

StorageTek LibraryStation

Syntax Quick Reference

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Preface

This summary contains frequently used syntax information associated with Oracle's StorageTek LibraryStation software. It is intended for storage administrators, system programmers and operators responsible for configuring and maintaining LibraryStation.

Use this summary as a memory aid. We assume that you are an experienced user who has worked with these products at the operator level. With this in mind, explanatory text has been kept to a minimum.

This summary supplements existing LibraryStation documentation. For more detailed information about a topic, refer to the *LibraryStation Configuration and Administration Guide*.

Related Documentation

The following list contains the names of publications that provide additional information about LibraryStation.

The documentation is available online at:

<http://docs.sun.com>

Oracle's StorageTek LibraryStation

- *LibraryStation Configuration and Administration Guide*

Oracle's StorageTek Enterprise Library Software (ELS)

- *Introducing ELS*
- *Installing ELS*
- *ELS Syntax Quick Reference*
- *ELS Messages and Codes*
- *ELS Programming Reference*
- *ELS Legacy Interfaces Reference*
- *Configuring HSC and VTCS*
- *Managing HSC and VTCS*
- *Configuring and Managing SMC*
- *ELS Disaster Recovery and Offsite Data Management Guide*

Oracle's StorageTek Removable Media Library Software (RMLS/CSC)

- *RMLS/CSC User's Guide*

IBM JES3

- *z/OS JES3 Initialization and Tuning Reference*

Documentation, Support, and Training

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Additional Information

Customer-initiated Maintenance

Customer-initiated maintenance begins with a telephone call from you to Oracle StorageTek Support. You receive immediate attention from qualified Oracle personnel, who record problem information and respond with the appropriate level of support.

To contact Oracle StorageTek Support about a problem:

1. Use the telephone and call:

800.872.4786 (1.800.USA.4SUN) (inside the United States)

800.722.4786 (Canada)

For international locations:

<http://www.sun.com/contact/support.jsp>

2. Describe the problem to the call taker. The call taker will ask several questions and will either route your call to or dispatch a support representative.

If you have the following information when you place a service call, the process will be much easier:

Account name	_____
Site location number	_____
Contact name	_____
Telephone number	_____
Equipment model number	_____
Device address	_____
Device serial number (if known)	_____
Urgency of problem	_____
Fault Symptom Code (FSC)	_____
Problem description	_____

Conventions for Reader Usability

Typographic

Some JCL examples in this guide include *italic* type. Italic type is used to indicate a variable. You must substitute an actual value for these variables.

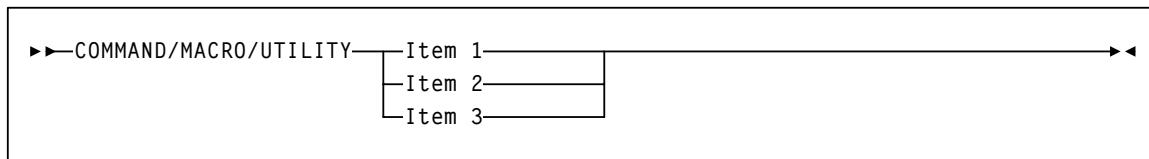
The use of mixed upper and lower case characters for commands, control statements, and parameters indicates that lower case letters may be omitted to form abbreviations. For example, you may simply enter POL when executing the POLicy command.

Syntax Flow Diagrams

Syntax flow diagramming conventions include the following:

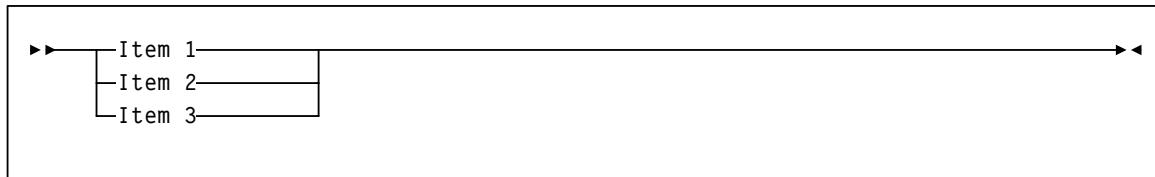
Flow Lines

Syntax diagrams consist of a horizontal base line, horizontal and vertical branch lines, and the text for a command, control statement, macro, or utility. Diagrams are read left to right, and top to bottom. Arrows indicate flow and direction.



