

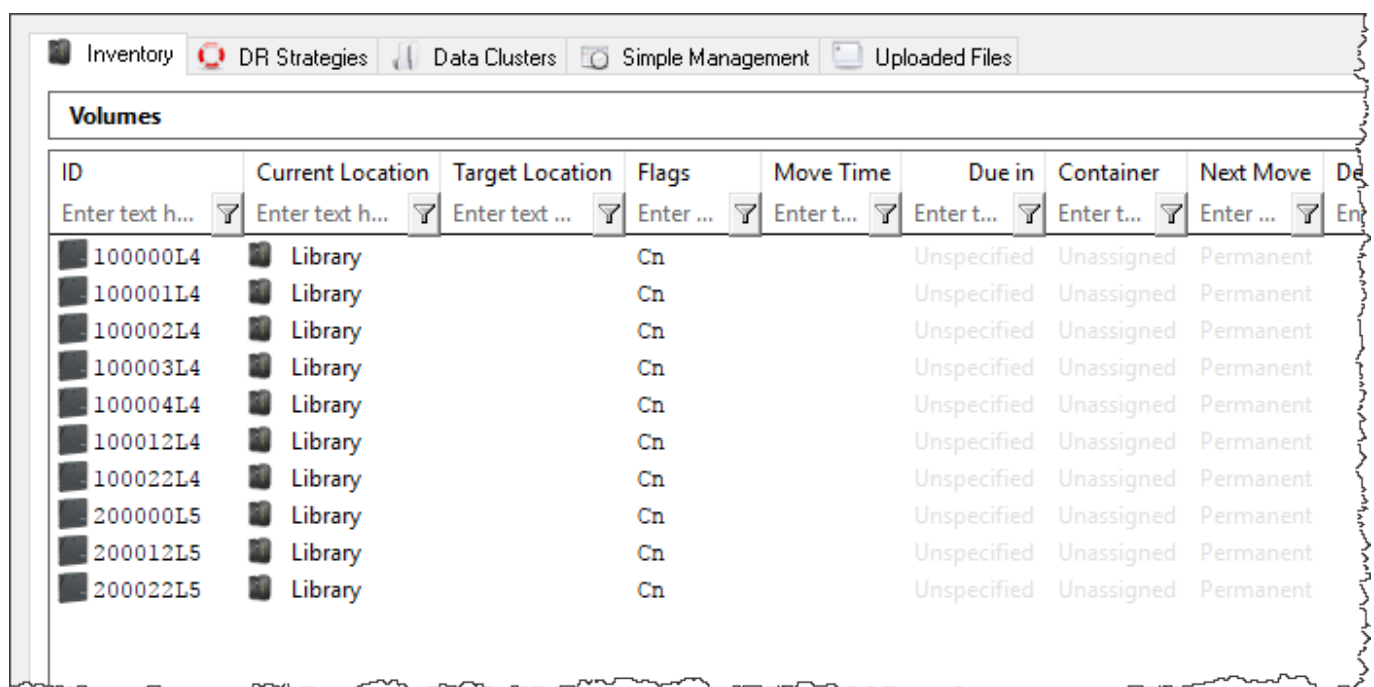
# Pattern matching

TapeTrack has powerful pattern matching functionality that can be utilized globally in [TapeMaster](#).

## String Pattern Matching

To illustrate the effects of where and how the asterisk wildcard affects search results all examples will be performed against the following [Volume](#) values.

