IBM Tivoli Storage Productivity Center for Replication for System z
Version 5.1

Command-line Interface User's Guide
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About this guide

This section briefly describes the content and the audience of this publication and explains how the information in this publication is organized.

This guide provides definitions, syntax, and examples for these command-line interface (CLI) commands that are used for the varieties of IBM® Tivoli® Storage Productivity Center for Replication:

- IBM Tivoli Storage Productivity Center for Replication Two Site Business Continuity
- IBM Tivoli Storage Productivity Center for Replication Three Site Business Continuity
- IBM Tivoli Storage Productivity Center for Replication Basic Edition for System z®
- IBM Tivoli Storage Productivity Center for Replication for System z

Intended audience

This publication is intended for users of the CLI program for IBM Tivoli Storage Productivity Center for Replication.

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 keywords 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 keywords 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, -vol 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
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 \texttt{csmcli} program and the command that you want to run from the shell prompt, for example:

\begin{verbatim}
shell> csmcli lslocation
Location  Details
=============
1  Boulder
3  Marana
2  Tucson
shell>
\end{verbatim}

Interactive mode

If you want to run several commands, start an CLI session using the \texttt{csmcli} program with no parameters or arguments, and then enter each command at the \texttt{csmcli}\textgreater{} shell prompt, for example:

\begin{verbatim}
shell> csmcli
shell> lslocation
Location  Details
=============
1  Boulder
3  Marana
2  Tucson
shell>
\end{verbatim}
Script mode

If you want to run a set of commands that you defined in a file, use the csmcli program with the -script parameter, for example:

shell> tptool -script ~/bin/containersetup

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

```
setoutput [fmt=default | xml | delim | stanza] [-p on | off] [-r number] [-v on | off]
```

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 csmcli command using the help command.

Syntax

```
help [-l command_name]
```
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 IWNCxxyy, IWNRxxyy, IWNHxxyy, or IWNExxyy, where xxyy 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>
<thead>
<tr>
<th>Exit Code</th>
<th>Category</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>Success</td>
<td>The command was successful.</td>
</tr>
<tr>
<td>2</td>
<td>Syntax error</td>
<td>The syntax of the command was not correct.</td>
</tr>
<tr>
<td>3</td>
<td>Connection error</td>
<td>A connectivity error or protocol error occurred.</td>
</tr>
<tr>
<td>4</td>
<td>Server error</td>
<td>An error occurred during a function call to the application server.</td>
</tr>
<tr>
<td>5</td>
<td>Authentication error</td>
<td>An error was detected during authentication checking.</td>
</tr>
<tr>
<td>6</td>
<td>Application error</td>
<td>An error occurred during processing that is performed by the MetaProvider client application.</td>
</tr>
</tbody>
</table>

**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 `csmcli` 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:

- **lsobject-s** lists only the objects without other columns of information. For example, `lssess -s` lists only the name header and the session names.
- **lsobject-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:

```
csmcli> 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:

```
csmcli> setoutput -fmt delim ,
csmcli> 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,8,No
```

To turn off headers, enter the command as shown in the following example:
csmcli> setoutput –fmt delim , -hdr off
csmcli> 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,8,No

setoutput –fmt xml
To obtain the long output in XML format for the default storage pool only,
enter the following command:
csmcli> setoutput –fmt xml
csmcli> 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:

<table>
<thead>
<tr>
<th>Name</th>
<th>Type</th>
<th>Size (GB)</th>
<th>Used (GB)</th>
<th>Used (%)</th>
<th>Alert (%)</th>
<th>Volumes</th>
</tr>
</thead>
<tbody>
<tr>
<td>DEFAULT</td>
<td>Default</td>
<td>10000</td>
<td>2500</td>
<td>25</td>
<td>80</td>
<td>10</td>
</tr>
</tbody>
</table>

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:

<table>
<thead>
<tr>
<th>Name</th>
<th>Type</th>
<th>Size (GB)</th>
<th>Used (GB)</th>
<th>Used (%)</th>
<th>Alert (%)</th>
<th>Volumes</th>
</tr>
</thead>
<tbody>
<tr>
<td>DEFAULT</td>
<td>Default</td>
<td>10000</td>
<td>2500</td>
<td>25</td>
<td>80</td>
<td>10</td>
</tr>
<tr>
<td>64</td>
<td>Default Storage Pool</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Accessing the Tivoli Storage Productivity Center for Replication Information Center

This topic explains how to access the Tivoli Storage Productivity Center for Replication Information Center.

You can access the information center in the following ways:

• On the publications CD, a readme.txt file describes how to start the information center depending on platform and mode.

• The Tivoli Storage Productivity Center for Replication graphical user interface includes a link to the information center.


Publications and related information for Tivoli Storage Productivity Center for Replication for System z publications

This section lists the publications in the IBM Tivoli Storage Productivity Center for Replication library and other related publications.

Information Centers

You can browse product documentation in the IBM Tivoli Storage Productivity Center for Replication for System z Information Center at:


Publications

The IBM Publications Center website offers customized search functions to help you find the publications that you need. Some publications are available for you to view or download free of charge. You can also order publications. The publications center displays prices in your local currency. You can access the [IBM Publications Center](http://www.ibm.com/e-business/linkweb/publications/servlet/pbi.wss) on the web at www.ibm.com/e-business/linkweb/publications/servlet/pbi.wss.

The IBM Publications Center website also offers you a notification system for IBM publications. Register and you can create your own profile of publications that interest you. The publications notification system sends you a daily email that contains information about new or revised publications that are based on your profile. Access the publications notification system from the [IBM Publications Center](http://www.ibm.com/e-business/linkweb/publications/servlet/pbi.wss) on the web at www.ibm.com/e-business/linkweb/publications/servlet/pbi.wss to subscribe.

About this guide xvii
The following publications make up the IBM Tivoli Storage Productivity Center for Replication for System z library:

IBM Tivoli Storage Productivity Center for Replication for System z Installation and Configuration Guide
   This guide contains instructions for installing and configuring the product on z/OS®.

Program Directory for IBM Tivoli Storage Productivity Center for Replication Basic Edition for System z
   This Program Directory includes installation instructions associated with IBM Tivoli Storage Productivity Center for Replication Basic Edition for System z.

Program Directory for IBM Tivoli Storage Productivity Center for Replication for System z
   This Program Directory presents information concerning the material and procedures associated with the installation of IBM Tivoli Storage Productivity Center for Replication for System z.

Program Directory for IBM WebSphere® Application Server for z/OS V7.0
   This Program Directory presents information related to installing WebSphere Application Server for z/OS V7.0.

Program Directory for IBM WebSphere Application Server OEM Edition for z/OS V7.0
   This Program Directory presents information related to installing WebSphere Application Server OEM Edition for z/OS V7.0.

Program Directory for IBM WebSphere Application Server for z/OS V8.0
   This Program Directory presents information related to installing WebSphere Application Server for z/OS version 8.0.

IBM Tivoli Storage Productivity Center for Replication for System z User’s Guide
   This guide contains task-oriented instructions for using the product graphical user interface (GUI) to manage copy services.

IBM Tivoli Storage Productivity Center for Replication for System z Command-Line Interface User’s Guide
   This guide provides information about how to use the product command-line interface (CLI).

IBM Tivoli Storage Productivity Center for Replication for System z Problem Determination Guide
   This guide assists administrators or users who are troubleshooting problems with the product.

WebSphere Application Server for z/OS product website
   This website provides information about WebSphere Application Server for z/OS, including links to sources of related information such as Redbooks, white papers, and ebooks. To view the website, go to [http://www-01.ibm.com/software/webservers/appserv/zos_os390/](http://www-01.ibm.com/software/webservers/appserv/zos_os390/)

Redbooks and white papers

Performance Monitoring and Best Practices for WebSphere on z/OS
   This IBM Redbooks® publication provides a structure that you can use to set up an environment that is tuned to meet best performance and catch eventual performance bottlenecks.
Web resources

There are multiple websites and information center topics that relate to IBM Tivoli Storage Productivity Center for Replication.

Websites

- **IBM Tivoli Storage Productivity Center Suite**
  www-03.ibm.com/systems/storage/software/center/
  This website describes the feature, benefits, and specifications of Tivoli Storage Productivity Center and Tivoli Storage Productivity Center for Replication. It also provides links to product support, Rebooks and white papers, and other related information.

- **Tivoli Storage Productivity Center Technical Support**
  www.ibm.com/support/entry/portal/Overview/Software/Tivoli/Tivoli_Storage_Productivity_Center
  This website provides links to downloads and documentation for all currently supported versions of Tivoli Storage Productivity Center and Tivoli Storage Productivity Center for Replication.

- **IBM WebSphere Application Server**
  www.ibm.com/software/webservers/appserv/was/
  This website describes the WebSphere Application Server offerings and provides links for downloading a trial version, purchasing WebSphere Application Server, and viewing online publications and demos.

- **IBM DB2 Software**
  www.ibm.com/software/data/db2/
  This website describes the DB2 offerings and provides links for downloading a trial version, purchasing DB2, and viewing analyst reports, online publications, and demos.

- **IBM System Storage® Disk Systems**
  www.ibm.com/servers/storage/disk/
  This website provides links to learn more about the IBM System Storage disk systems products and offerings, including DS6000™ and DS8000®. It also provides links for viewing support and services, software and solutions, and other resources.

- **IBM System Storage SAN Volume Controller**
  This website describes the IBM System Storage SAN Volume Controller offering and provides links for requesting a quote and purchasing System Storage SAN Volume Controller and viewing online publications, white papers, and case studies.

- **IBM Storwize V7000 Unified**
  www.ibm.com/systems/storage/disk/storwize_v7000/index.html
  This website describes the Storwize® V7000 and Storwize V7000 Unified offerings and provides links for requesting a quote and viewing online publications and white papers.

- **IBM XIV Storage System**
  www.ibm.com/systems/storage/disk/xiv
  This website describes the XIV® system offering and provides links for requesting a quote for an XIV system and viewing online publications, white papers, and demos.
- **System z (and z/OS)**
  www.ibm.com/systems/z/
  This website provides links to learn more about IBM System z offerings and software. It also includes information about upcoming webcasts, blogs, and demos.

**Forums**

- **Tivoli Forums**
  www.ibm.com/developerworks/forums/tivoli_forums.jspa
  This website provides a forum that you can use to discuss issues pertaining to Tivoli Storage Productivity Center, Tivoli Storage Productivity Center for Replication, and other Tivoli products. This website includes a link for obtaining the forum using a Rich Site Summary (RSS) feed.

- **Technical Exchange Webcasts**
  This website provides webcasts in which technical experts share their knowledge and answer your questions. Visit this site often to see upcoming topics and presenters or to listen to previous webcasts.

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**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 for Replication Information Center.

Go to the information center at [http://publib.boulder.ibm.com/infocenter/tivihelp/v59r1/index.jsp](http://publib.boulder.ibm.com/infocenter/tivihelp/v59r1/index.jsp) and click **Feedback** at the bottom of the information center Welcome page or topic pages.
Chapter 1. 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:

repcli.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 csmcli command or enter the csmcli 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.

<table>
<thead>
<tr>
<th>Operating system</th>
<th>Default directory</th>
</tr>
</thead>
<tbody>
<tr>
<td>Windows</td>
<td>install_root/cli</td>
</tr>
<tr>
<td>AIX® and Linux</td>
<td>install_root/cli</td>
</tr>
<tr>
<td>z/OS</td>
<td>tpcr_production_root/cli</td>
</tr>
</tbody>
</table>

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 csmcli command or enter the csmcli shell to encrypt the password in the tpcrcli-auth.properties file.
Chapter 2. csmcli command descriptions

The following table provides a brief description and authorization role for each command in the command-line interface.

### Sessions and copy sets

<table>
<thead>
<tr>
<th>Command</th>
<th>Description</th>
<th>Roles</th>
</tr>
</thead>
<tbody>
<tr>
<td>&quot;chsess&quot; on page 17</td>
<td>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.</td>
<td>Administrator, Operator</td>
</tr>
<tr>
<td>&quot;cmdsess&quot; on page 27</td>
<td>Use the cmdsess command to run a specific action against a session.</td>
<td>Administrator, Operator</td>
</tr>
<tr>
<td>&quot;exportcsv&quot; on page 33</td>
<td>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.</td>
<td>Administrator, Operator, Monitor</td>
</tr>
<tr>
<td>&quot;importcsv&quot; on page 38</td>
<td>Use the importcsv command to parse a comma-separated values (CSV) file to create copy sets for a session.</td>
<td>Administrator</td>
</tr>
<tr>
<td>&quot;lscpset&quot; on page 44</td>
<td>Use the lscpset command to list the IDs of copy sets in a session.</td>
<td>Administrator, Operator, Monitor</td>
</tr>
<tr>
<td>&quot;lsctypes&quot; on page 46</td>
<td>Use the lsctypes command to display all the supported session (copy) types that you can use with the mk sess command.</td>
<td>Administrator, Operator, Monitor</td>
</tr>
<tr>
<td>&quot;lspair&quot; on page 63</td>
<td>Use the ls pair command to list the copy pairs for a specified role pair or to list the copy pairs for a specified copy set.</td>
<td>Administrator, Operator, Monitor</td>
</tr>
<tr>
<td>&quot;lsparameter&quot; on page 67</td>
<td>Use the ls parameter command to list Metro Mirror heartbeat setting.</td>
<td>Administrator, Operator, Monitor</td>
</tr>
<tr>
<td>&quot;lsrolepairs&quot; on page 74</td>
<td>Use the lsrolepairs command to display role pairs in a session.</td>
<td>Administrator, Operator, Monitor</td>
</tr>
<tr>
<td>&quot;lsrolesscpset&quot; on page 77</td>
<td>Use the lsrolescpset command to list the volume roles in the specified session.</td>
<td>Administrator, Operator, Monitor</td>
</tr>
<tr>
<td>&quot;lsess&quot; on page 79</td>
<td>Use the lsess command to display sessions and their status.</td>
<td>Administrator, Operator, Monitor</td>
</tr>
<tr>
<td>&quot;lsessactions&quot; on page 82</td>
<td>Use the lsessactions command to list all the session actions (commands) that can be run for a session.</td>
<td>Administrator, Operator, Monitor</td>
</tr>
<tr>
<td>&quot;lsessdetails&quot; on page 84</td>
<td>Use the lsessdetails command to display the details of a session.</td>
<td>Administrator, Operator, Monitor</td>
</tr>
<tr>
<td>&quot;mkscpset&quot; on page 102</td>
<td>Use the mkscpset command to create copy sets.</td>
<td>Administrator, Operator</td>
</tr>
<tr>
<td>Command</td>
<td>Description</td>
<td>Roles</td>
</tr>
<tr>
<td>-------------</td>
<td>------------------------------------------------------------------------------</td>
<td>----------------</td>
</tr>
<tr>
<td>mksess</td>
<td>Use the mksess command to create a session.</td>
<td>Administrator</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Operator</td>
</tr>
<tr>
<td>rmcpset</td>
<td>Use the rmcpset command to remove a copy set.</td>
<td>Administrator</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Operator</td>
</tr>
<tr>
<td>rmssess</td>
<td>Use the rmssess command to remove a session.</td>
<td>Administrator</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Operator</td>
</tr>
<tr>
<td>setparameter</td>
<td>Use the setparameter command to set the system parameters.</td>
<td>Administrator</td>
</tr>
<tr>
<td>showcpset</td>
<td>Use the showcpset command to display properties for a copy set.</td>
<td>Administrator</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Operator</td>
</tr>
<tr>
<td>Showsess</td>
<td>Use the showsess command to display properties for a selected session,</td>
<td>Administrator</td>
</tr>
<tr>
<td></td>
<td>including name, description, group managed, and copy type.</td>
<td>Operator</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Monitor</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Command</th>
<th>Description</th>
<th>Roles</th>
</tr>
</thead>
<tbody>
<tr>
<td>adddevice</td>
<td>Use the adddevice command to add a storage system.</td>
<td>Administrator</td>
</tr>
<tr>
<td>addmc</td>
<td>Use the addmc command to add a management console connection and all the</td>
<td>Administrator</td>
</tr>
<tr>
<td></td>
<td>storage systems that are managed by that management console.</td>
<td></td>
</tr>
<tr>
<td>addstorsys</td>
<td>Use the addstorsys command to add a specific storage system and its volumes</td>
<td>Administrator</td>
</tr>
<tr>
<td></td>
<td>that are attached to the IBM Tivoli Storage Productivity Center in which</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Replication server to the IBM Tivoli Storage Productivity Center for</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Replication configuration through a z/OS connection.</td>
<td></td>
</tr>
<tr>
<td>chdevice</td>
<td>Use the chdevice command to change user names and passwords for accessing</td>
<td>Administrator</td>
</tr>
<tr>
<td></td>
<td>storage systems.</td>
<td></td>
</tr>
<tr>
<td>chlocation</td>
<td>Use the chlocation command to change the location associated with the</td>
<td>Administrator</td>
</tr>
<tr>
<td></td>
<td>specified storage systems.</td>
<td></td>
</tr>
<tr>
<td>chmc</td>
<td>Use the chmc command to set or change the hardware credentials for the</td>
<td>Administrator</td>
</tr>
<tr>
<td></td>
<td>hardware management console (HMC).</td>
<td></td>
</tr>
<tr>
<td>chvol</td>
<td>Use the chvol command to change the protection setting associated with a</td>
<td>Administrator</td>
</tr>
<tr>
<td></td>
<td>volume.</td>
<td></td>
</tr>
<tr>
<td>lsavailports</td>
<td>Use the lsavailports command to display the port configuration types for a</td>
<td>Administrator</td>
</tr>
<tr>
<td></td>
<td>specific path.</td>
<td></td>
</tr>
<tr>
<td>lsdevice</td>
<td>Use the lsdevice command to list storage systems and properties.</td>
<td>Administrator</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Operator</td>
</tr>
<tr>
<td>lslocation</td>
<td>Use the lslocation command to list all defined locations.</td>
<td>Administrator</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Operator</td>
</tr>
<tr>
<td>lsllss</td>
<td>Use the lsllss command to list the logical subsystems (LLSes) for the</td>
<td>Administrator</td>
</tr>
<tr>
<td></td>
<td>specified DS or ESS storage system.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>You can use this output with the mkpath command.</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Operator</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Monitor</td>
</tr>
</tbody>
</table>
### Command Summary

<table>
<thead>
<tr>
<th>Command</th>
<th>Description</th>
<th>Roles</th>
</tr>
</thead>
<tbody>
<tr>
<td><code>lsmc</code> on page 61</td>
<td>Use the <code>lsmc</code> command to display a summary of management consoles and settings.</td>
<td>Administrator</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Operator</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Monitor</td>
</tr>
<tr>
<td><code>lspath</code> on page 69</td>
<td>Use the <code>lspath</code> command to display paths between ESS and DS devices. You can then use this information for a remote copy.</td>
<td>Administrator</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Operator</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Monitor</td>
</tr>
<tr>
<td><code>lspool</code> on page 71</td>
<td>Use the <code>lspool</code> to list pools that are on XIV systems.</td>
<td>Administrator</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Operator</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Monitor</td>
</tr>
<tr>
<td><code>lsstorcandidate</code> on page 94</td>
<td>Use the <code>lsstorcandidate</code> 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.</td>
<td>Administrator</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Operator</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Monitor</td>
</tr>
<tr>
<td><code>lsvol</code> on page 96</td>
<td>Use the <code>lsvol</code> command to display detailed information about volumes.</td>
<td>Administrator</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Operator</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Monitor</td>
</tr>
<tr>
<td><code>mkpath</code> on page 105</td>
<td>Use the <code>mkpath</code> command to create a Fibre Channel path or paths between a source logical subsystem (LSS) and a target LSS.</td>
<td>Administrator</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Operator</td>
</tr>
<tr>
<td><code>rmdevice</code> on page 114</td>
<td>Use the <code>rmdevice</code> command to remove a direct connection to a storage system.</td>
<td>Administrator</td>
</tr>
<tr>
<td><code>rmmc</code> on page 117</td>
<td>Use the <code>rmmc</code> command to remove a management console.</td>
<td>Administrator</td>
</tr>
<tr>
<td><code>rmpath</code> on page 117</td>
<td>Use the <code>rmpath</code> command to remove a path or paths between a source logical subsystem (LSS) and a target LSS.</td>
<td>Administrator</td>
</tr>
<tr>
<td><code>rmstorsys</code> on page 120</td>
<td>Use the <code>rmstorsys</code> 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.</td>
<td>Administrator</td>
</tr>
<tr>
<td><code>showdevice</code> on page 125</td>
<td>Use the <code>showdevice</code> command to display storage system properties.</td>
<td>Administrator</td>
</tr>
<tr>
<td><code>showmc</code> on page 131</td>
<td>Use the <code>showmc</code> command to display the properties of a management console.</td>
<td>Administrator</td>
</tr>
</tbody>
</table>

### Management servers

<table>
<thead>
<tr>
<th>Command</th>
<th>Description</th>
<th>Roles</th>
</tr>
</thead>
<tbody>
<tr>
<td><code>hareconnect</code> on page 35</td>
<td>Use the <code>hareconnect</code> command to reconnect the active and standby servers for high availability (HA).</td>
<td>Administrator</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Operator</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Monitor</td>
</tr>
<tr>
<td><code>hatakeover</code> on page 38</td>
<td>Use the <code>hatakeover</code> command to change the standby server to the active server.</td>
<td>Administrator</td>
</tr>
<tr>
<td><code>lshaservers</code> on page 53</td>
<td>Use the <code>lshaservers</code> command to show the status of each active and standby management server.</td>
<td>Administrator</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Operator</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Monitor</td>
</tr>
<tr>
<td>Command</td>
<td>Description</td>
<td>Roles</td>
</tr>
<tr>
<td>-------------</td>
<td>-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
<td>--------------</td>
</tr>
<tr>
<td><strong>lssnmp</strong> on page 93</td>
<td>Use the <strong>lssnmp</strong> command to list the SNMP managers to which IBM Tivoli Storage Productivity Center for Replication is configured to send SNMP alerts.</td>
<td>Administrator Operator Monitor</td>
</tr>
<tr>
<td><strong>mkbackup</strong> on page 101</td>
<td>Use the <strong>mkbackup</strong> 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.</td>
<td>Administrator</td>
</tr>
<tr>
<td><strong>mklogpkg</strong> on page 104</td>
<td>Use the <strong>mklogpkg</strong> command to create a log package. The log package is written to the file that is specified in the properties file.</td>
<td>Administrator</td>
</tr>
<tr>
<td><strong>mksnmp</strong> on page 109</td>
<td>Use the <strong>mksnmp</strong> 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.</td>
<td>Administrator</td>
</tr>
<tr>
<td><strong>rmactive</strong> on page 111</td>
<td>Use the <strong>rmactive</strong> command to remove an active management server.</td>
<td>Administrator</td>
</tr>
<tr>
<td><strong>rmsnmp</strong> on page 119</td>
<td>You can use the <strong>rmsnmp</strong> command to remove the specified manager from the list of servers to which SNMP traps are sent.</td>
<td>Administrator</td>
</tr>
<tr>
<td><strong>rmstdby</strong> on page 119</td>
<td>Use the <strong>rmstdby</strong> command to remove a standby management server.</td>
<td>Administrator</td>
</tr>
<tr>
<td><strong>setasstdby</strong> on page 121</td>
<td>Use the <strong>setasstdby</strong> command to set a management server to be the standby management server of another active management server.</td>
<td>Administrator</td>
</tr>
<tr>
<td><strong>setstdby</strong> on page 123</td>
<td>Use the <strong>setstdby</strong> command to set the standby management server for an active management server.</td>
<td>Administrator</td>
</tr>
<tr>
<td><strong>showha</strong> on page 130</td>
<td>Use the <strong>showha</strong> command to display the high-availability status.</td>
<td>Administrator Operator Monitor</td>
</tr>
<tr>
<td><strong>ver</strong> on page 135</td>
<td>Use the <strong>ver</strong> command to display the current version of IBM Tivoli Storage Productivity Center for Replication.</td>
<td>Administrator Operator Monitor</td>
</tr>
</tbody>
</table>

**Security**

<table>
<thead>
<tr>
<th>Command</th>
<th>Description</th>
<th>Roles</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>chauth</strong> on page 11</td>
<td>Use the <strong>chauth</strong> command to change the authorization level of a user.</td>
<td>Administrator</td>
</tr>
<tr>
<td><strong>lsauth</strong> on page 40</td>
<td>Use the <strong>lsauth</strong> command to lists the name, authorization level, and session permission for each user or user group.</td>
<td>Administrator Operator Monitor</td>
</tr>
<tr>
<td><strong>mkauth</strong> on page 100</td>
<td>Use the <strong>mkauth</strong> command to grant monitor, administrator, or operator authorization to a user.</td>
<td>Administrator</td>
</tr>
<tr>
<td><strong>rmauth</strong> on page 112</td>
<td>Use the <strong>rmauth</strong> command to remove monitor, administrator, or operator authorization from a user or user group.</td>
<td>Administrator</td>
</tr>
<tr>
<td>Command</td>
<td>Description</td>
<td>Roles</td>
</tr>
<tr>
<td>---------</td>
<td>-------------</td>
<td>-------</td>
</tr>
<tr>
<td>whoami</td>
<td>Use the whoami command to display the name of the user that is currently logged in.</td>
<td>Administrator, Operator, Monitor</td>
</tr>
</tbody>
</table>

**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**

```
adddevice -help
adddevice -h
adddevice -? 
```

```
adddevice -devtype { ds | ess | storwize-v7000 | svc | xiv }
adddevice -ip ip_address
adddevice -username user_name
adddevice -port port
```

**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.
csmcli> 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

```
addhost
  --help
  --port <port>
  IP_Address

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.
  csmcli> 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

```
addmc
  --help
  --devtype <devtype>
    -ds
    -ds8000
  --username <username>
  --ip <ip_address>
    -ip <ip_address>

Parameters

addmc
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.
csmcli> 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 | -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/OS 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.
   - csmcli> 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.
   - csmcli> 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**

```
chauth [options] name
```

Where:
- **options**:
  - `-help`
  - `-quiet`
  - `-authlevel admin,operator,monitor`
  - `-name name`

**Chapter 2. Commands**
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

```
--chdevice --devtype {ds|ess|storwize-v7000|svc|xiv} --ip ip_address
--username user_name --password password
```

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**

```
chhost
   -help    -quiet    -oldport=port
   -h       -newip=IP_Address
   -?       -newport=port
                       IP_Address
```

**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.
csmcli> 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.

