# rfslib

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## **CONTENTS:**

1	rfslib.abstract_pconnection module	3
2	rfslib.sftp_pconnection module	9
3	rfslib.ftp_pconnection module	13
4	rfslib.smb12_pconnection module	17
5	rfslib.smb23_pconnection module	21
6	rfslib.fs_pconnection module	25
7	rfslib.path_utils module	29
Py	thon Module Index	31
In	dex	33

This is a documentation of rfslib.

To create a new development environment, it is recommended to create python virtual environment and install dependencies in requirements.txt

If you want to create a new pdf documentation, you are required to install also texlive on your system.

CONTENTS: 1

2 CONTENTS:

## RFSLIB.ABSTRACT\_PCONNECTION MODULE

## class rfslib.abstract\_pconnection.PConnection(settings:

rfslib.abstract pconnection.p connection settings)

Bases: abc.ABC

**\_\_init\_\_**(*settings*: rfslib.abstract\_pconnection.p\_connection\_settings)

The constructor of a abstract class. If it is not called from child class, the behavior is undefined.

If local\_encoding and remote\_encoding have same values, no recoding is done. Analogically if local\_crlf and remote crlf is same, no substitution between LF and CRLF is done.

**Parameters settings** – A p\_connection\_settings object with all generic settings for PConnection. Be sure, that all needed attributes are present, or AttributeError will be raised.

### **abstract \_exists**( $remote\_path: str$ ) $\rightarrow$ bool

Protected method which checks, whether a remote file exist. If the remote file is a broken symlink, it returns False.

**Parameters** remote\_path – Path of a remote file.

**Returns** True, if remote file is exist. False, if remote file doesn't exist

#### **abstract** \_**isdir**(*remote\_path: str*) → bool

Protected method which checks, whether a remote file is a directory. The function is DEPRECATED and will be substituted using stat or lstat.

**Parameters** remote\_path – A path of a directory.

Returns True, if remote file is folder. False, if it isn't a folder. Undefined if the file doesn't exist.

#### **abstract** $_{\text{lexists}}(remote \ path: str) \rightarrow bool$

Protected method which checks, whether a remote file exist. If the remote file is a broken symlink, it returns True.

KNOWN BUG: Behavior is undefined in case of broken symlinks.

**Parameters** remote\_path – Path of a remote file.

Returns True, if remote file is exist. False, if remote file doesn't exist

## **abstract** \_listdir(remote\_path: str) → List[str]

Protected method which returns a list of files in the folder including hidden files. Undefined if the remote file doesn't exist or isn't a folder.

**Parameters remote\_path** – The remote path of a remote folder.

**Returns** List of files in the remote folder

#### abstract \_mkdir(remote path: str)

Protected method which creates a new directory. Behavior is undefined if remote folder already exist, or destination folder doesn't exist.

**Parameters** remote\_path – A path of a new remote directory.

#### abstract \_pull(remote\_path: str, local\_path: str)

Protected method which downloads/pulls a nondirectory file from a remote storage to a local storage in the binary form. Behavior is undefined if source file or destination folder doesn't exist.

#### **Parameters**

- remote\_path Path of a remote file to download.
- local\_path Path of a local file, where to download/pull a remote file or local file already
  exists.

## abstract \_push(local\_path: str, remote\_path: str)

Protected method which uploads/pushes a nondirectory file from a local storage to a remote storage in the binary form. Behavior is undefined if destination folder or source file doesn't exist, source is directory or remote file already exists.

#### **Parameters**

- **local\_path** Path of a local file to upload.
- **remote\_path** Path on the remote storage, where to upload/push a local file.

## abstract \_rename(old\_name: str, new\_name: str)

Protected method which renames/moves a file. Behavior is undefined, if *new\_name* file exists or *old\_name* file doesn't exist.

#### **Parameters**

- **old\_name** Remote path a file to move.
- **new\_name** Remote path to which move the file.

## abstract \_rmdir(remote\_path: str)

Protected method which removes an empty remote directory. Behavior is undefined if remote directory doesn't exist or it isn't empty.

**Parameters** remote\_path – Path of an empty remote directory to delete.

```
abstract \_stat(remote\ path:\ str) \to os.stat result
```

Protected method which returns statistics of a file (eg. size, last date modified,...) Follows symlinks to a destination file. Undefined behavior if remote file doesn't exist or it is a broken symlink.

**Parameters remote\_path** – Path of a remote file.

**Returns** The function returns os.stat\_result like object, which is further parsed by \_stat\_unpack function. For more details please see source code.

```
abstract _unlink(remote_path: str)
```

Protected method which removes a nondirectory file. Behavior is undefined if remote file doesn't exist or is a directory.

**Parameters remote\_path** – Path of a remote regular file to delete.

## abstract close()

Method to close the opened connection.

cp(old\_names, new\_name, recursive=False)

**dcp**(old names, target dir, recursive=False)

```
dmv(old_names, target_dir)
exists(remote\_path: str) \rightarrow bool
     Method which checks, whether a remote file exist. Returns False for broken symlinks.
          Parameters remote_path – Path of a remote file.
          Returns True, if remote file exists. False, if remote file doesn't exist.
fcp(old name, new name)
find(remote_path, child_first=False)
fmv(old_name, new_name)
get\_default\_dmask() \rightarrow int
     Returns default_dmask settings. For more details see p_connection_settings.
get\_default\_fmask() \rightarrow int
     Returns default_fmask settings. For more details see p_connection_settings.
get\_settings() \rightarrow rfslib.abstract\_pconnection.p\_connection\_settings
     The procedure sets all generic settings for PConnection.
          Returns A p connection settings object with all generic settings of PConnection.
isdir(remote_path)
lexists(remote_path)
     Method which checks, whether a remote file exist. Returns True for broken symlinks.
          Parameters remote_path – Path of a remote file.
          Returns True, if remote file exists. False, if remote file doesn't exist.
listdir(remote_path)
ls(remote_path)
lstat(remote\_path: str) \rightarrow rfslib.abstract\_pconnection.p\_stat\_result
     Returns statistics of a file (eg. size, last date modified,...) Doesn't follow symlinks.
          Parameters remote_path – Path of a remote file.
          Returns An object whose attributes correspond to the attributes of Python's stat structure as
              returned by os.stat, except that it contains fewer fields.
mkdir(remote_path)
mv(old_names, new_name)
pmkdir(remote path)
pull(remote_path, local_path)
push(local_path, remote_path)
     Uploads/pushes a file from a local storage to a remote storage in the binary form.
          Parameters
              • local_path – Path of a local file to upload.
              • remote_path – Path on the remote storage, where to upload/push a local file.
rename(old_name, new_name)
rm(remote path, recursive=False)
rmdir(remote path)
```

**rpull**(remote\_path, local\_path)

**rpush**(local path, remote path)

set\_settings(settings: rfslib.abstract\_pconnection.p\_connection\_settings)

The procedure sets all generic settings for PConnection.

**Parameters settings** – A p\_connection\_settings object with all generic settings for PConnection. If some attribute in object is missing, no operation will be done with it.

 $stat(remote\_path: str) \rightarrow rfslib.abstract\_pconnection.p\_stat\_result$ 

Returns statistics of a file (eg. size, last date modified,...) Follows symlinks to a destination file.

**Parameters** remote\_path – Path of a remote file.

**Returns** An object whose attributes correspond to the attributes of Python's stat structure as returned by os.stat, except that it contains fewer fields.

touch(remote\_path)

unlink(remote\_path)

**xls**(remote path)

### class rfslib.abstract\_pconnection.p\_connection\_settings

Bases: object

This object represents settings appliable for all PConnection instances (instances of class, which inherits from PConnection).

\_\_init\_\_()

The constructor inicializes the class to default values.

default\_dmask: int = 18

If mode (permissions) of a directory can't be fetched, this value will be used instead of it.

default\_fmask: int = 91

If mode (permissions) of a nondirectory file can't be fetched, this value will be used instead of it.

direct\_write: bool = False

NOT IMPLEMENTED YET. If True, push will write output directly to file. If False all push operations on regular files will create firstly tmp file in target folder and then move result to file.

local\_crlf: bool = False

Does local files use CRLF? If True, it is supposed, they do. If False, it is supposed, they use LF.

local\_encoding: str = 'UTF8'

The encoding of local text files. (eg. 'UTF8')

remote\_crlf: bool = False

Does remote files use CRLF? If True, it is supposed, they do. If False, it is supposed, they use LF.

remote\_encoding: str = 'UTF8'

The encoding of remote text files. (eg. 'cp1250')

skip\_validation: bool = False

NOT IMPLEMENTED YED. If True, all validations of input will be skipped. Undefined behavior may happen if input is wrong. Increses performance.

text\_transmission: bool = False

If true, all files, which will be transmitted, will be recoded from local\_encoding to remote\_encoding and from local\_crlf to remote\_crlf. If False, there will be no encoding done during transmission.

