



Object REXX for Linux

REXX FTP Library Functions (Rxftp)

Version 1.2

Note!

Before using this information and the product it supports, be sure to read the general information under "Appendix. Notices" on page 21.

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This edition applies to Version 1.2 of IBM® Object REXX for Linux, and to all subsequent releases and modifications until otherwise indicated in new editions or technical newsletters.

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Contents

Chapter 1. What Is RxFtp?	1	FtpRename()	11
Chapter 2. Installation and Removal.	3	FtpGet()	12
Chapter 3. Return Values	5	FtpPut()	12
Set Error Codes	5	FtpPutUnique()	13
FTP Error Codes	5	FtpLs()	14
Chapter 4. Functions	7	FtpDir()	15
FtpLoadFuncs()	7	FtpChDir()	16
FtpDropFuncs()	8	FtpMkDir()	16
FtpVersion()	8	FtpRmdir()	16
FtpSetUser()	8	FtpPwd()	17
FtpSetActiveMode()	9	FtpQuote()	17
FtpSetBinary()	9	FtpSite()	17
FtpLogoff()	10	FtpSys()	18
FtpAppend()	10	FtpProxy()	18
FtpDelete()	11	FtpPing()	19
		Appendix. Notices	21
		Trademarks and Service Marks	23

Chapter 1. What Is RxFtp?

RxFtp is a REXX File Transfer Protocol (FTP) application program interface (API) package that provides access to FTP commands from your REXX program. The RxFtp function names are similar to the FTP commands.

It is assumed that you are familiar with the basic FTP. For information on the FTP commands, refer to the TCP/IP or FTP documentation provided with your operating system.

The RxFtp package requires the TCP/IP support to be active on your system.

2 Object REXX FTP Library Functions

Chapter 2. Installation and Removal

The RxFtp package is contained in the file **librxftp.so**. This library must be placed in a directory listed in your LIBPATH. To get access to the functions in the RxFtp package, execute the following REXX code:

```
rc = RxFuncAdd("FTPLoadFuncs","rxftp","FTPLoadFuncs")  
rc = FtpLoadFuncs()
```

To unload the library, call the FtpDropFuncs() function.

4 Object REXX FTP Library Functions

Chapter 3. Return Values

Return values can either be set errors or FTP errors.

Set Error Codes

The `FtpSetUser()`, `FtpSetActiveMode()`, and `FtpSetBinary()` functions return a set error code. It can have one of the following values:

- 1 if the string passed is valid
- 0 if the string passed is not valid

FTP Error Codes

All `RxFtp` functions, except `FtpSetUser()`, `FtpSetActiveMode()`, and `FtpSetBinary()`, return an FTP error code. It can have one of the following values:

- 0 if the call was successful
- 1 if an error occurred during an FTP function

If the function returns a -1, the variable `FTPERRNO` is set to one of the following values, or any other numeric value:

FTPSERVICE

Unknown service

FTPHOST

Unknown host

FTPSOCKET

Unable to obtain socket

FTPCONNECT

Unable to connect to the server

FTPLOGIN

Login failed

FTPABORT

Transfer stopped

FTPLOCALFILE

Cannot open the local file

FTPDATACONN

Cannot initialize data connection

FTPCOMMAND

Command failed

FTPPROXYTHIRD

The proxy server does not support third-party transfers

FTPNOPRIMARY

No primary connection for the proxy transfer

Chapter 4. Functions

Most RxFtp functions are similar to their corresponding FTP commands:

- FtpLoadFuncs()
- FtpDropFuncs()
- FtpVersion()
- FtpSetUser()
- FtpSetActiveMode()
- FtpSetBinary()
- FtpLogoff()
- FtpAppend()
- FtpDelete()
- FtpRename()
- FtpGet()
- FtpPut()
- FtpPutUnique()
- FtpLs()
- FtpDir()
- FtpChDir()
- FtpMkDir()
- FtpRmdir()
- FtpPwd()
- FtpQuote()
- FtpSite()
- FtpSys()
- FtpProxy()
- FtpPing()

FtpLoadFuncs()

The FtpLoadFuncs() call loads all functions in the RxFtp package.

Syntax:

```
rc = FtpLoadFuncs()
```

All parameters that you supply are only used to bypass copyright information.

The return value is an FTP error code.

