:436475

Listing pools on a specific XIV system by storage system ID

The following command lists the pools that are on the XIV system with the ID XIV:BOX:1300202.

```
csmdi> lspool -dev XIV:BOX:1300202 -l
```

The following output is returned:

Device Name	Device ID	Pool Name	Pool ID
XIV 1300202 Troy	XIV:BOX:1300202	mysnappool1	XIV:POOL:1300202:100929
XIV 1300202 Troy	XIV:BOX:1300202	mysnappool2	XIV:POOL:1300202:100930
XIV 1300202 Troy	XIV:BOX:1300202	mysnappool3	XIV:POOL:1300202:100931
XIV 1300202 Troy	XIV:BOX:1300202	mysnappool4	XIV:POOL:1300202:112412

Listing pools on a specific XIV system by storage system name

The following command lists the pools that are on the XIV system that is named XIV:BOX:1300202 Troy.

```
csmdi> lspool -devicename 'XIV:BOX:1300202 Troy'
```

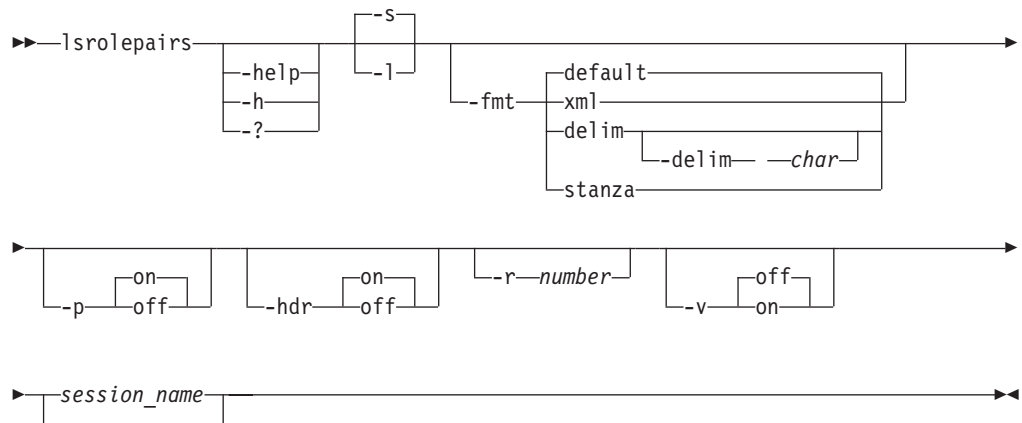
The following output is returned:

Device Name	Device ID	Pool Name	Pool ID
XIV 1300202 Troy	XIV:BOX:1300202	mysnappool1	XIV:POOL:1300202:100929
XIV 1300202 Troy	XIV:BOX:1300202	mysnappool2	XIV:POOL:1300202:100930
XIV 1300202 Troy	XIV:BOX:1300202	mysnappool3	XIV:POOL:1300202:100931
XIV 1300202 Troy	XIV:BOX:1300202	mysnappool4	XIV:POOL:1300202:112412

Isrolepairs

Use the **Isrolepairs** command to display role pairs in a session.

Syntax



Parameters

-help | -h | -?

Lists help for the command. If you specify additional parameters and arguments, those parameters and arguments are ignored.

-s Displays default information for each role pair, including the role name, session (copy) type, and whether the role pair is recovery, has errors, and is in processes of copying data.

-l Displays detailed information for each role pair, including:

Column label	Details
Name	System-generated text string used to identify a role pair. The value listed here is what is to be entered on the lspair command.
Recoverable	An indicator of whether the role pair is recoverable. Value values are Yes or No.
Error	An indicator of whether the role pair has errors. Value values are Yes or No.
Copying	An indicator of the role pair is in process of copying data. Value values are Yes or No.
Progress	The overall copy progress associated with the role pair.
Copy Type	The current session (copy) type of the role pair.
Error Volumes	Total number of volumes in an exception state.
Recoverable pairs	Number of recoverable pairs
Copying Pairs	Number of copying pairs
Total Pairs	Total number of pairs
Recovery Time	An indicator of the time to which the session is recoverable. Includes both date and time. For point-in-time copy, this is the time that the copy was taken. For continuous synchronous remote copy, this is the time at which the Freeze and Run commands were issued. This field is blank if Recoverable is set to No.

-fmt { default | xml | delim | stanza }

Specifies the format of the output. You can specify one of these values:

default

Specifies that the output is displayed in tabular format using spaces as delimiters between columns. This is the default value.

xml Specifies that the output is displayed in XML format.

delim Specifies that output is displayed in a tabular format using commas as delimiters between columns.

To use a character other than a comma as the delimiter, specify **-fmt delim -delim char**, where *char* represents the character that you want to use as the delimiter. For example, if you want to use a colon (:) as the delimiter, use the following **-fmt** parameter:

-fmt delim -delim :

If you use a shell metacharacter as the delimiting character, enclose the character in quotation marks or single quotation marks. A blank space is not a valid character.

stanza Specifies that the output is displayed as one keyword-value pair per line.

-p { on | off }

Specifies whether to display one page of text at a time or all text at once.

on Displays one page of text at a time. Pressing any key displays the next page. This is the default value when the command is run in interactive mode.

off Displays all text at once. This is the default value when the command is run in single-shot mode.

-hdr { on | off }

Specifies whether to display the table header. You can specify one of these values:

on Displays the table header. This is the default value.

off Hides the table header.

-r number

Specifies the number of rows per page to display when the **-p** parameter is specified. You can specify a value of 1 - 100. The default value is 22.

-v { on | off }

Specifies whether to enable verbose mode. You can specify one of these values:

on Enable verbose mode.

off Disable verbose mode. This is the default value.

session_name | -

Specifies the session name for which you display the role pairs.

Alternatively, use the dash (-) to specify that input for this parameter comes from an input stream (stdin). The dash is supported only in single-shot mode.

Description

To see volumes in a copy set, use the **showcpset** command.

To see status of volumes in a copy set, use the **lsvol** command.

Example

1. Listing role pairs in a session

The following command lists information about the role pairs in the session `session1`.

```
csmdi> lsrolepairs session1
```

The following output is returned:

```
Name Recoverable Error Copying Copy Type
=====
H1-H2 No          Yes   Yes   MM
H2-J3 No          No    No    GM
H1-I3 No          No    No    GC
I3-J3 No          No    No    FC
```

H1-J3	No	No	No	GM
H3-I3	No	No	No	FC
H2-I3	No	No	Yes	GC
H1-H3	No	No	No	GC

Listing detailed information for the role pairs in a session

The following command lists detailed information about the role pairs in the session `session1`.

```
csmcli> lsrolepairs -fmt stanza -l session1
```

The following output is returned:

```
Name           H1-H2
Recoverable    No
Error          Yes
Copying        Yes
Copy Type      MM
Progress       66
Error volumes  5
Recoverable pairs 5
Copying pairs  5
Total pairs    10
Recovery time  n/a
```

```
Name           H2-J3
Recoverable    No
Error          No
Copying        No
Copy Type      GM
Progress       -
Error volumes  0
Recoverable pairs 0
Copying pairs  0
Total pairs    10
Recovery time  n/a
```

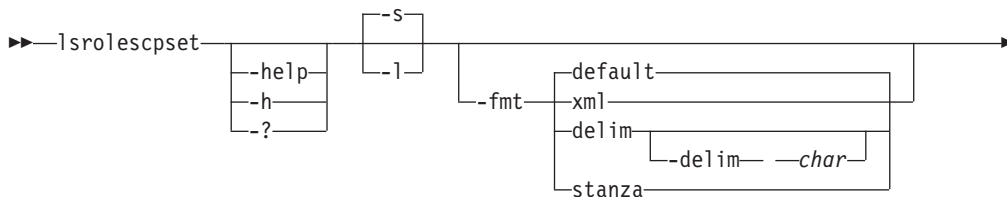
```
Name           H1-I3
Recoverable    No
Error          No
Copying        No
Copy Type      GC
Progress       -
Error volumes  0
Recoverable pairs 0
Copying pairs  0
Total pairs    10
Recovery time  n/a
```

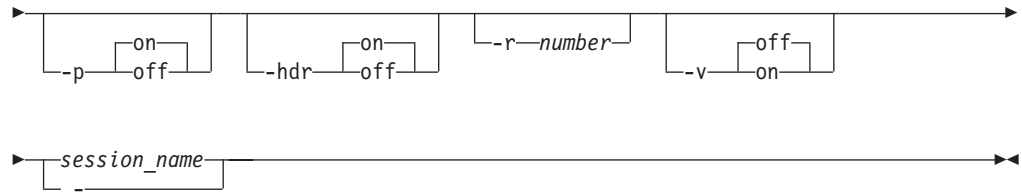
...

lsrolescpset

Use the `lsrolescpset` command to list the volume roles in the specified session.

Syntax





Parameters

-help | -h | -?

Lists help for the command. If you specify additional parameters and arguments, those parameters and arguments are ignored.

-l | -s

Displays detailed information for each session, including:

Column Label	Details
Name	Short name for the role.
Description	Description of the role.

-fmt { default | xml | delim | stanza }

Specifies the format of the output. You can specify one of these values:

default

Specifies that the output is displayed in tabular format using spaces as delimiters between columns. This is the default value.

xml Specifies that the output is displayed in XML format.

delim Specifies that output is displayed in a tabular format using commas as delimiters between columns.

To use a character other than a comma as the delimiter, specify `-fmt delim -delim char`, where *char* represents the character that you want to use as the delimiter. For example, if you want to use a colon (:) as the delimiter, use the following `-fmt` parameter:

```
-fmt delim -delim :
```

If you use a shell metacharacter as the delimiting character, enclose the character in quotation marks or single quotation marks. A blank space is not a valid character.

stanza Specifies that the output is displayed as one keyword-value pair per line.

-p { on | off }

Specifies whether to display one page of text at a time or all text at once.

on Displays one page of text at a time. Pressing any key displays the next page. This is the default value when the command is run in interactive mode.

off Displays all text at once. This is the default value when the command is run in single-shot mode.

-hdr { on | off }

Specifies whether to display the table header. You can specify one of these values:

on Displays the table header. This is the default value.

off Hides the table header.

-r *number*

Specifies the number of rows per page to display when the **-p** parameter is specified. You can specify a value of 1 - 100. The default value is 22.

-v { **on** | **off** }

Specifies whether to enable verbose mode. You can specify one of these values:

on Enable verbose mode.

off Disable verbose mode. This is the default value.

session_name | -

Specifies the session name for which you are going to list the roles of the copy set.

Alternatively, use the dash (-) to specify that input for this parameter comes from an input stream (stdin). The dash is supported only in single-shot mode.

Example

Listing copy set roles

The following command lists the volume roles in session `session1`.

```
csmlcli> lsrolescpcset session1
```

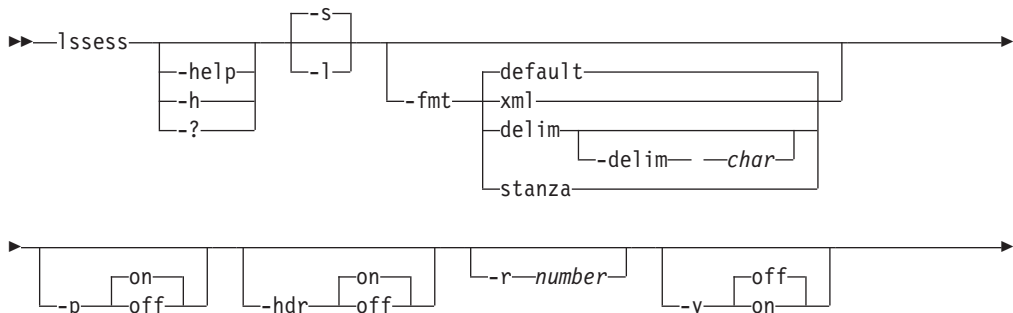
The following output is returned:

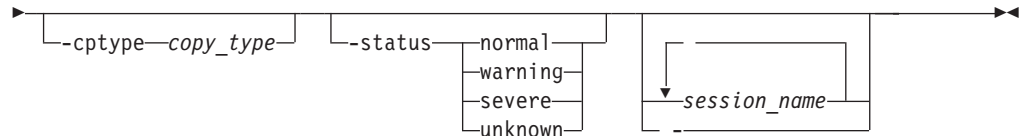
```
Name Description
=====
H1 Host on Site1
H2 Host on Site2
H3 Host on Site3
I3 Intermediate on Site3
J3 Journal on Site3
```

Issess

Use the **Issess** command to display sessions and their status.

Syntax





Parameters

-help | -h | -?

Lists help for the command. If you specify additional parameters and arguments, those parameters and arguments are ignored.

-s Displays default information for each session, including the session name, status, state, and session (copy) type.

-l

Displays detailed information for each session, including:

Column Label	Details
Name	User-defined name of the session.
Status	Status levels. The status level values are Normal, Warning, Severe, or Unknown.
State	Session state. The session state values are Defined, Preparing, Prepared, Suspended, TargetAvailable, or SuspendedInconsistent.
Copy Type	Session (copy) type. See the -cptype parameter for a list of values.
Recoverable	Specifies whether a session is recoverable. Valid values are yes or no.
Copying	Specifies whether a copying operation is taking place. Valid values are yes or no.
Copy Sets	Number of copy sets in the session.
Error	Specifies whether a session has errors. Valid values are yes or no.

-fmt { default | xml | delim | stanza }

Specifies the format of the output. You can specify one of these values:

default

Specifies that the output is displayed in tabular format using spaces as delimiters between columns. This is the default value.

xml

Specifies that the output is displayed in XML format.

delim

Specifies that output is displayed in a tabular format using commas as delimiters between columns.

To use a character other than a comma as the delimiter, specify `-fmt delim -delim char`, where *char* represents the character that you want to use as the delimiter. For example, if you want to use a colon (:) as the delimiter, use the following `-fmt` parameter:

```
-fmt delim -delim :
```

If you use a shell metacharacter as the delimiting character, enclose the character in quotation marks or single quotation marks. A blank space is not a valid character.

stanza Specifies that the output is displayed as one keyword-value pair per line.

-p { on | off }

Specifies whether to display one page of text at a time or all text at once.

on Displays one page of text at a time. Pressing any key displays the next page. This is the default value when the command is run in interactive mode.

off Displays all text at once. This is the default value when the command is run in single-shot mode.

-hdr { on | off }

Specifies whether to display the table header. You can specify one of these values:

on Displays the table header. This is the default value.

off Hides the table header.

-r number

Specifies the number of rows per page to display when the **-p** parameter is specified. You can specify a value of 1 - 100. The default value is 22.

-v { on | off }

Specifies whether to enable verbose mode. You can specify one of these values:

on Enable verbose mode.

off Disable verbose mode. This is the default value.

-cptype copy_type

Specifies the copy session type. You can specify one of these types:

- **fc**: FlashCopy for IBM TotalStorage Enterprise Storage Server Model 800, IBM System Storage DS8000, System Storage DS6000, IBM System Storage SAN Volume Controller, or IBM Storwize V7000.
- **mmsd**: Metro Mirror Single Direction for TotalStorage Enterprise Storage Server Model 800, System Storage DS8000, System Storage DS6000, System Storage SAN Volume Controller, or Storwize V7000.
- **mmfofb**: Metro Mirror Failover/Failback for TotalStorage Enterprise Storage Server Model 800, System Storage DS8000, System Storage DS6000, System Storage SAN Volume Controller, or Storwize V7000.
- **pmm**: Practice Session for Metro Mirror Failover/Failback for TotalStorage Enterprise Storage Server Model 800, System Storage DS8000, or System Storage DS6000.
- **pmmsvc**: Metro Mirror Failover/Failback with Practice for System Storage SAN Volume Controller or Storwize V7000.
- **gmsd**: Global Mirror Single Direction for TotalStorage Enterprise Storage Server Model 800, System Storage DS8000, or System Storage DS6000.
- **gmsdsvc**: Global Mirror Single Direction for System Storage SAN Volume Controller or Storwize V7000.
- **gmfofb**: Global Mirror Failover/Failback for TotalStorage Enterprise Storage Server Model 800, System Storage DS8000, or System Storage DS6000.
- **gmfofbsvc**: Global Mirror Failover/Failback for System Storage SAN Volume Controller or Storwize V7000.
- **hs**: Basic HyperSwap for TotalStorage Enterprise Storage Server Model 800, System Storage DS8000, or System Storage DS6000.
- **pgm**: Global Mirror Failover/Failback with Practice for TotalStorage Enterprise Storage Server Model 800, System Storage DS8000, or System Storage DS6000.

