# MBS CURL Plugin Documentation

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## 0.1 Introduction

This is the PDF version of the documentation for the Xojo Plug-in from Monkeybread Software Germany.
Plugin part: MBS CURL Plugin

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# Chapter 4

# Claris FileMaker Data API

## 4.1 class FMAdminMBS

### 4.1.1 class FMAdminMBS

Plugin Version: 20.4, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The class for FileMaker Server Admin API.
**Example:**

```
Var d As New FMAdminMBS

d.Password = "admin"
d.Username = "admin"
d.Server = "localhost"

Var r As FMResponseMBS = d.Login

If r = Nil Then
MessageBox "Failed?"
else
MessageBox r.ErrorMessage
End If
```

**Notes:** Our plugin does re-login if the session expired as well as login if needed.

For use with Claris Server or FileMaker Server.
Subclass of the FMConnectionMBS class.
**Blog Entries**

- MBS Xojo Plugins, version 22.6pr1

- News from the MBS Xojo Plugins Version 20.4
- Connect to Claris FileMaker Server from Xojo via Data API
- MonkeyBread Software Releases the MBS Xojo Plugins in version 20.4
- MBS Xojo Plugins, version 20.4pr7

### 4.1.2 Methods

### 4.1.3 Constructor

Plugin Version: 20.4, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The constructor.

### 4.1.4 CreateBackupSchedule(schedule as Dictionary) as FMResponseMBS

Plugin Version: 20.4, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Create a Backup schedule.
**Notes:** Please pass Backup Schedule as dictionary:

| | | |
|---|---|---|
| name | string [ 1 .. 31 ] characters ^(?!\s*$ ).+ | Schedule name. This parameter cannot be an empty string or a string of whitespace characters. |
| backupType | dictionary | Parameters for the backup schedule. |
| sendEmail | Array of strings | Email addresses to send notifications to. An empty array disables sending email. Note: SMTP configuration is required for sending email. |
| enabled | boolean | To enable a schedule to run, or to find out whether the schedule is enabled to run. If you create a schedule without specifying this parameter, the default value 'false' is used. |
| onceType | dictionary | If used with POST or PATCH, allows you to create or edit a schedule to run on the specified date and time. |
| weeklyType | dictionary | If used with POST or PATCH, allows you to create or edit a schedule to run weekly on one or more days. |
| everyndaysType | dictionary | If used with POST or PATCH, allows you to create or edit a schedule that has a specific interval in days, such as every 2, 3, or 4 days. |

### 4.1.5 CreateFileMakerScriptSchedule(schedule as Dictionary) as FMResponseMBS

Plugin Version: 20.4, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Create a FileMaker Script schedule.
**Notes:** The parameter for creating a FileMaker Script Schedule as dictionary:

| | | |
|---|---|---|
| name | string [ 1 .. 31 ] characters ^(?!\s*$ ).+ | Schedule name. This parameter cannot be an empty string or a string of whitespace characters. |
| filemakerScriptType | dictionary | Parameters for the FileMaker script schedule. |
| sendEmail | Array of strings | Email addresses to send notifications to. An empty array disables sending email. Note: SMTP configuration is required for sending email. |
| enabled | boolean | To enable a schedule to run, or to find out whether the schedule is enabled to run. If you create a schedule without specifying this parameter, the default value 'false' is used. |
| onceType | dictionary | If used with POST or PATCH, allows you to create or edit a schedule to run on the specified date and time. |
| weeklyType | dictionary | If used with POST or PATCH, allows you to create or edit a schedule to run weekly on one or more days. |
| everyndaysType | dictionary | If used with POST or PATCH, allows you to create or edit a schedule that has a specific interval in days, such as every 2, 3, or 4 days. |

### 4.1.6 CreateMessageSchedule(schedule as Dictionary) as FMResponseMBS

Plugin Version: 20.4, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Create a message schedule.
**Notes:** Create Message Schedule Parameters as dictionary:

| | | |
|---|---|---|
| name | string [ 1 .. 31 ] characters ^(?!\s*$ ).+ | Schedule name. This parameter cannot be an empty string or a string of whitespace characters. |
| messageType | dictionary | Parameters for the message schedule. |
| sendEmail | Array of strings | Email addresses to send notifications to. An empty array disables sending email. Note: SMTP configuration is required for sending email. |
| enabled | boolean | To enable a schedule to run, or to find out whether the schedule is enabled to run. If you create a schedule without specifying this parameter, the default value 'false' is used. |
| onceType | dictionary | If used with POST or PATCH, allows you to create or edit a schedule to run on the specified date and time. |
| weeklyType | dictionary | If used with POST or PATCH, allows you to create or edit a schedule to run weekly on one or more days. |
| everyndaysType | dictionary | If used with POST or PATCH, allows you to create or edit a schedule that has a specific interval in days, such as every 2, 3, or 4 days. |

### 4.1.7 CreateScriptSequenceSchedule(schedule as Dictionary) as FMResponseMBS

Plugin Version: 20.4, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Create a Script Sequence schedule.
**Notes:** Pass Script Sequence Schedule Parameter as dictionary:

### 4.1.8 CreateSystemScriptSchedule(schedule as Dictionary) as FMResponseMBS

Plugin Version: 20.4, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Create a System Script schedule.
**Notes:** Pass System Script Schedule Parameters as dictionary:

| | | |
|---|---|---|
| name | string [ 1 .. 31 ] characters ^(?!\s*$ ).+ | Schedule name. This parameter cannot be an empty string or a string of whitespace characters. |
| scriptSequenceType | dictionary | Parameters for the script sequence schedule. |
| sendEmail | Array of strings | Email addresses to send notifications to. An empty array disables sending email. Note: SMTP configuration is required for sending email. |
| enabled | boolean | To enable a schedule to run, or to find out whether the schedule is enabled to run. If you create a schedule without specifying this parameter, the default value 'false' is used. |
| onceType | dictionary | If used with POST or PATCH, allows you to create or edit a schedule to run on the specified date and time. |
| weeklyType | dictionary | If used with POST or PATCH, allows you to create or edit a schedule to run weekly on one or more days. |
| everyndaysType | dictionary | If used with POST or PATCH, allows you to create or edit a schedule that has a specific interval in days, such as every 2, 3, or 4 days. |

| | | |
|---|---|---|
| name | string [ 1 .. 31 ] characters ^(?!\s*$ ).+ | Schedule name. This parameter cannot be an empty string or a string of whitespace characters. |
| systemScriptType | dictionary | Parameters for the system script schedule. |
| sendEmail | Array of strings | Email addresses to send notifications to. An empty array disables sending email. Note: SMTP configuration is required for sending email. |
| enabled | boolean | To enable a schedule to run, or to find out whether the schedule is enabled to run. If you create a schedule without specifying this parameter, the default value 'false' is used. |
| onceType | dictionary | If used with POST or PATCH, allows you to create or edit a schedule to run on the specified date and time. |
| weeklyType | dictionary | If used with POST or PATCH, allows you to create or edit a schedule to run weekly on one or more days. |
| everyndaysType | dictionary | If used with POST or PATCH, allows you to create or edit a schedule that has a specific interval in days, such as every 2, 3, or 4 days. |

### 4.1.9 CreateVerifySchedule(schedule as Dictionary) as FMResponseMBS

Plugin Version: 20.4, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Create a Verify schedule.
**Notes:** Pass Verify Schedule Parameters as dictionary:

| | | |
|---|---|---|
| name | string [ 1 .. 31 ] characters ^(?!\s*$ ).+ | Schedule name. This parameter cannot be an empty string or a string of whitespace characters. |
| verifyType | dictionary | Parameters for the verify schedule. |
| sendEmail | Array of strings | Email addresses to send notifications to. An empty array disables sending email. Note: SMTP configuration is required for sending email. |
| enabled | boolean | To enable a schedule to run, or to find out whether the schedule is enabled to run. If you create a schedule without specifying this parameter, the default value 'false' is used. |
| onceType | dictionary | If used with POST or PATCH, allows you to create or edit a schedule to run on the specified date and time. |
| weeklyType | dictionary | If used with POST or PATCH, allows you to create or edit a schedule to run weekly on one or more days. |
| everyndaysType | dictionary | If used with POST or PATCH, allows you to create or edit a schedule that has a specific interval in days, such as every 2, 3, or 4 days. |

### 4.1.10 DeleteSchedule(scheduleID as Integer) as FMResponseMBS

Plugin Version: 20.4, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Delete a schedule specified by the schedule ID.
**Notes:** scheduleID: ID of the schedule, a value ,â• 2. Schedule ID 1 is reserved by FileMaker Server.

### 4.1.11 DisconnectClient(ClientID as Integer, messageText as String = "", graceTime as Integer = -1) as FMResponseMBS

Plugin Version: 20.4, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Disconnect a FileMaker client.
**Notes:**

| | | |
|---|---|---|
| ClientID | integer >= 1 | ID of the client to disconnect. |
| messageText | string [ 0 .. 200 ] characters | The text message to send to the client that is being disconnected. |
| graceTime | integer [ 0 .. 3600 ] | The number of seconds to wait before disconnecting the client. Default: 90 |

### 4.1.12 DuplicateSchedule(scheduleID as Integer) as FMResponseMBS

Plugin Version: 20.4, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Duplicate a schedule specified by the schedule ID.
**Notes:** ScheduleID: The schedule ID for the schedule to duplicate, a value ,â• 2. Schedule ID 1 is reserved by FileMaker Server.

### 4.1.13 EditSchedule(scheduleID as Integer, schedule as Dictionary) as FMResponseMBS

Plugin Version: 20.4, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Edit or run a schedule specified by scheduleID.
**Notes:** Each parameter is optional, but at least one parameter is required.

To run a schedule, set the 'status' parameter to 'RUNNING'.
Use this call to run a schedule. Use the GetSchedule API call to verify the results.
You can not change schedule type in edit schedule api.

Parameters for dictionary:

| | | |
|---|---|---|
| name | string [ 1 .. 31 ] characters ^(?!\s*$ ).+ | Schedule name. This parameter cannot be an empty string or a string of whitespace characters. |
| status | string | Value: "RUNNING". Whether to run the schedule. |
| onceType | dictionary | If used with POST or PATCH, allows you to create or edit a schedule to run on the specified date and time. |
| weeklyType | dictionary | If used with POST or PATCH, allows you to create or edit a schedule to run weekly on one or more days. |
| everyndaysType | dictionary | If used with POST or PATCH, allows you to create or edit a schedule that has a specific interval in days, such as every 2, 3, or 4 days. |
| sendEmail | Array of strings | Email addresses to send notifications to. An empty array disables sending email. Note: SMTP configuration is required for sending email. |
| enabled | boolean | To enable a schedule to run, or to find out whether the schedule is enabled to run. If you create a schedule without specifying this parameter, the default value 'false' is used. |
| backupType | dictionary | Parameters for the backup schedule. |
| filemakerScriptType | dictionary | Parameters for the FileMaker script schedule. |
| messageType | dictionary | Parameters for the message schedule. |
| scriptSequenceType | dictionary | Parameters for the script sequence schedule. |
| systemScriptType | dictionary | Parameters for the system script schedule. |
| verifyType | dictionary | Parameters for the verify schedule. |

### 4.1.14 GetDataAPISettings as FMResponseMBS

Plugin Version: 20.4, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Get the FileMaker Data API settings.

### 4.1.15 GetPHPSettings as FMResponseMBS

Plugin Version: 20.4, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Get the PHP settings.

### 4.1.16 GetSchedule(scheduleID as Integer) as FMResponseMBS

Plugin Version: 20.4, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Get a schedule specified by the schedule ID.
**Notes:** scheduleID: ID of the schedule, value ,â • 2. Schedule ID 1 is reserved by FileMaker Server.

### 4.1.17 GetServerGeneralSettings as FMResponseMBS

Plugin Version: 20.4, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Get the server general settings.

### 4.1.18 GetServerSecuritySetting as FMResponseMBS

Plugin Version: 20.4, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Get the server security setting..

### 4.1.19 GetServerStatus as FMResponseMBS

Plugin Version: 20.4, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Get the Database Server status.

### 4.1.20 GetWebDirectSettings as FMResponseMBS

Plugin Version: 20.4, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Get the FileMaker WebDirect settings.

### 4.1.21 GetWPESettings as FMResponseMBS

Plugin Version: 20.4, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Get the Web Publishing Engine settings for all machines.
See also:

- 4.1.22 GetWPESettings(MachineID as Integer) as FMResponseMBS 41

### 4.1.22 GetWPESettings(MachineID as Integer) as FMResponseMBS

Plugin Version: 20.4, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Get the Web Publishing Engine settings for a single machine.
**Notes:** MachineID: ID of machine, a value ,â• 1.
See also:

- 4.1.21 GetWPESettings as FMResponseMBS 41

### 4.1.23 GetXDBCSettings as FMResponseMBS

Plugin Version: 20.4, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Get the ODBC/JDBC settings.

### 4.1.24 GetXMLSettings as FMResponseMBS

Plugin Version: 20.4, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Get the XML settings.

### 4.1.25 ListClients as FMResponseMBS

Plugin Version: 20.4, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** List the connected clients.

### 4.1.26 ListDatabases as FMResponseMBS

Plugin Version: 20.4, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** List all hosted databases.

### 4.1.27 ListSchedules as FMResponseMBS

Plugin Version: 20.4, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** List all schedules.

### 4.1.28 Login as FMResponseMBS

Plugin Version: 20.4, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Request an access token from the host using the root administrator account name and password.
**Example:**

```
Var d As New FMAdminMBS

d.Password = "admin"
d.Username = "admin"
d.Server = "localhost"

Var r As FMResponseMBS = d.Login
```

```
If r = Nil Then
MessageBox "Failed?"
else
MessageBox r.ErrorMessage
End If
```

**Notes:** Please either set UserName and Password before calling this.
If you don't call Login explicitly or the session token expired, the plugin will call it for you.

### 4.1.29 Logout as FMResponseMBS

Plugin Version: 20.4, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Invalidate the specified JSON Web Token.
**Notes:** Clears session token property.

### 4.1.30 PerformDatabaseOperations(DatabaseID as Integer, status as String, key as string = "",saveKey as boolean = false, messageText as string = "", force as boolean = false) as FMResponseMBS

Plugin Version: 20.4, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Open, close, pause, or resume the specified database.
**Notes:**

| | | |
|---|---|---|
| status | Enum: "OPENED" "PAUSED" "RESUMED" "CLOSED" | Status of the database. |
| key | string | The password required to open an encrypted database. Required and allowed only if status = OPENED. Note: FileMaker Admin API does not validate the encryption key. You receive an error code of 0 even if you enter an invalid key. |
| saveKey | boolean | Allow the host to save the encryption password. Allowed only if status = OPENED. |
| messageText | string [ 0 .. 200 ] characters | The text message to send to the client being disconnected. Required and allowed only if status = CLOSED. |
| force | boolean | Forces databases to be closed and disconnects connected clients. Overrides the graceTime option. Allowed only if status = CLOSED. |

See also:

- 4.1.31 PerformDatabaseOperations(status as String, force as boolean = false) as FMResponseMBS 43

### 4.1.31 PerformDatabaseOperations(status as String, force as boolean = false) as FMResponseMBS

Plugin Version: 20.4, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Open, close, pause, or resume all databases.
**Notes:** status: "OPENED", "PAUSED", "RESUMED", "CLOSED". Status of the database.
force: Forces databases to be closed and disconnects connected clients. Overrides the graceTime option. Allowed only if status = CLOSED.
See also:

- 4.1.30 PerformDatabaseOperations(DatabaseID as Integer, status as String, key as string = "",saveKey as boolean = false, messageText as string = "", force as boolean = false) as FMResponseMBS 43

### 4.1.32 SendMessageToClient(clientID as Integer, messageText as String) as FMResponseMBS

Plugin Version: 20.4, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Send a message to a FileMaker client.
**Notes:** You cannot send a message to a client that is connected via FileMaker Data API. You receive an error code of 0 even if the client is connected via FileMaker Data API.

messageText: The text message to send to the client. This parameter cannot be an empty string or a string of whitespace characters.

### 4.1.33 UpdateDataAPISettings(enabled as Boolean) as FMResponseMBS

Plugin Version: 20.4, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Update the FileMaker Data API settings.
**Notes:** enabled: allows you to enable or disable FileMaker Data API.

### 4.1.34 UpdatePHPSettings(settings as Dictionary) as FMResponseMBS

Plugin Version: 20.4, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Update the PHP settings. Parameters are optional, but at least one parameter is required.
**Notes:** PHP Configuration dictionary:

### 4.1.35 UpdateServerGeneralSettings(settings as Dictionary) as FMResponseMBS

Plugin Version: 20.4, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Update the server general settings. All parameters are optional, but at least one parameter is required.

| | | |
|---|---|---|
| characterEncoding | string | Enum: ”UTF-8” ”ISO-8859-1”. The default character encoding for PHP. |
| dataPreValidation | boolean | Whether the record data should be validated before committing changes to the Database Server. |
| enabled | boolean | If used with GET, specifies whether Custom Web Publishing with PHP is enabled or disabled. If used with PATCH, allows you to enable or disable Custom Web Publishing with PHP. |
| errorMessageLanguage | string | Enum: ”en” ”it” ”de” ”fr” ”ja”. The language used for error messages for PHP. |
| useFileMakerPhp | boolean | Whether to use the FileMaker version of the PHP engine rather than your own version of PHP. |

**Notes:** Provide Server General Settings via dictionary with following keys:

| | | |
|---|---|---|
| cacheSize | integer >= 64 | Cache memory (in megabytes) allocated by the server. The maximum setting is not enforced, but allocating more memory than what the system can manage will impact server performance. |
| maxFiles | integer [ 1 .. 125 ] | Maximum number of databases that can be hosted. |
| maxProConnections | integer [ 0 .. 2000 ] | Maximum number of FileMaker Pro client connections. |
| maxPSOS | integer [ 0 .. 500 ] | Maximum number of script sessions that can run on the server simultaneously. |
| openDatabasesOnStart | boolean | Automatically open databases that are in the database folders when the Database Server starts. |
| startupRestorationEnabled | boolean | Enable/Disable database auto restoration. If you change this setting, you need to restart FileMaker Server for the change to take effect. |
| startupRestorationLogPath | string ^(?!\s*$ ).+ | The folder path to save restoration logs. If you change this setting, you need to restart FileMaker Server for the change to take effect. This parameter cannot be an empty string or a string of whitespace characters. |
| useSchedules | boolean | Allow enabled schedules to run. |
| autostartDBS | boolean | Whether the Database Server should start automatically. If autostartDBS is set to false, autostartWPE is also set to false. |
| autostartWPE | boolean | Whether the Web Publishing Engine should start automatically. If autostartDBS is set to false, autostartWPE can’t be set to true. |

### 4.1.36 UpdateServerSecuritySetting(requireSecureDB as Boolean) as FMResponseMBS

Plugin Version: 20.4, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Update the server security setting.
**Notes:** requireSecureDB: If set to true, only databases with password-protected accounts that have the Full Access privilege set can be opened for hosting. Applies only to the default and additional folders.

### 4.1.37 UpdateServerStatus(status as String, messageText as String = ””, graceTime as Integer = -1) as FMResponseMBS

Plugin Version: 20.4, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Run or stop the Database Server.

**Notes:** status: ”RUNNING” or ”STOPPED”
Allows you to start or stop FileMaker Database Server.

messageText: Up to 200 characters. The message to send to the FileMaker client when stopping the Database Server.
graceTime: The length of seconds to delay before stopping the Database Server. Default is 90 and range is 0 to 3600.

If messageText is empty or graceTime is negative, we don’t include the value in the request.

### 4.1.38 UpdateWebDirectSettings(enabled as Boolean) as FMResponseMBS

Plugin Version: 20.4, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Update the FileMaker WebDirect settings.
**Notes:** enabled: allows you to enable or disable FileMaker WebDirect.

### 4.1.39 UpdateWPESettings(machineID as Integer, enabled as Boolean) as FMResponseMBS

Plugin Version: 20.4, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Update the Web Publishing Engine settings.
**Notes:**

| | | |
|---|---|---|
| machineID | integer >= 1 | ID of machine |
| enabled | boolean | Allows you to enable or disable Web Publishing Engine. |

### 4.1.40 UpdateXDBCSettings(enabled as Boolean) as FMResponseMBS

Plugin Version: 20.4, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Update the ODBC and JDBC settings.
**Notes:** enabled: allows you to enable or disable ODBC/JDBC.

### 4.1.41 UpdateXMLSettings(enabled as Boolean) as FMResponseMBS

Plugin Version: 20.4, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Update the XML settings.
**Notes:** enabled: allows you to enable or disable XML.

### 4.1.42 Constants

Database Operations

| Constant | Value | Description |
|---|---|---|
| kDatabaseOperationClose | ”CLOSED” | Close database. |
| kDatabaseOperationOpen | ”OPENED” | Open database. |
| kDatabaseOperationPause | ”PAUSED” | Pause database. |
| kDatabaseOperationResume | ”RESUMED” | Resume database. |

Server Status

| Constant | Value | Description |
|---|---|---|
| kServerStatusRunning | ”RUNNING” | Start server |
| kServerStatusStopped | ”STOPPED” | Stop server |

## 4.2 class FMConnectionMBS

### 4.2.1 class FMConnectionMBS

Plugin Version: 20.4, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The base class for a server connection.
**Notes:** Please see subclsses FMDataMBS for data API and FMAdminMBS for admin API.

Our plugin does re-login if the session expired as well as login if needed.
This is an abstract class. You can't create an instance, but you can get one from various plugin functions.
**Blog Entries**

- MBS Xojo Plugins, version 26.1pr1
- MBS Xojo Plugins, version 24.6pr1
- MonkeyBread Software Releases the MBS Xojo Plugins in version 21.1
- MBS Xojo Plugins, version 21.1pr7
- Connect to Claris FileMaker Server from Xojo via Data API
- MBS Xojo Plugins, version 20.4pr7

### 4.2.2 Methods

### 4.2.3 Constructor

Plugin Version: 20.4, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The private constructor.
**Notes:** Please use subclasses FMDataMBS and FMAdminMBS.
This constructor is private to make sure you don't create an object from this class by error. Please use designated functions to create objects.

### 4.2.4 Login as FMResponseMBS

Plugin Version: 20.4, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Performs login.
**Notes:** On success, updates SessionToken property.
If you don't call Login explicitly or the session token expired, the plugin will call it for you.

### 4.2.5 Logout as FMResponseMBS

Plugin Version: 20.4, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Performs logout.

### 4.2.6 SendRequest(HTTPMethod as String, Query as String, Body as String = "") as FMResponseMBS

Plugin Version: 20.4, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The method to sends a request to the server.
**Notes:** This is to help with future API calls not yet supported or in case you like to do one yourself instead of using our existing methods.
If body contains something, we pass it with the request.

### 4.2.7 Properties

### 4.2.8 CAPath as String

Plugin Version: 20.4, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The path for the cacert.pem file with the valid root certificates.
**Notes:** If set, we can verify SSL certificates.
(Read and Write property)

### 4.2.9 Headers as Dictionary

Plugin Version: 20.4, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Additional headers to include with each request.
**Example:**

```
Var d As New FMAdminMBS
// optional headers
d.Headers.Value("User-Agent") = "FileMaker Admin API Test 1.0"
```

**Notes:** (Read and Write property)

### 4.2.10 IncludeDataInDebugMessages as Boolean

Plugin Version: 21.1, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Enable debug logs to contain the data sent/received.
**Notes:** A setting for all connections.
(Read and Write property)

### 4.2.11 Password as String

Plugin Version: 20.4, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The password to use for basic authorization.
**Notes:** (Read and Write property)

### 4.2.12 Server as String

Plugin Version: 20.4, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The server to use.
**Notes:** Set to IP or domain name.
We prepend https:// when doing the request.
(Read and Write property)

### 4.2.13 SessionToken as String

Plugin Version: 20.4, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The session token for the current session.
**Notes:** Automatically set when doing login.
(Read and Write property)

### 4.2.14 Username as String

Plugin Version: 20.4, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The user name to use for basic authorization.
**Notes:** (Read and Write property)

### 4.2.15 Version as String

Plugin Version: 20.4, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** FileMaker Data API version requested.
**Notes:** currently v1, v2 or vLatest are allowed.
vLatest is default.
(Read and Write property)

## 4.3 class FMContainerUploadMBS

### 4.3.1 class FMContainerUploadMBS

Plugin Version: 20.4, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The class for a container upload.
**Example:**

```
// upload a picture into a container field of a FileMaker record
// d is a logged in FMDataMBS with the Layout set, see FMDataMBS
Var d As FMDataMBS // your connection
If d = Nil Then Return

Var upload As New FMContainerUploadMBS
upload.RecordId = "12"
upload.ContainerFieldName = "Photo"
upload.FileName = "logo.png"
upload.MimeType = "image/png"
upload.SetPicture LogoMBS(200)

Var r As FMResponseMBS = d.UploadToContainerField(upload)
MessageBox r.ErrorMessage
```

**Blog Entries**

- Connect to Claris FileMaker Server from Xojo via Data API
- MBS Xojo Plugins, version 20.4pr7

### 4.3.2 Methods

### 4.3.3 Constructor

Plugin Version: 20.4, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The constructor.

### 4.3.4 SetPicture(Pic as Picture)

Plugin Version: 20.4, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Sets data with picture.
**Notes:** Convenience function to upload pictures.

We create PNG representation of the picture, set mime type and dataMemory property.

### 4.3.5 Properties

### 4.3.6 ContainerFieldName as String

Plugin Version: 20.4, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Container Field Name.
**Notes:** (Read and Write property)

### 4.3.7 ContainerFieldRepetition as String

Plugin Version: 20.4, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Container Field Repetition
**Notes:** Optional.
(Read and Write property)

### 4.3.8 DataMemory as MemoryBlock

Plugin Version: 20.4, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The data to send for the container as memoryblock.
**Notes:** We provide DataMemory and DataString to avoid conversion between those.
Setting this clears DataString.
(Read and Write property)

### 4.3.9 DataString as String

Plugin Version: 20.4, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The data to send for the container as string.
**Notes:** We provide DataMemory and DataString to avoid conversion between those.
Setting this clears DataMemory.
(Read and Write property)

### 4.3.10 FileName as String

Plugin Version: 20.4, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The file name for the upload.
**Notes:** (Read and Write property)

### 4.3.11 MimeType as String

Plugin Version: 20.4, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The mime type.
**Notes:** (Read and Write property)

### 4.3.12 ModId as String

Plugin Version: 20.4, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Modification ID of record.
**Notes:** (Read and Write property)

### 4.3.13 RecordId as String

Plugin Version: 20.4, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The Record ID.
**Notes:** (Read and Write property)

# 4.4 class FMDataMBS

## 4.4.1 class FMDataMBS

Plugin Version: 20.4, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The class for a FileMaker Server Data API connection.
**Example:**

```
Var d As New FMDataMBS

d.Password = "admin"
d.Username = "admin"
d.Server = "localhost"
d.Database = "test"

Var r As FMResponseMBS = d.Login

If r = Nil Then
MessageBox "Failed?"
else
MessageBox r.ErrorMessage
End If
```

**Notes:** Our plugin does re-login if the session expired as well as login if needed.

For use with Claris Server or FileMaker Server.
Subclass of the FMConnectionMBS class.
**Blog Entries**

- Connect to FileMaker Data API from Xojo
- MBS Xojo Plugins, version 24.2pr4
- MBS Xojo Plugins, version 22.3pr2
- MBS Xojo Plugins, version 21.6pr4
- News from the MBS Xojo Plugins Version 20.4
- Connect to Claris FileMaker Server from Xojo via Data API
- MonkeyBread Software Releases the MBS Xojo Plugins in version 20.4
- MBS Xojo Plugins, version 20.4pr7

**Xojo Developer Magazine**

- 18.6, page 9: News

### 4.4.2 Methods

### 4.4.3 Constructor

Plugin Version: 20.4, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The constructor.

### 4.4.4 CreateRecord(request as FMRequestMBS) as FMResponseMBS

Plugin Version: 20.4, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Create a new record.
**Notes:** Please set layout property before calling this.

### 4.4.5 DatabaseNames as FMResponseMBS

Plugin Version: 20.4, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Retrieve a list of hosted FileMaker databases.

### 4.4.6 DeleteRecord(request as FMRequestMBS = nil, recordId as String) as FMResponseMBS

Plugin Version: 20.4, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Delete a record by recordId.
**Notes:** Please set layout property before calling this.

### 4.4.7 DuplicateRecord(request as FMRequestMBS = nil, recordId as String) as FMResponseMBS

Plugin Version: 20.4, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Duplicate a record by recordId.
**Notes:** Please set layout property before calling this.

### 4.4.8 EditRecord(request as FMRequestMBS = nil, recordId as String) as FMResponseMBS

Plugin Version: 20.4, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Edit a record by recordId.
**Notes:** Please set layout property before calling this.

### 4.4.9 ExecuteScript(scriptName as String, scriptParam as String = "") as FMResponseMBS

Plugin Version: 20.4, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Execute Script.
**Notes:** Runs the script server side synchronously.
You can pass a script parameter.

The response contains the error code and/or the result of the script.

When using FileMaker Data API to run a script, make sure that the script has a unique name. If there are multiple scripts with the same name, FileMaker Data API cannot control which script is called, even if the scripts are in different folders.

### 4.4.10 FindRecords(request as FMRequestMBS = nil, query as String) as FMResponseMBS

Plugin Version: 20.4, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Find Records in a Layout.
**Example:**

```
var connection as FMDataMBS // your connection

// which layout to use
connection.Layout = LayoutMenu.Text

// see
// https://help.claris.com/en/data-api-guide/content/perform-find-request.html

Var request As New FMRequestMBS

// just query first 100 records
request.offset = 1
request.limit = 100
```

```
// e.g. [ { "Name" : "=Test" } ]
response = connection.FindRecords(request, queryField.Text.Trim)
¬¥
```

**Notes:** Please set layout property before calling this.

Query: JSON with Fields and Find criteria in the following query schema:
[ { "<fieldName>": "<fieldValue>", "omit" : "true" ... } , ... ]

see also FileMaker's documentation:
https://help.claris.com/en/data-api-guide/content/perform-find-request.html

### 4.4.11 GetRecord(request as FMRequestMBS = nil, recordId as String) as FMResponseMBS

Plugin Version: 20.4, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Get a record by recordId.
**Notes:** Please set layout property before calling this.

### 4.4.12 GetRecords(request as FMRequestMBS = nil) as FMResponseMBS

Plugin Version: 20.4, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Get records.
**Notes:** Please set layout property before calling this.

### 4.4.13 LayoutMetadata(recordId as String) as FMResponseMBS

Plugin Version: 20.4, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Retrieves layout metadata for a FileMaker database.
**Notes:** RecordID: Record ID to retrieve related value list data

### 4.4.14 LayoutNames as FMResponseMBS

Plugin Version: 20.4, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Retrieves a list of layouts for a FileMaker database.

### 4.4.15 Login as FMResponseMBS

Plugin Version: 20.4, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Login to a FileMaker database.
**Example:**

```
Var d As New FMDataMBS

d.Password = "admin"
d.Username = "admin"
d.Server = "localhost"
d.Database = "test"

Var r As FMResponseMBS = d.Login

If r = Nil Then
MessageBox "Failed?"
else
MessageBox r.ErrorMessage
End If
```

**Notes:** Please either set UserName and Password or OAuthRequestId and OAuthIdentifier.
If you don't call Login explicitly or the session token expired, the plugin will call it for you.
See also:

- 4.4.16 Login(dataSources() as FMDataSourceMBS) as FMResponseMBS 59

### 4.4.16 Login(dataSources() as FMDataSourceMBS) as FMResponseMBS

Plugin Version: 20.4, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Login to a FileMaker database.
**Notes:** Please either set UserName and Password or OAuthRequestId and OAuthIdentifier.

dataSources: External FileMaker Data Source Authentication.

Clears session token property.
If you don't call Login explicitly or the session token expired, the plugin will call it for you.
See also:

- 4.4.15 Login as FMResponseMBS 59

### 4.4.17 Logout as FMResponseMBS

Plugin Version: 20.4, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Log out of a FileMaker database.
**Notes:** Clears session token property.

### 4.4.18 ProductInfo as FMResponseMBS

Plugin Version: 20.4, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Retrieves information about the Claris FileMaker Server or Claris FileMaker Cloud host.
**Notes:** Result property in FMResponseMBS is a dictionary with entries including buildDate, name, version, dateFormat, timeFormat and timeStampFormat.

### 4.4.19 ScriptNames as FMResponseMBS

Plugin Version: 20.4, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Retrieves a list of scripts for a FileMaker database.

### 4.4.20 SetGlobalFields(globalFields as Dictionary) as FMResponseMBS

Plugin Version: 20.4, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Set Global Fields.
**Notes:** globalFields: A dictionary that contains field-value pairs to set global fields in a target database. Field names must be Fully Qualified.

### 4.4.21 UploadToContainerField(Upload as FMContainerUploadMBS) as FMResponseMBS

Plugin Version: 20.4, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Upload a single file into a container field.
**Notes:** upload: File to upload into container field

### 4.4.22 ValidateSession as FMResponseMBS

Plugin Version: 20.4, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Validate session token.

### 4.4.23 Properties

### 4.4.24 Database as String

Plugin Version: 20.4, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The name of the current database.
**Notes:** (Read and Write property)

### 4.4.25 Layout as String

Plugin Version: 20.4, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The layout to use.
**Notes:** (Read and Write property)

### 4.4.26 OAuthIdentifier as String

Plugin Version: 20.4, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Provide the OAuth login Request ID.
**Notes:** (Read and Write property)

### 4.4.27 OAuthRequestId as String

Plugin Version: 20.4, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Provide the OAuth login Identifier.
**Notes:** (Read and Write property)

## 4.5 class FMDataSourceMBS

### 4.5.1 class FMDataSourceMBS

Plugin Version: 20.4, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** A class for external FileMaker Data Source Authentication.
**Notes:** If both "oAuthRequestId" and "oAuthIdentifier" are supplied, FileMaker Data API will perform an OAuth login.
This feature only supports databases hosted on the same FileMaker Server.
**Blog Entries**

- Connect to Claris FileMaker Server from Xojo via Data API
- MBS Xojo Plugins, version 20.4pr7

### 4.5.2 Methods

### 4.5.3 Constructor

Plugin Version: 20.4, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The constructor.

### 4.5.4 Properties

### 4.5.5 Database as String

Plugin Version: 20.4, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The name of the external database file.
**Notes:** (Read only property)

### 4.5.6 oAuthIdentifier as String

Plugin Version: 20.4, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The URL query value for "identifier" in FileMaker Server OAuth workflow.
**Notes:** If both "oAuthRequestId" and "oAuthIdentifier" are supplied, FileMaker Data API will perform an OAuth login.
(Read only property)

### 4.5.7 oAuthRequestId as String

Plugin Version: 20.4, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The X-FMS-Request-ID header value returned from '/oauth/getoauthurl' in FileMaker Server OAuth workflow.
**Notes:** If both "oAuthRequestId" and "oAuthIdentifier" are supplied, FileMaker Data API will perform an OAuth login.
(Read only property)

### 4.5.8 Password as String

Plugin Version: 20.4, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The password to login to solution.
**Notes:** (Read only property)

### 4.5.9 UserName as String

Plugin Version: 20.4, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The username to login to solution.
**Notes:** (Read only property)

## 4.6 class FMRequestMBS

### 4.6.1 class FMRequestMBS

Plugin Version: 20.4, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The class to encapsulate parameters for various FileMaker Data API queries.
**Example:**

```
// create a record in a FileMaker database with the Data API and run a script afterwards
Var d As New FMDataMBS
d.Server = "fms.example.com"
d.Database = "Contacts"
d.Username = "api"
d.Password = "secret"
d.Layout = "Contacts"
Call d.Login

Var fields As New Dictionary
fields.Value("FirstName") = "John"
fields.Value("LastName") = "Smith"

Var request As New FMRequestMBS
request.FieldData = fields
request.scriptName = "Send Welcome Mail"
request.scriptParam = "John"

Var r As FMResponseMBS = d.CreateRecord(request)
MessageBox r.ErrorCode.ToString + " " + r.ErrorMessage + EndOfLine + r.ResultJSON
Call d.Logout
```

**Notes:** Not set properties are not included in request to server.
And not all properties used for all queries.
**Blog Entries**

- Connect to FileMaker Data API from Xojo
- News from the MBS Xojo Plugins Version 20.4
- Connect to Claris FileMaker Server from Xojo via Data API
- MBS Xojo Plugins, version 20.4pr7

### 4.6.2 Methods

### 4.6.3 Constructor

Plugin Version: 20.4, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The constructor.

### 4.6.4 portal as String()

Plugin Version: 20.4, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Queries the portal result set to return.
**Notes:** Use the portal object name or portal table name. If this parameter is omitted, the API will return all portal objects and records in the layout. For best performance, pass the portal object name or portal table name.

### 4.6.5 setPortal(portal() as String)

Plugin Version: 20.4, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Sets the portal result set to return.
**Notes:** Use the portal object name or portal table name. If this parameter is omitted, the API will return all portal objects and records in the layout. For best performance, pass the portal object name or portal table name.

### 4.6.6 Properties

### 4.6.7 FieldData as Dictionary

Plugin Version: 20.4, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** A dictionary that contains field-value pairs for fields in the target layout.
**Notes:** If empty dictionary is provided as a data value, an empty record is created with any auto enter values defined in the current table,Äôs schema.
(Read and Write property)

### 4.6.8 layoutResponse as String

Plugin Version: 20.4, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The layout to switch to when processing response.
**Notes:** (Read and Write property)

### 4.6.9 limit as Integer

Plugin Version: 20.4, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The maximum number of records that should be returned. If not specified, the default value is 100.
**Notes:** Default value is -1 for the plugin to not specify it in the request.
(Read and Write property)

### 4.6.10 ModId as String

Plugin Version: 20.4, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The last modification ID.
**Notes:** When you use modId, a record is edited only when the modId matches.
Only for editing records.
(Read and Write property)

### 4.6.11 offset as Integer

Plugin Version: 20.4, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The record number of the first record in the range of records.
**Notes:** Default value is -1 for the plugin to not specify it in the request.
(Read and Write property)

### 4.6.12 PortalData as String

Plugin Version: 20.4, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** A JSON object that contains portal row values in the target layout.
**Notes:** The format mirrors the portalData format from Get Records.
(Read and Write property)

### 4.6.13 scriptName as String

Plugin Version: 20.4, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The name of the FileMaker script to be run after the action specified by the API call and after the subsequent sort.
**Notes:** Pass parameter via scriptParam property.

(Read and Write property)

### 4.6.14 scriptParam as String

Plugin Version: 20.4, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** A parameter for the FileMaker script named by scriptName.
**Notes:** (Read and Write property)

### 4.6.15 scriptPrerequestName as String

Plugin Version: 20.4, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The name of the FileMaker script to be run before the action specified by the API call and the subsequent sort.
**Notes:** Pass parameter via scriptPrerequestParam property.
(Read and Write property)

### 4.6.16 scriptPrerequestParam as String

Plugin Version: 20.4, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** A parameter for the FileMaker script named by script.prerequest.
**Notes:** (Read and Write property)

### 4.6.17 scriptPresortName as String

Plugin Version: 20.4, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The name of the FileMaker script to be run after the action specified by the API call but before the subsequent sort.
**Notes:** Pass parameter via scriptPresortParam property.
(Read and Write property)

### 4.6.18 scriptPresortParam as String

Plugin Version: 20.4, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** A parameter for the FileMaker script named by scriptPresortName.
**Notes:** (Read and Write property)

### 4.6.19 sort as String

Plugin Version: 20.4, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Field name and sort order of the result set.
**Notes:** The order in which the criteria are specified determines the precedence. Records are returned in the original creation order if a sort order is not provided. The default sort order is "ascend".
A JSON value, e.g.:
[ { "fieldName": "LastName", "sortOrder": "ascend" } , { "fieldName": "FirstName", "sortOrder": "ascend" } ]
(Read and Write property)

# 4.7 class FMResponseMBS

## 4.7.1 class FMResponseMBS

Plugin Version: 20.4, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The class for a response from FileMaker Server.
**Example:**

```
// log in to FileMaker Data API and list the layouts of a database
Var fm As New FMDataMBS
fm.Server = "https://fms.example.com"
fm.Database = "Contacts"
fm.Username = "admin"
fm.Password = "secret"

Var r As FMResponseMBS = fm.Login
If r.ErrorCode <>0 Then
MessageBox "Login failed: " + r.ErrorMessage + " " + r.CURLErrorMessage
Return
End If
r = fm.LayoutNames
System.DebugLog "HTTP " + r.ResponseCode.ToString + ": " + r.ResultJSON
Call fm.Logout
```

**Notes:** We provide error status properties, the body sent and result returned.
This is an abstract class. You can't create an instance, but you can get one from various plugin functions.
**Blog Entries**

- Connect to FileMaker Data API from Xojo
- News from the MBS Xojo Plugins Version 20.4
- Connect to Claris FileMaker Server from Xojo via Data API
- MBS Xojo Plugins, version 20.4pr7

## 4.7.2 Methods

## 4.7.3 Constructor

Plugin Version: 20.4, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The private constructor.

