

Package ‘fileaccess’

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Type Package

Title File and Directory Access Validation

Version 0.1.1

Description Provides utility functions to validate read, write, execute, network, directory, and file access for local and Universal Naming Convention (UNC) network paths. Useful for pre-flight checks before file operations in data pipelines.

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Contents

directory.access	2
execute.access	3
file.access	4
fileaccess	5
network.access	5
read.access	6
write.access	7

Index	9
--------------	----------

directory.access	<i>Check Whether Path is a Directory</i>
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Description

Validates whether a directory exists and checks its read/write access along with content counts. Supports both local and UNC network paths.

Usage

```
directory.access(path)
```

Arguments

path Character string. Directory path to validate.

Value

A list of class `directory_access_result` containing:

- path - Normalized directory path
- exists - TRUE/FALSE
- readable - TRUE/FALSE
- writable - TRUE/FALSE
- file_count - Number of files in directory
- folder_count - Number of subdirectories
- empty - TRUE/FALSE
- status - Overall status message

Examples

```
# Check a temporary directory
result <- directory.access(tempdir())
print(result)

# Check a path that does not exist
result <- directory.access(
  file.path(tempdir(), "no_such_folder")
)
print(result)

# UNC network path (requires network access)
directory.access("//server/share/project")
```

execute.access	<i>Check Whether File is Executable</i>
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Description

Validates whether a file or command can be executed. Supports both local paths and executables available in system PATH.

Usage

```
execute.access(path)
```

Arguments

path Character string. Executable name or full path.

Value

A list of class `execute_access_result` containing:

- path - Resolved executable path
- exists - TRUE/FALSE
- executable - TRUE/FALSE
- in_path - TRUE/FALSE
- status - Overall status message

Examples

```
# Check if Rscript is available (available on all R machines)
result <- execute.access("Rscript")
print(result)
```

```
# Check a full path to an executable
result <- execute.access(file.path(R.home("bin"), "Rscript"))
print(result)
```

`file.access`*Check Whether Path is a File*

Description

Validates whether a file exists and returns detailed file information including permissions, size, type, and timestamps. Supports both local and UNC network paths.

Usage

```
file.access(path)
```

Arguments

`path` Character string. File path to validate.

Value

A list of class `file_access_result` containing:

- `path` - Normalized file path
- `exists` - TRUE/FALSE
- `can_read` - TRUE/FALSE
- `can_write` - TRUE/FALSE
- `can_execute` - TRUE/FALSE
- `locked` - TRUE/FALSE
- `size_mb` - File size formatted
- `type` - Detected file type description
- `modified` - Last modified timestamp
- `status` - Overall status message

Examples

```
# Create a temp file and check it
tmp <- tempfile(fileext = ".csv")
writeLines("col1,col2\n1,2", tmp)
result <- file.access(tmp)
print(result)
unlink(tmp)

# Check a file that does not exist
result <- file.access(
  file.path(tempdir(), "missing.csv")
)
print(result)
```

```
# UNC network path (requires network access)
file.access("//server/share/data.csv")
```

fileaccess	<i>fileaccess: File and Directory Access Validation</i>
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Description

Provides utility functions to validate read, write, execute, network, directory, and file access for local and UNC network paths. Useful for pre-flight checks before file operations in data pipelines.

Main functions

- [read.access](#) - Check if a path is readable
- [write.access](#) - Check if a path is writable
- [execute.access](#) - Check if a file/command is executable
- [network.access](#) - Check if a UNC network path is accessible
- [directory.access](#) - Check directory existence and permissions
- [file.access](#) - Check file existence, permissions and metadata

Author(s)

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network.access	<i>Check Whether Path is a Network Path</i>
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Description

Validates whether a path is a network (UNC) path and whether it is accessible.

Usage

```
network.access(path)
```

Arguments

path	Character string. Network path to validate.
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Value

A list of class `network_access_result` containing:

- `path` - Input path
- `network_path` - TRUE/FALSE
- `server` - Server name extracted from UNC path
- `share` - Share name extracted from UNC path
- `accessible` - TRUE/FALSE
- `status` - Overall status message

Examples

```
# A local path is not a network path
result <- network.access(tempdir())
print(result)

# Parse a UNC path structure (no network needed – just parsing)
result <- network.access("//myserver/myshare/data")
print(result)

# Real UNC network path (requires actual network access)
network.access("//server/share/data")
```

`read.access`

Check Whether File or Directory is Readable

Description

Validates whether a file or directory exists and can be accessed for reading. Supports both local and UNC network paths.

Usage

```
read.access(path)
```

Arguments

`path` Character string. Full path to file or directory.

Value

A list of class `read_access_result` containing:

- path - Normalized input path
- exists - TRUE/FALSE
- type - "File" or "Directory"
- readable - TRUE/FALSE
- status - Overall status message

Examples

```
# Check a temporary directory
result <- read.access(tempdir())
print(result)

# Check an existing temporary file
tmp <- tempfile()
writeLines("hello", tmp)
result <- read.access(tmp)
print(result)
unlink(tmp)

# Check a path that does not exist
result <- read.access(file.path(tempdir(), "no_such_file.csv"))
print(result)

# UNC network path (requires network access)
read.access("//server/share/data/file.csv")
```

`write.access`*Check Whether File or Directory is Writable*

Description

Validates whether a file or directory can be accessed for writing. Supports both local and UNC network paths.

Usage

```
write.access(path)
```

Arguments

path Character string. Full path to file or directory.

Value

A list of class `write_access_result` containing:

- `path` - Normalized input path
- `exists` - TRUE/FALSE
- `type` - "File", "Directory", or "New File/Directory"
- `writable` - TRUE/FALSE
- `status` - Overall status message

Examples

```
# Check a temporary directory
result <- write.access(tempdir())
print(result)

# Check an existing temporary file
tmp <- tempfile()
writeLines("hello", tmp)
result <- write.access(tmp)
print(result)
unlink(tmp)

# Check a new file path that does not exist yet
result <- write.access(file.path(tempdir(), "newfile.csv"))
print(result)

# UNC network path (requires network access)
write.access("//server/share/output/results.csv")
```

Index

directory.access, [2](#), [5](#)

execute.access, [3](#), [5](#)

file.access, [4](#), [5](#)

fileaccess, [5](#)

fileaccess-package (fileaccess), [5](#)

network.access, [5](#), [5](#)

read.access, [5](#), [6](#)

write.access, [5](#), [7](#)