## class rfslib.abstract\_pconnection.p\_stat\_result

Bases: object

Representation of the attributes of a file (or proxied file). It attemps to mirror the object returned by os.stat as closely as possible.

\_\_init\_\_()

st\_atime: int = None

This is the time of the last access of file data.

st\_gid: int = None

This field contains the ID of the group owner of the file.

st\_mode: int = None

This field contains the file type and mode.

st\_mtime: int = None

This is the time of last modification of file data.

st\_nlink: int = None

This field contains the number of hard links to the file.

st\_size: int = None

This field gives the size of the file (if it is a regular file or a symbolic link) in bytes. The size of a symbolic link is the length of the pathname it contains, without a terminating null byte.

st\_uid: int = None

This field contains the user ID of the owner of the file.

## RFSLIB.SFTP\_PCONNECTION MODULE

class rfslib.sftp\_pconnection.SftpPConnection(settings:

rfslib.abstract\_pconnection.p\_connection\_settings, host: str, username: str, password: Optional[str] = None, keyfile: str = '~/.ssh/id\_rsa', port: int = 22, no\_host\_key\_checking: bool = False)

Bases: rfslib.abstract\_pconnection.PConnection

Class for SFTP connection. Public interface with an exception of \_\_init\_\_ and close is inherited from PConnection.

\_\_init\_\_(settings: rfslib.abstract\_pconnection.p\_connection\_settings, host: str, username: str, password:

Optional[str] = None, keyfile: str = '~/.ssh/id\_rsa', port: int = 22, no\_host\_key\_checking: bool = False)

The constructor of SftpPConnection. Opens SFTP connection, when called. If None password is specified, the key authentication will be used. Otherwise the password authentication will be used.

#### **Parameters**

- **settings** The settings for the super class PConnection.
- host Remote address of the server.
- **port** Port for the SFTP connection.
- username Remote username
- password Password for a SFTP connection. If None is provided, key authentication will be used.
- **keyfile** A path to key file.
- no\_host\_key\_checking Specifies, whether remote host key should be verified or not.

## \_exists(remote\_path)

Protected method which checks, whether a remote file exist. If the remote file is a broken symlink, it returns False.

**Parameters** remote\_path – Path of a remote file.

Returns True, if remote file is exist. False, if remote file doesn't exist

## \_isdir(remote\_path)

Protected method which checks, whether a remote file is a directory. The function is DEPRECATED and will be substituted using stat or lstat.

**Parameters remote\_path** – A path of a directory.

**Returns** True, if remote file is folder. False, if it isn't a folder. Undefined if the file doesn't exist.

#### \_lexists(remote path)

Protected method which checks, whether a remote file exist. If the remote file is a broken symlink, it returns True

KNOWN BUG: Behavior is undefined in case of broken symlinks.

**Parameters remote\_path** – Path of a remote file.

**Returns** True, if remote file is exist. False, if remote file doesn't exist

## \_listdir(remote\_path)

Protected method which returns a list of files in the folder including hidden files. Undefined if the remote file doesn't exist or isn't a folder.

**Parameters** remote\_path – The remote path of a remote folder.

**Returns** List of files in the remote folder

### **\_mkdir**(remote\_path)

Protected method which creates a new directory. Behavior is undefined if remote folder already exist, or destination folder doesn't exist.

**Parameters** remote\_path – A path of a new remote directory.

## **\_pull**(remote\_path, local\_path)

Protected method which downloads/pulls a nondirectory file from a remote storage to a local storage in the binary form. Behavior is undefined if source file or destination folder doesn't exist.

#### **Parameters**

- remote\_path Path of a remote file to download.
- local\_path Path of a local file, where to download/pull a remote file or local file already
  exists.

#### \_push(local\_path, remote\_path)

Protected method which uploads/pushes a nondirectory file from a local storage to a remote storage in the binary form. Behavior is undefined if destination folder or source file doesn't exist, source is directory or remote file already exists.

#### **Parameters**

- **local\_path** Path of a local file to upload.
- **remote\_path** Path on the remote storage, where to upload/push a local file.

## \_rename(old\_name, new\_name)

Protected method which renames/moves a file. Behavior is undefined, if *new\_name* file exists or *old\_name* file doesn't exist.

#### **Parameters**

- **old\_name** Remote path a file to move.
- **new\_name** Remote path to which move the file.

#### **\_rmdir**(remote\_path)

Protected method which removes an empty remote directory. Behavior is undefined if remote directory doesn't exist or it isn't empty.

**Parameters** remote\_path – Path of an empty remote directory to delete.

## \_stat(remote\_path)

Protected method which returns statistics of a file (eg. size, last date modified,...) Follows symlinks to a destination file. Undefined behavior if remote file doesn't exist or it is a broken symlink.

**Parameters remote\_path** – Path of a remote file.

**Returns** The function returns os.stat\_result like object, which is further parsed by \_stat\_unpack function. For more details please see source code.

```
_unlink(remote_path)
```

Protected method which removes a nondirectory file. Behavior is undefined if remote file doesn't exist or is a directory.

**Parameters** remote\_path – Path of a remote regular file to delete.

```
close()
```

Method to close the opened connection.

cp(old names, new name, recursive=False)

dcp(old\_names, target\_dir, recursive=False)

dmv(old\_names, target\_dir)

**exists**( $remote\_path: str$ )  $\rightarrow$  bool

Method which checks, whether a remote file exist. Returns False for broken symlinks.

**Parameters remote\_path** – Path of a remote file.

Returns True, if remote file exists. False, if remote file doesn't exist.

fcp(old\_name, new\_name)

find(remote path, child first=False)

**fmv**(old\_name, new\_name)

 $get_default_dmask() \rightarrow int$ 

Returns default\_dmask settings. For more details see p\_connection\_settings.

 $\texttt{get\_default\_fmask}() \rightarrow \mathsf{int}$ 

Returns default\_fmask settings. For more details see p\_connection\_settings.

 $\texttt{get\_settings}() \rightarrow \textit{rfslib.abstract\_pconnection.p\_connection\_settings}$ 

The procedure sets all generic settings for PConnection.

**Returns** A p\_connection\_settings object with all generic settings of PConnection.

isdir(remote\_path)

lexists(remote\_path)

Method which checks, whether a remote file exist. Returns True for broken symlinks.

**Parameters remote\_path** – Path of a remote file.

**Returns** True, if remote file exists. False, if remote file doesn't exist.

listdir(remote\_path)

ls(remote\_path)

 $lstat(remote\_path: str) \rightarrow rfslib.abstract\_pconnection.p\_stat\_result$ 

Returns statistics of a file (eg. size, last date modified,...) Doesn't follow symlinks.

**Parameters remote\_path** – Path of a remote file.

**Returns** An object whose attributes correspond to the attributes of Python's stat structure as returned by os.stat, except that it contains fewer fields.

mkdir(remote path)

**mv**(old names, new name)

**xls**(remote\_path)

```
pmkdir(remote_path)
pull(remote_path, local_path)
push(local_path, remote_path)
     Uploads/pushes a file from a local storage to a remote storage in the binary form.
         Parameters
              • local_path – Path of a local file to upload.
              • remote_path – Path on the remote storage, where to upload/push a local file.
rename(old_name, new_name)
rm(remote_path, recursive=False)
rmdir(remote_path)
rpull(remote_path, local_path)
rpush(local_path, remote_path)
set_settings(settings: rfslib.abstract_pconnection.p_connection_settings)
     The procedure sets all generic settings for PConnection.
         Parameters settings - A p_connection_settings object with all generic settings for PConnec-
              tion. If some attribute in object is missing, no operation will be done with it.
stat(remote\_path: str) \rightarrow rfslib.abstract\_pconnection.p\_stat\_result
     Returns statistics of a file (eg. size, last date modified,...) Follows symlinks to a destination file.
         Parameters remote_path – Path of a remote file.
         Returns An object whose attributes correspond to the attributes of Python's stat structure as
              returned by os.stat, except that it contains fewer fields.
touch(remote_path)
unlink(remote_path)
```

**CHAPTER** 

## THREE

## RFSLIB.FTP\_PCONNECTION MODULE

class rfslib.ftp\_pconnection.FtpPConnection(settings:

```
rfslib.abstract_pconnection.p_connection_settings, host:

str, username: str, password: str, port: int = 21, tls: bool

= False, passive_mode: bool = False, debug_level: int = 1,

connection_encoding: str = 'UTF8')
```

Bases: rfslib.abstract\_pconnection.PConnection

Class for FTP connection. Public interface with an exception of \_\_init\_\_ and close is inherited from PConnection.

```
__init__(settings: rfslib.abstract_pconnection.p_connection_settings, host: str, username: str, password: str, port: int = 21, tls: bool = False, passive_mode: bool = False, debug_level: int = 1, connection_encoding: str = 'UTF8')
```

The constructor of FtpPConnection.