100000L4, 100001L4, 100002L4, 100003L4, 100004L4, 100012L4, 100022L4, 200000L5, 200012L5, 200022L5

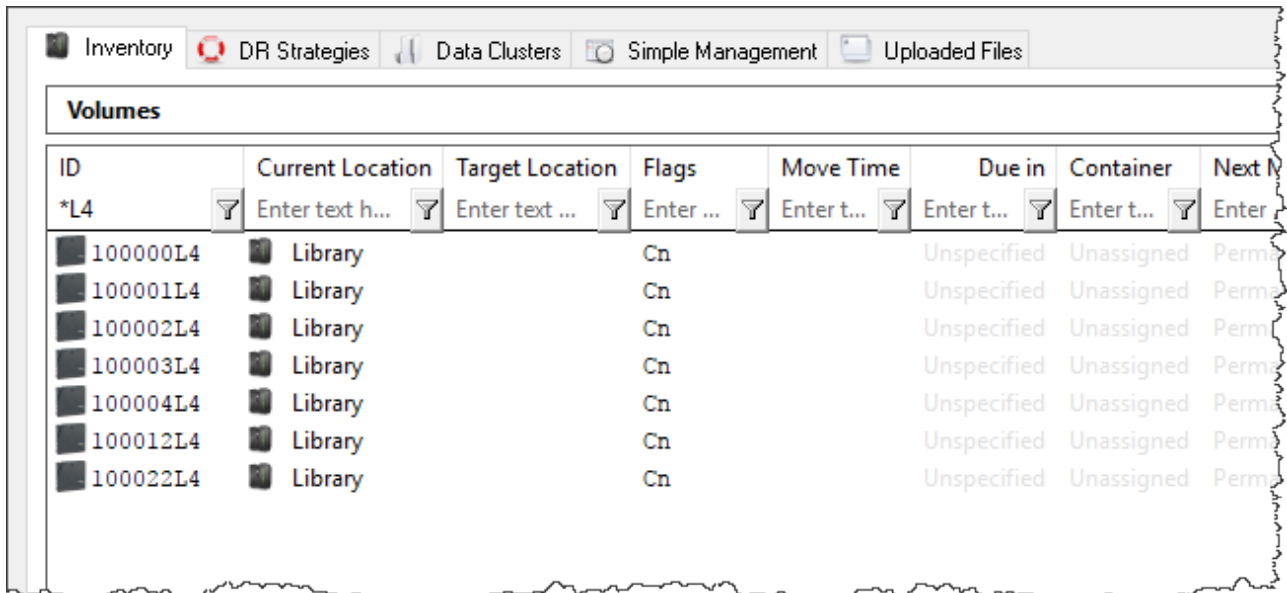


ID	Current Location	Target Location	Flags	Move Time	Due in	Container	Next Move	De
100000L4	Library		Cn		Unspecified	Unassigned	Permanent	
100001L4	Library		Cn		Unspecified	Unassigned	Permanent	
100002L4	Library		Cn		Unspecified	Unassigned	Permanent	
100003L4	Library		Cn		Unspecified	Unassigned	Permanent	
100004L4	Library		Cn		Unspecified	Unassigned	Permanent	
100012L4	Library		Cn		Unspecified	Unassigned	Permanent	
100022L4	Library		Cn		Unspecified	Unassigned	Permanent	
200000L5	Library		Cn		Unspecified	Unassigned	Permanent	
200012L5	Library		Cn		Unspecified	Unassigned	Permanent	
200022L5	Library		Cn		Unspecified	Unassigned	Permanent	

## Asterisk (\*)

The **Asterisk is used** as a wildcard to allow string matching in multiple positions and variable string lengths.

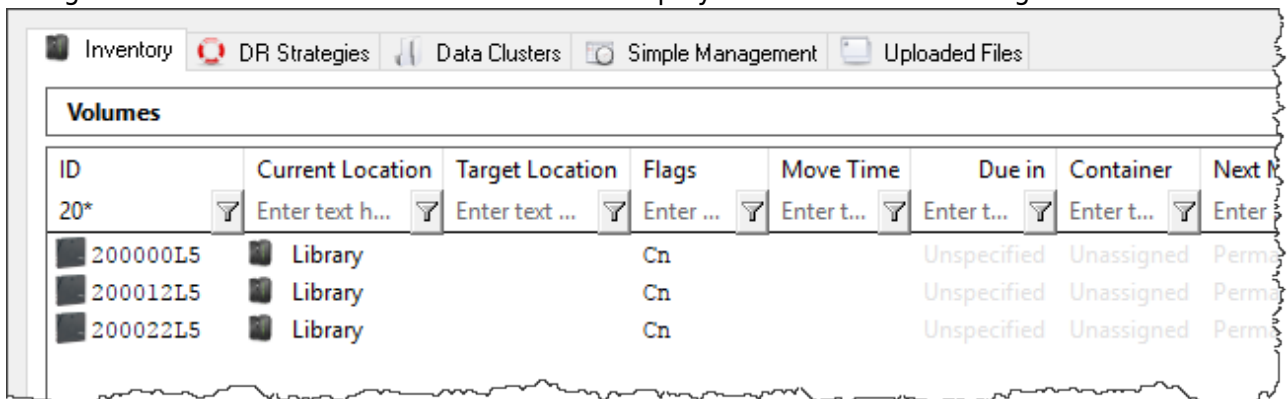
- An **Asterisk** before a set of characters will show all items that end with those characters. Using the filter \*L4 in the [Volume-ID](#) field will show all [Volume-ID's](#) ending in L4.