- **pgmsvc**: Global Mirror Failover/Failback with Practice for System Storage SAN Volume Controller or Storwize V7000.
- **pgm2s**: Global Mirror Either Direction with Two Site Practice for TotalStorage Enterprise Storage Server Model 800, System Storage DS8000, or System Storage DS6000.
- **mgm**: Metro Global Mirror for TotalStorage Enterprise Storage Server Model 800 or System Storage DS8000.
- **pmgm**: Metro Global Mirror with Practice for TotalStorage Enterprise Storage Server Model 800 or System Storage DS8000.
- **snap**: XIV snapshot sessions for IBM XIV Storage System.

-status normal | warning | severe | unknown

Specifies that only sessions with the specified status of normal, warning, severe, or unknown are displayed.

session_name... | -

Specifies that only sessions with a specified session name are displayed. Separate multiple session names with a space between each name. All sessions are displayed by default.

Alternatively, use a dash (-) to specify that input for this parameter comes from an input stream (stdin). The dash is supported only in single-shot mode.

Examples

1. Listing all sessions

The following command lists information about all defined sessions.

```
csmdi> lssess
```

The following output is returned:

```
Name      Status  State          Copy Type
=====
session1  Normal  Target Available Metro Global Mirror w/ Practice
```

2. Listing sessions with errors

The following command lists detailed information about a session named session1.

```
csmdi> lssess -status severe
```

The following output is returned:

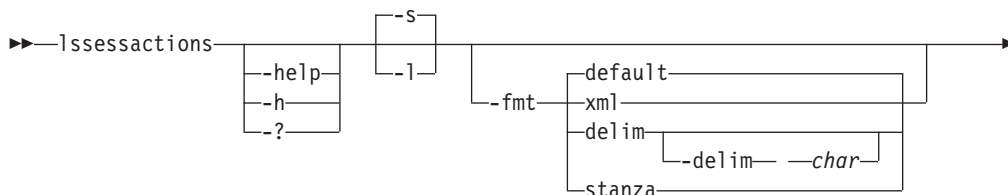
```
Name      Status  State          Copy Type
=====
session1  Severe  Preparing     Metro Global Mirror w/ Practice
```

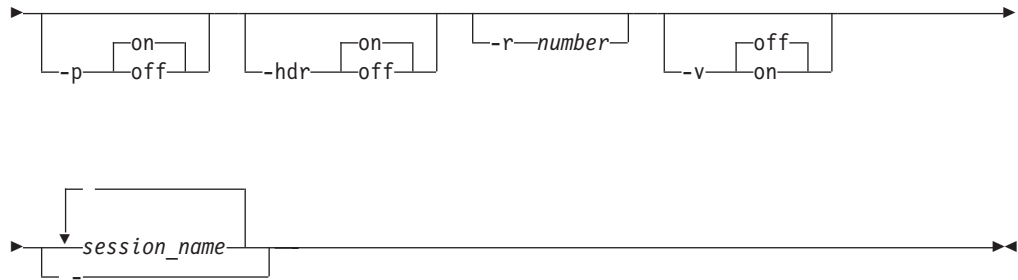
lssessactions

Use the **lssessactions** command to list all the session actions (commands) that can be run for a session.

Tip: To run an action for a session, use the **cmdsess** command.

Syntax





Parameters

-help | -h | -?

Lists help for the command. If you specify additional parameters and arguments, those parameters and arguments are ignored.

-s | -l

Specifies that the following information is displayed for each session:

Column Label	Details
Action	Name of the session action (command) that can be run on the session.
Description	The description of the command.

-fmt { default | xml | delim | stanza }

Specifies the format of the output. You can specify one of these values:

default

Specifies that the output is displayed in tabular format using spaces as delimiters between columns. This is the default value.

xml

Specifies that the output is displayed in XML format.

delim

Specifies that output is displayed in a tabular format using commas as delimiters between columns.

To use a character other than a comma as the delimiter, specify `-fmt delim -delim char`, where `char` represents the character that you want to use as the delimiter. For example, if you want to use a colon (`:`) as the delimiter, use the following `-fmt` parameter:

```
-fmt delim -delim :
```

If you use a shell metacharacter as the delimiting character, enclose the character in quotation marks or single quotation marks. A blank space is not a valid character.

stanza

Specifies that the output is displayed as one keyword-value pair per line.

-p { on | off }

Specifies whether to display one page of text at a time or all text at once.

on

Displays one page of text at a time. Pressing any key displays the next page. This is the default value when the command is run in interactive mode.

off

Displays all text at once. This is the default value when the command is run in single-shot mode.

-hdr { on | off }

Specifies whether to display the table header. You can specify one of these values:

on Displays the table header. This is the default value.

off Hides the table header.

-r number

Specifies the number of rows per page to display when the **-p** parameter is specified. You can specify a value of 1 - 100. The default value is 22.

-v { on | off }

Specifies whether to enable verbose mode. You can specify one of these values:

on Enable verbose mode.

off Disable verbose mode. This is the default value.

session_name... | -

Specifies that only valid actions for the specified session name or names are displayed. Separate multiple session names with a space between each name. If you provide more than one session name, all commands that are valid for the combined sessions are listed.

Alternatively, use the dash (-) to specify that input for this parameter comes from an input stream (stdin). The dash is supported only in single-shot mode.

Example

Listing available actions for a session

The following command lists all actions that can be run for the session named session1:

```
csmdi> lssessactions session1
```

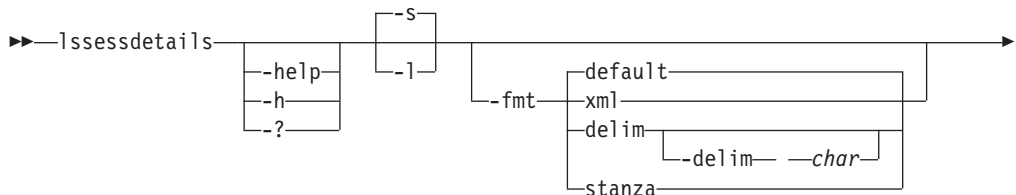
The following output is returned:

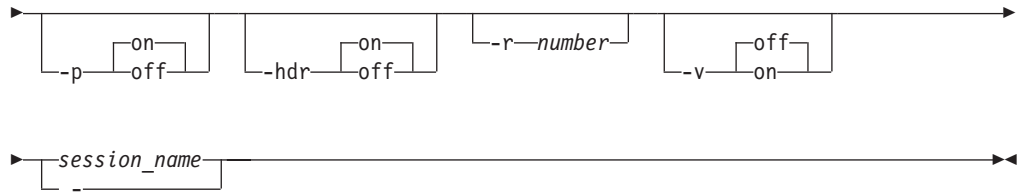
Action	Description
start_h1:h3	Start host1 to host3 copying
suspend	Suspend session
start_h1:h2:h3	Start host1 to host2 to host3 copying
terminate	Terminate session

lssessdetails

Use the **lssessdetails** command to display the details of a session.

Syntax





Parameters

-help | -h | -?

Lists help for the command. If you specify additional parameters and arguments, those parameters and arguments are ignored.

-s

Displays default information for each session, including option names and values.

-l

Displays detailed information for each session, including:

Column label	Details
Option Name	Name of the option that is set for this session.
Value	Value of the detail that is set for this session.
Description	Description of the session option.

-fmt { default | xml | delim | stanza }

Specifies the format of the output. You can specify one of these values:

default

Specifies that the output is displayed in tabular format using spaces as delimiters between columns. This is the default value.

xml

Specifies that the output is displayed in XML format.

delim

Specifies that output is displayed in a tabular format using commas as delimiters between columns.

To use a character other than a comma as the delimiter, specify `-fmt delim -delim char`, where `char` represents the character that you want to use as the delimiter. For example, if you want to use a colon (`:`) as the delimiter, use the following `-fmt` parameter:

```
-fmt delim -delim :
```

If you use a shell metacharacter as the delimiting character, enclose the character in quotation marks or single quotation marks. A blank space is not a valid character.

stanza

Specifies that the output is displayed as one keyword-value pair per line.

-p { on | off }

Specifies whether to display one page of text at a time or all text at once.

on

Displays one page of text at a time. Pressing any key displays the next page. This is the default value when the command is run in interactive mode.

off Displays all text at once. This is the default value when the command is run in single-shot mode.

-hdr { on | off }

Specifies whether to display the table header. You can specify one of these values:

on Displays the table header. This is the default value.

off Hides the table header.

-r number

Specifies the number of rows per page to display when the **-p** parameter is specified. You can specify a value of 1 - 100. The default value is 22.

-v { on | off }

Specifies whether to enable verbose mode. You can specify one of these values:

on Enable verbose mode.

off Disable verbose mode. This is the default value.

session_name | -

Lists the details that are relevant to the specified session.

Alternatively, use the dash (-) to specify that input for this parameter comes from an input stream (stdin). The dash is supported only in single-shot mode.

Example

Listing detailed information about a session

The following command lists detailed information about a Metro Global Mirror with Practice session named session1.

```
csmdi> lssessdetails -l session1
```

The following output is returned:

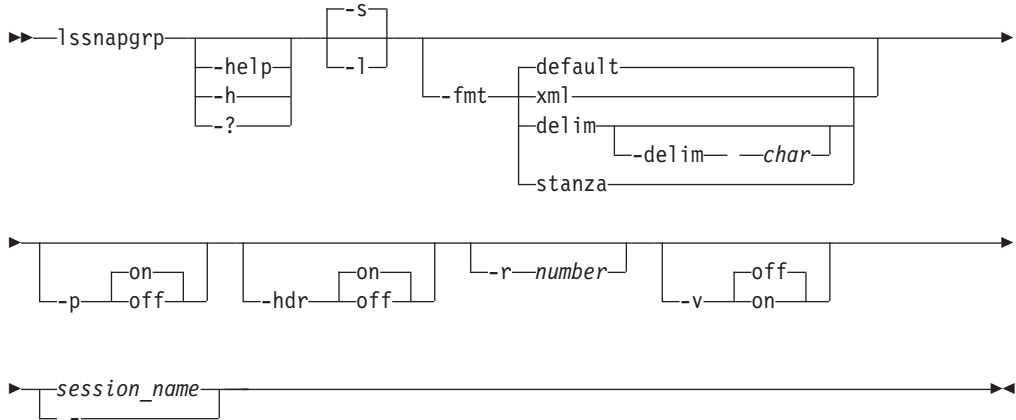
Option name	Value	Description
aftersuspend	Release	Policy for I/O after suspend
maxdrain_h1j3	30	Maximum consistency group drain time for the H1-J3 role pair
dsRPOwarning_h1j3	1	Warning level threshold in seconds for the H1-J3 role pair
maxdrain_h2j3	30	Maximum consistency group drain time for the H2-J3 role pair
dsRPOwarning_h2j3	1	Warning level threshold in seconds for the H2-J3 role pair
rpo_h2j3	0	Recovery point objective in seconds for the H2-J3 role pair
rpo_h1j3	0	Recovery point objective in seconds for the H1-J3 role pair
dsnocpy	No	No copying of the volume
enableHardenedFreeze	No	Policy for whether to use z/OS hardened freeze
dsRPOsevere_h1j3	2	Severe level threshold in seconds for the H1-J3 role pair
dsRPOsevere_h2j3	2	Severe level threshold in seconds for the H2-J3 role pair
rmreserves	No	Remove secondary reserves
coordint_h1j3	50	Extended distance copy coordination interval for the H1-J3 role pair
coordint_h2j3	50	Extended distance copy coordination interval for the H2-J3 role pair
failIfTgtOnline	No	Fail MM/GC if the target is online (CKD only)

lssnapgrp

Use the **lssnapgrp** command to view snapshot groups that are in an IBM XIV Storage System Snapshot session.

A snapshot group is a grouping of snapshots of individual volumes in a consistency group at a specific point in time.

Syntax



Parameters

-help | -h | -?

Lists help for the command. If you specify additional parameters and arguments, those parameters and arguments are ignored.

-s

Specifies that default information for each snapshot group is displayed. The default information is the name of the snapshot group and the date and time that the group was created.

-l

Specifies that detailed information for each snapshot group is displayed, including:

Column Label	Details
Name	The name of the snapshot group.
Timestamp	The date and time that the snapshot group was created.
Deletion Priority	The priority in which the snapshot group will be deleted from the session. The value is the number 1 - 4. A value of 1 specifies that the snapshot group is deleted last. A value of 4 specifies that the snapshot group is deleted first. Multiple snapshot groups might exist until XIV system identifies that there is not enough space in the storage pool to keep all of the snapshots.
Restore Master	Specifies whether the snapshot group listed can be used to restore the master volumes of the session. Values for this are Yes and No.

Column Label	Details
Locked	Specifies whether the snapshot group is currently locked. If the snapshot group is locked, write operations to the snapshots within the snapshot group are prevented.
Modified	Specifies whether the snapshot group has been modified. A snapshot group is marked as modified when it is unlocked for the first time.

-fmt { default | xml | delim | stanza }

Specifies the format of the output. You can specify one of these values:

default

Specifies that the output is displayed in tabular format using spaces as delimiters between columns. This is the default value.

xml Specifies that the output is displayed in XML format.

delim Specifies that output is displayed in a tabular format using commas as delimiters between columns.

To use a character other than a comma as the delimiter, specify `-fmt delim -delim char`, where *char* represents the character that you want to use as the delimiter. For example, if you want to use a colon (:) as the delimiter, use the following `-fmt` parameter:

```
-fmt delim -delim :
```

If you use a shell metacharacter as the delimiting character, enclose the character in quotation marks or single quotation marks. A blank space is not a valid character.

stanza Specifies that the output is displayed as one keyword-value pair per line.

-p { on | off }

Specifies whether to display one page of text at a time or all text at once.

on Displays one page of text at a time. Pressing any key displays the next page. This is the default value when the command is run in interactive mode.

off Displays all text at once. This is the default value when the command is run in single-shot mode.

-hdr { on | off }

Specifies whether to display the table header. You can specify one of these values:

on Displays the table header. This is the default value.

off Hides the table header.

-r number

Specifies the number of rows per page to display when the `-p` parameter is specified. You can specify a value of 1 - 100. The default value is 22.

-v { on | off }

Specifies whether to enable verbose mode. You can specify one of these values:

on Enable verbose mode.

off Disable verbose mode. This is the default value.

session_name | -

Specifies the name of the Snapshot session.

Alternatively, use a dash (-) to specify that input for this parameter comes from an input stream (stdin). The dash is supported only in single-shot mode.

Example

Listing all snapshot groups that are in a session

The following command lists all snapshot groups that are in the session snap6:

```
csmdi> lssnapgrp snap6
```

The following output is returned:

```
Name                      Timestamp
=====
snap6.snap_group_00001 2011-04-01 00:04:49.000-0500
```

Listing detailed information about the snapshot groups that are in a session

The following command lists detailed information about the snapshot groups that are in the session snap6:

```
csmdi> lssnapgrp -l snap6
```

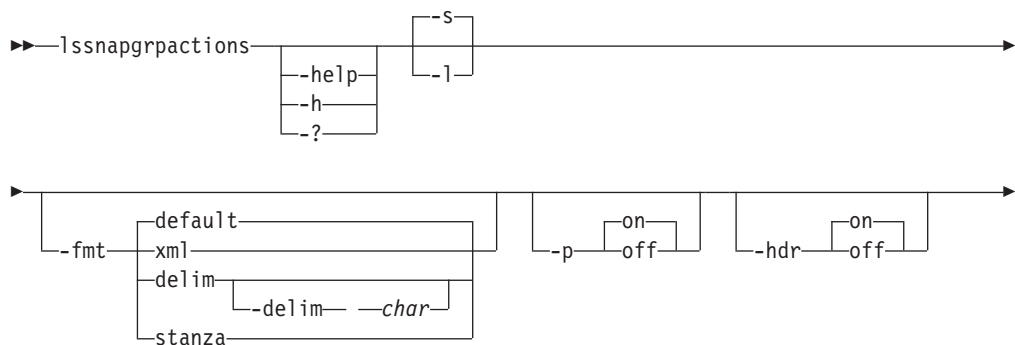
The following output is returned:

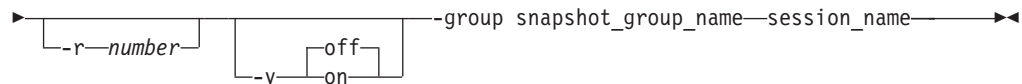
```
Name                      Timestamp                      Deletion Priority Restore Master
=====
snap6.snap_group_00001 2011-07-18 15:22:14.000-0700          1 No
snap6.snap_group_00002 2011-07-18 15:22:41.000-0700          1 Yes
Locked Modified
=====
Yes    No
Yes    No
```

lssnapgrpactions

Use the **lssnapgrpactions** command to specify the session and snapshot group name that you want to view available actions for.

