splunk> Quick Reference Guide

CONCEPTS

Overview

Index-time Processing: Splunk reads data from a *source*, such as a file or port, on a *host* (e.g. "my machine"), classifies that *source* into a *sourcetype* (e.g., "syslog", "access_combined", "apache_error", ...), then extracts timestamps, breaks up the source into individual events (*e.g., log events, alerts, …*), which can be a single-line or multiple lines, and writes each event into an *index* on disk, for later retrieval with a *search*.

Search-time Processing: When a *search* starts, matching indexed *events* are retrieved from disk, *fields* (e.g., `code=404, user=david`,...) are extracted from the *event*'s text, and the *event* is classified by matching against *eventtype* definitions (e.g., `'error', 'login'`,...). The *events* returned from a search can then be powerfully transformed using Splunk's *search language* to generate *reports* that live on *dashboards*.

Events

An *event* is a single entry of data. In the context of log file, this is an event in a Web activity log:

```
173.26.34.223 - - [01/Jul/2009:12:05:27 -0700] "GET /
trade/app?action=logout HTTP/1.1" 200 2953
```

More specifically, an event is a set of values associated with a timestamp. While many events are short and only take up a line or two, others can be long, such as a whole text document, a config file, or whole java stack trace. Splunk uses line-breaking rules to determine how it breaks these events up for display in the search results.

Sources/Sourcetypes

A source is the name of the file, stream, or other input from which a particular event originates – for example, /var/log/messages or UDP:514. *Sources* are classified into *sourcetypes*, which can either be well known, such as access_combined (HTTP Web server logs), or can be created on the fly by Splunk when it sees a source with data and formatting it hasn't seen before. *Events* with the same sourcetype can come from different *sources*—events from the file /var/log/messages and from a syslog input on udp:514 can both have sourcetype=linux_syslog.

Hosts

A *host* is the name of the physical or virtual device where an *event* originates. Host provides an easy way to find all data originating from a given device.

Indexes

When you add data to Splunk, Splunk processes it, breaking the data into individual events, timestamps them, and then stores them in an *index*, so that it can be later searched and analyzed. By default, data you feed to Splunk is stored in the "main" *index*, but you can create and specify other *indexes* for Splunk to use for different data inputs.

Fields

Fields are searchable name/value pairings in *event* data. As Splunk processes *events* at index time and search time, it automatically extracts fields. At index time, Splunk extracts a small set of default *fields* for each *event*, including *host*, *source*, and *sourcetype*. At search time, Splunk extracts what can be a wide range of fields from the event data, including user-defined patterns as well as obvious field name/value pairs such as user_id=jdoe.

Tags

Tags are aliases to *field* values. For example, if there are two host names that refer to the same computer, you could give both of those host values the same tag (e.g., "hal9000"), and then if you search for that tag (e.g., "hal9000"), Splunk will return *events* involving both host name values.

Eventtypes

Eventtypes are cross-referenced searches that categorize *events* at search time. For example, if you have defined an *eventtype* called "problem" that has a search definition of "error OR warn OR fatal OR fail", any time you do a search where a result contains error, warn, fatal, or fail, the event will have an eventtype field/value with eventtype=problem. So, for example, if you were searching for "login", the logins that had problems would get annotated with eventtype=problem. *Eventtypes* are essentially dynamic tags that get attached to an *event* if it matches the search definition of the *eventtype*.

Reports/Dashboards

Search results with formatting information (e.g., as a table or chart) are informally referred to as *reports*, and multiple *reports* can be placed on a common page, called a *dashboard*.

Apps

Go to ***splunkbase.com/apps*** to download apps

Apps are collections of Splunk configurations, objects, and code, allowing you to build different environments that sit on top of Splunk. You can have one *app* for troubleshooting email servers, one *app* for web analysis, and so on.