#### **Parameters**

- **settings** The settings for the super class PConnection.
- **host** Remote address of the server.
- **port** Port for a connection.
- **username** Remote username.
- password Remote password.
- tls Enables TLS.
- passive\_mode Enables passive mode of FTP connection.
- **debug\_level** Specifies how much logs should be generated. 0 almost non, 1 more, 2 log almost everything
- **connection\_encoding** Encoding used for a connection.

### \_exists(remote\_path)

Protected method which checks, whether a remote file exist. If the remote file is a broken symlink, it returns False.

**Parameters remote\_path** – Path of a remote file.

Returns True, if remote file is exist. False, if remote file doesn't exist

## \_isdir(remote\_path)

Protected method which checks, whether a remote file is a directory. The function is DEPRECATED and will be substituted using stat or lstat.

**Parameters** remote\_path – A path of a directory.

Returns True, if remote file is folder. False, if it isn't a folder. Undefined if the file doesn't exist.

#### \_lexists(remote path)

Protected method which checks, whether a remote file exist. If the remote file is a broken symlink, it returns True.

KNOWN BUG: Behavior is undefined in case of broken symlinks.

**Parameters** remote\_path – Path of a remote file.

**Returns** True, if remote file is exist. False, if remote file doesn't exist

#### \_listdir(remote\_path)

Protected method which returns a list of files in the folder including hidden files. Undefined if the remote file doesn't exist or isn't a folder.

**Parameters** remote\_path – The remote path of a remote folder.

**Returns** List of files in the remote folder

## \_mkdir(remote\_path)

Protected method which creates a new directory. Behavior is undefined if remote folder already exist, or destination folder doesn't exist.

**Parameters** remote\_path – A path of a new remote directory.

#### **\_pull**(remote\_path, local\_path)

Protected method which downloads/pulls a nondirectory file from a remote storage to a local storage in the binary form. Behavior is undefined if source file or destination folder doesn't exist.

#### **Parameters**

- **remote\_path** Path of a remote file to download.
- **local\_path** Path of a local file, where to download/pull a remote file or local file already exists.

### \_push(local\_path, remote\_path)

Protected method which uploads/pushes a nondirectory file from a local storage to a remote storage in the binary form. Behavior is undefined if destination folder or source file doesn't exist, source is directory or remote file already exists.

## **Parameters**

- local\_path Path of a local file to upload.
- **remote\_path** Path on the remote storage, where to upload/push a local file.

### \_rename(old\_name, new\_name)

Protected method which renames/moves a file. Behavior is undefined, if *new\_name* file exists or *old\_name* file doesn't exist.

#### **Parameters**

- old\_name Remote path a file to move.
- **new\_name** Remote path to which move the file.

#### **\_rmdir**(remote\_path)

Protected method which removes an empty remote directory. Behavior is undefined if remote directory doesn't exist or it isn't empty.

**Parameters remote\_path** – Path of an empty remote directory to delete.

```
_stat(remote_path)
```

Protected method which returns statistics of a file (eg. size, last date modified,...) Follows symlinks to a destination file. Undefined behavior if remote file doesn't exist or it is a broken symlink.

**Parameters remote\_path** – Path of a remote file.

**Returns** The function returns os.stat\_result like object, which is further parsed by \_stat\_unpack function. For more details please see source code.

```
_unlink(remote_path)
```

Protected method which removes a nondirectory file. Behavior is undefined if remote file doesn't exist or is a directory.

**Parameters** remote\_path – Path of a remote regular file to delete.

```
close()
```

Method to close the opened connection.

cp(old\_names, new\_name, recursive=False)

dcp(old\_names, target\_dir, recursive=False)

dmv(old\_names, target\_dir)

**exists**( $remote\_path: str$ )  $\rightarrow$  bool

Method which checks, whether a remote file exist. Returns False for broken symlinks.

**Parameters remote\_path** – Path of a remote file.

**Returns** True, if remote file exists. False, if remote file doesn't exist.

**fcp**(old name, new name)

find(remote\_path, child\_first=False)

**fmv**(old\_name, new\_name)

 $get_default_dmask() \rightarrow int$ 

Returns default\_dmask settings. For more details see p\_connection\_settings.

 $get_default_fmask() \rightarrow int$ 

Returns default\_fmask settings. For more details see p\_connection\_settings.

 $\texttt{get\_settings}() \rightarrow rfslib.abstract\_pconnection.p\_connection\_settings$ 

The procedure sets all generic settings for PConnection.

**Returns** A p\_connection\_settings object with all generic settings of PConnection.

isdir(remote\_path)

lexists(remote path)

Method which checks, whether a remote file exist. Returns True for broken symlinks.

**Parameters remote\_path** – Path of a remote file.

Returns True, if remote file exists. False, if remote file doesn't exist.

listdir(remote\_path)

**ls**(remote\_path)

**lstat**( $remote\_path: str$ )  $\rightarrow rfslib.abstract\_pconnection.p\_stat\_result$ 

Returns statistics of a file (eg. size, last date modified,...) Doesn't follow symlinks.

**Parameters remote\_path** – Path of a remote file.

**Returns** An object whose attributes correspond to the attributes of Python's stat structure as returned by os.stat, except that it contains fewer fields.

#### **Parameters**

- local\_path Path of a local file to upload.
- **remote\_path** Path on the remote storage, where to upload/push a local file.

```
rename(old_name, new_name)
rm(remote_path, recursive=False)
rmdir(remote_path)
rpull(remote_path, local_path)
rpush(local_path, remote_path)
set_settings(settings: rfslib.abstract_pconnection.p_connection_settings)
```

The procedure sets all generic settings for PConnection.

**Parameters settings** – A p\_connection\_settings object with all generic settings for PConnection. If some attribute in object is missing, no operation will be done with it.

```
stat(remote\_path: str) \rightarrow rfslib.abstract\_pconnection.p\_stat\_result
```

Returns statistics of a file (eg. size, last date modified,...) Follows symlinks to a destination file.

**Parameters** remote\_path – Path of a remote file.

**Returns** An object whose attributes correspond to the attributes of Python's stat structure as returned by os.stat, except that it contains fewer fields.

```
touch(remote_path)
unlink(remote_path)
xls(remote_path)
```

## RFSLIB.SMB12\_PCONNECTION MODULE

class rfslib.smb12\_pconnection.Smb12PConnection(settings:

rfslib.abstract\_pconnection.p\_connection\_settings, host: str, service\_name: str, username: str, password: str, port: int = 139, use\_direct\_tcp: bool = False, client\_name: str = 'RFS', use\_ntlm\_v1: bool = False)

Bases: rfslib.abstract\_pconnection.PConnection

Class for SMB connection version 1 or 2. Public interface with an exception of \_\_init\_\_ and close is inherited from PConnection.

\_\_init\_\_(settings: rfslib.abstract\_pconnection.p\_connection\_settings, host: str, service\_name: str, username: str, password: str, port: int = 139, use\_direct\_tcp: bool = False, client\_name: str = 'RFS', use\_ntlm\_v1: bool = False)

The constructor of Smb12PConnection. Opens SMB connection version 1 or 2, when called.

#### **Parameters**

- **settings** The settings for the super class PConnection.
- host Remote address of the server.
- **service\_name** Name of a shared folder.
- **port** Port for the SMB connection.
- **username** Remote username.
- password Remote password.
- **use\_direct\_tcp** Activates direct tcp mode for SMB.
- **client\_name** Name of this client, which will be sent to a server.
- **use\_ntlm\_v1** Enables NTLM version 1 instead of NTLM version 2.

## \_exists(remote\_path)

Protected method which checks, whether a remote file exist. If the remote file is a broken symlink, it returns False.

**Parameters** remote\_path – Path of a remote file.

Returns True, if remote file is exist. False, if remote file doesn't exist

## \_isdir(remote path)

Protected method which checks, whether a remote file is a directory. The function is DEPRECATED and will be substituted using stat or lstat.

**Parameters remote\_path** – A path of a directory.

Returns True, if remote file is folder. False, if it isn't a folder. Undefined if the file doesn't exist.

#### \_lexists(remote path)

Protected method which checks, whether a remote file exist. If the remote file is a broken symlink, it returns True.

KNOWN BUG: Behavior is undefined in case of broken symlinks.

**Parameters remote\_path** – Path of a remote file.

**Returns** True, if remote file is exist. False, if remote file doesn't exist

## \_listdir(remote\_path)

Protected method which returns a list of files in the folder including hidden files. Undefined if the remote file doesn't exist or isn't a folder.