FtpDropFuncs()

The FtpDropFuncs() call drops all functions in the RxFtp package.

Syntax:

```
rc = FtpDropFuncs()
```

The return value is an FTP error code.

FtpVersion()

The FtpVersion() call identifies the version of the RxFtp package, which is currently 2.0.

Syntax:

```
rc = FtpVersion(version)
```

where:

version

is the version of the RxFtp program that you are running.

The return value can be ignored because the version is returned in the parameter that you pass.

FtpSetUser()

The FtpSetUser() call sets the host name, user ID, password, and, optionally, the user's account for the remote host. These parameters are kept during the entire FTP session.

To prevent unauthorized access to the remote host, you can blank out the password in your REXX program when you have finished or use the FtpLogoff() function. You can also create a REXX prompt for password specification using the SysGetKey function.

Syntax:

```
rc = FtpSetUser(host,userid,password<,account>)
```

where:

host

is the name of the remote host to which you want to connect.

userid

identifies you to the FTP server.

password

supplies a password to the remote host.

account

supplies host-dependent accounting information.

The return value is a set error code.

FtpSetActiveMode()

The `FtpSetActiveMode()` call sets the default transfer mode for the FTP protocol. Default is the passive transfer mode because it is supported through firewalls. The passive mode falls back into active mode when the server does not accept a passive-mode connection.

It can happen that an FTP server does not support passive mode making transfers impossible. In this case, you can explicitly select the active transfer mode for the current session. The active mode is used until you reset this mode with another `FtpSetActiveMode()` call. Note that in active mode you cannot transfer files through a firewall.

Syntax:

```
rc = FtpSetActiveMode("1"|"0")
```

where:

"1"

sets the file transfer mode to active mode only.

"0"

sets the file transfer mode to passive with fallback to active mode.

The return value is a set error code.

FtpSetBinary()

The `FtpSetBinary()` call sets the default text translation mode to binary or ASCII for functions that can use these modes. You can override the set mode by any function that takes `"Binary"|"Ascii"` as an optional parameter.

The `FtpSetBinary()` call can be passed as an abbreviation. For "Binary", you can also specify "b" or "BIN". For "Ascii", you can specify "as".

Syntax:

```
rc = FtpSetBinary("Binary"|"Ascii")
```

where:

"Binary"

sets the file transfer mode to binary or image.

"Ascii"

sets the file transfer mode to ASCII (flat text).

The return value is a set error code.

FtpLogoff()

The `FtpLogoff()` call ends all FTP sessions with the remote host. The host, user ID, password, and account are reset after this call.

The remote host is specified with the `FtpSetUser()` call.

Syntax:

```
rc = FtpLogoff()
```

The return value is an FTP error code.

FtpAppend()

The `FtpAppend()` call copies a local file to the remote host and adds it to the end of a file on the remote host. Optionally, you can specify the transfer to occur in binary mode or ASCII mode.

The remote host is specified with the `FtpSetUser()` call.

If you do not specify the transfer mode with this call, the mode specified with the `FtpSetBinary()` call is used.

Syntax:

```
rc = FtpAppend(localFile,remoteFile<,"Binary"|"Ascii">)
```

where:

localFile

is the name of the local file to be copied.

remoteFile

is the name of the file on the remote host to which the local file is added.

"Binary"

sets the file transfer mode to binary or image.

"Ascii"

sets the file transfer type to ASCII (flat text).

The return value is an FTP error code.

FtpDelete()

The `FtpDelete()` call deletes a single file on a remote host. The remote host is specified with the `FtpSetUser()` call.

Syntax:

```
c = FtpDelete(remoteFile)
```

where:

remoteFile

is the name of the file to be deleted on the remote host.

The return value is an FTP error code.

FtpRename()

The `FtpRename()` call changes the name of a file on the remote host. The remote host is specified with the `FtpSetUser()` call.

Syntax:

```
rc = FtpRename(oldFile,newFile)
```

where:

oldFile

is the original name of the file on the remote host.

newFile

is the new name of the file on the remote host.

The return value is an FTP error code.

FtpGet()

The FtpGet() call copies a single file from the remote host to the local workstation. The copy and the file to be copied need not have the same name. Optionally, you can specify the transfer to occur in binary or text (ASCII) mode.

The remote host is specified with the FtpSetUser() call.