The screenshot shows a web interface with a navigation bar containing 'Inventory', 'DR Strategies', 'Data Clusters', 'Simple Management', and 'Uploaded Files'. Below is a 'Volumes' table with the following columns: ID, Current Location, Target Location, Flags, Move Time, Due in, Container, and Next M. The filter '\*L4' is applied to the ID column. The table displays seven rows of volume data:

ID	Current Location	Target Location	Flags	Move Time	Due in	Container	Next M
*L4	Enter text h...	Enter text ...	Enter ...	Enter t...	Enter t...	Enter t...	Enter
100000L4	Library		Cn		Unspecified	Unassigned	Perma
100001L4	Library		Cn		Unspecified	Unassigned	Perma
100002L4	Library		Cn		Unspecified	Unassigned	Perma
100003L4	Library		Cn		Unspecified	Unassigned	Perma
100004L4	Library		Cn		Unspecified	Unassigned	Perma
100012L4	Library		Cn		Unspecified	Unassigned	Perma
100022L4	Library		Cn		Unspecified	Unassigned	Perma

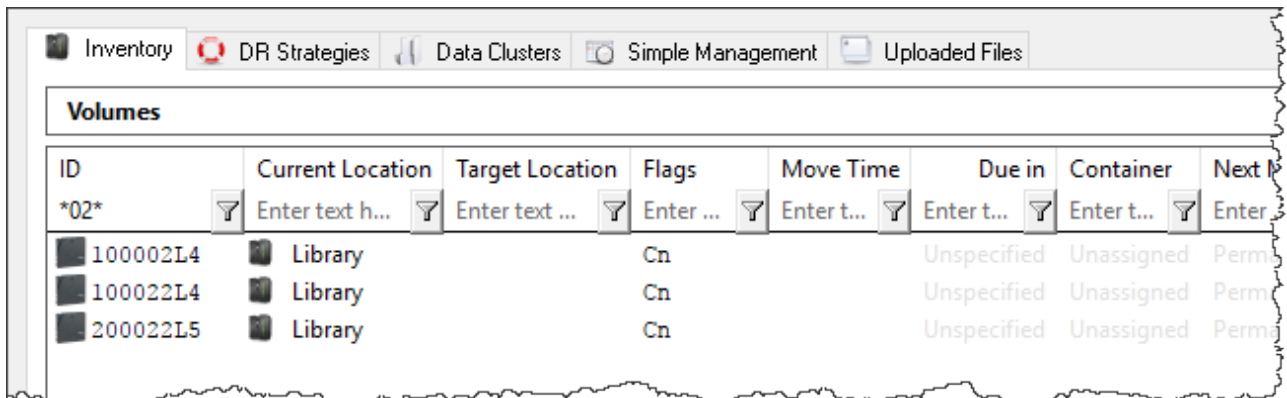
- An **Asterisk** after a set of characters will show all items that begin with those characters. Using the filter 20\* in the [Volume-ID](#) field will display all [Volume-ID's](#) starting with 20.



The screenshot shows the same web interface as above, but with the filter '20\*' applied to the ID column. The table displays three rows of volume data:

ID	Current Location	Target Location	Flags	Move Time	Due in	Container	Next M
20*	Enter text h...	Enter text ...	Enter ...	Enter t...	Enter t...	Enter t...	Enter
200000L5	Library		Cn		Unspecified	Unassigned	Perma
200012L5	Library		Cn		Unspecified	Unassigned	Perma
200022L5	Library		Cn		Unspecified	Unassigned	Perma

