

# MAC address

MAC address with colon or hyphen separators.

```
^([0-9A-Fa-f]{2}[:-]){5}[0-9A-Fa-f]{2}$
```

## Token-by-token breakdown

| Token          | Meaning                                     |
|----------------|---------------------------------------------|
| ^              | start of string (or line in multiline mode) |
| (              | start of a capturing group                  |
| [0-9A-Fa-f]{2} | exactly 2 times: any of: digits, A–F, a–f   |
| [:-]           | any of: “:”, “-”                            |
| )              | end of group, exactly 5 times               |
| [0-9A-Fa-f]{2} | exactly 2 times: any of: digits, A–F, a–f   |
| \$             | end of string (or line in multiline mode)   |

## Quick usage in 7 languages

|                   |                                                                                                  |
|-------------------|--------------------------------------------------------------------------------------------------|
| <b>JavaScript</b> | <pre>const re = /^([0-9A-Fa-f]{2}[:-]){5}[0-9A-Fa-f]{2}\$/;<br/>re.test(value);</pre>            |
| <b>Python</b>     | <pre>import re<br/>re.match(r"^([0-9A-Fa-f]{2}[:-]){5}[0-9A-Fa-f]{2}\$", value)</pre>            |
| <b>Java</b>       | <pre>Pattern.compile("^([0-9A-Fa-f]{2}[:-]){5}[0-9A-Fa-f]{2}\$").matcher(value).matches();</pre> |
| <b>C# / .NET</b>  | <pre>Regex.IsMatch(value, @"^([0-9A-Fa-f]{2}[:-]){5}[0-9A-Fa-f]{2}\$");</pre>                    |
| <b>Go</b>         | <pre>regexp.MustCompile(`^([0-9A-Fa-f]{2}[:-]){5}[0-9A-Fa-f]{2}\$`).MatchString(value)</pre>     |
| <b>Ruby</b>       | <pre>/^([0-9A-Fa-f]{2}[:-]){5}[0-9A-Fa-f]{2}\$/ .match?(value)</pre>                             |
| <b>PHP</b>        | <pre>preg_match('~^([0-9A-Fa-f]{2}[:-]){5}[0-9A-Fa-f]{2}\$~', \$value);</pre>                    |

## Common pitfalls

- **Anchored to the whole string.** This pattern uses ^ and \$, so it requires the entire input to match. To find it inside a longer text, drop the anchors and use the global (g) flag.
- **Case sensitivity.** Letter ranges are case-sensitive — use the i flag if the input case can vary.
- **Validate beyond format.** Matching the format doesn't guarantee the value is real. Confirm the mac address against a source of truth (database, API, or checksum) where it matters.