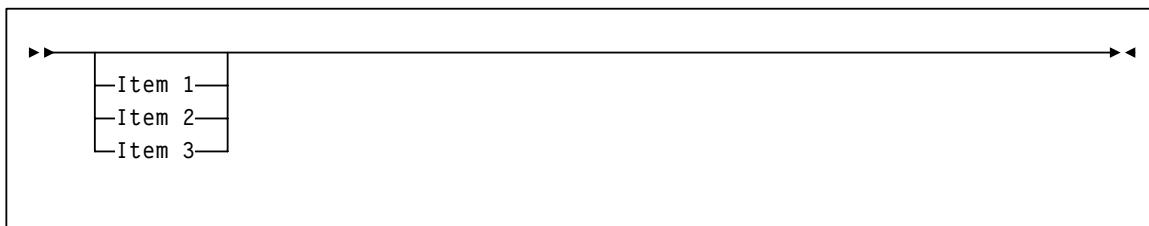
Single Required Choice

Branch lines (without repeat arrows) indicate that a single choice must be made. If one of the items to choose from is positioned on the baseline of the diagram, one item must be selected.



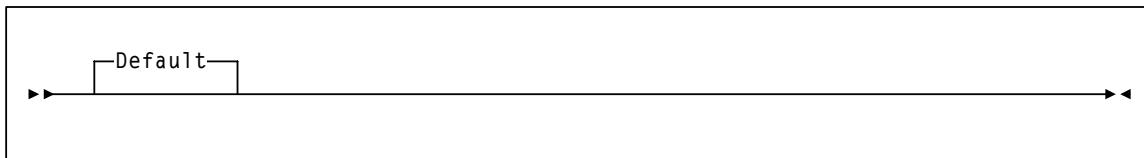
Single Optional Choice

If the first item is positioned on the line below the baseline, one item may be optionally selected.

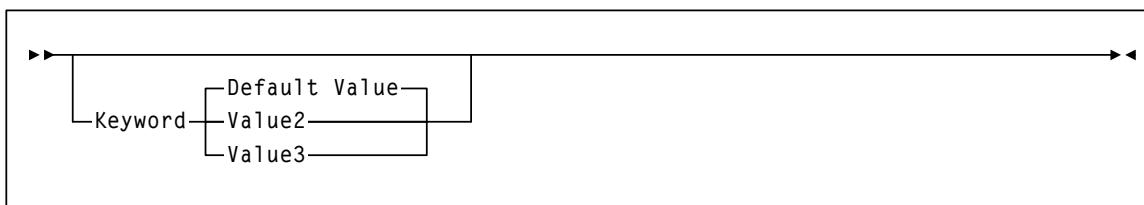


Defaults

Default values and parameters appear above the baseline.

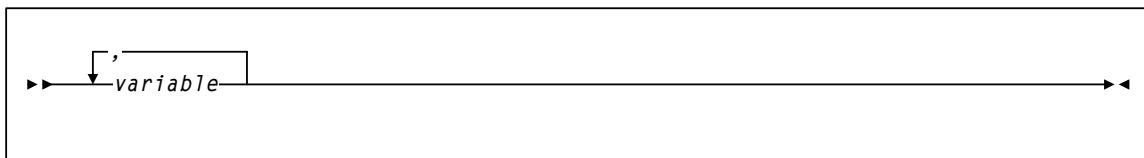


Some keyword parameters provide a choice of values in a stack. When the stack contains a default value, the keyword and the value choices are placed below the base line to indicate that they are optional, and the default value appears above the keyword line.



Repeat Symbol

A repeat symbol indicates that more than one choice can be made or that a single choice can be made more than once. The following example indicates that a comma is required as the repeat delimiter.



Keywords

All command keywords are shown in all upper case or in mixed case. When commands are not case sensitive, mixed case implies that the lowercase letters may be omitted to form an abbreviation.

Variables

Italic type is used to indicate a variable.

Alternatives

A bar (|) is used to separate alternative parameter values.

Optional

Brackets [] are used to indicate that a command parameter is optional.

Delimiters

If a comma (,), a semicolon (;), or other delimiter is shown with an element of the syntax diagram, it must be entered as part of the statement.

Ranges

An inclusive range is indicated by a pair of elements of the same length and data type, joined by a dash. The first element must be strictly less than the second element.

A hexadecimal range consists of a pair of hexadecimal numbers (for example, 0A2-0AD, or 000-0FC).

