

Character classes

.	any character except newline
\w \d \s	word, digit, whitespace
\W \D \S	not word, digit, whitespace
[abc]	any of a, b, or c
[^abc]	not a, b, or c
[a-g]	character between a & g

Anchors

^abc\$	start / end of the string
\b	word boundary

Escaped characters

\. * \\	escaped special characters
\t \n \r	tab, linefeed, carriage return
\u00A9	unicode escaped ©

Groups & Lookaround

(abc)	capture group
\1	backreference to group #1
(?:abc)	non-capturing group
(?=abc)	positive lookahead
(?!abc)	negative lookahead

Quantifiers & Alternation

a* a+ a?	0 or more, 1 or more, 0 or 1
a{5} a{2,}	exactly five, two or more
a{1,3}	between one & three
a+? a{2,}?	match as few as possible
ab cd	match ab or cd

- **%a** - Remote IP address
- **%A** - Local IP address
- **%b** - Bytes sent, excluding HTTP headers, or '-' if zero
- **%B** - Bytes sent, excluding HTTP headers
- **%h** - Remote host name (or IP address if `resolveHosts` is false)
- **%H** - Request protocol
- **%l** - Remote logical username from identd (always returns '-')
- **%m** - Request method (GET, POST, etc.)
- **%p** - Local port on which this request was received
- **%q** - Query string (prepended with a '?' if it exists)
- **%r** - First line of the request (method and request URI)
- **%s** - HTTP status code of the response
- **%S** - User session ID
- **%t** - Date and time, in Common Log Format
- **%u** - Remote user that was authenticated (if any), else '-'
- **%U** - Requested URL path
- **%v** - Local server name
- **%D** - Time taken to process the request, in millis
- **%T** - Time taken to process the request, in seconds
- **%I** - current request thread name (can compare later with stacktraces)

There is also support to write information from the cookie, incoming header, outgoing response headers, the Session or something else in the `ServletRequest`. It is modeled after the apache syntax:

- **%{xxx}i** for incoming request headers
- **%{xxx}o** for outgoing response headers
- **%{xxx}c** for a specific request cookie
- **%{xxx}r** xxx is an attribute in the `ServletRequest`
- **%{xxx}s** xxx is an attribute in the `HttpSession`

The shorthand pattern name `common` (which is also the default) corresponds to `'%h %l %u %t "%r" %s %b'`.

The shorthand pattern name `combined` appends the values of the `Referer` and `User-Agent` headers, each in double quotes, to the `common` pattern described in the previous paragraph.

pattern='%a %A %b %B %h %l %m %p %q %u %t "%r" %s %U %D %S "%{User-Agent}i" "%{Referer}i"'

^([\d.]+) (\S+) (\S+) (\S+) (\S+) (\S+) ([\d]+) [a-zA-Z0-9_]*(\S+) [-]?[]?([w:/+s[+~]\d{4})] \"(.+?)\" (\d{3}) (\S+) (\d)+ (\S+) \"(.+?)\" \"(.+?)\"

Pattern

1	%a	Remote IP address
2	%A	Local IP address
3	%b	Bytes sent, excluding HTTP headers, or '-' if zero
4	%B	Bytes sent, excluding HTTP headers
5	%h	Remote host name (or IP address if <code>resolveHosts</code> is false)
6	%l	Remote logical username from identd (always returns '-')
7	%m	Request method (GET, POST, etc.)
8	%p	Local port on which this request was received
9	%q	Query string (prepended with a '?' if it exists)
	%u	Remote user that was authenticated (if any), else '-'
10	%t	Date and time, in Common Log Format
11	“%r”	First line of the request (method and request URI)
12	%s	HTTP status code of the response
13	%U	Requested URL path
14	%D	Time taken to process the request, in millis
15	%S	User session ID
16	“%{User-Agent}i”	
17	“%{Referer}i”	

