

# 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.

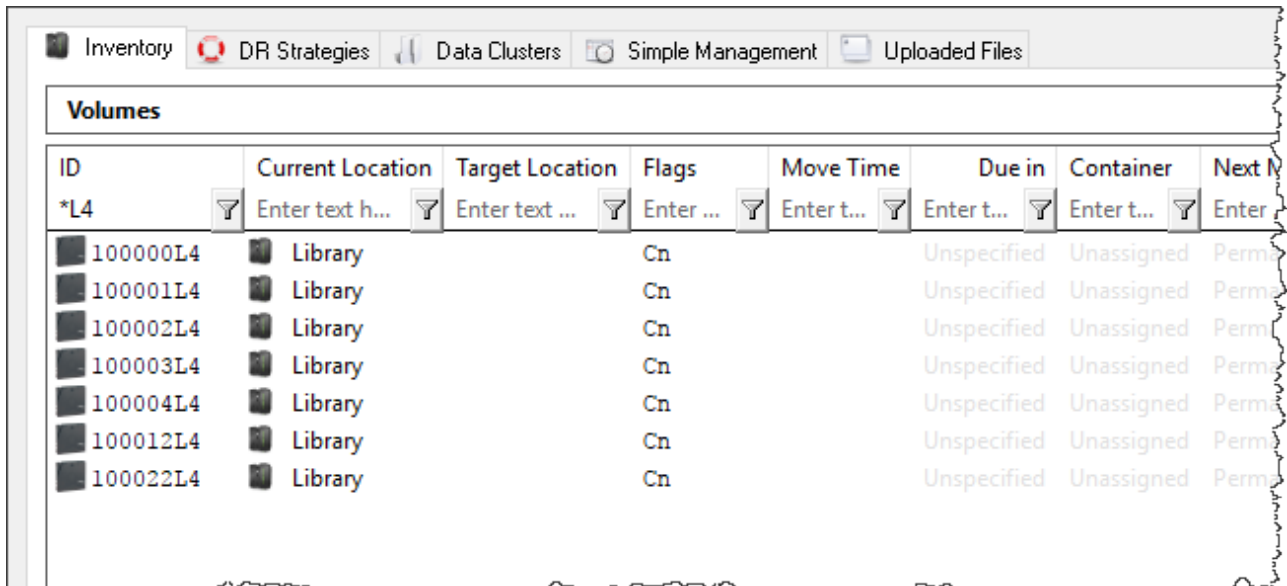
100000L4, 100001L4, 100002L4, 100003L4, 100004L4, 100012L4, 100022L4, 200000L5, 200012L5, 200022L5

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	

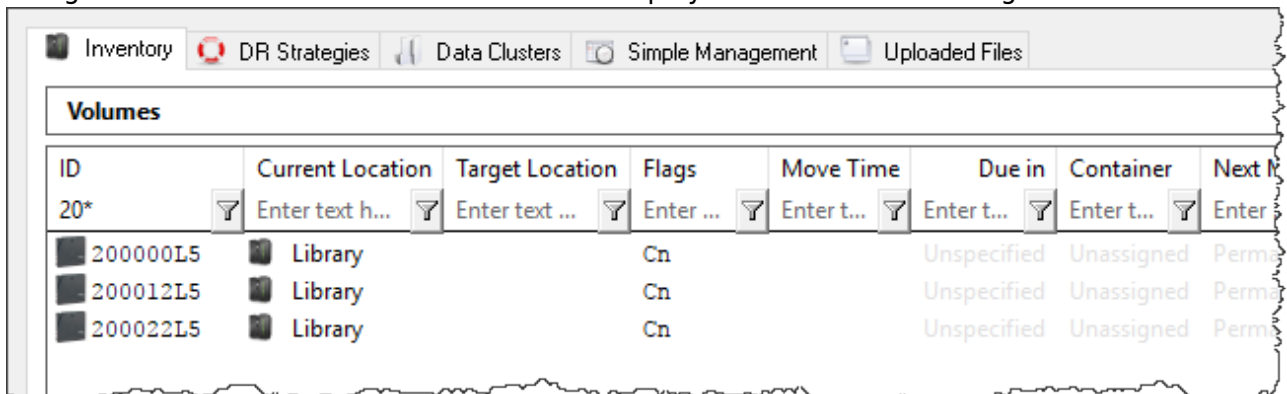
### Asterisk (\*)

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

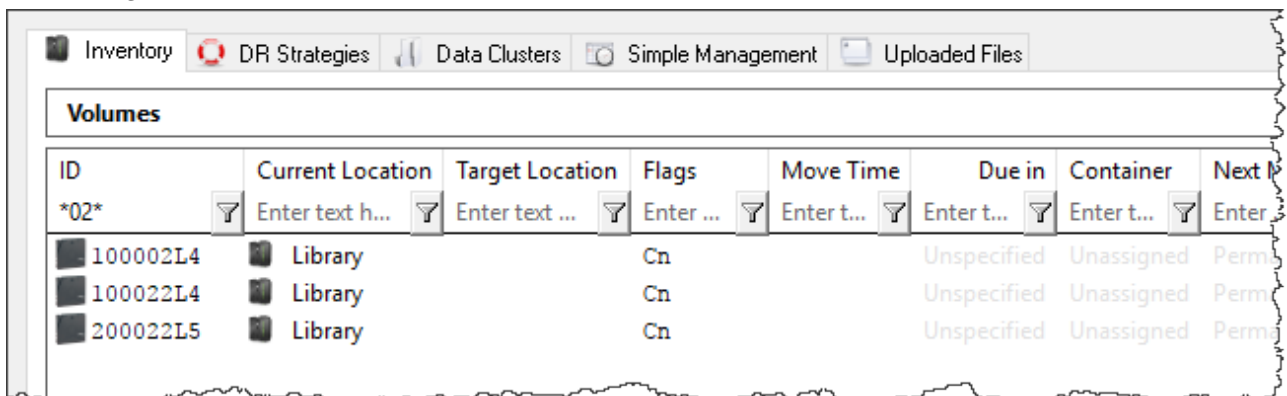
- An **Asterisk** before a set of characters will show all items that end with those characters. Using the filter \*L4 in the volume ID field will show all volume ID's ending in L4.



