Node.js v10.10.0 Documentation

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Path

Stability: 2 - Stable

The `path` module provides utilities for working with file and directory paths. It can be accessed using:

```
const path = require('path');
```

Windows vs. POSIX

The default operation of the `path` module varies based on the operating system on which a Node.js application is running. Specifically, when running on a Windows operating system, the `path` module will assume that Windows-style paths are being used.

For example, using the `path.basename()` function with the Windows file path `C:\temp\myfile.html`, will yield different results when running on POSIX than when run on Windows:

On POSIX:

```
path.basename('C:\\temp\\myfile.html');
// Returns: 'C:\\temp\\myfile.html'
```

On Windows:

```
path.basename('C:\\temp\\myfile.html');
// Returns: 'myfile.html'
```

To achieve consistent results when working with Windows file paths on any operating system, use `path.win32`:

On POSIX and Windows:

```
path.win32.basename('C:\\temp\\myfile.html');
// Returns: 'myfile.html'
```

To achieve consistent results when working with POSIX file paths on any operating system, use `path.posix`:

On POSIX and Windows:

```
path.posix.basename('/tmp/myfile.html');
// Returns: 'myfile.html'
```

Note: On Windows Node.js follows the concept of per-drive working directory. This behavior can be observed when using a drive path without a backslash. For example, `path.resolve('c:\\')` can potentially return a different result than `path.resolve('c:')`. For more information, see this MSDN page.

path.basename(path[, ext])

▶ History

- `path` `<string>`
- `ext` `<string>` An optional file extension
- Returns: `<string>`

The `path.basename()` methods returns the last portion of a `path`, similar to the Unix `basename` command. Trailing directory separators are ignored, see `path.sep`.

```
path.basename('/foo/bar/baz/asdf/quux.html');
// Returns: 'quux.html'

path.basename('/foo/bar/baz/asdf/quux.html', '.html');
// Returns: 'quux'
```

A `TypeError` is thrown if `path` is not a string or if `ext` is given and is not a string.

path.delimiter

Added in: v0.9.3

- `<string>`

Provides the platform-specific path delimiter:

- `;` for Windows
- `:` for POSIX

For example, on POSIX:

```
console.log(process.env.PATH);
// Prints: '/usr/bin:/bin:/usr/sbin:/sbin:/usr/local/bin'

process.env.PATH.split(path.delimiter);
// Returns: ['/usr/bin', '/bin', '/usr/sbin', '/sbin', '/usr/local/bin']
```

On Windows:

```
console.log(process.env.PATH);
// Prints: 'C:\Windows\system32;C:\Windows;C:\Program Files\node\'

process.env.PATH.split(path.delimiter);
// Returns ['C:\\Windows\\system32', 'C:\\Windows', 'C:\\Program Files\\node\\']
```

path.dirname(path)

▶ History

- `path` `<string>`
- Returns: `<string>`

The `path.dirname()` method returns the directory name of a `path`, similar to the Unix `dirname` command. Trailing directory separators are ignored, see `path.sep`.

```
path.dirname('/foo/bar/baz/asdf/quux');
// Returns: '/foo/bar/baz/asdf'
```

A `TypeError` is thrown if `path` is not a string.

path.extname(path)

▶ History

- `path` `<string>`
- Returns: `<string>`

The `path.extname()` method returns the extension of the `path`, from the last occurrence of the `.` (period) character to end of string in the last portion of the `path`. If there is no `.` in the last portion of the `path`, or if the first character of the basename of `path` (see `path.basename()`) is `.`, then an empty string is returned.

```
path.extname('index.html');
// Returns: '.html'

path.extname('index.coffee.md');
// Returns: '.md'

path.extname('index.');
// Returns: '.'

path.extname('index');
// Returns: ''

path.extname('.index');
// Returns: ''
```

A `TypeError` is thrown if `path` is not a string.

path.format(pathObject)

Added in: v0.11.15

- `pathObject` `<Object>`

    - `dir` `<string>`

    - `root` `<string>`

    - `base` `<string>`

    - `name` `<string>`

    - `ext` `<string>`

- Returns: `<string>`

The `path.format()` method returns a path string from an object. This is the opposite of `path.parse()`.