Permissions/Users/Roles

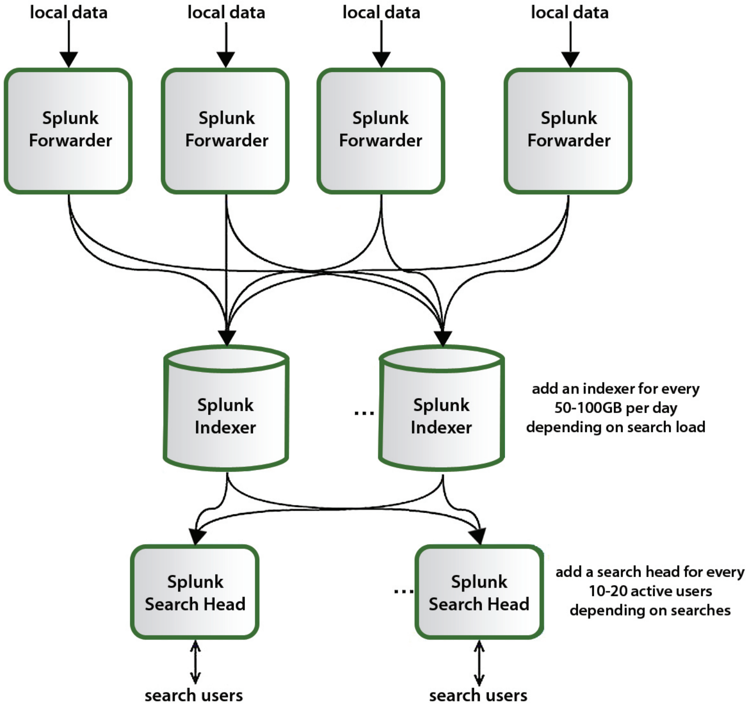
Saved Splunk objects, such as *savedsearches*, *eventtypes*, *reports*, and *tags*, enrich your data, making it easier to search and understand. These objects have *permissions* and can be kept private or shared with other users, via roles (e.g., "admin", "power", "user"). A *role* is a set of capabilities that you can define, like whether or not someone is allowed to add data or edit a report. Splunk with a Free License does not support user authentication.

Transactions

A *transaction* is a set of events grouped into one event for easier analysis. For example, given that a customer shopping at an online store would generate web access events with each click that each share a SessionID, it could be convenient to group all of his events together into one *transaction*. Grouped into one *transaction event*, it's easier to generate statistics like how long shoppers shopped, how many items they bought, which shoppers bought items and then returned them, etc.

Forwarder/Indexer

A *forwarder* is a version of Splunk that allows you to send data to a central Splunk indexer or group of *indexers*. An *indexer* provides indexing capability for local and remote data.



SEARCH LANGUAGE

A *search* is a series of commands and arguments, each chained together with "|" (pipe) character that takes the output of one command and feeds it into the next command on the right.

```
  search-args | cmd1 cmd-args | cmd2 cmd-args | ...
```

Search commands are used to take indexed data and filter unwanted information, extract more information, calculate values, transform, and statistically analyze. The search results retrieved from the index can be thought of as a dynamically created table. Each search command redefines the shape of that table. Each indexed event is a row, with columns for each field value. Columns include basic information about the data as well as columns that are dynamically extracted at search-time.

At the head of each search is an implied search-the-index-for-events command, which can be used to search for keywords (e.g., `error`), boolean expressions (e.g., `(error OR failure) NOT success`), phrases (e.g., `"database error"`), wildcards (e.g., `fail*` will match fail, fails, failure, etc.), field values (e.g., `code=404`), inequality (e.g., `code!=404` or `code>200`), a field having any value or no value (e.g., `code=*` or `NOT code=*`). For example, the search:

```
   sourcetype="access_combined" error | top 10 uri
```

will retrieve indexed access_combined events from disk that contain the term `"error"` (ANDs are implied between search terms), and then for those events, report the top 10 most common URI values.