A decimal range consists of a pair of decimal numbers (i.e., 1-9, or 010-094). Leading zeros are not required. The decimal portion is referred to as an incremental range. The character positions of the incremental portion of both range elements must match, and the non incremental characters of the first element must be identical to those of the second element.

A numeric VOLSER range (*vol-range*) consists of a pair of VOLSER elements containing a decimal numeric portion of 1 to 6 digits (for example, ABC012-ABC025, or X123CB-X277CB). The decimal portion is referred to as an incremental range. The following additional restrictions apply:

- The character positions of the incremental portion of both range elements must match.
- The non incremental characters of the first element must be identical to those of the second element.
- You cannot increment two portions of a range element. If 111AAA is the first element, you cannot specify 112AAB for the second element.

- If a VOLSER range contains more than one decimal portion, any portion is valid as the incremental range. For example:

<u>A00B00</u>	the largest range that can be specified is A00B00 through A99B99.
<u>A0B0CC</u>	the largest range that can be specified is A0B0CC through A9B9CC.
<u>000XXX</u>	the largest range that can be specified is 000XXX through 999XXX.

An alphabetic VOLSER range (*vol-range*) consists of a pair of VOLSER elements containing an incremental portion of 1 to 6 characters (for example, 000AAA-000ZZZ, or 9AAA55-9ZZZ55). This portion is referred to as an incremental range. The following additional restrictions apply:

- The character positions of the incremental portion of both range elements must match.
- The non incremental characters of the first element must be identical to those of the second element.
- You cannot increment two portions of a range element. If 111AAA is the first element, you cannot specify 112AAB for the second element.
- The alphabetic portion of the VOLSER range is defined as being from character A to Z. To increment multi-character sequences, each character increments to Z. For instance, ACZ is part of the AAA-AMM range. Examples are:

<u>A00A0-A99A0</u>	increments VOLSERs A00A0 through A09A0, then A10A0 through A99A0.
<u>9AA9A-9ZZ9A</u>	increments VOLSERs 9AA9A through 9AZ9A, then 9BA9A through 9ZZ9A.
<u>111AAA-111ZZZ</u>	increments VOLSERs 111AAA through 111AAZ, then 111ABA through 111ZZZ
<u>999AM8-999CM8</u>	increments VOLSERs 999AM8 through 999AZ8, then 999BA8 through 999CM8
<u>A3BZZ9-A3CDE9</u>	increments VOLSERs A3BZZ9 through A3CAA9, then A3CAB9 through A3CDE9
<u>AAAAAA-AAACCC</u>	increments VOLSERs AAAAAA through AAAAAZ, then AAAABA through AAACCC
<u>CCCNNN-DDDNNN</u>	increments VOLSERs CCCNNN through CCCNZ, then CCCNOA through DDDNNN *

* **Caution:** This is a very large range.

The number of volumes in an alphabetic VOLSER range depends on the number of elements in the incrementing portion of the VOLSER range. For an A to Z range in each character position, the number of volumes can be calculated by 26 to the power of the number of positions that are being incremented.

A-Z	26^1	26
AA-ZZ	26^2	676
AAA-ZZZ	26^3	17,576
AAAA-ZZZZ	26^4	456,976
AAAAA-ZZZZZ	26^5	11,881,376
AAAAAA-ZZZZZZ	26^6	308,915,776

Lists

A list consists of one or more elements. If more than one element is specified, the elements must be separated by a comma or a blank space, and the entire list must be enclosed in parentheses.

Blanks

Keyword parameters and values may be separated by any number of blanks.

Control Statements

The standard syntax conventions for control statements are as follows:

- The only valid control statement information area is from column 1 to column 72. Columns 73-80 are ignored.
- Parameters may be separated by one or more blanks or a comma.
- A value is associated with a parameter by an equal (=) sign or by enclosing the value in parentheses, and concatenating it immediately after the parameter.
- Case (upper or lower) is ignored in actual control statements.
- Continuations are supported by including a plus (+) sign at the end of the line to be continued. A control statement is terminated if the statement is not continued.
- /* and */ can be used to enclose comments in the job stream. Comments can be continued over multiple lines, but cannot be nested.

PARMLIB members **must** include a /*...*/ comment as the **first** control statement. Otherwise, the old format is assumed. Comments in the old format must begin with an asterisk (*) in column 1.

For definition data sets (e.g., VOLATTRs, UNITATTRs and TAPEREQs), comments **must** be in the new format /*...*/.