```
tpc tool> 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**

```
chmc [-help | -h | -?]

chmc [-devtype ds | ds8000]

chmc [-ip ip_address]

chmc [-username user_name]

chmc [-password]

chmc [-id]
```

**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.

csmcli> 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

```
```

```

-maxdrain max_drain_time | -maxdrain_h1j2 max_drain_time_h1j2
```
-maxdrain_h1j3—max_drain_time_h1j3-

-maxdrain_h2j3—max_drain_time_h2j3-

-maxdrain_h2j1—max_drain_time_h2j1-

-coordint—coordination_interval_time-

-coordint_h1j2—coordination_interval_time_h1j2-

-coordint_h1j3—coordination_interval_time_h1j3-

-coordint_h2j3—coordination_interval_time_h2j3-

-coordint_h2j1—coordination_interval_time_h2j1-

-rpo—rpo_value-

-schedule—schedule_value-

-rpo_h1j2—rpo_value_h1j2-

-rpo_h1j3—rpo_value_h1j3-

-rpo_h2j3—rpo_value_h2j3-

-rpo_h2j1—rpo_value_h2j1-

-dsRPOwarning_h1j2—dsRPOwarning_value_h1j2-
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 relates 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 |
-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 the 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.

```
csmcli> 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`.

```
csmcli> 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`.

```
csmcli> 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 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.
   ```
csmcli> 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
   IWNE93001 The set protection command completed without any errors. There were 1 element(s) protected and 0 element(s) unprotected.
   IWNE93021 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
   IWNE93001 The set protection command completed without any errors. There were 0 element(s) protected and 1 element(s) unprotected.
   IWNE93031 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 **lssessactions** command.
Syntax

```
>cmdsess
  -help  -quiet -action create_snapshot
  enable_copy_to_site_1
  enable_copy_to_site_2
  flash
  hyperswap
  initiate_background_copy
  recover
  recoverh1
  recoverh2
  recoverh3
  re-enable_copy_to_site_1
  re-enable_copy_to_site_2
  re-enable_copy_to_site_3
  release_i/o
  restore
  start
  start_h1:h2:h3
  start_h1:h2
  start_h1:h3
  start_h2:h1
  start_h2:h1:h3
  start_h2:h3
  start_h3:h1:h2
  startgc
  startgc_h1:h2
  startgc_h2:h1
  stop
  suspend
  suspendh1h3
  suspendh2h3
  terminate
```

```
  -restorefrom snapshot_group_name
  -priority 1 2 3 4

  -newname snapshot_group_name session_name
```

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 type (command) depending on the state and type of session. The possible action types are displayed in the syntax diagram and are described in the *IBM Tivoli Storage Productivity Center User’s Guide* and *IBM Tivoli Storage Productivity Center for Replication for System z User’s Guide*. 
**-restorefrom snapshot_group_name**

Specifies the name of the snapshot group that you want to use to restore the data in the H1 volumes for the session. The snapshot group must be in the session.

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 optional and only used if the **-action** parameter value is **create_snapshot**.

**-newname snapshot_group_name**

Specifies the new name for the snapshot group.

This parameter is optional and only used if the **-action** parameter value is **create_snapshot**.

**session_name | -**

Specifies the name of the session that the action will run against.

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**

**Starting a session**

The following command runs the **Start H1->H2->H3** action on session **session1**:

```
csmcli> cmdsess -action start_h1:h2:h3 session1
```

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:

```
csmcli> 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**:

```
csmcli> 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**

```plaintext
--cmdsnapgrp --help | -h | -?
--quiet --action delete
--disband
--duplicate
--lock
--overwrite
--rename
--restore
--set_priority
--unlock

--group snapshot_group_name
--restorefrom snapshot_group_name

--priority 1 2 3 4
--newname snapshot_group_name
--session_name
```

**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`.

```
csmcli> 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`.

```
csmcli> 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`.

```
csmcli> 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`.

```
csmcli> 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.

csmcli> cmdsngrp -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.

csmcli> cmdsngrp -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.

csmcli> cmdsngrp -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.

csmcli> cmdsngrp -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.

csmcli> cmdsngrp -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

```plaintext
exportcsv [-help] [-h] [-file=file_name] [-?]
```

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`.

```
csmcli> 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.

```sh
csmcli> exportcsv session1
```

The following output is returned:

```
Exporting...
#203
#Metro Global Mirror w/ Practice
#Aug 25 1:44:16 PM
H1,H2,H3,13,33
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
DS8000:2107.04131:VOL:1502,DS8000:2107.04131:VOL:1507,
DS8000:2107.04131:VOL:150C
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
```
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

IWNR1301I The export of a copy set for session xiv_gm_1 succeeded.

**exportgmda**

Use the `exportgmda` 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
-help | -h | -?

-rpohistory -rpo_start -startdate -rpo_end -enddate

-lssoos -lssoos_start -startdate -lssoos_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.

- **-lssoos**
  Specifies that the export file contains data for the out-of-sync tracks in the LSSs.

- **-lssoos_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 `-lssoos` parameter is present.

- **-lssoos_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 `-lssoos` parameter is present.
Specifies the role pair for which you are exporting the data.

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.

```
csmcli> exportgmdata -rpohistory -rpo_start 2012-02-01 -rpo_end 2012-02-28

-rolepair h1-j2 gmsession1
```

The following output is returned:

IWNR1262I 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-J2lssoos2012-02-28-16-45-46.csv. The confirmation message contains the path to the file.

```
csmcli> exportgmdata -lssoos -lssoos_start 2012-02-01 -lssoos_end 2012-02-08

-rolepair h1-j2 gmsession1
```

The following output is returned:

IWNR1262I The data for session gmsession1 was exported.
The CSV file is located on the server at: C:\SM790000:\Program Files\IBM\TPC\ewas\profiles\ReplicationServerProfile\exportdir\gmsession1H1-J2lssoos2012-02-28-16-45-46.csv

hareconnect

Use the `hareconnect` command to reconnect the active and standby servers for high availability (HA).

Syntax

```
  hareconnect
```

```
  -help  [-quiet]
  -h     [-quiet]
  -?     [-quiet]
```

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.
Example

Reconnecting the active and standby management servers

The following command reconnect the active and standby management servers.

csmcli> hareconnect

The following output is returned:
IWNR3052I Successfully reconnected with the high availability server
tpc1.storage.tucson.ibm.com from the server tpc2.storage.tucson.ibm.com

hatakeover

Use the hatakeover command to change the standby server to the active server.

Syntax

hatakeover

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

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.

csmcli> 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

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.

```csv
#Session1,
#FlashCopy,
#Oct 2 10:03:18 AM

H1,T1
```

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 \texttt{VOL:}.

The following is an example CSV file for an XIV system.

```csv
#xiv_gm_1
#Global Mirror Failover/Failback
##Aug 25 9:48:26 AM

H1,H2
```

The values for the volumes consist of the following information delimited by a colon:

- The storage system type
- The serial number preceded by \texttt{VOL:}.
- The volume ID or volume nickname. In the preceding example, the volume nickname \texttt{myvolume} is provided.

Commented lines in a CSV file must start with \texttt{#}.

**Syntax**

```bash
importcsv -help | --help | -? | --? | --quiet | -q | --quiet | -h | --help | file=filename session_name=SessionName
```

**Parameters**

- \texttt{-help} | \texttt{--help} | \texttt{-?} | \texttt{--?}
  - Lists help for the command. If you specify additional parameters and arguments, those parameters and arguments are ignored.

- \texttt{-quiet} | \texttt{--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.
csmcli> importcsv -quiet -file exportcsvtest.csv session1

The following output is returned:
IWNR2001I The pair was successfully created in session session1 for copy set
IWNR2001I The pair was successfully created in session session1 for copy set
IWNR2001I The pair was successfully created in session session1 for copy set

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.
csmcli> 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

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:

<table>
<thead>
<tr>
<th>Column label</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>User name</td>
<td>The user name for each authorization and session that the user has permission to manage.</td>
</tr>
<tr>
<td>Classification</td>
<td>The type: user or group.</td>
</tr>
<tr>
<td>Role</td>
<td>The role: Administrator, Operator, or Monitor</td>
</tr>
<tr>
<td>Session</td>
<td>The session name if the role is Operator, or a dash (-) if the role is Administrator or Monitor.</td>
</tr>
</tbody>
</table>

- **-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.
   csmcli> lsauth
   The following output is returned:
<table>
<thead>
<tr>
<th>Name</th>
<th>Classification</th>
<th>Role</th>
</tr>
</thead>
<tbody>
<tr>
<td>csmuser</td>
<td>User</td>
<td>Administrator</td>
</tr>
</tbody>
</table>

2. Listing detailed authorization information
   The following command lists detailed information about the user csmuser.
   csmcli> lsauth -l
   The following output is returned:
<table>
<thead>
<tr>
<th>Name</th>
<th>Classification</th>
<th>Role</th>
<th>Session</th>
</tr>
</thead>
<tbody>
<tr>
<td>csmuser</td>
<td>User</td>
<td>Administrator</td>
<td>-</td>
</tr>
</tbody>
</table>

lsavailports

Use the lsavailports command to display the port configuration types for a specific path.

Syntax

```
lsavailports [-help] [-h] [-? | -? | -h] -fmt [xml] [default] [delim] [delim] [stanza] [default]
```
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:

<table>
<thead>
<tr>
<th>Column label</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Source</td>
<td>Origin of the path; for ESS, an LSS.</td>
</tr>
<tr>
<td>Target</td>
<td>Target of the path; for ESS, an LSS.</td>
</tr>
<tr>
<td>Type</td>
<td>The configuration of the port (such as Enterprise Systems Connection [ESCON®] or Fibre Channel).</td>
</tr>
</tbody>
</table>

- **-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.

The following output is returned:

<table>
<thead>
<tr>
<th>Source</th>
<th>Target</th>
<th>Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>DS8000:2107.04131:LSS:15.0x0330</td>
<td>ESS:2105.FCA57:LSS:15.0x008C</td>
<td>Fibre Channel</td>
</tr>
<tr>
<td>DS8000:2107.04131:LSS:15.0x0110</td>
<td>ESS:2105.FCA57:LSS:15.0x000C</td>
<td>Fibre Channel</td>
</tr>
<tr>
<td>DS8000:2107.04131:LSS:15.0x0110</td>
<td>ESS:2105.FCA57:LSS:15.0x008C</td>
<td>Fibre Channel</td>
</tr>
<tr>
<td>DS8000:2107.04131:LSS:15.0x0110</td>
<td>ESS:2105.FCA57:LSS:15.0x0088</td>
<td>Fibre Channel</td>
</tr>
<tr>
<td>DS8000:2107.04131:LSS:15.0x0110</td>
<td>ESS:2105.FCA57:LSS:15.0x0028</td>
<td>Fibre Channel</td>
</tr>
</tbody>
</table>

Isscpset

Use the Isscpset 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 Isvol 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 | -l**  
Displays the following information:

<table>
<thead>
<tr>
<th>Column Label</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>H1 Volume ID</td>
<td>The ID of the volume at host site 1 which is used to identify copy sets in a session</td>
</tr>
<tr>
<td>Session</td>
<td>The name of the session that contains the copy sets</td>
</tr>
<tr>
<td>Volumes</td>
<td>The number of volumes associated with the copy set</td>
</tr>
</tbody>
</table>

-**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.

-hl hl_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:
csmcli> lscpset session1

The following output is returned:

<table>
<thead>
<tr>
<th>H1 Volume ID</th>
<th>Session</th>
<th>Volumes</th>
</tr>
</thead>
<tbody>
<tr>
<td>DS8000:2107.NK791:VOL:1500</td>
<td>session1</td>
<td>5</td>
</tr>
<tr>
<td>DS8000:2107.NK791:VOL:1501</td>
<td>session1</td>
<td>5</td>
</tr>
<tr>
<td>DS8000:2107.NK791:VOL:1502</td>
<td>session1</td>
<td>5</td>
</tr>
<tr>
<td>DS8000:2107.NK791:VOL:1503</td>
<td>session1</td>
<td>5</td>
</tr>
<tr>
<td>DS8000:2107.NK791:VOL:1504</td>
<td>session1</td>
<td>5</td>
</tr>
<tr>
<td>ESS:2105.FCA57:VOL:1500</td>
<td>session1</td>
<td>5</td>
</tr>
<tr>
<td>ESS:2105.FCA57:VOL:1501</td>
<td>session1</td>
<td>5</td>
</tr>
<tr>
<td>ESS:2105.FCA57:VOL:1502</td>
<td>session1</td>
<td>5</td>
</tr>
<tr>
<td>ESS:2105.FCA57:VOL:1503</td>
<td>session1</td>
<td>5</td>
</tr>
<tr>
<td>ESS:2105.FCA57:VOL:1504</td>
<td>session1</td>
<td>5</td>
</tr>
</tbody>
</table>

lscpctypes

Use the lscpctypes command to display all the supported session (copy) types that you can use with the mksess 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:

<table>
<thead>
<tr>
<th>Column label</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Copy Type</td>
<td>The abbreviated name of the session type that you can specify with the <code>mksess</code> command (for example, mgm).</td>
</tr>
<tr>
<td>Full Name</td>
<td>The full name of the session type (for example, Metro Global Mirror).</td>
</tr>
<tr>
<td>Device Types</td>
<td>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.</td>
</tr>
</tbody>
</table>

- **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.

csmcli> lscptypes

The following output is returned:

```
Copy Type Full Name                  Device Types
---------------------------------------------------------------------------
fcs FlashCopy                         DS8000, DS6000, ESS, SVC, STORWIZE-V7000
snaps Snapshot                        XIV
mmsds Metro Mirror Single Direction   DS8000, DS6000, ESS, SVC, STORWIZE-V7000
mmsdfsb Metro Mirror Failover/Failback DS8000, DS6000, ESS, SVC, STORWIZE-V7000
mmsdfsbxiv Metro Mirror Failover/Failback XIV
pmmsfsfsvc Global Mirror Failover/Failback w/ Practice SVC, STORWIZE-V7000
pmmsfsfsvc Global Mirror Failover/Failback w/ Practice SVC, STORWIZE-V7000
mmsdsvcsm Global Mirror Single Direction SVC, STORWIZE-V7000
mmsdsvcsm Global Mirror Single Direction SVC, STORWIZE-V7000
gmmsnsvc Global Mirror Failover/Failback SVC, STORWIZE-V7000
gmmsnsvc Global Mirror Failover/Failback SVC, STORWIZE-V7000
pgmsvcs Global Mirror Failover/Failback w/ Practice SVC, STORWIZE-V7000
pgmsvcs Global Mirror Failover/Failback w/ Practice SVC, STORWIZE-V7000
pgmsvcs Global Mirror Failover/Failback w/ Practice SVC, STORWIZE-V7000
pgmsvcs Global Mirror Failover/Failback w/ Practice SVC, STORWIZE-V7000
mgmsna Global Mirror Either Direction w/ Two Site Practice DS8000, DS6000, ESS
mgmsna Global Mirror Either Direction w/ Two Site Practice DS8000, DS6000, ESS
mgmsna Global Mirror Either Direction w/ Two Site Practice DS8000, DS6000, ESS
mgmsna Global Mirror Either Direction w/ Two Site Practice DS8000, DS6000, ESS
```
Listing session types supported for System Storage DS8000 and System Storage DS6000 storage systems

csmcli> lscptypes -devtype ds

The following output is returned:

<table>
<thead>
<tr>
<th>Copy Type</th>
<th>Full Name</th>
<th>Device Types</th>
</tr>
</thead>
<tbody>
<tr>
<td>fc</td>
<td>FlashCopy</td>
<td>DS8000, DS6000, ESS, SVC, STORWIZE-V7000</td>
</tr>
<tr>
<td>mmsd</td>
<td>Metro Mirror Single Direction</td>
<td>DS8000, DS6000, ESS, SVC, STORWIZE-V7000</td>
</tr>
<tr>
<td>mmfob</td>
<td>Metro Mirror Failover/Failback</td>
<td>DS8000, DS6000, ESS, SVC, STORWIZE-V7000</td>
</tr>
<tr>
<td>pmm</td>
<td>Metro Mirror Failover/Failback w/ Practice</td>
<td>DS8000, DS6000, ESS</td>
</tr>
<tr>
<td>gmm</td>
<td>Global Mirror Single Direction</td>
<td>DS8000, DS6000, ESS</td>
</tr>
<tr>
<td>gmfob</td>
<td>Global Mirror Failover/Failback</td>
<td>DS8000, DS6000, ESS</td>
</tr>
<tr>
<td>pgm</td>
<td>Global Mirror Failover/Failback w/ Practice</td>
<td>DS8000, DS6000, ESS</td>
</tr>
<tr>
<td>pgm2s</td>
<td>Global Mirror Either Direction w/ Two Site Practice</td>
<td>DS8000, DS6000, ESS</td>
</tr>
<tr>
<td>mgm</td>
<td>Metro Global Mirror</td>
<td>DS8000, ESS</td>
</tr>
<tr>
<td>pgm2s</td>
<td>Metro Global Mirror w/ Practice</td>
<td>DS8000, ESS</td>
</tr>
</tbody>
</table>

Listing session types supported for an XIV system

csmcli> lscptypes -devtype xiv

The following output is returned:

<table>
<thead>
<tr>
<th>Copy Type</th>
<th>Full Name</th>
<th>Device Types</th>
</tr>
</thead>
<tbody>
<tr>
<td>snap</td>
<td>Snapshot</td>
<td>XIV</td>
</tr>
<tr>
<td>mmfobxiv</td>
<td>Metro Mirror Failover/Failback</td>
<td>XIV</td>
</tr>
<tr>
<td>gmfobxiv</td>
<td>Global Mirror Failover/Failback</td>
<td>XIV</td>
</tr>
</tbody>
</table>

Isdevice

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**

```
lsdevice

usage:

lsdevice [-help] [-h] [-?]

optional arguments:

-s                 # show summary

-help              # show help

-h                 # show help

-?                  # show help

-fmt [xml|delim|stanza]

-delim [char]

-stanza

-device_id

-devtype [ds|ds6000|ds8000|ess|storwize-v7000|svc|xiv]
```

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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:

<table>
<thead>
<tr>
<th>Column Label</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Device ID</td>
<td>The name, nickname, or model-serial-manufacturer of the storage system.</td>
</tr>
<tr>
<td>Connection Type</td>
<td>The connection type: Direct, HMC, or z/OS.</td>
</tr>
<tr>
<td>Device Type</td>
<td>The storage system type: DS6000, DS8000, ESS, SAN Volume Controller, STORWIZE-V7000, or XIV.</td>
</tr>
<tr>
<td>Device IP Address</td>
<td>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, ip_address;ip_address).</td>
</tr>
<tr>
<td>Local Server Connection</td>
<td>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, cluster0_status;cluster1_status).</td>
</tr>
<tr>
<td>Remote Server Connection</td>
<td>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, cluster0_status;cluster1_status).</td>
</tr>
<tr>
<td>Management Console ID</td>
<td>The ID of the Hardware Management Console (HMC). This parameter applies only to System Storage DS8000 storage systems that are using HMCs to connect.</td>
</tr>
<tr>
<td>Location</td>
<td>The location of the storage system.</td>
</tr>
<tr>
<td>Manufacturer</td>
<td>The manufacturer of the storage system.</td>
</tr>
<tr>
<td>Device Name</td>
<td>The user-defined name of the storage system.</td>
</tr>
</tbody>
</table>

- **-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.

```
-stanza
```

**-p** { on | off }

Specifies whether to display one page of text at a time or all text at once.

<table>
<thead>
<tr>
<th>Value</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>on</td>
<td>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.</td>
</tr>
<tr>
<td>off</td>
<td>Displays all text at once. This is the default value when the command is run in single-shot mode.</td>
</tr>
</tbody>
</table>

**-hdr** { on | off }

Specifies whether to display the table header. You can specify one of these values:

<table>
<thead>
<tr>
<th>Value</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>on</td>
<td>Displays the table header. This is the default value.</td>
</tr>
<tr>
<td>off</td>
<td>Hides the table header.</td>
</tr>
</tbody>
</table>

**-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:

<table>
<thead>
<tr>
<th>Value</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>on</td>
<td>Enable verbose mode.</td>
</tr>
<tr>
<td>off</td>
<td>Disable verbose mode. This is the default value.</td>
</tr>
</tbody>
</table>

**-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.

csmcli> lsdevice -devtype ds

<table>
<thead>
<tr>
<th>Device ID</th>
<th>Connection Type</th>
<th>Device Type</th>
<th>Local Server Connection</th>
</tr>
</thead>
<tbody>
<tr>
<td>DS8000:BOX:2107.04131</td>
<td>Direct</td>
<td>DS8000</td>
<td>Connected;Connected</td>
</tr>
<tr>
<td>DS8000:BOX:2107.MW931</td>
<td>Direct</td>
<td>DS8000</td>
<td>Connected;Connected</td>
</tr>
<tr>
<td>DS8000:BOX:2107.NF111</td>
<td>Direct</td>
<td>DS8000</td>
<td>Connected;Connected</td>
</tr>
<tr>
<td>DS8000:BOX:2107.NK791</td>
<td>Direct</td>
<td>DS8000</td>
<td>Connected;Connected</td>
</tr>
<tr>
<td>DS6000:BOX:1750.AAXYA</td>
<td>Direct</td>
<td>DS6000</td>
<td>Connected;Connected</td>
</tr>
</tbody>
</table>

Listing detailed attributes for a storage system

The following command lists detailed information for the storage system DS8000:BOX:2107.04131.

csmcli> 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 all XIV systems.

csmcli> lsdevice -devtype XIV

The following output is returned:

<table>
<thead>
<tr>
<th>Device ID</th>
<th>Connection Type</th>
<th>Device Type</th>
<th>Local Server Connection</th>
</tr>
</thead>
<tbody>
<tr>
<td>XIV:BOX:7803441</td>
<td>Direct</td>
<td>XIV</td>
<td>Connected;Connected;Connected</td>
</tr>
<tr>
<td>XIV:BOX:7803448</td>
<td>Direct</td>
<td>XIV</td>
<td>Connected;Connected;Connected</td>
</tr>
</tbody>
</table>

Listing detailed attributes for all XIV systems

The following command lists detailed information for all XIV systems.

csmcli> lsdevice -devtype XIV -l

The following output is returned:

Device ID: XIV:BOX:7803441
Connection Type: XIV
Device Type: XIV
Device IP Address: tpcr_xiva2.storage.tucson.ibm.com
Local Server Connection: Connected
Remote Server Connection: -
Management Console ID: -

Device ID: XIV:BOX:7803448
Connection Type: XIV
Device Type: XIV
Device IP Address: tpcr_xivb2.storage.tucson.ibm.com
Local Server Connection: Connected
Remote Server Connection: -
Management Console ID: -

Disconnected: -
Disconnected: -
Ishaservers

Use the Ishaservers command to show the status of each active and standby management server.

Syntax

```plaintext
-Isahervers [-help | -h | -?]  
  Lists help for the command. If you specify additional parameters and arguments, those parameters and arguments are ignored.

-1 | -s  
  Displays detailed information for each management server, including:

<table>
<thead>
<tr>
<th>Column label</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Server</td>
<td>The domain or IP address of the management server</td>
</tr>
<tr>
<td>Role</td>
<td>The role of management server: Active or Standby</td>
</tr>
<tr>
<td>Status</td>
<td>The status of the relationship</td>
</tr>
<tr>
<td>Port</td>
<td>The standby management server port number. This port is used for communication between the active and standby management server. This port number is initially set at installation time. <strong>Important:</strong> 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.</td>
</tr>
</tbody>
</table>

-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.
csmcli> lshaservers

The following output is returned:

<table>
<thead>
<tr>
<th>Server</th>
<th>Role</th>
<th>Status</th>
<th>Port</th>
</tr>
</thead>
<tbody>
<tr>
<td>tpc1.storage.tucson.ibm.com</td>
<td>ACTIVE</td>
<td>Synchronized</td>
<td>5120</td>
</tr>
<tr>
<td>tpc2.storage.tucson.ibm.com</td>
<td>STANDBY</td>
<td>Synchronized</td>
<td>5120</td>
</tr>
</tbody>
</table>
Ishost

Use the Ishost command to view host systems that have been added to IBM Tivoli Storage Productivity Center for Replication.