Subsearches

A *subsearch* is an argument to a command that runs its own search, returning those results to the parent command as the argument value. *Subsearches* are contained in square brackets. For example, finding all syslog events from the user that had the last login error:

```
sourcetype=syslog [search login error | return user]
```

Note that the *subsearch* returns one user value, because by default the "`return`" command just returns one value, but there are options for more (e.g., `| return 5 user`).

Relative Time Modifiers

Besides using the custom-time ranges in the user-interface, you can specify in your search the time ranges of retrieved events with the `latest` and `earliest` search modifiers. The relative times are specified with a string of characters that indicate amount of time (integer and unit) and, optionally, a "snap to" time unit:

```
[+|-]<time_integer><time_unit>@<snap_time_unit>
```

For example: `"error earliest=-1d@d latest=-1h@h"` will retrieve events containing `"error"` that occurred from yesterday (snapped to midnight) to the last hour (snapped to the hour).

Time Units: specified as second (`s`), minute(`m`), hour(`h`), day(`d`), week(`w`), month(`mon`), quarter(`q`), year(`y`). "time_integer" defaults to 1 (e.g., "`m`" is the same as "`1m`").

Snapping: indicates the nearest or latest time to which your time amount rounds down. Snaps rounds down to the latest time not after the specified time. For example, if it is 11:59:00 and you "snap to" hours (`@h`), you will snap to 11:00 not 12:00. You can "snap to" a specific day of the week: use `@w0` for Sunday, `@w1` for Monday, etc.

COMMON SEARCH COMMANDS

COMMAND	DESCRIPTION
chart/ timechart	Returns results in a tabular output for (time-series) charting.
dedup	Removes subsequent results that match a specified criterion.
eval	Calculates an expression. (See EVAL FUNCTIONS table.)
fields	Removes fields from search results.
head/tail	Returns the first/last N results.
lookup	Adds field values from an external source.
rename	Renames a specified field; wildcards can be used to specify multiple fields.
replace	Replaces values of specified fields with a specified new value.
rex	Specifies regular expression named groups to extract fields.
search	Filters results to those that match the search expression.
sort	Sorts search results by the specified fields.
stats	Provides statistics, grouped optionally by fields.
top/rare	Displays the most/least common values of a field.
transaction	Groups search results into transactions.

Optimizing Searches

The key to fast searching is to limit the data that needs to be pulled off disk to an absolute minimum, and then to filter that data as early as possible in the search so that processing is done on the minimum data necessary.

Partition data into separate indexes, if you'll rarely perform searches across multiple types of data. For example, put web data in one index, and firewall data in another.

- Search as specifically as you can (e.g. fatal_error, not *error*)
- Limit the time range to only what's needed (e.g., -1h not -1w)
- Filter out unneeded fields as soon as possible in the search.
- Filter out results as soon as possible before calculations.
- For report generating searches, use the Advanced Charting view, and not the Flashtimeline view, which calculates timelines.
- On Flashtimeline, turn off 'Discover Fields' when not needed.
- Use summary indexes to pre-calculate commonly used values.
- Make sure your disk I/O is the fastest you have available.

SEARCH EXAMPLES

Filter Results

Filter results to only include those with "fail" in their raw text and status=0.	`... | search fail status=0`
Remove duplicates of results with the same host value.	`... | dedup host`
Keep only search results whose "_raw" field contains IP addresses in the non-routable class A (10.0.0.0/8).	`... | regex _raw="(?<!\d)10.\d{1,3}\.\d{1,3}\.\d{1,3}(?!\d)"`

Group Results

Cluster results together, sort by their "cluster_count" values, and then return the 20 largest clusters (in data size).	`... | cluster t=0.9 showcount=true | sort limit=20 -cluster_count`
Group results that have the same "host" and "cookie", occur within 30 seconds of each other, and do not have a pause greater than 5 seconds between each event into a transaction.	`... | transaction host cookie maxspan=30s maxpause=5s`
Group results with the same IP address (clientip) and where the first result contains "signon", and the last result contains "purchase".	`... | transaction clientip startswith="signon" endswith="purchase"`

