Object REXX for Windows NT and Windows 95

REXX FTP Library Functions (RxFtp)

Version 1.0.3

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 Modification level 3 of IBM® Object REXX for Windows NT and Windows 95 Interpreter Edition (5639–B73) and Development Edition (5639–B72), and to all subsequent releases and modifications until otherwise indicated in new editions or technical newsletters.

Contents

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.

Chapter 2. Installation and Removal

The RxFtp package is contained in the file **rxftp.dll**. This dynamic link library (DLL) must be placed in a directory listed in your PATH. 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 DLL, call the FtpDropFuncs() function and then exit all CMD.EXE shells. After exiting all command shells, the DLL is dropped by Windows and can be deleted or replaced.

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 2.1.

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       ftpxdir.c
  files.2       ftpxren.c
  files.3       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<, replyName>)
```

where:

quote
: is the string to be sent to the remote server.

| *replyName*
| : is the variable to which the full reply of the FTP server to the quoted
| command is copied.

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 an administrator 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.

Appendix. Notices

Trademarks and Service Marks