### 4.7.4 Properties

### 4.7.5 BodySent as String

Plugin Version: 20.4, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The body we sent for inspection.
**Notes:** (Read only property)

### 4.7.6 CURLErrorCode as Integer

Plugin Version: 20.4, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The error code from CURL.
**Notes:** Value is zero for success.
(Read only property)

### 4.7.7 CURLErrorMessage as String

Plugin Version: 20.4, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The error message from CURL.
**Notes:** (Read only property)

### 4.7.8 DebugMessages as String

Plugin Version: 20.4, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The CURL debug messages.
**Notes:** (Read only property)

### 4.7.9 EffectiveURL as String

Plugin Version: 20.4, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The effective URL used.
**Notes:** (Read only property)

### 4.7.10 ErrorCode as Integer

Plugin Version: 20.4, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The error code from FileMaker server.
**Notes:** Value is zero for no error.
Value is -1 if higher level things went wrong like the CURL transfer.
(Read only property)

### 4.7.11 ErrorMessage as String

Plugin Version: 20.4, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The error message.
**Notes:** May be CURL error message if the transfer failed.
(Read only property)

### 4.7.12 RawResultJSON as String

Plugin Version: 20.4, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The RAW result from server.
**Notes:** Includes the wrapper and error message entries.
Inner response entry is used to fill ResultJSON and Result properties.
(Read only property)

### 4.7.13 ResponseCode as Integer

Plugin Version: 20.4, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The response code from the HTTP request.
**Notes:** Usually 200 for success. Or 401 for authorization error.
(Read only property)

### 4.7.14 Result as Variant

Plugin Version: 20.4, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The parsed result.
**Notes:** Provided as variant with arrays, dictionary, numbers and strings as needed.
Arrays are arrays of variant and may contain values.

(Read only property)

### 4.7.15 ResultJSON as String

Plugin Version: 20.4, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The JSON from the result.
**Notes:** Extracted response from RawResultJSON.
Available parsed as Xojo data via result property.
(Read only property)

# Chapter 5

# CURL

## 5.1 class CURLEmailMBS

### 5.1.1 class CURLEmailMBS

Plugin Version: 14.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Our plugin class to help building and sending emails.
**Example:**

```
Var e as new CURLEmailMBS

e.SetFrom "test@test.test", "christian M√ºller"
e.Subject = "Hello World ,òÔè"
e.SMTPPassword = "xxx"
e.SMTPUsername = "xxx"
e.SetServer "smtp.test.test", true
e.AddTo "test@test.test", "Test M√ºller"
e.PlainText = "Hello World," + EndOfLine + "Smilies: ,òÔè üòò üòÑ"

Var c as new CURLSMBS

if c.SetupEmail(e) then

Var er as Integer = c.Perform
if er = 0 then
MessageBox "Email sent"
end if
end if
```

**Notes:** Please make sure you set from, to, subject, plaintext to have a minimum email always.

If your email misses required fields, the email server may silently discard it.
**Blog Entries**

- MBS Xojo Plugins, version 26.5pr3
- MonkeyBread Software Releases the MBS Xojo Plugins in version 25.1
- MonkeyBread Software Releases the MBS Xojo Plugins in version 24.1
- News from the MBS Xojo Plugins Version 24.0
- MonkeyBread Software Releases the MBS Xojo Plugins in version 24.0
- SMTP Server Settings
- Differences between CURLMBS and CURLSMBS classes
- MBS Releases the MBS Xojo / Real Studio plug-ins in version 16.1
- [ ANN ] MonkeyBread Software Releases the MBS Xojo / Real Studio plug-ins in version 14.4
- [ ANN ] MonkeyBread Software Releases the MBS Xojo / Real Studio plug-ins in version 14.3

**Xojo Developer Magazine**

- 23.4, page 11: News
- 22.3, page 10: News
- 22.2, page 9: News
- 20.1, page 63: Send Your Emails, How to use the MBS Xojo plugins to send emails by Stefanie Juchmes

### 5.1.2 Methods

### 5.1.3 AddAttachment(data as MemoryBlock, name as string, type as string = "", InlineID as string = "", ContentTypeMethod as String = "")

Plugin Version: 14.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Adds an attachment to the email.
**Notes:** name: The name for the attachment.
type: Optional, the mime type to use. e.g. "application/pdf" for PDF files. If missing, we use "application/octet-stream".
data: The data to include.

For best results use attachment sizes below 50 MB.
The plugin will encode your data as Base64. If you want to attach a picture, you can use PictureToPNGStringMBS (mime type "image/png") or PictureToJPEGStringMBS (mime type "image/jpeg") to encode a picture.

Version 15.0 of MBS Plugin can encode file name for preserving non AScII characters. Still for compatibility it is recommended to use simply AScII names.

If InlineID is set, we include the attachment for inlining. Please pass content ID (cID).
Empty text or no parameter gives regular attachment.
You can use AddAttachment several times to add several attachments.

The optional ContentTypeMethod parameter allows to specify the method value for the content-type header.
Currently only for sending calendar invitiations.
See also:


- 5.1.4 AddAttachment(data as string, name as string, type as string = "", InlineID as string = "", ContentTypeMethod as String = "") 75
- 5.1.5 AddAttachment(file as FolderItem, name as string = "", type as string = "", InlineID as string = "", ContentTypeMethod as String = "") 76


### 5.1.4 AddAttachment(data as string, name as string, type as string = "", InlineID as string = "", ContentTypeMethod as String = "")

Plugin Version: 14.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Adds an attachment to the email.
**Notes:** name: The name for the attachment.
type: Optional, the mime type to use. e.g. "application/pdf" for PDF files. If missing, we use "application/octet-stream".
data: The data to include.

For best results use attachment sizes below 50 MB.
The plugin will encode your data as Base64. If you want to attach a picture, you can use PictureToPNGStringMBS (mime type "image/png") or PictureToJPEGStringMBS (mime type "image/jpeg") to encode a picture.

Version 15.0 of MBS Plugin can encode file name for preserving non AScII characters. Still for compatibility it is recommended to use simply AScII names.

If InlineID is set, we include the attachment for inlining. Please pass content ID (cID).
Empty text or no parameter gives regular attachment.
You can use AddAttachment several times to add several attachments.

The optional ContentTypeMethod parameter allows to specify the method value for the content-type header.
Currently only for sending calendar invitiations.
See also:

- 5.1.3 AddAttachment(data as MemoryBlock, name as string, type as string = "", InlineID as string = "", ContentTypeMethod as String = "") 74
- 5.1.5 AddAttachment(file as FolderItem, name as string = "", type as string = "", InlineID as string = "", ContentTypeMethod as String = "") 76


### 5.1.5 AddAttachment(file as FolderItem, name as string = "", type as string = "", InlineID as string = "", ContentTypeMethod as String = "")

Plugin Version: 16.1, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Adds an attachment to the email.
**Notes:** name: The name for the attachment. If empty, version 16.2 uses file name from folderitem.
type: Optional, the mime type to use. e.g. "application/pdf" for PDF files. If missing, we use "application/octet-stream".
file: The file to use. This file is read and content used for attachment.

For best results use attachment sizes below 50 MB.
The plugin will encode your data as Base64. If you want to attach a picture, you can use PictureToPNGStringMBS (mime type "image/png") or PictureToJPEGStringMBS (mime type "image/jpeg") to encode a picture.

Version 15.0 of MBS Plugin can encode file name for preserving non AScII characters. Still for compatibility it is recommended to use simply AScII names.

If InlineID is set, we include the attachment for inlining. Please pass content ID (cID).
Empty text or no parameter gives regular attachment.
You can use AddAttachment several times to add several attachments.

The optional ContentTypeMethod parameter allows to specify the method value for the content-type header. Currently only for sending calendar invitiations.
See also:


- 5.1.3 AddAttachment(data as MemoryBlock, name as string, type as string = "", InlineID as string = "", ContentTypeMethod as String = "") 74
- 5.1.4 AddAttachment(data as string, name as string, type as string = "", InlineID as string = "", ContentTypeMethod as String = "") 75


### 5.1.6 AddBcc(email as string, name as string)

Plugin Version: 14.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Adds a blind copy recipient.
**Example:**

```
Var e as new CURLEmailMBS

e.AddBcc "test@monkeybreadsoftware.test", "Test M√ºller"

Var Bccs() as string = e.Bccs
MessageBox Bccs(0)
```

**Notes:** Please pass email and optionally name of recipient.
If this name contains special characters, it will be automatically encoded with UTF-8.

### 5.1.7 Addcc(email as string, name as string)

Plugin Version: 14.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Adds a copy recipient.
**Example:**

```
Var e as new CURLEmailMBS

e.Addcc "test@monkeybreadsoftware.test", "Test M√ºller"

Var ccs() as string = e.ccs
MessageBox ccs(0)
```

**Notes:** Please pass email and optionally name of recipient.
If this name contains special characters, it will be automatically encoded with UTF-8.

### 5.1.8 AddHeader(header as string)

Plugin Version: 14.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Adds a header entry.
**Example:**

```
Var e as new CURLEmailMBS

e.AddHeader "X-company: My company, Inc."

Var Headers() as string = e.Headers
MessageBox Headers(0)
```

**Notes:** This header is passed as is and not preprocessed.
You can use this function to pass custom headers for "X-Universally-Unique-Identifier:", "Date:", "X-Mailer:", "Message-Id:" and "Mime-Version:".

If you pass header without text following ":", the header is not included.

### 5.1.9 AddReplyTo(email as string, name as string)

Plugin Version: 14.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Adds a recipient for a reply.
**Example:**

```
Var e as new CURLEmailMBS

e.AddReplyTo "test@monkeybreadsoftware.test", "Test M√ºller"

Var ReplyTos() as string = e.ReplyTOs
MessageBox ReplyTos(0)
```

**Notes:** Please pass email and optionally name of recipient.
If this name contains special characters, it will be automatically encoded with UTF-8.

### 5.1.10 AddTo(email as string, name as string)

Plugin Version: 14.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Adds a recipient.
**Example:**

```
Var e as new CURLEmailMBS

e.AddTo "test@monkeybreadsoftware.test", "Test M√ºller"

Var TOs() as string = e.TOs
MessageBox TOs(0)
```

**Notes:** Please pass email and optionally name of recipient.
If this name contains special characters, it will be automatically encoded with UTF-8.

### 5.1.11 Bccs as String()

Plugin Version: 14.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Queries list of Bcc recipients.
**Example:**

```
Var e as new CURLEmailMBS

e.AddBcc "test@monkeybreadsoftware.test", "Test M√∂ller"

Var Bccs() as string = e.Bccs
MessageBox Bccs(0)
```

**Notes:** Entries may be encoded if necessary.

### 5.1.12 ccs as String()

Plugin Version: 14.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Queries list of cc recipients.
**Example:**

```
Var e as new CURLEmailMBS

e.Addcc "test@monkeybreadsoftware.test", "Test M√∂ller"

Var ccs() as string = e.ccs
MessageBox ccs(0)
```

**Notes:** Entries may be encoded if necessary.

### 5.1.13 clearAttachments

Plugin Version: 14.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Clears all attachments from this email.
**Notes:** Useful in case you want to send same email with different attachments to another recipient.

### 5.1.14 ClearHeaders

Plugin Version: 16.1, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Clears all headers from this email.
**Notes:** Useful in case you want to send same email with different headers to another recipient.

### 5.1.15 clearRecipients

Plugin Version: 14.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** clears all recipients.
**Notes:** Removes all TO, cc, Bcc and ReplyTO entries.
Useful in case you want to send same email to another recipient.

### 5.1.16 constructor(Encoding as string = "UTF-8")

Plugin Version: 14.4, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The constructor.
**Notes:** Normally, ignore parameter and use UTF-8.
But alternative you can pass: UTF-8, AScII, MacRoman, Latin1 or Windows.

### 5.1.17 EmailSource as string

Plugin Version: 14.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Queries the source code for the email.
**Notes:** This is more for debugging, than for real use.
You can write this into a EML file.

### 5.1.18 Headers as String()

Plugin Version: 14.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Queries list of extra header entries.
**Example:**

```
Var e as new CURLEmailMBS

e.AddHeader "X-company: My company, Inc."

Var Headers() as string = e.Headers
MessageBox Headers(0)
```

### 5.1.19 ReplyTOs as String()

Plugin Version: 14.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Queries list of ReplyTo recipients.
**Example:**

```
Var e as new CURLEmailMBS

e.AddReplyTo "test@monkeybreadsoftware.test", "Test M√ºller"

Var ReplyTos() as string = e.ReplyTOs
MessageBox ReplyTos(0)
```

**Notes:** Entries may be encoded if necessary.

### 5.1.20 SetFrom(email as string, name as string)

Plugin Version: 14.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Sets the email from address.
**Example:**

```
Var e as new CURLEmailMBS

e.SetFrom "test@test.test", "christian M√ºller"
```

**Notes:** Please pass email and name of the recipient. If this name contains special characters, it will be automatically encoded with UTF-8.

### 5.1.21 SetServer(server as string, UseSSL as boolean = false)

Plugin Version: 14.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Sets the server to use.
**Example:**

```
Var e as new CURLEmailMBS

e.SMTPPassword = "rGc3_mdyjR%k"
e.SMTPUsername = "sammler@monkeybreadsoftware.de"
e.SetServer "smtprelaypool.ispgateway.de", true
```

**Notes:** Sets which SMTP server to use.
There are a few combinations possible.
First you can use SetServer with SSL and pass true for UseURL parameter.

Or you pass false for no SSL. Still you can use CURL's OptionFTPSSL set to 3 to allow TLS for an upgrade of the unencrypted connection to SSL later.

Some servers don't support unencrypted, SSL or TLS, so only one may work.

And ports can be difficult, too. You can use CURL OptionPort to set a port explicit or include it in the server with double colon on the end. common ports are 25, 587 or 465.

Port 465 usually Requires UseSSL=true, but other ports need UseSSL=false.
Sets UseSSL property.

### 5.1.22 TOs as String()

Plugin Version: 14.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Queries list of TO recipients.
**Example:**

```
Var e as new CURLEmailMBS

e.AddTo "test@monkeybreadsoftware.test", "Test M√ºller"

Var TOs() as string = e.TOs
MessageBox TOs(0)
```

**Notes:** Entries may be encoded if necessary.

### 5.1.23 Properties

### 5.1.24 Attachmentcount as Integer

Plugin Version: 14.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Returns number of attachments.
**Notes:** (Read only property)

### 5.1.25 BoundaryName as String

Plugin Version: 17.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Optional name to use in boundaries for MIME parts.

**Notes:** by default MBS Plugin.
(Read and Write property)

### 5.1.26 EncodingName as String

Plugin Version: 24.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The encoding used.
**Notes:** The property is there for you to inspect in debugger.
Set only via Constructor.
(Read only property)

### 5.1.27 FromEmail as String

Plugin Version: 24.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The from address with name.
**Example:**

```
Var e As New CURLEmailMBS

e.SetFrom "test@yahoo.com", "Christian M√ºller"

// shows name encoded due to √º character
MessageBox e.FromEmail
```

**Notes:** The property is there for you to inspect in debugger.
(Read only property)

### 5.1.28 HeaderList as String

Plugin Version: 24.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The list of header entries.
**Notes:** The property is there for you to inspect in debugger.
(Read only property)

### 5.1.29 HTMLText as String

Plugin Version: 14.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The HTML text of the email.
**Example:**

```
Var e As New CURLEmailMBS

e.HTMLText = "<html><body><p>Hello World</p></body></html>"
```

**Notes:** This text is encoded as quoted printable UTF-8 text.
(Read and Write property)

### 5.1.30 InReplyTo as String

Plugin Version: 14.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The in reply to message ID.
**Notes:** Here you can define the message ID of the email you reply to.
(Read and Write property)

### 5.1.31 MessageID as String

Plugin Version: 14.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Sets a custom message ID.
**Notes:** The plugin normally creates one by default when setting from address.
(Read and Write property)

### 5.1.32 PlainText as String

Plugin Version: 14.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The plain text of the email.
**Example:**

```
Var e as new CURLEmailMBS
e.PlainText = "Hello World," + EndOfLine + "Smilies: ,òÔè üòò üòÑ"
```

**Notes:** This text is encoded as quoted printable UTF-8 text.
(Read and Write property)

### 5.1.33 RecipientsBCC as String

Plugin Version: 24.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Queries list of Bcc recipients.
**Notes:** The property is there for you to inspect in debugger.
(Read only property)

### 5.1.34 RecipientsCC as String

Plugin Version: 24.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Queries list of CC recipients.
**Notes:** The property is there for you to inspect in debugger.
(Read only property)

### 5.1.35 RecipientsReplyTo as String

Plugin Version: 24.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Queries list of reply to entries.
**Notes:** The property is there for you to inspect in debugger.
(Read only property)

### 5.1.36 RecipientsTO as String

Plugin Version: 24.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Queries list of TO recipients.
**Notes:** The property is there for you to inspect in debugger.
(Read only property)

### 5.1.37 RichText as String

Plugin Version: 14.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The enriched text of the email.
**Example:**

Var e As New CURLEmailMBS

e.RichText = "<bold>Hello, <italic>world!</italic></bold>"

**Notes:** This text is encoded as quoted printable UTF-8 text.
This is not to be confused with RTF file format. Enriched text is described here:
http://en.wikipedia.org/wiki/Enriched_text
Please note that most email clients do not support this nowadays.
(Read and Write property)

### 5.1.38 Server as String

Plugin Version: 14.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The effective server URL used.
**Example:**

```
Var e As New CURLEmailMBS

e.SetServer "smtp.mail.yahoo.com", True

MessageBox e.Server // shows smtp.mail.yahoo.com
```

**Notes:** Only for debugging.
(Read only property)

### 5.1.39 SMTPPassword as String

Plugin Version: 14.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The password for SMTP server authentication.
**Example:**

```
Var e as new CURLEmailMBS

e.SMTPPassword = "rGc3_mdyjR%k"
e.SMTPUsername = "sammler@monkeybreadsoftware.de"
e.SetServer "smtprelaypool.ispgateway.de", true
```

**Notes:** (Read and Write property)

### 5.1.40 SMTPServer as String

Plugin Version: 14.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The domain name of the SMTP Server to use.
**Example:**

```
Var e as new CURLEmailMBS

e.SMTPPassword = "rGc3_mdyjR%k"
e.SMTPUsername = "sammler@monkeybreadsoftware.de"
e.SMTPServer = "smtprelaypool.ispgateway.de"
e.UseSSL = true
```

**Notes:** (Read and Write property)

### 5.1.41 SMTPUsername as String

Plugin Version: 14.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The username for SMTP server authentication.
**Example:**

```
Var e as new CURLEmailMBS

e.SMTPPassword = "rGc3_mdyjR%k"
e.SMTPUsername = "sammler@monkeybreadsoftware.de"
e.SetServer "smtprelaypool.ispgateway.de", true
```

**Notes:** (Read and Write property)

### 5.1.42 Subject as String

Plugin Version: 14.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The subject line.
**Example:**

```
Var e as new CURLEmailMBS

e.Subject = "Hello World ,òÔè"
```

**Notes:** If subject lines contains special characters, it is automatically encoded as UTF-8.
(Read and Write property)

### 5.1.43 Use8BitMime as Boolean

Plugin Version: 25.1, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Whether 8bit encoding is used.
**Example:**

```
Var e as new CURLEmailMBS

e.Use8BitMime = true
e.Subject = "Hello World ,òÔè"
```

**Notes:** (Read and Write property)

### 5.1.44 UseSSL as Boolean

Plugin Version: 14.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Whether to use SSL or not.
**Example:**

```
Var e as new CURLEmailMBS

e.SMTPPassword = "rGc3_mdyjR%k"
e.SMTPUsername = "sammler@monkeybreadsoftware.de"
e.SMTPServer = "smtprelaypool.ispgateway.de"
e.UseSSL = true
```

**Notes:** When using SSL right, please also check cAInfo, cAPath, OptionSSLVerifyHost and OptionSSLVerifyPeer properties on the CURLSMBS class.

Pass false for TLS and later configure CURL for TLS.
Port 465 usually Requires UseSSL=true, but other ports need UseSSL=false.
(Read and Write property)

## 5.2 class CURLFileInfoMBS

### 5.2.1 class CURLFileInfoMBS

Plugin Version: 15.2, Platforms: macOS, Linux, Windows, iOS, Targets: All.

**Deprecated:** This item is deprecated and should no longer be used. You can use CURLSFileInfoMBS instead. **Function:** The class for file information.
**Notes:** Subclass of the CURLSFileInfoMBS class.

## 5.3 class CURLListMBS

### 5.3.1 class CURLListMBS

Plugin Version: 9.8, Platforms: macOS, Linux, Windows, iOS, Targets: All.

**Deprecated:** This item is deprecated and should no longer be used. You can use CURLSListMBS instead.
**Function:** A class to hold a list of strings from the CURL library.
**Notes:** Subclass of the CURLSListMBS class.

# 5.4 class CURLMBS

## 5.4.1 class CURLMBS

Plugin Version: 9.8, Platforms: macOS, Linux, Windows, iOS, Targets: All.

**Deprecated:** This item is deprecated and should no longer be used. You can use CURLSMBS instead.
**Function:** A class to wrap libCURL.
**Notes:** Subclass of the CURLSMBS class.
**Blog Entries**

- News from the MBS Xojo Plugins Version 25.3
- News from the MBS Xojo Plugins Version 25.2
- News from the MBS Xojo Plugins Version 24.2
- News from the MBS Xojo Plugins Version 22.3
- News from the MBS Xojo Plugins Version 21.1
- News from the MBS Xojo Plugins Version 20.3
- URLs without UserName and Password please
- Adding CURLN* classes to MBS Xojo Plugins
- Differences between CURLMBS and CURLSMBS classes
- About CURLSMBS plugin class

**Xojo Developer Magazine**

- 5.3, page 50: Poetry in Motion, Movin', movin', movin', get those icons movin'... by Toby Rush

## 5.5 class CURLMimePartMBS

### 5.5.1 class CURLMimePartMBS

Plugin Version: 18.2, Platforms: macOS, Linux, Windows, iOS, Targets: All.

**Deprecated:** This item is deprecated and should no longer be used. You can use CURLSMimePartMBS instead. **Function:** The class for mime parts.
**Notes:** Subclass of the CURLSMimePartMBS class.
This is a subclass of an abstract class. You can't create an instance, but you can get one from various plugin functions.

# 5.6 class CURLMultiMBS

## 5.6.1 class CURLMultiMBS

Plugin Version: 15.0, Platforms: macOS, Linux, Windows, iOS, Targets: All.

**Deprecated:** This item is deprecated and should no longer be used. You can use CURLSMultiMBS instead.
**Function:** The class for multiple CURL transfers running in parallel.
**Notes:** Subclass of the CURLSMultiMBS class.
**Blog Entries**

- News from the MBS Xojo Plugins Version 24.4
- News from the MBS Xojo Plugins Version 23.2

## 5.7 class CURLNFileInfoMBS

### 5.7.1 class CURLNFileInfoMBS

Plugin Version: 15.2, Platforms: macOS, Linux, Windows, iOS, Targets: All.

**Deprecated:** This item is deprecated and should no longer be used. You can use CURLSFileInfoMBS instead. **Function:** The class for file information.
**Notes:** Subclass of the CURLSFileInfoMBS class.

# 5.8 class CURLNListMBS

## 5.8.1 class CURLNListMBS

Plugin Version: 9.8, Platforms: macOS, Linux, Windows, iOS, Targets: All.

**Deprecated:** This item is deprecated and should no longer be used. You can use CURLSListMBS instead.
**Function:** A class to hold a list of strings from the CURL library.
**Notes:** Subclass of the CURLSListMBS class.

## 5.9 class CURLNMBS

### 5.9.1 class CURLNMBS

Plugin Version: 9.8, Platforms: macOS, Linux, Windows, iOS, Targets: All.

**Deprecated:** This item is deprecated and should no longer be used. You can use CURLSMBS instead.
**Function:** A class to wrap libCURL.
**Notes:** We used to have a CURL with native SSL backend for macOS or windows.
Please move to CURLSMBS class, which can switch to using windows SSL backend instead fo openssl.
Subclass of the CURLSMBS class.
**Blog Entries**

- News from the MBS Xojo Plugins Version 25.2
- News from the MBS Xojo Plugins Version 24.4
- News from the MBS Xojo Plugins Version 24.2
- News from the MBS Xojo Plugins Version 23.4
- News from the MBS Xojo Plugins in Version 23.0
- News from the MBS Xojo Plugins Version 22.3
- News from the MBS Xojo Plugins Version 21.3
- News from the MBS Xojo Plugins Version 20.5
- News from the MBS Xojo Plugins Version 20.4
- Adding CURLN* classes to MBS Xojo Plugins

**Videos**

- Presentation from London conference about MBS Plugins.

# 5.10 class CURLNMimePartMBS

## 5.10.1 class CURLNMimePartMBS

Plugin Version: 18.2, Platforms: macOS, Linux, Windows, iOS, Targets: All.

**Deprecated:** This item is deprecated and should no longer be used. You can use CURLSMimePartMBS instead. **Function:** The class for mime parts.
**Notes:** Subclass of the CURLSMimePartMBS class.
This is a subclass of an abstract class. You can't create an instance, but you can get one from various plugin functions.

## 5.11 class CURLNMultiMBS

### 5.11.1 class CURLNMultiMBS

Plugin Version: 15.0, Platforms: macOS, Linux, Windows, iOS, Targets: All.

**Deprecated:** This item is deprecated and should no longer be used. You can use CURLSMultiMBS instead.
**Function:** The class for multiple CURL transfers running in parallel.
**Notes:** Subclass of the CURLSMultiMBS class.
**Blog Entries**

- News from the MBS Xojo Plugins Version 24.4
- News from the MBS Xojo Plugins Version 23.2

# 5.12 class CURLNSSLBackendMBS

## 5.12.1 class CURLNSSLBackendMBS

Plugin Version: 18.2, Platforms: macOS, Linux, Windows, iOS, Targets: All.

**Deprecated:** This item is deprecated and should no longer be used. You can use CURLSSSLBackendMBS instead. **Function:** The class for a SSL backend.
**Notes:** Subclass of the CURLSSSLBackendMBS class.
This is a subclass of an abstract class. You can't create an instance, but you can get one from various plugin functions.

## 5.13 class CURLNURLMBS

### 5.13.1 class CURLNURLMBS

Plugin Version: 18.5, Platforms: macOS, Linux, Windows, iOS, Targets: All.

**Deprecated:** This item is deprecated and should no longer be used. You can use CURLSURLMBS instead.
**Function:** The class for CURL's URL parser.
**Notes:** Subclass of the CURLSURLMBS class.

# 5.14 class CURLNVersionMBS

## 5.14.1 class CURLNVersionMBS

Plugin Version: 9.8, Platforms: macOS, Linux, Windows, iOS, Targets: All.

**Deprecated:** This item is deprecated and should no longer be used. You can use CURLSVersionMBS instead. **Function:** A class to hold version information from libCURL.
**Notes:** Subclass of the CURLSVersionMBS class.
**Blog Entries**

- News from the MBS Xojo Plugins in Version 23.0
- News from the MBS Xojo Plugins Version 21.1

## 5.15 class CURLNWebSocketFrameMBS

### 5.15.1 class CURLNWebSocketFrameMBS

Plugin Version: 23.0, Platforms: macOS, Linux, Windows, iOS, Targets: All.

**Deprecated:** This item is deprecated and should no longer be used. You can use CURLSWebSocketFrameMBS instead. **Function:** The class for a WebSocket frame.
**Notes:** Subclass of the CURLSWebSocketFrameMBS class.
**Blog Entries**

- News from the MBS Xojo Plugins in Version 23.0

# 5.16 class CURLSFileInfoMBS

## 5.16.1 class CURLSFileInfoMBS

Plugin Version: 15.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The class for file information.
**Example:**

```
// list the files in a folder on a FTP server with name, size and date
Var curl As New CURLSMBS
curl.OptionURL = "ftp://ftp.example.com/pub/*" // * = all files
curl.OptionUsername = "anonymous"
curl.OptionPassword = "guest"
curl.OptionWildCardMatch = True

Var result As Integer = curl.Perform
Var lines() As String
For Each info As CURLSFileInfoMBS In curl.FileInfos
If info.IsDirectory Then
lines.Add info.FileName + "/"
Else
lines.Add info.FileName + ", " + info.Size.ToString + " bytes, " + info.PermissionString
End If
Next
MessageBox "Result: " + result.ToString + EndOfLine + String.FromArray(lines, EndOfLine)
```

**Notes:** Content of this structure depends on information which is known and is achievable (e.g. by FTP LIST parsing).
**Blog Entries**

- MBS Xojo Plugins, version 20.5pr6
- MBS Xojo Plugins in version 19.0
- MBS Xojo Plugins, version 18.6pr5
- MBS Xojo / Real Studio Plugins, version 16.1pr3
- MBS Releases the MBS Xojo / Real Studio plug-ins in version 15.2
- MBS Xojo / Real Studio Plugins, version 15.2pr8
- MBS Xojo / Real Studio Plugins, version 15.2pr7

**Videos**

- Presentation from Xojo Developer Conference 2019 in Miami.

**Xojo Developer Magazine**

- 17.5, page 38: What's New in the MBS Plugins, With the Plugins growing every year, here are new capabilities you may have missed by Stefanie Juchmes
- 17.2, page 11: News
- 13.5, page 8: News

### 5.16.2 Properties

### 5.16.3 Date as Date

Plugin Version: 15.2, Platforms: macOS, Linux, Windows, Targets: Desktop, Console & Web.

**Function:** The timstamp as a date object.
**Notes:** As of plugin version 15.2 the CURL library does not parse the timestamp.
So for some timestamp formats we have code in our plugin to do the parsing from the TimeString property. But this is limited. No seconds and the year is a guess. Files newer in the year than today are from last year and other files from current year. The server doesn't provide year details.
(Read only property)

### 5.16.4 DateTime as DateTime

Plugin Version: 20.5, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The timstamp as a date object.
**Notes:** As of plugin version 20.5 the CURL library does not parse the timestamp.
So for some timestamp formats we have code in our plugin to do the parsing from the TimeString property. But this is limited. No seconds and the year is a guess. Files newer in the year than today are from last year and other files from current year. The server doesn't provide year details.
(Read only property)

### 5.16.5 FileName as String

Plugin Version: 15.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The file name.
**Notes:** (Read only property)

### 5.16.6 FileType as Integer

Plugin Version: 15.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The file type.
**Notes:** (Read only property)

### 5.16.7 Flags as Integer

Plugin Version: 15.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The flags.
**Notes:** Flags define which fields are set.
Also you can just use the Has properties for same information.
(Read only property)

### 5.16.8 GID as Integer

Plugin Version: 15.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The group ID.
**Notes:** (Read only property)

### 5.16.9 GroupString as String

Plugin Version: 15.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The group string.
**Notes:** (Read only property)

### 5.16.10 HardLinks as Integer

Plugin Version: 15.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The hard link count.
**Notes:** (Read only property)

### 5.16.11 HasFileName as Boolean

Plugin Version: 15.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** True if filename property is valid.
**Notes:** (Read only property)

### 5.16.12 HasFileType as Boolean

Plugin Version: 15.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** True if filetype property is valid.
**Notes:** (Read only property)

### 5.16.13 HasGID as Boolean

Plugin Version: 15.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** True if GID property is valid.
**Notes:** (Read only property)

### 5.16.14 HasHardLinks as Boolean

Plugin Version: 15.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** True if hardlinks property is valid.
**Notes:** (Read only property)

### 5.16.15 HasPermissions as Boolean

Plugin Version: 15.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** True if permissions property is valid.
**Notes:** (Read only property)

### 5.16.16 HasSize as Boolean

Plugin Version: 15.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** True if size property is valid.
**Notes:** (Read only property)

### 5.16.17 HasTime as Boolean

Plugin Version: 15.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** True if time and date properties have values.
**Notes:** (Read only property)

### 5.16.18 HasUID as Boolean

Plugin Version: 15.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** True if UID field has a value.
**Notes:** (Read only property)

### 5.16.19 IsDirectory as Boolean

Plugin Version: 15.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** True if entry is a directory.
**Notes:** Same as FileType = FileTypeDirectory.
(Read only property)

### 5.16.20 IsFile as Boolean

Plugin Version: 15.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** True if entry is a regular file.
**Notes:** Same as FileType = FileTypeFile.
(Read only property)

### 5.16.21 Permissions as Integer

Plugin Version: 15.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The permission value.
**Notes:** (Read only property)

### 5.16.22 PermissionString as String

Plugin Version: 15.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The permission string.
**Notes:** (Read only property)

### 5.16.23 Size as Int64

Plugin Version: 15.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The file size.
**Notes:** (Read only property)

### 5.16.24 Target as String

Plugin Version: 15.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The target for a symlink.
**Notes:** (Read only property)

### 5.16.25 Time as Int64

Plugin Version: 15.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The time value.
**Notes:** (Read only property)

### 5.16.26 TimeString as String

Plugin Version: 15.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The time string parsed.
**Notes:** (Read only property)

### 5.16.27 UID as Integer

Plugin Version: 15.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The user ID.
**Notes:** (Read only property)

### 5.16.28 UserString as String

Plugin Version: 15.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The user ID as text.
**Notes:** (Read only property)

### 5.16.29 Constants

File Types

| Constant | Value | Description |
|---|---|---|
| FileTypeDeviceBlock | 3 | Block Device |
| FileTypeDeviceChar | 4 | Character Device |
| FileTypeDirectory | 1 | Directory |
| FileTypeDoor | 7 | Door, is possible only on Sun Solaris now. |
| FileTypeFile | 0 | Regular file |
| FileTypeNamedPipe | 5 | Named Pipe |
| FileTypeSocket | 6 | Socket |
| FileTypeSymlink | 2 | Symbolic links |
| FileTypeUnknown | 8 | Unknown file type. Should never occur. |

Flag Constants

| Constant | Value | Description |
|---|---|---|
| FlagKnownFileName | 1 | Filename Known |
| FlagKnownFileType | 2 | File Type Known |
| FlagKnownGID | 32 | GID Known |
| FlagKnownHardLinks | 128 | Hardlink Count Known |
| FlagKnownPermissions | 8 | Permissions Known |
| FlagKnownSize | 64 | Size Known |
| FlagKnownTime | 4 | Time Known |
| FlagKnownUID | 16 | UID Known |

## 5.17 class CURLSListMBS

### 5.17.1 class CURLSListMBS

Plugin Version: 9.8, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** A class to hold a list of strings from the CURL library.
**Notes:** Data is copied for this list, so you can just keep it around.

### 5.17.2 Methods

### 5.17.3 Item(index as Integer) as string

Plugin Version: 9.8, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Returns the item with the given index.
**Notes:** Index is zero based.

### 5.17.4 List as String()

Plugin Version: 15.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Converts list to a string array.

### 5.17.5 Operator_Convert as String()

Plugin Version: 15.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Converts list to a string array.

### 5.17.6 Properties

### 5.17.7 Count as Integer

Plugin Version: 9.8, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Number of items in this list.
**Notes:** (Read only property)

# 5.18 class CURLSMBS

## 5.18.1 class CURLSMBS

Plugin Version: 9.8, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** A class to wrap libCURL.
**Example:**

```
Var d As New CURLSMBS

// download here
d.OptionURL = URL

// if you use SSL, maybe put in a certificate or disable verification?
d.OptionSSLVerifyHost = 0
d.OptionSSLVerifyPeer = 0

// run download
Var e as integer = d.Perform

// check result
Var data As String = d.OutputData
Var DebugMessage As String = d.DebugMessages // check in debugger on error

ResultText.text="Result: "+str(e) // 0 = Okay, others are error codes, so check debug messages
```

**Notes:** We have three variants:

CURLS* classes include a static CURL library with SSL and SSH.
CURLN* classes include a static CURL library with native SSL on Mac and Windows.
CURL* classes without S need you to supply your own CURL library.

All variants can load a custom CURL library or use the one from the system on Mac and Linux.
If no library is loaded or included, the plugin will try to load the system one in constructor.

from the website libCURL website:
https://curl.haxx.se/libcurl/

libCURL is a free and easy-to-use client-side URL transfer library, supporting FTP, FTPS, HTTP, HTTPS, SCP, SFTP, TFTP, TELNET, DICT, FILE and LDAP. libCURL supports SSL certificates, HTTP POST, HTTP PUT, FTP uploading, HTTP form based upload, proxies, cookies, user+password authentication (Basic, Digest, NTLM, Negotiate, Kerberos4), file transfer resume, http proxy tunneling and more!

libCURL is highly portable, it builds and works identically on numerous platforms, including Solaris, NetBSD, FreeBSD, OpenBSD, Darwin, HPUX, IRIX, AIX, Tru64, Linux, UnixWare, HURD, Windows, Amiga, OS/2, BeOs, Mac OS X, Ultrix, QNX, OpenVMS, RISC OS, Novell NetWare, DOS and more...

libCURL is free, thread-safe, IPv6 compatible, feature rich, well supported, fast, thoroughly documented and is already used by many known, big and successful companies and numerous applications.

On Linux you may need to install libraries like ldap: apt-get install libldap-2.4.2:i386

For macOS and iOS, your application may need to have the NSLocalNetworkUsageDescription in info.plist for local network access and your sandboxed application may need need the com.apple.security.network.client entitlement.

**Blog Entries**

- MBS Xojo Plugins, version 26.5pr3
- News from the MBS Xojo Plugins in version 26.3
- Using ChatGPT in Xojo
- News from the MBS Xojo Plugins Version 24.4
- MonkeyBread Software Releases the MBS Xojo Plugins in version 24.2
- MonkeyBread Software Releases the MBS Xojo Plugins in version 23.3
- News from the MBS Xojo Plugins Version 22.4
- News from the MBS Xojo Plugins Version 22.3
- News from the MBS Xojo Plugins Version 21.1
- Using system SSL Certificates in CURL

**Videos**

- Presentation from London conference about MBS Plugins.

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- 23.6, page 10: News
- 22.5, pages 18 to 20: Xojo and MQTT, Learn about MQTT, a popular messaging transport protocol, and how you can use it in your Xojo-based apps. by Tim Dietrich
- 21.6, page 8: News
- 21.5, page 9: News
- 21.3, page 9: News

- 21.1, page 9: News
- 20.6, page 9: News
- 20.1, page 67: Send Your Emails, How to use the MBS Xojo plugins to send emails by Stefanie Juchmes
- 19.6, page 10: News
- 16.5, page 9: News

### 5.18.2 Methods

### 5.18.3 AddMimePart as CURLSMimePartMBS

Plugin Version: 18.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Adds a new blank mime part.
**Notes:** Returns mime object, so you can set properties.

### 5.18.4 AWSPresignURL(AWSAccessKeyId as String, AWSSecretAccessKey as String, Region as String, Service as String, Path as String, Domain as String, Verb as String = "GET", Expires as Integer = 86400, QueryParameters() as String = nil, Headers() as String = nil) as String

Plugin Version: 21.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Query predigend URL for Amazon Webservices.
**Example:**

```
Var URL As String = CURLSMBS.AWSPresignURL( _
"AKIAIOSFODNN7EXAMPLE", _
"wJalrXUtnFEMI/K7MDENG/bPxRfiCYEXAMPLEKEY", _
"us-east-1", _
"s3", _
"/test.txt", _
"examplebucket.s3.amazonaws.com", _
"GET", _
86400 )

Break // see URL in debugger
```

**Notes:** This implements AWS4-HMAC-SHA256 pre-signature for credentials.

Works also for other compatible S3 services beside Amazon's like the one from Wasabi or Dell ECS.

| Parameter | Description | Example |
| --- | --- | --- |
| AWSAccessKeyId | Your access key for AWS. | |
| AWSSecretAccessKey | Your secret. | |
| Region | The region to use. | "us-central-1" |
| Service | The service to use. | "s3" |
| Path | The path for the URL. Should always start with "/". | "/bucketname/test.jpg" |
| Domain | Optional the domain to use. By default we just build it from region and service. | "s3.us-central-1.amazonaws.com" or "s3-us-westleast-2.amazonaws.com" |
| Verb | The HTTP Operation to do. Can be POST, PUT, GET or DELETE. Default is GET. | "GET" |
| Expires | Expiration duration. Provides the time period, in seconds, for which the generated presigned URL is valid. For example, 86400 (24 hours). This value is an integer. The minimum value you can set is 1, and the maximum is 604800 (seven days). A presigned URL can be valid for a maximum of seven days because the signing key you use in signature calculation is valid for up to seven days. Default is 86400 for one day. | |
| QueryParameters | List of query parameters to include. | "test=abc" |
| Headers | Extra HTTP headers to include. Here you can specify various headers to include in signature and request. | |

Returns the pre-signed URL. May raise an exception in case of error.