Order Results

Return the first 20 results.	`... | head 20`
Reverse the order of a result set.	`... | reverse`
Sort results by "ip" value (in ascending order) and then by "url" value (in descending order).	`... | sort ip, -url`
Return the last 20 results (in reverse order).	`... | tail 20`

Reporting

Return events with uncommon values.	`... | anomalousvalue action=filter pthresh=0.02`
Return the maximum "delay" by "size", where "size" is broken down into a maximum of 10 equal sized buckets.	`... | chart max(delay) by size bins=10`
Return max(delay) for each value of foo split by the value of bar.	`... | chart max(delay) over foo by bar`
Return max(delay) for each value of foo.	`... | chart max(delay) over foo`
Remove all outlying numerical values.	`... | outlier`
Remove duplicates of results with the same "host" value and return the total count of the remaining results.	`... | stats dc(host)`
Return the average for each hour, of any unique field that ends with the string "lay" (e.g., delay, xdelay, relay, etc).	`... | stats avg(*lay) by date_hour`
Calculate the average value of "CPU" each minute for each "host".	`... | timechart span=1m avg(CPU) by host`
Create a timechart of the count of from "web" sources by "host"	`... | timechart count by host`
Return the 20 most common values of the "url" field.	`... | top limit=20 url`
Return the least common values of the "url" field.	`... | rare url`

Add Fields

Set velocity to distance / time.	`... | eval velocity=distance/time`
Extract "from" and "to" fields using regular expressions. If a raw event contains "From: Susan To: David", then from=Susan and to=David.	`... | rex field=_raw "From: (?<from>.*) To: (?<to>.*)"`
Save the running total of "count" in a field called "total_count".	`... | accum count as total_count`
For each event where 'count' exists, compute the difference between count and its previous value and store the result in 'countdiff'.	`... | delta count as countdiff`

Filter Fields

Keep the "host" and "ip" fields, and display them in the order: "host", "ip".	`... | fields + host, ip`
Remove the "host" and "ip" fields.	`... | fields - host, ip`

Modify Fields

Rename the "_ip" field as "IPAddress".	`... | rename _ip as IPAddress`
Change any host value that ends with "localhost" to "mylocalhost".	`... | replace *localhost with mylocalhost in host`

Multi-Valued Fields

Combine the multiple values of the recipients field into a single value	`... | nomv recipients`
Separate the values of the "recipients" field into multiple field values, displaying the top recipients	`... | makemv delim="," recipients | top recipients`
Create new results for each value of the multivalue field "recipients"	`... | mvexpand recipients`
For each result that is identical except for that RecordNumber, combine them, setting RecordNumber to be a multi-valued field with all the varying values.	`... | fields EventCode, Category, RecordNumber | mvcombine delim="," RecordNumber`
Find the number of recipient values	`... | eval to_count = mvcount(recipients)`
Find the first email address in the recipient field	`... | eval recipient_first = mvindex(recipient,0)`
Find all recipient values that end in .net or .org	`... | eval netorg_recipients = mvfilter(match(recipient, "\.net$") OR match(recipient, "\.org$"))`
Find the combination of the values of foo, "bar", and the values of baz	`... | eval newval = mvappend(foo, "bar", baz)`
Find the index of the first recipient value match "\.org$"	`... | eval orgindex = mvfind(recipient, "\.org$")`

Lookup Tables

Lookup the value of each event's 'user' field in the lookup table usertogroup, setting the event's 'group' field.	`... | lookup usertogroup user output group`
Write the search results to the lookup file "users.csv".	`... | outputlookup users.csv`
Read in the lookup file "users.csv" as search results.	`... | inputlookup users.csv`

EVAL FUNCTIONS

The *eval* command calculates an expression and puts the resulting value into a field (e.g. "...| eval force = mass * acceleration"). The following table lists the functions eval understands, in addition to basic arithmetic operators (+ - * / %), string concatenation (e.g., '...| eval name = last . ", " . last'), boolean operations (AND OR NOT XOR < > <= >= != = == LIKE).