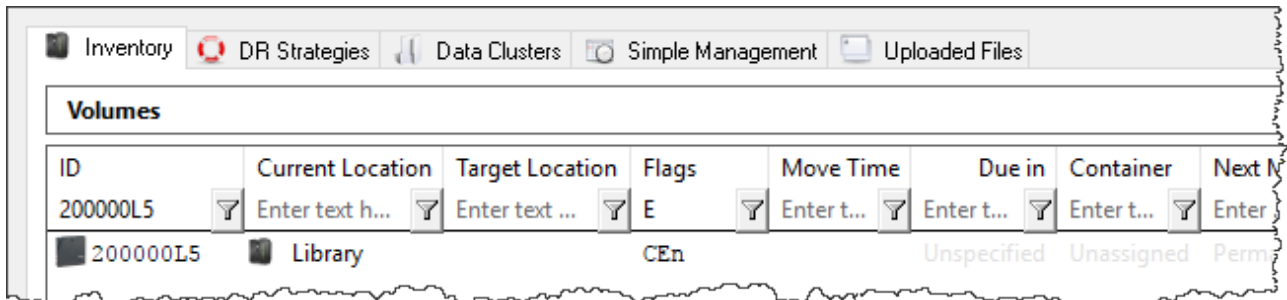
- If used on its own, the **Asterisk** will match everything and, as such, will have no effect on [Volumes](#) displayed.
- Using two **Asterisks**, one on either side of a character or set of characters will show all items containing that character or set of characters at any character position. Using the filter \*02\* in the [Volume-ID](#) field will display all [Volume-ID's](#) that have 02 anywhere within the ID.



The screenshot shows the same web interface as above, but with the filter '\*02\*' applied to the ID column. The table displays three rows of volume data:

ID	Current Location	Target Location	Flags	Move Time	Due in	Container	Next M
*02*	Enter text h...	Enter text ...	Enter ...	Enter t...	Enter t...	Enter t...	Enter
100002L4	Library		Cn		Unspecified	Unassigned	Perma
100022L4	Library		Cn		Unspecified	Unassigned	Perma
200022L5	Library		Cn		Unspecified	Unassigned	Perma

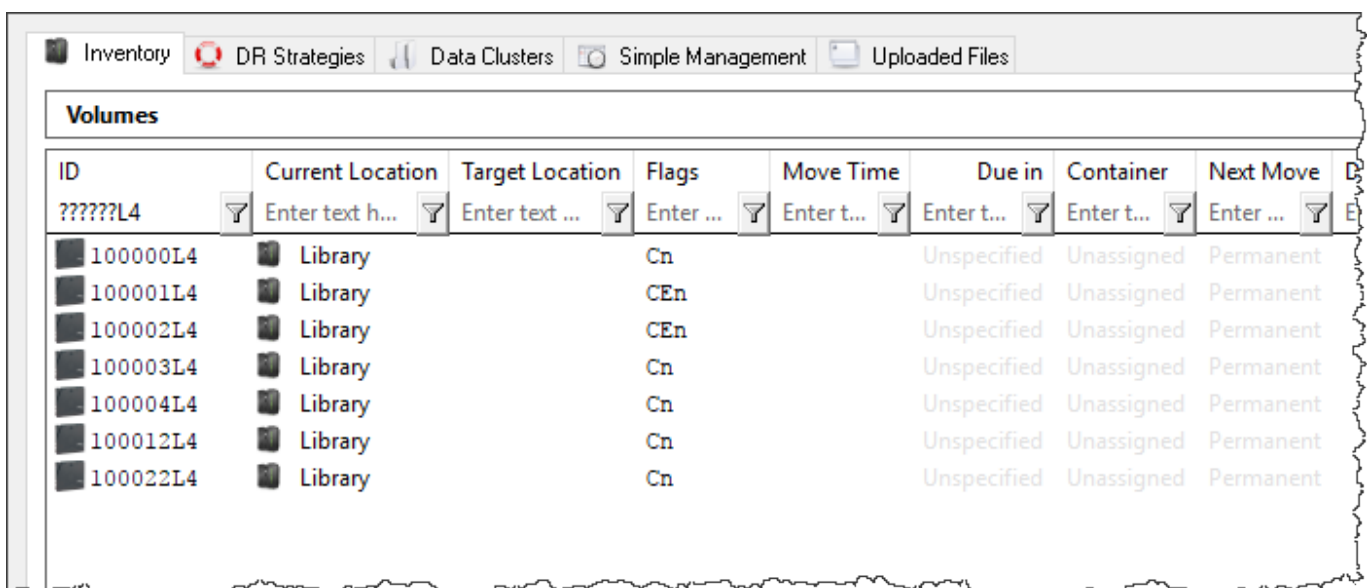
- The Asterisk does not need to be used when entering a full Object-ID or when searching for [Flags](#) in the [Volume List](#).