Parameters remote\_path - The remote path of a remote folder.

**Returns** List of files in the remote folder

### **\_mkdir**(remote\_path)

Protected method which creates a new directory. Behavior is undefined if remote folder already exist, or destination folder doesn't exist.

**Parameters** remote\_path – A path of a new remote directory.

## **\_pull**(remote\_path, local\_path)

Protected method which downloads/pulls a nondirectory file from a remote storage to a local storage in the binary form. Behavior is undefined if source file or destination folder doesn't exist.

#### **Parameters**

- remote\_path Path of a remote file to download.
- local\_path Path of a local file, where to download/pull a remote file or local file already
  exists.

## \_push(local\_path, remote\_path)

Protected method which uploads/pushes a nondirectory file from a local storage to a remote storage in the binary form. Behavior is undefined if destination folder or source file doesn't exist, source is directory or remote file already exists.

## **Parameters**

- **local\_path** Path of a local file to upload.
- **remote\_path** Path on the remote storage, where to upload/push a local file.

## \_rename(old\_name, new\_name)

Protected method which renames/moves a file. Behavior is undefined, if *new\_name* file exists or *old\_name* file doesn't exist.

#### **Parameters**

- **old\_name** Remote path a file to move.
- **new\_name** Remote path to which move the file.

#### **\_rmdir**(remote\_path)

Protected method which removes an empty remote directory. Behavior is undefined if remote directory doesn't exist or it isn't empty.

**Parameters** remote\_path – Path of an empty remote directory to delete.

## \_stat(remote\_path)

Protected method which returns statistics of a file (eg. size, last date modified,...) Follows symlinks to a destination file. Undefined behavior if remote file doesn't exist or it is a broken symlink.

**Parameters remote\_path** – Path of a remote file.

**Returns** The function returns os.stat\_result like object, which is further parsed by \_stat\_unpack function. For more details please see source code.

```
_unlink(remote path)
```

Protected method which removes a nondirectory file. Behavior is undefined if remote file doesn't exist or is a directory.

**Parameters** remote\_path – Path of a remote regular file to delete.

```
close()
```

Method to close the opened connection.

cp(old names, new name, recursive=False)

dcp(old\_names, target\_dir, recursive=False)

dmv(old\_names, target\_dir)

 $exists(remote\_path: str) \rightarrow bool$ 

Method which checks, whether a remote file exist. Returns False for broken symlinks.

**Parameters remote\_path** – Path of a remote file.

Returns True, if remote file exists. False, if remote file doesn't exist.

fcp(old\_name, new\_name)

find(remote path, child first=False)

**fmv**(old name, new name)

 $get_default_dmask() \rightarrow int$ 

Returns default\_dmask settings. For more details see p\_connection\_settings.

 $get_default_fmask() \rightarrow int$ 

Returns default\_fmask settings. For more details see p\_connection\_settings.

 $\texttt{get\_settings}() \rightarrow rfslib.abstract\_pconnection.p\_connection\_settings$ 

The procedure sets all generic settings for PConnection.

**Returns** A p\_connection\_settings object with all generic settings of PConnection.

isdir(remote\_path)

lexists(remote\_path)

Method which checks, whether a remote file exist. Returns True for broken symlinks.

**Parameters remote\_path** – Path of a remote file.

**Returns** True, if remote file exists. False, if remote file doesn't exist.

listdir(remote\_path)

ls(remote\_path)

 $lstat(remote\_path: str) \rightarrow rfslib.abstract\_pconnection.p\_stat\_result$ 

Returns statistics of a file (eg. size, last date modified,...) Doesn't follow symlinks.

**Parameters remote\_path** – Path of a remote file.

**Returns** An object whose attributes correspond to the attributes of Python's stat structure as returned by os.stat, except that it contains fewer fields.

mkdir(remote path)

**mv**(old names, new name)

**xls**(remote\_path)

```
pmkdir(remote_path)
pull(remote_path, local_path)
push(local_path, remote_path)
     Uploads/pushes a file from a local storage to a remote storage in the binary form.
         Parameters
              • local_path – Path of a local file to upload.
              • remote_path – Path on the remote storage, where to upload/push a local file.
rename(old_name, new_name)
rm(remote_path, recursive=False)
rmdir(remote_path)
rpull(remote_path, local_path)
rpush(local_path, remote_path)
set_settings(settings: rfslib.abstract_pconnection.p_connection_settings)
     The procedure sets all generic settings for PConnection.
         Parameters settings - A p_connection_settings object with all generic settings for PConnec-
              tion. If some attribute in object is missing, no operation will be done with it.
stat(remote\_path: str) \rightarrow rfslib.abstract\_pconnection.p\_stat\_result
     Returns statistics of a file (eg. size, last date modified,...) Follows symlinks to a destination file.
         Parameters remote_path – Path of a remote file.
         Returns An object whose attributes correspond to the attributes of Python's stat structure as
              returned by os.stat, except that it contains fewer fields.
touch(remote_path)
unlink(remote_path)
```

## RFSLIB.SMB23\_PCONNECTION MODULE

class rfslib.smb23\_pconnection.Smb23PConnection(settings:

rfslib.abstract\_pconnection.p\_connection\_settings, host: str, service\_name: str, username: str, password: str, port: int = 445, enable\_encryption: bool = False, dont\_require\_signing: bool = False)

 $Bases: \ rfslib.abstract\_pconnection.PConnection$ 

Class for SMB connection version 2 or 3. Public interface with an exception of \_\_init\_\_ and close is inherited from PConnection.

\_\_init\_\_(settings: rfslib.abstract\_pconnection.p\_connection\_settings, host: str, service\_name: str, username: str, password: str, port: int = 445, enable\_encryption: bool = False, dont\_require\_signing: bool = False)

The constructor of Smb23PConnection. Opens SMB connection version 2 or 3, when called.

#### **Parameters**

- **settings** The settings for the super class PConnection.
- **service\_name** Name of a shared folder.
- **host** Remote address of the server.
- **port** Port for a SMB connection.
- username Remote username
- password Password for a SMB connection.
- **enable\_encryption** Enables encryption for a SMB3 connection.
- dont\_require\_signing Disables signing requirement.

## \_exists(remote\_path)

Protected method which checks, whether a remote file exist. If the remote file is a broken symlink, it returns False.

**Parameters** remote\_path – Path of a remote file.

Returns True, if remote file is exist. False, if remote file doesn't exist

## \_isdir(remote\_path)

Protected method which checks, whether a remote file is a directory. The function is DEPRECATED and will be substituted using stat or lstat.

**Parameters** remote\_path – A path of a directory.

Returns True, if remote file is folder. False, if it isn't a folder. Undefined if the file doesn't exist.

#### \_lexists(remote path)

Protected method which checks, whether a remote file exist. If the remote file is a broken symlink, it returns True.

KNOWN BUG: Behavior is undefined in case of broken symlinks.

**Parameters remote\_path** – Path of a remote file.

**Returns** True, if remote file is exist. False, if remote file doesn't exist

## \_listdir(remote\_path)

Protected method which returns a list of files in the folder including hidden files. Undefined if the remote file doesn't exist or isn't a folder.

**Parameters** remote\_path – The remote path of a remote folder.

**Returns** List of files in the remote folder

## \_mkdir(remote\_path)

Protected method which creates a new directory. Behavior is undefined if remote folder already exist, or destination folder doesn't exist.

**Parameters** remote\_path – A path of a new remote directory.

## **\_pull**(remote\_path, local\_path)

Protected method which downloads/pulls a nondirectory file from a remote storage to a local storage in the binary form. Behavior is undefined if source file or destination folder doesn't exist.

#### **Parameters**

- remote\_path Path of a remote file to download.
- local\_path Path of a local file, where to download/pull a remote file or local file already
  exists.

#### \_push(local\_path, remote\_path)

Protected method which uploads/pushes a nondirectory file from a local storage to a remote storage in the binary form. Behavior is undefined if destination folder or source file doesn't exist, source is directory or remote file already exists.

#### **Parameters**

- **local\_path** Path of a local file to upload.
- **remote\_path** Path on the remote storage, where to upload/push a local file.

## \_rename(old\_name, new\_name)

Protected method which renames/moves a file. Behavior is undefined, if *new\_name* file exists or *old\_name* file doesn't exist.

#### **Parameters**

- **old\_name** Remote path a file to move.
- **new\_name** Remote path to which move the file.

#### **\_rmdir**(remote\_path)

Protected method which removes an empty remote directory. Behavior is undefined if remote directory doesn't exist or it isn't empty.

**Parameters** remote\_path – Path of an empty remote directory to delete.

## \_stat(remote\_path)

Protected method which returns statistics of a file (eg. size, last date modified,...) Follows symlinks to a destination file. Undefined behavior if remote file doesn't exist or it is a broken symlink.