Syntax





Parameters

-help | -h | -?

Lists help for the command. If you specify additional parameters and arguments, those parameters and arguments are ignored.

-s | -l

-s Specifies the default output which is action name and description.

-l Specifies the detailed output. In this case, specifies the same output as the **-s** parameter.

-fmt { default | xml | delim | stanza }

Specifies the format of the output. You can specify one of these values:

default

Specifies that the output is displayed in tabular format using spaces as delimiters between columns. This is the default value.

xml Specifies that the output is displayed in XML format.

delim Specifies that output is displayed in a tabular format using commas as delimiters between columns.

To use a character other than a comma as the delimiter, specify `-fmt delim -delim char`, where *char* represents the character that you want to use as the delimiter. For example, if you want to use a colon (:) as the delimiter, use the following `-fmt` parameter:

```
-fmt delim -delim :
```

If you use a shell metacharacter as the delimiting character, enclose the character in quotation marks or single quotation marks. A blank space is not a valid character.

stanza Specifies that the output is displayed as one keyword-value pair per line.

-p { on | off }

Specifies whether to display one page of text at a time or all text at once.

on Displays one page of text at a time. Pressing any key displays the next page. This is the default value when the command is run in interactive mode.

off Displays all text at once. This is the default value when the command is run in single-shot mode.

-hdr { on | off }

Specifies whether to display the table header. You can specify one of these values:

on Displays the table header. This is the default value.

off Hides the table header.

-r number

Specifies the number of rows per page to display when the **-p** parameter is specified. You can specify a value of 1 - 100. The default value is 22.

-v { on | off }

Specifies whether to enable verbose mode. You can specify one of these values:

on Enable verbose mode.

off Disable verbose mode. This is the default value.

-group snapshot_group_name

Specifies the name of the snapshot group to list snapshot group actions for.

session_name | -

Specifies the session for which the properties are to be displayed.

Alternatively, use the dash (-) to specify that input for this parameter comes from an input stream (stdin). The dash is supported only in single-shot mode.

Example

Specifying the session and snapshot group name

The following command specifies the session and snapshot group name that you want to view available actions for.

```
csmdi> lssnaprpaactions -group MySnapSession.snap_group_0001 MySnapSession
```

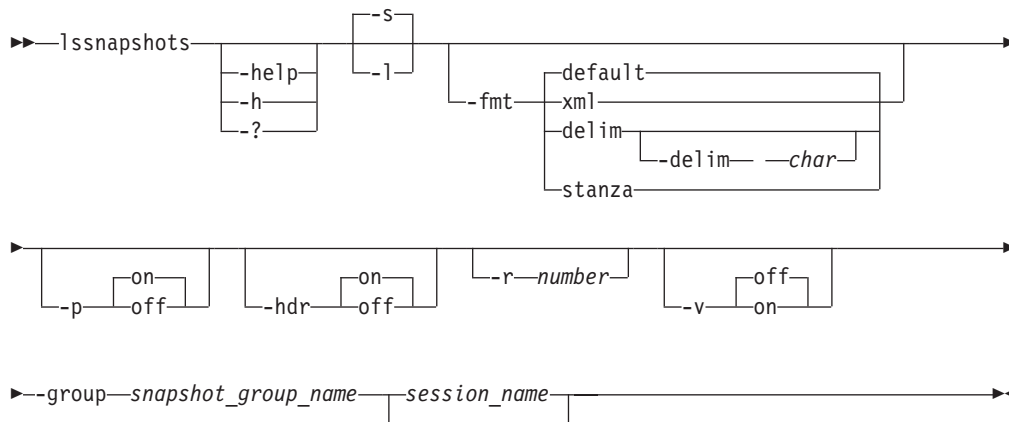
The following output is returned:

Action	Description
delete	Deletes a snapshot group
disband	Disbands a snapshot group
duplicate	Duplicates a snapshot group
lock	Locks a snapshot group
restore	Restores a snapshot group from another snapshot group
set_priority	Sets the deletion priority for a snapshot group

lssnapshots

Use the **lssnapshots** command to view snapshots that are in a snapshot group in a IBM XIV Storage System Snapshot session.

Syntax



Parameters

-help | -h | -?

Lists help for the command. If you specify additional parameters and arguments, those parameters and arguments are ignored.

-s

Specifies that default information for each snapshot in the snapshot group is displayed. The default information is the name of the snapshot.

-l

Specifies that detailed information for each snapshot in the snapshot group is displayed, including:

Column Label	Details
Name	The name of the snapshot.
H1 Volume ID	The ID of the H1 volume that is associated with the snapshot.
Size	The size of the H1 volume at the time that the snapshot was created.
Size Unit	The unit of measure for the size of the H1 volume at the time that the snapshot was created.

-fmt { default | xml | delim | stanza }

Specifies the format of the output. You can specify one of these values:

default

Specifies that the output is displayed in tabular format using spaces as delimiters between columns. This is the default value.

xml

Specifies that the output is displayed in XML format.

delim

Specifies that output is displayed in a tabular format using commas as delimiters between columns.

To use a character other than a comma as the delimiter, specify `-fmt delim -delim char`, where *char* represents the character that you want to use as the delimiter. For example, if you want to use a colon (:) as the delimiter, use the following `-fmt` parameter:

```
-fmt delim -delim :
```

If you use a shell metacharacter as the delimiting character, enclose the character in quotation marks or single quotation marks. A blank space is not a valid character.

stanza

Specifies that the output is displayed as one keyword-value pair per line.

-p { on | off }

Specifies whether to display one page of text at a time or all text at once.

on

Displays one page of text at a time. Pressing any key displays the next page. This is the default value when the command is run in interactive mode.

off

Displays all text at once. This is the default value when the command is run in single-shot mode.

-hdr { on | off }

Specifies whether to display the table header. You can specify one of these values:

on Displays the table header. This is the default value.

off Hides the table header.

-r *number*

Specifies the number of rows per page to display when the **-p** parameter is specified. You can specify a value of 1 - 100. The default value is 22.

-v { **on** | **off** }

Specifies whether to enable verbose mode. You can specify one of these values:

on Enable verbose mode.

off Disable verbose mode. This is the default value.

-group *snapshot_group_name*

Specifies the name of the snapshot group that contains the snapshots.

session_name | -

Specifies the name of the Snapshot session that contains the snapshot group.

Alternatively, use a dash (-) to specify that input for this parameter comes from an input stream (stdin). The dash is supported only in single-shot mode.

Examples

Listing all snapshots that are in a snapshot group in a session

The following command lists all snapshots that are in the snapshot group `snap6.snap_group_00001` for session `snap6`:

```
csmlcli> lssnapshots -group snap6.snap_group_00001 snap6
```

The following output is returned:

```
Name
=====
snap6.snap_group_00001_vol1
snap6.snap_group_00001_vol2
```

Listing detailed information about the snapshots that are in a snapshot group in a session

The following command lists detailed information about the snapshots that are in snapshot group in the session `snap6`:

```
csmlcli> lssnapshots -group snap6.snap_group_00001 -l snap6
```

The following output is returned:

```
Name                               H1 Volume ID           Size  Size Unit
=====
snap6.snap_group_00001_vol1 XIV:VOL:7803307:115017  16.0  GiB
snap6.snap_group_00001_vol2 XIV:VOL:7803307:115018  16.0  GiB
```

lssnmp

Use the **lssnmp** command to list the SNMP managers to which IBM Tivoli Storage Productivity Center for Replication is configured to send SNMP alerts.

Syntax



Parameters

-help | -h | -?

Lists help for the command. If you specify additional parameters and arguments, those parameters and arguments are ignored.

Description

The information displayed is either the domain name or the IP address of the server, depending on how you specified it.

SNMP traps are not specific to any particular session. All traps for any session are sent to each server.

For each SNMP manager, the following information is displayed:

Column label	Details
SNMP Manager	Domain name or IP address of the management server to which SNMP traps are sent
Port	The specific UDP port to which SNMP traps are sent

Example

Listing SNMP managers

The following command lists the SNMP managers.

```
csmlcli> lssnmp
```

The following output is returned:

```
SNMP Manager Port
-----
9.11.10.1      162
127.0.0.1     163
```

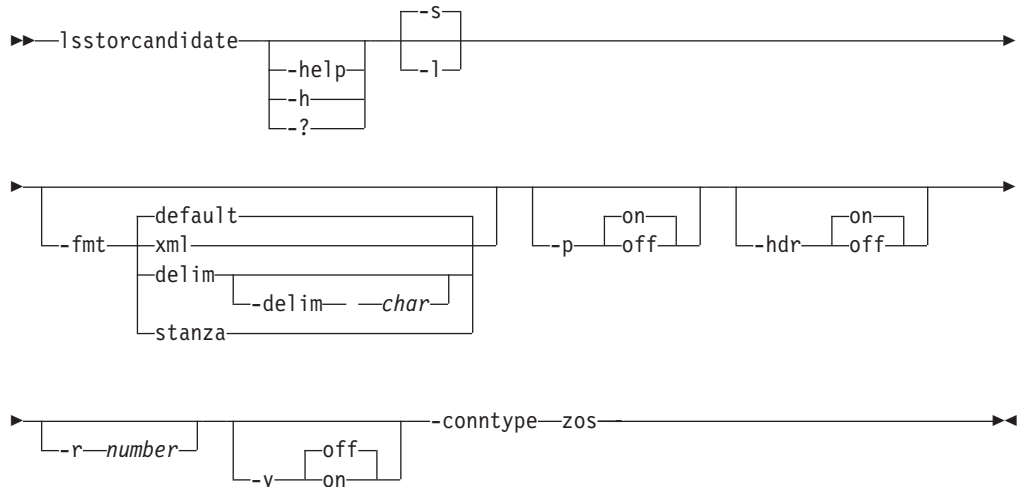
Isstorcandidate

Use the **Isstorcandidate** command to list the storage systems that can be discovered through an IBM z/OS connection. This command does not list storage systems that are already added to the IBM Tivoli Storage Productivity Center for Replication configuration.

To list storage systems that are already in the Tivoli Storage Productivity Center for Replication configuration, use the **Isdevice** command.

You can run the **Isstorcandidate** command only from a Tivoli Storage Productivity Center for Replication server that is installed on a system that is running z/OS.

Syntax



Parameters

-help | -h | -?

Lists help for the command. If you specify additional parameters and arguments, those parameters and arguments are ignored.

-s | -l

Specifies that the following information is displayed for each storage system:

Column Label	Details
Device ID	The storage system ID.
Manufacturer	The manufacturer of the storage system.

-fmt { default | xml | delim | stanza }

Specifies the format of the output. You can specify one of these values:

default

Specifies that the output is displayed in tabular format using spaces as delimiters between columns. This is the default value.

xml

Specifies that the output is displayed in XML format.

delim

Specifies that output is displayed in a tabular format using commas as delimiters between columns.

To use a character other than a comma as the delimiter, specify `-fmt delim -delim char`, where *char* represents the character that you want to use as the delimiter. For example, if you want to use a colon (:) as the delimiter, use the following `-fmt` parameter:

```
-fmt delim -delim :
```

If you use a shell metacharacter as the delimiting character, enclose the character in quotation marks or single quotation marks. A blank space is not a valid character.

stanza

Specifies that the output is displayed as one keyword-value pair per line.

-p { on | off }

Specifies whether to display one page of text at a time or all text at once.

- on** Displays one page of text at a time. Pressing any key displays the next page. This is the default value when the command is run in interactive mode.
- off** Displays all text at once. This is the default value when the command is run in single-shot mode.
- hdr { on | off }**
Specifies whether to display the table header. You can specify one of these values:
 - on** Displays the table header. This is the default value.
 - off** Hides the table header.
- r number**
Specifies the number of rows per page to display when the **-p** parameter is specified. You can specify a value of 1 - 100. The default value is 22.
- v { on | off }**
Specifies whether to enable verbose mode. You can specify one of these values:
 - on** Enable verbose mode.
 - off** Disable verbose mode. This is the default value.
- conntype zos**
Specifies the type of connection that the storage systems use. Currently, you can specify only **zos** for a z/OS connection.

Example

Listing candidate storage systems

The following command lists candidate storage systems:

```
csmcli> lsstorcandidate -conntype zos
```

The following output is returned:

```
Device ID           Manufacturer
=====
ESS:BOX:2105.12345  IBM
```

lsvol

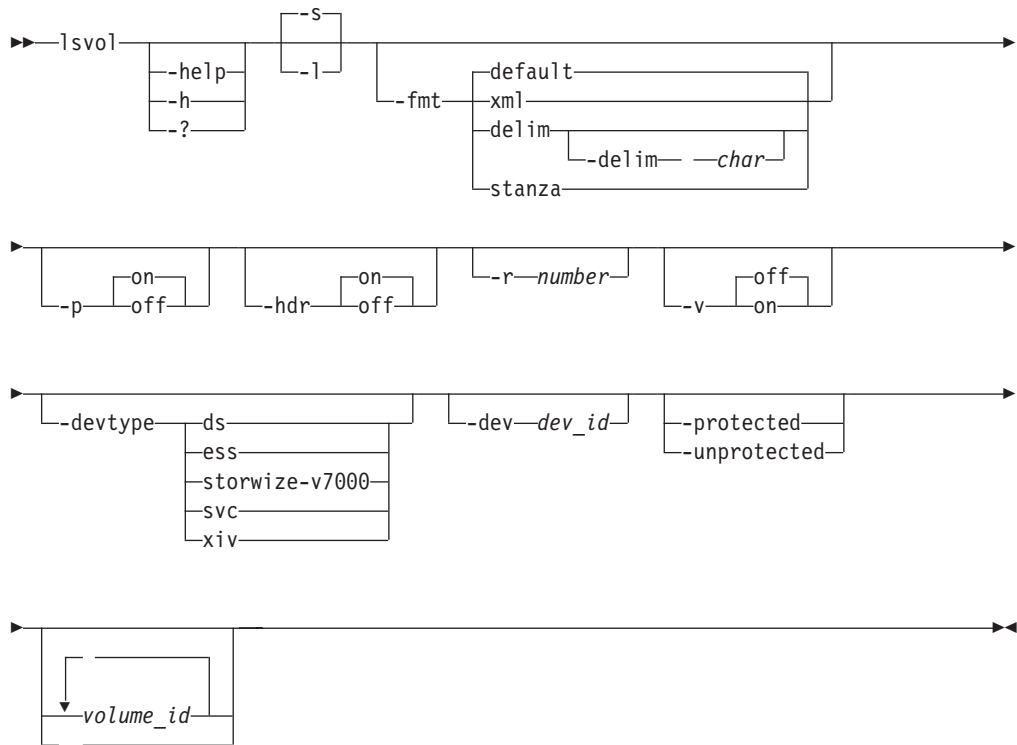
Use the **lsvol** command to display detailed information about volumes.

You can use the **lsvol** command to:

- Choose available volumes for copy sets
- View properties of volumes (such as capacity, type, and whether a volume is space efficient or protected)

Important: If you issue the **lsvol** command without adding parameters, a list of all the volumes for all storage systems is displayed. The processing of the command can take minutes or hours depending on the size of your environment. You press Enter to continue listing the output or press Ctrl+C to discontinue listing the output.

Syntax



Parameters

-help | -h | -?

Lists help for the command. If you specify additional parameters and arguments, those parameters and arguments are ignored.

-s Displays default information for each volume, including the name, ID, device, manufacturer, volume type, and whether the volume is protected and space efficient.

-l Displays detailed information for each volume, including:

Column Label	Details
Name	Volume name
ID	Volume ID
Device	The ID of the storage system
Manufacturer	The manufacturer of the storage system. Currently, only IBM storage systems are supported.
Type	The values CKD or FB. The value is always FB for the following storage systems: <ul style="list-style-type: none"> • IBM System Storage SAN Volume Controller • IBM Storwize V7000 • Storwize V7000 Unified • IBM XIV Storage System
Protected	Yes if the volume is protected; No if the volume is not protected.
Space Efficient	Yes, if the volume is a space efficient volume. No, if the volume is not a space efficient volume.

Column Label	Details
Format	Volume format
LSS/IO Group/Pool	<p>For the following storage system volumes, this column displays the logical subsystem (LSS):</p> <ul style="list-style-type: none"> • IBM TotalStorage Enterprise Storage Server Model 800 • IBM System Storage DS8000 • System Storage DS6000 <p>For the following storage system volumes, this column displays the IO group:</p> <ul style="list-style-type: none"> • SAN Volume Controller • Storwize V7000 • Storwize V7000 Unified <p>For XIV system volumes, this column displays the pool.</p>
Size	Volume size
Size Unit	The unit of measure that the capacity is given in, either gigabytes or cylinders.
Is Z Attached	Identifies whether the volumes are connected through an IBM z/OS connection.
Locked	Indicates whether the volume is locked. Applies only to XIV system.