### Question Mark (?)

The **Question Mark** is used to indicate that any character can exist in a specific character position.

Using the filter ??????L4 in the **Volume-ID** field will display all eight character **Volume-ID's** ending in L4.



### Square Brackets ([ ])

**Square Brackets** can be used to provide parameters for a specific character position that are longer than one character. There are four different configurations:

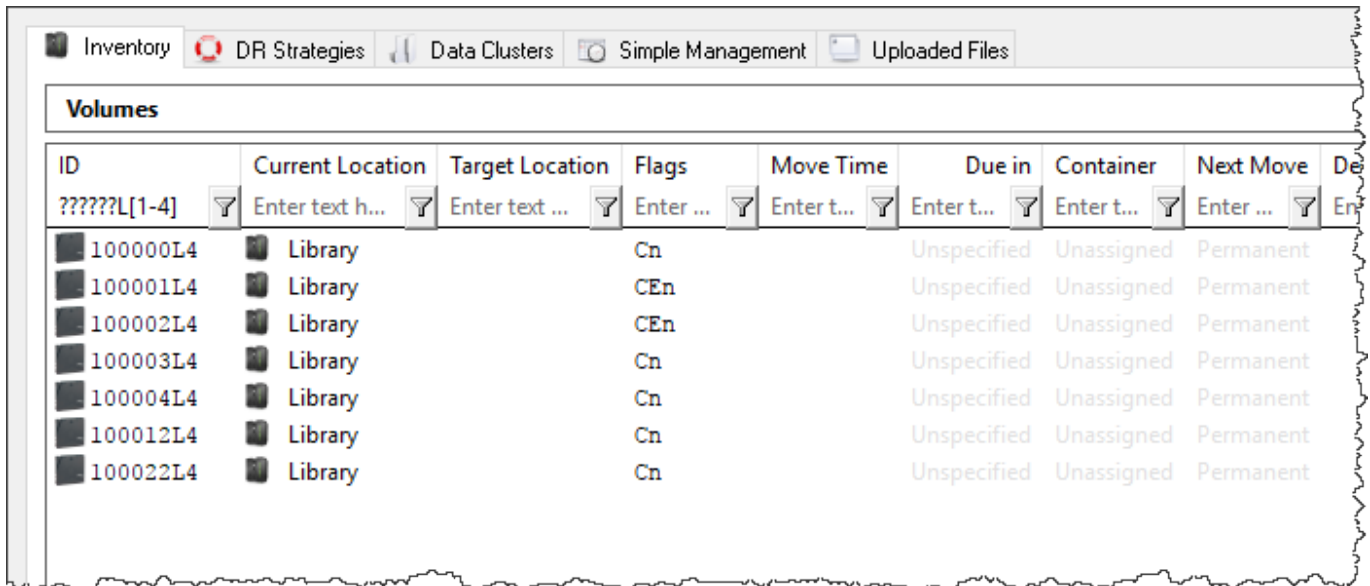
#### Multiple Characters

When multiple characters are put in a **Square Bracket**, any of the characters listed will be displayed at the specified character position.

Using the filter, in the **Volume-ID** field, [12]?????L[45] will display all eight character **Volume-ID's** that start in either 1 or 2 and end in either L4 or L5.

#### Range Of Characters

Using the filter, in the **Volume-ID** field, [12]?????L[4-7] will display all eight character **Volume-ID's** that start in either 1 or 2 and end in either L4, L5, L6 or L7.