FUNCTION	DESCRIPTION	EXAMPLES
abs(X)	Returns the absolute value of X.	`abs(number)`
case(X,"Y",...)	Takes pairs of arguments X and Y, where X arguments are Boolean expressions that, when evaluated to TRUE, return the corresponding Y argument.	`case(error == 404, "Not found", error == 500,"Internal Server Error", error == 200, "OK")`
ceil(X)	Ceiling of a number X.	`ceil(1.9)`
cidrmatch("X",Y)	Identifies IP addresses that belong to a particular subnet.	`cidrmatch("123.132.32.0/25",ip)`
coalesce(X,...)	Returns the first value that is not null.	`coalesce(null(), "Returned val", null())`
exact(X)	Evaluates an expression X using double precision floating point arithmetic.	`exact(3.14*num)`
exp(X)	Returns e^X.	`exp(3)`
floor(X)	Returns the floor of a number X.	`floor(1.9)`
if(X,Y,Z)	If X evaluates to TRUE, the result is the second argument Y. If X evaluates to FALSE, the result evaluates to the third argument Z.	`if(error==200, "OK", "Error")`
isbool(X)	Returns TRUE if X is Boolean.	`isbool(field)`
isint(X)	Returns TRUE if X is an integer.	`isint(field)`
isnotnull(X)	Returns TRUE if X is not NULL.	`isnotnull(field)`
isnull(X)	Returns TRUE if X is NULL.	`isnull(field)`
isnum(X)	Returns TRUE if X is a number.	`isnum(field)`
isstr()	Returns TRUE if X is a string.	`isstr(field)`
len(X)	This function returns the character length of a string X.	`len(field)`
like(X,"Y")	Returns TRUE if and only if X is like the SQLite pattern in Y.	`like(field, "foo%")`
ln(X)	Returns its natural log.	`ln(bytes)`
log(X,Y)	Returns the log of the first argument X using the second argument Y as the base. Y defaults to 10.	`log(number,2)`
lower(X)	Returns the lowercase of X.	`lower(username)`
ltrim(X,Y)	Returns X with the characters in Y trimmed from the left side. Y defaults to spaces and tabs.	`ltrim(" ZZZabcZZ ", " Z")`
match(X,Y)	Returns if X matches the regex pattern Y.	`match(field, "^\d{1,3}\.\d$")`
max(X,...)	Returns the max.	`max(delay, mydelay)`
md5(X)	Returns the MD5 hash of a string value X.	`md5(field)`
min(X,...)	Returns the min.	`min(delay, mydelay)`
mvcount(X)	Returns the number of values of X.	`mvcount(multifield)`
mvfilter(X)	Filters a multi-valued field based on the Boolean expression X.	`mvfilter(match(email, "net$"))`
mvindex(X,Y,Z)	Returns a subset of the multivalued field X from start position (zero-based) Y to Z (optional).	`mvindex( multifield, 2)`
mvjoin(X,Y)	Given a multi-valued field X and string delimiter Y, and joins the individual values of X using Y.	`mvjoin(foo, ";")`
now()	Returns the current time, represented in Unix time.	`now()`
null()	This function takes no arguments and returns NULL.	`null()`
nullif(X,Y)	Given two arguments, fields X and Y, and returns the X if the arguments are different; returns NULL, otherwise.	`nullif(fieldA, fieldB)`
pi()	Returns the constant pi.	`pi()`
pow(X,Y)	Returns X^Y.	`pow(2,10)`
random()	Returns a pseudo-random number ranging from 0 to 2147483647.	`random()`
relative_time(X,Y)	Given epochtime time X and relative time specifier Y, returns the epochtime value of Y applied to X.	`relative_time(now(),"-1d@d")`
replace(X,Y,Z)	Returns a string formed by substituting string Z for every occurrence of regex string Y in string X.	`Returns date with the month and day numbers switched, so if the input was 1/12/2009 the return value would be 12/1/2009: replace(date, "^(\d{1,2})/(\d{1,2})/", "\2/\1/")`
round(X,Y)	Returns X rounded to the amount of decimal places specified by Y. The default is to round to an integer.	`round(3.5)`
rtrim(X,Y)	Returns X with the characters in Y trimmed from the right side. If Y is not specified, spaces and tabs are trimmed.	`rtrim(" ZZZZabcZZ ", " Z")`

