

# Version: Racket Version Checking

Version 9.0

November 21, 2025

The "version" collection contains several version-related pieces that are used by Racket. See also [version](#) from [racket/base](#).

## 1 Installed Patch Level

```
(require version/patchlevel)      package: base
```

```
| patchlevel : exact-nonnegative-integer?
```

Indicates the current installed patch level, which is normally zero, but may be updated by patches to DrRacket.

## 2 Checking Available Versions

```
(require version/check)      package: base
```

```
(check-version) → (or/c symbol? list?)
```

Checks the currently available version on the Racket website (<https://download.racket-lang.org>) and returns a value that indicates the state of the current installation:

- ``ok` — You're fine.
- ``(ok-but ,version)` — You have a fine stable version, but note that there is a newer alpha version available numbered `version`.
- ``(newer ,version)` — You have an old version. Please upgrade to `version`.
- ``(newer ,version ,alpha)` — You have an old-but-stable version, please upgrade to `version`; you may consider also the newer alpha version numbered `alpha`.
- ``(error ,message)` — An error occurred, and `message` is a string that indicates the error.
- ``(error ,message ,additional-info)` — An error occurred; `message` is a string that indicates the error, and `additional-info` is a string containing a system error. The `additional-info` content is always parenthesizes, so `message` is a short error and `(string-append message " " additional-info)` is a verbose one.

Note that, depending on network conditions, `check-version` may keep trying for a long time (currently 30 seconds) before returning `'(error "timeout")`. For testing purposes, when the environment variable `PLT_CHECK_VERSION_SIMULATE_TIMEOUT` is set, `check-version` will simulate such network conditions, logging a `'warning`-level message with the topic `'version/check` and then sleeping until the timeout.

### 3 Version Utilities

```
(require version/utils)      package: base
```

The `version/utils` library provides a few of convenient utilities for dealing with version strings.

```
(valid-version? v) → boolean?  
v : any/c
```

Returns `#t` if `v` is a valid Racket version string, `#f` otherwise.

A valid version has one of the following forms:

- $\langle maj \rangle . \langle min \rangle$
- $\langle maj \rangle . \langle min \rangle . \langle sub \rangle$
- $\langle maj \rangle . \langle min \rangle . \langle sub \rangle . \langle rel \rangle$

subject to the following constraints:

- $\langle maj \rangle$ ,  $\langle min \rangle$ ,  $\langle sub \rangle$ , and  $\langle rel \rangle$  are all canonical decimal representations of natural numbers (i.e., decimal digits with no leading `0` unless the number is exactly `0`)
- $\langle rel \rangle$  is not `0`
- $\langle sub \rangle$  is not `0` unless  $\langle rel \rangle$  is included
- $\langle min \rangle$  has no more than two digits
- $\langle sub \rangle$  and  $\langle rel \rangle$  have no more than three digits

The constraints force version numbers to be in a canonical form. For example, a would-be version string `"4.3.0"` must be written instead as `"4.3"`, `"4.3.1.0"` must be written instead as `"4.3.1"`, and `"4"` must be written as `"4.0"`.

```
(version->list str)  
→ (list/c integer? integer? integer? integer?)  
str : valid-version?
```

Returns a list of four numbers that the given version string represent.

```
(version<? str1 str2) → boolean?  
str1 : valid-version?  
str2 : valid-version?
```

Returns `#t` if `str1` represents a version that is strictly smaller than `str2`, `#f` otherwise.

```
(version<=? str1 str2) → boolean?  
  str1 : valid-version?  
  str2 : valid-version?
```

Returns `#t` if `str1` represents a version that is smaller than or equal to `str2`, `#f` otherwise.

```
(alpha-version? str) → boolean?  
  str : valid-version?
```

Returns `#t` if the version that `str` represents is an alpha version.

A version number of the form  $\langle maj \rangle . \langle min \rangle$ ,  $\langle maj \rangle . \langle min \rangle . \langle sub \rangle$ , or  $\langle maj \rangle . \langle min \rangle . \langle sub \rangle . \langle rel \rangle$  is an alpha version if  $\langle min \rangle$  is 90 or more,  $\langle sub \rangle$  is 900 or more, or  $\langle rel \rangle$  is 900 or more.

```
(version->integer str) → (or/c integer? #f)  
  str : string?
```

Converts the version string into an integer. For version "X.YY.ZZZ.WWW", the result will be `XYZZZZWWW`. This function works also for legacy Racket versions by translating "XYY.ZZZ" to `XYZZZZ000`. The resulting integer can therefore be used to conveniently compare any two (valid) version strings. If the version string is invalid as either a regular version string or a legacy version string, the resulting value is `#f`.

Note that this is the only function that deals with legacy version strings.