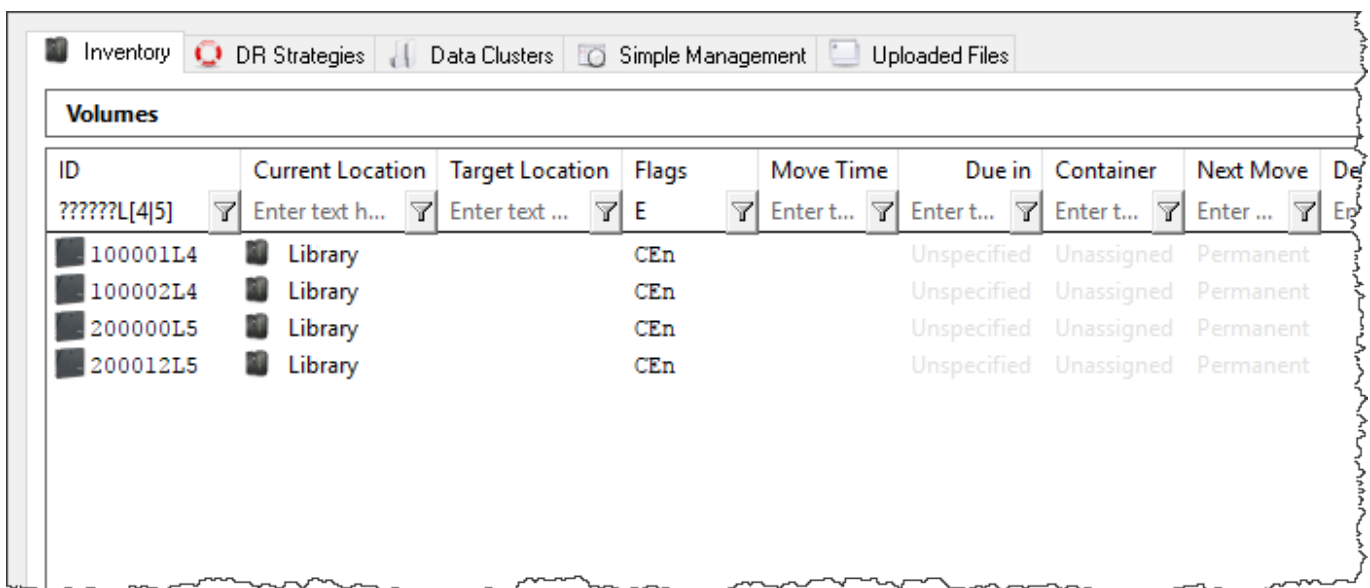
The screenshot shows a web application interface with a navigation bar containing 'Inventory', 'DR Strategies', 'Data Clusters', 'Simple Management', and 'Uploaded Files'. Below the navigation bar is a section titled 'Volumes' containing a table. The table has columns for ID, Current Location, Target Location, Flags, Move Time, Due in, Container, Next Move, and Deleted. A filter is applied to the ID column with the text '?????L[1-4]'. The table displays eight rows of data, all with 'Library' as the current location and 'Unassigned' as the container. The flags for the first four rows are 'Cn' and for the last four rows are 'CEn'. The 'Due in' status for all rows is 'Unspecified' and the 'Next Move' is 'Permanent'.

ID	Current Location	Target Location	Flags	Move Time	Due in	Container	Next Move	De
?????L[1-4]	Enter text h...	Enter text ...	Enter ...	Enter t...	Enter t...	Enter t...	Enter ...	En
100000L4	Library		Cn		Unspecified	Unassigned	Permanent	
100001L4	Library		CEn		Unspecified	Unassigned	Permanent	
100002L4	Library		CEn		Unspecified	Unassigned	Permanent	
100003L4	Library		Cn		Unspecified	Unassigned	Permanent	
100004L4	Library		Cn		Unspecified	Unassigned	Permanent	
100012L4	Library		Cn		Unspecified	Unassigned	Permanent	
100022L4	Library		Cn		Unspecified	Unassigned	Permanent	

### Vertical Bar (|)

When two or more characters are placed between **Square Brackets** and separated by **Vertical Bars**, the **Vertical Bar** will act as the word "OR" displaying any of the characters.

Using the filter, in the **Volume-ID** field, `?????L[4|5]` will display all eight character **Volume-ID's** that end in either L4 **OR** L5.



The screenshot shows the same web application interface as above. The filter applied to the ID column is now '?????L[4|5]'. The table displays four rows of data. The first two rows have 'Library' as the current location and 'CEn' as the flag. The last two rows have 'Library' as the current location and 'CEn' as the flag. The 'Due in' status for all rows is 'Unspecified' and the 'Next Move' is 'Permanent'.