When providing properties to the `pathObject` remember that there are combinations where one property has priority over another:

- `pathObject.root` is ignored if `pathObject.dir` is provided

- `pathObject.ext` and `pathObject.name` are ignored if `pathObject.base` exists

For example, on POSIX:

```
// If `dir`, `root` and `base` are provided,
// `${dir}${path.sep}${base}`
// will be returned. `root` is ignored.
path.format({
  root: '/ignored',
  dir: '/home/user/dir',
  base: 'file.txt'
});
// Returns: '/home/user/dir/file.txt'

// `root` will be used if `dir` is not specified.
// If only `root` is provided or `dir` is equal to `root` then the
```

```
  // platform separator will not be included. `ext` will be ignored.
  path.format({
    root: '/',
    base: 'file.txt',
    ext: 'ignored'
  });
  // Returns: '/file.txt'

  // `name` + `ext` will be used if `base` is not specified.
  path.format({
    root: '/',
    name: 'file',
    ext: '.txt'
  });
  // Returns: '/file.txt'
```

On Windows:

```
  path.format({
    dir: 'C:\\path\\dir',
    base: 'file.txt'
  });
  // Returns: 'C:\\path\\dir\\file.txt'
```

path.isAbsolute(path)

Added in: v0.11.2

- path `<string>`
- Returns: `<boolean>`

The `path.isAbsolute()` method determines if `path` is an absolute path.

If the given `path` is a zero-length string, `false` will be returned.

For example, on POSIX:

```
  path.isAbsolute('/foo/bar'); // true
  path.isAbsolute('/baz/..');  // true
  path.isAbsolute('qux/');     // false
  path.isAbsolute('.');        // false
```

On Windows:

```
  path.isAbsolute('//server');    // true
  path.isAbsolute('\\\\server');  // true
  path.isAbsolute('C:/foo/..');   // true
  path.isAbsolute('C:\\foo\\..'); // true
  path.isAbsolute('bar\\baz');    // false
  path.isAbsolute('bar/baz');     // false
  path.isAbsolute('.');           // false
```

A `TypeError` is thrown if `path` is not a string.

path.join([...paths])

Added in: v0.1.16

- `...paths` `<string>` A sequence of path segments
- Returns: `<string>`

The `path.join()` method joins all given `path` segments together using the platform specific separator as a delimiter, then normalizes the resulting path.

Zero-length `path` segments are ignored. If the joined path string is a zero-length string then `'.'` will be returned, representing the current working directory.

```
path.join('/foo', 'bar', 'baz/asdf', 'quux', '..');
// Returns: '/foo/bar/baz/asdf'

path.join('foo', {}, 'bar');
// throws 'TypeError: Path must be a string. Received {}'
```

A `TypeError` is thrown if any of the path segments is not a string.

path.normalize(path)

Added in: v0.1.23

- `path` `<string>`
- Returns: `<string>`

The `path.normalize()` method normalizes the given `path`, resolving `'..'` and `'.'` segments.

When multiple, sequential path segment separation characters are found (e.g. `/` on POSIX and either `\` or `/` on Windows), they are replaced by a single instance of the platform specific path segment separator (`/` on POSIX and `\` on Windows). Trailing separators are preserved.

If the `path` is a zero-length string, `'.'` is returned, representing the current working directory.

For example, on POSIX:

```
path.normalize('/foo/bar//baz/asdf/quux/..');
// Returns: '/foo/bar/baz/asdf'
```

On Windows:

```
path.normalize('C:\\temp\\\\foo\\bar\\..\\');
// Returns: 'C:\\temp\\foo\\'
```

Since Windows recognizes multiple path separators, both separators will be replaced by instances of the Windows preferred separator (`\`):

```
path.win32.normalize('C:////temp\\\\/\\/\\/foo/bar');
// Returns: 'C:\\temp\\foo\\bar'
```

A `TypeError` is thrown if `path` is not a string.

path.parse(path)

Added in: v0.11.15
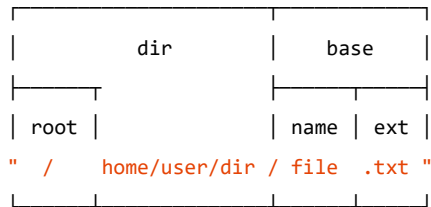
- `path` `<string>`

- Returns: `<Object>`

The `path.parse()` method returns an object whose properties represent significant elements of the `path`. Trailing directory separators are ignored, see `path.sep`.