-fmt { default | xml | delim | stanza }

Specifies the format of the output. You can specify one of these values:

default

Specifies that the output is displayed in tabular format using spaces as delimiters between columns. This is the default value.

xml Specifies that the output is displayed in XML format.

delim Specifies that output is displayed in a tabular format using commas as delimiters between columns.

To use a character other than a comma as the delimiter, specify `-fmt delim -delim char`, where *char* represents the character that you want to use as the delimiter. For example, if you want to use a colon (:) as the delimiter, use the following `-fmt` parameter:

```
-fmt delim -delim :
```

If you use a shell metacharacter as the delimiting character, enclose the character in quotation marks or single quotation marks. A blank space is not a valid character.

stanza Specifies that the output is displayed as one keyword-value pair per line.

-p { on | off }

Specifies whether to display one page of text at a time or all text at once.

on Displays one page of text at a time. Pressing any key displays the next page. This is the default value when the command is run in interactive mode.

off Displays all text at once. This is the default value when the command is run in single-shot mode.

-hdr { on | off }

Specifies whether to display the table header. You can specify one of these values:

on Displays the table header. This is the default value.

off Hides the table header.

-r number

Specifies the number of rows per page to display when the **-p** parameter is specified. You can specify a value of 1 - 100. The default value is 22.

-v { on | off }

Specifies whether to enable verbose mode. You can specify one of these values:

on Enable verbose mode.

off Disable verbose mode. This is the default value.

-devtype { ds | ess | storwize-v7000 | svc | xiv }

Specifies volumes by storage system type. Supported storage systems are:

- **ds**: DS series storage systems
- **ess**: TotalStorage Enterprise Storage Server
- **storwize-v7000**: Storwize V7000 and IBM Storwize V7000 Unified
- **svc**: SAN Volume Controller
- **xiv**: XIV system

-dev dev_id

Specifies volumes by storage system ID.

-protected

Specifies that only protected volumes, or volumes that cannot be used in an add copy set action, are shown.

-unprotected

Specifies that only unprotected volumes, or volumes that can be used in an add copy set action, are shown.

volume_id... | -

Specifies the volume ID for a volume. Volume data is listed for this volume. The same volume can reside in multiple groups but not multiple pools.

Alternatively, use the dash (-) to specify that input for this parameter comes from an input stream (stdin). The dash is supported only in single-shot mode.

Examples

• Listing volumes for a storage system

The following command lists information about all volumes in the storage system with ID DS8000:BOX:2107.02191.

```
csmdi> lsvol -devtype ds -dev DS8000:BOX:2107.02191
```

The following output is returned:

Name	ID	Device	Manufacturer	Type	Protected	Space Efficient
8K410F	DS8000:2107.02191:VOL:010F	2107-02191	IBM	CKD	No	No
8K410E	DS8000:2107.02191:VOL:010E	2107-02191	IBM	CKD	No	No
8K410D	DS8000:2107.02191:VOL:010D	2107-02191	IBM	CKD	No	No

• Listing protected volumes

The following command lists information about all protected volumes.


```
csmdi> lsvol -protected
```

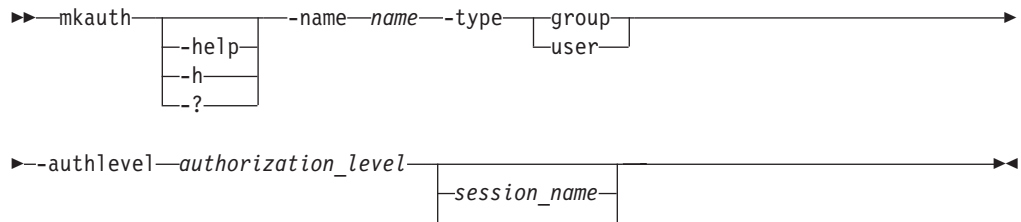
The following output is returned:

Name	ID	Device	Manufacturer	Type	Protected	Space Efficient
8K9005	DS8000:2107.LT742:VOL:0005	2107-LT742	IBM	CKD	Yes	No
8K9004	DS8000:2107.LT742:VOL:0004	2107-LT742	IBM	CKD	Yes	No
8K9003	DS8000:2107.LT742:VOL:0003	2107-LT742	IBM	CKD	Yes	No

mkauth

Use the **mkauth** command to grant monitor, administrator, or operator authorization to a user.

Syntax



Parameters

-help | -h | -?

Lists help for the command. If you specify additional parameters and arguments, those parameters and arguments are ignored.

-name name

Specifies a user ID or group name to which you grant authorization.

-type group | user

Specifies whether the name is of a group or user.

-authlevel authorization_level

Specifies the authorization level: admin, operator, or monitor.

session_name | -

Use this optional parameter when you are assigning operator authorization to a user and want to specify one or more sessions to which the operator has access. This parameter does not apply to monitors or administrators.

If no session name is specified, all sessions are used by default, unless another filter is used. If you specify **-authlevel operator** but do not specify a session name, the user is not granted operator status to any of the existing sessions but is granted permission to create new sessions.

Alternatively, use the dash (-) to specify that input for this parameter comes from an input stream (stdin). You can specify multiple session names from **stdin** when the dash (-) is specified. The dash is supported only in single-shot mode.

Example

1. Adding a group with monitor privileges

The following command grants administrator authorization to the user named MDMSUID.

```
csmdi> mkauth -name Guests -type group -authlevel monitor
```

The following output is returned:

IWNR4018I Successfully granted the monitor role to Guests.

2. Adding a user with operator privileges

The following command grants administrator authorization to the user named MDMSUID.

```
csmdi> mkauth -name csmuser -type user -authlevel operator session1
```

The following output is returned:

IWNR4016I Successfully granted the session operator role to csmuser.

3. Adding the Superuser group

The following command adds the IBM Tivoli Storage Productivity Center Superuser group to the Administrator role.

```
csmdi> mkauth -name Superuser -type group -authlevel admin
```

The following output is returned:

IWNR4017I Successfully granted the administrator role to Superuser.

mkbackup

Use the **mkbackup** command to create a backup of IBM Tivoli Storage Productivity Center for Replication configuration data (including storage systems, sessions, and copy sets) in the zero-administration embedded repository.

Syntax

```
▶▶ mkbackup [ -help | -h | -? ]
```

Parameters

-help | -h | -?

Lists help for the command. If you specify additional parameters and arguments, those parameters and arguments are ignored.

Description

Prerequisites:

- You must have Administrator privileges to run this command.
- This procedure applies to only the zero-administration embedded repository. This procedure *is not* applicable when DB2 is being used as the persistent datastore for the IBM Tivoli Storage Productivity Center for Replication database. For information about restoring your DB2 environment, refer to your DB2 documentation.
- The user ID that was used to create the backup file must exist on the management server that is being restored.

By default, the backup file is stored in the `WAS_HOME/profiles/ReplicationServerProfile/database/backup` directory. You can change the default location by editing the `db.backup.location` property in the `rmsvr.properties` file, which is located in the `WAS_HOME/profiles/ReplicationServerProfile/properties` directory.

You can use the backup file to restore the zero-administration embedded repository on the same management server or on another management server running on the same operating system platform. You *cannot* use the backup file to restore the

zero-administration embedded repository on a management server running a different operating system platform or a management server that uses the DB2 database.

Example

Back up configuration data

The following command backs up the Tivoli Storage Productivity Center for Replication configuration data on a Windows operating system:

```
csmlcli> mkbackup
```

The following output is returned:

```
IWNR1905I Backup of internal data store completed successfully. The
following file was created: C:\Program Files\IBM\TPC\ewas\profiles\
ReplicationServerProfile\database\backup\tpcrBackup_20120825_120138984.zip
```

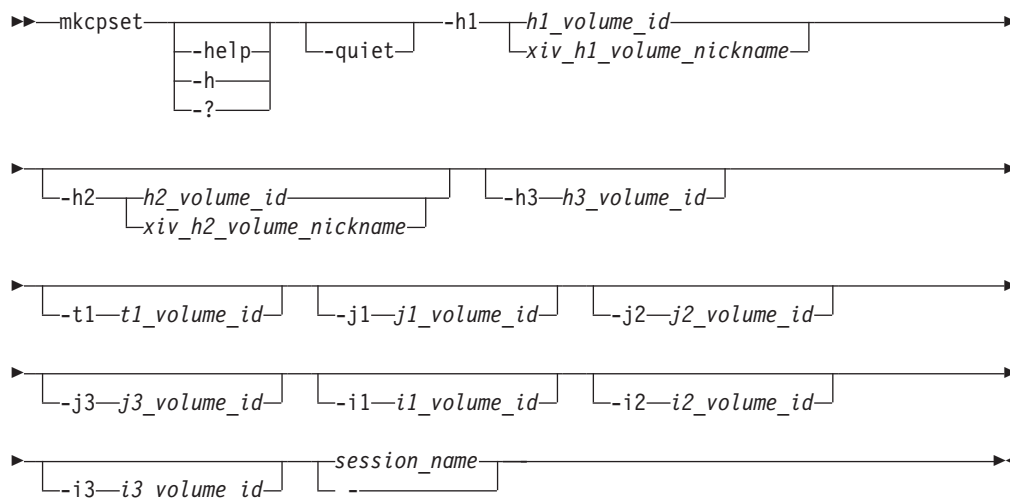
mkcpset

Use the **mkcpset** command to create copy sets.

When you run the **mkcpset** command for all sessions, except for IBM XIV Storage System Snapshot sessions, you can specify both the source volume and target volume for the copy sets. In XIV system Snapshot sessions, you must specify only the source volume for the copy sets.

Tip: To display the status of volumes in a copy set, use the **lsvol** command.

Syntax



Parameters

-help | -h | -?

Lists help for the command. If you specify additional parameters and arguments, those parameters and arguments are ignored.

-quiet

Suppresses the confirmation prompt for this command. This flag answers yes to all confirmation prompts.

- h1** *{h1_volume_id | xiv_h1_volume_nickname}*
For storage systems other than an XIV system, the volume ID is the only value that can be provided for this parameter. This value specifies the volume ID of the copy set at host site 1.

For XIV system sessions of any type, you can provide the user-defined nickname for the volume or the volume ID. The nickname for the volume is specified by using the XIV system user interface.
- h2** *{h2_volume_id | xiv_h2_volume_nickname}*
Specifies the volume ID or nickname of the copy set at host site 2, if required.
- h3** *h3_volume_id*
Specifies the volume ID of the copy set at host site 3, if required.
- t1** *t1_volume_id*
Specifies the target volume of the copy set at site 1, if required.
- j1** *j1_volume_id*
Specifies the volume ID of the journal for site 1 if required by the session type.
- j2** *j2_volume_id*
Specifies the volume ID of the journal for site 2 if required by the session type.
- j3** *j3_volume_id*
Specifies the volume ID of the journal for site 3 if required by the session type.
- i1** *i1_volume_id*
Specifies the intermediate volume ID of the copy set at site 1.
- i2** *i2_volume_id*
Specifies the intermediate volume ID of the copy set at site 2.
- i3** *i3_volume_id*
Specifies the intermediate volume ID of the copy set at site 3.
- session_name | -**
Specifies the name of the session that contains the copy sets.

Alternatively, use the dash (-) to specify that input for this parameter comes from an input stream (stdin). The dash is supported only in single-shot mode.

When you run Metro Global Mirror on the OMVS command line, the parameters for the **mkcpset** command can exceed the character limit set by the OMVS prompt. To overcome this limitation, use a script to add the copy set. You create a script file called `mgm_mkcpset.txt` that contains the command that you want to run such as:

```

csmcli> mkcpset -h1 DS8000:2107.12345:VOL:0000 -h2 DS8000:2107.67890:VOL:0000
-h3 DS8000:2107.02468:VOL:0000 -J3 DS8000:2107.01934:VOL:0000 myMGMSess

```

To run the script, you must ensure that you are in the IBM Tivoli Storage Productivity Center for Replication CLI directory and have the appropriate paths exported. You then run the script from the command line using the following sample code:

```

csmcli.sh -script mgm_mkcpset.txt

```

Examples

Creating copy sets

The following command creates a copy set for a session named `session1`. The volume ID of the copy set at host site 1 is `DS8000:2107.04131:VOL:0A05` and the target volume ID is `DS8000:2107.04131:VOL:0A06`.

The following output is returned:

```
IWNR1198I Log packages were successfully created and placed at
location C:\Program Files\IBM\TPC\ewas\profiles\ReplicationServerProfile\
diagnostics\TPC_RM-tpcr-1234_2012-10-29_11-11-02.jar
```

mkpath

Use the **mkpath** command to create a Fibre Channel path or paths between a source logical subsystem (LSS) and a target LSS.

Syntax

```
mkpath -src source -tgt target
  -help
  -h
  -?
```

Parameters

-help | -h | -?

Lists help for the command. If you specify additional parameters and arguments, those parameters and arguments are ignored.

-src source

Specifies the source LSS and port (ESS and DS series storage servers). This must be specified in the format *type.serial.lss(hex).port(hex)* (for example, ESS:2105.FCA18:LSS:10.00FF).

-tgt target

Specifies the target LSS and port (ESS and DS series storage servers). This must be specified in the format *type.serial.lss(hex).port(hex)* (for example, ESS:2105.FCA18:LSS:10.00FF).

Description

The **mkpath** command uses the information from the **lsiss** command to create a path or paths between the source LSS and the target LSS. You can specify a number of paths to create between 1 and 8.

Notes:

- This command creates new paths in addition to paths that already exist between the two specified LSSs.
- Only Fibre Channel paths are supported for ESS and DS series storage servers.
- You must verify the ports that are to be used in the path.
- For DS series storage servers, the plant of manufacturer must be added to the beginning of the serial number, making the serial number a seven-digit number.
- If you specify a number of paths greater than the number of available paths, existing paths are overwritten.

Example

Creating Fibre Channel paths

The following command creates a Fibre Channel path between the source LSS ESS:2105.20870:12.1 and target LSS ESS:2105.20870:14.2.

```
csmlcli> mkpath -src ESS:2105.20870:12.1 -tgt ESS:2105.20870:14.2
```

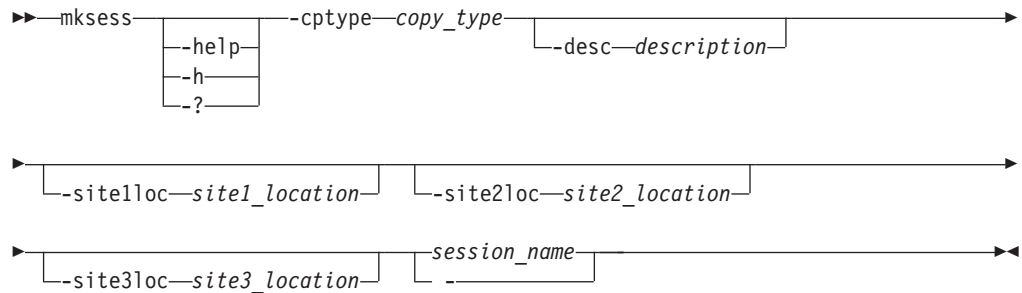
The following output is returned:

Path successfully created.

mk sess

Use the **mk sess** command to create a session.

Syntax



Parameters

-help | -h | -?

Lists help for the command. If you specify additional parameters and arguments, those parameters and arguments are ignored.

-cptype *copy_type*

Specifies the copy session type. The following are the valid values for this parameter. The values are grouped by session type.