**Parameters remote\_path** – Path of a remote file.

**Returns** The function returns os.stat\_result like object, which is further parsed by \_stat\_unpack function. For more details please see source code.

```
_unlink(remote path)
```

Protected method which removes a nondirectory file. Behavior is undefined if remote file doesn't exist or is a directory.

**Parameters** remote\_path – Path of a remote regular file to delete.

```
close()
```

Method to close the opened connection.

cp(old\_names, new\_name, recursive=False)

dcp(old\_names, target\_dir, recursive=False)

dmv(old\_names, target\_dir)

 $exists(remote\_path: str) \rightarrow bool$ 

Method which checks, whether a remote file exist. Returns False for broken symlinks.

**Parameters remote\_path** – Path of a remote file.

Returns True, if remote file exists. False, if remote file doesn't exist.

fcp(old\_name, new\_name)

find(remote path, child first=False)

**fmv**(old name, new name)

 $get_default_dmask() \rightarrow int$ 

Returns default\_dmask settings. For more details see p\_connection\_settings.

 $get_default_fmask() \rightarrow int$ 

Returns default\_fmask settings. For more details see p\_connection\_settings.

 $\texttt{get\_settings}() \rightarrow \textit{rfslib.abstract\_pconnection.p\_connection\_settings}$ 

The procedure sets all generic settings for PConnection.

**Returns** A p\_connection\_settings object with all generic settings of PConnection.

isdir(remote\_path)

lexists(remote\_path)

Method which checks, whether a remote file exist. Returns True for broken symlinks.

**Parameters remote\_path** – Path of a remote file.

**Returns** True, if remote file exists. False, if remote file doesn't exist.

listdir(remote\_path)

ls(remote\_path)

 $lstat(remote\_path: str) \rightarrow rfslib.abstract\_pconnection.p\_stat\_result$ 

Returns statistics of a file (eg. size, last date modified,...) Doesn't follow symlinks.

**Parameters remote\_path** – Path of a remote file.

**Returns** An object whose attributes correspond to the attributes of Python's stat structure as returned by os.stat, except that it contains fewer fields.

mkdir(remote path)

**mv**(old names, new name)

```
pmkdir(remote_path)
pull(remote_path, local_path)
push(local_path, remote_path)
     Uploads/pushes a file from a local storage to a remote storage in the binary form.
```

#### **Parameters**

- **local\_path** Path of a local file to upload.
- **remote\_path** Path on the remote storage, where to upload/push a local file.

```
rename(old_name, new_name)
rm(remote_path, recursive=False)
rmdir(remote_path)
rpull(remote_path, local_path)
rpush(local_path, remote_path)
set_settings(settings: rfslib.abstract pconnection.p connection settings)
     The procedure sets all generic settings for PConnection.
```

Parameters settings - A p\_connection\_settings object with all generic settings for PConnection. If some attribute in object is missing, no operation will be done with it.

```
stat(remote\ path:\ str) \rightarrow rfslib.abstract\ pconnection.p\ stat\ result
```

Returns statistics of a file (eg. size, last date modified,...) Follows symlinks to a destination file.

**Parameters remote\_path** – Path of a remote file.

Returns An object whose attributes correspond to the attributes of Python's stat structure as returned by os.stat, except that it contains fewer fields.

```
touch(remote_path)
unlink(remote_path)
xls(remote_path)
```

rfslib.smb23\_pconnection.config\_smb23(no\_dfs: bool = False, disable\_secure\_negotiate: bool = False, dfs domain controller: Optional[str] = None)

The procedure changes global setting for SMB version 2 or 3 across all connection. Don't change value, if any SMB connection version 2 or 3 is active.

#### **Parameters**

- **no\_dfs** Disables DFS support useful as a bug fix.
- disable\_secure\_negotiate Disables secure negotiate requirement for a SMB connec-
- dfs\_domain\_controller The DFS domain controller address. Useful in case, when rfstools fails to find it themself.

## RFSLIB.FS\_PCONNECTION MODULE

**class** rfslib.fs\_pconnection.**FsPConnection**(*settings:* rfslib.abstract\_pconnection.p\_connection\_settings)
Bases: rfslib.abstract\_pconnection.PConnection

Class for operating with local filesystem. Public interface with an exception of \_\_init\_\_ and close is inherited from PConnection.

\_\_init\_\_(settings: rfslib.abstract\_pconnection.p\_connection\_settings)

The constructor of FsPConnection.

**Parameters settings** – The settings for super class PConnection.

### \_exists(remote\_path)

Protected method which checks, whether a remote file exist. If the remote file is a broken symlink, it returns False.

**Parameters remote\_path** – Path of a remote file.

Returns True, if remote file is exist. False, if remote file doesn't exist

#### \_isdir(remote\_path)

Protected method which checks, whether a remote file is a directory. The function is DEPRECATED and will be substituted using stat or lstat.

**Parameters remote\_path** – A path of a directory.

**Returns** True, if remote file is folder. False, if it isn't a folder. Undefined if the file doesn't exist.

## \_lexists(remote\_path)

Protected method which checks, whether a remote file exist. If the remote file is a broken symlink, it returns True.

KNOWN BUG: Behavior is undefined in case of broken symlinks.

**Parameters remote\_path** – Path of a remote file.

Returns True, if remote file is exist. False, if remote file doesn't exist

#### \_listdir(remote\_path)

Protected method which returns a list of files in the folder including hidden files. Undefined if the remote file doesn't exist or isn't a folder.

**Parameters** remote\_path – The remote path of a remote folder.

**Returns** List of files in the remote folder

## \_mkdir(remote\_path)

Protected method which creates a new directory. Behavior is undefined if remote folder already exist, or destination folder doesn't exist.

**Parameters remote\_path** – A path of a new remote directory.

#### **\_pull**(remote\_path, local\_path)

Protected method which downloads/pulls a nondirectory file from a remote storage to a local storage in the binary form. Behavior is undefined if source file or destination folder doesn't exist.

#### **Parameters**

- **remote\_path** Path of a remote file to download.
- local\_path Path of a local file, where to download/pull a remote file or local file already
  exists.

#### \_push(local\_path, remote\_path)

Protected method which uploads/pushes a nondirectory file from a local storage to a remote storage in the binary form. Behavior is undefined if destination folder or source file doesn't exist, source is directory or remote file already exists.

#### **Parameters**

- local\_path Path of a local file to upload.
- **remote\_path** Path on the remote storage, where to upload/push a local file.

#### \_rename(old\_name, new\_name)

Protected method which renames/moves a file. Behavior is undefined, if *new\_name* file exists or *old\_name* file doesn't exist.

#### **Parameters**

- **old\_name** Remote path a file to move.
- **new\_name** Remote path to which move the file.

### **\_rmdir**(remote\_path)

Protected method which removes an empty remote directory. Behavior is undefined if remote directory doesn't exist or it isn't empty.

**Parameters remote\_path** – Path of an empty remote directory to delete.

```
_stat(remote_path)
```

Protected method which returns statistics of a file (eg. size, last date modified,...) Follows symlinks to a destination file. Undefined behavior if remote file doesn't exist or it is a broken symlink.

**Parameters remote\_path** – Path of a remote file.

**Returns** The function returns os.stat\_result like object, which is further parsed by \_stat\_unpack function. For more details please see source code.

### \_unlink(remote\_path)

Protected method which removes a nondirectory file. Behavior is undefined if remote file doesn't exist or is a directory.

**Parameters** remote\_path – Path of a remote regular file to delete.

## close()

Method to close the opened connection.

```
cp(old_names, new_name, recursive=False)
```

dcp(old\_names, target\_dir, recursive=False)

dmv(old\_names, target\_dir)

```
exists(remote\_path: str) \rightarrow bool
```

Method which checks, whether a remote file exist. Returns False for broken symlinks.