Syntax

```
Ishost [options] ...
```

**Options**

- `-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.
  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 Ishost 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.

csmcli> lhost
The following output is returned:

<table>
<thead>
<tr>
<th>Host System Port Type</th>
<th>Local Status</th>
<th>Sessions</th>
</tr>
</thead>
<tbody>
<tr>
<td>9.11.223.43 9930 AIX</td>
<td>Connected</td>
<td>MyMMSession</td>
</tr>
<tr>
<td>9.11.223.85 9990 Unknown</td>
<td>Disconnected</td>
<td>-</td>
</tr>
</tbody>
</table>

- **Listing detailed information for host systems**
  The following command lists detailed information about the host systems.
  
  ```
  csmcli> lshost -l
  ```

  The following output is returned:

<table>
<thead>
<tr>
<th>Host System Port Type</th>
<th>Local Status</th>
<th>Remote Status</th>
<th>Sessions</th>
</tr>
</thead>
<tbody>
<tr>
<td>9.11.223.43 9930 AIX</td>
<td>Connected</td>
<td>Connected</td>
<td>-</td>
</tr>
<tr>
<td>9.11.223.85 9990 Unknown</td>
<td>Disconnected</td>
<td>Disconnected</td>
<td>-</td>
</tr>
</tbody>
</table>

---

**lslocation**

Use the `lslocation` command to list all defined locations.

**Syntax**

```
lslocation
```

**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:

<table>
<thead>
<tr>
<th>Column label</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Location</td>
<td>An integer representing the location.</td>
</tr>
<tr>
<td>Details</td>
<td>The alphanumeric text string that was given to the location. The string can be descriptive of the location.</td>
</tr>
</tbody>
</table>

- `-fmt { default | xml | delim | stanza }`
  Specifies the format of the output. You can specify one of these values:

<table>
<thead>
<tr>
<th>Value</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>default</td>
<td>Specifies that the output is displayed in tabular format using spaces as delimiters between columns. This is the default value.</td>
</tr>
<tr>
<td>xml</td>
<td>Specifies that the output is displayed in XML format.</td>
</tr>
</tbody>
</table>
**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**  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**  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**  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.

```
csmcli> lslocation
```

The following output is returned:

```
Location  Details
-----------
1  Boulder
3  Marana
2  Tucson
```

**lssl**

Use the `lssl` 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

```
lslls
   -help | -h | -?
   -l | -s
   -fmt { default | xml | delim | stanza }
   -p { on | off }
   -hdr off
   -r number
   -v on
   -dev device_id
```

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:

<table>
<thead>
<tr>
<th>Column label</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Device</td>
<td>Storage system of the LSSs</td>
</tr>
<tr>
<td>LSS ID</td>
<td>LSS identifier</td>
</tr>
</tbody>
</table>

- `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.

csmcli> lslss -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: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:12
Use the `lsmc` command to display a summary of management consoles and settings.

**Syntax**

```
lsmc [options] [parameters]
```

**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:

<table>
<thead>
<tr>
<th>Column label</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Management console ID</td>
<td>The ID of the management console.</td>
</tr>
<tr>
<td>Management console IP</td>
<td>The cluster 0 IP address or domain.</td>
</tr>
<tr>
<td>Local Server Connection</td>
<td>The connection status of the management console to the local server.</td>
</tr>
<tr>
<td>Location</td>
<td>The associated location of the management console or None.</td>
</tr>
</tbody>
</table>

- **-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.

```
csmcli> lsmc -devtype ds -l
```
The following output is returned:

- Local Server Connection: Connected
- Location: tucson

### Ispair

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

```
>>lspair -help
| -h | -? |
```

```
| -s |
```

```
| -fmt default
| xsm
| delim
| delim char
| stanza
```

```
| -on | -off |

| -p | -r number |
| -hdr | -v | -off |
```

```
| -rolepair role_pair_name |
| -cpset source_vol_id |
| -state state |
```

### 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:

<table>
<thead>
<tr>
<th>Column Label</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Source Volume</td>
<td>The ID of the source volume in the copy pair.</td>
</tr>
<tr>
<td>Target Volume</td>
<td>The ID of the target volume in the copy pair.</td>
</tr>
<tr>
<td>Role Pair</td>
<td>The associated role pair for the copy pair. See the <code>-rolepair</code> for sample role pair values.</td>
</tr>
<tr>
<td>State</td>
<td>The state of the copy pair. The valid values include: Defined, Preparing, Prepared, TargetAvailable, Suspended, SuspendedInconsistent</td>
</tr>
</tbody>
</table>

---

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<table>
<thead>
<tr>
<th>Column Label</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Recoverable</td>
<td>Specifies Yes or No to indicate if the copy pair is recoverable.</td>
</tr>
<tr>
<td>Copying</td>
<td>Specifies Yes or No to indicate if the copy pair is in the process of copying data.</td>
</tr>
<tr>
<td>Progress</td>
<td>The overall copy progress that is associated with the copy pair (if applicable).</td>
</tr>
<tr>
<td>New</td>
<td>Specifies Yes or No to indicate if the copy pair is a new pair.</td>
</tr>
<tr>
<td>Copy Set</td>
<td>The host site 1 volume ID of the copy set with which the copy pair is associated.</td>
</tr>
<tr>
<td>Timestamp</td>
<td>The date and time that the copy pair was suspended (if applicable).</td>
</tr>
<tr>
<td>Last Result</td>
<td>The last message that was issued for the copy pair. If message ends in E or W, the copy pair is an exception pair.</td>
</tr>
</tbody>
</table>

- **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:

csmcli> lspair -rolepair h1-h2 session1

The following output is returned:

```
Source Volume  Target Volume  Role Pair
================================================================
```

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:

csmcli> lspair -rolepair h2-i3 -state Suspended session1

The following output is returned:

```
Source Volume  Target Volume  Role Pair
================================================================
```

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.

csmcli> 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 IWNR2024I
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    IWNRR2013I

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    IWNRR2024I

...
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.

`-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.

`-parmname consistencyheartbeat`
Displays whether the Metro Mirror heartbeat is enabled (on) or disabled (off).
Example

1. **Listing all parameters**
   The following command lists detailed information about all parameters.

   **Note:** Only the heartbeat setting is currently supported and returned by this command.

   ```
csmcli> lsparameter -l
   ```
   The following output is returned:

   ```
   Parameter Name   Value
   ====================================
   The heartbeat function is set on consistencyheartbeat
   ```

2. **Displaying the Metro Mirror heartbeat setting**
   The following command displays the current setting for the Metro Mirror heartbeat.

   ```
csmcli> lsparameter -parmname consistencyheartbeat
   ```
   The following output is returned:

   ```
   Parameter Name   Value
   ====================================
   The heartbeat function is set on
   ```

**Ispath**

Use the **Ispath** command to display paths between ESS and DS devices. You can then use this information for a remote copy.

**Syntax**

```
Ispath
   -h | -help | -?
   -s
   -fmt [default | xml | delim char | stanza]
   -p [on | off]
   -hdr [on | off]
   -r number
   -v [on | off]
   -src source_lss
   -tgt target_lss
```

**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:
-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
   csmcli> 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
   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

Ispool

Use the Ispool 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:

<table>
<thead>
<tr>
<th>Column Label</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Device Name</td>
<td>The name of the XIV system that contains the pools.</td>
</tr>
<tr>
<td>Device ID</td>
<td>The ID of the XIV system that contains the pools.</td>
</tr>
<tr>
<td>Pool Name</td>
<td>The name of the pool.</td>
</tr>
<tr>
<td>Pool ID</td>
<td>The ID for the pool.</td>
</tr>
</tbody>
</table>

-**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.

csmcli> lspool -l

The following output is returned:

<table>
<thead>
<tr>
<th>Device Name</th>
<th>Device ID</th>
<th>Pool Name</th>
<th>Pool ID</th>
</tr>
</thead>
<tbody>
<tr>
<td>XIV 1300202 Troy XIV:BOX:1300202 mysnappool1</td>
<td>XIV:POOL:1300202:100929</td>
<td></td>
<td></td>
</tr>
<tr>
<td>XIV 1300202 Troy XIV:BOX:1300202 mysnappool2</td>
<td>XIV:POOL:1300202:100930</td>
<td></td>
<td></td>
</tr>
<tr>
<td>XIV 1300202 Troy XIV:BOX:1300202 mysnappool3</td>
<td>XIV:POOL:1300202:100931</td>
<td></td>
<td></td>
</tr>
<tr>
<td>XIV 1300202 Troy XIV:BOX:1300202 mysnappool4</td>
<td>XIV:POOL:1300202:112412</td>
<td></td>
<td></td>
</tr>
<tr>
<td>XIV_B XIV:BOX:1566078 healthcare</td>
<td>XIV:POOL:1566078:436473</td>
<td></td>
<td></td>
</tr>
<tr>
<td>XIV_B XIV:BOX:1566078 mysnappool1</td>
<td>XIV:POOL:1566078:436474</td>
<td></td>
<td></td>
</tr>
<tr>
<td>XIV_B XIV:BOX:1566078 yogapool</td>
<td>XIV:POOL:1566078:436475</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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.

csmcli> lspool -dev XIV:BOX:1300202 -l

The following output is returned:

<table>
<thead>
<tr>
<th>Device Name</th>
<th>Device ID</th>
<th>Pool Name</th>
<th>Pool ID</th>
</tr>
</thead>
<tbody>
<tr>
<td>XIV 1300202 Troy XIV:BOX:1300202 mysnappool1</td>
<td>XIV:POOL:1300202:100929</td>
<td></td>
<td></td>
</tr>
<tr>
<td>XIV 1300202 Troy XIV:BOX:1300202 mysnappool2</td>
<td>XIV:POOL:1300202:100930</td>
<td></td>
<td></td>
</tr>
<tr>
<td>XIV 1300202 Troy XIV:BOX:1300202 mysnappool3</td>
<td>XIV:POOL:1300202:100931</td>
<td></td>
<td></td>
</tr>
<tr>
<td>XIV 1300202 Troy XIV:BOX:1300202 mysnappool4</td>
<td>XIV:POOL:1300202:112412</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
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.

csmcli> lspool -devicename 'XIV:BOX:1300202 Troy'

The following output is returned:

<table>
<thead>
<tr>
<th>Device Name</th>
<th>Device ID</th>
<th>Pool Name</th>
<th>Pool ID</th>
</tr>
</thead>
<tbody>
<tr>
<td>XIV 1300202 Troy</td>
<td>XIV:BOX:1300202</td>
<td>mysnappool1</td>
<td>XIV:POOL:1300202:100929</td>
</tr>
<tr>
<td>XIV 1300202 Troy</td>
<td>XIV:BOX:1300202</td>
<td>mysnappool2</td>
<td>XIV:POOL:1300202:100930</td>
</tr>
<tr>
<td>XIV 1300202 Troy</td>
<td>XIV:BOX:1300202</td>
<td>mysnappool3</td>
<td>XIV:POOL:1300202:100931</td>
</tr>
<tr>
<td>XIV 1300202 Troy</td>
<td>XIV:BOX:1300202</td>
<td>mysnappool4</td>
<td>XIV:POOL:1300202:112412</td>
</tr>
</tbody>
</table>

lsrolepairs

Use the lsrolepairs command to display role pairs in a session.

Syntax

```
lsrolepairs [-help] [-h] [-?]
```

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:

<table>
<thead>
<tr>
<th>Column label</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Name</td>
<td>System-generated text string used to identify a role pair. The value listed here is what is to be entered on the lspair command.</td>
</tr>
<tr>
<td>Recoverable</td>
<td>An indicator of whether the role pair is recoverable. Value values are Yes or No.</td>
</tr>
<tr>
<td>Error</td>
<td>An indicator of whether the role pair has errors. Value values are Yes or No.</td>
</tr>
<tr>
<td>Column label</td>
<td>Details</td>
</tr>
<tr>
<td>-------------------</td>
<td>------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Copying</td>
<td>An indicator of the role pair is in process of copying data. Value values are Yes or No.</td>
</tr>
<tr>
<td>Progress</td>
<td>The overall copy progress associated with the role pair.</td>
</tr>
<tr>
<td>Copy Type</td>
<td>The current session (copy) type of the role pair.</td>
</tr>
<tr>
<td>Error Volumes</td>
<td>Total number of volumes in an exception state.</td>
</tr>
<tr>
<td>Recoverable pairs</td>
<td>Number of recoverable pairs</td>
</tr>
<tr>
<td>Copying Pairs</td>
<td>Number of copying pairs</td>
</tr>
<tr>
<td>Total Pairs</td>
<td>Total number of pairs</td>
</tr>
<tr>
<td>Recovery Time</td>
<td>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.</td>
</tr>
</tbody>
</table>

-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.

sta nza
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.
    csmcli> 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
Isrolescpset

Use the `isrolescpset` command to list the volume roles in the specified session.