FlashCopy

fc: FlashCopy for:

- IBM TotalStorage Enterprise Storage Server Model 800
- IBM System Storage DS8000
- System Storage DS6000
- IBM System Storage SAN Volume Controller
- IBM Storwize V7000
- IBM Storwize V7000 Unified

Metro Mirror Single Direction

mmsd: Metro Mirror Single Direction for:

- TotalStorage Enterprise Storage Server Model 800
- System Storage DS8000
- System Storage DS6000
- SAN Volume Controller
- Storwize V7000
- Storwize V7000 Unified

Metro Mirror Failover/Failback

mmfobf: Metro Mirror Failover/Failback for:

- TotalStorage Enterprise Storage Server Model 800
- System Storage DS8000
- System Storage DS6000
- SAN Volume Controller
- Storwize V7000
- Storwize V7000 Unified

mmfobxiv: Metro Mirror Failover/Failback for:

- IBM XIV Storage System

Metro Mirror Failover/Failback with Practice

pmm: Practice Session for Metro Mirror Failover/Failback for:

- TotalStorage Enterprise Storage Server Model 800
- System Storage DS8000
- System Storage DS6000

pmmsvc: Metro Mirror Failover/Failback with Practice for:

- SAN Volume Controller
- Storwize V7000
- Storwize V7000 Unified

Global Mirror Single Direction

gmsd: Global Mirror Single Direction for:

- TotalStorage Enterprise Storage Server Model 800
- System Storage DS8000
- System Storage DS6000

gmsdsvc: Global Mirror Single Direction for:

- SAN Volume Controller
- Storwize V7000
- Storwize V7000 Unified

Global Mirror Failover/Failback

gmfofb: Global Mirror Failover/Failback for:

- TotalStorage Enterprise Storage Server Model 800
- System Storage DS8000
- System Storage DS6000

gmfofbsvc: Global Mirror Failover/Failback for:

- SAN Volume Controller
- Storwize V7000
- Storwize V7000 Unified

gmfofbxiv: Global Mirror Failover/Failback for:

- XIV system

Global Mirror Failover/Failback with Practice

pgm: Global Mirror Failover/Failback with Practice for:

- TotalStorage Enterprise Storage Server Model 800
- System Storage DS8000
- System Storage DS6000

pgmsvc: Global Mirror Failover/Failback with Practice for:

- SAN Volume Controller
- Storwize V7000
- Storwize V7000 Unified

Global Mirror Either Direction with Two Site Practice

pgm2s: Global Mirror Either Direction with Two Site Practice for:

- TotalStorage Enterprise Storage Server Model 800
- System Storage DS8000
- System Storage DS6000

Metro Global Mirror

mgm: Metro Global Mirror for:

- TotalStorage Enterprise Storage Server Model 800
- System Storage DS8000

Metro Global Mirror with Practice

pmgm: Metro Global Mirror with Practice for:

- TotalStorage Enterprise Storage Server Model 800
- System Storage DS8000

Snapshot

snap: Snapshot for:

- XIV system

Basic HyperSwap

hs: Basic HyperSwap for:

- TotalStorage Enterprise Storage Server Model 800
- System Storage DS8000
- System Storage DS6000

-desc *description*

Specifies a description for the session. The description can have up to 250 alphanumeric characters.

-site1loc

Specifies a location to associate with the *site 1* volume role.

-site2loc

Specifies a location to associate with the *site 2* volume role.

-site3loc

Specifies a location to associate with the *site 3* volume role.

session_name | -

Specifies a name for the session. For sessions that contain an XIV system, the session name can have up to 58 alphanumeric characters. For sessions that contain other storage system types, the session name can have up to 250 alphanumeric characters. Session names must be unique.

Alternatively, use the dash (-) to specify that input for this parameter comes from an input stream (stdin). The dash is supported only in single-shot mode.

Examples

Creating a FlashCopy session

The following command creates a FlashCopy session named `session1`. The location of the site 1 volume role is Boulder.

```
csmdi> mksess -cptype fc -site1loc Boulder session1
```

The following output is returned:

```
IWNR1021I Session session1 was successfully created.  
IWNR1096I The locations for sessions session1 and Site 1 were set successfully.
```

Creating a Global Mirror with Practice session for System Storage DS8000

The following command creates a System Storage DS8000 Global Mirror with Practice session named `session1`.

```
csmdi> mksess -cptype pgm -desc "DS8000 Global Mirror with Practice" session1
```

The following output is returned:

```
IWNR1021I Session session1 was successfully created.
```

Creating a Global Mirror with Practice session for System Storage SAN Volume Controller

The following command creates a System Storage SAN Volume Controller Global Mirror with Practice session named `session1`.

```
csmdi> mksess -cptype pgmsvc -desc "SVC Global Mirror with Practice" session1
```

The following output is returned:

```
IWNR1021I Session session1 was successfully created.
```

Creating a Metro Global Mirror session

The following command creates a Metro Global Mirror session named `session1`.

```
csmdi> mksess -cptype mgm -desc "Metro Global Mirror" session1
```

The following output is returned:

```
IWNR1021I Session session1 was successfully created.
```

Creating a Metro Mirror Failover/Failback session

The following command creates a Metro Mirror Failover/Failback session named `session1`.

```
csmdi> mksess -cptype mmfofb -desc "Metro Mirror" session1
```

The following output is returned:

```
IWNR1021I Session session1 was successfully created.
```

Creating a Metro Mirror Failover/Failback session for an XIV system

The following command creates a Metro Mirror Failover/Failback session named `session1`. The location of the site 1 volume role is Tucson and the location of the site 2 volume role is Chicago.

```
csmdi> mksess -cptype mmfofbxiv -desc "session1 on xiv" -site1loc Tucson  
-site2loc Chicago session1
```

The following output is returned:

```
IWNR1021I Session session1 was successfully created.
```

mksnmp

Use the **mksnmp** command to add a specified manager to the list of servers to which SNMP traps are sent. SNMP traps are not specific to any particular session. All traps for any session are sent to each server.

Syntax

```
➤ mksnmp --server server --port port  
--help  
--h  
--?
```

Parameters

-help | **-h** | **-?**

Lists help for the command. If you specify additional parameters and arguments, those parameters and arguments are ignored.

-server *server*

Specifies the IP address or domain name of the management server that is to receive SNMP traps.

-port *port*

Specifies a port number to use for receiving SNMP traps. If not specified, the default port is 162.

Example

Sending SNMP traps to a specific management server

The following command sends SNMP traps to the management server with ID 9.11.207.17 and port 2626.

```
csmdi> mksnmp -server 9.11.207.17 -port 2626
```

The following output is returned:

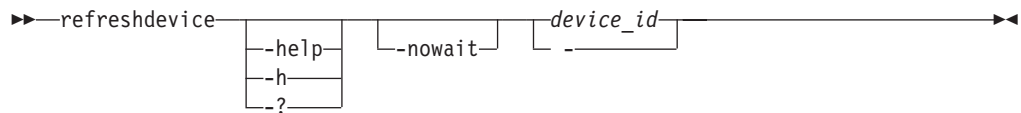
```
IWNR1701I Host 9.11.207.17:2626 was added to the SNMP listeners list.
```

refreshdevice

Use the **refreshdevice** command refresh the volumes and configuration elements of a storage device.

You must have Administrator privileges to run this command.

Syntax



Parameters

-help | -h | -?

Lists help for the command. If you specify additional parameters and arguments, those parameters and arguments are ignored.

-nowait

Specifies that the command response is returned when the command has been submitted and accepted by the server. The command response does not require that the command is completed.

device_id | -

Specifies the ID of the storage system that you want to refresh.

Alternatively, use the dash (-) to specify that input for this parameter comes from an input stream (stdin). The dash is supported only in single-shot mode.

Tip: To list the valid storage system IDs, use the **lsdevice** command.

Examples

Refreshing a System Storage DS8000 (includes the -nowait parameter)

The following command refreshes the storage system DS8000:BOX:2107.02341 before the command has completed.

```
csmdi> refreshdevice -nowait DS8000:BOX:2107.02341
```

The following output is returned when command has been submitted and accepted by the server:

```
IWNH1611I A refresh of the storage configuration has completed  
for the storage device DS8000:BOX:2107.02341.
```

rmactive

Use the **rmactive** command to remove an active management server.

Syntax



Parameters

-help | -h | -?

Lists help for the command. If you specify additional parameters and arguments, those parameters and arguments are ignored.

-quiet

Suppresses the confirmation prompt for this command. This flag answers yes to all confirmation prompts.

Description

You can run the **rmactive** command only from the standby management server and only when the active and standby management servers are in a non-synchronized state (such as when they are first connecting).

When a standby and active management servers are synchronized, use the **hatakeover** command.

The **rmactive** command corresponds to the Remove Active action in the GUI. Unless the **-quiet** parameter is used, you are prompted to confirm this action.

Example

Removing the active management server

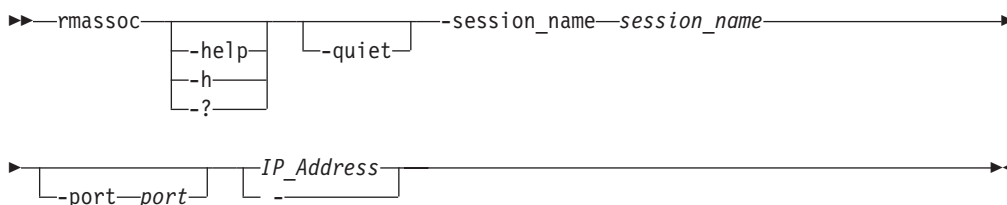
The following command removes the active management server with IP address 127.0.0.1.

```
csmdi> rmactive -server 127.0.0.1
```

rmasoc

Use the **rmasoc** command to remove a session association from the host system. This command removes a session associated with a host system but does not remove the connection to the host system.

Syntax



Parameters

-help | -h | -?

Lists help for the command. If you specify additional parameters and arguments, those parameters and arguments are ignored.

-quiet

Suppresses the confirmation prompt for this command. This flag answers yes to all confirmation prompts.

-session_name *session_name*

Specifies the name of the session to remove from the host system.

-port *port*

Specifies the port number for the host system if the system was added with a port other than the default port 9930.

IP_Address | **-**

Specifies the IP address or host name of the host system to remove the session from.

Alternatively, use the dash (-) to specify that input for this parameter comes from an input stream (stdin). The dash is supported only in single-shot mode.

Example

• Removing a session from a host system

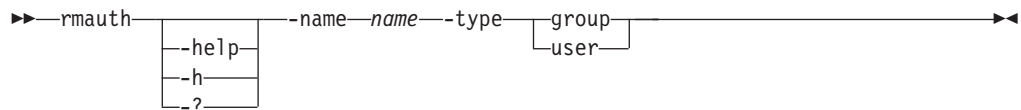
The following command shows how to remove the session MyMMsession from the host system with IP address 9.11.223.43. In this example, you could omit the `-port` parameter because port 9930 is the default.

```
csmdi> rmassoc -session_name MyMMsession -port 9930 9.11.223.43
```

rmauth

Use the **rmauth** command to remove monitor, administrator, or operator authorization from a user or user group.

Syntax



Parameters

-help | -h | -?

Lists help for the command. If you specify additional parameters and arguments, those parameters and arguments are ignored.

-name *name*

Specifies a user ID or group name from which you remove authorization.

-type *group* | *user*

Specifies whether the name is of a user group or user.

Example

1. Removing authorization for a group

The following command remove authorization from the user named MDMSUID.

```
csmdi> rmauth -name Guests -type group
```

The following output is returned:

```
Are you sure you want to remove access for user Guests? [y/n]:y
```

```
IWNR4013I Successfully revoked access from Guests.
```

2. Removing authorization for a user

The following command remove authorization from the user named MDMSUID.

```
csmdi> rmath -name csmuser -type user
```

The following output is returned:

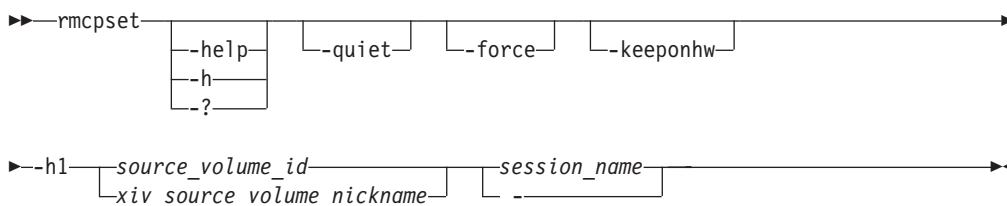
```
Are you sure you want to remove access for user Guest? [y/n]:y
```

```
IWNR4013I Successfully revoked access from Guest.
```

rmcpset

Use the **rmcpset** command to remove a copy set.

Syntax



Parameters

-help | -h | -?

Lists help for the command. If you specify additional parameters and arguments, those parameters and arguments are ignored.

-quiet

Suppresses the confirmation prompt for this command. This flag answers yes to all confirmation prompts.

-force

Forces the removal of the copy set despite any errors that occur when removing the copy set relationships from the storage system. When a forced removal is complete, any relationships that remain on the storage system for that copy set must be removed manually using the storage system interface.

-keeponhw

Specifies that all of the base relationships (Metro Mirror, Global Copy, Snapshot, and FlashCopy) on the storage system are kept even though the copy set is removed from the session. The relationships are removed from any consistency groups that are defined on the storage system.

-h1 {source_volume_id | xiv_source_volume_nickname}

For storage systems other than an XIV system, the volume ID is the only value that can be provided for this parameter. This value specifies the source volume ID of the copy set to be removed.

For XIV system sessions of any type, you can provide the user-defined nickname for the volume or the volume ID. The nickname for the volume is specified by using the XIV system user interface.

session_name | -

Specifies the name of the session name from which the copy set is being removed.

Alternatively, use the dash (-) to specify that input for this parameter comes from an input stream (stdin). The dash is supported only in single-shot mode.

Examples

Removing a copy set

The following command removes the copy set with source volume DS8000:2107.04131:VOL:0A05 in session session1 without prompting for confirmation.

```
csmlcli> rmcpsset -quiet -h1 DS8000:2107.04131:VOL:0A05 session1
```

The following output is returned:

```
IWNR1058I The copy sets for session session1 were deleted.
```

```
IWNR2002I The pair was successfully deleted in session session1 for copy set DS8000:2107.04131:VOL:0A05 with source DS8000:2107.04131:VOL:0A05 and target DS8000:2107.04131:VOL:0A06.
```

```
IWNR1095I Copy set DS8000:2107.04131:VOL:0A05 in session session1 was successfully deleted.
```

Removing a copy set from an XIV system Snapshot session by using the volume nickname

The following command removes the copy set for an XIV system Snapshot session named snap2 by using volume XIV:VOL:6000646:myvolume, where myvolume is the volume nickname.

```
csmlcli> rmcpsset -h1 XIV:VOL:6000646:myvolume snap2
```

The following output is returned:

```
IWNR1058I The copy sets for session snap2 were deleted.
```

```
IWNR2005I The volume with a volume ID of XIV:VOL:6000646:110789 (snap2) was successfully removed from the copy set with a source volume ID of XIV:VOL:6000646:110789 from the session named snap2.
```

```
IWNR1095I Copy set XIV:VOL:6000646:myvolume in session snap2 was successfully deleted.
```

rmdevice

Use the **rmdevice** command to remove a direct connection to a storage system.

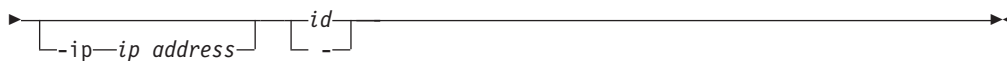
To remove a storage system that is attached through a Hardware Management Console (HMC) connection, use the **rmhmc** command.

To remove a storage system that is attached through an IBM z/OS connection, use the **rmstorsys** command.

Syntax

```
▶▶—rmdevice [ --help ] [ --quiet ] [ --port—port_number ]
```

--help
--h
—?



Parameters

-help | -h | -?

Lists help for the command. If you specify additional parameters and arguments, those parameters and arguments are ignored.

-quiet

Suppresses the confirmation prompt for this command. This flag answers yes to all confirmation prompts.

-port *port_number*

Specifies the port number if a nondefault port number was entered when the storage system was added.

-ip *ip_address*

Specifies the IP address or host name of the node that is used by the following storage systems:

- IBM System Storage SAN Volume Controller
- IBM Storwize V7000
- IBM Storwize V7000 Unified

This parameter is ignored for all other storage systems.

id | -

Specifies the ID of the storage system to be removed.

Alternatively, use the dash (-) to specify that input for this parameter comes from an input stream (stdin). The dash is supported only in single-shot mode.

Examples

Removing an IBM TotalStorage Enterprise Storage Server Model 800

The following command removes the TotalStorage Enterprise Storage Server Model 800 with ID ESS:BOX:2105.18596 without prompting for confirmation.

```
csmlcli> rmdevice -quiet ESS:BOX:2105.18596
```

The following output is returned:

```
IWNH1614I The connection at sts596c0:sts596c1 was successfully removed.
```

Removing a SAN Volume Controller

The following command removes the SAN Volume Controller with ID SVC:CLUSTER:RMSVC02 and IP address 127.0.0.1 without prompting for confirmation.

```
csmlcli> rmdevice -quiet -ip 127.0.0.1 SVC:CLUSTER:RMSVC02
```

The following output is returned:

```
IWNH1614I The storage device at 127.0.0.1 was successfully removed.
```

Removing an IBM XIV Storage System

The following command removes the XIV system with ID XIV:BOX:6000646 without prompting for confirmation.

```
csmlcli> rmdevice -quiet XIV:BOX:6000646
```

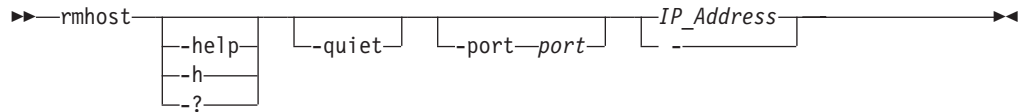

The following output is returned:

```
IWNH1624I The storage system XIV:BOX:6000646 was successfully removed.
```

rmhost

Use the **rmhost** command to remove a connection to a host system from the IBM Tivoli Storage Productivity Center for Replication server.