### 5.18.5 CipherNames as String()

Plugin Version: 18.5, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Queries list of all cipher algorithms.
**Example:**

```
// see hash and encryption algorithms available
Var CipherNames() as string = CURLSMBS.CipherNames
Var DigestNames() as string = CURLSMBS.DigestNames
Break
```

**Notes:** The list may not be the same for Mac, Windows and Linux.

### 5.18.6 ClearData

Plugin Version: 12.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Clears data properties.
**Notes:** Resets OutputData, DebugMessages and Headers.

### 5.18.7 CloseMTDebugOutputFile

Plugin Version: 11.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Closes the debug output file for PerformMT.
**Notes:** Call after PerformMT finished.
With 15.2 version of plugin, this also works with Perform.

### 5.18.8 CloseMTHeaderOutputFile

Plugin Version: 11.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Closes the header output file for PerformMT.
**Notes:** Call after PerformMT finished.

With 15.2 version of plugin, this also works with Perform.

### 5.18.9 CloseMTInputFile

Plugin Version: 11.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Closes the input file for PerformMT.
**Notes:** Call after PerformMT finished.
With 15.2 version of plugin, this also works with Perform.

### 5.18.10 CloseMTOutputFile

Plugin Version: 11.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Closes the output file for PerformMT.
**Notes:** Call after PerformMT finished.
With 15.2 version of plugin, this also works with Perform.

### 5.18.11 CreateMTDebugOutputFile(file as folderitem) as boolean

Plugin Version: 11.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Creates a file where debug data is written to.
**Notes:** Returns true on success and false on failure (e.g. permission error).
With 15.2 version of plugin, this also works with Perform.

Must be called before Perform, so we can stream data to the file.
The file is closed automatically when Perform methods finish their work.
See also:

- 5.18.12 CreateMTDebugOutputFile(Path as String) as boolean 115

### 5.18.12 CreateMTDebugOutputFile(Path as String) as boolean

Plugin Version: 19.5, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Creates a file where debug data is written to.
**Notes:** Returns true on success and false on failure (e.g. permission error).

Must be called before Perform, so we can stream data to the file.
The file is closed automatically when Perform methods finish their work.

See also:

- 5.18.11 CreateMTDebugOutputFile(file as folderitem) as boolean 115

### 5.18.13 CreateMTHeaderOutputFile(file as folderitem) as boolean

Plugin Version: 11.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Creates a file where header data is written to.
**Notes:** Returns true on success and false on failure (e.g. permission error).
With 15.2 version of plugin, this also works with Perform.

Must be called before Perform, so we can stream data to the file.
The file is closed automatically when Perform methods finish their work.
See also:

- 5.18.14 CreateMTHeaderOutputFile(Path as String) as boolean 116

### 5.18.14 CreateMTHeaderOutputFile(Path as String) as boolean

Plugin Version: 19.5, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Creates a file where header data is written to.
**Notes:** Returns true on success and false on failure (e.g. permission error).

Must be called before Perform, so we can stream data to the file.
The file is closed automatically when Perform methods finish their work.
See also:

- 5.18.13 CreateMTHeaderOutputFile(file as folderitem) as boolean 116

### 5.18.15 CreateMTOutputFile(file as folderitem) as boolean

Plugin Version: 11.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Creates a file where output data is written to.
**Notes:** Returns true on success and false on failure (e.g. permission error).
With 15.2 version of plugin, this also works with Perform.

Must be called before Perform, so we can stream data to the file.
The file is closed automatically when Perform methods finish their work.

You can set CollectOutputData to false in order to disable dat being collected.
See also:

- 5.18.16 CreateMTOutputFile(Path as String) as boolean 117


### 5.18.16 CreateMTOutputFile(Path as String) as boolean

Plugin Version: 19.5, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Creates a file where output data is written to.
**Notes:** Returns true on success and false on failure (e.g. permission error).

Must be called before Perform, so we can stream data to the file.
The file is closed automatically when Perform methods finish their work.

You can set CollectOutputData to false in order to disable dat being collected.
See also:


- 5.18.15 CreateMTOutputFile(file as folderitem) as boolean 116


### 5.18.17 DecodeIMAPFolderName(encodedName as String) as String

Plugin Version: 24.4, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Decodes text from IMAP UTF-7.
**Example:**

```
// test a few cases
Var t1 As String = "Entw&APw-rfe"
Var t2 As String = "Test&AOk-&-"
Var t3 As String = "
textasciitilde peter/mail/&ZeVnLIqe-/&U,BTFw-"

Var d1 As String = CURLSMBS.DecodeIMAPFolderName(t1)
// shows "Entw√ºrfe"
Var d2 As String = CURLSMBS.DecodeIMAPFolderName(t2)
// shows "Test√©&"
Var d3 As String = CURLSMBS.DecodeIMAPFolderName(t3)
// shows "
textasciitilde peter/mail/Êó•Êú¨Ë™ûû/Âè∞Âåó"

Break
```

**Notes:** Use this for IMAP folder names to decode the name and show to user.

See RFC 2060:
http://www.faqs.org/rfcs/rfc2060.html

You may do a directory listing for IMAP, then decode the names for display, but keep the original encoded names to later do a query for folder content.

### 5.18.18 DigestNames as String()

Plugin Version: 18.5, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Queries list of all digest algorithms.
**Example:**

```
// see hash and encryption algorithms available
Var CipherNames() as string = CURLSMBS.CipherNames
Var DigestNames() as string = CURLSMBS.DigestNames
Break
```

**Notes:** The list may not be the same for Mac, Windows and Linux.

### 5.18.19 FileInfos as CURLSFileInfoMBS()

Plugin Version: 15.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Queries array with file information.
**Notes:** If you use OptionWildcard, you find after the transfer all CURLSFileInfoMBS objects for all the files/folders found.

For MBS Plugin 19.0 or newer you can alternatively run a custom request "MLSD" and than get file infos, too.

### 5.18.20 FinishMime

Plugin Version: 18.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Finishes mime data.
**Example:**

```
Var c as new CURLSMBS

// add mime
Var p as CURLSMimePartMBS = c.AddMimePart

p.name = "Text"
p.FileName = "test.txt"
p.MimeType = "text/plain"
p.DataString = "Hello World"
```

```
c.FinishMime
// now you can send...
```

**Notes:** Please call AddMimePart for each part you like to add and than finally FinishMime before calling perform.

### 5.18.21 FormAdd(FormOption1 as Integer, Text1 as string, FormOption2 as Integer, FormOptions() as Integer, Texts() as string)

Plugin Version: 9.8, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Add a section to a multipart/formdata HTTP POST.
**Example:**

```
Var c as new CURLSMBS
Var file1 as string = "my-face.jpg"
Var file2 as string = "your-face.jpg"
Var formOptions(-1) as Integer
Var formValues(-1) as string

const CURLFORM_COPYNAME = 1
const CURLFORM_ARRAY = 8
const CURLFORM_FILE = 10

'/* Add two file section using CURLFORM_ARRAY */
formOptions.Add CURLFORM_FILE
formValues.Add file1
formOptions.Add CURLFORM_FILE
formValues.Add file2

'/* no option needed for the end marker */
c.FormAdd CURLFORM_COPYNAME, "pictures", CURLFORM_ARRAY, formOptions, formValues
```

**Notes:** Lasterror is set.
See other FormAdd methods for details.
See also:


- 5.18.22 FormAdd(FormOption1 as Integer, Text1 as string, FormOption2 as Integer, Text2 as string) 120
- 5.18.23 FormAdd(FormOption1 as Integer, Text1 as string, FormOption2 as Integer, Text2 as string, FormOption3 as Integer, Number3 as Integer) 120
- 5.18.24 FormAdd(FormOption1 as Integer, Text1 as string, FormOption2 as Integer, Text2 as string, FormOption3 as Integer, Number3 as Integer, FormOption4 as Integer, Number4 as Integer) 121

- 5.18.25 FormAdd(FormOption1 as Integer, Text1 as string, FormOption2 as Integer, Text2 as string, FormOption3 as Integer, Number3 as Integer, FormOption4 as Integer, Text4 as string) 122
- 5.18.26 FormAdd(FormOption1 as Integer, Text1 as string, FormOption2 as Integer, Text2 as string, FormOption3 as Integer, Text3 as string) 122
- 5.18.27 FormAdd(FormOption1 as Integer, Text1 as string, FormOption2 as Integer, Text2 as string, FormOption3 as Integer, Text3 as string, FormOption4 as Integer, Number4 as Integer) 123
- 5.18.28 FormAdd(FormOption1 as integer, Text1 as string, FormOption2 as integer, Text2 as string, FormOption3 as integer, Text3 as string, FormOption4 as integer, Number4 as integer, FormOption5 as integer, Text5 as string) 126


### 5.18.22 FormAdd(FormOption1 as Integer, Text1 as string, FormOption2 as Integer, Text2 as string)

Plugin Version: 9.8, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Add a section to a multipart/formdata HTTP POST.
**Notes:** Lasterror is set.
See other FormAdd methods for details.
See also:


- 5.18.21 FormAdd(FormOption1 as Integer, Text1 as string, FormOption2 as Integer, FormOptions() as Integer, Texts() as string) 119
- 5.18.23 FormAdd(FormOption1 as Integer, Text1 as string, FormOption2 as Integer, Text2 as string, FormOption3 as Integer, Number3 as Integer) 120
- 5.18.24 FormAdd(FormOption1 as Integer, Text1 as string, FormOption2 as Integer, Text2 as string, FormOption3 as Integer, Number3 as Integer, FormOption4 as Integer, Number4 as Integer) 121
- 5.18.25 FormAdd(FormOption1 as Integer, Text1 as string, FormOption2 as Integer, Text2 as string, FormOption3 as Integer, Number3 as Integer, FormOption4 as Integer, Text4 as string) 122
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- 5.18.28 FormAdd(FormOption1 as integer, Text1 as string, FormOption2 as integer, Text2 as string, FormOption3 as integer, Text3 as string, FormOption4 as integer, Number4 as integer, FormOption5 as integer, Text5 as string) 126


### 5.18.23 FormAdd(FormOption1 as Integer, Text1 as string, FormOption2 as Integer, Text2 as string, FormOption3 as Integer, Number3 as Integer)

Plugin Version: 9.8, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Add a section to a multipart/formdata HTTP POST.
**Notes:** Lasterror is set.
See other FormAdd methods for details.
See also:


- 5.18.21 FormAdd(FormOption1 as Integer, Text1 as string, FormOption2 as Integer, FormOptions() as Integer, Texts() as string) 119
- 5.18.22 FormAdd(FormOption1 as Integer, Text1 as string, FormOption2 as Integer, Text2 as string) 120
- 5.18.24 FormAdd(FormOption1 as Integer, Text1 as string, FormOption2 as Integer, Text2 as string, FormOption3 as Integer, Number3 as Integer, FormOption4 as Integer, Number4 as Integer) 121
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- 5.18.27 FormAdd(FormOption1 as Integer, Text1 as string, FormOption2 as Integer, Text2 as string, FormOption3 as Integer, Text3 as string, FormOption4 as Integer, Number4 as Integer) 123
- 5.18.28 FormAdd(FormOption1 as integer, Text1 as string, FormOption2 as integer, Text2 as string, FormOption3 as integer, Text3 as string, FormOption4 as integer, Number4 as integer, FormOption5 as integer, Text5 as string) 126


### 5.18.24 FormAdd(FormOption1 as Integer, Text1 as string, FormOption2 as Integer, Text2 as string, FormOption3 as Integer, Number3 as Integer, FormOption4 as Integer, Number4 as Integer)

Plugin Version: 9.8, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Add a section to a multipart/formdata HTTP POST.
**Notes:** Lasterror is set.
See other FormAdd methods for details.
See also:


- 5.18.21 FormAdd(FormOption1 as Integer, Text1 as string, FormOption2 as Integer, FormOptions() as Integer, Texts() as string) 119
- 5.18.22 FormAdd(FormOption1 as Integer, Text1 as string, FormOption2 as Integer, Text2 as string) 120
- 5.18.23 FormAdd(FormOption1 as Integer, Text1 as string, FormOption2 as Integer, Text2 as string, FormOption3 as Integer, Number3 as Integer) 120
- 5.18.25 FormAdd(FormOption1 as Integer, Text1 as string, FormOption2 as Integer, Text2 as string, FormOption3 as Integer, Number3 as Integer, FormOption4 as Integer, Text4 as string) 122

- 5.18.26 FormAdd(FormOption1 as Integer, Text1 as string, FormOption2 as Integer, Text2 as string, FormOption3 as Integer, Text3 as string) 122
- 5.18.27 FormAdd(FormOption1 as Integer, Text1 as string, FormOption2 as Integer, Text2 as string, FormOption3 as Integer, Text3 as string, FormOption4 as Integer, Number4 as Integer) 123
- 5.18.28 FormAdd(FormOption1 as integer, Text1 as string, FormOption2 as integer, Text2 as string, FormOption3 as integer, Text3 as string, FormOption4 as integer, Number4 as integer, FormOption5 as integer, Text5 as string) 126


### 5.18.25 FormAdd(FormOption1 as Integer, Text1 as string, FormOption2 as Integer, Text2 as string, FormOption3 as Integer, Number3 as Integer, FormOption4 as Integer, Text4 as string)

Plugin Version: 9.8, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Add a section to a multipart/formdata HTTP POST.
**Notes:** Lasterror is set.
See other FormAdd methods for details.
See also:


- 5.18.21 FormAdd(FormOption1 as Integer, Text1 as string, FormOption2 as Integer, FormOptions() as Integer, Texts() as string) 119
- 5.18.22 FormAdd(FormOption1 as Integer, Text1 as string, FormOption2 as Integer, Text2 as string) 120
- 5.18.23 FormAdd(FormOption1 as Integer, Text1 as string, FormOption2 as Integer, Text2 as string, FormOption3 as Integer, Number3 as Integer) 120
- 5.18.24 FormAdd(FormOption1 as Integer, Text1 as string, FormOption2 as Integer, Text2 as string, FormOption3 as Integer, Number3 as Integer, FormOption4 as Integer, Number4 as Integer) 121
- 5.18.26 FormAdd(FormOption1 as Integer, Text1 as string, FormOption2 as Integer, Text2 as string, FormOption3 as Integer, Text3 as string) 122
- 5.18.27 FormAdd(FormOption1 as Integer, Text1 as string, FormOption2 as Integer, Text2 as string, FormOption3 as Integer, Text3 as string, FormOption4 as Integer, Number4 as Integer) 123
- 5.18.28 FormAdd(FormOption1 as integer, Text1 as string, FormOption2 as integer, Text2 as string, FormOption3 as integer, Text3 as string, FormOption4 as integer, Number4 as integer, FormOption5 as integer, Text5 as string) 126


### 5.18.26 FormAdd(FormOption1 as Integer, Text1 as string, FormOption2 as Integer, Text2 as string, FormOption3 as Integer, Text3 as string)

Plugin Version: 9.8, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Add a section to a multipart/formdata HTTP POST.
**Notes:** Lasterror is set.
See other FormAdd methods for details.
See also:


- 5.18.21 FormAdd(FormOption1 as Integer, Text1 as string, FormOption2 as Integer, FormOptions() as Integer, Texts() as string) 119
- 5.18.22 FormAdd(FormOption1 as Integer, Text1 as string, FormOption2 as Integer, Text2 as string) 120
- 5.18.23 FormAdd(FormOption1 as Integer, Text1 as string, FormOption2 as Integer, Text2 as string, FormOption3 as Integer, Number3 as Integer) 120
- 5.18.24 FormAdd(FormOption1 as Integer, Text1 as string, FormOption2 as Integer, Text2 as string, FormOption3 as Integer, Number3 as Integer, FormOption4 as Integer, Number4 as Integer) 121
- 5.18.25 FormAdd(FormOption1 as Integer, Text1 as string, FormOption2 as Integer, Text2 as string, FormOption3 as Integer, Number3 as Integer, FormOption4 as Integer, Text4 as string) 122
- 5.18.27 FormAdd(FormOption1 as Integer, Text1 as string, FormOption2 as Integer, Text2 as string, FormOption3 as Integer, Text3 as string, FormOption4 as Integer, Number4 as Integer) 123
- 5.18.28 FormAdd(FormOption1 as integer, Text1 as string, FormOption2 as integer, Text2 as string, FormOption3 as integer, Text3 as string, FormOption4 as integer, Number4 as integer, FormOption5 as integer, Text5 as string) 126


### 5.18.27 FormAdd(FormOption1 as Integer, Text1 as string, FormOption2 as Integer, Text2 as string, FormOption3 as Integer, Text3 as string, FormOption4 as Integer, Number4 as Integer)

Plugin Version: 9.8, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Add a section to a multipart/formdata HTTP POST.
**Notes:** Several FormAdd methods are there. Send a request to support if you need another parameter combination.

Lasterror is set.

FormAdd() is used to append sections when building a multipart/formdata HTTP POST (sometimes referred to as rfc1867-style posts). Append one section at a time until you've added all the sections you want included and then you call FormFinish.

Using POST with HTTP 1.1 implies the use of a "Expect: 100-continue" header. You can disable this header with CURLOPT_HTTPHEADER as usual.

First, there are some basics you need to understand about multipart/formdata posts. Each part consists of at least a NAME and a CONTENTS part. If the part is made for file upload, there are also a stored CONTENT-TYPE and a FILENAME. Below, we'll discuss what options you use to set these properties in the parts you want to add to your post.

The options listed first are for making normal parts. The options from CURLFORM_FILE through CURLFORM_BUFFERLENGTH are for file upload parts.

CURLFORM_COPYNAME:
followed by a string which provides the name of this part. libCURL copies the string so your application doesn't need to keep it around after this function call. If the name isn't null terminated, or if you'd like it to contain zero bytes, you must set its length with CURLFORM_NAMELENGTH.

CURLFORM_PTRNAME:
followed by a string which provides the name of this part. libCURL will use the string and refer to the data in your application, so you must make sure it remains until CURL no longer needs it. If the name isn't null terminated, or if you'd like it to contain zero bytes, you must set its length with CURLFORM_NAMELENGTH.

CURLFORM_COPYCONTENTS:
followed by a string to the contents of this part, the actual data to send away. libCURL copies the provided data, so your application doesn't need to keep it around after this function call. If the data isn't null terminated, or if you'd like it to contain zero bytes, you must set the length of the name with CURLFORM_CONTENTSLENGTH.

CURLFORM_PTRCONTENTS:
followed by a string to the contents of this part, the actual data to send away. libCURL will use the string and refer to the data in your application, so you must make sure it remains until CURL no longer needs it. If the data isn't null terminated, or if you'd like it to contain zero bytes, you must set its length with CURLFORM_CONTENTSLENGTH.

CURLFORM_CONTENTSLENGTH:
followed by a long giving the length of the contents.

CURLFORM_FILECONTENT:
followed by a filename, causes that file to be read and its contents used as data in this part. This part does not automatically become a file upload part simply because its data was read from a file.

CURLFORM_FILE:
followed by a filename, makes this part a file upload part. It sets the filename field to the basename of the provided filename, it reads the contents of the file and passes them as data and sets the content-type if the given file match one of the internally known file extensions. For CURLFORM_FILE the user may send one or more files in one part by providing multiple CURLFORM_FILE arguments each followed by the filename

(and each CURLFORM_FILE is allowed to have a CURLFORM_CONTENTTYPE).

CURLFORM_CONTENTTYPE:
is used in combination with CURLFORM_FILE. Followed a string which provides the content-type for this part, possibly instead of an internally chosen one.

CURLFORM_FILENAME:
is used in combination with CURLFORM_FILE. Followed a string, it tells libCURL to use the given string as the filename in the file upload part instead of the actual file name.

CURLFORM_BUFFER:
is used for custom file upload parts without use of CURLFORM_FILE. It tells libCURL that the file contents are already present in a buffer. The parameter is a string which provides the filename field in the content header.

CURLFORM_BUFFERPTR:
is used in combination with CURLFORM_BUFFER. The parameter is the string to be uploaded. You must also use CURLFORM_BUFFERLENGTH to set the number of bytes in the buffer. Keep the buffer variable alive till the upload is finished.

CURLFORM_BUFFERLENGTH:
is used in combination with CURLFORM_BUFFER. The parameter is a long which gives the length of the buffer.

CURLFORM_ARRAY:
Another possibility to send options to CURL_formadd() is the CURLFORM_ARRAY option, that passes an Integer Array and a String Array defining its value. Each element in the form is constructed using the option from the integer array and the value from the string array. All available options can be used in an array, except the CURLFORM_ARRAY option itself!

CURLFORM_CONTENTHEADER:
specifies extra headers for the form POST section. This takes a CURL_slist prepared in the usual way using CURL_slist_append and appends the list of headers to those libCURL automatically generates. The list must exist while the POST occurs, if you free it before the post completes you may experience problems.

PS: CURLFORM_FILE does not work in all CURL versions on all platforms due to a bug with integer numbers.
See also:


- 5.18.21 FormAdd(FormOption1 as Integer, Text1 as string, FormOption2 as Integer, FormOptions() as Integer, Texts() as string) 119
- 5.18.22 FormAdd(FormOption1 as Integer, Text1 as string, FormOption2 as Integer, Text2 as string) 120

- 5.18.23 FormAdd(FormOption1 as Integer, Text1 as string, FormOption2 as Integer, Text2 as string, FormOption3 as Integer, Number3 as Integer) 120
- 5.18.24 FormAdd(FormOption1 as Integer, Text1 as string, FormOption2 as Integer, Text2 as string, FormOption3 as Integer, Number3 as Integer, FormOption4 as Integer, Number4 as Integer) 121
- 5.18.25 FormAdd(FormOption1 as Integer, Text1 as string, FormOption2 as Integer, Text2 as string, FormOption3 as Integer, Number3 as Integer, FormOption4 as Integer, Text4 as string) 122
- 5.18.26 FormAdd(FormOption1 as Integer, Text1 as string, FormOption2 as Integer, Text2 as string, FormOption3 as Integer, Text3 as string) 122
- 5.18.28 FormAdd(FormOption1 as integer, Text1 as string, FormOption2 as integer, Text2 as string, FormOption3 as integer, Text3 as string, FormOption4 as integer, Number4 as integer, FormOption5 as integer, Text5 as string) 126


### 5.18.28 FormAdd(FormOption1 as integer, Text1 as string, FormOption2 as integer, Text2 as string, FormOption3 as integer, Text3 as string, FormOption4 as integer, Number4 as integer, FormOption5 as integer, Text5 as string)

Plugin Version: 17.4, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Add a section to a multipart/formdata HTTP POST.
**Notes:** Lasterror is set.
See other FormAdd methods for details.
See also:


- 5.18.21 FormAdd(FormOption1 as Integer, Text1 as string, FormOption2 as Integer, FormOptions() as Integer, Texts() as string) 119
- 5.18.22 FormAdd(FormOption1 as Integer, Text1 as string, FormOption2 as Integer, Text2 as string) 120
- 5.18.23 FormAdd(FormOption1 as Integer, Text1 as string, FormOption2 as Integer, Text2 as string, FormOption3 as Integer, Number3 as Integer) 120
- 5.18.24 FormAdd(FormOption1 as Integer, Text1 as string, FormOption2 as Integer, Text2 as string, FormOption3 as Integer, Number3 as Integer, FormOption4 as Integer, Number4 as Integer) 121
- 5.18.25 FormAdd(FormOption1 as Integer, Text1 as string, FormOption2 as Integer, Text2 as string, FormOption3 as Integer, Number3 as Integer, FormOption4 as Integer, Text4 as string) 122
- 5.18.26 FormAdd(FormOption1 as Integer, Text1 as string, FormOption2 as Integer, Text2 as string, FormOption3 as Integer, Text3 as string) 122
- 5.18.27 FormAdd(FormOption1 as Integer, Text1 as string, FormOption2 as Integer, Text2 as string, FormOption3 as Integer, Text3 as string, FormOption4 as Integer, Number4 as Integer) 123

### 5.18.29 FormAddField(fieldName as String, fieldValue as String, ContentType as String = "")

Plugin Version: 18.1, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Add a section to a multipart/formdata HTTP POST.
**Example:**

```
Var d as new CURLSMBS
d.FormAddField("company", "Test, Inc.")
```

**Notes:** For fieldName and ContentType, we use UTF8 always. For fieldValue, we pass through whatever is in the string, so please make sure encoding is working.
ContentType is optional.

Please call FormFinish method later!

### 5.18.30 FormAddFile(fieldName as String, fileName as String, fileContent as string, ContentType as String = "")

Plugin Version: 18.1, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Add a section to a multipart/formdata HTTP POST.
**Example:**

```
// read content of some file
Var file as folderitem = specialFolder.desktop.Child("test.txt")
Var b as BinaryStream = binarystream.Open(file)
Var FileContent as String = b.read(b.length)

// init some curl object
Var d as new CURLSMBS

// add the file as part of a form
d.FormAddFile("FileAttachment", "test.txt", FileContent, "text/plain")

// later
d.FormFinish
```

**Notes:** For fieldName, fileName and ContentType, we use UTF8 always. For fieldValue, we pass through whatever is in the string, so please make sure encoding is working.

Filename is ignored, if empty.
ContentType is optional.

Please call FormFinish method later!

### 5.18.31 FormClear

Plugin Version: 19.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Clears current form data.
**Notes:** You usually don't need to call this as Perform clears form data when transfer is done.

### 5.18.32 FormData as String

Plugin Version: 17.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Queries current form data.
**Notes:** This is more for debugging as it builds form data as if we would send it.

### 5.18.33 FormFinish

Plugin Version: 9.8, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Finishes constructing a form.
**Example:**

```
Var c as new CURLSMBS
Var namebuffer as string = "name buffer"
Var namelength as Integer = lenb(namebuffer)
Var buffer as string = "test buffer"
Var htmlbuffer as string = "<HTML>test buffer</HTML>"
Var htmlbufferlength as Integer = lenb(htmlbuffer)
Var file1 as string = "my-face.jpg"
Var file2 as string = "your-face.jpg"
Var formOptions(-1) as Integer
Var formValues(-1) as string
Var recordbuffer as string = "record buffer"
Var recordlength as Integer = lenb(recordbuffer)

const CURLFORM_NOTHING = 0
const CURLFORM_COPYNAME = 1
const CURLFORM_PTRNAME = 2
const CURLFORM_NAMELENGTH = 3
const CURLFORM_COPYCONTENTS = 4
const CURLFORM_PTRCONTENTS = 5
const CURLFORM_CONTENTSLENGTH = 6
```

```
const CURLFORM_FILECONTENT = 7
const CURLFORM_ARRAY = 8
const CURLFORM_FILE = 10
const CURLFORM_BUFFER = 11
const CURLFORM_BUFFERPTR = 12
const CURLFORM_BUFFERLENGTH = 13
const CURLFORM_CONTENTTYPE = 14
const CURLFORM_CONTENTHEADER = 15
const CURLFORM_FILENAME = 16

'/* Add simple name/content section */

c.FormAdd CURLFORM_COPYNAME, "name", CURLFORM_COPYCONTENTS, "content"

,
'/* Add simple name/content/contenttype section */

c.FormAdd CURLFORM_COPYNAME, "htmlcode", CURLFORM_COPYCONTENTS, "<HTML></HTML>",CURL-
FORM_CONTENTTYPE,"text/html"

'/* Add name/ptrcontent section */
c.FormAdd CURLFORM_COPYNAME, "name_for_ptrcontent", CURLFORM_PTRCONTENTS, buffer

'/* Add ptrname/ptrcontent section */
c.FormAdd CURLFORM_PTRNAME, namebuffer, CURLFORM_PTRCONTENTS, buffer, CURLFORM_NAME-
LENGTH, namelength


'/* Add name/ptrcontent/contenttype section */
c.FormAdd CURLFORM_COPYNAME, "html_code_with_hole", CURLFORM_PTRCONTENTS, html-
buffer, CURLFORM_CONTENTSLENGTH, htmlbufferlength, CURLFORM_CONTENTTYPE, "text/html"

'/* Add simple file section */
c.FormAdd CURLFORM_COPYNAME, "picture", CURLFORM_FILE, "my-face.jpg"

'/* Add file/contenttype section */
c.FormAdd CURLFORM_COPYNAME, "picture",CURLFORM_FILE, "my-face.jpg",CURLFORM_CONTENTTYPE,
"image/jpeg"

'/* Add two file section */
c.FormAdd CURLFORM_COPYNAME, "pictures",CURLFORM_FILE, "my-face.jpg",CURLFORM_FILE,
"your-face.jpg"

'/* Add two file section using CURLFORM_ARRAY */
formOptions.Add CURLFORM_FILE
formValues.Add file1
formOptions.Add CURLFORM_FILE
formValues.Add file2
```

```
'/* Add a buffer to upload */
c.FormAdd CURLFORM_COPYNAME, "name", CURLFORM_BUFFER, "data", CURLFORM_BUFFERPTR,
recordbuffer, CURLFORM_BUFFERLENGTH, recordlength

'/* no option needed for the end marker */
c.FormAdd CURLFORM_COPYNAME, "pictures", CURLFORM_ARRAY, formOptions, formValues

'/* Add the content of a file as a normal post text value */
c.FormAdd CURLFORM_COPYNAME, "filecontent", CURLFORM_FILECONTENT, ".bashrc"
'/* Set the form info */

c.FormFinish
```

**Notes:** Lasterror is set.
The form is assigned to the HTTPPost property.

### 5.18.34 GetInfoActiveSocket as integer

Plugin Version: 18.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Receive the active socket used by this curl session.
**Notes:** If the socket is no longer valid, -1 is returned. When you finish working with the socket, the Destructor closes the socket and cleanup other resources associated with the handle. This is typically used in combination with OptionConnectOnly.

This option was added as a replacement for GetInfoLastSocket since that one isn't working on all platforms.

### 5.18.35 GetInfoAppConnectTime as Double

Plugin Version: 15.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The time stamp when app connected.

### 5.18.36 GetInfoCAInfo as string

Plugin Version: 22.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Queries default CAInfo value.

### 5.18.37 GetInfoCAPath as string

Plugin Version: 22.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Queries default CAPath value.

### 5.18.38 GetInfoCertInfo as CURLSListMBS()

Plugin Version: 15.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Queries information on the certificate chain.
**Example:**

```
Var c as new CURLSMBS

// do some transfer
c.OptionURL = "https://www.mbsplugins.de/"
c.OptionCertInfo = true
Var e as Integer = c.perform

// query certificate info
Var lists() as CURLSListMBS = c.GetInfoCertInfo

for each l as CURLSListMBS in lists
MessageBox Join(l, EndOfLine)
next

MessageBox c.DebugMessages
```

**Notes:** Please set OptionCertInfo first.

### 5.18.39 GetInfoConditionUnmet as Integer

Plugin Version: 15.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Return if the time condition prevented the document to get transferred.

### 5.18.40 GetInfoConnectTime as Double

Plugin Version: 9.8, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The time, in seconds, it took from the start until the connect to the remote host (or proxy) was completed.

**Notes:** The Lasterror property is set. 0 for success.

### 5.18.41 GetInfoContentLengthDownload as Integer

Plugin Version: 9.8, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The content-length of the download.
**Notes:** The Lasterror property is set. 0 for success.
This is the value read from the Content-Length: field.

### 5.18.42 GetInfoContentLengthUpload as Integer

Plugin Version: 9.8, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The specified size of the upload.
**Notes:** The Lasterror property is set. 0 for success.

### 5.18.43 GetInfoContentType as string

Plugin Version: 9.8, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The content-type of the downloaded object.
**Notes:** The Lasterror property is set. 0 for success.
This is the value read from the Content-Type: field. If you get "", it means that the server didn't send a valid Content-Type header or that the protocol used doesn't support this.

### 5.18.44 GetInfoCookieList as CURLSListMBS

Plugin Version: 9.8, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** A linked-list of all cookies CURL knows (expired ones, too).
**Notes:** The Lasterror property is set. 0 for success.
If there are no cookies (cookies for the handle have not been enabled or simply none have been received) the result is nil.

### 5.18.45 GetInfoEarlyDataSent as integer

Plugin Version: 25.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Get the number of bytes sent as TLS early data.
**Notes:** TLS early data is only attempted when kSSLOptionEarlyData is set for the transfer. In addition, it is only used by libcurl when a TLS session exists that announces support.

The amount is negative when the sent data was rejected by the server. TLS allows a server that announces support for early data to reject any attempt to use it at its own discretion. When for example 127 bytes had been sent, but were rejected, it reports -127 as the amount "sent".

### 5.18.46 GetInfoEffectiveMethod as string

Plugin Version: 20.4, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Get the last used effective HTTP method.
**Notes:** In cases when you've asked libcurl to follow redirects, the method may very well not be the same method the first request would use.

### 5.18.47 GetInfoEffectiveURL as string

Plugin Version: 9.8, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The last used effective URL.
**Notes:** The Lasterror property is set. 0 for success.

### 5.18.48 GetInfoFileTime as Integer

Plugin Version: 9.8, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** the remote time of the retrieved document (in number of seconds since 1 jan 1970 in the GMT/UTC time zone).
**Example:**

```
// init CURL with options
Var d as new CURLSMBS
d.OptionFileTime = true
d.OptionURL = "http://www.monkeybreadsoftware.de/images/mbs.jpg"

// run query
Var e as Integer = d.Perform

// calculate date object
Var da as new date(1970,1,1,0,0,0)
da.TotalSeconds = da.TotalSeconds + d.GetInfoFileTime
```

```
// show date
ResultText.text=str(d.GetInfoFileTime)+" "+da.ShortDate+" "+da.ShortTime
```

**Notes:** The Lasterror property is set. 0 for success.
If you get -1, it can be because of many reasons (unknown, the server hides it or the server doesn't support the command that tells document time etc) and the time of the document is unknown. Note that you must tell the server to collect this information before the transfer is made, by using the OptionFileTime option or you will unconditionally get a -1 back. (Added in 7.5)

### 5.18.49 GetInfoFTPEntryPath as string

Plugin Version: 15.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Returns a string holding the path of the entry path.
**Notes:** That is the initial path libCURL ended up in when logging on to the remote FTP server.
Empty string if unknown.

### 5.18.50 GetInfoHeaderSize as Integer

Plugin Version: 9.8, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The total size of all the headers received.
**Notes:** The Lasterror property is set. 0 for success.

### 5.18.51 GetInfoHTTPAuthAvail as Integer

Plugin Version: 9.8, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** A bitmask indicating the authentication method(s) available.
**Notes:** The Lasterror property is set. 0 for success.
The meaning of the bits is explained in the HTTPAuth option.

### 5.18.52 GetInfoHTTPConnectCode as Integer

Plugin Version: 9.8, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The last received proxy response code to a CONNECT request.
**Notes:** The Lasterror property is set. 0 for success.

### 5.18.53 GetInfoHTTPVersion as integer

Plugin Version: 18.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Get the http version used in the connection.
**Notes:** The returned value will be kHTTP_VERSION_1_0, kHTTP_VERSION_1_1, or kHTTP_VERSION_2_0, or 0 if the version can't be determined.

### 5.18.54 GetInfoLastSocket as Integer

Plugin Version: 15.2, Platforms: macOS, Linux, Windows, Targets: All.

**Deprecated:** This item is deprecated and should no longer be used. You can use GetInfoActiveSocket instead. **Function:** Receive the last socket used by this CURL session.
**Notes:** If the socket is no longer valid, -1 is returned. When you finish working with the socket, the destructor will free the handle as usual and let libCURL close the socket and cleanup other resources associated with the handle. This is typically used in combination with OptionConnectOnly. (Added in 7.15.2)

NOTE: this API is not really working on win64, since the SOCKET type on win64 is 64 bit large while its 'long' is only 32 bits.

### 5.18.55 GetInfoLocalIP as string

Plugin Version: 15.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Queries local IP.
**Example:**

```
Var c as new CURLSMBS

// do some transfer
c.OptionURL = "http://www.mbsplugins.de/"
Var e as Integer = c.perform

// now check local IP
MessageBox c.GetInfoLocalIP
```

### 5.18.56 GetInfoLocalPort as Integer

Plugin Version: 15.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Return the local port of the most recent (primary) connection.
**Example:**

```
Var c as new CURLSMBS

// do some transfer
c.OptionURL = "http://www.mbsplugins.de/"
Var e as Integer = c.perform

// now check local IP and port
MessageBox c.GetInfoLocalIP+":"+str(c.GetInfoLocalPort)
```

### 5.18.57 GetInfoNameLookupTime as Double

Plugin Version: 9.8, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The time, in seconds, it took from the start until the name resolving was completed.
**Notes:** The Lasterror property is set. 0 for success.

### 5.18.58 GetInfoNumConnects as Integer

Plugin Version: 9.8, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** How many new connections libCURL had to create to achieve the previous transfer.
**Notes:** The Lasterror property is set. 0 for success.
(only the successful connects are counted)
Combined with RedirectCount you are able to know how many times libCURL successfully reused existing connection(s) or not. See the Connection Options to see how libCURL tries to make persistent connections to save time.

### 5.18.59 GetInfoOSErrno as Integer

Plugin Version: 9.8, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The errno variable from a connect failure.
**Notes:** The Lasterror property is set. 0 for success.

### 5.18.60 GetInfoPreTransferTime as Double

Plugin Version: 9.8, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The time, in seconds, it took from the start until the file transfer is just about to begin.
**Notes:** The Lasterror property is set. 0 for success.

This includes all pre-transfer commands and negotiations that are specific to the particular protocol(s) involved.

### 5.18.61 GetInfoPrimaryIP as string

Plugin Version: 15.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Return the ip address of the most recent (primary) connection.
**Example:**

```
Var c as new CURLSMBS

// do some transfer
c.OptionURL = "http://www.mbsplugins.de/"
Var e as Integer = c.perform

// now check primary IP and port
MessageBox c.GetInfoPrimaryIP+":"+str(c.GetInfoPrimaryport)
```

### 5.18.62 GetInfoPrimaryPort as Integer

Plugin Version: 15.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Return the (remote) port of the most recent (primary) connection.
**Example:**

```
Var c as new CURLSMBS

// do some transfer
c.OptionURL = "http://www.mbsplugins.de/"
Var e as Integer = c.perform

// now check primary IP and port
MessageBox c.GetInfoPrimaryIP+":"+str(c.GetInfoPrimaryport)
```

### 5.18.63 GetInfoProtocol as integer

Plugin Version: 18.2, Platforms: macOS, Linux, Windows, Targets: All.

**Deprecated:** This item is deprecated and should no longer be used. **Function:** Get the protocol used in the connection.
**Notes:** See kProtocol* constants.

### 5.18.64 GetInfoProxyAuthAvail as Integer

Plugin Version: 9.8, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** A bitmask indicating the authentication method(s) available for your proxy authentication.
**Notes:** The Lasterror property is set. 0 for success.

### 5.18.65 GetInfoProxyError as integer

Plugin Version: 20.5, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Queries proxy error code.

### 5.18.66 GetInfoProxySSLVerifyResult as integer

Plugin Version: 18.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Get the result of the proxy certificate verification.
**Notes:** receive the result of the certificate verification that was requested (using the OptionProxySSLVerifyPeer option. This is only used for HTTPS proxies.

### 5.18.67 GetInfoRedirectCount as Integer

Plugin Version: 9.8, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The total number of redirections that were actually followed.
**Notes:** The Lasterror property is set. 0 for success.

### 5.18.68 GetInfoRedirectTime as Double

Plugin Version: 9.8, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** the total time, in seconds, it took for all redirection steps include name lookup, connect, pretransfer and transfer before final transaction was started.
**Notes:** The Lasterror property is set. 0 for success.
RedirectTime contains the complete execution time for multiple redirections. (Added in 7.9.7)

### 5.18.69 GetInfoRedirectURL as string

Plugin Version: 15.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The redirection URL.

### 5.18.70 GetInfoReferer as string

Plugin Version: 21.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Queries referrer text.

### 5.18.71 GetInfoRequestSize as Integer

Plugin Version: 9.8, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The total size of the issued requests.
**Notes:** The Lasterror property is set. 0 for success.
This is so far only for HTTP requests. Note that this may be more than one request if FOLLOWLOCATION is true.

### 5.18.72 GetInfoResponseCode as Integer

Plugin Version: 9.8, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The last received HTTP or FTP code.
**Notes:** The Lasterror property is set. 0 for success.
This will be zero if no server response code has been received. Note that a proxy's CONNECT response should be read with GetInfoHTTPConnectCode and not this.

With HTTP transfer, a successful transfer reports 200 here. If the page is not found, you get 404. Or any other HTTP Response code.

### 5.18.73 GetInfoRetryAfter as integer

Plugin Version: 20.4, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Returns the Retry-After retry delay.
**Notes:** Receive the number of seconds the HTTP server suggesets the client should wait until the next request is issued.
The information from the "Retry-After:" header.

While the HTTP header might contain a fixed date string, the RetryAfter will always return number of seconds to wait - or zero if there was no header or the header couldn't be parsed.

### 5.18.74 GetInfoRTSPClientCSEQ as Integer

Plugin Version: 15.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Query RTSP Client sequence counter.

### 5.18.75 GetInfoRTSPCSEQRecv as Integer

Plugin Version: 15.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Query RTSP sequence counter received.