Syntax

```
lsrolescpset [-help | -h | -?] [-l | -s] [-p on | off] [-hdr on | off] [-r number] [-v on | off]
```

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:

<table>
<thead>
<tr>
<th>Column Label</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Name</td>
<td>Short name for the role.</td>
</tr>
<tr>
<td>Description</td>
<td>Description of the role.</td>
</tr>
</tbody>
</table>

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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.

csmcli> lsrolescpset session1

The following output is returned:

<table>
<thead>
<tr>
<th>Name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>H1</td>
<td>Host on Site1</td>
</tr>
<tr>
<td>H2</td>
<td>Host on Site2</td>
</tr>
<tr>
<td>H3</td>
<td>Host on Site3</td>
</tr>
<tr>
<td>I3</td>
<td>Intermediate on Site3</td>
</tr>
<tr>
<td>J3</td>
<td>Journal on Site3</td>
</tr>
</tbody>
</table>

lssess

Use the lssess command to display sessions and their status.

Syntax

```
>>> lssess
   -help
   --help
   -h
   -?
   
   --default
   -xml
   -delim
   -delim_char
   - stanza

   -on
   -off
   -p
   -on
   -hdr
   -off
   -r
   -number
   -v
   -off

   -cptype
   -copy_type
   --status
   -normal
   -warning
   -severe
   -unknown
   
   session_name
```

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:

<table>
<thead>
<tr>
<th>Column Label</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Name</td>
<td>User-defined name of the session.</td>
</tr>
<tr>
<td>Status</td>
<td>Status levels. The status level values are Normal, Warning, Severe, or Unknown.</td>
</tr>
<tr>
<td>Column Label</td>
<td>Details</td>
</tr>
<tr>
<td>--------------</td>
<td>---------</td>
</tr>
<tr>
<td>State</td>
<td>Session state. The session state values are Defined, Preparing, Prepared, Suspended, TargetAvailable, or SuspendedInconsistent.</td>
</tr>
<tr>
<td>Copy Type</td>
<td>Session (copy) type. See the -cptype parameter for a list of values.</td>
</tr>
<tr>
<td>Recoverable</td>
<td>Specifies whether a session is recoverable. Valid values are yes or no.</td>
</tr>
<tr>
<td>Copying</td>
<td>Specifies whether a copying operation is taking place. Valid values are yes or no.</td>
</tr>
<tr>
<td>Copy Sets</td>
<td>Number of copy sets in the session.</td>
</tr>
<tr>
<td>Error</td>
<td>Specifies whether a session has errors. Valid values are yes or no.</td>
</tr>
</tbody>
</table>

-fmt { default | xml | delim | stanza }

Specifies the format of the output. You can specify one of these values:

default
Specifications 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.
   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.
   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.
   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.
   ```
csmcli> 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.
   ```
csmcli> lssess -status severe
   ``
   The following output is returned:
   ```
   Name    Status  State       Copy Type
   =========== ========= =========== ===============
   session1 Severe  Preparing   Metro Global Mirror w/ Practice
   ```

---

**Issessactions**

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**

```
issessactions [-s] [-help] [-h] [-?]
```

**Parameters**

- `-help | -h | -?`
  Lists help for the command. If you specify additional parameters and arguments, those parameters and arguments are ignored.

- `-s | -1`
  Specifies that the following information is displayed for each session:
<table>
<thead>
<tr>
<th>Column Label</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Action</td>
<td>Name of the session action (command) that can be run on the session.</td>
</tr>
<tr>
<td>Description</td>
<td>The description of the command.</td>
</tr>
</tbody>
</table>

- **-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:

csmcli> lssessactions session1

The following output is returned:

<table>
<thead>
<tr>
<th>Action</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>start_h1:h3</td>
<td>Start host1 to host3 copying</td>
</tr>
<tr>
<td>suspend</td>
<td>Suspend session</td>
</tr>
<tr>
<td>start_h1:h2:h3</td>
<td>Start host1 to host2 to host3 copying</td>
</tr>
<tr>
<td>terminate</td>
<td>Terminate session</td>
</tr>
</tbody>
</table>

lssessdetails

Use the lssessdetails command to display the details of a session.

Syntax

```
>>> lssessdetails

-s | -l | -fmt xml | -delim | -delim char | stanza |
```

| -p | -hdr | -r number | -v |

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:
<table>
<thead>
<tr>
<th>Column Label</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Option Name</td>
<td>Name of the option that is set for this session.</td>
</tr>
<tr>
<td>Value</td>
<td>Value of the detail that is set for this session.</td>
</tr>
<tr>
<td>Description</td>
<td>Description of the session option.</td>
</tr>
</tbody>
</table>

```
-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`.

```bash
csmcli> lssessdetails -l session1
```

The following output is returned:

<table>
<thead>
<tr>
<th>Option name</th>
<th>Value</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>aftersuspend</td>
<td>Release</td>
<td>Policy for I/O after suspend</td>
</tr>
<tr>
<td>maxdrain_h1j3</td>
<td>30</td>
<td>Maximum consistency group drain time for the H1-J3 role pair</td>
</tr>
<tr>
<td>dsRPOwarning_h1j3</td>
<td>1</td>
<td>Warning level threshold in seconds for the H1-J3 role pair</td>
</tr>
<tr>
<td>maxdrain_h2j3</td>
<td>30</td>
<td>Maximum consistency group drain time for the H2-J3 role pair</td>
</tr>
<tr>
<td>dsRPOwarning_h2j3</td>
<td>1</td>
<td>Warning level threshold in seconds for the H2-J3 role pair</td>
</tr>
<tr>
<td>rpo_h2j3</td>
<td>0</td>
<td>Recovery point objective in seconds for the H2-J3 role pair</td>
</tr>
<tr>
<td>rpo_h1j3</td>
<td>0</td>
<td>Recovery point objective in seconds for the H1-J3 role pair</td>
</tr>
<tr>
<td>dsnocpy</td>
<td>No</td>
<td>No copying of the volume</td>
</tr>
<tr>
<td>enableHardenedFreeze</td>
<td>No</td>
<td>Policy for whether to use z/OS hardened freeze</td>
</tr>
<tr>
<td>dsRPOsevere_h1j3</td>
<td>2</td>
<td>Severe level threshold in seconds for the H1-J3 role pair</td>
</tr>
<tr>
<td>dsRPOsevere_h2j3</td>
<td>2</td>
<td>Severe level threshold in seconds for the H2-J3 role pair</td>
</tr>
<tr>
<td>rmreserves</td>
<td>No</td>
<td>Remove secondary reserves</td>
</tr>
<tr>
<td>coordint_h1j3</td>
<td>50</td>
<td>Extended distance copy coordination interval for the H1-J3 role pair</td>
</tr>
<tr>
<td>coordint_h2j3</td>
<td>50</td>
<td>Extended distance copy coordination interval for the H2-J3 role pair</td>
</tr>
<tr>
<td>failIfTgtOnline</td>
<td>No</td>
<td>Fail MM/GC if the target is online (CKD only)</td>
</tr>
</tbody>
</table>

**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**

```
---lssnapgrp
  -help
  -h
  -?
  -s
  -l default
  -fmt xml
  -delim
  -delim char
  - stanza
```
Parameters

-h | -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:

<table>
<thead>
<tr>
<th>Column Label</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Name</td>
<td>The name of the snapshot group.</td>
</tr>
<tr>
<td>Timestamp</td>
<td>The date and time that the snapshot group was created.</td>
</tr>
<tr>
<td>Deletion Priority</td>
<td>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.</td>
</tr>
<tr>
<td>Restore Master</td>
<td>Specifies whether the snapshot group listed can be used to restore the master volumes of the session. Values for this are Yes and No.</td>
</tr>
<tr>
<td>Locked</td>
<td>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.</td>
</tr>
<tr>
<td>Modified</td>
<td>Specifies whether the snapshot group has been modified. A snapshot group is marked as modified when it is unlocked for the first time.</td>
</tr>
</tbody>
</table>

-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:

```
csmcli> 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:

csmcli> lssnapgrp -l snap6

The following output is returned:

<table>
<thead>
<tr>
<th>Name</th>
<th>Timestamp</th>
<th>Deletion</th>
<th>Priority</th>
<th>Restore</th>
<th>Master</th>
<th>Locked</th>
<th>Modified</th>
</tr>
</thead>
<tbody>
<tr>
<td>snap6.snap_group_00001</td>
<td>2011-07-18 15:22:14.000-0700</td>
<td>1</td>
<td>No</td>
<td></td>
<td></td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>snap6.snap_group_00002</td>
<td>2011-07-18 15:22:41.000-0700</td>
<td>1</td>
<td>Yes</td>
<td></td>
<td></td>
<td>Yes</td>
<td>No</td>
</tr>
</tbody>
</table>

lssnapgrpactions

Use the lssnapgrpactions command to specify the session and snapshot group name that you want to view available actions for.

Syntax

```
>> lssnapgrpactions
   --help
   --h
   --?

   --fmt { default | xml | delim | stanza }

   --group snapshot_group_name
   --session_name
```

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.

csmcli> lssnapgrpactions -group MySnapSession.snap_group_0001 MySnapSession

The following output is returned:

<table>
<thead>
<tr>
<th>Action</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>delete</td>
<td>Deletes a snapshot group</td>
</tr>
<tr>
<td>disband</td>
<td>Disbands a snapshot group</td>
</tr>
<tr>
<td>duplicate</td>
<td>Duplicates a snapshot group</td>
</tr>
<tr>
<td>lock</td>
<td>LOCKs a snapshot group</td>
</tr>
<tr>
<td>restore</td>
<td>Restores a snapshot group from another snapshot group</td>
</tr>
<tr>
<td>set_priority</td>
<td>Sets the deletion priority for a snapshot group</td>
</tr>
</tbody>
</table>

lssnapshots

Use the lssnapshots command to view snapshots that are in a snapshot group in a IBM XIV Storage System Snapshot session.

Syntax

```
lssnapshots [-help | -h | -?] [-s] [-l] [-p on | off] [-hdr on | off] [-r number | off] [-v on]

--group snapshot_group_name session_name
```

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:

<table>
<thead>
<tr>
<th>Column Label</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Name</td>
<td>The name of the snapshot.</td>
</tr>
<tr>
<td>H1 Volume ID</td>
<td>The ID of the H1 volume that is associated with the snapshot.</td>
</tr>
<tr>
<td>Column Label</td>
<td>Details</td>
</tr>
<tr>
<td>-------------</td>
<td>---------</td>
</tr>
<tr>
<td>Size</td>
<td>The size of the H1 volume at the time that the snapshot was created.</td>
</tr>
<tr>
<td>Size Unit</td>
<td>The unit of measure for the size of the H1 volume at the time that the snapshot was created.</td>
</tr>
</tbody>
</table>

`-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:

csmcli> 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:

csmcli> 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**

```bash
csmcli> lssnmp [-help | -h | -?]
```

**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:

<table>
<thead>
<tr>
<th>Column label</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>SNMP Manager</td>
<td>Domain name or IP address of the management server to which SNMP traps are sent</td>
</tr>
<tr>
<td>Port</td>
<td>The specific UDP port to which SNMP traps are sent</td>
</tr>
</tbody>
</table>

**Example**

**Listing SNMP managers**

The following command list the SNMP managers.

```
csmcli> lssnmp
```

The following output is returned:

```
SNMP Manager Port
=================
9.11.10.1 162
127.0.0.1 163
```

**lsstorcandidate**

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.

To list storage systems that are already in the Tivoli Storage Productivity Center for Replication configuration, use the `lsdevice` command.

You can run the `lsstorcandidate` command only from a Tivoli Storage Productivity Center for Replication server that is installed on a system that is running z/OS.