Syntax



Parameters

-help | -h | -?

Lists help for the command. If you specify additional parameters and arguments, those parameters and arguments are ignored.

-quiet

Suppresses the confirmation prompt for this command. This flag answers yes to all confirmation prompts.

-port port

Specifies the port number for the host system to be removed if the system was added with a port other than the default port 9930.

IP_Address | -

Specifies the IP address or host name of the host system to be removed.

Alternatively, use the dash (-) to specify that input for this parameter comes from an input stream (stdin). The dash is supported only in single-shot mode.

Example

• Removing host systems

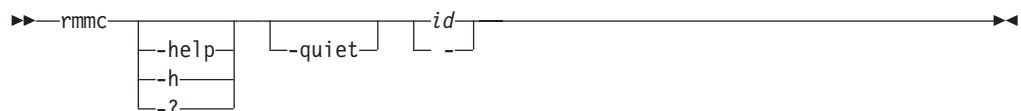
The following command shows how to remove a host system with IP address 9.11.223.43. In this example, you could omit the **-port** parameter because port 9930 is the default.

```
csmdi> rmhost -port 9930 9.11.223.43
```

rmmc

Use the **rmmc** command to remove a management console.

Syntax



Parameters

-help | -h | -?

Lists help for the command. If you specify additional parameters and arguments, those parameters and arguments are ignored.

Example

Removing paths:

The following command removes the paths between the source LSS `ess:2015.23884:11.4` and a target LSS `ess:2105.23005:11.3`.

```
csmdi> rmpath -src ess:2015.23884:11.4 -tgt ess:2105.23005:11.3
```

The following output is returned:

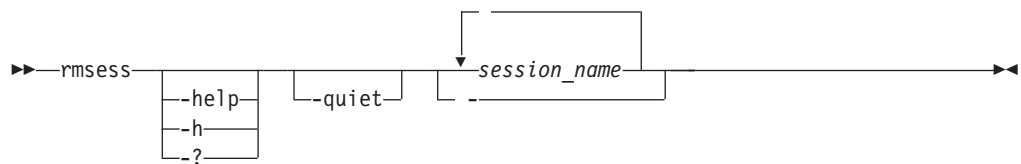
Path successfully removed.

rmsess

Use the **rmsess** command to remove a session.

Important: You can remove only those sessions that are in the Defined state.

Syntax



Parameters

-help | -h | -?

Lists help for the command. If you specify additional parameters and arguments, those parameters and arguments are ignored.

-quiet

Suppresses the confirmation prompt for this command. This flag answers yes to all confirmation prompts.

session_name... | -

Specifies the name of the session to be removed. Separate multiple session names using a blank space.

Alternatively, use the dash (-) to specify that input for this parameter comes from an input stream (stdin). The dash is supported only in single-shot mode.

Example

Removing a session

The following command removes the session named `session1`.

```
csmdi> rmsess -quiet session1
```

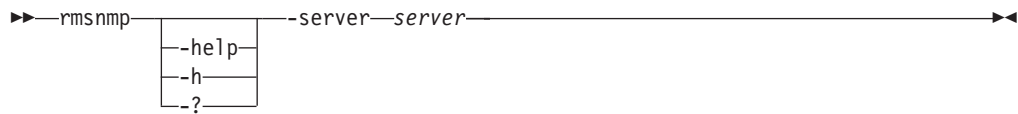
The following output is returned:

```
IWNR1022I Session session1 was successfully deleted.
```

rmsnmp

You can use the **rmsnmp** command to remove the specified manager from the list of servers to which SNMP traps are sent.

Syntax



Parameters

-help | -h | -?

Lists help for the command. If you specify additional parameters and arguments, those parameters and arguments are ignored.

-server *server*

Specifies the IP address or domain name of the server that will no longer receive SNMP traps.

Example

Removing a server from receiving SNMP traps

The following command removes the management server with IP address 127.0.0.1 from receiving SNMP traps.

```

csmcli> rmsnmp -server 127.0.0.1
  
```

The following output is returned:

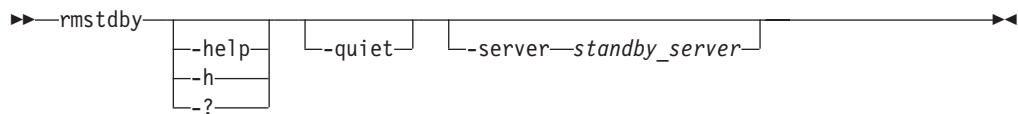
```

IWNR1702I Host 127.0.0.1 was removed from the SNMP listeners list.
  
```

rmstdby

Use the **rmstdby** command to remove a standby management server.

Syntax



Parameters

-help | -h | -?

Lists help for the command. If you specify additional parameters and arguments, those parameters and arguments are ignored.

-quiet

Suppresses the confirmation prompt for this command. This flag answers yes to all confirmation prompts.

-server *standby_server*

The IP address of the standby management server that you are removing.

Example

Removing a standby management server

The following command removes the standby management server with IP address 127.0.0.1.

```

csmcli> rmstdby -server 127.0.0.1
  
```

rmstorsys

Use the **rmstorsys** command to remove a specific storage system and its volumes that are attached to the IBM Tivoli Storage Productivity Center for Replication server from the IBM Tivoli Storage Productivity Center for Replication configuration through a z/OS connection.

Syntax

```
→rmstorsys [-help] [-h] [-?] [-quiet] [-conntype zos] [-dev device_id] →
```

Parameters

-help | -h | -?

Lists help for the command. If you specify additional parameters and arguments, those parameters and arguments are ignored.

-quiet

Suppresses the confirmation prompt for this command. This flag answers yes to all confirmation prompts.

-conntype zos

Specifies the type of connection that the storage systems uses. Currently, you can specify only **zos** for a z/SO connection.

-dev device_id

Specifies the ID of the DS or ESS storage system that is to be removed from the IBM Tivoli Storage Productivity Center for Replication configuration.

Tip: Use the **lsdevice** command to display a list of valid storage system IDs.

Description

Important:

- You must have Administrator privileges to run this command.
- You can run this command only from the IBM Tivoli Storage Productivity Center for Replication server that is installed on a system running z/OS.
- This command removes only the z/OS connection to the specified storage system. To remove other connection types to the same storage system, use the **rmdevice** or **rmmccommand**.

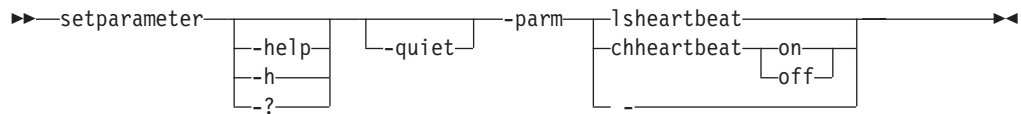
If Tivoli Storage Productivity Center for Replication has multiple connections to a specific storage system, the order in which you remove the connections produces different results:

- If you remove all direct and HMC connections first, the fixed block and non-attached ECKD™ volumes are removed from the Tivoli Storage Productivity Center for Replication configuration. The remaining ECKD volumes that are attached through the z/OS connection remain in the Tivoli Storage Productivity Center for Replication configuration until the z/OS connection is removed. Removing the TCP/IP connection also disables the Metro Mirror heartbeat.
- If you remove the z/OS connection first and if there is an HMC or direct connection to volumes, those volumes are not removed from the Tivoli Storage Productivity Center for Replication configuration.

setparameter

Use the **setparameter** command to set the system parameters.

Syntax



Parameters

-help | -h | -?

Lists help for the command. If you specify additional parameters and arguments, those parameters and arguments are ignored.

-quiet

Suppresses the confirmation prompt for this command. This flag answers yes to all confirmation prompts.

-parm { lshheartbeat | - chheartbeat { on | off } | - }

Specifies one of these system parameters:

lshheartbeat

Displays whether the Metro Mirror heartbeat is enabled.

chheartbeat { on | off }

Specifies whether the Metro Mirror heartbeat is enabled (on) or not enabled (off).

Alternatively, use the dash (-) to specify that input for this parameter comes from an input stream (stdin). The dash is supported only in single-shot mode.

Example

1. Listing the Metro Mirror heartbeat status

The following command displays whether the Metro Mirror heartbeat is enabled or disabled.

```
csmdi> setparameter -parm lshheartbeat
```

The following output is returned:

```
The heartbeat function is set on.
```

```
IWNRI208I The heartbeat was retrieved successfully.
```

2. Enabling the Metro Mirror heartbeat

The following command turns on the Metro Mirror heartbeat.

```
csmdi> setparameter -parm chheartbeat on
```

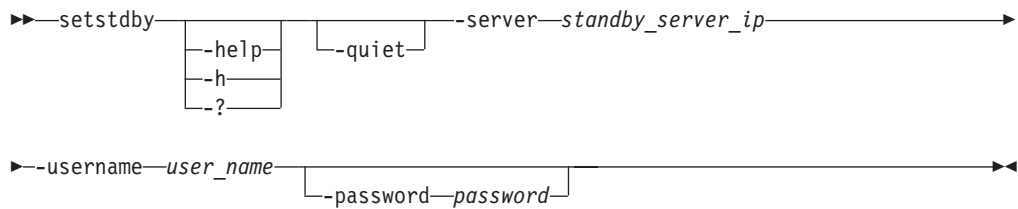
The following output is returned:

```
IWNRI204I The heartbeat has been successfully turned on with the hardware.
```

setstdby

Use the **setstdby** command to set the standby management server for an active management server.

Syntax



Parameters

-help | -h | -?

Lists help for the command. If you specify additional parameters and arguments, those parameters and arguments are ignored.

-quiet

Suppresses the confirmation prompt for this command. This flag answers yes to all confirmation prompts.

-username *user_name*

Specify the user name for the device.

-password *password*

Specifies this parameter to receive a password prompt. The password will not be visible.

-server *standby_server_ip*

Specify the IP address of the server to be the standby management server for the local management server.

Description

Notes:

- If a standby management server is already defined for the active management server, the previously defined standby management server is replaced by the server specified by this command.
- Only the **hatakeover** command can change a backup server to the active server. High availability (HA) must be active before setting an HA role.

Example

Setting the standby management server

The following command sets the server with IP address 127.0.0.1 as the standby management server for active management server on which this command run without prompting for confirmation.

```

csmcli> setstdby -quiet -server 127.0.0.1 -username csmuser

```

The following output is returned:

```

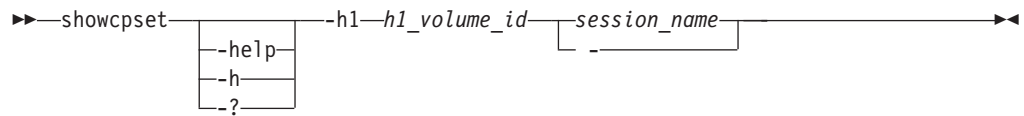
IWNR3020I Connection to the active high-availability server at
tpc1.storage.tucson.example.com making the server
tpc2.storage.tucson.example.com a standby was successful.

```

showcpset

Use the **showcpset** command to display properties for a copy set.

Syntax



Parameters

-help | -h | -?

Lists help for the command. If you specify additional parameters and arguments, those parameters and arguments are ignored.

-h1 h1_volume_id

Specifies the name of the source volume ID. The properties for this volume ID are displayed.

session_name | -

Specifies the session name to which the copy set belongs.

Alternatively, use the dash (-) to specify that input for this parameter comes from an input stream (stdin). The dash is supported only in single-shot mode.

The following information is listed for the copy set:

Column Label	Details
H1 Volume	The source volume name.
Session	The session name.
Volumes	The volumes that are associated with the copy set. Output is formatted to show the role and the volume ID for that role in the copy set.
Last Result	The last message that was issued.

Examples

Listing copy set properties

The following command lists the properties for the copy set with the source host ID DS8000:2107.NK791:VOL:1500 in the session session1.

```
csmdi> showcpset -h1 DS8000:2107.NK791:VOL:1500 session1
```

The following output is returned:

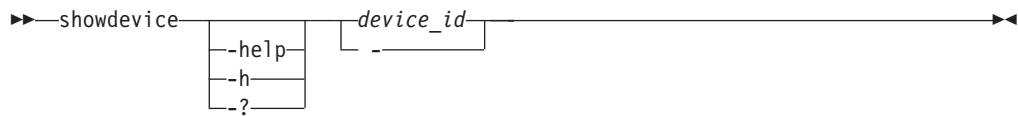
```
H1 Volume    DS8000:2107.NK791:VOL:1500
Session      session1
Volumes      H1-DS8000:2107.NK791:VOL:1500, H2-DS8000:2107.MW931:VOL:1500,
              H3-DS8000:2107.04131:VOL:1500, I3-DS8000:2107.04131:VOL:1505,
              J3-DS8000:2107.04131:VOL:150A
Last result  None
```

```
IWNR1500I Session information about session session1 was successfully obtained.
```

showdevice

Use the **showdevice** command to display storage system properties.

Syntax



Parameters

-help | -h | -?

Lists help for the command. If you specify additional parameters and arguments, those parameters and arguments are ignored.

device_id | -

Displays a unique identifier for each storage system in IBM Tivoli Storage Productivity Center. The element ID format, for example `ESS:BOX:2105.FCA57`, is used to display storage system IDs.

Alternatively, use the dash (-) to specify that input for this parameter comes from an input stream (stdin). The dash is supported only in single-shot mode.

For each storage system, the following information is listed. The Direct Connect Information properties are listed for storage systems that have a direct connection. The Management Console properties are listed for storage systems that are connected through a Hardware Management Console (HMC).

General

Column Label	Details
Device ID	The storage system ID.
Device Name	The user-defined name of the storage system.
Device Type	The type of storage system: DS6000, DS8000, ESS, STORWIZE-V7000, SVC, or XIV.
Manufacturer	The manufacturer of the storage system.
Location	The user-defined location associated with the storage system or None.

Direct Connect Information

Column Label	Details
Device IP Address	<p>The IP address or host name of the clusters or nodes that are used by the storage system.</p> <p>IBM TotalStorage Enterprise Storage Server Model 800, IBM System Storage DS8000, and System Storage DS6000 use two clusters. Each cluster address is separated by a semicolon. IBM XIV Storage System uses three nodes. Each node address is separated by a semicolon.</p>
User name	<p>The user name for the clusters or nodes that are used by the storage system.</p> <p>For TotalStorage Enterprise Storage Server Model 800, System Storage DS8000, System Storage DS6000, and XIV system, user names are separated by a semicolon.</p>

Column Label	Details
Port	<p>The port number of the clusters or nodes that are used by the storage system.</p> <p>For TotalStorage Enterprise Storage Server Model 800, System Storage DS8000, and System Storage DS6000, the port number of each cluster is separated by a semicolon. For XIV system, the port number of each node is separated by a semicolon. For example, node1_port;node2_port;node3_port.</p>
Local Server Connection	<p>The state of direct connections to a local management server. For TotalStorage Enterprise Storage Server Model 800, System Storage DS8000, and System Storage DS6000, this value shows status of the connection to each cluster separated by a semicolon. For example, cluster0_status:cluster1_status.</p> <p>For XIV system, this value shows the status of each node separated by a semicolon. For example, node1_status;node2_status;node3_status.</p>
Remote Server Connection	<p>The state of direct connections to a remote management server. For TotalStorage Enterprise Storage Server Model 800, System Storage DS8000, and System Storage DS6000, this value shows the connection status of each cluster separated by a semicolon. For example cluster0_status:cluster1_status.</p> <p>For XIV system, this value shows the connection status of each node separated by a semicolon. For example node1_status;node2_status;node3_status.</p>

Management Console Information

Column Label	Details
Management Console Local Server Connection	The state of the HMC connections to the local management server.
Management Console Remote Server Connection	The state of the HMC connections to the remote management server.
Management Console IDs	The ID of the HMC. If there a dual HMCs, the ID for each HMC is separated by a semicolon.

z/OS Connection Information

Column Label	Details
z/OS Local Server Connection	The state of the z/OS connections to the local management server.
z/OS Remote Server Connection	The state of the z/OS connections to the remote management server.