The returned object will have the following properties:

- `dir` `<string>`

- `root` `<string>`

- `base` `<string>`

- `name` `<string>`

- `ext` `<string>`

For example, on POSIX:

```
path.parse('/home/user/dir/file.txt');
// Returns:
// { root: '/',
//   dir: '/home/user/dir',
//   base: 'file.txt',
//   ext: '.txt',
//   name: 'file' }
```
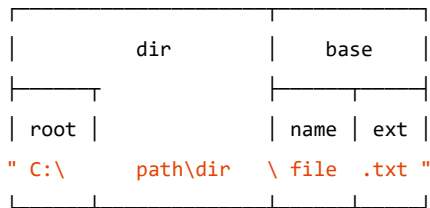
```
┌─────────────────────┬────────────┐
│          dir        │    base    │
├──────┬              ├──────┬─────┤
│ root │              │ name │ ext │
"  /      home/user/dir / file   .txt "
└──────┴──────────────┴──────┴─────┘
(all spaces in the "" line should be ignored — they are purely for formatting)
```

On Windows:

```
path.parse('C:\\path\\dir\\file.txt');
// Returns:
// { root: 'C:\\',
//   dir: 'C:\\path\\dir',
//   base: 'file.txt',
```

```
//   ext: '.txt',
//   name: 'file' }
```

```
┌─────────────────────┬────────────┐
│          dir        │    base    │
├──────────┐          ├──────┬─────┤
│ root │   │          │ name │ ext │
" C:\         path\dir  \ file  .txt "
└──────┴───┴──────────┴──────┴─────┘
```

(all spaces in the "" line should be ignored — they are purely for formatting)

A `TypeError` is thrown if `path` is not a string.

path.posix

Added in: v0.11.15

- `<Object>`

The `path.posix` property provides access to POSIX specific implementations of the `path` methods.

path.relative(from, to)

▶ History

- `from` `<string>`
- `to` `<string>`
- Returns: `<string>`

The `path.relative()` method returns the relative path from `from` to `to` based on the current working directory. If `from` and `to` each resolve to the same path (after calling `path.resolve()` on each), a zero-length string is returned.

If a zero-length string is passed as `from` or `to`, the current working directory will be used instead of the zero-length strings.

For example, on POSIX:

```
path.relative('/data/orandea/test/aaa', '/data/orandea/impl/bbb');
// Returns: '../../impl/bbb'
```

On Windows:

```
path.relative('C:\\orandea\\test\\aaa', 'C:\\orandea\\impl\\bbb');
// Returns: '..\\..\\impl\\bbb'
```

A `TypeError` is thrown if either `from` or `to` is not a string.

path.resolve([...paths])

Added in: v0.3.4

- `...paths` `<string>` A sequence of paths or path segments

- Returns: `<string>`

The `path.resolve()` method resolves a sequence of paths or path segments into an absolute path.

The given sequence of paths is processed from right to left, with each subsequent `path` prepended until an absolute path is constructed. For instance, given the sequence of path segments: `/foo`, `/bar`, `baz`, calling `path.resolve('/foo', '/bar', 'baz')` would return `/bar/baz`.

If after processing all given `path` segments an absolute path has not yet been generated, the current working directory is used.

The resulting path is normalized and trailing slashes are removed unless the path is resolved to the root directory.

Zero-length `path` segments are ignored.

If no `path` segments are passed, `path.resolve()` will return the absolute path of the current working directory.

```
path.resolve('/foo/bar', './baz');
// Returns: '/foo/bar/baz'

path.resolve('/foo/bar', '/tmp/file/');
// Returns: '/tmp/file'

path.resolve('wwwroot', 'static_files/png/', '../gif/image.gif');
// if the current working directory is /home/myself/node,
// this returns '/home/myself/node/wwwroot/static_files/gif/image.gif'
```

A `TypeError` is thrown if any of the arguments is not a string.

path.sep

Added in: v0.7.9

- `<string>`

Provides the platform-specific path segment separator:

- `\` on Windows
- `/` on POSIX

For example, on POSIX:

```
'foo/bar/baz'.split(path.sep);
// Returns: ['foo', 'bar', 'baz']
```

On Windows:

```
'foo\\bar\\baz'.split(path.sep);
// Returns: ['foo', 'bar', 'baz']
```

On Windows, both the forward slash (`/`) and backward slash (`\`) are accepted as path segment separators; however, the `path` methods only add backward slashes (`\`).

path.toNamespacedPath(path)

Added in: v9.0.0

- `path` `<string>`
- Returns: `<string>`

On Windows systems only, returns an equivalent namespace-prefixed path for the given `path`. If `path` is not a string, `path` will be returned without modifications.

This method is meaningful only on Windows system. On posix systems, the method is non-operational and always returns `path` without modifications.

path.win32

Added in: v0.11.15

- `<Object>`

The `path.win32` property provides access to Windows-specific implementations of the `path` methods.