### 5.18.76 GetInfoRTSPServerCSEQ as Integer

Plugin Version: 15.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Query RTSP Server sequence counter.

### 5.18.77 GetInfoRTSPSessionID as string

Plugin Version: 15.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Query RTSP session ID.

### 5.18.78 GetInfoScheme as string

Plugin Version: 18.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Get the URL scheme (sometimes called protocol) used in the connection

### 5.18.79 GetInfoSizeDelivered as Integer

Plugin Version: 26.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Queries number of bytes delivered to the client.

### 5.18.80 GetInfoSizeDownload as Integer

Plugin Version: 9.8, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The total amount of bytes that were downloaded.
**Notes:** The Lasterror property is set. 0 for success.
The amount is only for the latest transfer and will be reset again for each new transfer.

### 5.18.81 GetInfoSizeUpload as Integer

Plugin Version: 9.8, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The total amount of bytes that were uploaded.
**Notes:** The Lasterror property is set. 0 for success.

### 5.18.82 GetInfoSpeedDownload as Integer

Plugin Version: 9.8, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The average download speed that CURL measured for the complete download.
**Notes:** The Lasterror property is set. 0 for success.

### 5.18.83 GetInfoSpeedUpload as Integer

Plugin Version: 9.8, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The average upload speed that CURL measured for the complete upload.
**Notes:** The Lasterror property is set. 0 for success.

### 5.18.84 GetInfoSSLEngines as CURLSListMBS

Plugin Version: 9.8, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Receive a linked-list of OpenSSL crypto-engines supported.
**Notes:** The Lasterror property is set. 0 for success.
Note that engines are normally implemented in separate dynamic libraries. Hence not all the returned engines may be available at run-time.

### 5.18.85 GetInfoSSLVerifyResult as Integer

Plugin Version: 9.8, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** the result of the certification verification that was requested (using the SSLVerifyPeer option).
**Notes:** The Lasterror property is set. 0 for success.

### 5.18.86 GetInfoStartTransferTime as Double

Plugin Version: 9.8, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** the time, in seconds, it took from the start until the first byte is just about to be transferred.
**Notes:** The Lasterror property is set. 0 for success.
This includes the pretransfer time and also the time the server needs to calculate the result.

### 5.18.87 GetInfoTotalTime as Double

Plugin Version: 9.8, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The total time in seconds for the previous transfer, including name resolving, TCP connect etc.
**Notes:** The Lasterror property is set. 0 for success.

### 5.18.88 LoadAPI

Plugin Version: 13.5, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Loads the default CURL library.
**Notes:** This method is called by the constructor. So you don't need this except you want to test explicit with APILoaded whether the loading worked before you use the CURLSMBS class.

Loads the "libCURL.dll" Windows library (with SSL support this one max require OpenSSL).
Loads on Mac OS X and Linux the libCURL file in /usr/lib.

### 5.18.89 LoadErrorString as string

Plugin Version: 13.5, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The last error string from the LoadLibrary function.

### 5.18.90 LoadLibrary(file as folderitem) as boolean

Plugin Version: 13.5, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Loads the CURL library from the given path.
**Notes:** You only need to use this function if you have your own CURL Library.

Loads a Windows DLL, a Linux shared library or a Mac OS X shared library from the given path.

Returns true on success.
See also:

- 5.18.91 LoadLibrary(path as string) as boolean 143

### 5.18.91 LoadLibrary(path as string) as boolean

Plugin Version: 13.5, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Loads the CURL library from the given path.
**Notes:** You only need to use this function if you have your own CURL Library.

Loads a Windows DLL, a Linux shared library or a Mac OS X shared library from the given path.

Returns true on success.
See also:

- 5.18.90 LoadLibrary(file as folderitem) as boolean 143

### 5.18.92 OpenMTInputFile(file as folderitem, Offset as Integer = 0) as boolean

Plugin Version: 11.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Opens input file for reading data while PerformMT runs.
**Example:**

```
Var c As New CURLSMBS
Var file As FolderItem = SpecialFolder.Desktop.Child("test.rtf")

If c.OpenMTInputFile(file) Then
// okay
Else
MessageBox "Failed to open file to upload."
Return
End If
```

```
// do a SFTP upload
c.OptionURL = "sftp://monkeybreadsoftware.de/folder/test.rtf"
c.OptionUpload = True
c.OptionUsername = "test"
c.OptionPassword = "test"
c.CollectOutputData = false

Var e As Integer = c.Perform

Var ErrorMessage As String = c.LasterrorMessage
Var ErrorLog As String = c.DebugMessages
Var ResultData As String = c.OutputData

Break
```

**Notes:** The read event is not called with PerformMT.
Offset is helpful for HTTP PUT requests with range, so you can start with an offset.
With 15.2 version of plugin, this also works with Perform.

Must be called before Perform or PerformMT, so we can stream data from the file.
The file is closed automatically when Perform methods finish their work.

The function returns false in case of an error, e.g. if file is already open by another application, the foleritem/path is invalid, the offset is negative or we can't determinate the file size.
It may be wise to have a fallback in your code to use a binarystream in that case (if that one can read the file) and then read all the data in a string and put into the InputData property.
See also:

- 5.18.93 OpenMTInputFile(Path as String, Offset as Integer = 0) as boolean 144

### 5.18.93 OpenMTInputFile(Path as String, Offset as Integer = 0) as boolean

Plugin Version: 19.5, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Opens input file for reading data while PerformMT runs.
**Notes:** The read event is not called with PerformMT.
Offset is helpful for HTTP PUT requests with range, so you can start with an offset.

Must be called before Perform or PerformMT, so we can stream data from the file.
The file is closed automatically when Perform methods finish their work.

The function returns false in case of an error, e.g. if file is already open by another application, the foleritem/path is invalid, the offset is negative or we can't determinate the file size.
It may be wise to have a fallback in your code to use a binarystream in that case (if that one can read the

file) and then read all the data in a string and put into the InputData property.
See also:

- 5.18.92 OpenMTInputFile(file as folderitem, Offset as Integer = 0) as boolean 143

### 5.18.94 Perform as Integer

Plugin Version: 9.8, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Perform a file transfer
**Example:**

```
// if you get a curl call like this

'curl -X PATCH "https://api.airtable.com/v0/ { baseId } / { tableIdOrName } / { recordId } " \
'-H "Authorization: Bearer YOUR_TOKEN" \
'-H "Content-Type: application/json" \
'–data ' {
'"fields": {
'"Address": "1 Ferry Building",
'"Name": "Ferry Building",
'"Visited": True
' }
' } '

// you translate it to this:

Var c As New CURLSMBS

Var Payload As String = _
" { "+_
""""fields"": { "+_
""""Address"": ""1 Ferry Building"","+_
""""Name"": ""Ferry Building"","+_
""""Visited"": True"+_
" } "+_
" } "

c.OptionCustomRequest = "PATCH"
c.OptionURL = "https://api.airtable.com/v0/ { baseId } / { tableIdOrName } / { recordId } "
c.SetOptionHTTPHeader Array("Content-Type: application/json", "Authorization: Bearer YOUR_TOKEN")
c.OptionPostFields = Payload

Var Error As Integer = c.Perform
Var ResponseCode As Integer = c.GetInfoResponseCode
Var DebugLog As String = c.DebugMessages
Var Output As String = c.OutputData
```

```
Break
```

**Notes:** This function is called after all the options are set, and will perform the transfer as described in the options.

You can do any amount of calls to Perform. If you intend to transfer more than one file, you are even encouraged to do so. libCURL will then attempt to re-use the same connection for the following transfers, thus making the operations faster, less CPU intense and using less network resources. Just note that you will have to use the option properties between the invokes to set options for the following Perform.

Typical error codes are 6 for a wrong domain name in the URL, 67 for wrong name/password combination, 60 for missing SSL settings, 1 for an unsupported protocol.

Possible values for the retun value:

The error value -1 is used from the plugin to report that something is missing like OpenSSL dlls on Windows.

With SFTP, you can get logged error "Upload failed: Operation failed (4/-31)" when upload uses path to folder instead of file in URL.

### 5.18.95 PerformMT as Integer

Plugin Version: 11.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Perform a file transfer with preemptive multithreading.
**Example:**

```
Var c As New CURLSMBS
Var file As FolderItem = SpecialFolder.Desktop.Child("test.rtf")

If c.OpenMTInputFile(file) Then
// okay
Else
MessageBox "Failed to open file to upload."
Return
End If

// do a SFTP upload
c.OptionURL = "sftp://monkeybreadsoftware.de/folder/test.rtf"
c.OptionUpload = True
c.OptionUsername = "test"
c.OptionPassword = "test"
```

```
Var e As Integer = c.PerformMT

Var ErrorMessage As String = c.LasterrorMessage
Var ErrorLog As String = c.DebugMessages
Var ResultData As String = c.OutputData

Break
```

**Notes:** Same as Perform, but with additional multithreading.

As the actual transfer runs on a preemptive thread, the events Debug, Write, Header and Progress are called asynchrounously and run a few milliseconds later. You can return true in Progress event to stop transfer, but you will get more events before the transfer is stopped.

You can call CreateMTDebugOutputFile, CreateMTHeaderOutputFile and CreateMTOutputFile before PerformMT to have output data be written into files. Call OpenMTInputFile to let the plugin read input data (form post or upload) from an input file.

Do not call other CURL functions on this CURLSMBS instance while PerformMT is running!

Typical error codes are 6 for a wrong domain name in the URL, 67 for wrong name/password combination, 60 for missing SSL settings, 1 for an unsupported protocol.

To avoid trouble with app hanging on quit of application, be sure to set cancel property to true in window close event to cancel any pending transfer.

The work is performed on a preemptive thread, so this function does not block the application and can yield time to other Xojo threads. Must be called in a Xojo thread to enjoy benefits. If called in main thread will block, but keep other background threads running.

### 5.18.96 ProcessRelativeURL(BaseURL as String, RelativeURL as String) as String

Plugin Version: 23.4, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Processes an URL to come from relative URL to a new absolute URL.
**Example:**

```
Var baseURL As String = "https://monkeybreadsoftware.net/themes.shtml"
Var RelativeURL As String = "topic-curl.shtml"
```

```
Var URL As String = CURLSMBS.ProcessRelativeURL(baseURL, RelativeURL)
Break
```

**Notes:** Raises an UnsuppportedOperationException in case of failure.

### 5.18.97 ReceiveData(byref data as Memoryblock, BytesToRead as Int64) as Int64

Plugin Version: 17.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Receives raw data on a connection.
**Notes:** This function receives raw data from the established connection. You may use it together with SendData to implement custom protocols using libcurl. This functionality can be particularly useful if you use proxies and/or SSL encryption: libcurl will take care of proxy negotiation and connection set-up.

The data memoryblock is a reference to your variable that will get the received data. BytesToRead is the maximum amount of data you can get in that buffer. The function returns the number of received bytes.

To establish the connection, set OptionConnectOnly = true before calling Perform. Note that ReceiveData does not work on connections that were created without this option.

The call will return kError_AGAIN if there is no data to read - the socket is used in non-blocking mode internally. When kError_AGAIN is returned, wait for data to arrive.

Wait on the socket only if ReceiveData returns kError_AGAIN. The reason for this is libcurl or the SSL library may internally cache some data, therefore you should call ReceiveData until all data is read which would include any cached data.

Furthermore if you wait on the socket and it tells you there is data to read, ReceiveData may return CURLE_AGAIN if the only data that was read was for internal SSL processing, and no other data is available.

On success, sets lasterror to kError_OK (0), stores the received data into memory block, and returns the number of bytes it actually read.

On failure, returns zero and lasterror is set to the appropriate error code.

The function may return kError_AGAIN. In this case, use your operating system facilities to wait until data can be read, and retry.

Reading exactly 0 bytes indicates a closed connection.

If there's no socket available to use from the previous transfer, this function returns kError_UNSUPPORTED_PROTOCOL.

### 5.18.98 Reset

Plugin Version: 9.8, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Re-initializes all options previously set on a specified CURL handle to the default values.
**Notes:** It does not change the following information kept in the handle: live connections, the Session ID cache, the DNS cache, the cookies and shares.

### 5.18.99 SendData(data as Memoryblock) as Integer

Plugin Version: 15.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Sends raw data over a connection.
**Notes:** This function sends arbitrary data over the established connection. You may use it together with ReceiveData to implement custom protocols using libcurl. This functionality can be particularly useful if you use proxies and/or SSL encryption: libcurl will take care of proxy negotiation and connection set-up.

Provide the data to send via parameter. We return the number of bytes sent.

To establish the connection, set OptionConnectOnly = true option before calling Perform methods. Note that SendData will not work on connections that were created without this option.

The call will return kError_AGAIN if it's not possible to send data right now - the socket is used in non-blocking mode internally. When kError_AGAIN is returned, please wait.

Furthermore if you wait on the socket and it tells you it's writable, SendData may return kError_AGAIN if the only data that was sent was for internal SSL processing, and no other data could be sent.
See also:

- 5.18.100 SendData(data as string) as Integer 149

### 5.18.100 SendData(data as string) as Integer

Plugin Version: 15.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Sends raw data over a connection.
**Notes:** This function sends arbitrary data over the established connection. You may use it together with ReceiveData to implement custom protocols using libcurl. This functionality can be particularly useful if you use proxies and/or SSL encryption: libcurl will take care of proxy negotiation and connection set-up.

Provide the data to send via parameter. We return the number of bytes sent.

To establish the connection, set OptionConnectOnly = true option before calling Perform methods. Note that SendData will not work on connections that were created without this option.

The call will return kError_AGAIN if it's not possible to send data right now - the socket is used in non-blocking mode internally. When kError_AGAIN is returned, please wait.

Furthermore if you wait on the socket and it tells you it's writable, SendData may return kError_AGAIN if the only data that was sent was for internal SSL processing, and no other data could be sent.
See also:

- 5.18.99 SendData(data as Memoryblock) as Integer 149

### 5.18.101 SetInputData(data as MemoryBlock)

Plugin Version: 14.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Sets the input data.
**Notes:** If you set input data, you do not need to use Read, RestartRead or Seek events.
The plugin will use the provided data for the upload.
Setting input data size, will also set the input file size (OptionInFileSizeLarge and OptionInFileSize).

Alternatively you can provide data in Read event or use OpenMTInputFile method to open a file on disk to upload.
See also:

- 5.18.102 SetInputData(data as string) 150

### 5.18.102 SetInputData(data as string)

Plugin Version: 14.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Sets the input data.
**Example:**

```
Var c As New CURLSMBS

c.SetInputData "Hello World"
```

```
// do a HTTP Upload with PUT
c.OptionUpload = True
c.OptionURL = "https://monkeybreadsoftware.de/filemaker/examples/echo.php"

// or do a FTP upload
'c.OptionURL = "ftp://monkeybreadsoftware.de/folder/file.txt"

Var e As Integer = c.Perform

Var ErrorMessage As String = c.LasterrorMessage
Var ErrorLog As String = c.DebugMessages
Var ResultData As String = c.OutputData

Break
```

**Notes:** If you set input data, you do not need to use Read, RestartRead or Seek events.
The plugin will use the provided data for the upload.
Setting input data size, will also set the input file size (OptionInFileSizeLarge and OptionInFileSize).

Alternatively you can provide data in Read event or use OpenMTInputFile method to open a file on disk to upload.
See also:

- 5.18.101 SetInputData(data as MemoryBlock) 150

```
const kError_FunctionMissing                    = -1
 const kError_OK                                = 0
 const kError_UNSUPPORTED_PROTOCOL              = 1
 const kError_FAILED_INIT                       = 2
 const kError_URL_MALFORMAT                     = 3
 const kError_URL_MALFORMAT_USER                = 4   (NOT USED)
 const kError_COULDNT_RESOLVE_PROXY             = 5
 const kError_COULDNT_RESOLVE_HOST              = 6
 const kError_COULDNT_CONNECT                   = 7
 const kError_FTP_WEIRD_SERVER_REPLY            = 8
 const kError_FTP_ACCESS_DENIED                 = 9   a service was denied by the FTP server due to lack of access when login fails
                                                      this is not returned.
 const kError_FTP_USER_PASSWORD_INCORRECT       = 10
 const kError_FTP_WEIRD_PASS_REPLY              = 11
 const kError_FTP_WEIRD_USER_REPLY              = 12
 const kError_FTP_WEIRD_PASV_REPLY              = 13
 const kError_FTP_WEIRD_227_FORMAT              = 14
 const kError_FTP_CANT_GET_HOST                 = 15
 const kError_FTP_CANT_RECONNECT                = 16
 const kError_FTP_COULDNT_SET_BINARY            = 17
 const kError_PARTIAL_FILE                      = 18
 const kError_FTP_COULDNT_RETR_FILE             = 19
 const kError_FTP_WRITE_ERROR                   = 20
 const kError_FTP_QUOTE_ERROR                   = 21
 const kError_HTTP_RETURNED_ERROR               = 22
 const kError_WRITE_ERROR                       = 23
 const kError_MALFORMAT_USER                    = 24  NOT USED
 const kError_FTP_COULDNT_STOR_FILE             = 25  failed FTP upload
 const kError_READ_ERROR                        = 26  could open/read from file
 const kError_OUT_OF_MEMORY                     = 27
 const kError_OPERATION_TIMEOUTED               = 28  the timeout time was reached
 const kError_FTP_COULDNT_SET_ASCII             = 29  TYPE A failed
 const kError_FTP_PORT_FAILED                   = 30  FTP PORT operation failed
 const kError_FTP_COULDNT_USE_REST              = 31  the REST command failed
 const kError_FTP_COULDNT_GET_SIZE              = 32  the SIZE command failed
 const kError_HTTP_RANGE_ERROR                  = 33  RANGE "command" didn't work
 const kError_SSL_CONNECT_ERROR                 = 35  wrong when connecting with SSL
 const kError_BAD_DOWNLOAD_RESUME               = 36  couldn't resume download
 const kError_FILE_COULDNT_READ_FILE            = 37
 const kError_LDAP_CANNOT_BIND                  = 38
 const kError_LDAP_SEARCH_FAILED                = 39
 const kError_LIBRARY_NOT_FOUND                 = 40
 const kError_ABORTED_BY_CALLBACK               = 42
 const kError_BAD_FUNCTION_ARGUMENT             = 43
 const kError_BAD_CALLING_ORDER                 = 44  NOT USED
 const kError_INTERFACE_FAILED                  = 45  CURLOPT_INTERFACE failed
 const kError_BAD_PASSWORD_ENTERED              = 46  NOT USED
 const kError_TOO_MANY_REDIRECTS                = 47  catch endless re-direct loops
 const kError_UNKNOWN_TELNET_OPTION             = 48  User specified an unknown option
 const kError_TELNET_OPTION_SYNTAX              = 49  Malformed telnet option
 const kError_OBSOLETE                          = 50  NOT USED
 const kError_SSL_PEER_CERTIFICATE              = 51  peer's certificate wasn't ok
 const kError_GOT_NOTHING                       = 52  when this is a specific error
 const kError_SSL_ENGINE_NOTFOUND               = 53  SSL crypto engine not found
 const kError_SSL_ENGINE_SETFAILED              = 54  can not set SSL crypto engine as default
 const kError_SEND_ERROR                        = 55  failed sending network data
 const kError_RECV_ERROR                        = 56  failure in receiving network data
 const kError_SHARE_IN_USE                      = 57  share is in use
 const kError_SSL_CERTPROBLEM                   = 58  problem with the local certificate
 const kError_SSL_CIPHER                        = 59  couldn't use specified cipher
 const kError_SSL_CACERT                        = 60  problem with the CA cert (path?)
 const kError_BAD_CONTENT_ENCODING              = 61  Unrecognized transfer encoding
 const kError_LDAP_INVALID_URL                  = 62  Invalid LDAP URL
 const kError_FILESIZE_EXCEEDED                 = 63  Maximum file size exceeded
 const kError_FTP_SSL_FAILED                    = 64  Requested FTP SSL level failed
 const kError_SEND_FAIL_REWIND                  = 65  Sending the data requires a rewind that failed
 const kError_SSL_ENGINE_INITFAILED             = 66  failed to initialise ENGINE
 const kError_LOGIN_DENIED                      = 67  user, password or similar was not accepted and we failed to login
```

### 5.18.103 SetOptionConnectTo(list() as string)

Plugin Version: 18.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Set list of host:port:connect-to-host:connect-to-port, overrides the URL's host:port (only for the network layer)

### 5.18.104 SetOptionEmptyPassword

Plugin Version: 15.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Sets an empty password.
**Notes:** Normally you have no password unless you set it.
But if you set a password with empty string, the plugin sets CURL to use no password.
This method is to use an empty password.

### 5.18.105 SetOptionHTTP200Aliases(list() as string)

Plugin Version: 9.8, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** A linked list of aliases to be treated as valid HTTP 200 responses.
**Notes:** Some servers respond with a custom header response line. For example, IceCast servers respond with "ICY 200 OK". By including this string in your list of aliases, the response will be treated as a valid HTTP header line such as "HTTP/1.0 200 OK".

The alias itself is not parsed for any version strings. So if your alias is "MYHTTP/9.9", LibCURL will not treat the server as responding with HTTP version 9.9. Instead LibCURL will use the value set by option HTTPVersion.

The Lasterror property is set. 0 for success.

### 5.18.106 SetOptionHTTPHeader(list() as string)

Plugin Version: 9.8, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** A linked list of HTTP headers to pass to the server in your HTTP request.
**Example:**

```
Var c as new CURLSMBS
c.SetOptionHTTPHeader array("Expect:", "Content-Type: text/xml", "SOAPAction: ""login""")
```

**Notes:** If you add a header that is otherwise generated and used by libCURL internally, your added one

will be used instead. If you add a header with no contents as in 'Accept:' (no data on the right side of the colon), the internally used header will get disabled. Thus, using this option you can add new headers, replace internal headers and remove internal headers. To add a header with no contents, make the contents be two quotes: "". The headers included in the linked list must not be CRLF-terminated, because CURL adds CRLF after each header item. Failure to comply with this will result in strange bugs because the server will most likely ignore part of the headers you specified.

The first line in a request (containing the method, usually a GET or POST) is not a header and cannot be replaced using this option. Only the lines following the request-line are headers. Adding this method line in this list of headers will only cause your request to send an invalid header.

Pass an empty array to this to reset back to no custom headers.

The Lasterror property is set. 0 for success.

### 5.18.107 SetOptionMailRecipients(list() as string)

Plugin Version: 11.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Sets the array of email recipient addresses.

### 5.18.108 SetOptionPostQuote(list() as string)

Plugin Version: 9.8, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Pass an array to a list of FTP commands to pass to the server after your ftp transfer request.
**Example:**

```
Var d as CURLSMBS // your CURL object

Var ws() As String
ws.Add "RNFR Temp.txt"
ws.Add "RNTO MyFile.txt"
d.SetOptionPostQuote(ws)
```

**Notes:** Disable this operation again by using an empty array for this option.

The Lasterror property is set. 0 for success.
If you want to do a ftp operation instead of download/upload/directory listing, please use SetOptionQuote.

### 5.18.109 SetOptionPreQuote(list() as string)

Plugin Version: 9.8, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Pass an array to a list of FTP commands to pass to the server after the transfer type is set.
**Notes:** Disable this operation again by using an empty array for this option. Before version 7.15.6, if you also set Nobody to true, this option didn't work.

The Lasterror property is set. 0 for success.

### 5.18.110 SetOptionProxyHeader(list() as string)

Plugin Version: 18.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Set list of headers used for proxy requests only.

### 5.18.111 SetOptionQuote(list() as string)

Plugin Version: 9.8, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Pass an array or a list of FTP commands to pass to the server prior to your ftp request.
**Example:**

```
Var curl as new CURLSMBS
curl.SetOptionQuote array("DELE filename.txt")
```

**Notes:** This will be done before any other FTP commands are issued (even before the CWD command).

Disable this operation again by using an empty array for this option.

The Lasterror property is set. 0 for success.

### 5.18.112 SetOptionResolve(list() as string)

Plugin Version: 18.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Send linked-list of name:port:address sets.

### 5.18.113 SetOptionTelnetOptions(list() as string)

Plugin Version: 9.8, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Provide an array of variables to pass to the telnet negotiations.
**Notes:** The variables should be in the format <option=value>. libCURL supports the options 'TTYPE', 'XDISPLOC' and 'NEW_ENV'. See the TELNET standard for details.

The Lasterror property is set. 0 for success.

### 5.18.114 SetPathCAInfo(path as folderitem)

Plugin Version: 10.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** A path holding one or more certificates to verify the peer with.
**Example:**

```
Var cacert as FolderItem // your cacert.pem file
Var CURL as new CURLMBS
CURL.OptionSSLVerifyHost = 2 // verify server
CURL.OptionSSLVerifyPeer = 1 // proofs certificate is authentic
CURL.SetPathCAInfo cacert
```

**Notes:** This makes sense only when used in combination with the OptionSSLVerifyPeer option. If OptionSSLVerifyPeer is false, OptionCAINFO need not even indicate an accessible file.

Note that option is by default set to the system path where libCURL's cacert bundle is assumed to be stored, as established at build time.

The Lasterror property is set. 0 for success.
You can set this value and later you can read it, but you cannot read the default value.

### 5.18.115 SetPathCAPath(path as folderitem)

Plugin Version: 10.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** A path to the directory holding multiple CA certificates to verify the peer with.
**Example:**

```
Var c as new CURLSMBS

Var cacert As FolderItem = New FolderItem("cacert.pem")
c.SetPathCAPath cacert
```

**Notes:** The certificate directory must be prepared using the openssl c_rehash utility. This makes sense only when used in combination with the CURLOPT_SSL_VERIFYPEER option. If OptionSSLVerifyPeer is zero, OptionCAPath need not even indicate an accessible path. The OptionCAPath function apparently does not work in Windows due to some limitation in openssl. This option is OpenSSL-specific and does nothing if libCURL is built to use GnuTLS.

The Lasterror property is set. 0 for success.
You can set this value and later you can read it, but you cannot read the default value.

### 5.18.116 SetPathCRLFile(path as folderitem)

Plugin Version: 10.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Sets the path with the concatenation of CRL (in PEM format) to use in the certificate validation that occurs during the SSL exchange.
**Notes:** When CURL is built to use NSS or GnuTLS, there is no way to influence the use of CRL passed to help in the verification process. When libCURL is built with OpenSSL support, X509_V_FLAG_CRL_CHECK and X509_V_FLAG_CRL_CHECK_ALL are both set, requiring CRL check against all the elements of the certificate chain if a CRL file is passed.

This option makes sense only when used in combination with the OptionSSLVerifyPeer option.

A specific error code (CURLE_SSL_CRL_BADFILE) is defined with the option. It is returned when the SSL exchange fails because the CRL file cannot be loaded. Note that a failure in certificate verification due to a revocation information found in the CRL does not trigger this specific error. (Added in 7.19.0)

### 5.18.117 SetPathIssuerCert(path as folderitem)

Plugin Version: 10.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Sets the path to a CA certificate in PEM format.
**Notes:** If the option is set, an additional check against the peer certificate is performed to verify the issuer is indeed the one associated with the certificate provided by the option. This additional check is useful in multi-level PKI where one needs to enforce that the peer certificate is from a specific branch of the tree.

This option makes sense only when used in combination with the OptionSSLVerifyPeer option. Otherwise, the result of the check is not considered as failure.

A specific error code (CURLE_SSL_ISSUER_ERROR) is defined with the option, which is returned if the setup of the SSL/TLS session has failed due to a mismatch with the issuer of peer certificate (OptionSS-

LVerifyPeer has to be set too for the check to fail). (Added in 7.19.0)

### 5.18.118 SetPathNetRCFile(path as folderitem)

Plugin Version: 10.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Sets the path to the file you want libCURL to use as .netrc file.
**Notes:** If this option is omitted, and OptionNETRC is set, libCURL will attempt to find the a .netrc file in the current user's home directory. (Added in 7.10.9)

The Lasterror property is set. 0 for success.
You can set this value and later you can read it, but you cannot read the default value.

### 5.18.119 SetPathProxyIssuerCert(path as folderitem)

Plugin Version: 20.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Sets the proxy issuer SSL certificate filename.
**Notes:** Pass a string naming a file holding a CA certificate in PEM format. If the option is set, an additional check against the peer certificate is performed to verify the issuer of the HTTPS proxy is indeed the one associated with the certificate provided by the option. This additional check is useful in multi-level PKI where one needs to enforce that the peer certificate is from a specific branch of the tree.

This option makes sense only when used in combination with the OptionProxySSLVerifyPeer option. Otherwise, the result of the check is not considered as failure.

A specific error code (CURLE_SSL_ISSUER_ERROR) is defined with the option, which is returned if the setup of the SSL/TLS session has failed due to a mismatch with the issuer of peer certificate (OptionProxySSLVerifyPeer has to be set too for the check to fail).

### 5.18.120 SetupAWS(AWSAccessKeyId as String, AWSSecretAccessKey as String, Region as String, Service as String, Path as String, Domain as String, Verb as String, HashedPayload as String = "", Headers() as String = nil, queryParameters() as string = nil, NoSSL as boolean = false) as boolean

Plugin Version: 17.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Setup CURL to transfer to Amazon Webservices.
**Notes:** This implements AWS4-HMAC-SHA256 signature for credentials, sets authentication, URL, HTTP

Headers and other parameters.
For upload or post, please set input parameters first.

| Parameter | Description | Example |
|---|---|---|
| AWSAccessKeyId | Your access key for AWS. | |
| AWSSecretAccessKey | Your secret. | |
| Region | The region to use. | "eu-central-1" |
| Service | The service to use. | "s3" |
| Path | The path for the URL. Should always start with "/". | "/test.jpg" |
| Domain | Optional the domain to use. By default we just build it from region and service. | "s3.eu-central-1.amazonaws.com" or "s3-ap-southeast-2.amazonaws.com" |
| Verb | The HTTP Operation to do. Can be POST, PUT, PATCH, GET or DELETE. | "PUT" |
| HashedPayload | The hashed payload. If empty, we calculate it automatically from input data or postfields. This is a lowercase hex SHA256. | |
| Headers | Optional extra HTTP headers to include. | "x-amz-acl: public-read" |
| queryParameters | Optional query parameter list with entries like "key=value", URL encoded. | |

Returns true on success or false on failure.
Throws exceptions when parameters are insufficient (UnsupportedOperationException).

Works also for other compatible S3 services beside Amazon's like the one from Wasabi or Dell ECS.
Added PATCH as verb in version 23.0.

Please be aware that this function depends on a correct time and date set on the computer. If the time is not set correct, the authentication will fail.

### 5.18.121 SetupEmail(email as Variant) as boolean

Plugin Version: 14.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Setups existing CURL session for an email transfer.
**Example:**

```
Var e as new CURLEmailMBS

e.SetFrom "test@test.test", "Christian M√∂ller"
e.Subject = "Hello World ,òÔè"
e.SMTPPassword = "xxx"
e.SMTPUsername = "xxx"
e.SetServer "smtp.test.test", true
e.AddTo "test@test.test", "Test M√∂ller"
e.PlainText = "Hello World," + EndOfLine + "Smilies: ,òÔè üòò üòÑ"

Var c as new CURLSMBS

if c.SetupEmail(e) then

Var er as Integer = c.Perform
if er = 0 then
MessageBox "Email sent"
end if
end if
```

**Notes:** You can set your own settings like proxy after this function call.
If you like you can reuse the email and CURL objects after you sent an email, change values and send another email.
Returns true on success or false on failure.

### 5.18.122 SetupOAuth(ConsumerKey as String, ConsumerSecret as String, AccessToken as String, AccessTokenSecret as String, HTTPVerb as String, URL as String, Parameters() as String = nil, Headers() as String = nil, Datas() as String = nil, Nonce as String = "", Timestamp as String = "", HMAC as String = "", Verifier as String = "", Realm as String = "") as boolean

Plugin Version: 18.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Setups an OAuth signed transfer.
**Notes:** The plugin calculates the signature and adds headers for authorization to the CURL handle.
Sets URL with parameters and optionally data values for POST.

| Parameter | Description | Example |
|---|---|---|
| ConsumerKey | The oauth consumer key. | "xvz1evFS4wEEPTGEFPHBog" |
| ConsumerSecret | The oauth consumer secret. | "kAcSOqF21Fu85e7zjz7ZN2U4ZRhfV3WpwPAoE3Z7kBw" |
| AccessToken | The oauth access token. | "370773112-GmHxMAgYyLbNEtIKZeRNFsMKPR9EyMZeS9weJAEb" |
| AccessTokenSecret | The oauth access token secret. Can be empty if not yet known. | "LswwdoUaIvS8ltyTt5jkRh4J50vUPVVHtR2YPi5kE" |
| HTTPVerb | The HTTP verb. e.g. POST, PUT, GET, DELETE. Default if empty is GET. | "POST" |
| URL | The URL to query without parameters. | "https://api.twitter.com/1.1/statuses/update.json" |
| Parameters | List of parameters. Can be empty. Please pass list with newline as delimiter. Values should be URL encoded already. | "include_entities=true" |
| Headers | List of additional header entries to include. Can be empty. We automatically set Authorization header. | "Accept: application/json¶Content-Type: application/json" |
| Datas | Data value list for POST. | "status=Hello¶others=123" |
| Nonce | The nonce value. If empty, we generate it automatically for you. | "kYjzVBB8Y0ZFabxSWbWovY3uYSQ2pTgmZeNu2VS4cg" |
| Timestamp | The timestamp to use for signature. If empty, we query current timestamp (same as you calling Time.UnixTimeStamp) | 131862295 8 |
| HMAC | Which HMAC algorithm to use. Can be HMAC-SHA512, HMAC-SHA256 or HMAC-SHA1. Default is HMAC-SHA1 if parameter is missing or empty. | "HMAC-SHA1" |
| Verifier | The verifier. Usually an ID shown on a website after login to the service and authorization of an app. | "3456789" |

Added Realm parameter for version 20.5.

### 5.18.123 UpKeep

Plugin Version: 18.5, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Perform any connection upkeep checks.
**Notes:** Perform any connection upkeep checks.
Some protocols have "connection upkeep" mechanisms. These mechanisms usually send some traffic on existing connections in order to keep them alive; this can prevent connections from being closed due to overzealous firewalls, for example.
Currently the only protocol with a connection upkeep mechanism is HTTP/2: when the connection upkeep interval is exceeded and Upkeep is called, an HTTP/2 PING frame is sent on the connection.
This function must be explicitly called in order to perform the upkeep work. The connection upkeep interval is set with OptionUpkeepIntervalMS.

### 5.18.124 UseSystemCertificates as Integer

Plugin Version: 17.2, Platforms: macOS, Windows, Targets: All.

**Function:** Read certificate from system and installs them in CURL session,.
**Notes:** For macOS and Windows we load the available certificates from keychain or Windows Certificate Store and pass them to CURL. This is better than having no certificates at all.
Even better is normally to provide a cacert.pem file with only the expected certificates.

Returns number of certificates loaded.

No longer needed since MBS Plugin v16.0 with CURL 8.18 since CURL will query certificate storage in keychain automatically.

### 5.18.125 WebSocketMeta as CURLSWebSocketFrameMBS

Plugin Version: 23.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Queries last frame metadata.
**Notes:** Only useful if called in Write event.

### 5.18.126 WebSocketReceive(BufferSize as Integer = 65536) as CURLSWebSocketFrameMBS

Plugin Version: 23.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Receive WebSocket data.
**Example:**

```
Var curl as CURLSMBS // your curl handle

Var m as CURLSWebSocketFrameMBS = curl.WebSocketReceive

if m <>nil then
TextAreaLog.AddText "Received: "+m.Text
end if
```

**Notes:** Retrieves as much as possible of a received WebSocket data fragment into the buffer, but not more than BufferSize bytes. The bytesReceived property in CURLSWebSocketFrameMBS is set to the number of bytes actually stored.

If there is more fragment data to deliver than what fits in the provided buffer, CURL returns a full buffer and the application needs to call this function again to continue draining the buffer.

The returned CURLSWebSocketFrameMBS contains the data and the metadata about the received data.

Lasterror property is set.

### 5.18.127 WebSocketSend(Data as MemoryBlock, FrameSize as Integer = 0, SendFlags as Integer = 0) as Integer

Plugin Version: 23.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Send the specific message fragment over an established WebSocket connection.
**Notes:** The buffer holds the data to send.
Returns the number of payload bytes actually sent.

To send a (huge) fragment using multiple calls with partial content per invoke, set the kFlagOffset bit and the FrameSize argument as the total expected size for the first part, then set the kFlagOffset with a zero FrameSize for the following parts.

If not sending a partial fragment or if this is raw mode, FrameSize should be set to zero.

If kWebSocketRaw is enabled in WebSocketOptions, the flags argument should be set to 0.

Lasterror property is set.

### 5.18.128 Properties

### 5.18.129 APILoaded as Boolean

Plugin Version: 9.8, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Whether the CURL library was loaded.
**Notes:** The CURLSMBS constructor loads the library if it was not loaded before.
(Read only property)

### 5.18.130 Cancel as Boolean

Plugin Version: 13.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Tells CURL instance to cancel transfer as soon as possible.

**Notes:** Especially when using PerformMT, you may see your app hang if user tries to quit application. To prevent the hang, please set Cancel = true in window close event. So when app quits and windows get destroyed, the PerformMT will see the Cancel being true and returns soon.
(Read and Write property)

### 5.18.131 CollectDebugData as Boolean

Plugin Version: 12.3, Platforms: macOS, Linux, Windows, Targets: All.

**Deprecated:** This item is deprecated and should no longer be used. You can use CollectDebugMessages instead. **Function:** Whether to collect debug message data.
**Notes:** If you set this property to true, you can grab the data from the transfer in the DebugMessages Property instead of collecting the pieces yourself in the DebugMessage event. Of course this is optional and you can still process data in DebugMessage event.
Due to memory limitation, collecting data will not work right if your app is running low on memory.
(Read and Write property)

### 5.18.132 CollectDebugMessages as Boolean

Plugin Version: 23.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Whether to collect debug message data.
**Notes:** If you set this property to true, you can grab the data from the transfer in the DebugMessages Property instead of collecting the pieces yourself in the DebugMessage event. Of course this is optional and you can still process data in DebugMessage event.
Due to memory limitation, collecting data will not work right if your app is running low on memory.
(Read and Write property)

### 5.18.133 CollectHeaderData as Boolean

Plugin Version: 12.3, Platforms: macOS, Linux, Windows, Targets: All.

**Deprecated:** This item is deprecated and should no longer be used. You can use CollectHeaders instead.
**Function:** Whether to collect headers.
**Notes:** If you set this property to true, you can grab the data from the transfer in the Headers Property instead of collecting the pieces yourself in the header event. Of course this is optional and you can still process data in header event.
Due to memory limitation, collecting data will not work right if your app is running low on memory.

Renamed to CollectHeaders in v23.0.
(Read and Write property)

### 5.18.134 CollectHeaders as Boolean

Plugin Version: 23.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Whether to collect headers.
**Notes:** If you set this property to true, you can grab the data from the transfer in the Headers Property instead of collecting the pieces yourself in the header event. Of course this is optional and you can still process data in header event.
Due to memory limitation, collecting data will not work right if your app is running low on memory.
(Read and Write property)

### 5.18.135 CollectOutputData as Boolean

Plugin Version: 12.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Whether to collect output data.
**Notes:** If you set this property to true, you can grab the data from the transfer in the OutputData Property instead of collecting the pieces yourself in the write event. Of course this is optional and you can still process data in write event.
Due to memory limitation, collecting data will not work right if your app is running low on memory.
(Read and Write property)

### 5.18.136 DebugData as String

Plugin Version: 12.3, Platforms: macOS, Linux, Windows, Targets: All.

**Deprecated:** This item is deprecated and should no longer be used. You can use DebugMessages instead.
**Function:** The debug data from CURL.
**Notes:** If CollectDebugData property is true, the plugin puts the data received in debugMessage event also into this property, so you can grab it after the transfer.

Newer code should use DebugMessages property instead.
(Read only property)

### 5.18.137 DebugMessages as String

Plugin Version: 23.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The debug messages from CURL.
**Notes:** If CollectDebugMessage property is true, the plugin puts the data received in debugMessage event also into this property, so you can grab it after the transfer.
(Read only property)

### 5.18.138 DebugWithData as Boolean

Plugin Version: 18.4, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Whether to include data in debug messages.
**Example:**

```
Var c as new CURLSMBS
c.DebugWithData = true
c.OptionVerbose = true
c.CollectDebugMessages = true
```

**Notes:** (Read and Write property)

### 5.18.139 Handle as Integer

Plugin Version: 9.8, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The internal handle of the CURL object.
**Notes:** (Read and Write property)

### 5.18.140 HeaderData as String

Plugin Version: 12.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The headers from CURL.
**Notes:** If CollectHeaders property is true, the plugin puts the data received in header event also into this property, so you can grab it after the transfer.

Renamed to Headers in v23.0.
(Read only property)

### 5.18.141 Headers as String

Plugin Version: 23.0, Platforms: macOS, Linux, Windows, Targets: All.