EVAL FUNCTIONS (continued)

FUNCTION	DESCRIPTION	EXAMPLES
searchmatch(X)	Returns true if the event matches the search string X.	`searchmatch("foo AND bar")`
split(X,"Y")	Returns X as a multi-valued field, split be delimiter Y.	`split(foo, ";")`
sqrt(X)	Returns the square root of X.	`sqrt(9)`
strftime(X,Y)	Returns epochtime value X rendered using the format specified by Y.	`strftime(_time, "%H:%M")`
strptime(X,Y)	Given a time represented by a string X, returns value parsed from format Y.	`strptime(timeStr, "%H:%M")`

substr(X,Y,Z)	Returns a substring field X from start position (1-based) Y for Z (optional) characters.	`substr("string", 1, 3)`
		`+substr("string", -3)`

time()	Returns the wall-clock time with microsecond resolution.	`time()`
tonumber(X,Y)	Converts input string X to a number, where Y (optional, defaults to 10) defines the base of the number to convert to.	`tonumber("0A4",16)`

tostring(X,Y)	Returns a field value of X as a string. If the value of X is a number, it reformats it as a string; if a Boolean value, either "True" or "False". If X is a number, the second argument Y is optional and can either be "hex" (convert X to hexadecimal), "commas" (formats X with commas and 2 decimal places), or "duration" (converts seconds X to readable time format HH:MM:SS).	`This example returns:`
		`foo=615 and foo2=00:10:15:`
		`… | eval foo=615 | eval foo2 = tostring(foo, "duration")`

trim(X,Y)	Returns X with the characters in Y trimmed from both sides. If Y is not specified, spaces and tabs are trimmed.	`trim(" ZZZZabcZZ ", " Z")`

typeof(X)	Returns a string representation of its type.	`This example returns:`
		`"NumberStringBoolInvalid":`
		`typeof(12)+ typeof("string")+ typeof(1==2)+ typeof(badfield)`

upper(X)	Returns the uppercase of X.	`upper(username)`
urldecode(X)	Returns the URL X decoded.	`urldecode("http%3A%2F%2Fwww.splunk.com%2Fdownload%3Fr%3Dheader")`
validate(X,Y,...)	Given pairs of arguments, Boolean expressions X and strings Y, returns the string Y corresponding to the first expression X that evaluates to False and defaults to NULL if all are True.	`validate(isint(port), "ERROR: Port is not an integer", port >= 1 AND port <= 65535, "ERROR: Port is out of range")`

COMMON STATS FUNCTIONS

Common statistical functions used with the chart, stats, and timechart commands. Field names can be wildcarded, so avg(*delay) might calculate the average of the delay and xdelay fields.

FUNCTION	DESCRIPTION
avg(X)	Returns the average of the values of field X.
count(X)	Returns the number of occurrences of the field X. To indicate a specific field value to match, format X as eval(field="value").
dc(X)	Returns the count of distinct values of the field X.
first(X)	Returns the first seen value of the field X. In general, the first seen value of the field is the chronologically most recent instance of field.
last(X)	Returns the last seen value of the field X.
list(X)	Returns the list of all values of the field X as a multi-value entry. The order of the values reflects the order of input events.
max(X)	Returns the maximum value of the field X. If the values of X are non-numeric, the max is found from lexicographic ordering.
median(X)	Returns the middle-most value of the field X.
min(X)	Returns the minimum value of the field X. If the values of X are non-numeric, the min is found from lexicographic ordering.
mode(X)	Returns the most frequent value of the field X.
perc<X>(Y)	Returns the X-th percentile value of the field Y. For example, perc5(total) returns the 5th percentile value of a field "total".
range(X)	Returns the difference between the max and min values of the field X.
stdev(X)	Returns the sample standard deviation of the field X.
stdevp(X)	Returns the population standard deviation of the field X.
sum(X)	Returns the sum of the values of the field X.
sumsq(X)	Returns the sum of the squares of the values of the field X.
values(X)	Returns the list of all distinct values of the field X as a multi-value entry. The order of the values is lexicographical.
var(X)	Returns the sample variance of the field X.