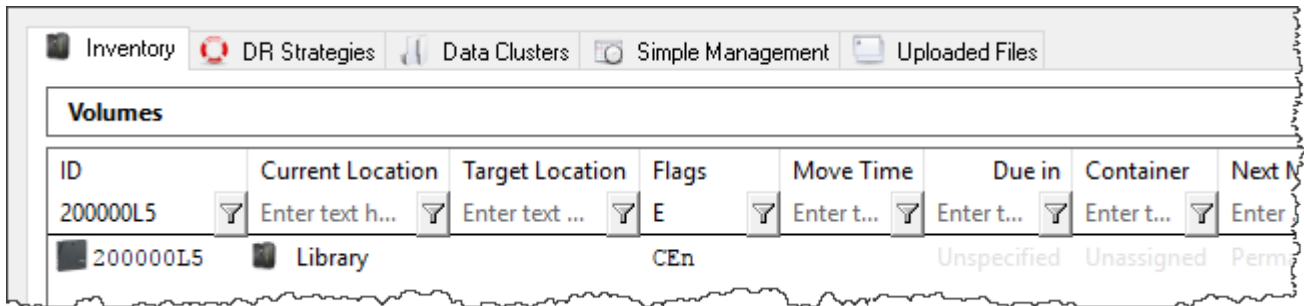
- An **Asterisk** after a set of characters will show all items that begin with those characters. Using the filter 20\* in the volume ID field will display all volume ID's starting with 20.



- If used on its own, the **Asterisk** will match everything and 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 \*20\* in the volume ID field will display all volume ID's that have 20 anywhere within the ID.



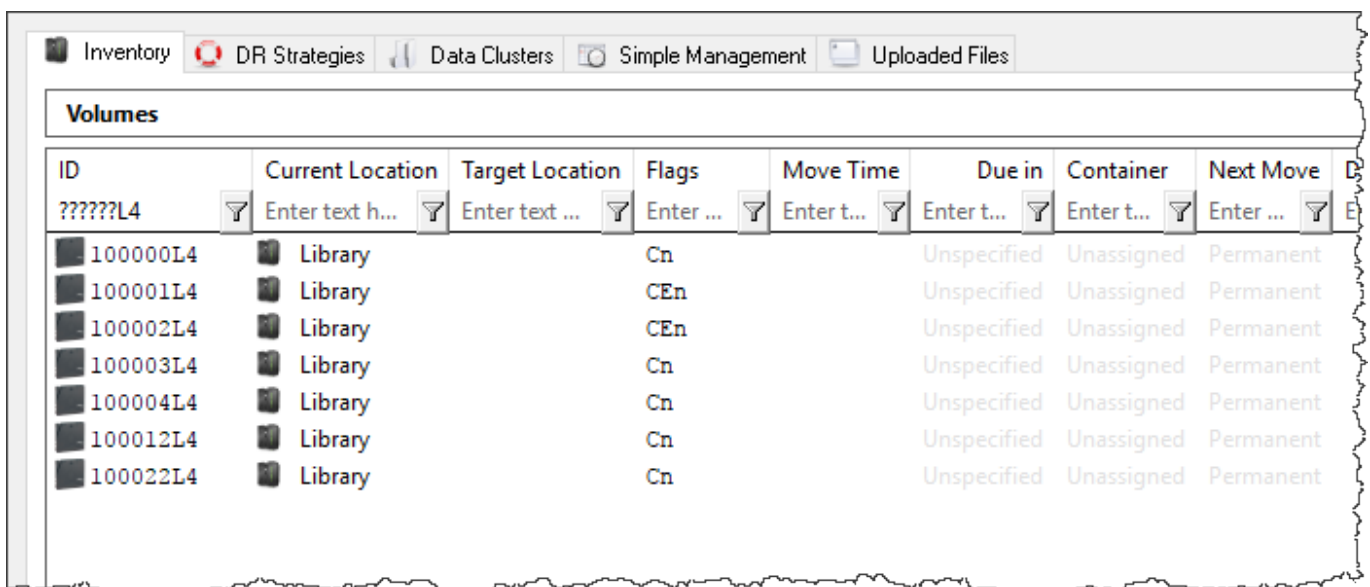
The Asterisk does not need to be used when entering a full Object-ID or when searching for **Flags** in the **Volume List**.



### 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.

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.

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 Deleted. A filter is applied to the ID column with the text '?????L[1-4]'. The table displays 8 rows of volume data.

ID	Current Location	Target Location	Flags	Move Time	Due in	Container	Next Move	Deleted
?????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 Deleted. A filter is applied to the ID column with the text '?????L!([1-4])'. The table displays 3 rows of volume data.

ID	Current Location	Target Location	Flags	Move Time	Due in	Container	Next Move	Deleted
?????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 + or - x days
- **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 + or - x months
- **M+-x+-y**: The first day of the month + or - x months + or - y days
- **Y+-x**: The first day of the year + or - x months
- **Y+-x+-y**: The first day of the year + or - x years + or - y months
- **Y+-x+-y+-z**: The first day of the year + or - x years + or - y months + or - z days

### Examples

*-10	10 days ago
Y	the beginning of this year
M-0	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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