**Deprecated:** This item is deprecated and should no longer be used. You can use Headers instead. **Function:** The headers from CURL.
**Notes:** If CollectHeaders property is true, the plugin puts the data received in header event also into this property, so you can grab it after the transfer.
(Read only property)

### 5.18.142 InputData as String

Plugin Version: 14.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The input data.
**Notes:** If you set input data, you do not need to use Read, RestartRead or Seek events.
The plugin will use the provided data for the upload.
Setting input data size, will also set the input file size (OptionInFileSizeLarge and OptionInFileSize).

Alternatively you can provide data in Read event or use OpenMTInputFile method to open a file on disk to upload.
(Read and Write property)

### 5.18.143 Lasterror as Integer

Plugin Version: 9.8, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The lasterror from the library.
**Example:**

```
Var d As New CURLSMBS

d.OptionSSLVersion = 123

Var LastError As Integer = d.LastError
// gives 43
Var LastErrorText As String = d.LastErrorText
// A libcurl function was given a bad argument

Break
```

**Notes:** Set in the constructor while doing initialization as well as by by various curl calls.
Check the kError* constants.
(Read and Write property)

### 5.18.144 LastErrorMessage as String

Plugin Version: 11.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The last error message.
**Example:**

```
Var d As New CURLSMBS
```

```
d.OptionURL = "http://192.168.2.53"
d.OptionConnectionTimeout = 5

Var ErrorCode As Integer = d.Perform

Var LastErrorMessage As String = d.LastErrorMessage
Var LastErrorText As String = d.LastErrorText

Break
```

**Notes:** The error message from the transfer.

e.g. Perform may report a timeout with code 28.
Then LasterrorText is "Timeout was reached" looked up for 28.

But LasterrorMessage would be something like "Failed to connect to x.x.x.x port 80 after 5000 ms: Timeout was reached".
(Read only property)

### 5.18.145 LasterrorText as String

Plugin Version: 18.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The text for the lasterror code.
**Example:**

```
Var d As New CURLSMBS

d.OptionURL = "http://192.168.2.53"
d.OptionConnectionTimeout = 5

Var ErrorCode As Integer = d.Perform

Var LastErrorMessage As String = d.LastErrorMessage
Var LastErrorText As String = d.LastErrorText

Break
```

**Notes:** Static string matched to the error code, so you have an idea what's wrong.

e.g. Perform may report a timeout with code 28.
Then LasterrorText is "Timeout was reached" looked up for 28.

But LasterrorMessage would be something like "Failed to connect to x.x.x.x port 80 after 5000 ms: Timeout was reached".
(Read and Write property)

### 5.18.146 LibraryUsed as String

Plugin Version: 17.1, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Which library is in use.
**Notes:** This is for debugging only to see which library is in use.
(Read only property)

### 5.18.147 LibVersion as string

Plugin Version: 9.8, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Returns a human readable string with the version number of libCURL and some of its important components (like OpenSSL version).
**Notes:** (Read only property)

### 5.18.148 OptionAbstractUnixSocket as String

Plugin Version: 18.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Path to an abstract Unix domain socket.
**Notes:** (Read and Write property)
See also ABSTRACT_UNIX_SOCKET option in CURL manual.

### 5.18.149 OptionAcceptEncoding as String

Plugin Version: 13.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Sets the contents of the Accept-Encoding: header sent in a HTTP request, and enables decoding of a response when a Content-Encoding: header is received.
**Example:**

```
Var c as new CURLSMBS
c.OptionAcceptEncoding = "deflate"
```

**Notes:** Three encodings are supported: identity, which does nothing, deflate which requests the server to compress its response using the zlib algorithm, and gzip which requests the gzip algorithm. If a zero-length

string is set, then an Accept-Encoding: header containing all supported encodings is sent.

This is a request, not an order; the server may or may not do it. This option must be set (to any non-NULL value) or else any unsolicited encoding done by the server is ignored. See the special file README.encoding for details (included with CURL source code).
(Read and Write property)
See also ACCEPT_ENCODING option in CURL manual.

### 5.18.150 OptionAcceptTimeoutMS as Integer

Plugin Version: 18.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Time-out accept operations (currently for FTP only) after this amount of milliseconds.
**Notes:** (Read and Write property)
See also ACCEPTTIMEOUT_MS option in CURL manual.

### 5.18.151 OptionAddressScope as Integer

Plugin Version: 10.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Pass an integer specifying the scope_id value to use when connecting to IPv6 link-local or site-local addresses.
**Notes:** (Added in CURL 7.19.0)
(Read and Write property)
See also ADDRESS_SCOPE option in CURL manual.

### 5.18.152 OptionAppend as Boolean

Plugin Version: 15.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** True tells the library to append to the remote file instead of overwrite it.
**Notes:** This is only useful when uploading to an ftp site.

The Lasterror property is set. 0 for success.
You can set this value and later you can read it, but you cannot read the default value.
(Read and Write property)
See also APPEND option in CURL manual.

### 5.18.153 OptionAutoReferer as Boolean

Plugin Version: 9.8, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** When enabled, libCURL will automatically set the Referer: field in requests where it follows a Location: redirect.
**Notes:** The Lasterror property is set. 0 for success.
You can set this value and later you can read it, but you cannot read the default value.
(Read and Write property)
See also AUTOREFERER option in CURL manual.

### 5.18.154 OptionAWSSigV4 as String

Plugin Version: 21.1, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Provides AWS V4 signature authentication on HTTP(S) header.
**Notes:** Pass a text that is the collection of specific arguments are used for creating outgoing authentication headers. The format of the param option is:

provider1 [ :provider2 [ :region [ :service ] ] ]

provider1, provider2:
The providers arguments are used for generating some authentication parameters such as ”Algorithm”, ”date”, ”request type” and ”signed headers”.

region:
The argument is a geographic area of a resources collection. It is extracted from the host name specified in the URL if omitted.

service:
The argument is a function provided by a cloud. It is extracted from the host name specified in the URL if omitted.

Note: This call set CURLOPT_HTTPAUTH to CURLAUTH_AWS_SIGV4. Calling CURLOPT_HTTPAUTH with CURLAUTH_AWS_SIGV4 is the same as calling this with ”aws:amz” in parameter.

Example with ”Test:Try”, when curl will do the algorithm, it will generate ”TEST-HMAC-SHA256” for ”Algorithm”, ”x-try-date” and ”X-Try-Date” for ”date”, ”test4_request” for ”request type”, ”SignedHeaders=content-type;host;x-try-date” for ”signed headers”
If you use just ”test”, instead of ”test:try”, test will be use for every strings generated

By default, the value of this parameter is empty. Calling CURLOPT_HTTPAUTH with CURLAUTH_AWS_SIGV4

is the same as calling this with "aws:amz" in parameter.
(Read and Write property)
See also AWS_SIGV4 option in CURL manual.

### 5.18.155 OptionBufferSize as Integer

Plugin Version: 9.8, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Your preferred size (in bytes) for the receive buffer in libCURL.
**Notes:** The main point of this would be that the write event gets called more often and with smaller chunks. This is just treated as a request, not an order. You cannot be guaranteed to actually get the given size. (Added in 7.10)

This size is by default set as big as possible (OptionMaxWriteSize), so it only makse sense to use this option if you want it smaller.

The Lasterror property is set. 0 for success.
You can set this value and later you can read it, but you cannot read the default value.

For slow upload/downloads, it may be better to set buffer size to 1 MB with OptionUploadBufferSize or OptionBufferSize properties to make transfers faster.
(Read and Write property)
See also BUFFERSIZE option in CURL manual.

### 5.18.156 OptionCACacheTimeout as Integer

Plugin Version: 23.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Sets the life-time for cached certificate stores.
**Notes:** Pass a number, this sets the timeout in seconds. This tells libcurl the maximum time any cached certificate store it has in memory may be kept and reused for new connections. Once the timeout has expired, a subsequent fetch requiring a certificate store will have to build a new one.
Building a certificate store from a CAINFO file (see OptionCAInfo) is a slow operation so curl may cache the generated certificate store internally to speed up future connections.
Set to zero to completely disable caching, or set to -1 to retain the cached store remain forever. By default, libcurl caches this info for 24 hours.
(Read and Write property)
See also CA_CACHE_TIMEOUT option in CURL manual.

### 5.18.157 OptionCAInfo as String

Plugin Version: 9.8, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** A string naming a file holding one or more certificates to verify the peer with.
**Example:**

```
// if you use SSL, maybe put in a certificate or disable verification?

Var d as CURLSMBS
// your CURL object

// disable
d.OptionSSLVerifyHost = 0
d.OptionSSLVerifyPeer = 0

// or better provide root certificates:

Var cacert As FolderItem = New FolderItem("cacert.pem")
d.OptionCAInfo = cacert.NativePath
d.OptionSSLVerifyHost = 2
d.OptionSSLVerifyPeer = 1
```

**Notes:** This makes sense only when used in combination with the OptionSSLVerifyPeer option. If OptionSSLVerifyPeer is false, OptionCAINFO need not even indicate an accessible file.

Note that option is by default set to the system path where libCURL's cacert bundle is assumed to be stored, as established at build time.

The Lasterror property is set. 0 for success.
You can set this value and later you can read it, but you cannot read the default value.

Starting with version 18.0 the plugin will always use UTF-8 encoding for file path on Linux and macOS. For macOS we also do the unicode character normalization for file names for you.
(Read and Write property)
See also CAINFO option in CURL manual.

### 5.18.158 OptionCAInfoBlob as String

Plugin Version: 21.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The CAInfo as blob value.
**Notes:** Certificate Authority (CA) bundle in PEM format passed PEM encoded content holding one or more certificates to verify the HTTPS server with.

(Read and Write property)
See also CAINFO_BLOB option in CURL manual.

### 5.18.159 OptionCAPath as String

Plugin Version: 9.8, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** A string naming a directory holding multiple CA certificates to verify the peer with.
**Example:**

```
Var c as new CURLSMBS
c.OptionCAPath = "/etc/ssl/certs"
```

**Notes:** The certificate directory must be prepared using the openssl c_rehash utility. This makes sense only when used in combination with the CURLOPT_SSL_VERIFYPEER option. If OptionSSLVerifyPeer is zero, OptionCAPath need not even indicate an accessible path. The OptionCAPath function apparently does not work in Windows due to some limitation in openssl. This option is OpenSSL-specific and does nothing if libCURL is built to use GnuTLS.

The Lasterror property is set. 0 for success.
You can set this value and later you can read it, but you cannot read the default value.

Starting with version 18.0 the plugin will always use UTF-8 encoding for file path on Linux and macOS. For macOS we also do the unicode character normalization for file names for you.

For Linux you can use "/etc/ssl/certs" folder as the system puts certificates there.
(Read and Write property)
See also CAPATH option in CURL manual.

### 5.18.160 OptionCertInfo as boolean

Plugin Version: 10.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Set to true to enable libCURL's certificate chain info gatherer.
**Notes:** With this enabled, libCURL (if built with OpenSSL) will extract lots of information and data about the certificates in the certificate chain used in the SSL connection. This data is then possible to extract after a transfer using GetInfoCertInfo. (Added in 7.19.1)
(Read and Write property)
See also CERTINFO option in CURL manual.

### 5.18.161 OptionConnectionTimeout as Integer

Plugin Version: 9.8, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The maximum time in seconds that you allow the connection to the server to take.
**Example:**

```
// This example needs a window with TextArea1.
Var d as new CURLSMBS

d.OptionConnectionTimeOutMS = 5000
d.OptionConnectOnly = 1

// try this URL
d.OptionURL = URL

// try connection
Var e as integer = d.Perform

// check result
Var s as string = d.OutputData
TextArea1.text = FixText(S)

if e = 0 then
MessageBox "Connected"
else
MessageBox "Failed to connect"
end if
```

**Notes:** This only limits the connection phase, once it has connected, this option is of no more use. Set to zero to disable connection timeout (it will then only timeout on the system's internal timeouts). See also the OptionTimeout option.
(Read and Write property)
See also CONNECTTIMEOUT option in CURL manual.

### 5.18.162 OptionConnectionTimeOutMS as Integer

Plugin Version: 9.8, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The maximum time in milli seconds that you allow the connection to the server to take.
**Notes:** This only limits the connection phase, once it has connected, this option is of no more use. Set to zero to disable connection timeout (it will then only timeout on the system's internal timeouts). See also the OptionTimeout option.
(Read and Write property)

### 5.18.163 OptionConnectOnly as Integer

Plugin Version: 9.8, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** A true tells the library to perform any required proxy authentication and connection setup, but no data transfer.
**Notes:** This option is useful with the CURLSMBS.GetInfoLastSocket function. The library can set up the connection and then the application can obtain the most recently used socket for special data transfers. (Added in 7.15.2)

Type changed to integer in v23.0 to enable passing 2 for WebSockets.
(Read and Write property)
See also CONNECT_ONLY option in CURL manual.

### 5.18.164 OptionCookie as String

Plugin Version: 9.8, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** It will be used to set a cookie in the http request.
**Notes:** The format of the string should be NAME=CONTENTS, where NAME is the cookie name and CONTENTS is what the cookie should contain.

If you need to set multiple cookies, you need to set them all using a single option and thus you need to concatenate them all in one single string. Set multiple cookies in one string like this: "name1=content1; name2=content2;" etc.

Using this option multiple times will only make the latest string override the previously ones.

The Lasterror property is set. 0 for success.
You can set this value and later you can read it, but you cannot read the default value.
(Read and Write property)
See also COOKIE option in CURL manual.

### 5.18.165 OptionCookieFile as String

Plugin Version: 9.8, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The cookie file content.
**Notes:** It should contain the name of your file holding cookie data to read. The cookie data may be in Netscape / Mozilla cookie data format or just regular HTTP-style headers dumped to a file.

Given an empty or non-existing file or by passing the empty string (""), this option will enable cookies for

this CURL handle, making it understand and parse received cookies and then use matching cookies in future request.

If you use this option multiple times, you just add more files to read. Subsequent files will add more cookies.

The Lasterror property is set. 0 for success.
You can set this value and later you can read it, but you cannot read the default value.

Starting with version 18.0 the plugin will always use UTF-8 encoding for file path on Linux and macOS. For macOS we also do the unicode character normalization for file names for you.
(Read and Write property)
See also COOKIEFILE option in CURL manual.

### 5.18.166 OptionCookieJar as String

Plugin Version: 9.8, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** File path where to write the cookies to.
**Example:**

```
// Activate cookie engine without cookie file:
curl.OptionCookieJar = ""
```

**Notes:** This will make libCURL write all internally known cookies to the specified file, when the object is destroyed. If no cookies are known, no file will be created. Specify "-" to instead have the cookies written to stdout. Using this option also enables cookies for this session, so if you for example follow a location it will make matching cookies get sent accordingly.

If the cookie jar file can't be created or written to, libCURL will not and cannot report an error for this. Using OptionVerbose or DebugFunction event will get a warning to display, but that is the only visible feedback you get about this possibly lethal situation.

The Lasterror property is set. 0 for success.
You can set this value and later you can read it, but you cannot read the default value.

Starting with version 18.0 the plugin will always use UTF-8 encoding for file path on Linux and macOS. For macOS we also do the unicode character normalization for file names for you.
(Read and Write property)
See also COOKIEJAR option in CURL manual.

### 5.18.167 OptionCookieList as String

Plugin Version: 9.8, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The cookie string.
**Notes:** Cookie can be either in Netscape / Mozilla format or just regular HTTP-style header (Set-Cookie: ...) format. If CURL cookie engine was not enabled it will enable its cookie engine. Passing a magic string "ALL" will erase all cookies known by CURL. (Added in 7.14.1) Passing the special string "SESS" will only erase all session cookies known by CURL. (Added in 7.15.4)

The Lasterror property is set. 0 for success.
You can set this value and later you can read it, but you cannot read the default value.
(Read and Write property)
See also COOKIELIST option in CURL manual.

### 5.18.168 OptionCookieSession as Boolean

Plugin Version: 9.8, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Set to true to mark this as a new cookie "session".
**Notes:** It will force libCURL to ignore all cookies it is about to load that are "session cookies" from the previous session. By default, libCURL always stores and loads all cookies, independent if they are session cookies are not. Session cookies are cookies without expiry date and they are meant to be alive and existing for this "session" only.

The Lasterror property is set. 0 for success.
You can set this value and later you can read it, but you cannot read the default value.
(Read and Write property)
See also COOKIESESSION option in CURL manual.

### 5.18.169 OptionCRLF as Boolean

Plugin Version: 9.8, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Convert Unix newlines to CRLF newlines on transfers.
**Notes:** The Lasterror property is set. 0 for success.
You can set this value and later you can read it, but you cannot read the default value.
(Read and Write property)
See also CRLF option in CURL manual.

### 5.18.170 OptionCRLFile as String

Plugin Version: 10.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** A string naming a file with the concatenation of CRL (in PEM format) to use in the certificate validation that occurs during the SSL exchange.
**Notes:** When CURL is built to use NSS or GnuTLS, there is no way to influence the use of CRL passed to help in the verification process. When libCURL is built with OpenSSL support, X509_V_FLAG_CRL_CHECK and X509_V_FLAG_CRL_CHECK_ALL are both set, requiring CRL check against all the elements of the certificate chain if a CRL file is passed.

This option makes sense only when used in combination with the OptionSSLVerifyPeer option.

A specific error code (CURLE_SSL_CRL_BADFILE) is defined with the option. It is returned when the SSL exchange fails because the CRL file cannot be loaded. Note that a failure in certificate verification due to a revocation information found in the CRL does not trigger this specific error. (Added in 7.19.0)
(Read and Write property)
See also CRLFILE option in CURL manual.

### 5.18.171 OptionCustomRequest as String

Plugin Version: 9.8, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** It will be user instead of GET or HEAD when doing an HTTP request, or instead of LIST or NLST when doing an ftp directory listing.
**Example:**

```
Var c as CURLSMBS // your CURL instance

c.URL = "ftp://..."
c.customRequest = "MLSD" // ftp advanced directory listing
```

**Notes:** This is useful for doing DELETE or other more or less obscure HTTP requests. Don't do this at will, make sure your server supports the command first.

Restore to the internal default by setting this to "".

Many people have wrongly used this option to replace the entire request with their own, including multiple headers and POST contents. While that might work in many cases, it will cause libCURL to send invalid requests and it could possibly confuse the remote server badly. Use CURLOPT_POST and OptionPostFields to set POST data. Use OptionHTTPHeader to replace or extend the set of headers sent by libCURL. Use OptionHTTPVersion to change HTTP version.

The Lasterror property is set. 0 for success.
You can set this value and later you can read it, but you cannot read the default value.

For WebDAV, you can set this to ”MKCOL” to create a folder at the given URL.
(Read and Write property)
See also CUSTOMREQUEST option in CURL manual.

### 5.18.172 OptionDefaultProtocol as String

Plugin Version: 18.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Set the protocol used when curl is given a URL without a protocol.
**Notes:** (Read and Write property)
See also DEFAULT_PROTOCOL option in CURL manual.

### 5.18.173 OptionDirListOnly as Boolean

Plugin Version: 15.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** For FTP and SFTP based URLs a parameter set to true tells the library to list the names of files in a directory, rather than performing a full directory listing that would normally include file sizes, dates etc.
**Notes:** For POP3 a parameter of true tells the library to list the email message or messages on the POP3 server. This can be used to change the default behaviour of libCURL, when combined with a URL that contains a message ID, to perform a ”scan listing” which can then be used to determine the size of an email.

Note: For FTP this causes a NLST command to be sent to the FTP server. Beware that some FTP servers list only files in their response to NLST; they might not include subdirectories and symbolic links.

Setting this option to true also implies a directory listing even if the URL doesn’t end with a slash, which otherwise is necessary.

Do NOT use this option if you also use OptionWildCardMatch as it will effectively break that feature then.
(Read and Write property)
See also DIRLISTONLY option in CURL manual.

### 5.18.174 OptionDisableUserNameInURL as Boolean

Plugin Version: 18.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Disallow specifying username/login in URL.
**Notes:** The value true tells the library to not allow URLs that include an username.
(Read and Write property)

### 5.18.175 OptionDNSCacheTimeout as Integer

Plugin Version: 9.8, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The timeout in seconds.
**Notes:** Name resolves will be kept in memory for this number of seconds. Set to zero (0) to completely disable caching, or set to -1 to make the cached entries remain forever. By default, libCURL caches this info for 60 seconds.

The Lasterror property is set. 0 for success.
You can set this value and later you can read it, but you cannot read the default value.
(Read and Write property)
See also DNS_CACHE_TIMEOUT option in CURL manual.

### 5.18.176 OptionDNSInterface as String

Plugin Version: 15.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Set the name of the network interface that the DNS resolver should bind to.
**Notes:** This must be an interface name (not an address). Set this option to "" to use the default setting (don't bind to a specific interface).
(Read and Write property)
See also DNS_INTERFACE option in CURL manual.

### 5.18.177 OptionDNSLocalIPv4 as String

Plugin Version: 15.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Set the local IPv4 address that the resolver should bind to.
**Notes:** The argument should be of string and contain a single numerical IPv4 address as a string.
Set this option to "" to use the default setting (don't bind to a specific IP address).
(Read and Write property)
See also DNS_LOCAL_IP4 option in CURL manual.

### 5.18.178 OptionDNSLocalIPv6 as String

Plugin Version: 15.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Set the local IPv6 address that the resolver should bind to.
**Notes:** The argument should be of type string and contain a single IPv6 address as a string.
Set this option to "" to use the default setting (don't bind to a specific IP address).
(Read and Write property)
See also DNS_LOCAL_IP6 option in CURL manual.

### 5.18.179 OptionDNSServers as String

Plugin Version: 18.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Set the name servers to use for DNS resolution.
**Notes:** (Read and Write property)
See also DNS_SERVERS option in CURL manual.

### 5.18.180 OptionDNSShuffleAddresses as Boolean

Plugin Version: 18.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Whether to shuffle DNS addresses.
**Notes:** When a name is resolved and more than one IP address is returned, shuffle the order of all returned addresses so that they will be used in a random order. This is similar to the ordering behavior of gethostbyname which is no longer used on most platforms.

Addresses will not be reshuffled if a name resolution is completed using the DNS cache. DNSCacheTimeout property can be used together with this option to reduce DNS cache timeout or disable caching entirely if frequent reshuffling is needed.

Since the addresses returned will be reordered randomly, their order will not be in accordance with RFC 3484 or any other deterministic order that may be generated by the system's name resolution implementation. This may have performance impacts and may cause IPv4 to be used before IPv6 or vice versa.
Default is false.
(Read and Write property)
See also DNS_SHUFFLE_ADDRESSES option in CURL manual.

### 5.18.181 OptionDOHSSLVerifyHost as Integer

Plugin Version: 21.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Whether to verify the host name in the DOH (DNS-over-HTTPS) SSL certificate.
**Notes:** Pass a 2 as asking curl to verify the DOH (DNS-over-HTTPS) server's certificate name fields against the host name.
This option is the DOH equivalent of OptionSSLVerifyPeer and only affects requests to the DOH server.
When OptionDOHSSLVerifyHost is 2, the SSL certificate provided by the DOH server must indicate that the server name is the same as the server name to which you meant to connect to, or the connection fails.
Curl considers the DOH server the intended one when the Common Name field or a Subject Alternate Name field in the certificate matches the host name in the DOH URL to which you told Curl to connect.
When the verify value is set to 1 it is treated the same as 2. However for consistency with the other VerifyHost options we suggest use 2 and not 1.
When the verify value is set to 0, the connection succeeds regardless of the names used in the certificate. Use that ability with caution!
(Read and Write property)
See also DOH_SSL_VERIFYHOST option in CURL manual.

### 5.18.182 OptionDOHSSLVerifyPeer as Integer

Plugin Version: 21.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Whether to verify the DOH SSL certificate.
**Notes:** Pass 1 to enable or 0 to disable.
This option tells curl to verify the authenticity of the DOH (DNS-over-HTTPS) server's certificate. A value of 1 means curl verifies; 0 (zero) means it doesn't.
This option is the DOH equivalent of CURL.SetOptionSSLVerifyPeer and only affects requests to the DOH server.
When negotiating a TLS or SSL connection, the server sends a certificate indicating its identity. Curl verifies whether the certificate is authentic, i.e. that you can trust that the server is who the certificate says it is. This trust is based on a chain of digital signatures, rooted in certification authority (CA) certificates you supply. curl uses a default bundle of CA certificates (the path for that is determined at build time) and you can specify alternate certificates with the CURL.SetOptionCAInfo option or the CURL.SetOptionCAPath option.
When CURL.SetOptionDOHSSLVerifyPeer is enabled, and the verification fails to prove that the certificate is authentic, the connection fails. When the option is zero, the peer certificate verification succeeds regardless.
Authenticating the certificate is not enough to be sure about the server. You typically also want to ensure that the server is the server you mean to be talking to. Use CURL.SetOptionDOHSSLVerifyHost for that. The check that the host name in the certificate is valid for the host name you're connecting to is done independently of the CURL.SetOptionDOHSSLVerifyPeer option.

WARNING: disabling verification of the certificate allows bad guys to man-in-the-middle the communication without you knowing it. Disabling verification makes the communication insecure. Just having encryption on a transfer is not enough as you cannot be sure that you are communicating with the correct end-point.
(Read and Write property)
See also DOH_SSL_VERIFYPEER option in CURL manual.

### 5.18.183 OptionDOHSSLVerifyStatus as Integer

Plugin Version: 21.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Whether to verify the DOH SSL certificate's status.
**Notes:** Pass 2 to ask curl to verify the DOH (DNS-over-HTTPS) server's certificate name fields against the host name.
This option is the DOH equivalent of OptionSSLVerifyHost and only affects requests to the DOH server.
When OptionDOHSSLVerifyHost is 2, the SSL certificate provided by the DOH server must indicate that the server name is the same as the server name to which you meant to connect to, or the connection fails.
Curl considers the DOH server the intended one when the Common Name field or a Subject Alternate Name field in the certificate matches the host name in the DOH URL to which you told Curl to connect.
When the verify value is set to 1L it is treated the same as 2L. However for consistency with the other VerifyHost options we suggest use 2 and not 1.
When the verify value is set to 0L, the connection succeeds regardless of the names used in the certificate. Use that ability with caution!

See also OptionDOHSSLVerifyPeer to verify the digital signature of the DOH server certificate. If libcurl is built against NSS and OptionDOHSSLVerifyPeer is zero, OptionDOHSSLVerifyHost is also set to zero and cannot be overridden.
(Read and Write property)
See also DOH_SSL_VERIFYSTATUS option in CURL manual.

### 5.18.184 OptionDOHURL as String

Plugin Version: 18.5, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Provides the DNS-over-HTTPS URL.
**Notes:** Pass in a string to a URL for the DOH server to use for name resolving. The parameter should be URL-encoded in the following format: "https://host:port/path". It MUST specify a HTTPS URL.

libcurl doesn't validate the syntax or use this variable until the transfer is issued. Even if you set a crazy value here, OptionDOHURL will still return CURLE_OK.

curl sends POST requests to the given DNS-over-HTTPS URL.

To find the DOH server itself, which might be specified using a name, libcurl will use the default name lookup function. You can bootstrap that by providing the address for the DOH server with OptionResolve.

Disable DOH use again by setting this option to "".
(Read and Write property)
See also DOH_URL option in CURL manual.

### 5.18.185 OptionEGDSocket as String

Plugin Version: 9.8, Platforms: macOS, Linux, Windows, Targets: All.

**Deprecated:** This item is deprecated and should no longer be used. **Function:** The path name to the Entropy Gathering Daemon socket.
**Notes:** It will be used to seed the random engine for SSL.

The Lasterror property is set. 0 for success.
You can set this value and later you can read it, but you cannot read the default value.
(Read and Write property)

### 5.18.186 OptionExpect100TimeoutMS as Integer

Plugin Version: 18.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Sets Expect 100 timeout.
**Notes:** Time to wait in milliseconds for a response to a HTTP request containing an Expect: 100-continue header before sending the data anyway.
(Read and Write property)
See also EXPECT_100_TIMEOUT_MS option in CURL manual.

### 5.18.187 OptionFailOnError as Boolean

Plugin Version: 9.8, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** True tells the library to fail silently if the HTTP code returned is equal to or larger than 400. The default action would be to return the page normally, ignoring that code.
**Notes:** The Lasterror property is set. 0 for success.
You can set this value and later you can read it, but you cannot read the default value.

This method is not fail-safe and there are occasions where non-succesful response codes will slip through, especially when authentication is involved (response codes 401 and 407).

You might get some amounts of headers transferred before this situation is detected, like for when a ”100-continue” is received as a response to a POST/PUT and a 401 or 407 is received immediately afterwards.
(Read and Write property)
See also FAILONERROR option in CURL manual.

### 5.18.188 OptionFileTime as Boolean

Plugin Version: 9.8, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Whether filetime should be querried.
**Example:**

```
// init CURL with options
Var d as new CURLSMBS
d.OptionFileTime = true
d.OptionURL = "http://www.monkeybreadsoftware.de/images/mbs.jpg"

// run query
Var e as Integer = d.Perform

// calculate date object
Var da as new date(1970,1,1,0,0,0)
da.TotalSeconds = da.TotalSeconds + d.GetInfoFileTime

// show date
ResultText.text=str(d.GetInfoFileTime)+" "+da.ShortDate+" "+da.ShortTime
```

**Notes:** If it is true, libCURL will attempt to get the modification date of the remote document in this operation. This requires that the remote server sends the time or replies to a time querying command.

The Lasterror property is set. 0 for success.
You can set this value and later you can read it, but you cannot read the default value.
(Read and Write property)
See also FILETIME option in CURL manual.

### 5.18.189 OptionFollowLocation as Integer

Plugin Version: 9.8, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** A boolean parameter tells the library to follow any Location: header that the server sends as part of an HTTP header.
**Example:**

```
Var c as new CURLSMBS

c.OptionFollowLocation = 1
c.OptionMaxRedirs = 3
```

**Notes:** This means that the library will re-send the same request on the new location and follow new Location: headers all the way until no more such headers are returned. OptionMaxRedirs can be used to limit

the number of redirects libCURL will follow.

The Lasterror property is set. 0 for success.
You can set this value and later you can read it, but you cannot read the default value.

A combination of these flags:
1 generic follow redirects
2 Do not use the custom method in the follow-up request if the HTTP code instructs so (301, 302, 303).
4 Only use the custom method in the first request, always reset in the next

This property was changed from boolean to integer in April 2025 for 25.2 release.
(Read and Write property)
See also FOLLOWLOCATION option in CURL manual.

### 5.18.190 OptionForbidReuse as Boolean

Plugin Version: 24.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Set to true to make the next transfer explicitly close the connection when done.
**Notes:** Normally, libCURL keep all connections alive when done with one transfer in case there comes a succeeding one that can re-use them. This option should be used with caution and only if you understand what it does. Set to false to have libCURL keep the connection open for possibly later re-use (default behavior).

The Lasterror property is set. 0 for success.
You can set this value and later you can read it, but you cannot read the default value.
(Read and Write property)
See also FORBID_REUSE option in CURL manual.

### 5.18.191 OptionForbitReuse as Boolean

Plugin Version: 9.8, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Set to true to make the next transfer explicitly close the connection when done.
**Notes:** Normally, libCURL keep all connections alive when done with one transfer in case there comes a succeeding one that can re-use them. This option should be used with caution and only if you understand what it does. Set to false to have libCURL keep the connection open for possibly later re-use (default behavior).

The Lasterror property is set. 0 for success.
You can set this value and later you can read it, but you cannot read the default value.

(Read and Write property)

### 5.18.192 OptionFreshConnect as Boolean

Plugin Version: 9.8, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Set to true to make the next transfer use a new (fresh) connection by force.
**Example:**

```
Var c as new CURLSMBS

c.OptionFreshConnect=True
```

**Notes:** If the connection cache is full before this connection, one of the existing connections will be closed as according to the selected or default policy. This option should be used with caution and only if you understand what it does. Set this to 0 to have libCURL attempt re-using an existing connection (default behavior).

The Lasterror property is set. 0 for success.
You can set this value and later you can read it, but you cannot read the default value.
(Read and Write property)
See also FRESH_CONNECT option in CURL manual.

### 5.18.193 OptionFTPAccount as String

Plugin Version: 15.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The FTP account name to use.
**Notes:** When an FTP server asks for "account data" after user name and password has been provided, this data is sent off using the ACCT command.
(Read and Write property)
See also FTP_ACCOUNT option in CURL manual.

### 5.18.194 OptionFTPAlternativeToUser as String

Plugin Version: 9.8, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The alternative username.
**Notes:** Pass a string as parameter, pointing to a string which will be used to authenticate if the usual FTP "USER user" and "PASS password" negotiation fails. This is currently only known to be required when connecting to Tumbleweed's Secure Transport FTPS server using client certificates for authentication. (Added in 7.15.5)
(Read and Write property)

See also FTP_ALTERNATIVE_TO_USER option in CURL manual.

### 5.18.195 OptionFTPAppend as Boolean

Plugin Version: 9.8, Platforms: macOS, Linux, Windows, Targets: All.

**Deprecated:** This item is deprecated and should no longer be used. You can use OptionAppend instead.
**Function:** True tells the library to append to the remote file instead of overwrite it.
**Notes:** This is only useful when uploading to an ftp site.

The Lasterror property is set. 0 for success.
You can set this value and later you can read it, but you cannot read the default value.
(Read and Write property)

### 5.18.196 OptionFTPCreateMissingDirs as Integer

Plugin Version: 9.8, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** If the value is 1, CURL will attempt to create any remote directory that it fails to CWD into.
**Notes:** CWD is the command that changes working directory. (Added in 7.10.7)

The Lasterror property is set. 0 for success.
You can set this value and later you can read it, but you cannot read the default value.
Newer CURL Library versions allow a value of 2 to do a CWD after the directory was created, so this property changed from boolean to integer.
(Read and Write property)
See also FTP_CREATE_MISSING_DIRS option in CURL manual.

### 5.18.197 OptionFTPFileMethod as Integer

Plugin Version: 9.8, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Pass an integer that should have one of the following values.
**Notes:** This option controls what method libCURL should use to reach a file on a FTP(S) server. The argument should be one of the following alternatives:

URLFTPMETHOD_MULTICWD = 1

libCURL does a single CWD operation for each path part in the given URL. For deep hierarchies this means very many commands. This is how RFC1738 says it should be done. This is the default but the slowest

behavior.

CURLFTPMETHOD_NOCWD = 2

libCURL does no CWD at all. libCURL will do SIZE, RETR, STOR etc and give a full path to the server for all these commands. This is the fastest behavior.

CURLFTPMETHOD_SINGLECWD = 3

libCURL does one CWD with the full target directory and then operates on the file "normally" (like in the multicwd case). This is somewhat more standards compliant than 'nocwd' but without the full penalty of 'multicwd'.
(Read and Write property)
See also FTP_FILEMETHOD option in CURL manual.

### 5.18.198 OptionFTPListOnly as Boolean

Plugin Version: 9.8, Platforms: macOS, Linux, Windows, Targets: All.

**Deprecated:** This item is deprecated and should no longer be used. You can use OptionDirListOnly instead. **Function:** True tells the library to just list the names of an ftp directory, instead of doing a full directory listing that would include file sizes, dates etc.
**Notes:** This causes an FTP NLST command to be sent. Beware that some FTP servers list only files in their response to NLST; they might not include subdirectories and symbolic links.

The Lasterror property is set. 0 for success.
You can set this value and later you can read it, but you cannot read the default value.
(Read and Write property)

### 5.18.199 OptionFTPPort as String

Plugin Version: 9.8, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The port to use for ftp.
**Notes:** It will be used to get the IP address to use for the ftp PORT instruction. The PORT instruction tells the remote server to connect to our specified IP address. The string may be a plain IP address, a host name, an network interface name (under Unix) or just a '-' letter to let the library use your systems default IP address. Default FTP operations are passive, and thus won't use PORT.

You disable PORT again and go back to using the passive version by setting this option to "".

The Lasterror property is set. 0 for success.
You can set this value and later you can read it, but you cannot read the default value.
(Read and Write property)
See also FTPPORT option in CURL manual.

### 5.18.200 OptionFTPResponseTimeout as Integer

Plugin Version: 9.8, Platforms: macOS, Linux, Windows, Targets: All.

**Deprecated:** This item is deprecated and should no longer be used. You can use OptionServerResponseTimeout instead. **Function:** Causes CURL to set a timeout period (in seconds) on the amount of time that the server is allowed to take in order to generate a response message for a command before the session is considered hung.
**Notes:** With v22.4 or newer, please use newer property name OptionServerResponseTimeout.

While CURL is waiting for a response, this value overrides OptionTimeout. It is recommended that if used in conjunction with OptionTimeout, you set OptionFTPResponseTimeout to a value smaller than OptionTimeout. (Added in 7.10.8)

The Lasterror property is set. 0 for success.
You can set this value and later you can read it, but you cannot read the default value.
(Read and Write property)

### 5.18.201 OptionFTPSkipPasvIP as Boolean

Plugin Version: 9.8, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** If set to a non-zero value, it instructs libCURL to not use the IP address the server suggests in its 227-response to libCURL's PASV command when libCURL connects the data connection.
**Notes:** Instead libCURL will re-use the same IP address it already uses for the control connection. But it will use the port number from the 227-response. (Added in 7.14.2)

This option has no effect if PORT, EPRT or EPSV is used instead of PASV.
(Read and Write property)
See also FTP_SKIP_PASV_IP option in CURL manual.

### 5.18.202 OptionFTPSSL as Integer

Plugin Version: 9.8, Platforms: macOS, Linux, Windows, Targets: All.

**Deprecated:** This item is deprecated and should no longer be used. You can use OptionUseSSL instead.

**Function:** Request using SSL / TLS for the transfer.
**Example:**

```
Var c as CURLSMBS
c.OptionUseSSL = c.kFTPSSL_ALL
c.OptionSSLVersion = c.kSSLVersionTLSv12
```

**Notes:** Set to an integer using one of the values from below, to make libCURL use your desired level of SSL for the transfer.
These are all protocols that start out plain text and get "upgraded" to SSL using the STARTTLS command. This is for enabling SSL/TLS when you use FTP, SMTP, POP3, IMAP etc.

| | | |
|---|---|---|
| CURLUSESSL_NONE | 0 | Don't attempt to use SSL. |
| CURLUSESSL_TRY | 1 | Try using SSL, proceed as normal otherwise. |
| CURLUSESSL_CONTROL | 2 | Require SSL for the control connection or fail with CURLE_USE_SSL_FAILED. |
| CURLUSESSL_ALL | 3 | Require SSL for all communication or fail with CURLE_USE_SSL_FAILED. |

(Read and Write property)

### 5.18.203 OptionFTPSSLAuth as Integer

Plugin Version: 9.8, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** What kind of SSL authentication to use for FTP.
**Notes:** Pass an integer using one of the values from below, to alter how libCURL issues "AUTH TLS" or "AUTH SSL" when FTP over SSL is activated (see CURLOPT_FTP_SSL). (Added in 7.12.2)

kFTPAUTH_DEFAULT = 0

Allow libCURL to decide

kFTPAUTH_SSL = 1

Try "AUTH SSL" first, and only if that fails try "AUTH TLS"

kFTPAUTH_TLS = 2

Try "AUTH TLS" first, and only if that fails try "AUTH SSL"

The Lasterror property is set. 0 for success.

You can set this value and later you can read it, but you cannot read the default value.
(Read and Write property)
See also FTPSSLAUTH option in CURL manual.

### 5.18.204 OptionFTPSSLCCC as Integer

Plugin Version: 9.8, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** If enabled, this option makes libCURL use CCC (Clear Command Channel).
**Notes:** It shuts down the SSL/TLS layer after authenticating. The rest of the control channel communication will be unencrypted. This allows NAT routers to follow the FTP transaction. Pass a long using one of the values below. (Added in 7.16.1)

| | | |
|---|---|---|
| CURLFTPSSL_CCC_NONE | 0 | Don't attempt to use CCC. |
| CURLFTPSSL_CCC_PASSIVE | 1 | Do not initiate the shutdown, but wait for the server to do it. Do not send a reply. |
| CURLFTPSSL_CCC_ACTIVE | 2 | Initiate the shutdown and wait for a reply. |

(Read and Write property)
See also FTP_SSL_CCC option in CURL manual.

### 5.18.205 OptionFTPUseEPRT as Boolean

Plugin Version: 9.8, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** If the value is true, it tells CURL to use the EPRT (and LPRT) command when doing active FTP downloads (which is enabled by CURLOPT_FTPPORT).
**Notes:** Using EPRT means that it will first attempt to use EPRT and then LPRT before using PORT, but if you pass FALSE (zero) to this option, it will not try using EPRT or LPRT, only plain PORT. (Added in 7.10.5)

If the server is an IPv6 host, this option will have no effect as of 7.12.3.

The Lasterror property is set. 0 for success.
You can set this value and later you can read it, but you cannot read the default value.
(Read and Write property)
See also FTP_USE_EPRT option in CURL manual.