**Syntax**

```
lsstorcandidate [-help] [-h] [-?]

-fmt xml [-delim char] [-on p] [-off] [-hdr on]
```
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:

<table>
<thead>
<tr>
<th>Column Label</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Device ID</td>
<td>The storage system ID.</td>
</tr>
<tr>
<td>Manufacturer</td>
<td>The manufacturer of the storage system.</td>
</tr>
</tbody>
</table>

- **-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:

<table>
<thead>
<tr>
<th>Column Label</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Name</td>
<td>Volume name</td>
</tr>
<tr>
<td>ID</td>
<td>Volume ID</td>
</tr>
<tr>
<td>Device</td>
<td>The ID of the storage system</td>
</tr>
<tr>
<td>Manufacturer</td>
<td>The manufacturer of the storage system. Currently, only IBM storage systems are supported.</td>
</tr>
<tr>
<td>Type</td>
<td>The values CKD or FB. The value is always FB for the following storage systems:</td>
</tr>
<tr>
<td></td>
<td>• IBM System Storage SAN Volume Controller</td>
</tr>
<tr>
<td></td>
<td>• IBM Storwize V7000</td>
</tr>
<tr>
<td></td>
<td>• Storwize V7000 Unified</td>
</tr>
<tr>
<td></td>
<td>• IBM XIV Storage System</td>
</tr>
<tr>
<td>Protected</td>
<td>Yes if the volume is protected; No if the volume is not protected.</td>
</tr>
<tr>
<td>Space Efficient</td>
<td>Yes, if the volume is a space efficient volume. No, if the volume is not a space efficient volume.</td>
</tr>
<tr>
<td>Format</td>
<td>Volume format</td>
</tr>
</tbody>
</table>
### Column Label Details

For the following storage system volumes, this column displays the logical subsystem (LSS):

- IBM TotalStorage Enterprise Storage Server Model 800
- IBM System Storage DS8000
- System Storage DS6000

For the following storage system volumes, this column displays the IO group:

- SAN Volume Controller
- Storwize V7000
- Storwize V7000 Unified

For XIV system volumes, this column displays the pool.

<table>
<thead>
<tr>
<th>Column Label</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>LSS/IO Group/Pool</td>
<td>For the following storage system volumes, this column displays the logical subsystem (LSS):</td>
</tr>
<tr>
<td></td>
<td>- IBM TotalStorage Enterprise Storage Server Model 800</td>
</tr>
<tr>
<td></td>
<td>- IBM System Storage DS8000</td>
</tr>
<tr>
<td></td>
<td>- System Storage DS6000</td>
</tr>
<tr>
<td></td>
<td>For the following storage system volumes, this column displays the IO group:</td>
</tr>
<tr>
<td></td>
<td>- SAN Volume Controller</td>
</tr>
<tr>
<td></td>
<td>- Storwize V7000</td>
</tr>
<tr>
<td></td>
<td>- Storwize V7000 Unified</td>
</tr>
<tr>
<td></td>
<td>For XIV system volumes, this column displays the pool.</td>
</tr>
</tbody>
</table>

- **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.

### Command-line Interface User's Guide

**-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.
  csmcli> lstvol -devtype ds -dev DS8000:BOX:2107.02191
  The following output is returned:
  Name | ID | Device | Manufacturer | Type | Protected | Space | Efficient
  ---- | -- | ------ | ------------ | ----- | --------- | ------ | -------
  BK410F | DS8000:2107.02191:VOL:010F | IBM | CKD | No | No
  BK410E | DS8000:2107.02191:VOL:010E | IBM | CKD | No | No
  BK410D | DS8000:2107.02191:VOL:010D | IBM | CKD | No | No

- Listing protected volumes
  The following command lists information about all protected volumes.
  csmcli> lstvol -protected
  The following output is returned:
mkauth

Use the **mkauth** command to grant monitor, administrator, or operator authorization to a user.

**Syntax**

```
  mkauth -name name -type group
            --help | -h | -?

  mkauth -authlevel authorization_level
            session_name | -
```

**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 **MOMSUID**.

   ```
csmcli> 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.
   
   ```bash
   csmcli> mkauth -name csmuser -type user -authlevel operator session1
   ```
   
   The following output is returned:
   
   IWWR4016I 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.
   
   ```bash
   csmcli> mkauth -name Superuser -type group -authlevel admin
   ```
   
   The following output is returned:
   
   IWWR4017I 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**

```bash
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 `tpcr_production_root/database/backup` directory. You can change the default location by editing the `db.backup.location` property in the `rmserver.properties` file, which is located in the `WAS_HOME/profiles/default/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 the IBM z/OS operating system:

```
csmcli> mkbackup
```

The following output is returned:

IWNR1905I Backup of internal data store completed successfully. The following file was created: /opt/Tivoli/RM/database/backup/tpcrrBackup_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**

```
>> mkcpset --help | -h | -?

--quiet
-h
-xiv_h1_volume_nickname
-h1

--h2
-h2_volume_id
-xiv_h2_volume_nickname

--h3
-h3_volume_id

--h2
-t1
-t1_volume_id

--j1
-j1_volume_id

--j2
-j2_volume_id

--j3
-j3_volume_id

--i1
-i1_volume_id

--i2
-i2_volume_id

--i3
-i3_volume_id

SESSION_NAME
```

**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.
csmcli> mkcpset -h1 DS8000:2107.04131:VOL:0A05
-t1 DS8000:2107.04131:VOL:0A06 session1

The following output is returned:
IWNR1000I Copy sets were successfully created for the session named session1.
IWNR2001I The pair, the ID of the source volume and the ID of the target volume, was created in the session named session1 for the copy set with a volume ID of DS8000:2107.04131:VOL:0A05, a source volume ID of DS8000:2107.04131:VOL:0A05, and a target volume ID of DS8000:2107.04131:VOL:0A06.

Creating a copy set for an XIV system Snapshot session by using the volume ID

The following command creates a copy set for an XIV system Snapshot session named snap2 by using volume XIV:VOL:6000646:110789, where 110789 is the volume ID.
csmcli> mkcpset -h1 XIV:VOL:6000646:110789 snap2

The following output is returned:
IWNR1000I Copy sets were created for the session named snap2.

Creating a copy set for an XIV system Snapshot session by using the volume nickname

The following command creates a copy set for an XIV system Snapshot session named snap2 by using volume XIV:VOL:6000646:myvolume, where myvolume is the volume nickname.
csmcli> mkcpset -h1 XIV:VOL:6000646:myvolume snap2

The following output is returned:
IWNR1000I Copy sets were created for the session named snap2.

**mklogpkg**

Use the **mklogpkg** command to create a log package. The log package is written to the file that is specified in the properties file.

**Syntax**

```
 mklogpkg
 --help
 -h
 -?
```

**Parameters**

- **-help | -h | -?**
  Lists help for the command. If you specify additional parameters and arguments, those parameters and arguments are ignored.

**Example**

Creating a log package

The following command creates a log package on the IBM z/OS operating system.
The following output is returned:
IWNR1198I Log packages were successfully created and placed at
location /zWebSphereOEM/V7R0/config1/AppServer/profiles/default/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
-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 **lslss** 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 LSSes.
- 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.


The following output is returned:
Path successfully created.

mksess

Use the mksess command to create a session.

Syntax

```
mksess [ -help ] [ -h ] [ -? ]
```

```
mksess [ -cptype copy_type ]
```

```
mksess [ -desc description ]
```

```
mksess [ -site1loc site1_location ]
```

```
mksess [ -site2loc site2_location ]
```

```
mksess [ -site3loc site3_location ]
```

```
mksess [ session_name ]
```

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**

- mmfob: 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

mmfofbxiv: Metro Mirror Failover/Failback for:
• IBM XIV Storage System

**Metro Mirror Failover/Failback with Practice**

pmmm: 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**

mng: 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.
csmcli> 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.
csmcli> 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.
csmcli> 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.
csmcli> 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.
csmcli> 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.
csmcli> 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 -help
-mksnmp -server server [port]
```

**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.
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.

csmcli> 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

```
refresdevice [-help | -h | -?]

[device_id | -]
```

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.

csmcli> 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**

```
rmactive [options]
```

**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.

```
csmcli> rmactive -server 127.0.0.1
```

rmassoc

Use the `rmassoc` 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.
  
  ```
csmcli> 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**

```
rmauth -help | -h | -?
```

**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.
   csmcli> 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.
   csmcli> rmauth -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

```
rmcpset --help | --quiet | --force | --keeponhw
--h
--h1
--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.

--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.

```bash
csmcli> rmcpset -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.

```bash
csmcli> rmcpset -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 `rmmc` command.

To remove a storage system that is attached through an IBM z/OS connection, use the `rmstorrsys` command.

**Syntax**

```
rmdevice
```

**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.

```
csmcli> 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.

csmcli> rmdevice -quiet -ip 127.0.0.1 SVC:CLUSTER:RMSVC02

The following output is returned:
INWN1614I 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.

csmcli> rmdevice -quiet XIV:BOX:6000646

The following output is returned:
INWN1624I 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**

```
rmhost [-help | -h | -?] [-quiet] [-port port] [-<IP_Address>]
```

**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.

  `csmcli> rmhost -port 9930 9.11.223.43`
rmmc

Use the **rmmc** command to remove a management console.

**Syntax**

```
rmmc [options] [-id 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.

- **-id id**
  
  Specifies the ID of the management console 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 a management console**

The following command removes a Hardware Management Console with ID HMC:127.0.0.1 without prompting for confirmation.

```
cscli> rmmc -quiet HMC:127.0.0.1
```

The following output is returned:

```
IWNH1614I The storage device at HMC:127.0.0.1 was successfully removed.
```

rmpath

Use the **rmpath** command to remove a path or paths between a source logical subsystem (LSS) and a target LSS.

**Syntax**

```
rmpath [options] [source_lss] [target_lss]
```

**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.

**-src source_lss**  
Specifies the source LSS and port (ESS and DS series storage servers) for the path to be removed. Use the following format: DS/ESS: 2105.20870:12.1.

**-tgt target_lss**  
Specifies the target LSS and port (ESS and DS series storage servers) for the path to be removed. Use the following format: DS/ESS: 2105.20870:12.1.

**Description**

**Notes:**
- Removing a path removes only the path and ports specified and will not remove any additional paths.
- Only Fibre Channel paths are supported for ESS800, DS6000, and DS8000.

**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.

```
csmcli> 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**

```
rsmsess [-help | -h | -?] [-quiet] session_name
```

**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.
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.

```
csmcli> 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**

```
rmsnmp -server server
```

**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

```bash
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/OS 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 `rmmc` command.

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.
- HyperSwap can run provided that volumes are attached and available to z/OS storage, even if you are using a TCP/IP connection to storage.

To remove a storage system that is attached through a direct connection, use the `rmdevice` command. To remove a storage system that is attached through an hardware-management-console (HMC) connection, use the `rmmc` command.

**Example**

**Removing the z/OS connection**

This example illustrates how to remove the z/OS connection to the storage system with ID ESS:BX:2105.12345.

```bash
csmcli> rmstorsys -dev ESS:BX:2105.12345 -conntype zos
```

The following output is returned:

```
IWNH1614I The storage device at ESS:BX:2105.12345 was successfully removed.
```

---

**setasstdby**

Use the `setasstdby` command to set a management server to be the standby management server of another active management server.

**Syntax**

```
setasstdby

```
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 active_server_ip**
  Specifies the IP address of the active management server for which the local management server is to be the standby server.

Example

Creating a standby management server

The following command sets the local server as a standby management server for the active management server with IP address 127.0.0.1.

csmcli> setasstdby -server 127.0.0.1

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.

setparameter

Use the **setparameter** command to set the system parameters.

Syntax

```
>> setparameter -help [ -quiet | -parm lsheartbeat | -chheartbeat { on | off } ] |
```

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 { lsheartbeat | - chheartbeat { on | off } | - }**
  Specifies one of these system parameters:

  - **lsheartbeat**
    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.
   
   ```
   csmcli> setparameter -parm lsheartbeat
   The following output is returned:
   The heartbeat function is set on.
   IWNR1208I The heartbeat was retrieved successfully.
   ```

2. Enabling the Metro Mirror heartbeat
   The following command turns on the Metro Mirror heartbeat.
   
   ```
   csmcli> setparameter -parm chheartbeat on
   The following output is returned:
   IWNR1204I 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

```bash
setstdby
  -help | -h | -?
  -quiet
  -server standby_server_ip
  -username user_name
  -password password
```

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**

```showcpset```

```
<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><code>-help</code></td>
<td>Lists help for the command. If you specify additional parameters and arguments, those parameters and arguments are ignored.</td>
</tr>
<tr>
<td><code>-h1 h1_volume_id</code></td>
<td>Specifies the name of the source volume ID. The properties for this volume ID are displayed.</td>
</tr>
<tr>
<td><code>-session_name</code></td>
<td>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.</td>
</tr>
</tbody>
</table>

The following information is listed for the copy set:

<table>
<thead>
<tr>
<th>Column Label</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>H1 Volume</td>
<td>The source volume name.</td>
</tr>
<tr>
<td>Session</td>
<td>The session name.</td>
</tr>
<tr>
<td>Volumes</td>
<td>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.</td>
</tr>
<tr>
<td>Column Label</td>
<td>Details</td>
</tr>
<tr>
<td>--------------</td>
<td>---------</td>
</tr>
<tr>
<td>Last Result</td>
<td>The last message that was issued.</td>
</tr>
</tbody>
</table>

### 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.

csmcli> 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
```

IWNR15001 Session information about session session1 was successfully obtained.