ID	Current Location	Target Location	Flags	Move Time	Due in	Container	Next Move	De
?????L[4 5]	Enter text h...	Enter text ...	E	Enter t...	Enter t...	Enter t...	Enter ...	En
100001L4	Library		CEn		Unspecified	Unassigned	Permanent	
100002L4	Library		CEn		Unspecified	Unassigned	Permanent	
200000L5	Library		CEn		Unspecified	Unassigned	Permanent	
200012L5	Library		CEn		Unspecified	Unassigned	Permanent	

### Hyphen (-)

When two characters are placed between **Square Brackets** and separated by a **Hyphen**, any character alphanumerically between the two characters inclusive will display.

Using the filter, in the **Volume-ID** field, `?????L[1-4]` will display all eight character **Volume-ID's** that end in L1, L2, L3 OR L4.

The screenshot shows the TapeTrack interface with a navigation bar containing 'Inventory', 'DR Strategies', 'Data Clusters', 'Simple Management', and 'Uploaded Files'. Below this is a 'Volumes' section with a table. The table has columns: ID, Current Location, Target Location, Flags, Move Time, Due in, Container, Next Move, and De. The filter in the ID field is '?????L[1-4]'. The table displays 8 rows of volume data.

ID	Current Location	Target Location	Flags	Move Time	Due in	Container	Next Move	De
?????L[1-4]	Enter text h...	Enter text ...	Enter ...	Enter t...	Enter t...	Enter t...	Enter ...	En
100000L4	Library		Cn		Unspecified	Unassigned	Permanent	
100001L4	Library		CEn		Unspecified	Unassigned	Permanent	
100002L4	Library		CEn		Unspecified	Unassigned	Permanent	
100003L4	Library		Cn		Unspecified	Unassigned	Permanent	
100004L4	Library		Cn		Unspecified	Unassigned	Permanent	
100012L4	Library		Cn		Unspecified	Unassigned	Permanent	
100022L4	Library		Cn		Unspecified	Unassigned	Permanent	

### Exclamation Point (!)

When the **Exclamation Point** is placed immediately following the left **Square Bracket** in a set of **Square Brackets**, any character except for the characters listed after the **Exclamation Point** will display. This functionality also works with **Multiple Characters**, **Vertical Bars**, and **Hyphens**.

Using the filter, in the **Volume-ID** field, `?????L!([1-4])` will display all eight character **Volume-ID's** that start end in anything other than 1, 2, 3 or 4.

The screenshot shows the TapeTrack interface with a navigation bar containing 'Inventory', 'DR Strategies', 'Data Clusters', 'Simple Management', and 'Uploaded Files'. Below this is a 'Volumes' section with a table. The table has columns: ID, Current Location, Target Location, Flags, Move Time, Due in, Container, Next Move, and De. The filter in the ID field is '?????L!([1-4])'. The table displays 3 rows of volume data.

ID	Current Location	Target Location	Flags	Move Time	Due in	Container	Next Move	De
?????L!([1-4])	Enter text h...	Enter text ...	Enter ...	Enter t...	Enter t...	Enter t...	Enter ...	E
200000L5	Library		CEn		Unspecified	Unassigned	Permanent	
200012L5	Library		CEn		Unspecified	Unassigned	Permanent	
200022L5	Library		Cn		Unspecified	Unassigned	Permanent	

### Date Pattern Matching

TapeTrack Date Format

TapeTrack allows you to represent dates both as literal date values and date calculations.

#### Syntax

- YYYY-MM-DD: ISO Date format.

- \*: Today.
- \*±x: Today plus or minus number of days (x).
- M: The first day of this month.
- m: The last day of this month.
- Y: The first day of the year.
- y: The last day of the year.
- M±x: The first day of the month plus or minus number of months (x).
- M±x±y: The first day of the month plus or minus number of months (x), plus or minus number of days (y).
- Y±x: The first day of the year plus or minus x months.
- Y±x±y: The first day of the year plus or minus number of years (x) plus or minus number of months (y).
- Y±x±y±z: The first day of the year plus or minus number of years (x) plus or minus number of months (y) plus or minus number of days (z).

### Examples

*-10	10 days ago
Y	the beginning of this year
M-1	the last day of last month
y-1	the last day of last year
Y-1+3-1	the last day of February last year

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