### 5.18.206 OptionFTPUseEPSV as Boolean

Plugin Version: 9.8, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** If the value is true, it tells CURL to use the EPSV command when doing passive FTP downloads (which it always does by default).
**Notes:** Using EPSV means that it will first attempt to use EPSV before using PASV, but if you pass FALSE (zero) to this option, it will not try using EPSV, only plain PASV.

If the server is an IPv6 host, this option will have no effect as of 7.12.3.

The Lasterror property is set. 0 for success.
You can set this value and later you can read it, but you cannot read the default value.
(Read and Write property)
See also FTP_USE_EPSV option in CURL manual.

### 5.18.207 OptionFTPusePret as Boolean

Plugin Version: 11.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** If the value is true, it tells CURL to send a PRET command before PASV (and EPSV). Certain FTP servers, mainly drftpd, require this non-standard command for directory listings as well as up and downloads in PASV mode.
**Notes:** Has no effect when using the active FTP transfers mode. (Added in 7.20.0)
(Read and Write property)
See also FTP_USE_PRET option in CURL manual.

### 5.18.208 OptionGet as Boolean

Plugin Version: 9.8, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** If the true, this forces the HTTP request to get back to GET.
**Notes:** usable if a POST, HEAD, PUT or a custom request have been used previously using the same CURL handle.

When setting OptionGet to a true value, it will automatically set OptionNoBody to true (since 7.14.1).

The Lasterror property is set. 0 for success.
You can set this value and later you can read it, but you cannot read the default value.
(Read and Write property)

### 5.18.209 OptionGSSAPIDelegation as Integer

Plugin Version: 18.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Allow GSSAPI credential delegation.
**Notes:** (Read and Write property)
See also GSSAPI_DELEGATION option in CURL manual.

### 5.18.210 OptionHappyEyeballsTimeOutMS as Integer

Plugin Version: 18.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The happy eyeballs timeout.
**Notes:** Head start in milliseconds to give happy eyeballs.
(Read and Write property)
See also HAPPY_EYEBALLS_TIMEOUT_MS option in CURL manual.

### 5.18.211 OptionHAProxyProtocol as Boolean

Plugin Version: 18.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Whether to send an HAProxy PROXY protocol header.
**Notes:** Set to true to tell the library to send an HAProxy PROXY protocol header at beginning of the connection. The default action is not to send this header.
This option is primarily useful when sending test requests to a service that expects this header.
Most applications do not need this option.
Default false, do not send HAProxy PROXY protocol header.
(Read and Write property)
See also HAPROXYPROTOCOL option in CURL manual.

### 5.18.212 OptionHeader as Boolean

Plugin Version: 9.8, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** True tells the library to include the header in the body output.
**Notes:** The Lasterror property is set. 0 for success.
You can set this value and later you can read it, but you cannot read the default value.

This is only relevant for protocols that actually have headers preceding the data (like HTTP).
(Read and Write property)
See also HEADER option in CURL manual.

### 5.18.213 OptionHeaderOptions as Integer

Plugin Version: 18.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Pass in a bitmask of ”header options”.
**Notes:** (Read and Write property)
See also HEADEROPT option in CURL manual.

### 5.18.214 OptionHTTPAuth as Integer

Plugin Version: 9.8, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Which http authentication to use.
**Notes:** Pass an integer as parameter, which is set to a bitmask, to tell libCURL what authentication method(s) you want it to use. The available bits are listed below. If more than one bit is set, libCURL will first query the site to see what authentication methods it supports and then pick the best one you allow it to use. For some methods, this will induce an extra network round-trip. Set the actual name and password with the UserPassword option. (Added in 7.10.6)

kAuthBASIC = 1

HTTP Basic authentication. This is the default choice, and the only method that is in wide-spread use and supported virtually everywhere. This is sending the user name and password over the network in plain text, easily captured by others.

kAuthDIGEST = 2

HTTP Digest authentication. Digest authentication is defined in RFC2617 and is a more secure way to do authentication over public networks than the regular old-fashioned Basic method.

kAuthGSSNEGOTIATE = 4

HTTP GSS-Negotiate authentication. The GSS-Negotiate (also known as plain "Negotiate") method was designed by Microsoft and is used in their web applications. It is primarily meant as a support for Kerberos5 authentication but may be also used along with another authentication methods. For more information see IETF draft draft-brezak-spnego-http-04.txt.

You need to build libCURL with a suitable GSS-API library for this to work.

kAuthNTLM = 8

HTTP NTLM authentication. A proprietary protocol invented and used by Microsoft. It uses a challenge-response and hash concept similar to Digest, to prevent the password from being eavesdropped.

You need to build libCURL with OpenSSL support for this option to work, or build libCURL on Windows.

kAuthANY = &hFFFFFFFF

This is a convenience macro that sets all bits and thus makes libCURL pick any it finds suitable. libCURL

will automatically select the one it finds most secure.

kAuthANYSAFE = &hFFFFFFFE

This is a convenience macro that sets all bits except Basic and thus makes libCURL pick any it finds suitable. libCURL will automatically select the one it finds most secure.

The Lasterror property is set. 0 for success.
You can set this value and later you can read it, but you cannot read the default value.
(Read and Write property)
See also HTTPAUTH option in CURL manual.

### 5.18.215 OptionHTTPContentDecoding as Integer

Plugin Version: 9.8, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Pass a long to tell libCURL how to act on content decoding.
**Notes:** If set to zero, content decoding will be disabled. If set to 1 it is enabled. Note however that libCURL has no default content decoding but requires you to use OptionEncoding for that. (added in 7.16.2)
(Read and Write property)
See also HTTP_CONTENT_DECODING option in CURL manual.

### 5.18.216 OptionHTTPProxyTunnel as Boolean

Plugin Version: 9.8, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Set the parameter to true to get the library to tunnel all operations through a given HTTP proxy.
**Notes:** There is a big difference between using a proxy and to tunnel through it. If you don't know what this means, you probably don't want this tunneling option.

The Lasterror property is set. 0 for success.
You can set this value and later you can read it, but you cannot read the default value.
(Read and Write property)
See also HTTPPROXYTUNNEL option in CURL manual.

### 5.18.217 OptionHTTPTransferDecoding as Integer

Plugin Version: 9.8, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Pass an integer to tell libCURL how to act on transfer decoding.
**Notes:** If set to zero, transfer decoding will be disabled, if set to 1 it is enabled (default). libCURL does chunked transfer decoding by default unless this option is set to zero. (added in 7.16.2)
(Read and Write property)
See also HTTP_TRANSFER_DECODING option in CURL manual.

### 5.18.218 OptionHTTPVersion as Integer

Plugin Version: 9.8, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Set to one of the values described below.
**Notes:** They force libCURL to use the specific HTTP versions. This is not sensible to do unless you have a good reason.

kHTTP_VERSION_NONE = 0

We don't care about what version the library uses. libCURL will use whatever it thinks fit.

kHTTP_VERSION_1_0 = 1

Enforce HTTP 1.0 requests.

kHTTP_VERSION_1_1 = 2

Enforce HTTP 1.1 requests.

The Lasterror property is set. 0 for success.
You can set this value and later you can read it, but you cannot read the default value.
(Read and Write property)
See also HTTP_VERSION option in CURL manual.

### 5.18.219 OptionIgnoreContentLength as Boolean

Plugin Version: 9.8, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Whether to ignore the Content-Length header.
**Notes:** This is useful for Apache 1.x (and similar servers) which will report incorrect content length for files over 2 gigabytes. If this option is used, CURL will not be able to accurately report progress, and will simply stop the download when the server ends the connection. (added in 7.14.1)
(Read and Write property)

See also IGNORE_CONTENT_LENGTH option in CURL manual.

### 5.18.220 OptionInFileSize as Int64

Plugin Version: 9.8, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** When uploading a file to a remote site, this option should be used to tell libCURL what the expected size of the infile is.
**Notes:** Note that this option does not limit how much data libCURL will actually send, as that is controlled entirely by what the read event returns.

The Lasterror property is set. 0 for success.
You can set this value and later you can read it, but you cannot read the default value.
(Read and Write property)
See also INFILESIZE option in CURL manual.

### 5.18.221 OptionInFileSizeLarge as Int64

Plugin Version: 9.8, Platforms: macOS, Linux, Windows, Targets: All.

**Deprecated:** This item is deprecated and should no longer be used. You can use OptionInFileSize instead.
**Function:** When uploading a file to a remote site, this option should be used to tell libCURL what the expected size of the infile is.
**Notes:** This value should be passed as a CURL_off_t. (Added in 7.11.0)

Note that this option does not limit how much data libCURL will actually send, as that is controlled entirely by what the read event returns.

The Lasterror property is set. 0 for success.
You can set this value and later you can read it, but you cannot read the default value.
(Read and Write property)

### 5.18.222 OptionInterface as String

Plugin Version: 9.8, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** This set the interface name to use as outgoing network interface.
**Notes:** The name can be an interface name, an IP address or a host name.

The Lasterror property is set. 0 for success.
You can set this value and later you can read it, but you cannot read the default value.

(Read and Write property)
See also INTERFACE option in CURL manual.

### 5.18.223 OptionIPResolve as Integer

Plugin Version: 9.8, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Allows an application to select what kind of IP addresses to use when resolving host names.
**Example:**

```
Var c as new CURLSMBS
c.OptionIPResolve = c.kIPRESOLVE_V4
```

**Notes:** This is only interesting when using host names that resolve addresses using more than one version of IP. The allowed values are:

kIPRESOLVE_WHATEVER = 0

Default, resolves addresses to all IP versions that your system allows.

kIPRESOLVE_V4 = 1

Resolve to ipv4 addresses.

kIPRESOLVE_V6 = 2

Resolve to ipv6 addresses.

The Lasterror property is set. 0 for success.
You can set this value and later you can read it, but you cannot read the default value.
(Read and Write property)
See also IPRESOLVE option in CURL manual.

### 5.18.224 OptionIssuerCert as String

Plugin Version: 10.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** A string naming a file holding a CA certificate in PEM format.
**Notes:** If the option is set, an additional check against the peer certificate is performed to verify the issuer is indeed the one associated with the certificate provided by the option. This additional check is use-

ful in multi-level PKI where one needs to enforce that the peer certificate is from a specific branch of the tree.

This option makes sense only when used in combination with the OptionSSLVerifyPeer option. Otherwise, the result of the check is not considered as failure.

A specific error code (CURLE_SSL_ISSUER_ERROR) is defined with the option, which is returned if the setup of the SSL/TLS session has failed due to a mismatch with the issuer of peer certificate (OptionSSLVerifyPeer has to be set too for the check to fail). (Added in 7.19.0)

Starting with version 18.0 the plugin will always use UTF-8 encoding for file path on Linux and macOS. For macOS we also do the unicode character normalization for file names for you.
(Read and Write property)
See also ISSUERCERT option in CURL manual.

### 5.18.225 OptionIssuerCertBlob as String

Plugin Version: 20.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Set issuer SSL certificate from memory blob.
**Notes:** Pass data, which contains binary data of a CA certificate in PEM format. If the option is set, an additional check against the peer certificate is performed to verify the issuer is indeed the one associated with the certificate provided by the option. This additional check is useful in multi-level PKI where one needs to enforce that the peer certificate is from a specific branch of the tree.

This option should be used in combination with the OptionSSLVerifyPeer option. Otherwise, the result of the check is not considered as failure.

A specific error code (CURLE_SSL_ISSUER_ERROR) is defined with the option, which is returned if the setup of the SSL/TLS session has failed due to a mismatch with the issuer of peer certificate (OptionSSLVerifyPeer has to be set too for the check to fail).

This option is an alternative to OptionIssuerCert which instead expects a file name as input.
(Read and Write property)
See also ISSUERCERT_BLOB option in CURL manual.

### 5.18.226 OptionKeepSendingOnError as Integer

Plugin Version: 18.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Whether to keep sending on error.
**Notes:** Continue to send data if the server responds early with an HTTP status code >= 300

(Read and Write property)
See also KEEP_SENDING_ON_ERROR option in CURL manual.

### 5.18.227 OptionKeyPassword as String

Plugin Version: 15.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Set passphrase to private key.
**Notes:** It will be used as the password required to use the OptionSSLKey or OptionSSHPrivateKeyfile private key. You never needed a pass phrase to load a certificate but you need one to load your private key.
(Read and Write property)
See also KEYPASSWD option in CURL manual.

### 5.18.228 OptionKRB4Level as String

Plugin Version: 9.8, Platforms: macOS, Linux, Windows, Targets: All.

**Deprecated:** This item is deprecated and should no longer be used. **Function:** Set the krb4 security level, this also enables krb4 awareness.
**Notes:** This is a string, 'clear', 'safe', 'confidential' or 'private'. If the string is set but doesn't match one of these, 'private' will be used. Set the string to "" to disable kerberos4. The kerberos support only works for FTP.

The Lasterror property is set. 0 for success.
You can set this value and later you can read it, but you cannot read the default value.
(Read and Write property)

### 5.18.229 OptionKRBLevel as String

Plugin Version: 15.2, Platforms: macOS, Linux, Windows, Targets: All.

**Deprecated:** This item is deprecated and should no longer be used. **Function:** FTP kerberos security level.
**Notes:** Set the kerberos security level for FTP; this also enables kerberos awareness. This is a string that should match one of the following: 'clear', 'safe', 'confidential' or 'private'. If the string is set but doesn't match one of these, 'private' will be used. Set the string to NULL to disable kerberos support for FTP.
(Read and Write property)

### 5.18.230 OptionLocalPort as Integer

Plugin Version: 9.8, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** This sets the local port number of the socket used for connection.
**Notes:** This can be used in combination with OptionInterface and you are recommended to use OptionLocalPortRange as well when this is set. Note that port numbers are only valid 1 - 65535. (Added in 7.15.2)
(Read and Write property)
See also LOCALPORT option in CURL manual.

### 5.18.231 OptionLocalPortRange as Integer

Plugin Version: 9.8, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** This is the number of attempts libCURL should do to find a working local port number.
**Notes:** It starts with the given OptionLocalPort and adds one to the number for each retry. Setting this value to 1 or below will make libCURL do only one try for exact port number. Note that port numbers by nature is a scarce resource that will be busy at times so setting this value to something too low might cause unnecessary connection setup failures. (Added in 7.15.2)
(Read and Write property)
See also LOCALPORTRANGE option in CURL manual.

### 5.18.232 OptionLoginOptions as String

Plugin Version: 15.4, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Login options string to use for the transfer.
**Notes:** For more information about the login options please see RFC 2384, RFC5092 and IETF draft draft-earhart-url-smtp-00.txt

CURLOPT_LOGIN_OPTIONS can be used to set protocol specific login options, such as the preferred authentication mechanism via "AUTH=NTLM" or "AUTH=*", and should be used in conjunction with the OptionUserName option.
Only IMAP, POP3 and SMTP support login options.
(Read and Write property)
See also LOGIN_OPTIONS option in CURL manual.

### 5.18.233 OptionLowSpeedLimit as Integer

Plugin Version: 9.8, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** This property contains the transfer speed in bytes per second that the transfer should be below during OptionLowSpeedTime seconds for the library to consider it too slow and abort.

**Notes:** The Lasterror property is set. 0 for success.
You can set this value and later you can read it, but you cannot read the default value.
(Read and Write property)
See also LOW_SPEED_LIMIT option in CURL manual.

### 5.18.234 OptionLowSpeedTime as Integer

Plugin Version: 9.8, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** This property contains the time in seconds that the transfer should be below the OptionLowSpeedLimit for the library to consider it too slow and abort.
**Notes:** The Lasterror property is set. 0 for success.
You can set this value and later you can read it, but you cannot read the default value.
(Read and Write property)
See also LOW_SPEED_TIME option in CURL manual.

### 5.18.235 OptionMailAuth as String

Plugin Version: 12.4, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** This string will be used to specify the authentication address (identity) of a submitted message that is being relayed to another server.
**Notes:** This optional parameter allows co-operating agents in a trusted environment to communicate the authentication of individual messages and should only be used by the application program, using libCURL, if the application is itself a mail server acting in such an environment. If the application is operating as such and the AUTH address is not known or is invalid, then an empty string should be used for this parameter.

Unlike OptionMailFrom and SetOptionMailRecipients, the address should not be specified within a pair of angled brackets (<>). However, if an empty string is used then a pair of brackets will be sent by libCURL as required by RFC 2554.
(Read and Write property)
See also MAIL_AUTH option in CURL manual.

### 5.18.236 OptionMailFrom as String

Plugin Version: 11.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** A string that will be used to specify the sender address in a mail when sending an SMTP mail with libCURL.
**Notes:** (Read and Write property)
See also MAIL_FROM option in CURL manual.

### 5.18.237 OptionMaxAgeConn as Integer

Plugin Version: 19.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The maximum age the connection should have in seconds.
**Notes:** Older connections are not reused, but discarded.
(Read and Write property)
See also MAXAGE_CONN option in CURL manual.

### 5.18.238 OptionMaxConnects as Integer

Plugin Version: 9.8, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The set number will be the persistent connection cache size.
**Notes:** The set amount will be the maximum amount of simultaneously open connections that libCURL may cache. Default is 5, and there isn't much point in changing this value unless you are perfectly aware of how this work and changes libCURL's behaviour. This concerns connection using any of the protocols that support persistent connections.

When reaching the maximum limit, CURL closes the oldest one in the cache to prevent the number of open connections to increase.

If you already have performed transfers with this CURL handle, setting a smaller MAXCONNECTS than before may cause open connections to get closed unnecessarily.

The Lasterror property is set. 0 for success.
You can set this value and later you can read it, but you cannot read the default value.
(Read and Write property)
See also MAXCONNECTS option in CURL manual.

### 5.18.239 OptionMaxFileSize as Int64

Plugin Version: 9.8, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** This allows you to specify the maximum size (in bytes) of a file to download.
**Notes:** If the file requested is larger than this value, the transfer will not start and kError_FILESIZE_EXCEEDED will be returned.

The file size is not always known prior to download, and for such files this option has no effect even if the file transfer ends up being larger than this given limit. This concerns both FTP and HTTP transfers.

The Lasterror property is set. 0 for success.

You can set this value and later you can read it, but you cannot read the default value.
(Read and Write property)
See also MAXFILESIZE option in CURL manual.

### 5.18.240 OptionMaxFileSizeLarge as Int64

Plugin Version: 9.8, Platforms: macOS, Linux, Windows, Targets: All.

**Deprecated:** This item is deprecated and should no longer be used. You can use OptionMaxFileSize instead. **Function:** This allows you to specify the maximum size (in bytes) of a file to download.
**Notes:** If the file requested is larger than this value, the transfer will not start and kError_FILESIZE_EXCEEDED will be returned. (Added in 7.11.0)

The file size is not always known prior to download, and for such files this option has no effect even if the file transfer ends up being larger than this given limit. This concerns both FTP and HTTP transfers.

The Lasterror property is set. 0 for success.
You can set this value and later you can read it, but you cannot read the default value.
(Read and Write property)

### 5.18.241 OptionMaxLifeTimeConnection as Integer

Plugin Version: 22.4, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Sets maximum lifetime (since creation) allowed for reusing a connection.
**Notes:** Pass a number as parameter containing maxlifetime - the maximum time in seconds, since the creation of the connection, that you allow an existing connection to have to be considered for reuse for this request.

libcurl features a connection cache that holds previously used connections. When a new request is to be done, it will consider any connection that matches for reuse. The MaxLifeTimeConnection limit prevents libcurl from trying too old connections for reuse. This can be used for client-side load balancing. If a connection is found in the cache that is older than this set maxlifetime, it will instead be closed once any in-progress transfers complete.

If set to 0, this behavior is disabled: all connections are eligible for reuse.
(Read and Write property)

### 5.18.242 OptionMaxRecvSpeed as Int64

Plugin Version: 15.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Defines the maximum download speed.
**Notes:** If a download exceeds this speed (counted in bytes per second) on cumulative average during the transfer, the transfer will pause to keep the average rate less than or equal to the parameter value. Defaults to unlimited speed. (Added in 7.15.5)
(Read and Write property)
See also MAX_RECV_SPEED option in CURL manual.

### 5.18.243 OptionMaxRecvSpeedLarge as Int64

Plugin Version: 9.8, Platforms: macOS, Linux, Windows, Targets: All.

**Deprecated:** This item is deprecated and should no longer be used. You can use OptionMaxRecvSpeed instead. **Function:** Defines the maximum download speed.
**Notes:** If a download exceeds this speed (counted in bytes per second) on cumulative average during the transfer, the transfer will pause to keep the average rate less than or equal to the parameter value. Defaults to unlimited speed. (Added in 7.15.5)
(Read and Write property)

### 5.18.244 OptionMaxRedirs as Integer

Plugin Version: 9.8, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The set number will be the redirection limit.
**Example:**

```
Var c as new CURLSMBS

c.OptionFollowLocation = 1
c.OptionMaxRedirs = 3
```

**Notes:** If that many redirections have been followed, the next redirect will cause an error (kError_TOO_MANY_REDIRECTS). This option only makes sense if the CURLOPT_FOLLOWLOCATION is used at the same time.
Added in 7.15.1: Setting the limit to 0 will make libCURL refuse any redirect. Set it to -1 for an infinite number of redirects (which is the default)

The Lasterror property is set. 0 for success.
You can set this value and later you can read it, but you cannot read the default value.
(Read and Write property)
See also MAXREDIRS option in CURL manual.

### 5.18.245 OptionMaxSendSpeed as Int64

Plugin Version: 15.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Defines the maximum upload speed.
**Notes:** If an upload exceeds this speed on cumulative average during the transfer, the transfer will pause to keep the average rate less than or equal to the parameter value. Defaults to unlimited speed. (Added in 7.15.5)
Value is in bytes per second.
Useful if you have a limited pipe and you'd like your transfer not to use your entire bandwidth.
Slowing down the transfer speed is also useful for lowering CPU consumption during transfers.
(Read and Write property)
See also MAX_SEND_SPEED option in CURL manual.

### 5.18.246 OptionMaxSendSpeedLarge as Int64

Plugin Version: 9.8, Platforms: macOS, Linux, Windows, Targets: All.

**Deprecated:** This item is deprecated and should no longer be used. You can use OptionMaxSendSpeed instead. **Function:** Defines the maximum upload speed.
**Notes:** If an upload exceeds this speed on cumulative average during the transfer, the transfer will pause to keep the average rate less than or equal to the parameter value. Defaults to unlimited speed. (Added in 7.15.5)
Value is in bytes per second.
Useful if you have a limited pipe and you'd like your transfer not to use your entire bandwidth.
Slowing down the transfer speed is also useful for lowering CPU consumption during transfers.
(Read and Write property)

### 5.18.247 OptionMimeOptions as Integer

Plugin Version: 22.4, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Set MIME option flags.
**Notes:** Pass a number that holds a bitmask of CURLMIMEOPT constants. Each bit is a Boolean flag used while encoding a MIME tree or multipart form data.

Available bits are:

CURLMIMEOPT_FORMESCAPE = 1

Tells libcurl to escape multipart form field and file names using the backslash-escaping algorithm rather than percent-encoding (HTTP only).

Backslash-escaping consists in preceding backslashes and double quotes with a backslash. Percent encoding maps all occurrences of double quote, carriage return and line feed to %22, %0D and %0A respectively.

Before version 7.81.0, percent-encoding was never applied.

HTTP browsers used to do backslash-escaping in the past but have over time transitioned to use percent-encoding. This option allows to address server-side applications that have not yet have been converted.

As an example, consider field or file name strange\name”kind. When the containing multipart form is sent, this is normally transmitted as strange\name%22kind. When this option is set, it is sent as strange\\name\”kind.
(Read and Write property)
See also MIME_OPTIONS option in CURL manual.

### 5.18.248 OptionNetRC as Integer

Plugin Version: 9.8, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Controls usage of netrc file.
**Notes:** This parameter controls the preference of libCURL between using user names and passwords from your
textasciitilde /.netrc file, relative to user names and passwords in the URL supplied with OptionURL.

libCURL uses a user name (and supplied or prompted password) supplied with OptionUsername and OptionPassword in preference to any of the options controlled by this parameter.

An integer, set to one of the values described below.

kNETRC_OPTIONAL = 1

The use of your
textasciitilde /.netrc file is optional, and information in the URL is to be preferred. The file will be scanned with the host and user name (to find the password only) or with the host only, to find the first user name and password after that machine, which ever information is not specified in the URL.

Undefined values of the option will have this effect.

kNETRC_IGNORED = 0

The library will ignore the file and use only the information in the URL.

This is the default.

kNETRC_REQUIRED = 2

This value tells the library that use of the file is required, to ignore the information in the URL, and to search the file with the host only.

Only machine name, user name and password are taken into account (init macros and similar things aren't supported).

libCURL does not verify that the file has the correct properties set (as the standard Unix ftp client does). It should only be readable by user.

The Lasterror property is set. 0 for success.
You can set this value and later you can read it, but you cannot read the default value.
(Read and Write property)
See also NETRC option in CURL manual.

### 5.18.249 OptionNetRCFile as String

Plugin Version: 9.8, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** A string containing the full path name to the file you want libCURL to use as .netrc file.
**Notes:** If this option is omitted, and OptionNETRC is set, libCURL will attempt to find the a .netrc file in the current user's home directory. (Added in 7.10.9)

The Lasterror property is set. 0 for success.
You can set this value and later you can read it, but you cannot read the default value.

Starting with version 18.0 the plugin will always use UTF-8 encoding for file path on Linux and macOS. For macOS we also do the unicode character normalization for file names for you.
(Read and Write property)
See also NETRC_FILE option in CURL manual.

### 5.18.250 OptionNewDirectoryPerms as Integer

Plugin Version: 10.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** An integer, containing the value of the permissions that will be assigned to newly created directories on the remote server.

**Notes:** The default value is 0755, but any valid value can be used. The only protocols that can use this are sftp://, scp://, and file://. (Added in 7.16.4)
Value must be octal, so use &o prefix for number.
(Read and Write property)
See also NEW_DIRECTORY_PERMS option in CURL manual.

### 5.18.251 OptionNewFilePerms as Integer

Plugin Version: 10.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** An integer, containing the value of the permissions that will be assigned to newly created files on the remote server.
**Notes:** The default value is &o0644, but any valid value can be used. The only protocols that can use this are sftp://, scp://, and file://. (Added in 7.16.4)
Be aware that you normally specify this in octal values. So use the &o prefix in Xojo.
(Read and Write property)
See also NEW_FILE_PERMS option in CURL manual.

### 5.18.252 OptionNoBody as Boolean

Plugin Version: 9.8, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** True tells the library to not include the body-part in the output.
**Notes:** This is only relevant for protocols that have separate header and body parts. On HTTP(S) servers, this will make libCURL do a HEAD request.

To change request to GET, you should use OptionGet. Change request to POST with OptionPost etc.

The Lasterror property is set. 0 for success.
You can set this value and later you can read it, but you cannot read the default value.
(Read and Write property)
See also NOBODY option in CURL manual.

### 5.18.253 OptionNoProxy as String

Plugin Version: 10.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** A string with a comma- separated list of hosts which do not use a proxy, if one is specified.
**Example:**

```
// setup explicit proxy:
```

```
var c as new CURLSMBS
c.OptionProxy = "http://192.168.1.123"
c.OptionNoProxy = "localhost,192.168.0.0/16,.somename.com"
```

**Notes:** The only wildcard is a single * character, which matches all hosts, and effectively disables the proxy. Each name in this list is matched as either a domain which contains the hostname, or the hostname itself. For example, local.com would match local.com, local.com:80, and www.local.com, but not www.notlocal.com. (Added in 7.19.4)
(Read and Write property)
See also NOPROXY option in CURL manual.

### 5.18.254 OptionNoSignal as Integer

Plugin Version: 13.1, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Whether to not use signals.
**Notes:** If it is true, libCURL will not use any functions that install signal handlers or any functions that cause signals to be sent to the process. This option is mainly here to allow multi-threaded unix applications to still set/use all timeout options etc, without risking getting signals. (Added in 7.10)

If this option is set and libCURL has been built with the standard name resolver, timeouts will not occur while the name resolve takes place. Consider building libCURL with c-ares support to enable asynchronous DNS lookups, which enables nice timeouts for name resolves without signals.

Setting OptionNoSignal to true makes libCURL NOT ask the system to ignore SIGPIPE signals, which otherwise are sent by the system when trying to send data to a socket which is closed in the other end. libCURL makes an effort to never cause such SIGPIPEs to trigger, but some operating systems have no way to avoid them and even on those that have there are some corner cases when they may still happen, contrary to our desire. In addition, using CURLAUTH_NTLM_WB authentication could cause a SIGCHLD signal to be raised.
(Read and Write property)
See also NOSIGNAL option in CURL manual.

### 5.18.255 OptionPassword as String

Plugin Version: 10.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The password to use for the transfer.
**Notes:** The OptionPassword option should be used in conjunction with the OptionUsername option.
(Read and Write property)
See also PASSWORD option in CURL manual.

### 5.18.256 OptionPathAsIs as Boolean

Plugin Version: 18.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Pass path as it is and do not resolve dots.
**Notes:** Do not squash dot-dot sequences.
(Read and Write property)
See also PATH_AS_IS option in CURL manual.

### 5.18.257 OptionPinnedPublicKey as String

Plugin Version: 18.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The public key in DER form used to validate the peer public key.
**Notes:** Native path to key file.
This option is used only if SSLVerifyPeer is true.
(Read and Write property)
See also PINNEDPUBLICKEY option in CURL manual.

### 5.18.258 OptionPipeWait as Boolean

Plugin Version: 18.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Wait/don't wait for pipe/mutex to clarify.
**Notes:** (Read and Write property)
See also PIPEWAIT option in CURL manual.

### 5.18.259 OptionPort as Integer

Plugin Version: 9.8, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The remote port number to connect to, instead of the one specified in the URL or the default port for the used protocol.
**Notes:** The Lasterror property is set. 0 for success.
You can set this value and later you can read it, but you cannot read the default value.
(Read and Write property)
See also PORT option in CURL manual.

### 5.18.260 OptionPost as Boolean

Plugin Version: 9.8, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** A boolean parameter tells the library to do a regular HTTP post.
**Notes:** This will also make the library use the a "Content-Type: application/x-www-form-urlencoded" header. (This is by far the most commonly used POST method).

Use the OptionPostFields option to specify what data to post.

Optionally, you can provide data to POST using the Read event but then you must make sure to not set OptionPostFields to anything but "". When providing data with an event, you must transmit it using chunked transfer-encoding.

You can override the default POST Content-Type: header by setting your own with OptionHTTPHeader.

Using POST with HTTP 1.1 implies the use of a "Expect: 100-continue" header. You can disable this header with OptionHTTPHeader as usual.

If you use POST to a HTTP 1.1 server, you can send data without knowing the size before starting the POST if you use chunked encoding. You enable this by adding a header like "Transfer-Encoding: chunked" with OptionHTTPHeader. With HTTP 1.0 or without chunked transfer, you must specify the size in the request.

When setting CURLOPT_POST to a non-zero value, it will automatically set OptionNoBody to 0 (since 7.14.1).

If you issue a POST request and then want to make a HEAD or GET using the same re-used handle, you must explictly set the new request type using OptionNoBody or OptionGet or similar.

The Lasterror property is set. 0 for success.
You can set this value and later you can read it, but you cannot read the default value.
(Read and Write property)
See also POST option in CURL manual.

### 5.18.261 OptionPostFields as String

Plugin Version: 9.8, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** A string which should be the full data to post in an HTTP POST operation.
**Example:**

```
Var xml as string // XML or JSON to send as payload
Var c as new CURLSMBS

c.OptionFollowLocation = 1
```

```
c.OptionMaxRedirs = 3
c.OptionPostFields = xml
c.OptionUserAgent = "Test App"
c.OptionPost = true

// for SOAP use right content type
c.SetOptionHTTPHeader array("Content-Type: application/soap+xml; charset=utf-8")
```

**Notes:** You must make sure that the data is formatted the way you want the server to receive it. libCURL will not convert or encode it for you. Most web servers will assume this data to be url-encoded. Take note.

This POST is a normal application/x-www-form-urlencoded kind (and libCURL will set that Content-Type by default when this option is used), which is the most commonly used one by HTML forms. See also the OptionPost. Using OptionPostFields implies OptionPost.

Using POST with HTTP 1.1 implies the use of a "Expect: 100-continue" header. You can disable this header with CURLOPT_HTTPHEADER as usual.

To make multipart/formdata posts (aka rfc1867-posts), check out the OptionPost option.

The Lasterror property is set. 0 for success.
You can set this value and later you can read it, but you cannot read the default value.
(Read and Write property)
See also COPYPOSTFIELDS option in CURL manual.

### 5.18.262 OptionPostFieldSize as Int64

Plugin Version: 9.8, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The size of the post data.
**Notes:** Optional you can set the size of your post data.
If you specify a postfield string, this size will be set automatically.

If you specify a size and no postfield string, the Read event will request data.
(Read and Write property)
See also POSTFIELDSIZE option in CURL manual.

### 5.18.263 OptionPostFieldSizeLarge as Int64

Plugin Version: 9.8, Platforms: macOS, Linux, Windows, Targets: All.

**Deprecated:** This item is deprecated and should no longer be used. You can use OptionPostFieldSize instead. **Function:** The size of the post data. (64 bit version)
**Notes:** Optional you can set the size of your post data.
If you specify a postfield string, this size will be set automatically.

If you specify a size and no postfield string, the Read event will request data.
(Read and Write property)

### 5.18.264 OptionPostRedir as Integer

Plugin Version: 10.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** A bitmask to control how libCURL acts on redirects after POSTs that get a 301 or 302 response back.
**Notes:** A parameter with bit 0 set (value CURL_REDIR_POST_301=1) tells the library to respect RFC 2616/10.3.2 and not convert POST requests into GET requests when following a 301 redirection. Setting bit 1 (value CURL_REDIR_POST_302=2) makes libCURL maintain the request method after a 302 redirect. CURL_REDIR_POST_ALL is a convenience define that sets both bits.

The non-RFC behaviour is ubiquitous in web browsers, so the library does the conversion by default to maintain consistency. However, a server may require a POST to remain a POST after such a redirection. This option is meaningful only when setting OptionFollowLocation. (Added in 7.17.1) (This option was known as CURLOPT_POST301 up to 7.19.0 as it only supported the 301 way before then)
(Read and Write property)
See also POSTREDIR option in CURL manual.

### 5.18.265 OptionPreProxy as String

Plugin Version: 18.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Name of pre proxy to use.
**Notes:** (Read and Write property)
See also PRE_PROXY option in CURL manual.

### 5.18.266 OptionProtocols as Integer

Plugin Version: 10.0, Platforms: macOS, Linux, Windows, Targets: All.

**Deprecated:** This item is deprecated and should no longer be used. You can use OptionProtocolsString instead. **Function:** A bitmask of kProtocol* constants.
**Notes:** If used, this bitmask limits what protocols libCURL may use in the transfer. This allows you to have a libCURL built to support a wide range of protocols but still limit specific transfers to only be allowed to use

a subset of them. By default libCURL will accept all protocols it supports. See also OptionRedirProtocols. (Added in 7.19.4)
(Read and Write property)

### 5.18.267 OptionProtocolsString as String

Plugin Version: 22.4, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The protocols allowed-
**Example:**

```
Var c as new CURLSMBS
c.OptionProtocolsString = "http,tftp,sftp"
```

**Notes:** Pass a string that holds a comma-separated list of case insensitive protocol names (URL schemes) to allow in the transfer. This option allows applications to use libcurl built to support a wide range of protocols but still limit specific transfers to only be allowed to use a subset of them. By default, libcurl accepts all protocols it was built with support for. See also OptionReditProtocolsString.

If trying to set a non-existing protocol or if no matching protocol at all is set, it returns error.

These are the available protocols:

DICT, FILE, FTP, FTPS, GOPHER, GOPHERS, HTTP, HTTPS, IMAP, IMAPS, LDAP, LDAPS, POP3, POP3S, RTMP, RTMPE, RTMPS, RTMPT, RTMPTE, RTMPTS, RTSP, SCP, SFTP, SMB, SMBS, SMTP, SMTPS, TELNET, TFTP

You can set "ALL" as a short-cut to enable all protocols. Note that by setting all, you may enable protocols that were not supported the day you write this but are introduced in a future libcurl version.

CURLVersionMBS class can be used to get a list of all supported protocols in the current libcurl. GetInfo-Protocol function is the recommended way to figure out the protocol used in a previous transfer.
(Read and Write property)

### 5.18.268 OptionProxy as String

Plugin Version: 9.8, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Set HTTP proxy to use.
**Example:**

```
// setup explicit proxy:
```

```
var c as new CURLSMBS
c.OptionProxy = "http://192.168.1.123"
c.OptionNoProxy = "localhost,192.168.0.0/16,.somename.com"
```

**Notes:** The Lasterror property is set. 0 for success.
You can set this value and later you can read it, but you cannot read the default value.

The parameter should be a string holding the host name or dotted IP address. To specify port number in this string, append : [ port ] to the end of the host name. The proxy string may be prefixed with [ protocol ] :// since any such prefix will be ignored. The proxy's port number may optionally be specified with the separate option ProxyHost.

When you tell the library to use an HTTP proxy, libCURL will transparently convert operations to HTTP even if you specify an FTP URL etc. This may have an impact on what other features of the library you can use, such as CURLOPT_QUOTE and similar FTP specifics that don't work unless you tunnel through the HTTP proxy. Such tunneling is activated with HTTPProxyTunnel.

libCURL respects the environment variables http_proxy, ftp_proxy, all_proxy etc, if any of those is set. The Proxy option does however override any possibly set environment variables.

Starting with 7.14.1, the proxy host string given in environment variables can be specified the exact same way as the proxy can be set with Proxy, include protocol prefix (http://) and embedded user + password.

You can use WinHTTPClientMBS class on Windows or CFProxyMBS on Mac to discover system proxy settings.
(Read and Write property)
See also PROXY option in CURL manual.

### 5.18.269 OptionProxyAuth as Integer

Plugin Version: 9.8, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Which proxy authentication to use.
**Notes:** Pass an integer as parameter, which is set to a bitmask, to tell libCURL what authentication method(s) you want it to use for your proxy authentication. If more than one bit is set, libCURL will first query the site to see what authentication methods it supports and then pick the best one you allow it to use. For some methods, this will induce an extra network round-trip. Set the actual name and password with the ProxyUserPassword option. The bitmask can be constructed by or'ing together the bits listed above for the HTTPAuth option. As of this writing, only Basic, Digest and NTLM work. (Added in 7.10.7)

The Lasterror property is set. 0 for success.

You can set this value and later you can read it, but you cannot read the default value.
(Read and Write property)
See also PROXYAUTH option in CURL manual.

### 5.18.270 OptionProxyCAInfo as String

Plugin Version: 18.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The CApath or CAfile used to validate the proxy certificate.
**Example:**

```
// if you use SSL, maybe put in a certificate or disable verification?

Var d as CURLSMBS
// your CURL object

// disable
d.OptionProxySSLVerifyHost = 0
d.OptionProxySSLVerifyPeer = 0

// or better provide root certificates:

Var cacert As FolderItem = New FolderItem("cacert.pem")
d.OptionProxyCAInfo = cacert.NativePath
d.OptionProxySSLVerifyHost = 2
d.OptionProxySSLVerifyPeer = 1
```

**Notes:** Pass native file path.
This option is used only if CURLSMBS.OptionProxySSLVerifyPeer is true
(Read and Write property)
See also PROXY_CAINFO option in CURL manual.

### 5.18.271 OptionProxyCAInfoBlob as String

Plugin Version: 21.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The CAInfo for proxy as blob value.
**Notes:** This option is for connecting to an HTTPS proxy, not an HTTPS server.
Certificate Authority (CA) bundle in PEM format passed PEM encoded content holding one or more certificates to verify the HTTPS server with.
(Read and Write property)
See also PROXY_CAINFO_BLOB option in CURL manual.

### 5.18.272 OptionProxyCAPath as String

Plugin Version: 18.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The CApath directory used to validate the proxy certificate.
**Notes:** Pass native file path.
This option is used only if CURLSMBS.OptionProxySSLVerifyPeer is true
(Read and Write property)
See also PROXY_CAPATH option in CURL manual.

### 5.18.273 OptionProxyCRLFile as String

Plugin Version: 18.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** CRL file for proxy.
**Notes:** Pass native file path.
(Read and Write property)
See also PROXY_CRLFILE option in CURL manual.

### 5.18.274 OptionProxyIssuerCert as String

Plugin Version: 20.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Sets the proxy issuer SSL certificate filename.
**Notes:** Pass a string naming a file holding a CA certificate in PEM format. If the option is set, an additional check against the peer certificate is performed to verify the issuer of the HTTPS proxy is indeed the one associated with the certificate provided by the option. This additional check is useful in multi-level PKI where one needs to enforce that the peer certificate is from a specific branch of the tree.

This option makes sense only when used in combination with the OptionProxySSLVerifyPeer option. Otherwise, the result of the check is not considered as failure.