**Parameters** remote\_path – Path of a remote file.

```
Returns True, if remote file exists. False, if remote file doesn't exist.
fcp(old name, new name)
find(remote_path, child_first=False)
fmv(old_name, new_name)
get_default_dmask() \rightarrow int
     Returns default_dmask settings. For more details see p_connection_settings.
get_default_fmask() \rightarrow int
     Returns default_fmask settings. For more details see p_connection_settings.
get\_settings() \rightarrow rfslib.abstract\_pconnection.p\_connection\_settings
     The procedure sets all generic settings for PConnection.
          Returns A p_connection_settings object with all generic settings of PConnection.
isdir(remote_path)
lexists(remote_path)
     Method which checks, whether a remote file exist. Returns True for broken symlinks.
          Parameters remote_path – Path of a remote file.
          Returns True, if remote file exists. False, if remote file doesn't exist.
listdir(remote_path)
ls(remote path)
lstat(remote\_path: str) \rightarrow rfslib.abstract\_pconnection.p\_stat\_result
     Returns statistics of a file (eg. size, last date modified,...) Doesn't follow symlinks.
          Parameters remote_path – Path of a remote file.
          Returns An object whose attributes correspond to the attributes of Python's stat structure as
              returned by os.stat, except that it contains fewer fields.
mkdir(remote_path)
mv(old_names, new_name)
pmkdir(remote path)
pull(remote path, local path)
push(local_path, remote_path)
     Uploads/pushes a file from a local storage to a remote storage in the binary form.
          Parameters
              • local_path – Path of a local file to upload.
              • remote_path – Path on the remote storage, where to upload/push a local file.
rename(old_name, new_name)
rm(remote_path, recursive=False)
rmdir(remote_path)
rpull(remote_path, local_path)
rpush(local_path, remote_path)
set_settings(settings: rfslib.abstract_pconnection.p_connection_settings)
     The procedure sets all generic settings for PConnection.
```

**Parameters settings** – A p\_connection\_settings object with all generic settings for PConnection. If some attribute in object is missing, no operation will be done with it.

 $stat(remote\_path: str) \rightarrow rfslib.abstract\_pconnection.p\_stat\_result$ 

Returns statistics of a file (eg. size, last date modified,...) Follows symlinks to a destination file.

**Parameters remote\_path** – Path of a remote file.

**Returns** An object whose attributes correspond to the attributes of Python's stat structure as returned by os.stat, except that it contains fewer fields.

touch(remote\_path)
unlink(remote\_path)
xls(remote\_path)

**CHAPTER** 

## **SEVEN**

## RFSLIB.PATH\_UTILS MODULE

## **PYTHON MODULE INDEX**

## rfslib.abstract\_pconnection, 3 rfslib.fs\_pconnection, 25 rfslib.ftp\_pconnection, 13 rfslib.path\_utils, 29 rfslib.sftp\_pconnection, 9 rfslib.smb12\_pconnection, 17 rfslib.smb23\_pconnection, 21

32 Python Module Index

## **INDEX**

Symbols	_lexists() (rfslib.abstract_pconnection.PConnection
init() (rfslib.abstract_pconnection.PConnection	method), 3 _lexists() (rfslib.fs_pconnection.FsPConnection
<pre>method), 3init() (rfslib.abstract_pconnection.p_connection_set</pre>	tings method), 25
method), 6	_lexists() (rfslib.ftp_pconnection.FtpPConnection method), 14
init() (rfslib.abstract_pconnection.p_stat_result method), 7	_lexists() (rfslib.sftp_pconnection.SftpPConnection
init() (rfslib.fs_pconnection.FsPConnection	method), 9 _lexists() (rfslib.smb12_pconnection.Smb12PConnection
init() (rfslib.ftp pconnection.FtpPConnection	method), 17
memou), 15	_lexists() (rfslib.smb23_pconnection.Smb23PConnection method), 21
init() (rfslib.path_utils.GenericPath method), 29init() (rfslib.sftp_pconnection.SftpPConnection	_listdir() (rfslib.abstract_pconnection.PConnection
method) 9	method), 3 n-listdir() (rfslib.fs_pconnection.FsPConnection
init() (rfslib.smb12_pconnection.Smb12PConnection method), 17	meinoa), 23
init() (rfslib.smb23_pconnection.Smb23PConnection	n listdir() (rfslib.ftp_pconnection.FtpPConnection method), 14
method), 21 _exists() (rfslib.abstract_pconnection.PConnection	_listdir() (rfslib.sftp_pconnection.SftpPConnection
method), 3 _exists() (rfslib.fs_pconnection.FsPConnection	method), 10 _listdir() (rfslib.smb12_pconnection.Smb12PConnection
method), 25	method), 18
_exists() (rfslib.ftp_pconnection.FtpPConnection method), 13	_listdir() (rfslib.smb23_pconnection.Smb23PConnection method), 22
_exists() (rfslib.sftp_pconnection.SftpPConnection	_mkdir() (rfslib.abstract_pconnection.PConnection
method), 9 _exists() (rfslib.smb12_pconnection.Smb12PConnection	method), 3 _mkdir() (rfslib.fs_pconnection.FsPConnection
method). 17	meinoa), 23
_exists() (rfslib.smb23_pconnection.Smb23PConnection method), 21	_mkdir() (rfslib.ftp_pconnection.FtpPConnection method), 14
_isdir() (rfslib.abstract_pconnection.PConnection	_mkdir() (rfslib.sftp_pconnection.SftpPConnection method), 10
method), 3 _isdir() (rfslib.fs_pconnection.FsPConnection	_mkdir() (rfslib.smb12_pconnection.Smb12PConnection
method), 25	method), 18 _mkdir() (rfslib.smb23_pconnection.Smb23PConnection
method). 13	method), 22
	_pull() (rfslib.abstract_pconnection.PConnection method), 4
<pre>method), 9 _isdir() (rfslib.smb12_pconnection.Smb12PConnection</pre>	_pull() (rfslib.fs_pconnection.FsPConnection method),
method), 17 _isdir() (rfslib.smb23_pconnection.Smb23PConnection	_pull() (rfslib.ftp_pconnection.FtpPConnection
method), 21	method), 14

- \_pull() (rfslib.sftp\_pconnection.SftpPConnection method), 10
- \_pull() (rfslib.smb12\_pconnection.Smb12PConnection method), 18
- \_pull() (rfslib.smb23\_pconnection.Smb23PConnection method), 22
- \_push() (rfslib.abstract\_pconnection.PConnection method), 4
- \_push() (rfslib.fs\_pconnection.FsPConnection method), 26
- \_push() (rfslib.ftp\_pconnection.FtpPConnection method), 14
- \_push() (rfslib.sftp\_pconnection.SftpPConnection method), 10
- \_push() (rfslib.smb12\_pconnection.Smb12PConnection method), 18
- \_push() (rfslib.smb23\_pconnection.Smb23PConnection method), 22
- \_rename() (rfslib.abstract\_pconnection.PConnection method), 4
- \_rename() (rfslib.fs\_pconnection.FsPConnection method), 26
- \_rename() (rfslib.ftp\_pconnection.FtpPConnection method), 14
- \_rename() (rfslib.sftp\_pconnection.SftpPConnection method), 10
- \_rename() (rfslib.smb12\_pconnection.Smb12PConnection method), 18
- \_rename() (rfslib.smb23\_pconnection.Smb23PConnection method), 22
- \_rmdir() (rfslib.fs\_pconnection.FsPConnection method), 26
- \_rmdir() (rfslib.sftp\_pconnection.SftpPConnection method), 10

- \_stat() (rfslib.abstract\_pconnection.PConnection method), 4
- \_stat() (rfslib.fs\_pconnection.FsPConnection method), 26
- \_stat() (rfslib.ftp\_pconnection.FtpPConnection method), 14
- \_stat() (rfslib.sftp\_pconnection.SftpPConnection method), 10
- \_stat() (rfslib.smb12\_pconnection.Smb12PConnection method), 18
- \_stat() (rfslib.smb23\_pconnection.Smb23PConnection method), 22

- \_unlink() (rfslib.abstract\_pconnection.PConnection method), 4
- \_unlink() (rfslib.fs\_pconnection.FsPConnection method), 26
- \_unlink() (rfslib.ftp\_pconnection.FtpPConnection method), 15
- \_unlink() (rfslib.sftp\_pconnection.SftpPConnection method), 11
- \_unlink() (rfslib.smb12\_pconnection.Smb12PConnection method), 19
- \_unlink() (rfslib.smb23\_pconnection.Smb23PConnection method), 23

## Α

add\_r\_prefix() (in module rfslib.path\_utils), 29

## C

- close() (rfslib.ftp\_pconnection.FtpPConnection method), 15
- close() (rfslib.sftp\_pconnection.SftpPConnection method), 11
- close() (rfslib.smb23\_pconnection.Smb23PConnection
   method), 23
- cp() (rfslib.abstract\_pconnection.PConnection method),
  4
- cp() (rfslib.fs\_pconnection.FsPConnection method), 26
- cp() (rfslib.ftp\_pconnection.FtpPConnection method),
  15
- cp() (rfslib.sftp\_pconnection.SftpPConnection method),
  11
- cp() (rfslib.smb12\_pconnection.Smb12PConnection method), 19
- cp() (rfslib.smb23\_pconnection.Smb23PConnection method), 23

## D

- dcp() (rfslib.abstract\_pconnection.PConnection
   method), 4
- dcp() (rfslib.fs\_pconnection.FsPConnection method), 26
- dcp() (rfslib.ftp\_pconnection.FtpPConnection method),
  15
- dcp() (rfslib.sftp\_pconnection.SftpPConnection
   method), 11