62.1.131.81 127.0.1.1 127 127 62.1.131.81 - GET 8780 - [11/Mar/2016:08:48:54 +0200] "GET /konakart/images/stars_5.gif HTTP/1.1" 200 /konakart/images/stars_5.gif 0 AEF98EC98898028EE03987C4114FB9AD "Mozilla/5.0 (X11; Ubuntu; Linux x86_64; rv:45.0) Gecko/20100101 Firefox/45.0" "http://aivalisco.dtdns.net:8780/konakart/Welcome.do;jsessionid=AEF98EC98898028EE03987C4114FB9AD"

62.1.131.81 127.0.1.1 3772 3772 62.1.131.81 - GET 8780 - [11/Mar/2016:08:48:54 +0200] "GET /konakart/images/dvd/theres_something_about_mary.jpg HTTP/1.1" 200 /konakart/images/dvd/theres_something_about_mary.jpg 0 AEF98EC98898028EE03987C4114FB9AD "Mozilla/5.0 (X11; Ubuntu; Linux x86_64; rv:45.0) Gecko/20100101 Firefox/45.0" "http://aivalisco.dtdns.net:8780/konakart/Welcome.do;jsessionid=AEF98EC98898028EE03987C4114FB9AD"

62.1.131.81 127.0.1.1 3349 3349 62.1.131.81 - GET 8780 - [11/Mar/2016:08:48:54 +0200] "GET /konakart/images/icons/currencies.png HTTP/1.1" 200 /konakart/images/icons/currencies.png 0 AEF98EC98898028EE03987C4114FB9AD "Mozilla/5.0 (X11; Ubuntu; Linux x86_64; rv:45.0) Gecko/20100101 Firefox/45.0" "http://aivalisco.dtdns.net:8780/konakart/Welcome.do;jsessionid=AEF98EC98898028EE03987C4114FB9AD"

Found in group 0 value: >62.1.131.81 127.0.1.1 84 84 62.1.131.81 - GET 8780 -
[11/Mar/2016:18:39:56 +0200] "GET / HTTP/1.1" 200 / 0 - "Mozilla/5.0 (X11; Ubuntu; Linux x86_64;
rv:45.0) Gecko/20100101 Firefox/45.0" "null"<
Found in group 1 value: >62.1.131.81<
Found in group 2 value: >127.0.1.1<
Found in group 3 value: >84<
Found in group 4 value: >84<
Found in group 5 value: >62.1.131.81<
Found in group 6 value: >-<
Found in group 7 value: >GET<
Found in group 8 value: >8780<
Found in group 9 value: >-<
Found in group 10 value: >11/Mar/2016:18:39:56 +0200<
Found in group 11 value: >GET / HTTP/1.1<
Found in group 12 value: >200<
Found in group 13 value: >/<
Found in group 14 value: >0<
Found in group 15 value: >-<
Found in group 16 value: >Mozilla/5.0 (X11; Ubuntu; Linux x86_64; rv:45.0) Gecko/20100101
Firefox/45.0<
Found in group 17 value: >null<

Found in group 0 value: >62.1.131.81 127.0.1.1 84 84 62.1.131.81 - GET 8780 -
[11/Mar/2016:19:07:37 +0200] "GET / HTTP/1.1" 200 / 0 - "Mozilla/5.0 (X11; Ubuntu; Linux x86_64;
rv:45.0) Gecko/20100101 Firefox/45.0" "null"<
Found in group 1 value: >62.1.131.81<
Found in group 2 value: >127.0.1.1<
Found in group 3 value: >84<
Found in group 4 value: >84<
Found in group 5 value: >62.1.131.81<
Found in group 6 value: >-<
Found in group 7 value: >GET<
Found in group 8 value: >8780<
Found in group 9 value: >-<
Found in group 10 value: >11/Mar/2016:19:07:37 +0200<
Found in group 11 value: >GET / HTTP/1.1<
Found in group 12 value: >200<
Found in group 13 value: >/<
Found in group 14 value: >0<
Found in group 15 value: >-<
Found in group 16 value: >Mozilla/5.0 (X11; Ubuntu; Linux x86_64; rv:45.0) Gecko/20100101
Firefox/45.0<
Found in group 17 value: >null<