A specific error code (CURLE_SSL_ISSUER_ERROR) is defined with the option, which is returned if the setup of the SSL/TLS session has failed due to a mismatch with the issuer of peer certificate (OptionProxySSLVerifyPeer has to be set too for the check to fail).
(Read and Write property)
See also PROXY_ISSUERCERT option in CURL manual.

### 5.18.275 OptionProxyIssuerCertBlob as String

Plugin Version: 20.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Set proxy issuer SSL certificate from memory blob.
**Notes:** Pass data, which contains binary data of a CA certificate in PEM format. If the option is set, an additional check against the peer certificate is performed to verify the issuer of the HTTPS proxy is indeed the one associated with the certificate provided by the option. This additional check is useful in multi-level PKI where one needs to enforce that the peer certificate is from a specific branch of the tree.

This option should be used in combination with the OptionProxySSLVerifyPeer option. Otherwise, the result of the check is not considered as failure.

A specific error code (CURLE_SSL_ISSUER_ERROR) is defined with the option, which is returned if the setup of the SSL/TLS session has failed due to a mismatch with the issuer of peer certificate (OptionProxySSLVerifyPeer has to be set too for the check to fail).

This option is an alternative to OptionProxyIssuerCert which instead expects a file name as input.
(Read and Write property)
See also PROXY_ISSUERCERT_BLOB option in CURL manual.

### 5.18.276 OptionProxyKeyPassword as String

Plugin Version: 18.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Password for the SSL private key for proxy.
**Notes:** (Read and Write property)
See also PROXY_KEYPASSWD option in CURL manual.

### 5.18.277 OptionProxyPassword as String

Plugin Version: 10.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** A string which should be pointing to the password to use for the transfer while connecting to Proxy.
**Notes:** The OptionProxyPassword option should be used in conjunction with the OptionProxyUsername option. (Added in 7.19.1)
(Read and Write property)
See also PROXYPASSWORD option in CURL manual.

### 5.18.278 OptionProxyPinnedPublicKey as String

Plugin Version: 18.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The public key in DER form used to validate the proxy public key.

**Notes:** This option is used only if CURLSMBS.OptionProxySSLVerifyPeer is true.
Please path native file path to key file.
(Read and Write property)
See also PROXY_PINNEDPUBLICKEY option in CURL manual.

### 5.18.279 OptionProxyPort as Integer

Plugin Version: 9.8, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The proxy port to connect to unless it is specified in the proxy string OptionProxy.
**Notes:** The Lasterror property is set. 0 for success.
You can set this value and later you can read it, but you cannot read the default value.

You can use OptionProxy with port, e.g. "12.34.56.78:8080" or pass port here and proxy without port.
For some users it seems like the option with OptionProxy including port works better.
(Read and Write property)
See also PROXYPORT option in CURL manual.

### 5.18.280 OptionProxyServiceName as String

Plugin Version: 18.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Proxy Service Name.
**Notes:** (Read and Write property)
See also PROXY_SERVICE_NAME option in CURL manual.

### 5.18.281 OptionProxySSLCert as String

Plugin Version: 18.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Name of the file keeping your private SSL-certificate for proxy.
**Notes:** (Read and Write property)
See also PROXY_SSLCERT option in CURL manual.

### 5.18.282 OptionProxySSLCertBlob as String

Plugin Version: 20.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Sets private key for proxy cert from memory blob.
**Notes:** Pass data, which contains the private key for connecting to the HTTPS proxy. Compatible with OpenSSL. The format (like "PEM") must be specified with CURL.SetOptionProxySSLKeyType.

(Read and Write property)
See also PROXY_SSLCERT_BLOB option in CURL manual.

### 5.18.283 OptionProxySSLCertType as String

Plugin Version: 18.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Type of the file keeping your SSL-certificate for proxy.
**Notes:** Value can be "DER", "PEM" or "ENG".
(Read and Write property)
See also PROXY_SSLCERTTYPE option in CURL manual.

### 5.18.284 OptionProxySSLCipherList as String

Plugin Version: 18.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Specify which SSL ciphers to use for proxy.
**Notes:** (Read and Write property)
See also PROXY_SSL_CIPHER_LIST option in CURL manual.

### 5.18.285 OptionProxySSLKey as String

Plugin Version: 18.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Name of the file keeping your private SSL-key for proxy.
**Notes:** Pass native file path.
(Read and Write property)
See also PROXY_SSLKEY option in CURL manual.

### 5.18.286 OptionProxySSLKeyBlob as String

Plugin Version: 20.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Set private key for proxy cert from memory blob.
**Notes:** Pass data, which contains a private key for connecting to the HTTPS proxy. Compatible with OpenSSL. The format (like "PEM") must be specified with OptionProxySSLKeyType.

This option is an alternative to OptionProxySSLKey which instead expects a file name as input.
(Read and Write property)
See also PROXY_SSLKEY_BLOB option in CURL manual.

### 5.18.287 OptionProxySSLKeyType as String

Plugin Version: 18.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Sets type of the file keeping your private SSL-key for proxy.
**Notes:** Value is DER, PEM or ENG.
(Read and Write property)
See also PROXY_SSLKEYTYPE option in CURL manual.

### 5.18.288 OptionProxySSLOptions as Integer

Plugin Version: 18.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Enable/disable specific SSL features with a bitmask for proxy.
**Notes:** (Read and Write property)
See also PROXY_SSL_OPTIONS option in CURL manual.

### 5.18.289 OptionProxySSLVerifyHost as Integer

Plugin Version: 18.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Enable SSL Host verification.
**Example:**

```
// if you use SSL, maybe put in a certificate or disable verification?

Var d as CURLSMBS
// your CURL object

// disable
d.OptionProxySSLVerifyHost = 0
d.OptionProxySSLVerifyPeer = 0

// or better provide root certificates:

Var cacert As FolderItem = New FolderItem("cacert.pem")
d.OptionProxyCAInfo = cacert.NativePath
d.OptionProxySSLVerifyHost = 2
d.OptionProxySSLVerifyPeer = 1
```

**Notes:** Set if we should verify the Common name from the proxy certificate in ssl handshake, set 1 to check existence, 2 to ensure that it matches the provided hostname.
(Read and Write property)
See also PROXY_SSL_VERIFYHOST option in CURL manual.

### 5.18.290 OptionProxySSLVerifyPeer as Integer

Plugin Version: 18.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Set if we should verify the proxy in ssl handshake.
**Example:**

```
// if you use SSL, maybe put in a certificate or disable verification?

Var d as CURLSMBS
// your CURL object

// disable
d.OptionProxySSLVerifyHost = 0
d.OptionProxySSLVerifyPeer = 0

// or better provide root certificates:

Var cacert As FolderItem = New FolderItem("cacert.pem")
d.OptionProxyCAInfo = cacert.NativePath
d.OptionProxySSLVerifyHost = 2
d.OptionProxySSLVerifyPeer = 1
```

**Notes:** set 1 to verify.
(Read and Write property)
See also PROXY_SSL_VERIFYPEER option in CURL manual.

### 5.18.291 OptionProxySSLVersion as Integer

Plugin Version: 18.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** What version to specifically try to use for proxy.
**Notes:** The SSL and TLS versions have typically developed from the most insecure version to be more and more secure in this order through history: SSL v2, SSLv3, TLS v1.0, TLS v1.1, TLS v1.2 and the most recent TLS v1.3.

Use one of the available defines for this purpose. The available options are:

See also kSSLVersion* constants.

The maximum TLS version can be set by using one of the CURL_SSLVERSION_MAX_ macros below. It is also possible to OR one of the CURL_SSLVERSION_ macros with one of the CURL_SSLVERSION_MAX_ macros.

| | | |
|---|---|---|
| Default | 0 | The default acceptable version range. The minimum acceptable version is by default TLS v1.0 since 7.39.0 (unless the TLS library has a stricter rule). |
| TLSv1 | 1 | TLS v1.0 or later |
| SSLv2 | 2 | SSL v2 (but not SSLv3) |
| SSLv3 | 3 | SSL v3 (but not SSLv2) |
| TLSv1.0 | 4 | TLS v1.0 or later (Added in 7.34.0) |
| TLSv1.1 | 5 | TLS v1.1 or later (Added in 7.34.0) |
| TLSv1.2 | 6 | TLS v1.2 or later (Added in 7.34.0) |
| TLSv1.3 | 7 | TLS v1.3 or later (Added in 7.52.0) |

| | | |
|---|---|---|
| Default | &h10000 | The flag defines the maximum supported TLS version by libcurl, or the default value from the SSL library is used. libcurl will use a sensible default maximum, which was TLS v1.2 up to before 7.61.0 and is TLS v1.3 since then - assuming the TLS library support it. (Added in 7.54.0) |
| Max TLSv1.0 | &h40000 | The flag defines maximum supported TLS version as TLS v1.0. (Added in 7.54.0) |
| Max TLSv1.1 | &h50000 | The flag defines maximum supported TLS version as TLS v1.1. (Added in 7.54.0) |
| Max TLSv1.2 | &h60000 | The flag defines maximum supported TLS version as TLS v1.2. (Added in 7.54.0) |
| Max TLSv1.3 | &h70000 | The flag defines maximum supported TLS version as TLS v1.3. (Added in 7.54.0) |

Please note that MBS Plugin does not yet support TLS v1.3 now, but may in future.
(Read and Write property)
See also PROXY_SSLVERSION option in CURL manual.

### 5.18.292 OptionProxyTLS13Ciphers as String

Plugin Version: 18.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Specify which TLS 1.3 ciphers suites to use for proxy.
**Notes:** The list of cipher suites to use for the TLS 1.3 connection to a proxy. The list must be syntactically correct, it consists of one or more cipher suite strings separated by colons.

You'll find more details about cipher lists on this URL:

https://curl.haxx.se/docs/ssl-ciphers.html

The application does not have to keep the string around after setting this option.
(Read and Write property)

See also PROXY_TLS13_CIPHERS option in CURL manual.

### 5.18.293 OptionProxyTLSAuthPassword as String

Plugin Version: 18.2, Platforms: macOS, Linux, Windows, Targets: All.

**Deprecated:** This item is deprecated and should no longer be used. **Function:** Password for authenticated TLS for proxy.
**Notes:** (Read and Write property)

### 5.18.294 OptionProxyTLSAuthType as String

Plugin Version: 18.2, Platforms: macOS, Linux, Windows, Targets: All.

**Deprecated:** This item is deprecated and should no longer be used. **Function:** Set authentication type for authenticated TLS for proxy
**Notes:** (Read and Write property)

### 5.18.295 OptionProxyTLSAuthUsername as String

Plugin Version: 18.2, Platforms: macOS, Linux, Windows, Targets: All.

**Deprecated:** This item is deprecated and should no longer be used. **Function:** Set a username for authenticated TLS for proxy.
**Notes:** (Read and Write property)

### 5.18.296 OptionProxyTransferMode as Integer

Plugin Version: 10.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** If this integer value is set to 1 (one), it tells libCURL to set the transfer mode (binary or ASCII) for FTP transfers done via an HTTP proxy, by appending ;type=a or ;type=i to the URL.
**Notes:** Without this setting, or it being set to 0 (zero, the default), OptionTransferText has no effect when doing FTP via a proxy. Beware that not all proxies support this feature. (Added in 7.18.0)
(Read and Write property)
See also PROXY_TRANSFER_MODE option in CURL manual.

### 5.18.297 OptionProxyType as Integer

Plugin Version: 9.8, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** This option is to set type of the proxy.
**Notes:** The Lasterror property is set. 0 for success.
You can set this value and later you can read it, but you cannot read the default value.

Available options for this are kPROXY_HTTP, kPROXY_SOCKS4 (added in 7.15.2) kPROXY_SOCKS5. The HTTP type is default.
(Read and Write property)
See also PROXYTYPE option in CURL manual.

### 5.18.298 OptionProxyUsername as String

Plugin Version: 10.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** A string, which should be pointing to the user name to use for the transfer while connecting to Proxy.
**Notes:** In order to specify the password to be used in conjunction with the user name use the OptionProxyPassword option.
(Read and Write property)
See also PROXYUSERNAME option in CURL manual.

### 5.18.299 OptionPut as Boolean

Plugin Version: 9.8, Platforms: macOS, Linux, Windows, Targets: All.

**Deprecated:** This item is deprecated and should no longer be used. You can use OptionUpload instead.
**Function:** A non-zero parameter tells the library to use HTTP PUT to transfer data.
**Notes:** The data should be set with OptionInFileSize.

This option is deprecated and starting with version 7.12.1 you should instead use OptionUpload.

The Lasterror property is set. 0 for success.
You can set this value and later you can read it, but you cannot read the default value.
(Read and Write property)

### 5.18.300 OptionQuickExit as Integer

Plugin Version: 23.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Whether to allow to exit quickly.
**Notes:** Pass a number as a parameter, 1 meaning that when recovering from a timeout, libcurl should skip lengthy cleanups that are intended to avoid all kinds of leaks (threads etc.), as the caller program is about to call exit() anyway. This allows for a swift termination after a DNS timeout for example, by canceling and/or forgetting about a resolver thread, at the expense of a possible (though short-lived) leak of associated resources.
(Read and Write property)
See also QUICK_EXIT option in CURL manual.

### 5.18.301 OptionRandomFile as String

Plugin Version: 9.8, Platforms: macOS, Linux, Windows, Targets: All.

**Deprecated:** This item is deprecated and should no longer be used. **Function:** A file name for the random file.
**Notes:** The file will be used to read from to seed the random engine for SSL. The more random the specified file is, the more secure the SSL connection will become.

The Lasterror property is set. 0 for success.
You can set this value and later you can read it, but you cannot read the default value.

Starting with version 18.0 the plugin will always use UTF-8 encoding for file path on Linux and macOS. For macOS we also do the unicode character normalization for file names for you.
(Read and Write property)

### 5.18.302 OptionRange as String

Plugin Version: 9.8, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** A string which should contain the specified range you want.
**Notes:** It should be in the format "X-Y", where X or Y may be left out. HTTP transfers also support several intervals, separated with commas as in "X-Y,N-M". Using this kind of multiple intervals will cause the HTTP server to send the response document in pieces (using standard MIME separation techniques). Pass a NULL to this option to disable the use of ranges.

The Lasterror property is set. 0 for success.
You can set this value and later you can read it, but you cannot read the default value.
(Read and Write property)
See also RANGE option in CURL manual.

### 5.18.303 OptionRedirProtocols as Integer

Plugin Version: 10.0, Platforms: macOS, Linux, Windows, Targets: All.

**Deprecated:** This item is deprecated and should no longer be used. You can use OptionRedirProtocolsString instead. **Function:** An integer that holds a bitmask of kProtocol* constants.
**Notes:** If used, this bitmask limits what protocols libCURL may use in a transfer that it follows to in a redirect when OptionFollowLocation is enabled. This allows you to limit specific transfers to only be allowed to use a subset of protocols in redirections. By default libCURL will allow all protocols except for FILE and SCP. This is a difference compared to pre-7.19.4 versions which unconditionally would follow to all protocols supported. (Added in 7.19.4)
(Read and Write property)

### 5.18.304 OptionReditProtocolsString as String

Plugin Version: 22.4, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The protocols allowed to redirect to.
**Example:**

```
Var c as new CURLSMBS
c.OptionReditProtocolsString = "http,https"
```

**Notes:** Pass string that holds a comma-separated list of case insensitive protocol names (URL schemes). That list limits what protocols libcurl may use in a transfer that it follows to in a redirect when OptionFollowLocation is enabled. This option allows applications to limit specific transfers to only be allowed to use a subset of protocols in redirections.

Protocols denied by OptionProtocolsString are not overridden by this option.

By default libcurl will allow HTTP, HTTPS, FTP and FTPS on redirects (since 7.65.2). Older versions of libcurl allowed all protocols on redirect except several disabled for security reasons: Since 7.19.4 FILE and SCP are disabled, and since 7.40.0 SMB and SMBS are also disabled.

These are the available protocols:

DICT, FILE, FTP, FTPS, GOPHER, GOPHERS, HTTP, HTTPS, IMAP, IMAPS, LDAP, LDAPS, POP3, POP3S, RTMP, RTMPE, RTMPS, RTMPT, RTMPTE, RTMPTS, RTSP, SCP, SFTP, SMB, SMBS, SMTP, SMTPS, TELNET, TFTP

You can set "ALL" as a short-cut to enable all protocols. Note that by setting all, you may enable protocols that were not supported the day you write this but are introduced in a future libcurl version.

If trying to set a non-existing protocol or if no matching protocol at all is set, it returns error.

Default

HTTP, HTTPS, FTP and FTPS (Added in 7.65.2).

Older versions defaulted to all protocols except FILE, SCP and since 7.40.0 SMB and SMBS.
(Read and Write property)

### 5.18.305 OptionReferer as String

Plugin Version: 9.8, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The referer to pass to the server.
**Notes:** It will be used to set the Referer: header in the http request sent to the remote server. This can be used to fool servers or scripts. You can also set any custom header with OptionHTTPHeader.

The Lasterror property is set. 0 for success.
You can set this value and later you can read it, but you cannot read the default value.
(Read and Write property)
See also REFERER option in CURL manual.

### 5.18.306 OptionRequestTarget as String

Plugin Version: 18.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The request target, instead of extracted from the URL.
**Notes:** (Read and Write property)
See also REQUEST_TARGET option in CURL manual.

### 5.18.307 OptionResumeFrom as Int64

Plugin Version: 9.8, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** It contains the offset in number of bytes that you want the transfer to start from.
**Notes:** Set this option to 0 to make the transfer start from the beginning (effectively disabling resume). For FTP, set this option to -1 to make the transfer start from the end of the target file (useful to continue an interrupted upload).

The Lasterror property is set. 0 for success.
You can set this value and later you can read it, but you cannot read the default value.
(Read and Write property)
See also RESUME_FROM option in CURL manual.

### 5.18.308 OptionResumeFromLarge as Int64

Plugin Version: 9.8, Platforms: macOS, Linux, Windows, Targets: All.

**Deprecated:** This item is deprecated and should no longer be used. You can use OptionResumeFrom instead. **Function:** It contains the offset in number of bytes that you want the transfer to start from.
**Notes:** The Lasterror property is set. 0 for success.

You can set this value and later you can read it, but you cannot read the default value.
(Read and Write property)

### 5.18.309 OptionRTSPClientCSEQ as Integer

Plugin Version: 18.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Manually initialize the client RTSP CSeq for this handle.
**Notes:** (Read and Write property)
See also RTSP_CLIENT_CSEQ option in CURL manual.

### 5.18.310 OptionRTSPRequest as Integer

Plugin Version: 18.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** RTSP request method (OPTIONS, SETUP, PLAY, etc...).
**Notes:** (Read and Write property)
See also RTSP_REQUEST option in CURL manual.

### 5.18.311 OptionRTSPServerCSEQ as Integer

Plugin Version: 18.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Manually initialize the server RTSP CSeq for this handle.
**Notes:** (Read and Write property)
See also RTSP_SERVER_CSEQ option in CURL manual.

### 5.18.312 OptionRTSPSessionID as String

Plugin Version: 18.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The RTSP session identifier.
**Notes:** (Read and Write property)
See also RTSP_SESSION_ID option in CURL manual.

### 5.18.313 OptionRTSPStreamURI as String

Plugin Version: 18.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The RTSP stream URI.
**Notes:** (Read and Write property)
See also RTSP_STREAM_URI option in CURL manual.

### 5.18.314 OptionRTSPTransport as String

Plugin Version: 18.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The Transport: header to use in RTSP requests.
**Notes:** (Read and Write property)
See also RTSP_TRANSPORT option in CURL manual.

### 5.18.315 OptionSASLAuthZID as String

Plugin Version: 19.4, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The authorisation identity (identity to act as).
**Notes:** Sets the authorisation identity (identity to act as).
Pass a text as parameter, which should be pointing to the authorisation identity (authzid) for the transfer. Only applicable to the PLAIN SASL authentication mechanism where it is optional.
When not specified only the authentication identity (authcid) as specified by the username will be sent to the server, along with the password. The server will derive a authzid from the authcid when not provided, which it will then uses internally.
When the authzid is specified, the use of which is server dependent, it can be used to access another user's inbox, that the user has been granted access to, or a shared mailbox for example.
(Read and Write property)
See also SASL_AUTHZID option in CURL manual.

### 5.18.316 OptionSASLIR as Integer

Plugin Version: 18.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Enable/disable SASL initial response.
**Notes:** (Read and Write property)
See also SASL_IR option in CURL manual.

### 5.18.317 OptionServerResponseTimeout as Integer

Plugin Version: 22.4, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Causes libcurl to set a timeout period (in seconds) on the amount of time that the server is

allowed to take in order to send a response message for a command before the session is considered dead.
**Notes:** While libcurl is waiting for a response, this value overrides OptionTimeout. It is recommended that if used in conjunction with OptionTimeout, you set OptionServerResponseTimeout to a value smaller than OptionTimeout.

The Lasterror property is set. 0 for success.
You can set this value and later you can read it, but you cannot read the default value.
(Read and Write property)
See also SERVER_RESPONSE_TIMEOUT option in CURL manual.

### 5.18.318 OptionServiceName as String

Plugin Version: 18.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Service Name.
**Notes:** (Read and Write property)
See also SERVICE_NAME option in CURL manual.

### 5.18.319 OptionSocks5Auth as Integer

Plugin Version: 18.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Bitmask of allowed auth methods for connections to SOCKS5 proxies.
**Notes:** (Read and Write property)
See also SOCKS5_AUTH option in CURL manual.

### 5.18.320 OptionSocks5GSSAPINEC as Boolean

Plugin Version: 10.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Whether to protect SOCKS5 connection is protected.
**Notes:** Set to true to enable or false to disable. As part of the gssapi negotiation a protection mode is negotiated. The rfc1961 says in section 4.3/4.4 it should be protected, but the NEC reference implementation does not. If enabled, this option allows the unprotected exchange of the protection mode negotiation. (Added in 7.19.4).
(Read and Write property)
See also SOCKS5_GSSAPI_NEC option in CURL manual.

### 5.18.321 OptionSocks5GSSAPIService as String

Plugin Version: 10.0, Platforms: macOS, Linux, Windows, Targets: All.

**Deprecated:** This item is deprecated and should no longer be used. **Function:** A string holding the name of the service.
**Notes:** The default service name for a SOCKS5 server is rcmd/server-fqdn. This option allows you to change it. (Added in 7.19.4)
(Read and Write property)

### 5.18.322 OptionSSHAuthTypes as Integer

Plugin Version: 9.8, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Define the SSH authorization types.
**Example:**

```
Var c as CURLSMBS // your instance

// only do password
c.OptionSSHAuthTypes = c.kSSHAuthKeyboard or c.kSSHAuthPassword
```

**Notes:** Pass a long set to a bitmask consisting of one or more of CURLSSH_AUTH_PUBLICKEY, CURLSSH_AUTH_PASSWORD, CURLSSH_AUTH_HOST, CURLSSH_AUTH_KEYBOARD. Set CURLSSH_AUTH_ to let libCURL pick one. (Added in 7.16.1)

See kSSHAuth* constants.
(Read and Write property)
See also SSH_AUTH_TYPES option in CURL manual.

### 5.18.323 OptionSSHCompression as Boolean

Plugin Version: 18.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Enable/disable SSH compression.
**Notes:** (Read and Write property)
See also SSH_COMPRESSION option in CURL manual.

### 5.18.324 OptionSSHHostPublicKeyMD5 as String

Plugin Version: 10.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** A string containing 32 hexadecimal digits with the 128 bit MD5 checksum of the remote host's public key.
**Notes:** libCURL will reject the connection to the host unless the md5sums match. This option is only for SCP and SFTP transfers. (Added in 7.17.1)
(Read and Write property)
See also SSH_HOST_PUBLIC_KEY_MD5 option in CURL manual.

### 5.18.325 OptionSSHHostPublicKeySHA256 as String

Plugin Version: 22.4, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** SHA256 hash of SSH server public key.
**Notes:** Pass a string containing a Base64-encoded SHA256 hash of the remote host's public key. The transfer will fail if the given hash does not match the hash the remote host provides.
(Read and Write property)
See also SSH_HOST_PUBLIC_KEY_SHA256 option in CURL manual.

### 5.18.326 OptionSSHKnownhosts as String

Plugin Version: 10.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** A string holding the file name of the known_host file to use.
**Notes:** The known_hosts file should use the OpenSSH file format as supported by libssh2. If this file is specified, libCURL will only accept connections with hosts that are known and present in that file, with a matching public key. (Added in 7.19.6)
(Read and Write property)
See also SSH_KNOWNHOSTS option in CURL manual.

### 5.18.327 OptionSSHPrivateKeyfile as String

Plugin Version: 9.8, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Pass a path pointing to a file name for your private key.
**Example:**

```
Var c As New CURLSMBS

c.OptionSSHPrivateKeyfile = "/Users/test/.ssh/id_rsa"
c.OptionSSHPublicKeyfile = "/Users/test/.ssh/id_rsa.pub"
c.OptionUsername = "test"
```

**Notes:** If not used, libCURL defaults to using
textasciitilde /.ssh/id_dsa. If the file is password-protected, set the password with OptionSSLKeyPassword.

(Added in 7.16.1)

For a SFTP transfer (= file transfer over SSH), you would tell the plugin your public and private keys, so the plugin can login.

Starting with version 18.0 the plugin will always use UTF-8 encoding for file path on Linux and macOS. For macOS we also do the unicode character normalization for file names for you.
(Read and Write property)
See also SSH_PRIVATE_KEYFILE option in CURL manual.

### 5.18.328 OptionSSHPublicKeyfile as String

Plugin Version: 9.8, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Pass a path pointing to a file name for your public key.
**Example:**

```
Var c As New CURLSMBS

c.OptionSSHPrivateKeyfile = "/Users/test/.ssh/id_rsa"
c.OptionSSHPublicKeyfile = "/Users/test/.ssh/id_rsa.pub"
c.OptionUsername = "test"
```

**Notes:** If not used, libCURL defaults to using
textasciitilde /.ssh/id_dsa.pub. (Added in 7.16.1)

For a SFTP transfer (= file transfer over SSH), you would tell the plugin your public and private keys, so the plugin can login.

Starting with version 18.0 the plugin will always use UTF-8 encoding for file path on Linux and macOS. For macOS we also do the unicode character normalization for file names for you.
(Read and Write property)
See also SSH_PUBLIC_KEYFILE option in CURL manual.

### 5.18.329 OptionSSLCert as String

Plugin Version: 9.8, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The string should be the file name of your certificate.
**Notes:** The default format is "PEM" and can be changed with OptionSSLCERTTYPE.

The Lasterror property is set. 0 for success.
You can set this value and later you can read it, but you cannot read the default value.

Starting with version 18.0 the plugin will always use UTF-8 encoding for file path on Linux and macOS. For macOS we also do the unicode character normalization for file names for you.
(Read and Write property)
See also SSLCERT option in CURL manual.

### 5.18.330 OptionSSLCertBlob as String

Plugin Version: 20.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Set SSL client certificate from memory blob.
**Notes:** Pass data, which contains a client certificate. The format must be "P12" on Secure Transport or Schannel. The format must be "P12" or "PEM" on OpenSSL. The string "P12" or "PEM" must be specified with OptionSSLCertType.

This option is an alternative to OptionSSLCert which instead expects a file name as input.
(Read and Write property)
See also SSLCERT_BLOB option in CURL manual.

### 5.18.331 OptionSSLCertPassword as String

Plugin Version: 11.3, Platforms: macOS, Linux, Windows, Targets: All.

**Deprecated:** This item is deprecated and should no longer be used. You can use OptionKeyPassword instead. **Function:** The certificate password.
**Notes:** (Read and Write property)

### 5.18.332 OptionSSLCertType as String

Plugin Version: 9.8, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The string should be the format of your certificate.
**Notes:** Supported formats are "PEM" and "DER". (Added in 7.9.3)

The Lasterror property is set. 0 for success.
You can set this value and later you can read it, but you cannot read the default value.
(Read and Write property)
See also SSLCERTTYPE option in CURL manual.

### 5.18.333 OptionSSLCipherList as String

Plugin Version: 9.8, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** A string holding the list of ciphers to use for the SSL connection.
**Example:**

```
// allow lower secure ciphers
curl.OptionSSLCipherList = "DEFAULT@SECLEVEL=0"
```

**Notes:** The list must be syntactically correct, it consists of one or more cipher strings separated by colons. Commas or spaces are also acceptable separators but colons are normally used, !, - and + can be used as operators. Valid examples of cipher lists include 'RC4-SHA', 'SHA1+DES', 'TLSv1' and 'DEFAULT'. The default list is normally set when you compile OpenSSL.

You'll find more details about cipher lists on this URL:

http://www.openssl.org/docs/apps/ciphers.html

The Lasterror property is set. 0 for success.
You can set this value and later you can read it, but you cannot read the default value.
(Read and Write property)
See also SSL_CIPHER_LIST option in CURL manual.

### 5.18.334 OptionSSLEnableALPN as Integer

Plugin Version: 18.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Enable/disable TLS ALPN extension (http2 over ssl might fail without).
**Notes:** (Read and Write property)
See also SSL_ENABLE_ALPN option in CURL manual.

### 5.18.335 OptionSSLEnableNPN as Integer

Plugin Version: 18.2, Platforms: macOS, Linux, Windows, Targets: All.

**Deprecated:** This item is deprecated and should no longer be used. **Function:** Enable/disable TLS NPN extension (http2 over ssl might fail without)
**Notes:** (Read and Write property)

### 5.18.336 OptionSSLEngine as String

Plugin Version: 9.8, Platforms: macOS, Linux, Windows, Targets: All.

**Deprecated:** This item is deprecated and should no longer be used. **Function:** It will be used as the identifier for the crypto engine you want to use for your private key.
**Notes:** If the crypto device cannot be loaded, kError_SSL_ENGINE_NOTFOUND is returned.

The Lasterror property is set. 0 for success.
You can set this value and later you can read it, but you cannot read the default value.
(Read and Write property)
See also SSLENGINE option in CURL manual.

### 5.18.337 OptionSSLEngineDefault as Integer

Plugin Version: 9.8, Platforms: macOS, Linux, Windows, Targets: All.

**Deprecated:** This item is deprecated and should no longer be used. **Function:** Sets the actual crypto engine as the default for (asymmetric) crypto operations.
**Notes:** If the crypto device cannot be set, kError_SSL_ENGINE_SETFAILED is returned.

The Lasterror property is set. 0 for success.
You can set this value and later you can read it, but you cannot read the default value.
(Read and Write property)
See also SSLENGINE_DEFAULT option in CURL manual.

### 5.18.338 OptionSSLFalseStart as Integer

Plugin Version: 18.2, Platforms: macOS, Linux, Windows, Targets: All.

**Deprecated:** This item is deprecated and should no longer be used. **Function:** Set if we should enable TLS false start.
**Notes:** (Read and Write property)

### 5.18.339 OptionSSLKey as String

Plugin Version: 9.8, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The string should be the file name of your private key.
**Notes:** The default format is "PEM" and can be changed with OptionSSLKEYTYPE.

The Lasterror property is set. 0 for success.
You can set this value and later you can read it, but you cannot read the default value.

Starting with version 18.0 the plugin will always use UTF-8 encoding for file path on Linux and macOS. For macOS we also do the unicode character normalization for file names for you.
(Read and Write property)
See also SSLKEY option in CURL manual.

### 5.18.340 OptionSSLKeyBlob as String

Plugin Version: 20.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Set private key for client cert from memory blob.
**Notes:** Pass data, which contains a private key. Compatible with OpenSSL. The format (like "PEM") must be specified with OptionSSLKeyType.

This option is an alternative to OptionSSLKey which instead expects a file name as input.
(Read and Write property)
See also SSLKEY_BLOB option in CURL manual.

### 5.18.341 OptionSSLKeyPassword as String

Plugin Version: 9.8, Platforms: macOS, Linux, Windows, Targets: All.

**Deprecated:** This item is deprecated and should no longer be used. You can use OptionKeyPassword instead. **Function:** The password required to use the OptionSSLKEY private key.
**Notes:** The Lasterror property is set. 0 for success.
You can set this value and later you can read it, but you cannot read the default value.
(Read and Write property)

### 5.18.342 OptionSSLKeyType as String

Plugin Version: 9.8, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The string should be the format of your private key.
**Notes:** Supported formats are "PEM", "DER" and "ENG".

The format "ENG" enables you to load the private key from a crypto engine. In this case OptionSSLKEY is used as an identifier passed to the engine. You have to set the crypto engine with OptionSSLENGINE. "DER" format key file currently does not work because of a bug in OpenSSL.

The Lasterror property is set. 0 for success.
You can set this value and later you can read it, but you cannot read the default value.
(Read and Write property)
See also SSLKEYTYPE option in CURL manual.

### 5.18.343 OptionSSLOptions as Integer

Plugin Version: 18.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Enable/disable specific SSL features with a bitmask.
**Notes:** (Read and Write property)
See also SSL_OPTIONS option in CURL manual.

### 5.18.344 OptionSSLSessionIDCache as Boolean

Plugin Version: 9.8, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Whether to use the SSL session ID cache.
**Notes:** Pass false to disable libCURL's use of SSL session-ID caching. Set this to true to enable it. By default all transfers are done using the cache. Note that while nothing ever should get hurt by attempting to reuse SSL session-IDs, there seem to be broken SSL implementations in the wild that may require you to disable this in order for you to succeed. (Added in 7.16.0)
(Read and Write property)
See also SSL_SESSIONID_CACHE option in CURL manual.

### 5.18.345 OptionSSLSignatureAlgorithms as String

Plugin Version: 25.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The TLS supported signature algorithms.
**Notes:** Specify colon-delimited list of signature scheme names.
e.g. "DSA+SHA256:rsa_pss_pss_sha256"
(Read and Write property)
See also SSL_SIGNATURE_ALGORITHMS option in CURL manual.

### 5.18.346 OptionSSLVerifyHost as Integer

Plugin Version: 9.8, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** This option determines whether libCURL verifies that the server cert is for the server it is known as.

**Example:**

```
// if you use SSL, maybe put in a certificate or disable verification?

Var d as CURLSMBS
// your CURL object

// disable
d.OptionSSLVerifyHost = 0
d.OptionSSLVerifyPeer = 0

// or better provide root certificates:

Var cacert As FolderItem = New FolderItem("cacert.pem")
d.OptionCAInfo = cacert.NativePath
d.OptionSSLVerifyHost = 2
d.OptionSSLVerifyPeer = 1
```

**Notes:** When negotiating an SSL connection, the server sends a certificate indicating its identity.

When OptionSSLVerifyHost is 2, that certificate must indicate that the server is the server to which you meant to connect, or the connection fails.

CURL considers the server the intended one when the Common Name field or a Subject Alternate Name field in the certificate matches the host name in the URL to which you told CURL to connect.

When the value is 1, the certificate must contain a Common Name field, but it doesn't matter what name it says. (This is not ordinarily a useful setting).

When the value is 0, the connection succeeds regardless of the names in the certificate.

The default, since 7.10, is 2.

The checking this option controls is of the identity that the server claims. The server could be lying. To control lying, see OptionSSLVerifyPeer.

The Lasterror property is set. 0 for success.
You can set this value and later you can read it, but you cannot read the default value.

When you don't set the options for certificate path or load system certificates, the MBS Plugin will disable the verify step to let the transfer run.
(Read and Write property)
See also SSL_VERIFYHOST option in CURL manual.

### 5.18.347 OptionSSLVerifyPeer as Integer

Plugin Version: 9.8, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Configure whether this CURL instance will verify the SSL peer certificate.
**Example:**

```
// if you use SSL, maybe put in a certificate or disable verification?

Var d as CURLSMBS
// your CURL object

// disable
d.OptionSSLVerifyHost = 0
d.OptionSSLVerifyPeer = 0

// or better provide root certificates:

Var cacert As FolderItem = New FolderItem("cacert.pem")
d.OptionCAInfo = cacert.NativePath
d.OptionSSLVerifyHost = 2
d.OptionSSLVerifyPeer = 1
```

**Notes:** This option determines whether CURL verifies the authenticity of the peer's certificate. A value of 1 means CURL verifies; zero means it doesn't. The default is nonzero, but before 7.10, it was zero.

When negotiating an SSL connection, the server sends a certificate indicating its identity. CURL verifies whether the certificate is authentic, i.e. that you can trust that the server is who the certificate says it is. This trust is based on a chain of digital signatures, rooted in certification authority (CA) certificates you supply. As of 7.10, CURL installs a default bundle of CA certificates and you can specify alternate certificates with the OptionCAINFO option or the OptionCAPATH option.

When OptionSSLVerifyPeer is nonzero, and the verification fails to prove that the certificate is authentic, the connection fails. When the option is zero, the connection succeeds regardless.

Authenticating the certificate is not by itself very useful. You typically want to ensure that the server, as authentically identified by its certificate, is the server you mean to be talking to. Use OptionSSLVerifyHost to control that.

When you don't set the options for certificate path or load system certificates, the MBS Plugin will disable the verify step to let the transfer run.
(Read and Write property)
See also SSL_VERIFYPEER option in CURL manual.

### 5.18.348 OptionSSLVerifyStatus as Integer

Plugin Version: 18.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Set if we should verify the certificate status.
**Notes:** (Read and Write property)
See also SSL_VERIFYSTATUS option in CURL manual.

### 5.18.349 OptionSSLVersion as Integer

Plugin Version: 9.8, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** What version of SSL/TLS to attempt to use.
**Example:**

```
Var c as CURLSMBS
c.OptionUseSSL = c.kFTPSSL_ALL
c.OptionSSLVersion = c.kSSLVersionTLSv12
```

**Notes:** The SSL and TLS versions have typically developed from the most insecure version to be more and more secure in this order through history: SSL v2, SSLv3, TLS v1.0, TLS v1.1, TLS v1.2 and the most recent TLS v1.3.

Use one of the available defines for this purpose. The available options are:

| | | |
|---|---|---|
| Default | 0 | The default acceptable version range. The minimum acceptable version is by default TLS v1.0 since 7.39.0 (unless the TLS library has a stricter rule). |
| TLSv1 | 1 | TLS v1.0 or later |
| SSLv2 | 2 | SSL v2 (but not SSLv3) |
| SSLv3 | 3 | SSL v3 (but not SSLv2) |
| TLSv1.0 | 4 | TLS v1.0 or later (Added in 7.34.0) |
| TLSv1.1 | 5 | TLS v1.1 or later (Added in 7.34.0) |
| TLSv1.2 | 6 | TLS v1.2 or later (Added in 7.34.0) |
| TLSv1.3 | 7 | TLS v1.3 or later (Added in 7.52.0) |

See also kSSLVersion* constants.

The maximum TLS version can be set by using one of the CURL_SSLVERSION_MAX_ macros below. It is also possible to OR one of the CURL_SSLVERSION_ macros with one of the CURL_SSLVER-

SION_MAX_ macros.

| | | |
|---|---|---|
| Default | &h10000 | The flag defines the maximum supported TLS version by libcurl, or the default value from the SSL library is used. libcurl will use a sensible default maximum, which was TLS v1.2 up to before 7.61.0 and is TLS v1.3 since then - assuming the TLS library support it. (Added in 7.54.0) |
| Max TLSv1.0 | &h40000 | The flag defines maximum supported TLS version as TLS v1.0. (Added in 7.54.0) |
| Max TLSv1.1 | &h50000 | The flag defines maximum supported TLS version as TLS v1.1. (Added in 7.54.0) |
| Max TLSv1.2 | &h60000 | The flag defines maximum supported TLS version as TLS v1.2. (Added in 7.54.0) |
| Max TLSv1.3 | &h70000 | The flag defines maximum supported TLS version as TLS v1.3. (Added in 7.54.0) |

Please note that MBS Plugin does not yet support TLS v1.3 now, but may in future.
(Read and Write property)
See also SSLVERSION option in CURL manual.

### 5.18.350 OptionStreamDepends as CURLSMBS

Plugin Version: 18.2, Platforms: macOS, Linux, Windows, Targets: All.

**Deprecated:** This item is deprecated and should no longer be used. **Function:** Set stream dependency on another CURL handle.
**Notes:** (Read and Write property)

### 5.18.351 OptionStreamDependsE as CURLSMBS

Plugin Version: 18.2, Platforms: macOS, Linux, Windows, Targets: All.

**Deprecated:** This item is deprecated and should no longer be used. **Function:** Set E-xclusive stream dependency on another CURL handle.
**Notes:** (Read and Write property)

### 5.18.352 OptionStreamWeight as Integer

Plugin Version: 18.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Set stream weight, 1 - 256.
**Notes:** Default is 16.

(Read and Write property)
See also STREAM_WEIGHT option in CURL manual.

### 5.18.353 OptionSuppressConnectHeaders as Boolean

Plugin Version: 18.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Suppress proxy CONNECT response headers from events.
**Notes:** (Read and Write property)
See also SUPPRESS_CONNECT_HEADERS option in CURL manual.