### showdevice

Use the `showdevice` command to display storage system properties.

#### Syntax

```
showdevice [device_id] [-h] [-?]
```

#### 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

<table>
<thead>
<tr>
<th>Column Label</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Device ID</td>
<td>The storage system ID.</td>
</tr>
<tr>
<td>Device Name</td>
<td>The user-defined name of the storage system.</td>
</tr>
</tbody>
</table>
## 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

<table>
<thead>
<tr>
<th>Column Label</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Device IP Address</td>
<td>The IP address or host name of the clusters or nodes that are used by the storage system.</td>
</tr>
<tr>
<td></td>
<td>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.</td>
</tr>
<tr>
<td>User name</td>
<td>The user name for the clusters or nodes that are used by the storage system.</td>
</tr>
<tr>
<td></td>
<td>For TotalStorage Enterprise Storage Server Model 800, System Storage DS8000, System Storage DS6000, and XIV system, user names are separated by a semicolon.</td>
</tr>
<tr>
<td>Port</td>
<td>The port number of the clusters or nodes that are used by the storage system.</td>
</tr>
<tr>
<td></td>
<td>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.</td>
</tr>
<tr>
<td>Local Server Connection</td>
<td>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.</td>
</tr>
<tr>
<td></td>
<td>For XIV system, this value shows the status of each node separated by a semicolon. For example, node1_status;node2_status;node3_status.</td>
</tr>
<tr>
<td>Remote Server Connection</td>
<td>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.</td>
</tr>
<tr>
<td></td>
<td>For XIV system, this value shows the connection status of each node separated by a semicolon. For example node1_status;node2_status;node3_status.</td>
</tr>
</tbody>
</table>
Management Console Information

<table>
<thead>
<tr>
<th>Column Label</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Management Console Local Server Connection</td>
<td>The state of the HMC connections to the local management server.</td>
</tr>
<tr>
<td>Management Console Remote Server Connection</td>
<td>The state of the HMC connections to the remote management server.</td>
</tr>
<tr>
<td>Management Console IDs</td>
<td>The ID of the HMC. If there a dual HMCs, the ID for each HMC is separated by a semicolon.</td>
</tr>
</tbody>
</table>

z/OS Connection Information

<table>
<thead>
<tr>
<th>Column Label</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>z/OS Local Server Connection</td>
<td>The state of the z/OS connections to the local management server.</td>
</tr>
<tr>
<td>z/OS Remote Server Connection</td>
<td>The state of the z/OS connections to the remote management server.</td>
</tr>
</tbody>
</table>

**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.

```
csmcli> 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.

```
csmcli> showdevice XIV:BOX:7803448
```

The following output is returned:
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

```
>> showgmdetails [-s] [-l] [-h] [-?] session_name
```

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:

<table>
<thead>
<tr>
<th>Column label</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Session ID</td>
<td>The Global Mirror session ID.</td>
</tr>
<tr>
<td>Master LSS</td>
<td>The name of the storage system acting as the Global Mirror master. Includes storage system ID and subsystem ID.</td>
</tr>
</tbody>
</table>
| Copy State   | Options are:  
  * Running  
  * Paused  
  * Fatal  
  * Pause in Progress |

IWNC4103I The showdevice command completed successfully.
<table>
<thead>
<tr>
<th>Column label</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fatal Reason</td>
<td>Fatal reason code of the Global Mirror session.</td>
</tr>
<tr>
<td>CG Time</td>
<td>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.</td>
</tr>
<tr>
<td>Query Time</td>
<td>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.</td>
</tr>
<tr>
<td>Data Exposure</td>
<td>The average exposure to data loss, in seconds, over the query interval.</td>
</tr>
<tr>
<td>Total Failed CGs</td>
<td>The total number of failed consistency group formation attempts since the Global Mirror session has been in Running state.</td>
</tr>
<tr>
<td>Total Successful CGs</td>
<td>The total number of successful consistency group formations since the Global Mirror session has been in Running state.</td>
</tr>
<tr>
<td>Failed CG Attempts since last success</td>
<td>The number of failed consistency group formation attempts since the last successful consistency group was formed.</td>
</tr>
<tr>
<td>Successful CG Percentage</td>
<td>The total percentage since the Global Mirror session has been in Running state.</td>
</tr>
<tr>
<td>CG Interval Time</td>
<td>The interval time between attempts to form a consistency group.</td>
</tr>
<tr>
<td>Max Coordination Interval</td>
<td>Extended distance consistency maximum coordination interval.</td>
</tr>
<tr>
<td>Max CG Drain Time</td>
<td>The maximum time the consistent set of data is allowed to drain at the remote site before failing consistency group formation.</td>
</tr>
<tr>
<td>Last Failure LSS</td>
<td>Name of the storage system for the most recent failure of the consistency group formation. Includes storage system ID and subsystem ID.</td>
</tr>
<tr>
<td>Last Failure Reason</td>
<td>The reason code for the most recent failure of the consistency group formation.</td>
</tr>
<tr>
<td>Last Failure Master State</td>
<td>The master state for the most recent failure of the consistency group formation.</td>
</tr>
<tr>
<td>Previous Failure LSS</td>
<td>Name of the storage system for the previous failure of the consistency group formation. Includes storage system ID and subsystem ID.</td>
</tr>
<tr>
<td>Previous Failure Reason</td>
<td>Reason code for the previous failure of the consistency group formation.</td>
</tr>
<tr>
<td>Previous Failure Master State</td>
<td>Master state for the second most recent consistency group formation failure.</td>
</tr>
<tr>
<td>Subordinate Count</td>
<td>The number of subordinates for this Global Mirror session.</td>
</tr>
<tr>
<td>Subordinate Associations</td>
<td>The subordinate boxes for the master Global Mirror box.</td>
</tr>
</tbody>
</table>
**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
- **Data Exposure**: 1.00 s
- **Total Failed CGs**: 1
- **Total Successful CGs**: 725
- **Failed CG Attempts since last success**: 0
- **Successful CG Percentage**: 99
- **CG Interval Time**: 0 s
- **Max Coordination Interval**: 50 ms
- **Max CG Drain Time**: 30 s
- **Last Failure LSS**: DS8000:2107.FX102:LSS:71
- **Last Failure Reason**: 0xFCC XDC starting increment with wrong state
- **Last Failure Master State**: 0x4 Global Mirror Start Increment In Progress
- **Previous Failure LSS**: -
- **Previous Failure Reason**: -
- **Previous Failure Master State**: -
- **Subordinate Count**: 0
- **Subordinate Associations**: -

**showha**

Use the `showha` command to display the high-availability status.

**Syntax**
showha

Parameters

- **-help | -h | -?**
  Lists help for the command. If you specify additional parameters and arguments, those parameters and arguments are ignored.

Description

This command displays the following information:

<table>
<thead>
<tr>
<th>Column label</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Status</td>
<td>High availability status.</td>
</tr>
<tr>
<td>Error</td>
<td>Error message, if applicable.</td>
</tr>
</tbody>
</table>

Example

Listing high-availability status

The following command lists the high-availability status.

csmcli> 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

```bash
showmc [-help] [-h] [-?]
```

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:

<table>
<thead>
<tr>
<th>Column label</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Management console ID</td>
<td>The management console ID in the element ID format.</td>
</tr>
<tr>
<td>MC IP address</td>
<td>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.</td>
</tr>
<tr>
<td>Device Type</td>
<td>Device Type (HMC)</td>
</tr>
<tr>
<td>Location</td>
<td>User-defined location associated with the management console, or None.</td>
</tr>
<tr>
<td>User name</td>
<td>The user name for the management console.</td>
</tr>
<tr>
<td>Local Connection Status</td>
<td>The state of the connection to the local management server.</td>
</tr>
<tr>
<td>Remote Connection Status</td>
<td>The state of the connection to the remote management server.</td>
</tr>
<tr>
<td>Attached Devices</td>
<td>The devices that are attached to this management console.</td>
</tr>
</tbody>
</table>

**Example**

**Displaying management console properties**

The following command displays the properties of the management console with ID HMC:127.0.0.1.

csmcli> showmc HMC:127.0.0.1

The following output is returned:

<table>
<thead>
<tr>
<th>Management Console ID</th>
<th>HMC:127.0.0.1</th>
</tr>
</thead>
<tbody>
<tr>
<td>MC ID address</td>
<td>127.0.0.1</td>
</tr>
<tr>
<td>Device Type</td>
<td>HMC</td>
</tr>
<tr>
<td>Location</td>
<td>tucson</td>
</tr>
<tr>
<td>User name</td>
<td>admin</td>
</tr>
<tr>
<td>Local Connection Status</td>
<td>Connected</td>
</tr>
<tr>
<td>Remote Connection Status</td>
<td>-</td>
</tr>
</tbody>
</table>

**showsess**

Use the `showsess` command to display properties for a selected session, including name, description, group managed, and copy type.
Syntax

```bash
showsess [-help] [-h] [-?]
```

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:

<table>
<thead>
<tr>
<th>Column Label</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Name</td>
<td>Session name.</td>
</tr>
<tr>
<td>Type</td>
<td>Session type. Values include:</td>
</tr>
<tr>
<td></td>
<td>FlashCopy</td>
</tr>
<tr>
<td></td>
<td>Global Mirror Either Direction with Two Site Practice</td>
</tr>
<tr>
<td></td>
<td>Global Mirror Failover/Failback</td>
</tr>
<tr>
<td></td>
<td>Global Mirror Practice</td>
</tr>
<tr>
<td></td>
<td>Global Mirror Single Direction</td>
</tr>
<tr>
<td></td>
<td>Basic HyperSwap</td>
</tr>
<tr>
<td></td>
<td>Metro Global Mirror</td>
</tr>
<tr>
<td></td>
<td>Metro Global Mirror with Practice</td>
</tr>
<tr>
<td></td>
<td>Metro Mirror Failover/Failback</td>
</tr>
<tr>
<td></td>
<td>Metro Mirror Practice</td>
</tr>
<tr>
<td></td>
<td>Metro Mirror Single Direction</td>
</tr>
<tr>
<td></td>
<td>Snapshot</td>
</tr>
<tr>
<td>State</td>
<td>Session state. Values include:</td>
</tr>
<tr>
<td></td>
<td>Defined</td>
</tr>
<tr>
<td></td>
<td>Flashing</td>
</tr>
<tr>
<td></td>
<td>Preparing</td>
</tr>
<tr>
<td></td>
<td>Prepared</td>
</tr>
<tr>
<td></td>
<td>Recovering</td>
</tr>
<tr>
<td></td>
<td>Suspended</td>
</tr>
<tr>
<td></td>
<td>SuspendedH2H3</td>
</tr>
<tr>
<td></td>
<td>SuspendedH1H3</td>
</tr>
<tr>
<td></td>
<td>Suspending</td>
</tr>
<tr>
<td></td>
<td>TargetAvailable</td>
</tr>
<tr>
<td></td>
<td>Terminating</td>
</tr>
<tr>
<td>Status</td>
<td>Session status. Values include:</td>
</tr>
<tr>
<td></td>
<td>Unknown</td>
</tr>
<tr>
<td></td>
<td>Normal</td>
</tr>
<tr>
<td></td>
<td>Warning</td>
</tr>
<tr>
<td></td>
<td>Error</td>
</tr>
<tr>
<td></td>
<td>Inactive</td>
</tr>
</tbody>
</table>
### Column Label Details

<table>
<thead>
<tr>
<th>Column Label</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Locations</td>
<td>A list of the locations associated with the session.</td>
</tr>
<tr>
<td>Copy sets</td>
<td>The number of copy sets that the session is managing.</td>
</tr>
<tr>
<td>Copying</td>
<td>An indicator of whether a copying operation is occurring. Values are Yes or No.</td>
</tr>
<tr>
<td>Recoverable</td>
<td>An indicator of whether the session is recoverable. Values are Yes or No.</td>
</tr>
<tr>
<td>Active host</td>
<td>Name of the active host.</td>
</tr>
<tr>
<td>Error Count</td>
<td>Number of errors for all roles.</td>
</tr>
<tr>
<td>Description</td>
<td>Session description that you define.</td>
</tr>
</tbody>
</table>

### Example

#### Listing session properties

The following command lists properties for the session named `session1`.

```
csmcli> 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
Detailed Status -
H1 Pool XIV:POOL:12345:67890
H1 Consistency Group session1
```

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.

csmcli> 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: -

IWNR1500I Session information about session session1 was successfully obtained.

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.

```
csmcli> 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**

```
whoami
   --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 user name

The following command displays the name of the current user.

```
csmcli> whoami
```

The following output is returned:
Currently logged in as administrator
Server: server1
Port: 5110
Authentication file: null
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 one 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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