REGULAR EXPRESSIONS (REGEXES)

Regular Expressions are useful in multiple areas: search commands regex and rex; eval functions match() and replace(); and in field extraction.

REGEX	NOTE	EXAMPLE	EXPLANATION
`\s`	white space	`\d\s\d`	digit space digit
`\S`	not white space	`\d\S\d`	digit non-whitespace digit
`\d`	digit	`\d\d\d-\d\d-\d\d\d\d`	SSN
`\D`	not digit	`\D\D\D`	three non-digits
`\w`	word character (letter, number, or _)	`\w\w\w`	three word chars
`\W`	not a word character	`\W\W\W`	three non-word chars
`[...]`	any included character	`[a-z0-9#]`	any char that is a thru z, 0 thru 9, or #
`[^...]`	no included character	`[^xyx]`	any char but x, y, or z
`*`	zero or more	`\w*`	zero or more words chars
`+`	one or more	`\d+`	integer
`?`	zero or one	`\d\d\d-?\d\d-?\d\d\d\d`	SSN with dashes being optional
`|`	or	`\w|\d`	word or digit character
`(?P<var> ...)`	named extraction	`(?P<ssn>\d\d\d-\d\d\-\d\d\d\d)`	pull out a SSN and assign to 'ssn' field
`(?: ... )`	logical grouping	`(?:\w|\d)|(?:\d|\w)`	word-char then digit OR digit then word-char
`^`	start of line	`^\d+`	line begins with at least one digit
`$`	end of line	`\d+$`	line ends with at least one digit
`{...}`	number of repetitions	`\d{3,5}`	between 3-5 digits
`\`	escape	`\[`	escape the [char
`(?= ...)`	lookahead	`(?=\D)error`	"error" must be preceded by a non-digit
`(?! ...)`	negative lookahead	`(?!\d)error`	"error" cannot be preceded by a digit

COMMON SPLUNK STRPTIME FORMATS

strptime formats are useful for eval functions strftime() and strptime(), and for timestamping of event data.

Time	`%H`	24 hour (leading zeros) (00 to 23)
	`%I`	12 hour (leading zeros) (01 to 12)
	`%M`	Minute (00 to 59)
	`%S`	Second (00 to 61)
	`%N`	subseconds with width (%3N = millisecs, %6N = microsecs, %9N = nanosecs)
	`%p`	AM or PM
	`%Z`	Time zone (GMT)
	`%s`	Seconds since 1/1/1970 (1308677092)
Days	`%d`	Day of month (leading zeros) (01 to 31)
	`%j`	Day of year (001 to 366)
	`%w`	Weekday (0 to 6)
	`%a`	Abbreviated weekday (Sun)
	`%A`	Weekday (Sunday)
Months	`%b`	Abbreviated month name (Jan)
	`%B`	Month name (January)
	`%m`	Month number (01 to 12)
Years	`%y`	Year without century (00 to 99)
	`%Y`	Year (2008)
Examples	`%Y-%m-%d`	1998-12-31
	`%y-%m-%d`	98-12-31
	`%b %d, %Y`	Jan 24, 2003
	`%B %d, %Y`	January 24, 2003
	`q|%d %b '%y = %Y-%m-%d|`	q|25 Feb '03 = 2003-02-25|

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