Example

Listing device properties

The following command lists the properties of a System Storage DS8000 with ID DS8000:BOX:2107.04131. This device is connected directly and not through an HMC.

```
csmdi> showdevice DS8000:BOX:2107.04131
```

The following output is returned:

```
Device ID                DS8000:BOX:2107.04131
Device Name              -
Device Type              DS8000
Manufacturer             IBM
Location                 Boulder
Direct Connect Information -----
Device IP Address        stg8k05c0;stg8k05c1
User Name                root;root
Port                    2433;2433
Local Server Connection  Connected;Connected
Remote Server Connection -
Management Console Information -----
Management Console Local Server Connection -
Management Console Remote Server Connection -
Management Console IDs  -
z/OS Connection Information -----
z/OS Local Server Connection -
z/OS Remote Server Connection -
```

IWNC4103I The showdevice command completed successfully.

Listing device properties

The following command lists the properties of an XIV Storage System with ID XIV:BOX:7803448 and a user-defined name XIV_B.

```
csmdi> showdevice XIV:BOX:7803448
```

The following output is returned:

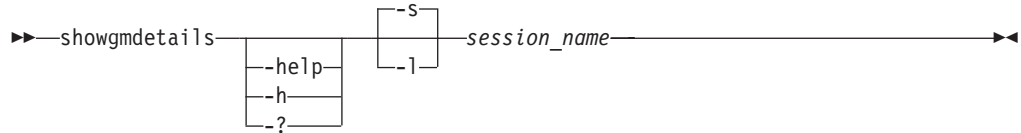
```
Device ID                XIV:BOX:7803448
Device Name              XIV_B
Device Type              XIV
Manufacturer             IBM
Location                 xiv_west
Direct Connect Information -----
Device IP Address        tpcr_xivb1.storage.tucson.ibm.com;
                        tpcr_xivb2.storage.tucson.ibm.com;
                        tpcr_xivb3.storage.tucson.ibm.com
User Name                admin
Port                    7778;7778;7778
Local Server Connection  Connected;Connected;Connected
Remote Server Connection -
Management Console Information -----
Management Console Local Server Connection -
Management Console Remote Server Connection -
Management Console IDs  -
z/OS Connection Information -----
z/OS Local Server Connection -
z/OS Remote Server Connection -
```

IWNC4103I The showdevice command completed successfully.

showgmdetails

Use the **showgmdetails** command to display detailed status information for a Global Mirror session. Use this command for only TotalStorage Enterprise Storage Server Model 800, System Storage DS8000, and System Storage DS6000 storage systems only.

Syntax



Parameters

-help | -h | -?

Lists help for the command. If you specify additional parameters and arguments, those parameters and arguments are ignored.

-s Displays default information for the Global Mirror session.

-l Displays detailed information for the Global Mirror session, including:

Column label	Details
Session ID	The Global Mirror session ID.
Master LSS	The name of the storage system acting as the Global Mirror master. Includes storage system ID and subsystem ID.
Copy State	Options are: <ul style="list-style-type: none">• Running• Paused• Fatal• Pause in Progress
Fatal Reason	Fatal reason code of the Global Mirror session.
CG Time	The time of the last consistency group formation according to the Master Storage system. The format is MM/DD/YYYY HH:MM:SS in 24 hour time. The time is based on a 24-hour clock.
Query Time	The time of the query according to the Master Storage system. The format is MM/DD/YYYY HH:MM:SS in 24 hour time. The time is based on a 24-hour clock.
Data Exposure	The average exposure to data loss, in seconds, over the query interval.
Total Failed CGs	The total number of failed consistency group formation attempts since the Global Mirror session has been in Running state.
Total Successful CGs	The total number of successful consistency group formations since the Global Mirror session has been in Running state.
Failed CG Attempts since last success	The number of failed consistency group formation attempts since the last successful consistency group was formed.

Column label	Details
Successful CG Percentage	The total percentage since the Global Mirror session has been in Running state.
CG Interval Time	The interval time between attempts to form a consistency group.
Max Coordination Interval	Extended distance consistency maximum coordination interval.
Max CG Drain Time	The maximum time the consistent set of data is allowed to drain at the remote site before failing consistency group formation.
Last Failure LSS	Name of the storage system for the most recent failure of the consistency group formation. Includes storage system ID and subsystem ID.
Last Failure Reason	The reason code for the most recent failure of the consistency group formation.
Last Failure Master State	The master state for the most recent failure of the consistency group formation.
Previous Failure LSS	Name of the storage system for the previous failure of the consistency group formation. Includes storage system ID and subsystem ID.
Previous Failure Reason	Reason code for the previous failure of the consistency group formation.
Previous Failure Master State	Master state for the second most recent consistency group formation failure.
Subordinate Count	The number of subordinates for this Global Mirror session.
Subordinate Associations	The subordinate boxes for the master Global Mirror box.

session_name

Specifies the Global Mirror session for which the properties are to be displayed.

Example

Displaying management console properties

The following command displays detailed information for the Global Mirror session `gmme`.

```
csmcli> showgmdetails -l gmme
```

The following output is returned:

```
Session ID                0x2
Master LSS                DS8000:2107.FX102:LSS:71
Copy State                Running
Fatal Reason              0x00 Global Mirror Not Fatal
CG Time                   2010/04/16 23:32:58 EDT
Query Time                 2010/04/16 23:32:58 EDT
```



```
csmdi> showha
```

The following output is returned:

```
Status Synchronized
Error None
```

```
IWNR3048I The high availability status from server tpc1.storage.tucson.ibm.com
was successfully queried.
```

showmc

Use the **showmc** command to display the properties of a management console.

Syntax



Parameters

-help | -h | -?

Lists help for the command. If you specify additional parameters and arguments, those parameters and arguments are ignored.

id | -

Specifies the management console ID in the element ID format (for example, HMC:127.0.0.1).

Alternatively, use the dash (-) to specify that input for this parameter comes from an input stream (stdin). The dash is supported only in single-shot mode.

Description

The following information is listed for the management console:

Column label	Details
Management console ID	The management console ID in the element ID format.
MC IP address	The IP address or domain name of the management console. For dual management console configurations the IP addresses or domain names are separated by semicolon; for example 192.0.2.0;192.0.2.1.
Device Type	Device Type (HMC)
Location	User-defined location associated with the management console, or None.
User name	The user name for the management console.
Local Connection Status	The state of the connection to the local management server.
Remote Connection Status	The state of the connection to the remote management server.
Attached Devices	The devices that are attached to this management console.

Example

Displaying management console properties

The following command displays the properties of the management console with ID HMC:127.0.0.1.

```
csmdi> showmc HMC:127.0.0.1
```

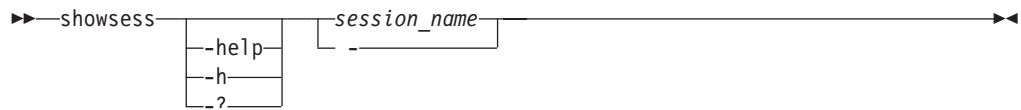
The following output is returned:

```
Management Console ID   HMC:127.0.0.1
MC ID address           127.0.0.1
Device Type             HMC
Location                tucson
User name               admin
Local Connection Status Connected
Remote Connection Status -
Attached Devices        DS8000:BOX:2107.BRXXX,DS8000:BOX:2107.BRXXX,
                        DS8000:BOX:2107.FNXXX
```

showsess

Use the **showsess** command to display properties for a selected session, including name, description, group managed, and copy type.

Syntax



Parameters

-help | -h | -?

Lists help for the command. If you specify additional parameters and arguments, those parameters and arguments are ignored.

session_name | -

Specifies the session for which the properties are to be displayed.

Alternatively, use the dash (-) to specify that input for this parameter comes from an input stream (stdin). The dash is supported only in single-shot mode.

Description

For each session, the following information is listed:

Column Label	Details
Name	Session name.

Column Label	Details
Type	Session type. Values include: FlashCopy Global Mirror Either Direction with Two Site Practice Global Mirror Failover/Failback Global Mirror Practice Global Mirror Single Direction Basic HyperSwap Metro Global Mirror Metro Global Mirror with Practice Metro Mirror Failover/Failback Metro Mirror Practice Metro Mirror Single Direction Snapshot
State	Session state. Values include: Defined Flashing Preparing Prepared Recovering Suspended SuspendedH2H3 SuspendedH1H3 Suspending TargetAvailable Terminating
Status	Session status. Values include: Unknown Normal Warning Error Inactive
Locations	A list of the locations associated with the session.
Copy sets	The number of copy sets that the session is managing.
Copying	An indicator of whether a copying operation is occurring. Values are Yes or No.
Recoverable	An indicator of whether the session is recoverable. Values are Yes or No.
Active host	Name of the active host.
Error Count	Number of errors for all roles.
Description	Session description that you define.

Example

Listing session properties

The following command lists properties for the session named session1.

```
csmdi> showsess session1
```

The following output is returned:

```

Name          session1
Type          Metro Global Mirror w/ Practice
State         Defined
Status        Inactive
Locations     Site1, Site2, Site3
Copy sets     10
Copying       No
Recoverable   No
Active Host   H1
Error count   0
Description   -
Transitioning No
Detailed Status -

```

IWNR1500I Session information about session session1 was successfully obtained.

Listing session properties for an XIV system Snapshot session

The following command lists properties for the session named session1.

```

csmcli> showsess session1

```

The following output is returned:

```

Name          session1
Type          Snapshot
State         Target Available
Status        Active
Locations     Site1
Copy sets     10
Copying       No
Recoverable   Yes
Active Host   H1
Error count   0
Description   -
Transitioning No
H1 Pool       XIV:POOL:12345:67890
H1 Consistency Group session1
Detailed Status -

```

IWNR1500I Session information about session session1 was successfully obtained.

Listing session properties for an XIV system Metro Mirror session

The following command lists properties for the session named session1.

```

csmcli> showsess session1

```

The following output is returned:

```

Name          session1
Type          Metro Mirror Failover/Failback
State         Prepared
Status        Active
Locations     Site1, Site2
Copy sets     10
Copying       Yes
Recoverable   Yes
Active Host   H1
Error count   0
Description   -
Transitioning No
H1 Pool       XIV:POOL:12345:67890
H2 Pool       XIV:POOL:12345:67890
H1 Consistency Group session1
H2 Consistency Group session1

```

Detailed Status -

IWNR1500I Session information about session session1 was successfully obtained.

Listing session properties for an XIV system Global Mirror session

The following command lists properties for the session named session1.

```
csmdi> showsess session1
```

The following output is returned:

```
Name          session1
Type           Global Mirror Failover/Failback
State          Prepared
Status         Active
Locations      Site1, Site2
Copy sets      10
Copying        Yes
Recoverable    Yes
Active Host     H1
Error count    0
Description    -
Transitioning  No
H1 Pool        XIV:POOL:12345:67890
H2 Pool        XIV:POOL:12345:67890
H1 Consistency Group session1
H2 Consistency Group session1
Detailed Status -
WNR2750E Recovery Point Objective for session session1 has passed the threshold
of 30 seconds.
IWNR1500I Session information about session session1 was successfully obtained.
```

ver

Use the **ver** command to display the current version of IBM Tivoli Storage Productivity Center for Replication.

Syntax

```
➔ ver
```

--help
--h
--?

Parameters

-help | -h | -?

Lists help for the command. If you specify additional parameters and arguments, those parameters and arguments are ignored.

Example

Displaying the current version:

The following command displays the current version of IBM Tivoli Storage Productivity Center for Replication that is running on the local system.

```
csmdi> ver
```

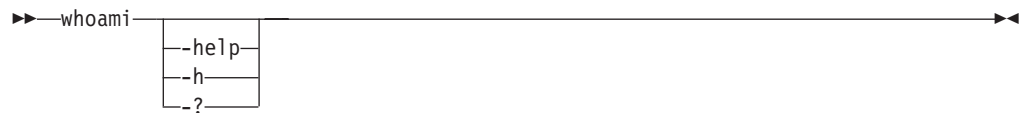
The following output is returned:

Tivoli Storage Productivity Center for Replication Command Line Interface (CLI)
Copyright 2009 IBM Corporation
Version: 4.1.1
Build: g100-090804

whoami

Use the **whoami** command to display the name of the user that is currently logged in.

Syntax



Parameters

-help | -h | -?

Lists help for the command. If you specify additional parameters and arguments, those parameters and arguments are ignored.

Example

Displaying the current user name

The following command displays the name of the current user.

```
csmdi> whoami
```

The following output is returned:

```
Currently logged in as administrator
Server: server1
Port: 5110
Authentication file: null
```

Command aliases

This topic discusses command aliasing.

With aliasing, you define a name for the alias followed by a value that is the name of a command and any options associated with command. The aliased command string is replaced by the defined value and the entire line is reparsed. Passwords used in aliased commands must first be encrypted using the **encrypt** command.

Aliased commands are saved in the command configuration file. The default configuration file is `c:\program files\ibm\tpc\cli\libs\tpcli.conf`.

For example, to shorten a frequently used command, you can define the following alias:

```
tpctool>lsperf = lsdev -user dsadmin -pwd 1ac75d82784ce0a327d45289604ae7b227
-url 9.44.33.126:8990 -fabric -perf
```

After the alias is defined, you can run the **lsperf** command to run the aliased **lsdev** command previously displayed.

You can provide a short form command targeting different device servers, as follows:

```
tpctool>lsperfd1 = lsdev -user dsadmin -pwd 1ac75d82784ce0a327d45289604ae7b227
-url hostOne:9161 -perf
```

```
tpctool>lsperfd2 = lsdev -user dsadmin -pwd 1ac75d82784ce0a327d45289604ae7b227
-url hostTwo:9161 -perf
```

You can specify additional options and arguments for an aliased command:

```
tpctool>lsperfd2 -fabric -ctype port
```

The command is expanded as follows:

```
tpctool>lsdev -user dsadmin -pwd 1ac75d82784ce0a327d45289604ae7b227
-url hostTwo:9161 -perf -fabric -ctype port
```

You can also nest aliases:

```
tpctool>lsperf = lsdev -user dsadmin -pwd 1ac75d82784ce0a327d45289604ae7b227
-url hostTwo:9161 -perf -fabric
```

```
tpctool>lsperfd1 = lsdev -user dsadmin -pwd 1ac75d82784ce0a327d45289604ae7b227
-url hostOne:9161
```

```
tpctool>lsperfd2 = lsdev -user dsadmin -pwd 1ac75d82784ce0a327d45289604ae7b227
-url hostTwo:9161
```

To unset an alias, type the name of the command alias followed by the '=' sign:

```
lsperf =
```

Parameter aliases

This topic lists common parameters and their aliases.

The following list shows parameters and their corresponding aliases.

- pwd** Password. The password is automatically encrypted using the same encryption algorithm as the **password** command before being stored in the config file. In conjunction with the interactive mode, this enables secure password encryption (plain text passwords will not appear in a command line).
- url** URL
- fs** Field-separator
- silent** Suppress-output
- header** Show-header
- l** Long
- dev** subsystem
- fabric** Fabric
- svr** Server

Appendix A. Accessibility features for Tivoli Storage Productivity Center

Accessibility features help users who have a disability, such as restricted mobility or limited vision, to use information technology products successfully.

Accessibility features

The following list includes the major accessibility features in IBM Tivoli Storage Productivity Center:

- Tivoli Storage Productivity Center functions are available using the keyboard for navigation instead of the mouse. You can use keys or key combinations to perform operations that can also be done using a mouse. However, you must use the mouse to navigate the Topology Viewer and report graphs. Standard operating system keystrokes are used for standard operating system operations.
- You can use screen readers to read the user interface.
- The user interface communicates all information independently of color.
- The *IBM Tivoli Storage Productivity Center Information Center*, and its related publications are accessibility-enabled and include the following accessibility features:
 - The information center is provided in XHTML 1.0 format, which is viewable in most Web browsers. XHTML allows you to view documentation according to the display preferences set in your browser. With XHTML, you can use screen readers and other assistive technologies.
 - All documentation for Tivoli Storage Productivity Center is available in Adobe Portable Document Format (PDF) using the Adobe Acrobat Reader. You can access the PDFs from the Printable PDFs topic in the information center at <http://publib.boulder.ibm.com/infocenter/tivihelp/v59r1/index.jsp>.
 - All images are provided with alternative text, so that users with vision impairments can understand the contents of the images.

Keyboard navigation

This product uses standard Microsoft Windows navigation keys.