If you do not specify the transfer mode with this call, the mode specified with the FtpSetBinary() call is used.

Syntax:

```
rc = FtpGet(localFile,remoteFile<,"Binary"|"Ascii">)
```

where:

localFile

is the name of the copy on the local host.

remoteFile

is the name of the file to be copied from the remote host.

"Binary"

sets the file transfer mode to binary or image.

"Ascii"

sets the file transfer type to ASCII (flat text).

The return value is an FTP error code.

FtpPut()

The FtpPut() call copies a single file from the local workstation to a remote host. The copy and the file to be copied need not have the same name. Optionally, you can specify the transfer to occur in binary or text (ASCII) mode.

The remote host is specified with the FtpSetUser() call.

If you do not specify the transfer mode with this call, the mode specified with the FtpSetBinary() call is used.

Syntax:

```
rc = FtpPut(localFile,remoteFile<,"Binary"|"Ascii">)
```

where:

localFile

is the name of the file to be copied from the local workstation.

remoteFile

is the name of the copy on the remote host.

"Binary"

sets the file transfer mode to binary or image.

"Ascii"

sets the file transfer type to ASCII (flat text).

The return value is an FTP error code.

FtpPutUnique()

The FtpPutUnique() call copies a single file from the local workstation to a remote host. If the name of the file is not unique on the remote host, the file is assigned a unique name.

The copy and the file to be copied must not have the same name. Optionally, you can specify the transfer to occur in binary mode or text (ASCII) mode.

The remote host is specified with the FtpSetUser() call.

If you do not specify the transfer mode with this call, the mode specified with the FtpSetBinary() call is used.

Syntax:

```
rc = FtpPutUnique(localFile,remoteFile<,"Binary"|"Ascii">)
```

where:

localFile

is the name of the file to be copied from the local workstation.

remoteFile

is the name of the copy on the remote host.

"Binary"

sets the file transfer mode to binary or image.

"Ascii"

sets the file transfer type to ASCII (flat text).

The return value is an FTP error code.

FtpLs()

The FtpLs() call gets the directory information about the current directory of the remote host. The directory information is in short format and placed in the stemmed variables.

The remote host is specified with the FtpSetUser() call.

The FtpLs() call is similar to the FtpDir() call, which gets the directory information in the long format.

Syntax:

```
rc = FtpLs(pattern,stem)
```

where:

pattern

is the name or pattern of the files to be listed on the remote host. Patterns are any combination of ASCII characters. The following characters have special meanings:

- * stands for any character or group of characters.
- ? stands for any single character.

stem

specifies the variable stem. The stem string must end with a period (.).

When the function completes, the variable stem.0 is set to the number of stem variables returned. The directory information is set in all following variable stems. Because the period is not appended automatically, you must include it in the stem.

Example:

```
rc=FtpLs("ftpx*.c","files.")
```

located three files in the current directory of the remote host. The stemmed variables are:

Variable	Value
files.0	3
files.1	ftpxdir.c
files.2	ftpxren.c
files.3	ftpxdel.c

The return value is an FTP error code.

FtpDir()

The `FtpDir()` call gets the directory information about the current directory of the remote host. The directory information is in long format and placed in the stemmed variables.

The remote host is specified with the `FtpSetUser()` call.

The `FtpDir()` call is similar to the `FtpLs()` call, which gets the directory information in the short format.

Syntax:

```
rc = FtpDir(pattern,stem)
```

where:

pattern

is the name or pattern of the files to be listed on the remote host. Patterns are any combination of ASCII characters. The following characters have special meanings:

- * stands for any character or group of characters.
- ? stands for any single character.

stem

specifies the variable stem. The stem string must end with a period (.).

When the function completes, the variable `stem.0` is set to the number of stem variables returned. The directory information is set in all following variable stems. Because the period is not appended automatically, you must include it in the stem.

Example:

```
rc=FtpDir("ftpx*.c","files.")
```

located three files in the current directory of the remote host. The stemmed variables are:

Variable	Value
files.0	3
files.1	-r-xr-xr-x 1 bin bin 1215187 Apr 11 1996 ftpxdir.c
files.2	-r-xr-xr-x 1 bin bin 39275 Mar 08 1996 ftpxren.c
files.3	-r-xr-xr-x 1 bin bin 312461 Apr 11 1996 ftpxdel.c

The return value is an FTP error code.