- Asterisk (*) comments are **not** allowed.
- A /*...*/ comment in the first line is **not** required.
- The maximum length for a control statement is 1024 characters.

Operator Command Syntax

This chapter contains syntax for LibraryStation operator commands. Refer to the *LibraryStation Configuration and Administration Guide* for more information about these commands.

Cancel

```
►►LS—Cancel—ID(req-id)————→◀
```

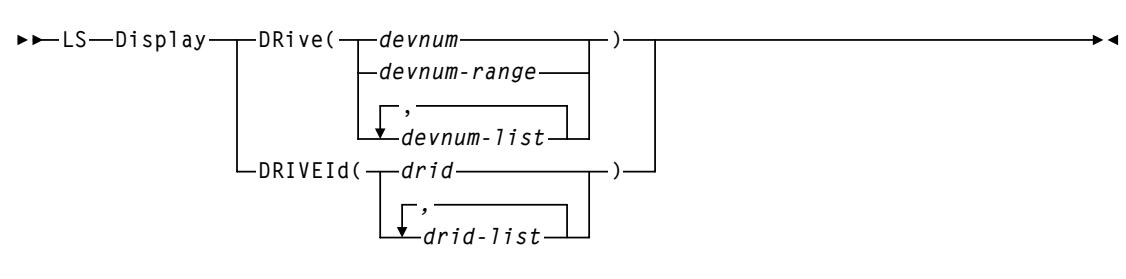
CLrllock

```
►►LS—CLrllock—DRive(devnum)————→◀  
                  |  
                  |—DRIVEId(drid)—
```

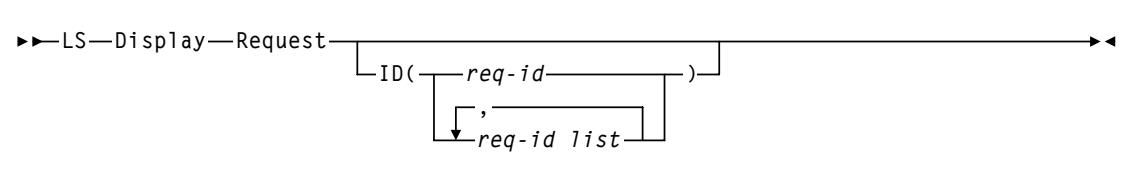
Display CMd

```
►►LS—Display—CMd(—command_name)————→◀  
                  |  
                  |—Command(—
```