Displaying the interface

Click **Preferences > Look and Feel** to select how to display the Tivoli Storage Productivity Center user interface. To do so, complete the following steps:

1. Start the Tivoli Storage Productivity Center user interface.
2. Click **Preferences > Look and Feel** to change the visual appearance of the user interface to best suit your visual needs:
 - Windows Classic
 - Windows
 - CDE/Motif
 - Metal

Limitations for sight-impaired users on IBM Tivoli Storage Productivity Center for Replication

There are some limitations in the product graphical user interface (GUI) that require special attention before you start using Tivoli Storage Productivity Center for Replication with a screen reader:

Dojo components are not read by all screen readers.

The JAWS screen reader does not read some Dojo components on Internet Explorer 7. Use the command-line interface instead of the GUI with JAWS on Internet Explorer 7.

IBM and accessibility

See the IBM Human Ability and Accessibility Center Web site for more information about the commitment that IBM has to accessibility.

Appendix B. Accessibility features for Tivoli Storage Productivity Center for Replication

Accessibility features help users who have a disability, such as restricted mobility or limited vision, to use information technology products successfully.

The following list includes the major accessibility features in Tivoli Storage Productivity Center for Replication:

- Keyboard-only operation
- Interfaces that are commonly used by screen readers
- Keys that are discernible by touch but do not activate just by touching them
- Industry-standard devices for ports and connectors
- The attachment of alternative input and output devices

See the IBM Human Ability and Accessibility Center website at www.ibm.com/able for more information about the commitment that IBM has for accessibility.

Accessibility and keyboard shortcuts in the information center

Accessibility features help users with physical disabilities, such as restricted mobility or limited vision, to use software products successfully. Using the major accessibility features in this product, users can perform these tasks:

- Use assistive technologies, such as screen-reader software and digital speech synthesizer, to hear what is displayed on the screen. Consult the product documentation of the assistive technology for details on using those technologies with this product.
- Operate specific or equivalent features by using only the keyboard.
- Magnify what is displayed on the screen.

In addition, the documentation was modified to include the following features to aid accessibility:

- All documentation is available in HTML formats to give the maximum opportunity for users to apply screen-reader software technology.
- All images in the documentation are provided with alternative text so that users with vision impairments can understand the contents of the images.

Use the following key combinations to navigate the interface by keyboard:

- To go directly to the Topic pane, press Alt+K, and then press Tab.
- In the Topic pane, to go to the next link, press Tab.
- To go directly to the Search Results view, press Alt+R, and then press the Enter or Up-Arrow key to enter the view.
- To go directly to the Navigation (Table of Contents) view, press Alt+C, and then press the Enter or Up-Arrow key to enter the view.
- To expand and collapse a node in the navigation tree, press the Right and Left-Arrow keys.
- To move to the next topic node, press the Down-Arrow or Tab key.
- To move to the previous topic node, press the Up-Arrow key or Shift+Tab.

- To go to the next link, button, or topic node from inside on of the views, press Tab.
- To scroll all the way up or down in a pane, press Home or End.
- To go back, press Alt+Left Arrow; to go forward, press Alt+Right Arrow.
- To go to the next pane, press F6.
- To move to the previous pane, press Shift+F6.
- To print the active pane, press Ctrl+P.

Related accessibility information for sight-impaired users

The following list contains hints and tips that can help you more fully use the graphical user interface:

Drop-down lists are positioned directly over or before the radio button that activates it.

If you use a screen reader, you should be aware that there are radio buttons to activate drop-down lists for several GUI pages. The way to activate the drop-down list is by selecting the associated radio button. The drop-down list is positioned directly over or before the radio button that activates it. When you use a screen reader that processes the fields and controls of a page sequentially, you might select the radio button, but not know that the associated drop-down list has been activated. The screen reader processes inactive drop-down lists first, and then processes the next radio button. The drop-down list is activated if you select the radio button.

On the following pages, keep in mind that radio buttons activate a drop-down list:

- Administration
- ESS/DS Paths
- Sessions
- Session Details
- Storage Systems

Tables are best understood by reviewing the surrounding text and the table row and column number of the table.

On some graphical user pages, tables use the header or row ID attributes when reading a single cell. The screen reader reads the table row and column number, along with cell data. Therefore, you can infer the column header and row ID.

Experiment with and fine-tune the way your screen reader pronounces some of the product abbreviations.

Your screen reader might pronounce abbreviations as if they were words. For example, the common abbreviation for Enterprise Storage Server is ESS. Your screen reader might read ESS as the word "ess". With some screen readers you can hear alternate pronunciations. If you frequently use the software you might prefer to fine-tune such associations in your settings. When an association is created, the screen reader can recognize the abbreviation as a word. If you can add dictionary words with your screen reader, replace the capitalized character sequence with the sequence E space S space S.

Typically, this abbreviation is used in the combination form of ESS/DS. This term refers to the Enterprise Storage Server 800, the DS6000, or the DS8000.

Some decorative artifacts might persist if the cascading style sheet is disabled.

Enable cascading style sheets when possible; otherwise, some decorative elements might persist in the web browser GUI. These artifacts do not affect performance. If they become too distracting, consider using the command-line interface instead.

For efficiency, confirmation dialogs place initial focus on the Yes button.

When a confirmation dialog box is displayed, focus is given to the **Yes** button. Therefore, the screen reader reads “Yes” but does not read the confirmation text. The software processes the information in this way when you do the following types of tasks:

- Perform an action on a session
- Remove a connection to a storage system
- Click the **About link**
- Create a high-availability connection

To read the confirmation text before clicking the **Yes**, **No**, or **OK** button, view the previous heading before the button.

Dojo components are not read by all screen readers.

The Job Access for Windows and Speech (JAWS) screen reader does not read some Dojo components on Internet Explorer 7. Use the command-line interface instead of the GUI with JAWS on Internet Explorer 7.

Firefox is the preferred browser for use with a screen reader.

Use Firefox as the screen reader because other browsers might not fully expose assistive technology content to the screen reader.

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Glossary

This glossary includes terms and definitions for IBM Tivoli Storage Productivity Center.

The following cross-references are used in this glossary:

- *See* refers the reader from a term to a preferred synonym, or from an acronym or abbreviation to the defined full form.
- *See also* refers the reader to a related or contrasting term.

To view glossaries for other IBM products, go to: <http://www.ibm.com/software/globalization/terminology/>.

active management server

A management server from which the storage environment can be monitored and managed. The active management server replicates its database to the standby server.

business continuity

The capability of a business to withstand outages and to operate mission-critical services normally and without interruption in accordance with predefined service-level agreements.

CIM See *Common Information Model*.

CIM agent

The code that consists of common building blocks that can be used instead of proprietary software or device-specific programming interfaces to manage devices that are compliant with the Common Information Model (CIM).

CKD See *count key data*.

cluster

1. In SAN Volume Controller or Storwize V7000, a pair of nodes that provides a single configuration and service interface.
2. In IBM System Storage™ DS8000®, a partition capable of performing all DS8000 series functions. With two clusters in the DS8000 storage unit, any operational cluster can take over the processing of a failing cluster.

Common Information Model (CIM)

An implementation-neutral, object-oriented schema for describing

network management information. The Distributed Management Task Force (DMTF) develops and maintains CIM specifications.

community name

The part of a Simple Network Management Protocol (SNMP) message that represents a password-like name and that is used to authenticate the SNMP message.

consistency group

A group of copy relationships between virtual volumes or data sets that are maintained with the same time reference so that all copies are consistent in time.

copy set

The set of source volumes or target volumes involved in a FlashCopy operation.

count key data (CKD)

In mainframe computing, a data-record format employing self-defining record formats in which each record is represented by up to three fields: a count field identifying the record and specifying its format, an optional key field that can be used to identify the data area contents, and an optional data field that typically contains the user data.

data collection

The process of obtaining performance and availability monitoring data and providing that data to a metric evaluator. Examples of data collectors include Domain Name System (DNS) probes, web page analyzers, or database analyzers. See also *discovery*.

discovery

The process of finding resources within an enterprise, including finding the new location of monitored resources that were moved. See also *schedule*.

enterprise repository

A component of the Data server that records and stores all information about

the monitored computers' storage assets and their usage over time. The repository is organized into relational database tables and is accessed by Data server using Java Database Connectivity (JDBC).

extended count key data (ECKD)

An extension of the count key data (CKD) architecture.

FlashCopy

In storage systems, a feature that creates a point-in-time copy of a volume or set of volumes on a specified target volume.

flush-through mode

A process in which data is written to a storage device at the same time as the data is cached.

freeze An operation in which a storage system blocks I/O from the host system to the affected volumes on the primary site. A freeze operation stops mirroring between the primary and secondary volumes to ensure data consistency at the secondary site. See also *thaw*.

GiB See *gibibyte*.

gibibyte (GiB)

A base-2 unit of measurement that is equal to 1,073,741,824 bytes (2 to the 30th power). See also *gigabyte*.

gigabyte (GB)

In decimal notation, 1,073,741,824 bytes, when referring to memory capacity; in all other cases, it is defined as 1,000,000,000.

Global Copy

A non-synchronous long-distance copy option for data migration and backup. See also *remote mirror and copy* and *Metro Mirror*.

Global Mirror

An optional capability of the remote mirror and copy feature that provides a two-site extended-distance remote copy. Data that is written by the host to the storage unit at the local site is automatically maintained at the remote site. See also *Metro Mirror* and *remote mirror and copy*.

Globally Unique Identifier (GUID)

An algorithmically determined number that uniquely identifies an entity within a system.

grain size

The unit size for allocating space on thin-provisioned volumes, such as 32, 64, 128, and 256 kibibyte. The grain size is defined when a volume is created.

GUID See *Globally Unique Identifier*.

Hardware Management Console (HMC)

In a system storage environment, a system that acts as the focal point for configuration, management of Copy Services functions, and maintenance.

heat map

A color-coded data chart where colors are used to differentiate values in a data set.

high availability

Pertaining to a clustered system that is reconfigured when node or daemon failures occur, so that workloads can be redistributed to the remaining nodes in the cluster.

high-availability solution

A combination of hardware, software, and services that fully automates the recovery process and does not disrupt user activity. High-availability solutions must provide an immediate recovery point with a fast recovery time.

HMC See *Hardware Management Console*.

host volume

A volume that represents the volume functional role from an application point of view. The host volume can be connected to a host or server. It receives read, write, and update application I/O, depending on the site to which the application is writing.

in-band discovery

The process of discovering information about the storage area network (SAN), including topology and attribute data, through the Fibre Channel data paths. Contrast with *out-of-band discovery*.

job

A unit of work within a run for a schedule. One run can have multiple jobs. For example, a system probe schedule has one job created per system in its definition.

job scheduler

A component of the Data server that deploys all monitoring activities.

journal volume

A volume that holds a consistent copy of data until a new consistent copy is formed. The journal volume restores the last consistent point during a recovery.

KiB See *kibibyte*.

kibibyte (KiB)

A base-2 unit of measurement that is equal to 1,024 bytes (2 to the 10th power). See also *kilobyte*.

kilobyte

For processor storage, real and virtual storage, and channel volume, 2 to the power of 10 or 1,024 bytes. For disk storage capacity and communications volume, 1,000 bytes.

logical unit number (LUN)

In the Small Computer System Interface (SCSI) standard, a unique identifier that is used to differentiate devices, each of which is a logical unit (LU).

LUN See *logical unit number*.

Management Information Base (MIB)

In the Simple Network Management Protocol (SNMP), a database of objects that can be queried or set by a network management system.

management server

A system that provides a central point of control for managing data replication.

management server relationship

A connection between two replication servers, where one server acts as the active server and replicates the data that is necessary for the standby server to take control of the replication environment.

mebibyte (MiB)

A base-2 unit of measurement that is equal to 1,048,576 bytes (2 to the 20th power). See also *megabyte*.

megabyte (MB)

For processor storage, real and virtual storage, and channel volume, 2 to the 20th power or 1,048,576 bytes. For disk storage capacity and communications volume, 1,000,000 bytes.

Metro Mirror

A method of synchronous remote replication that operates over distances up to 300 kilometers. This method constantly

updates a secondary copy of a volume to match changes that are made to a source volume. See also *remote mirror and copy* and *Global Copy*.

Metro Global Mirror

A three-site, high-availability, disaster recovery solution. Metro Global Mirror uses synchronous replication to mirror data between a local site and an intermediate site, and asynchronous replication to mirror data from an intermediate site to a remote site.

MiB See *mebibyte*.

MIB See *Management Information Base*.

native interface

An interface that is specific to a system or subsystem.

out-of-band discovery

The process of discovering storage area network (SAN) information, including topology and device data, without using the fibre-channel data paths. A common mechanism for out-of-band discovery is the use of Simple Network Management Protocol (SNMP) Management Information Base (MIB) queries, which are invoked over an IP network. Contrast with *in-band discovery*.

ping A job that tracks the availability of assets and that is performed by an agent. Several ping jobs can be used to monitor the availability of any computer or subset of computers in the network. See also *schedule*.

pool A storage pool or pool is a grouping of storage space that consists of volumes, logical unit numbers (LUNs), or addresses that share a common set of administrative characteristics.

practice volume

A volume that can be used to test disaster-recovery actions while maintaining disaster-recovery capability.

primordial pool

Storage capacity that is deallocated on a storage device. Storage pools are created by allocating storage capacity from primordial pools.

probe A job that itemizes and creates an

inventory of assets, such as computers, controllers, disk drives, file systems, and logical units. See also *schedule*.

recovery point objective

The maximum amount of data loss that can be tolerated during a service interruption.

remote mirror and copy

A feature of a storage server that constantly updates a secondary copy of a logical volume to match changes made to a primary logical volume. The primary and secondary volumes can be on the same storage server or on separate storage servers. See also *Metro Mirror* and *Global Mirror*.

resource

In a storage environment, an entity that is monitored. Resources can include fabrics, switches, computers, storage systems, and tape libraries.

role

A job function that identifies the tasks that a user can perform and the resources to which a user has access. A user can be assigned one or more roles.

role pair

The association of two roles in a replication session that take part in a copy relationship. For example, in a Metro Mirror session, the role pair can be the association between the volume roles of Host1 and Host2.

scan job

A job that monitors the usage and consumption of storage. See also *schedule*.

schedule

A monitoring task that collects data about storage resources. Monitoring tasks include scans, probes, pings, discovery, and performance monitors. For example, define a probe schedule to collect data about storage systems; define a scan schedule to collect file-level information about hosts.

session

A collection of volumes within a logical subsystem that are managed together during the creation of consistent copies of data. All volumes in a session must transfer their data successfully to the remote site before the increment can be called complete.

site awareness

The association of a location (site) with each storage system and each session's volume role. When a copy set is added, only the storage systems with locations that match those locations of the volumes' roles can be selected. This constraint prevents the reversing of a hardware relationship or the selection of a volume at the wrong location.

SMI-S See *Storage Management Initiative Specification*.

standby management server

A management server that is a backup for the active server. The replication environment cannot be monitored or managed from the standby server.

Storage Management Initiative Specification (SMI-S)

A design specification developed by the Storage Networking Industry Association (SNIA) that specifies a secure and reliable interface with which storage management systems (SMSs) can identify, classify, monitor, and control physical and logical resources in a storage area network (SAN). The interface integrates the various devices to be managed in a SAN and the tools used to manage them.

storage pod

A logical entity of components of a system that consists of two storage nodes, and one or two storage subsystems directly connected with these storage nodes.

storage resource group

A named collection of logically related resources that are monitored by Tivoli Storage Productivity Center. Monitored resources can include fabrics, switches, computers, storage systems, tape libraries, and other storage resource groups.

target volume

A volume that receives data from a host volume or another intermediate volume. It is used only in FlashCopy sessions.

thaw

An operation in which a storage system releases the block of the I/O from the host system to the affected volumes on the primary site. A thaw operation can

occur after a freeze operation ends and consistency is formed on the secondary site. See also *freeze*.

track space-efficient (TSE) volume

A volume in which storage space is allocated on an as-needed basis by using space on the target volume only when tracks are copied from the source volume to the target volume.

virtualization

The substitution of virtual resources for actual resources, where the virtual resources have the same functions and external interfaces as their counterparts, but differ in attributes, such as size, performance, and cost. Virtualization is commonly applied to physical hardware resources by combining multiple physical resources into shared pools from which users receive virtual resources.

virtual storage area network (VSAN)

A fabric within the storage area network (SAN).

VSAN See *virtual storage area network*.

zone A logical grouping of switches, switch ports, and their attached devices in a fabric.

zone alias

A name that is given to a collection of one or more zone members that you want to manage together.

zone set

A group of zones that function together on a fabric.

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