-	find()	(rfslib.smb12_pconnection.Smb12PConnection method), 19
_dmask(rfslib.abstract_pconnection.p_connection	ı <u>f</u> iadi()s	
	n <b>£mext(i)</b> ngs	(rfslib.abstract_pconnection.PConnection
attribute), 6		method), 5
$\verb write  (rfslib.abstract\_pconnection.p\_connection\_$	_stantiligs(r)	$fslib.fs\_pconnection.FsPConnection\ method), 27$
attribute), 6	fmv() (r	$fslib.ftp\_pconnection.FtpPConnection\ method),$
· ·		15
	fmv()	(rfslib.sftp_pconnection.SftpPConnection
		method), 11
fslib.ftp_pconnection.FtpPConnection method), 15	imv()	(rfslib.smb12_pconnection.Smb12PConnection method), 19
(rfslib.sftp_pconnection.SftpPConnection	fmv()	(rfslib.smb23_pconnection.Smb23PConnection
method), 11		method), 23
(rfslib.smb12_pconnection.Smb12PConnection	FsPConn	ection (class in rfslib.fs_pconnection), 25
method), 19		nection (class in rfslib.ftp_pconnection), 13
(rfslib.smb23_pconnection.Smb23PConnection method), 23	G	
	generic	_cp() (in module rfslib.path_utils), 29
	_	_mv() (in module rfslib.path_utils), 29
) (rfslib.abstract_pconnection.PConnection method), 5	generic	_path_normalize() (in module rfs- lib.path_utils), 29
) (rfslib.fs_pconnection.FsPConnection	Generic	Path (class in rfslib.path_utils), 29
method), 26	get_def	ault_dmask() (rfs-
(rfslib.ftp_pconnection.FtpPConnection method), 15		lib.abstract_pconnection.PConnection method), 5
(rfslib.sftp_pconnection.SftpPConnection	get_def	
method), 11		lib.fs_pconnection.FsPConnection method),
) (rfslib.smb12_pconnection.Smb12PConnection		27
method), 19	get_def	ault_dmask() (rfs-
		lib.ftp_pconnection.FtpPConnection method),
method), 23		15
	get_def	ault_dmask() (rfs-
(rfslib.abstract pconnection.PConnection		lib.sftp_pconnection.SftpPConnection method), 11
	get_def	ault_dmask() (rfs-
		lib.smb12_pconnection.Smb12PConnection
		method), 19
15	get_def	ault_dmask() (rfs-
(rfslib.sftp_pconnection.SftpPConnection		lib.smb23_pconnection.Smb23PConnection
method), 11		method), 23
(rfslib.smb12_pconnection.Smb12PConnection	get_def	ault_fmask() (rfs-
method), 19		lib.abstract_pconnection.PConnection
(rfslib.smb23_pconnection.Smb23PConnection		method), 5
method), 23	get_def	ault_fmask() (rfs-
(rfslib.abstract_pconnection.PConnection method), 5		lib.fs_pconnection.FsPConnection method), 27
	get_def	ault_fmask() (rfs-
27		$lib. {\it ftp\_pconnection.} Ftp PConnection  method),$
(rfslib.ftp_pconnection.FtpPConnection		15
	aa+ 4a£	1. 6 1.0
method), 15	get_der	<pre>ault_fmask() (rfs- lib.sftp_pconnection.SftpPConnection method),</pre>
	method), 23 _dmask (rfslib.abstract_pconnection.p_connection attribute), 6 _fmask (rfslib.abstract_pconnection.p_connection attribute), 6 write (rfslib.abstract_pconnection.p_connection attribute), 6 (rfslib.abstract_pconnection.PConnection method), 4 slib.fs_pconnection.FsPConnection method), 26 fslib.fstp_pconnection.FtpPConnection method), 15 (rfslib.sftp_pconnection.SftpPConnection method), 11 (rfslib.smb12_pconnection.Smb12PConnection method), 19 (rfslib.smb23_pconnection.Smb23PConnection method), 23  (rfslib.fs_pconnection.FtpPConnection method), 15 (rfslib.sftp_pconnection.SftpPConnection method), 15 (rfslib.smb12_pconnection.SftpPConnection method), 15 (rfslib.smb12_pconnection.Smb12PConnection method), 19 (rfslib.smb23_pconnection.Smb23PConnection method), 23  (rfslib.fs_pconnection.FsPConnection method), 23  (rfslib.fs_pconnection.FtpPConnection method), 15 (rfslib.sftp_pconnection.FtpPConnection method), 23  (rfslib.sftp_pconnection.FtpPConnection method), 11 (rfslib.smb12_pconnection.Smb12PConnection method), 11 (rfslib.smb12_pconnection.Smb12PConnection method), 11 (rfslib.smb12_pconnection.Smb12PConnection method), 11 (rfslib.smb12_pconnection.Smb12PConnection method), 19 (rfslib.smb23_pconnection.Smb23PConnection method), 5 srfslib.fs_pconnection.FsPConnection.PConnection method), 5 srfslib.fs_pconnection.FsPConnection.FtpPConnection	dmask (rfslib.abstract_pconnection.p_connection fixedings attribute), 6 fmask (rfslib.abstract_pconnection.p_connection fixedings attribute), 6

get_default_fmask() (rfs-	listdir	**
lib.smb12_pconnection.Smb12PConnection method), 19	lictdin	method), 11 () (rfslib.smb12_pconnection.Smb12PConnection
get_default_fmask() (rfs-	IIStuII	method), 19
lib.smb23_pconnection.Smb23PConnection	lictdir	() (rfslib.smb23_pconnection.Smb23PConnection
method), 23	IIStuII	method), 23
get_settings() (rfslib.abstract_pconnection.PConnection	onlocal c	
method), 5	//IOCa1_C	attribute), 6
	local e	ncoding(rfslib.abstract_pconnection.p_connection_settings
method), 27	10041_0	attribute), 6
<pre>get_settings() (rfslib.ftp_pconnection.FtpPConnection</pre>	1s() ( <i>rfs</i>	
method), 15		5
<pre>get_settings() (rfslib.sftp_pconnection.SftpPConnectio</pre>		lib.fs_pconnection.FsPConnection method), 27 Slib.ftp_pconnection.FtpPConnection method),
<pre>get_settings() (rfslib.smb12_pconnection.Smb12PCon</pre>		15
method), 19		lib.sftp_pconnection.SftpPConnection method),
<pre>get_settings() (rfslib.smb23_pconnection.Smb23PConnection</pre>		11
method), 23	ls()	(rfslib.smb12_pconnection.Smb12PConnection method), 19
	ls()	(rfslib.smb23_pconnection.Smb23PConnection
is_remote() (in module rfslib.path_utils), 29	•	method), 23
isdir() (rfslib.abstract_pconnection.PConnection	lstat()	(rfslib.abstract_pconnection.PConnection
method), 5		method), 5
isdir() (rfslib.fs_pconnection.FsPConnection method),	lstat()	(rfslib.fs_pconnection.FsPConnection method),
27		27
isdir() (rfslib.ftp_pconnection.FtpPConnection	lstat()	(rfslib.ftp_pconnection.FtpPConnection method), 15
method), 15	lstat()	(rfslib.sftp_pconnection.SftpPConnection
isdir() (rfslib.sftp_pconnection.SftpPConnection method), 11		method), 11
<pre>isdir() (rfslib.smb12_pconnection.Smb12PConnection</pre>	Istat()	(rfslib.smb12_pconnection.Smb12PConnection method), 19
<pre>isdir() (rfslib.smb23_pconnection.Smb23PConnection</pre>	lstat()	(rfslib.smb23_pconnection.Smb23PConnection
method), 23		method), 23
L	М	
lexists() (rfslib.abstract_pconnection.PConnection	mkdir()	(rfslib.abstract_pconnection.PConnection
method), 5		method), 5
lexists() (rfslib.fs_pconnection.FsPConnection method), 27	mkdir()	(rfslib.fs_pconnection.FsPConnection method), 27
lexists() (rfslib.ftp_pconnection.FtpPConnection	mkdir()	(rfslib.ftp_pconnection.FtpPConnection
method), 15		method), 16
lexists() (rfslib.sftp_pconnection.SftpPConnection	mkdir()	(rfslib.sftp_pconnection.SftpPConnection
method), 11		method), 11
lexists() (rfslib.smb12_pconnection.Smb12PConnection	mkdir()	
method), 19		method), 19
lexists() (rfslib.smb23_pconnection.Smb23PConnection	mkdir()	(rfslib.smb23_pconnection.Smb23PConnection
method), 23	•	method), 23
listdir() (rfslib.abstract_pconnection.PConnection	module	
method), 5	rfs	lib.abstract_pconnection,3
listdir() (rfslib.fs_pconnection.FsPConnection	rfs	lib.fs_pconnection,25
method), 27		lib.ftp_pconnection, 13
listdir() (rfslib.ftp_pconnection.FtpPConnection		lib.path_utils,29
method), 15		lib.sftp_pconnection,9
•	rfs	lib.smb12 pconnection.17