Display DDrive



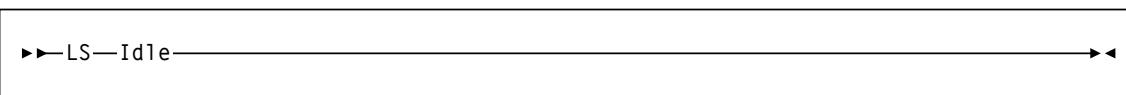
Display Request



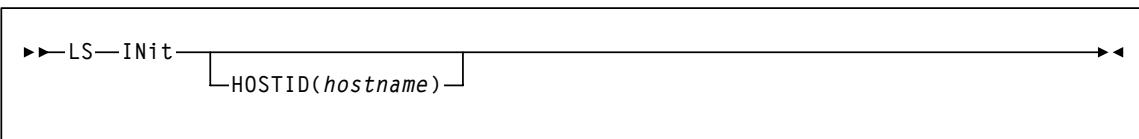
Display Status



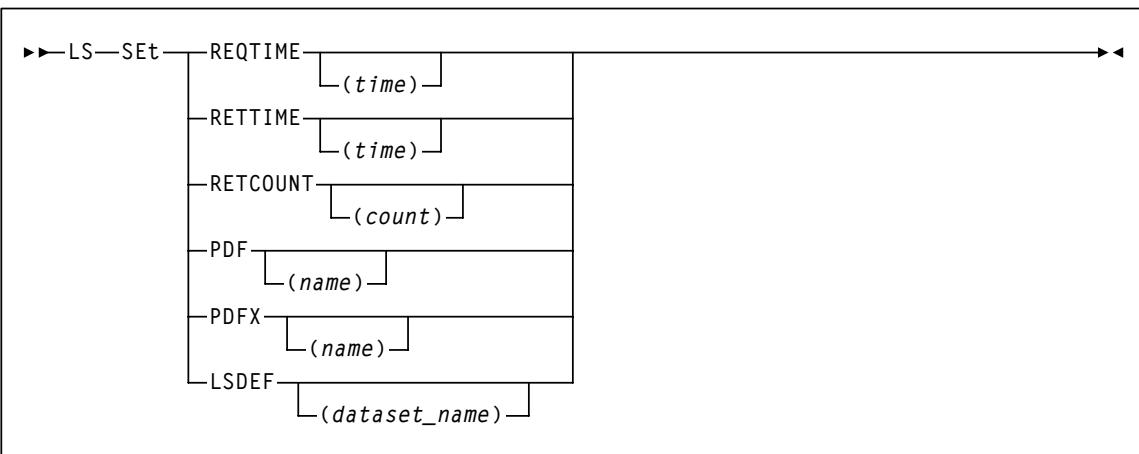
Idle



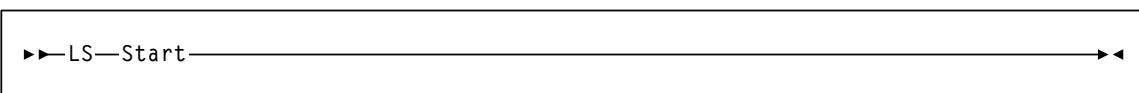
INit



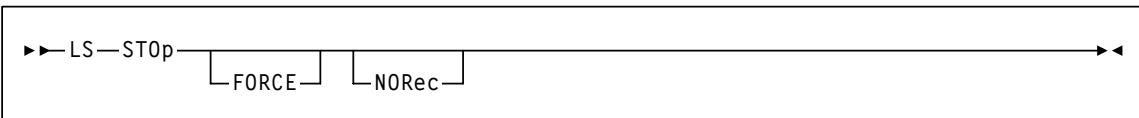
SEt



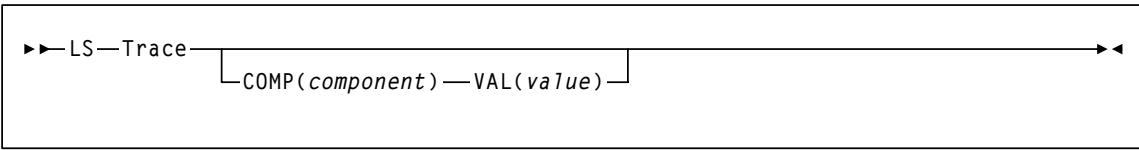
Start



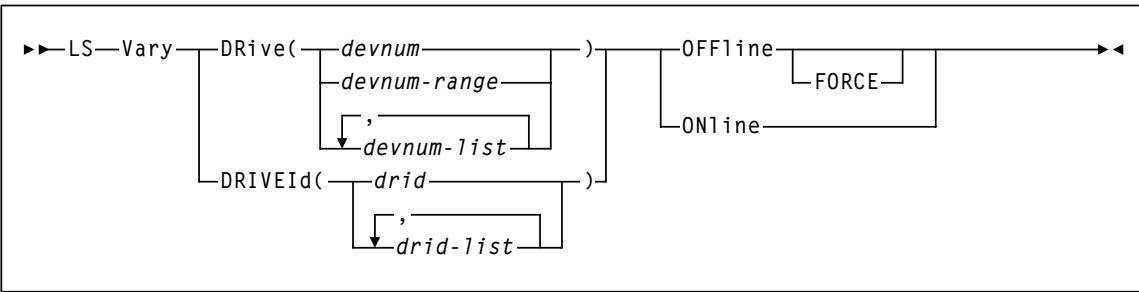
STOp



Trace



Vary DDrive



LSDEF File Statement Syntax

This chapter contains syntax for LibraryStation LSDEF file statements. Refer to the *LibraryStation Configuration and Administration Guide* for more information about these statements.

CLIENTID

```
►►CLIENTID—IPADDR(IP_address)—NAME(userid)—►►
  | LUNAME(partner_lu_name)|
```

SPNUM

```
►►SPNUM—NUM(n)—SPNAME(HSC_subpool_name)—►►
  | IPADDR(IP_address)|
  | LUNAME(partner_lu_name)|

  | VIRTUAL(—NO—) | MGMTclas(management_class_name)|►►
  | YES|
```



```
►►VTSS1st(VTSS | vtss,vtss)|►►
```


LSINIT Control Statement Syntax

This section contains syntax for the LibraryStation LSINIT control statement. Refer to the *LibraryStation Configuration and Administration Guide* for a complete description of this statement.

