

@push.rocks/smartpath

A library offering smart ways to handle file and directory paths.

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[@push.rocks/smartpath](#) offers smart ways to handle paths.

Install

To install `@push.rocks/smartpath`, you'll need to run the following command using npm. Ensure you have Node.js and npm installed before you start.

```
npm install @push.rocks/smartpath --save
```

Usage

The `@push.rocks/smartpath` module provides a sophisticated yet straightforward approach to handle, manipulate, and evaluate file and directory paths within your TypeScript projects. By incorporating features like path normalization, transformation, and validation, `smartpath` facilitates powerful and efficient file system and URL path manipulation. This guide dives deep into the module's capabilities, showcasing a broad spectrum of use cases and demonstrating its versatility in handling paths.

Getting Started

To begin utilizing `smartpath` in your project, start by importing it in your TypeScript file:

```
import * as smartpath from '@push.rocks/smartpath';
```

Isomorphic Path Module

For cross-platform path operations that work in any JavaScript environment (Node.js, browsers, Deno, etc.), use the isomorphic module:

```
import * as isoPath from '@push.rocks/smartpath/iso';

// Join paths with automatic platform detection
const joinedPath = isoPath.join('/home/user', 'documents', 'file.txt');
// Unix: /home/user/documents/file.txt
// Windows: C:\Users\documents\file.txt

// Convert file:// URLs to system paths
const systemPath = isoPath.fileUrlToPath('file:///home/user/file.txt');
// Unix: /home/user/file.txt
// Windows: C:\home\user\file.txt

// Convert system paths to file:// URLs
const fileUrl = isoPath.pathToFileUrl('/home/user/file.txt');
// Result: file:///home/user/file.txt

// Get directory from path or file URL
const dir = isoPath.dirname('/home/user/documents/file.txt');
// Result: /home/user/documents
```

The isomorphic module automatically detects the path style (Windows vs POSIX) and handles:

- file:// URL conversions
- Mixed path separators
- Cross-platform compatibility
- Proper handling of Windows drive letters and UNC paths

Creating a Smartpath Instance

Instantiating a `Smartpath` object allows for the enrichment of path strings with additional context and manipulation capabilities:

```
const mySmartpath = new smartpath.Smartpath('/some/path/to/some.file');
console.log(mySmartpath);
```

Path Validation

Determining whether a path points to a file or directory is a common requirement. Here's how you can achieve this:

```
if (smartpath.check.isFile('./path/to/file.txt')) {
  console.log('This is a file.');
```



```
}

if (smartpath.check.isDir('./path/to/directory')) {
  console.log('This is a directory.');
```



```
}
```

Absolute Path Conversion

Converting a relative path to an absolute one is a frequent operation, especially in dynamic file handling scenarios:

```
const absolutePath = smartpath.transform.makeAbsolute('./relative/path/to/file.txt');
console.log(`Absolute path: ${absolutePath}`);
```

Handling Multiple Paths

`smartpath` shines when dealing with multiple paths, offering efficient bulk operations:

```
const paths = ['./path/to/file1.txt', './another/path/to/file2.txt'];
const absolutePaths = smartpath.transform.toAbsolute(paths);
console.log(absolutePaths);
```

Understanding Path Types

Identifying whether a path represents a local file system path or a URL is straightforward:

```
const pathType = smartpath.get.type('https://example.com/resource');
console.log(`Path type: ${pathType}`); // 'url'
```

Home Directory Paths

Easily manage paths relative to the user's home directory:

```
const homePath = smartpath.get.home('~ /path/to/resource');
console.log(`Home directory path: ${homePath}`);
```

Analyzing Path Components

Breaking down a path into its components allows for detailed path analysis and manipulation:

```
const pathLevels = smartpath.get.pathLevels('/path/to/resource');
console.log(pathLevels); // ['path', 'to', 'resource']
```

Path Manipulation and More

Beyond the basics, `smartpath` offers a comprehensive set of tools for robust path manipulation, including normalizing paths across different operating systems, working with URL paths, and handling special path constructs like `..` and `.`.

For more advanced use cases, such as transforming path lists, deriving relative paths, or integrating path handling into larger application workflows, `smartpath` provides both utility functions and object-oriented interfaces that streamline these operations.

By leveraging the full spectrum of `smartpath`'s features, developers can handle virtually any path-related task with ease, efficiency, and reliability. Whether you're building a complex file system utility, managing web application assets, or simply need reliable path manipulation in your TypeScript projects, `smartpath` offers the functionality and flexibility required to do the job right.

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changelog.md for @push.rocks/smartpath

[6.0.0] - 2025-01-28

BREAKING CHANGES

- Renamed `pathJoin()` to `join()` for better API consistency and brevity

Changed

- Updated all references and tests to use the new `join()` function name

[5.1.0] - 2025-01-28

Added

- New isomorphic path module at `/iso` export path for cross-platform path operations
- `pathJoin()` function for joining paths across different platforms and environments
- `fileUrlToPath()` function for converting file:// URLs to system paths
- `pathToFileUrl()` function for converting system paths to file:// URLs
- `dirname()` function for extracting directory from paths and URLs
- Comprehensive test coverage for isomorphic path functions

Changed

- Build system now uses tsfolders for multi-folder compilation
- Package exports now use modern exports field instead of main/typings

Removed

- Removed .gitlab-ci.yml file