	clib.smb23_pconnection, 21 slib.abstract_pconnection.PConnection method), 5	push()	(rfslib.smb23_pconnection.Smb23PConnection method), 24			
mv() (rfs	slib.fs_pconnection.FsPConnection method), 27	R				
	fslib.ftp_pconnection.FtpPConnection method),  16		<pre>crlf(rfslib.abstract_pconnection.p_connection_settings   attribute), 6</pre>			
mv() (rf.	slib.sftp_pconnection.SftpPConnection method),	remote_	encoding (rfs-			
	11		lib.abstract_pconnection.p_connection_settings			
mv()	(rfslib.smb12_pconnection.Smb12PConnection		attribute), 6			
····()	method), 19		r_prefix() (in module rfslib.path_utils), 29			
mv()	(rfslib.smb23_pconnection.Smb23PConnection method), 23	rename(	- · · · · · · · · · · · · · · · · · · ·			
	memou), 23	nonamo (	method), 5			
Р		rename(	) (rfslib.fs_pconnection.FsPConnection method), 27			
n conne	ection_settings (class in rfs-	rename(				
р_соппе	lib.abstract_pconnection), 6	1 ename (	method), 16			
n stat	result (class in rfslib.abstract_pconnection), 6	rename(				
	ormalize() (in module rfslib.path_utils), 29	_ 01101110 (	method), 12			
	ction (class in rfslib.abstract_pconnection), 3	rename(	(rfslib.smb12_pconnection.Smb12PConnection			
pmkdir(			method), 20			
	method), 5	rename(	) (rfslib.smb23_pconnection.Smb23PConnection			
pmkdir(	(rfslib.fs_pconnection.FsPConnection		method), 24			
	method), 27		rfslib.abstract_pconnection			
pmkdir(			ule, 3			
	method), 16	rfslib.fs_pconnection				
pmkdir(			ule, 25			
1 11 /	method), 11		ftp_pconnection			
pmkair(	(rfslib.smb12_pconnection.Smb12PConnection		ule, 13			
nmled i n (	method), 19		path_utils			
pilikuti (	() (rfslib.smb23_pconnection.Smb23PConnection method), 23		ule,29 sftp_pconnection			
pull()	(rfslib.abstract_pconnection.PConnection		ule, 9			
pull()	method), 5		smb12_pconnection			
pull()	(rfslib.fs_pconnection.FsPConnection method),		ule, 17			
F()	27		smb23_pconnection			
pull()	(rfslib.ftp_pconnection.FtpPConnection		ule, 21			
	method), 16	rm() (rfs	lib.abstract_pconnection.PConnection method),			
pull()	(rfslib.sftp_pconnection.SftpPConnection		5			
	method), 12		lib.fs_pconnection.FsPConnection method), 27			
pull()	(rfslib.smb12_pconnection.Smb12PConnection	rm() (r)	fslib.ftp_pconnection.FtpPConnection method),			
	method), 20		16			
pull()	(rfslib.smb23_pconnection.Smb23PConnection	rm() (rf	slib.sftp_pconnection.SftpPConnection method),			
1.0	method), 24	0	12			
push()	(rfslib.abstract_pconnection.PConnection	rm()	(rfslib.smb12_pconnection.Smb12PConnection			
nuch()	method), 5 (rfslib.fs_pconnection.FsPConnection method),	77m ( )	method), 20 (utalih amb23 permunatian Sunb33 PC anneation			
push()	(rjshb.js_pconnection.FsFConnection method), 27	rm()	(rfslib.smb23_pconnection.Smb23PConnection method), 24			
push()	(rfslib.ftp_pconnection.FtpPConnection	rmdir()	(rfslib.abstract_pconnection.PConnection			
P4311()	method), 16	-maii ()	method), 5			
push()	(rfslib.sftp_pconnection.SftpPConnection	rmdir()	(rfslib.fs_pconnection.FsPConnection method),			
	method), 12	<b>-</b> ()	27			
push()	(rfslib.smb12_pconnection.Smb12PConnection method), 20	rmdir()	(rfslib.ftp_pconnection.FtpPConnection method), 16			

rmdir()	(rfslib.sftp_pconnection.SftpPConnection method), 12	st_gid	(rfslib.abstract_pconnection.p_stat_result attribute), 7
rmdir()	(rfslib.smb12_pconnection.Smb12PConnection method), 20	st_mode	(rfslib.abstract_pconnection.p_stat_result attribute), 7
rmdir()	(rfslib.smb23_pconnection.Smb23PConnection method), 24	st_mtim	e (rfslib.abstract_pconnection.p_stat_result attribute), 7
rpull()	(rfslib.abstract_pconnection.PConnection method), 5	st_nlin	k (rfslib.abstract_pconnection.p_stat_result at- tribute), 7
rpull()	(rfslib.fs_pconnection.FsPConnection method), 27	st_size	(rfslib.abstract_pconnection.p_stat_result attribute), 7
rpull()	(rfslib.ftp_pconnection.FtpPConnection method), 16	st_uid	(rfslib.abstract_pconnection.p_stat_result attribute), 7
rpull()	(rfslib.sftp_pconnection.SftpPConnection method), 12	stat()	(rfslib.abstract_pconnection.PConnection method), 6
rpull()	(rfslib.smb12_pconnection.Smb12PConnection method), 20	stat()	(rfslib.fs_pconnection.FsPConnection method), 28
rpull()	(rfslib.smb23_pconnection.Smb23PConnection method), 24	stat()	(rfslib.ftp_pconnection.FtpPConnection method), 16
rpush()	$(\textit{rfslib.abstract\_pconnection.PConnection} \\ \textit{method}), 6$	stat()	(rfslib.sftp_pconnection.SftpPConnection method), 12
rpush()	(rfslib.fs_pconnection.FsPConnection method), 27	stat()	(rfslib.smb12_pconnection.Smb12PConnection method), 20
rpush()	(rfslib.ftp_pconnection.FtpPConnection method), 16	stat()	(rfslib.smb23_pconnection.Smb23PConnection method), 24
rpush()	(rfslib.sftp_pconnection.SftpPConnection method), 12	Т	
rpush()	(rfslib.smb12_pconnection.Smb12PConnection method), 20	text_tr	ansmission (rfs-
rpush()	(rfslib.smb23_pconnection.Smb23PConnection method), 24	+l- ()	lib.abstract_pconnection.p_connection_settings attribute), 6
S	memou), 24	touch()	method), 6
_	tings () (of like above to a second in DC and the		(rfslib.fs_pconnection.FsPConnection method),
	tings() (rfslib.abstract_pconnection.PConnection method), 6	n touch()	
set_set	tings() (rfslib.fs_pconnection.FsPConnection method), 27	touch()	method), 16 (rfslib.sftp_pconnection.SftpPConnection
set_set	tings() (rfslib.ftp_pconnection.FtpPConnection method), 16		method), 12 (rfslib.smb12_pconnection.Smb12PConnection
set_set	tings() (rfslib.sftp_pconnection.SftpPConnection method), 12	n	method), 20 (rfslib.smb23_pconnection.Smb23PConnection
set_set	tings() (rfslib.smb12_pconnection.Smb12PConnecthod), 20		method), 24
set_set	tings() (rfslib.smb23_pconnection.Smb23PConnecthod), 24		) (aftitulation of a property of the property
SftpPCo	nnection (class in rfslib.sftp_pconnection), 9	unlink(	) (rfslib.abstract_pconnection.PConnection method), 6
	lidation (rfs-lib.abstract_pconnection.p_connection_settings	unlink(	
Smh12DC	attribute), 6 onnection (class in rfslib.smb12_pconnection),	unlink(	) (rfslib.ftp_pconnection.FtpPConnection
	17	unlink(	
Smb23PC	onnection (class in rfslib.smb23_pconnection), 21	unlink(	method), 12 ) (rfslib.smb12_pconnection.Smb12PConnection
st_atim	e (rfslib.abstract_pconnection.p_stat_result at- tribute), 7	`	method), 20

unlink() (rfslib.smb23\_pconnection.Smb23PConnection method), 24

## Χ

- xls() (rfslib.abstract\_pconnection.PConnection method), 6
- xls() (rfslib.fs\_pconnection.FsPConnection method), 28
- xls() (rfslib.ftp\_pconnection.FtpPConnection method),
- xls() (rfslib.sftp\_pconnection.SftpPConnection method), 12
- xls() (rfslib.smb12\_pconnection.Smb12PConnection method), 20