FtpChDir()

The FtpChDir() call changes the working directory on the remote host. The remote host is specified with the FtpSetUser() call.

Syntax:

```
rc = FtpChDir(directory)
```

where:

directory

is the new directory name on the remote host.

The return value is an FTP error code.

FtpMkDir()

The FtpMkDir() call creates a new directory on the remote host. The remote host is specified with the FtpSetUser() call.

Syntax:

```
rc = FtpMkDir(directory)
```

where:

directory

specifies the name of the directory to be created on the remote host.

The return value is an FTP error code.

FtpRmdir()

The FtpRmdir() call removes a directory from the remote host. The remote host is specified with the FtpSetUser() call.

Syntax:

```
rc = FtpRmdir(directory)
```

where:

directory

specifies the name of the directory to be removed from the remote host.

The return value is an FTP error code.

FtpPwd()

The `FtpPwd()` call (print working directory) gets the name of the current working directory of the remote host and places it in the variable *dirName*. The remote host is specified with the `FtpSetUser()` call.

Syntax:

```
rc = FtpPwd(dirName)
```

where:

dirName

returns the name of the current working directory of the remote host.

The return value is an FTP error code.

FtpQuote()

The `FtpQuote()` call sends a string to the remote host. Your server must support the information contained in this string.

The remote host is specified with the `FtpSetUser()` call.

Syntax:

```
rc = FtpQuote(quote)
```

where:

quote

is the string to be sent to the remote server.

The return value is an FTP error code.

FtpSite()

The `FtpSite()` call sends FTP information to the remote host. Your server must support this information.

The remote host is specified with the `FtpSetUser()` call.

Syntax:

```
rc = FtpSite(site)
```

where:

site

is the string to be sent to the remote host.

The return value is an FTP error code.

FtpSys()

The FtpSys() call returns the FTP server description of the operating system running on the remote host.

The remote host is specified with the FtpSetUser() call.

Syntax:

```
rc = FtpSys(operSys)
```

where:

operSys

is the FTP server description of the operating system running on the remote host.

The return value is an FTP error code.

FtpProxy()

The FtpProxy() call copies a file from one remote host to another. You can use different file names on each host. Optionally, you can specify the transfer to occur in binary or ASCII mode.

Syntax:

```
rc = FtpProxy(host1,userid1,password1,account1,  
             host2,userid2,password2,account2,  
             file1,file2<,"Binary"|"Ascii">)
```

where:

host1

identifies the remote host where the copy is to reside.

userid1

identifies the user to the remote host where the copy is to reside.

password1

supplies the password to the remote host where the copy is to reside.

account1
supplies host-dependent accounting information to the remote host where the copy is to reside. Use "NULL" if there is no account information.

host2
identifies the remote host containing the file to be copied.

userid2
identifies the user to the remote host containing the file to be copied.

password2
supplies the password to the remote host containing the file to be copied.

account2
supplies host-dependent accounting information to the remote host containing the file to be copied. Use "NULL" if there is no accounting information.

file1
identifies the name of the copy.

file2
identifies the name of the file to be copied.

"Binary"
sets the file transfer mode to binary or image.

"Ascii"
sets the file transfer type to ASCII (flat text).

Return values:

0 if the call was successful
-1 if an error occurred during the call

FtpPing()

The `FtpPing()` call sends a ping to the remote host to resolve the host name through a name server. If there is no name server, the `FtpPing()` call searches the hosts file in the `etc` directory for a matching host name.

Only the root user can perform this call.

Syntax:

```
rc = FtpPing(host, length)
```

where:

host
identifies the name of the remote host.

length

identifies the length of the ping packets.

Return values:

If no error occurs, the `FtpPing()` call returns the number of milliseconds required for the echo to return. If an error occurs, one of the following values is returned:

-1 A general FTP function call error occurred. Refer to the FTP error codes on how to obtain further error information.

PINGHOST

Unknown host specified.

PINGPROTO

ICMP protocol not handled by TCP/IP stack.

PINGRECV

No echo received.

PINGREPLY

The host does not reply.

PINGSEND

No data sent.

PINGSOCKET

Unable to create socket.

Note: Depending on the resolution of the system timer used to determine the return time a result of 0 milliseconds might be returned. This indicates that the echo was returned in less than the smallest measurable time.

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