### 5.18.354 OptionTCPFastOpen as Integer

Plugin Version: 18.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Set TCP Fast Open.
**Notes:** (Read and Write property)
See also TCP_FASTOPEN option in CURL manual.

### 5.18.355 OptionTCPKeepAlive as Boolean

Plugin Version: 12.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** If set to true, TCP keepalive probes will be sent.
**Notes:** The delay and frequency of these probes can be controlled by the OptionTCPKeepIdle and OptionTCPKeepInterval options, provided the operating system supports them. Set to false (default behavior) to disable keepalive probes (Added in 7.25.0).
(Read and Write property)
See also TCP_KEEPALIVE option in CURL manual.

### 5.18.356 OptionTCPKeepCount as Integer

Plugin Version: 25.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Maximum number of TCP keep-alive probes.
**Notes:** Sets the number of probes to send before dropping the connection. Not all operating systems support this option. (Added in curl 8.9.0)

The maximum value this option accepts is INT_MAX or whatever your system allows. Any larger value is capped to this amount.

Default is 9.
(Read and Write property)

### 5.18.357 OptionTCPKeepIdle as Integer

Plugin Version: 12.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Sets the delay, in seconds, that the operating system will wait while the connection is idle before sending keepalive probes.
**Notes:** Not all operating systems support this option. (Added in 7.25.0)
(Read and Write property)
See also TCP_KEEPIDLE option in CURL manual.

### 5.18.358 OptionTCPKeepInterval as Integer

Plugin Version: 12.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Sets the interval, in seconds, that the operating system will wait between sending keepalive probes.
**Notes:** Not all operating systems support this option. (Added in 7.25.0)
(Read and Write property)
See also TCP_KEEPINTVL option in CURL manual.

### 5.18.359 OptionTCPNoDelay as Boolean

Plugin Version: 9.8, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** An integer specifying whether the TCP_NODELAY option should be set or cleared (true = set, false = clear).
**Notes:** The option is cleared by default. This will have no effect after the connection has been established.

Setting this option will disable TCP's Nagle algorithm. The purpose of this algorithm is to try to minimize the number of small packets on the network (where "small packets" means TCP segments less than the Maximum Segment Size (MSS) for the network).

Maximizing the amount of data sent per TCP segment is good because it amortizes the overhead of the send. However, in some cases (most notably telnet or rlogin) small segments may need to be sent without delay. This is less efficient than sending larger amounts of data at a time, and can contribute to congestion on the network if overdone.

The Lasterror property is set. 0 for success.

You can set this value and later you can read it, but you cannot read the default value.
(Read and Write property)
See also TCP_NODELAY option in CURL manual.

### 5.18.360 OptionTFTPBlockSize as Integer

Plugin Version: 10.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Specify block size to use for TFTP data transmission.
**Notes:** Valid range as per RFC 2348 is 8-65464 bytes. The default of 512 bytes will be used if this option is not specified. The specified block size will only be used pending support by the remote server. If the server does not return an option acknowledgement or returns an option acknowledgement with no blksize, the default of 512 bytes will be used. (added in 7.19.4)
(Read and Write property)
See also TFTP_BLKSIZE option in CURL manual.

### 5.18.361 OptionTFTPNoOptions as Integer

Plugin Version: 18.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Whether not send any tftp option requests to the server.
**Notes:** (Read and Write property)
See also TFTP_NO_OPTIONS option in CURL manual.

### 5.18.362 OptionTimeCondition as Integer

Plugin Version: 9.8, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The Time condition option.
**Notes:** This defines how the OptionTimeValue time value is treated. You can set this parameter to kTimeConditionIfModifiedSince (1) or kTimeConditionIfUnModifiedSince (2). This feature applies to HTTP and FTP.

The last modification time of a file is not always known and in such instances this feature will have no effect even if the given time condition would have not been met.

The Lasterror property is set. 0 for success.
You can set this value and later you can read it, but you cannot read the default value.
(Read and Write property)
See also TIMECONDITION option in CURL manual.

### 5.18.363 OptionTimeOut as Integer

Plugin Version: 9.8, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The maximum time in seconds that you allow the libCURL transfer operation to take.
**Notes:** Normally, name lookups can take a considerable time and limiting operations to less than a few minutes risk aborting perfectly normal operations. This option will cause CURL to use the SIGALRM to enable time-outing system calls.

In unix-like systems, this might cause signals to be used unless CURLOPT_NOSIGNAL is set.

The Lasterror property is set. 0 for success.
You can set this value and later you can read it, but you cannot read the default value.
(Read and Write property)
See also TIMEOUT option in CURL manual.

### 5.18.364 OptionTimeOutMS as Integer

Plugin Version: 9.8, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Pass a long as parameter containing the maximum time in milli seconds that you allow the libCURL transfer operation to take.
**Notes:** Normally, name lookups can take a considerable time and limiting operations to less than a few minutes risk aborting perfectly normal operations. This option will cause CURL to use the SIGALRM to enable time-outing system calls.
(Read and Write property)
See also TIMEOUT_MS option in CURL manual.

### 5.18.365 OptionTimeValue as Integer

Plugin Version: 9.8, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** This should be the time in seconds since 1 jan 1970, and the time will be used in a condition as specified with OptionTimeCondition.
**Notes:** The Lasterror property is set. 0 for success.
You can set this value and later you can read it, but you cannot read the default value.
(Read and Write property)
See also TIMEVALUE option in CURL manual.

### 5.18.366 OptionTLS13Ciphers as String

Plugin Version: 18.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Specify which TLS 1.3 ciphers suites to use.
**Notes:** string holding the list of cipher suites to use for the TLS 1.3 connection. The list must be syntactically correct, it consists of one or more cipher suite strings separated by colons.

You'll find more details about cipher lists on this URL:

https://curl.haxx.se/docs/ssl-ciphers.html

The application does not have to keep the string around after setting this option.
(Read and Write property)
See also TLS13_CIPHERS option in CURL manual.

### 5.18.367 OptionTLSAuthPassword as String

Plugin Version: 13.5, Platforms: macOS, Linux, Windows, Targets: All.

**Deprecated:** This item is deprecated and should no longer be used. **Function:** Sets the TSL authentication password.
**Notes:** Please also set OptionTLSAuthType.
The Lasterror property is set. 0 for success.
You can set this value and later you can read it, but you cannot read the default value.
(Read and Write property)

### 5.18.368 OptionTLSAuthType as String

Plugin Version: 13.5, Platforms: macOS, Linux, Windows, Targets: All.

**Deprecated:** This item is deprecated and should no longer be used. **Function:** Sets the TLS authentication type.
**Notes:** You can set this to "SRP" to use Secure Remote Password authentication.
Please also set username and password.
The Lasterror property is set. 0 for success.
You can set this value and later you can read it, but you cannot read the default value.
(Read and Write property)

### 5.18.369 OptionTLSAuthUsername as String

Plugin Version: 13.5, Platforms: macOS, Linux, Windows, Targets: All.

**Deprecated:** This item is deprecated and should no longer be used. **Function:** Sets the TSL authentication user name.

**Notes:** Please also set OptionTLSAuthType.
The Lasterror property is set. 0 for success.
You can set this value and later you can read it, but you cannot read the default value.
(Read and Write property)

### 5.18.370 OptionTransferEncoding as Boolean

Plugin Version: 13.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Adds a request for compressed Transfer Encoding in the outgoing HTTP request.
**Notes:** If the server supports this and so desires, it can respond with the HTTP response sent using a compressed Transfer-Encoding that will be automatically uncompressed by libCURL on reception.

Transfer-Encoding differs slightly from the Content-Encoding you ask for with OptionAcceptEncoding in that a Transfer-Encoding is strictly meant to be for the transfer and thus MUST be decoded before the data arrives in the client. Traditionally, Transfer-Encoding has been much less used and supported by both HTTP clients and HTTP servers.
(Read and Write property)
See also TRANSFER_ENCODING option in CURL manual.

### 5.18.371 OptionTransferText as Boolean

Plugin Version: 9.8, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** True tells the library to use ASCII mode for ftp transfers, instead of the default binary transfer.
**Notes:** For win32 systems it does not set the stdout to binary mode. This option can be usable when transferring text data between systems with different views on certain characters, such as newlines or similar.

libCURL does not do a complete ASCII conversion when doing ASCII transfers over FTP. This is a known limitation/flaw that nobody has rectified. libCURL simply sets the mode to ascii and performs a standard transfer.

The Lasterror property is set. 0 for success.
You can set this value and later you can read it, but you cannot read the default value.
(Read and Write property)
See also TRANSFERTEXT option in CURL manual.

### 5.18.372 OptionUnixSocketPath as String

Plugin Version: 18.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Path to Unix domain socket.
**Notes:** (Read and Write property)
See also UNIX_SOCKET_PATH option in CURL manual.

### 5.18.373 OptionUnrestrictedAuth as Boolean

Plugin Version: 9.8, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** A boolean parameter tells the library it can continue to send authentication (user+password) when following locations, even when hostname changed.
**Notes:** This option is meaningful only when setting FollowOption.

The Lasterror property is set. 0 for success.
You can set this value and later you can read it, but you cannot read the default value.
(Read and Write property)
See also UNRESTRICTED_AUTH option in CURL manual.

### 5.18.374 OptionUpkeepIntervalMS as Integer

Plugin Version: 18.5, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Connection upkeep interval.
**Notes:** Some protocols have "connection upkeep" mechanisms. These mechanisms usually send some traffic on existing connections in order to keep them alive; this can prevent connections from being closed due to overzealous firewalls, for example.

The user needs to explicitly call Upkeep in order to perform the upkeep work.

Currently the only protocol with a connection upkeep mechanism is HTTP/2: when the connection upkeep interval is exceeded and Upkeep is called, an HTTP/2 PING frame is sent on the connection.
(Read and Write property)
See also UPKEEP_INTERVAL_MS option in CURL manual.

### 5.18.375 OptionUpload as Boolean

Plugin Version: 9.8, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** True tells the library to prepare for an upload.
**Notes:** The OptionInFileSize or OptionInFileSizeLarge options are also interesting for uploads. If the protocol is HTTP, uploading means using the PUT request unless you tell libCURL otherwise.

Using PUT with HTTP 1.1 implies the use of a "Expect: 100-continue" header. You can disable this header with OptionHTTPHeader as usual.

If you use PUT to a HTTP 1.1 server, you can upload data without knowing the size before starting the transfer if you use chunked encoding. You enable this by adding a header like "Transfer-Encoding: chunked" with OptionHTTPHeader. With HTTP 1.0 or without chunked transfer, you must specify the size.

The Lasterror property is set. 0 for success.
You can set this value and later you can read it, but you cannot read the default value.
(Read and Write property)
See also UPLOAD option in CURL manual.

### 5.18.376 OptionUploadBufferSize as Integer

Plugin Version: 18.5, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Set preferred upload buffer size.
**Notes:** Pass a long specifying your preferred size (in bytes) for the upload buffer in libcurl. It makes libcurl uses a larger buffer that gets passed to the next layer in the stack to get sent off. In some setups and for some protocols, there's a huge performance benefit of having a larger upload buffer.

This is just treated as a request, not an order. You cannot be guaranteed to actually get the given size.

The upload buffer size is by default 64 kilobytes. The maximum buffer size allowed to be set is 2 megabytes. The minimum buffer size allowed to be set is 16 kilobytes.

Since curl 7.61.1 the upload buffer is allocated on-demand - so if the handle isn't used for upload, this buffer will not be allocated at all.

For slow upload/downloads, it may be better to set buffer size to 1 MB with OptionUploadBufferSize or OptionBufferSize properties to make transfers faster.
(Read and Write property)
See also UPLOAD_BUFFERSIZE option in CURL manual.

### 5.18.377 OptionUploadFlags as Integer

Plugin Version: 25.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Which flags to send the server relating to uploaded files.
**Notes:** The current supported flags are Answered (1), which sets the Answered flag for IMAP uploads, Deleted (2), which sets the Deleted flag for IMAP uploads, Draft (4), which sets the Draft flag for IMAP

uploads, Flagged (8), which sets the Flagged flag for IMAP uploads, and Seen (16), which sets the Seen flag for IMAP uploads.

See kUploadFlag* constants.
(Read and Write property)
See also UPLOAD_FLAGS option in CURL manual.

### 5.18.378 OptionURL as String

Plugin Version: 9.8, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The actual URL to deal with.
**Example:**

```
Var c As New CURLSMBS

// this example sends a xml request to a server
c.OptionURL = "http://www.someserver.com/service"

// some XML for a SOAP request
Var request As String = "<?xml version=""1.0""?><methodCall><methodName>application.getValue</methodName><params><param><value>info</value></param></params></methodCall>"

c.OptionPostFields = request

Var header(-1) As String
header.Add "Content-Type: text/xml"
c.SetOptionHTTPHeader header

// this should be c.kError_OK if okay.
Var result As Integer = c.Perform

Var output As String = c.OutputData
Var debugLog As String = c.DebugMessages
Var HTTPStatus As Integer = c.GetInfoResponseCode

Break
```

**Notes:** If you need to pass username or password, please consider using the OptionUsername and OptionPassword properties. If you username or password contains characters like @ or :, you must use those properties.

The Lasterror property is set. 0 for success.
You can set this value and later you can read it, but you cannot read the default value.

The parameter should be a char * to a zero terminated string. The string must remain present until CURL no longer needs it, as it doesn't copy the string.

If the given URL lacks the protocol part ("http://" or "ftp://" etc), it will attempt to guess which protocol to use based on the given host name. If the given protocol of the set URL is not supported, libCURL will return on error (kError_UNSUPPORTED_PROTOCOL) when you call Perform. Use VersionInfo for detailed info on which protocols that are supported.

The string given to CURLOPT_URL must be url-encoded and following the RFC 2396:
http://CURL.haxx.se/rfc/rfc2396.txt

CURLOPT_URL is the only option that must be set before Perform is called.
For file uploads or downloads, please include the file name in the URL.

Please do never include username and passwords in URLs, as those get often written to log files and would reveal your credentials!
Instead use OptionUsername and OptionPassword.

If you miss the protocol in the URL, you may get an error about HTTP/0.9 being used and not allowed.
(Read and Write property)
See also URL option in CURL manual.

### 5.18.379 OptionUserAgent as String

Plugin Version: 9.8, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The user agent string to pass to the server.
**Example:**

```
Var c As New CURLSMBS

// setup request and any options you need
c.OptionURL = URL
c.OptionUserAgent = "MyDownloader 1.0"
```

**Notes:** It will be used to set the User-Agent: header in the http request sent to the remote server. This can be used to fool servers or scripts. You can also set any custom header with OptionHTTPHeader.

The Lasterror property is set. 0 for success.
You can set this value and later you can read it, but you cannot read the default value.
(Read and Write property)
See also USERAGENT option in CURL manual.

### 5.18.380 OptionUsername as String

Plugin Version: 10.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The user name to be used in protocol authentication
**Notes:** In order to specify the password to be used in conjunction with the user name use the OptionPassword option
(Read and Write property)
See also USERNAME option in CURL manual.

### 5.18.381 OptionUseSSL as Integer

Plugin Version: 15.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Request using SSL / TLS for the transfer.
**Example:**

```
Var c as CURLSMBS
c.OptionUseSSL = c.kFTPSSL_ALL
c.OptionSSLVersion = c.kSSLVersionTLSv12
```

**Notes:** Set to an integer using one of the values from below, to make libCURL use your desired level of SSL for the transfer.
These are all protocols that start out plain text and get "upgraded" to SSL using the STARTTLS command. This is for enabling SSL/TLS when you use FTP, SMTP, POP3, IMAP etc.

| | | |
|---|---|---|
| CURLUSESSL_NONE | 0 | Don't attempt to use SSL. |
| CURLUSESSL_TRY | 1 | Try using SSL, proceed as normal otherwise. |
| CURLUSESSL_CONTROL | 2 | Require SSL for the control connection or fail with CURLE_USE_SSL_FAILED. |
| CURLUSESSL_ALL | 3 | Require SSL for all communication or fail with CURLE_USE_SSL_FAILED. |

(Read and Write property)
See also USE_SSL option in CURL manual.

### 5.18.382 OptionVerbose as Boolean

Plugin Version: 9.8, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Whether debug messages are sent to the DebugMessage event.
**Notes:** Default is false.

You need to subclass the CURLSMBS class to add code in the DebugMessage event.
Or you set CollectDebugMessages = true and later query DebugMessages property.
Or you use CreateMTDebugOutputFile to stream them to a file.
(Read and Write property)
See also VERBOSE option in CURL manual.

### 5.18.383 OptionWildCardMatch as Boolean

Plugin Version: 15.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Enable wildcard matching.
**Notes:** Set onoff to true if you want to transfer multiple files according to a file name pattern. The pattern can be specified as part of the OptionURL option, using an fnmatch-like pattern (Shell Pattern Matching) in the last part of URL (file name).

By default, libCURL uses its internal wildcard matching implementation. You can provide your own matching function by the CURLSMBS.FileNameMatch event.

A brief introduction of its syntax follows:

- - ASTERISK

ftp://example.com/some/path/*.txt (for all txt's from the root directory)

? - QUESTION MARK

Question mark matches any (exactly one) character.

ftp://example.com/some/path/photo?.jpeg

[ - BRACKET EXPRESSION

The left bracket opens a bracket expression. The question mark and asterisk have no special meaning in a bracket expression. Each bracket expression ends by the right bracket and matches exactly one character. Some examples follow:

[ a-zA-Z0-9 ] or [ f-gF-G ] - character interval
[ abc ] - character enumeration
[ ^abc ] or [ !abc ] - negation
[ [ :name: ] ] class expression. Supported classes are alnum,lower, space, alpha, digit, print, upper, blank,

graph, xdigit.
[ ] [ -!^] - special case - matches only '-', ' ] ', ' [ ', '!' or '^'. These characters have no special purpose.
[ \[ \] \\] - escape syntax. Matches ' [ ', ' ] ' or '¬¥.

Using the rules above, a file name pattern can be constructed:

ftp://example.com/some/path/ [ a-z [ :upper: ] \\] .jpeg

This feature is only supported for FTP download. Not for SFTP or HTTP.
(Read and Write property)
See also WILDCARDMATCH option in CURL manual.

### 5.18.384 OptionXOAuth2Bearer as String

Plugin Version: 18.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The XOAUTH2 bearer token.
**Notes:** (Read and Write property)
See also XOAUTH2_BEARER option in CURL manual.

### 5.18.385 OutputData as String

Plugin Version: 12.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The output data from CURL.
**Example:**

```
Var d As New CURLSMBS

// download here
d.OptionURL = URL

// if you use SSL, maybe put in a certificate or disable verification?
d.OptionSSLVerifyHost = 0
d.OptionSSLVerifyPeer = 0

// run download
Var e as integer = d.Perform

// check result
Var data As String = d.OutputData
Var DebugMessage As String = d.DebugMessages // check in debugger on error
```

```
ResultText.text="Result: "+str(e) // 0 = Okay, others are error codes, so check debug messages
```

**Notes:** If CollectOutputData property is true, the plugin puts the data received in write event also into this property, so you can grab it after the transfer. Use ClearData method to clear when reusing CURL object.

Limited to 2 GB. Please stream to file for bigger data with CreateMTOutputFile function.
(Read only property)

### 5.18.386 Paused as Boolean

Plugin Version: 18.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Whether transfer is paused.
**Notes:** You can set it to true while transfer runs to pause it.
(Read and Write property)

### 5.18.387 ProgressDownloadCurrent as Int64

Plugin Version: 15.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Bytes downloaded so far.
**Notes:** (Read only property)

### 5.18.388 ProgressDownloadTotal as Int64

Plugin Version: 15.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Bytes to download in total.
**Notes:** (Read only property)

### 5.18.389 ProgressPercent as Double

Plugin Version: 15.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Current download/upload progress in percent.
**Notes:** Range from 0 to 100.
(Read only property)

### 5.18.390 ProgressUploadCurrent as Int64

Plugin Version: 15.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Bytes uploaded so far.
**Notes:** (Read only property)

### 5.18.391 ProgressUploadTotal as Int64

Plugin Version: 15.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Bytes to upload in total.
**Notes:** (Read only property)

### 5.18.392 Tag as Variant

Plugin Version: 23.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The tag value.
**Notes:** You can store whatever reference value you need.
(Read and Write property)

### 5.18.393 Version as CURLSVersionMBS

Plugin Version: 9.8, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Returns a version object to a filled with information about various run-time features in libCURL.
**Notes:** (Read only property)

### 5.18.394 WebSocketOptions as Integer

Plugin Version: 23.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** WebSocket behavior options.
**Notes:** Pass a bitmask to tell libcurl about specific WebSocket behaviors.

To detach a WebSocket connection and use the WebSocketSend and WebSocketReceive functions after the HTTP upgrade procedure, set the OptionConnectOnly option to 2.

Available bits in the bitmask:

kWebSocketRaw:
Deliver ”raw” WebSocket traffic to the Write event.

In raw mode, libcurl does not handle pings or any other frame for the application.
(Read and Write property)

### 5.18.395 YieldTime as Boolean

Plugin Version: 9.8, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Whether plugin should yield time.
**Example:**

```
Var curl as new CURLSMBS

curl.YieldTime = true
```

**Notes:** If set the plugin will yield time to Xojo back so threads and timers work while you download.

Seems like in RB 2009 this property only has effect if you run CURL in a thread.
(Read and Write property)

### 5.18.396 Events

### 5.18.397 ChunkBegin(FileInfo as CURLSFileInfoMBS, Remains as Integer) as Integer

Plugin Version: 15.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The event called on begin of a new chunk.
**Notes:** If splitting of data transfer is enabled, this event is called before download of an individual chunk started. Note that parameter ”remains” works only for FTP wildcard downloading (for now), otherwise is not used.

### 5.18.398 ChunkEnd(FileInfo as CURLSFileInfoMBS, Remains as Integer) as Integer

Plugin Version: 15.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Download of a chunk ended.
**Notes:** If splitting of data transfer is enabled this event is called after download of an individual chunk finished.
This event is called for skipped or downloaded files.

### 5.18.399 DebugMessage(infotype as Integer, data as string, dataSize as Integer)

Plugin Version: 9.8, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** A debug event to get data of ongoing process.
**Notes:** You may need to set OptionVerbose to true.

infotype constants:

| | | |
|---|---|---|
| kInfo_TEXT | 0 | The data is informational text. |
| kInfo_HEADER_IN | 1 | The data is header (or header-like) data received from the peer. |
| kInfo_HEADER_OUT | 2 | The data is header (or header-like) data sent to the peer. |
| kInfo_DATA_IN | 3 | The data is protocol data received from the peer. |
| kInfo_DATA_OUT | 4 | The data is protocol data sent to the peer. |
| kInfo_SSL_DATA_IN | 5 | The data is protocol data received from the peer. |
| kInfo_SSL_DATA_OUT | 6 | The data is protocol data sent to the peer. |

If you set CollectDebugMessages, the plugin will collect the messages and provide them via the DebugMessages property. You can still use this event to write your own log instead of in addition.

### 5.18.400 FileNameMatch(Pattern as String, Name as String) as Integer

Plugin Version: 15.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Match a file against a pattern.
**Notes:** If you don't implement this event, you get the default implementation from CURL.
Return kFileNameMatchNoMatch, kFileNameMatchIsMatch or kFileNameMatchFailed.

### 5.18.401 Finished(Result as Integer)

Plugin Version: 15.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The event called when transfer has finished.
**Notes:** For Perform and PerformMT it is called before Perform function returns, so in PerformMT this is called on the thread.
For use with CURLSMultiMBS, it is called after TransferFinished event and before TransfersFinished event.

If you want to modify GUI and use PeformMT, you may need to start a timer to do so.

### 5.18.402 Header(data as string, dataSize as Integer) as Integer

Plugin Version: 9.8, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** New Header data was received.
**Notes:** You can get error 23 if you don't return lenb(data) in this event.
Or just leave it emtpy so RB will not include it in your application the plugin will return lenb(data) itself.

If you set CollectHeaderData to true, the plugin will collect the messages and provide them via the HeaderData property. You can still use this event to write your own log instead of in addition.

### 5.18.403 Progress(dltotal as Int64, dlnow as Int64, ultotal as Int64, ulnow as Int64, percent as Double) as boolean

Plugin Version: 9.8, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** An event to report progress of ongoing transfers.
**Notes:** This function gets called by libCURL with a frequent interval during operation (roughly once per second) no matter if data is being transfered or not. Unknown/unused argument values passed to the event will be set to zero (like if you only download data, the upload size will remain 0).
Returning a true from this event will cause libCURL to abort the transfer and return kError_ABORTED_BY_CALLBACK.

You can run CURL from a thread to download several things at the same time or keep the GUI more responsive. For better GUI, you can even call a method like app.DoEvents to get the GUI updated more often.

When sending email, ultotal may be zero. In that case use OptionInFileSize to know size of email to upload.

### 5.18.404 Read(count as Integer) as string

Plugin Version: 9.8, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** This event gets called by libCURL as soon as it needs to read data in order to send it to the peer.
**Notes:** Return the number of bytes requested. Never return a string with lenb(string)>count. You can return 0 to inform about end of file.

If you stop the current transfer by returning 0 "pre-maturely" (i.e before the server expected it, like when

you've told you will upload N bytes and you upload less than N bytes), you may experience that the server "hangs" waiting for the rest of the data that won't come.

The read event may return CURL_READFUNC_ABORT (&h10000000) to stop the current operation immediately, resulting in a kError_ABORTED_BY_CALLBACK error code from the transfer (Added in 7.12.1)

This event is not called when using PerformMT.

If you provide Input data via SetInputData or OpenMTInputFile method, this event is not called and data is taken from the data you provided.

### 5.18.405 RestartRead() as boolean

Plugin Version: 9.8, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** An event to inform you that reading on the file needs to start at the beginning again.
**Notes:** Return true on success.
If you use a binarystream for reading you will have to set position to 0 in this event.

This event is not called when using PerformMT.

### 5.18.406 Seek(pos as Int64, whence as Integer) as Integer

Plugin Version: 12.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Called when CURL needs to perform a seek.
**Notes:** Normally only needed if you resume a download (Seek forward) or upload is reset (seek back).
Whence is kSeekOriginCurrent, kSeekOriginEnd or kSeekOriginSet.
Please return one of this constants: kSeekReturnCantSeek, kSeekReturnFail or kSeekReturnOk.

### 5.18.407 SSHKey(KnownKey as string, KnownKeyLength as Integer, KnownKeyType as Integer, FoundKey as string, FoundKeyLength as Integer, FoundKeyType as Integer, MatchStatus as Integer) as Integer

Plugin Version: 10.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The event for known hosts event for SFTP and SCP.
**Notes:** KnownKey: The known key as string encoded with base64 if KnownKeyLength is zero, otherwise the ”raw” data.
KnownKeyLength: The length of the key. Zero for base64 encoded key.
KnownKeyType: The type of the key. (0 = Unknown, 1 = RSA1, 2 = RSA, 3 = DSS)
FoundKey: The found key as string encoded with base64 if FoundKeyLength is zero, otherwise the ”raw” data.
FoundKeyLength: The length of the key. Zero for base64 encoded key.
FoundKeyType: The type of the key. (0 = Unknown, 1 = RSA1, 2 = RSA, 3 = DSS)
MatchStatus: The status CURL found. (0 = OK, 1 = Mismatch, 2 = Missing)

Return one of the following values:

### 5.18.408 Write(data as string, dataSize as Integer) as Integer

Plugin Version: 9.8, Platforms: macOS, Linux, Windows, Targets: All.

| | | |
|---|---|---|
| CURLKHSTAT_FINE_ADD_TO_FILE | 0 | Fine and add to file |
| CURLKHSTAT_FINE | 1 | Fine |
| CURLKHSTAT_REJECT | 2 | reject the connection, return an error |
| CURLKHSTAT_DEFER | 3 | do not accept it, but we can't answer right now so this causes a CURLE_DEFER error but otherwise the connection will be left intact etc |

**Function:** This event gets called by libCURL as soon as there is data received that needs to be saved.
**Notes:** Return the number of bytes actually taken care of. If that amount differs from the amount passed to your function, it'll signal an error to the library and it will abort the transfer and return kError_WRITE_ERROR.

This function may be called with zero bytes data if the transfered file is empty.

The event function will be passed as much data as possible in all invokes, but you cannot possibly make any assumptions. It may be one byte, it may be thousands. The maximum amount of data that can be passed to the write event is defined in the CURL.h header file: CURL_MAX_WRITE_SIZE (16384).

If you set CollectOutputData to true, the plugin will automatically collect the data and provide it to you after the transfer with the OutputData property. This collecting feature will only work right, if there is enough free memory. You can of course still process data yourself in this event instead of in addition.

### 5.18.409 Constants

Constants

| Constant | Value | Description |
|---|---|---|
| kUpkeepIntervalDefault | 50000 | The default connection upkeep interval in milliseconds. |

Authorization

| Constant | Value | Description |
|---|---|---|
| kAUTH_ANY | &hFFFFFFEF | all types set |
| kAUTH_ANYSAFE | &hFFFFFFEE | |
| kAUTH_AWS_SIGV4 | 128 | AWS Signature v4 |
| kAUTH_BASIC | 1 | Basic (default) |
| kAUTH_Bearer | 64 | HTTP Bearer token authentication |
| kAUTH_DIGEST | 2 | Digest |
| kAUTH_DIGEST_IE | 16 | HTTP Digest authentication with an IE flavor. Digest authentication is de in RFC 2617 and is a more secure way to do authentication over public netw than the regular old-fashioned Basic method. The IE flavor is simply libCURL will use a special "quirk" that IE is known to have used before ve 7 and that some servers require the client to use. |
| kAUTH_GSSNEGOTIATE | 4 | GSS-Negotiate<br>Please check SupportsGSSNEGOTIATE property in CURLSVersionMBS whether this is supported/implemented by your copy of the CURL librar |
| kAUTH_NEGOTIATE | 4 | HTTP Negotiate (SPNEGO) authentication. Negotiate authentication i fined in RFC 4559 and is the most secure way to perform authentication HTTP.<br>You need to build libCURL with a suitable GSS-API library or SSPI on dows for this to work. |
| kAUTH_NONE | 0 | |
| kAUTH_NTLM | 8 | |
| kAUTH_Only | &h80000000 | This is a meta symbol. OR this value together with a single specific auth to force libCURL to probe for un-restricted auth and if not, only that s auth algorithm is acceptable. |

ChunkBegin result values

| Constant | Value | Description |
|---|---|---|
| kChunkBeginFailed | 1 | Failed, so we exit downloads. |
| kChunkBeginOK | 0 | OK, download this file. |
| kChunkBeginSkip | 2 | Skip the file. |

ChunkEnd result values

| Constant | Value | Description |
|---|---|---|
| kChunkEndFailed | 1 | Failed, so we exit downloads. |
| kChunkEndOK | 0 | Download success. |

Error Constants

| Constant | Value | Description |
|---|---|---|
| kError_ABORTED_BY_CALLBACK | 42 | |
| kError_AGAIN | 81 | socket is not ready for send/recv, wait till it's ready and try ag CURL 7.18.2) |
| kError_Auth_Error | 94 | An authentication function returned an error. |
| kError_BAD_CONTENT_ENCODING | 61 | Unrecognized transfer encoding |
| kError_BAD_DOWNLOAD_RESUME | 36 | couldn't resume download |
| kError_BAD_FUNCTION_ARGUMENT | 43 | |
| kError_CHUNK_FAILED | 88 | Chunk event reported error. |
| kError_CONV_REQD | 76 | Not used with plugin. |
| kError_COULDNT_CONNECT | 7 | Could not connect. Proxy set? Firewall open? |
| kError_COULDNT_RESOLVE_HOST | 6 | |
| kError_COULDNT_RESOLVE_PROXY | 5 | |
| kError_FAILED_INIT | 2 | |
| kError_FILESIZE_EXCEEDED | 63 | Maximum file size exceeded |
| kError_FILE_COULDNT_READ_FILE | 37 | |
| kError_FTP_ACCEPT_FAILED | 10 | While waiting for the server to connect back when an active F used, an error code was sent over the control connection or simi |
| kError_FTP_ACCEPT_TIMEOUT | 12 | During an active FTP session while waiting for the server to OptionAcceptTimeoutMS (or the internal default) timeout expi |
| kError_FTP_BAD_FILE_LIST | 87 | Unable to parse FTP file list. |
| kError_FTP_CANT_GET_HOST | 15 | |
| kError_FTP_COULDNT_RETR_FILE | 19 | |
| kError_FTP_COULDNT_SET_TYPE | 17 | |
| kError_FTP_COULDNT_USE_REST | 31 | the REST command failed |
| kError_FTP_PORT_FAILED | 30 | FTP PORT operation failed |
| kError_FTP_PRET_FAILED | 84 | a PRET command failed |
| kError_FTP_WEIRD_227_FORMAT | 14 | |
| kError_FTP_WEIRD_PASS_REPLY | 11 | |
| kError_FTP_WEIRD_PASV_REPLY | 13 | |
| kError_FTP_WEIRD_SERVER_REPLY | 8 | The server sent data libcurl could not parse. This error code CURLE_FTP_WEIRD_SERVER_REPLY before 7.51.0. |
| kError_GOT_NOTHING | 52 | when this is a specific error |
| kError_HTTP2 | 16 | A problem was detected in the HTTP2 framing layer. This is som and can be one out of several problems, see the error buffer for |
| kError_HTTP2_STREAM | 92 | stream error in HTTP/2 framing layer |
| kError_HTTP3 | 95 | HTTP3 layer failed. |
| kError_HTTP_RETURNED_ERROR | 22 | |
| kError_INTERFACE_FAILED | 45 | |
| kError_LDAP_CANNOT_BIND | 38 | |
| kError_LDAP_INVALID_URL | 62 | Invalid LDAP URL |
| kError_LDAP_SEARCH_FAILED | 39 | |
| kError_LOGIN_DENIED | 67 | user, password or similar was not accepted and we failed to logi |
| kError_NOT_BUILT_IN | 4 | A requested feature, protocol or option was not found built-in in due to a build-time decision. This means that a feature or o enabled or explicitly disabled when libCURL was built and in to function you have to get a rebuilt libCURL. |
| kError_NO_CONNECTION_AVAILABLE | 89 | For internal use only, will never be returned by libCURL. No connection available, the session will be queued. (added in 7 |
| kError_OK | 0 | |
| kError_OPERATION_TIMEDOUT | 28 | |
| kError_OUT_OF_MEMORY | 27 | |
| kError_PARTIAL_FILE | 18 | |
| kError_PEER_FAILED_VERIFICATION | 60 | |
| kError_Proxy | 96 | Proxy handshake error. |
| kError_Quic_Connect_Error | 96 | Quic had a connect error. |
| kError_QUOTE_ERROR | 21 | |
| kError_RANGE_ERROR | 33 | |
| kError_READ_ERROR | 26 | could open/read from file |

FileNameMatch Event Result Values

| Constant | Value | Description |
|---|---|---|
| kFileNameMatchFailed | 2 | Failed. |
| kFileNameMatchIsMatch | 0 | Is Match. |
| kFileNameMatchNoMatch | 1 | No match. |

Follow Location Modes

| Constant | Value | Description |
|---|---|---|
| kFollowAll | 1 | Before 8.13.0 this bit had no name and 1L was just the value to enable this option. This makes a set custom method be used in all HTTP requests, even after redirects. |
| kFollowFirstOnly | 3 | When there is a custom request method set with OptionCustomRequest, that set method replaces what libcurl would otherwise use in the first outgoing request only. The second request is then done according to the redirect response code.<br>If you prefer your custom method to remain in use after a 307/308 redirect, use kFollowObeyCode instead. |
| kFollowObeyCode | 2 | When there is a custom request method set with OptionCustomRequest, that set method replaces what libcurl would otherwise use. If a 301/302/303 response code is returned to signal a redirect, the method is changed from POST to GET. For 307/308, the custom method remains set and used.<br>Note that only POST (or a custom post) is changed to GET on 301/302, its not change PUT etc - and therefore also not when libcurl issues a custom PUT. A 303 response makes it switch to GET independently of the original method (except for HEAD).<br>To control for which of the 301/302/303 status codes libcurl should not switch back to GET for when doing a custom POST, and instead keep the custom method, use OptionPostRedir.<br>If you prefer a custom POST method to be reset to exactly the method POST, use kFollowFirstOnly instead. |

Form Constants

| Constant | Value | Description |
|---|---|---|
| kFormArray | 8 | |
| kFormBuffer | 11 | |
| kFormBufferLength | 13 | |
| kFormBufferPtr | 12 | |
| kFormContentHeader | 15 | |
| kFormContentsLength | 6 | |
| kFormContentType | 14 | |
| kFormCopyContents | 4 | |
| kFormCopyName | 1 | |
| kFormEnd | 17 | |
| kFormFile | 10 | |
| kFormFileContent | 7 | |
| kFormFilename | 16 | |
| kFormNameLength | 3 | |
| kFormPtrContents | 5 | |
| kFormPtrName | 2 | |

FTP Authorization

| Constant | Value | Description |
|---|---|---|
| kFTPAUTH_DEFAULT | 0 | Allow libCURL to decide |
| kFTPAUTH_SSL | 1 | Try "AUTH SSL" first, and only if that fails try "AUTH TLS" |
| kFTPAUTH_TLS | 2 | Try "AUTH TLS" first, and only if that fails try "AUTH SSL" |

FTP CWD method

| Constant | Value | Description |
|---|---|---|
| kFTPMethodDefault | 0 | let libcurl pick |
| kFTPMethodMultiCWD | 1 | single CWD operation for each path part |
| kFTPMethodNoCWD | 2 | no CWD at all |
| kFTPMethodSingleCWD | 3 | one CWD to full dir, then work on file |

FTP SSL Option

| Constant | Value | Description |
|---|---|---|
| kFTPSSL_ALL | 3 | Require SSL for all communication or fail with kError_FTP_SSL_FAILED. |
| kFTPSSL_CONTROL | 2 | Require SSL for the control connection or fail with kError_FTP_SSL_FAILED. |
| kFTPSSL_NONE | 0 | Don't attempt to use SSL. |
| kFTPSSL_TRY | 1 | Try using SSL, proceed as normal otherwise. |

GSS API delegation modes

| Constant | Value | Description |
|---|---|---|
| kGSSAPIDelegationFlag | 2 | delegate always |
| kGSSAPIDelegationNone | 0 | no delegation (default) |
| kGSSAPIDelegationPolicyFlag | 1 | if permitted by policy |

HTTP Versions

| Constant | Value | Description |
|---|---|---|
| kHTTP_VERSION_1_0 | 1 | Enforce HTTP 1.0 requests. |
| kHTTP_VERSION_1_1 | 2 | Enforce HTTP 1.1 requests. |
| kHTTP_VERSION_2TLS | 4 | use version 2 for HTTPS, version 1.1 for HTTP |
| kHTTP_VERSION_2_0 | 3 | please use HTTP 2 in the request |
| kHTTP_VERSION_2_PRIOR_KNOWLEDGE | 5 | please use HTTP 2 without HTTP/1.1 Upgrade |
| kHTTP_VERSION_3 | 30 | please use HTTP 3 in the request |
| kHTTP_VERSION_3Only | 31 | Use HTTP/3 without fallback. For HTTPS only. For HTTP, t return error. |
| kHTTP_VERSION_NONE | 0 | We don't care about what version the library uses. libCURL it thinks fit. |

Debug Message Info Types

| Constant | Value | Description |
|---|---|---|
| kINFO_DATA_IN | 3 | The data is protocol data received from the peer. |
| kINFO_DATA_OUT | 4 | The data is protocol data sent to the peer. |
| kINFO_HEADER_IN | 1 | The data is header (or header-like) data received from the peer. |
| kINFO_HEADER_OUT | 2 | The data is header (or header-like) data sent to the peer. |
| kINFO_SSL_DATA_IN | 5 | The data is protocol data received from the peer. |
| kINFO_SSL_DATA_OUT | 6 | The data is protocol data sent to the peer. |
| kINFO_TEXT | 0 | The data is informational text. |

IP Resolve Modes

| Constant | Value | Description |
|---|---|---|
| kIPRESOLVE_V4 | 1 | |
| kIPRESOLVE_V6 | 2 | |
| kIPRESOLVE_WHATEVER | 0 | |

NetRC Modes

| Constant | Value | Description |
|---|---|---|
| kNETRC_IGNORED | 0 | The .netrc will never be read. This is the default. |
| kNETRC_OPTIONAL | 1 | A user:password in the URL will be preferred to one in the .netrc. |
| kNETRC_REQUIRED | 2 | A user:password in the URL will be ignored. Unless one is set programmatically, the .netrc will be queried. |

Protocols

| Constant | Value | Description |
|---|---|---|
| kProtocolAll | -1 | Enable all protocols. |
| kProtocolDICT | &h200 | DICT |
| kProtocolFILE | &h400 | File |
| kProtocolFTP | 4 | FTP |
| kProtocolFTPS | 8 | FTPS |
| kProtocolGopher | &h2000000 | Gopher |
| kProtocolGophers | &h20000000 | |
| kProtocolHTTP | 1 | HTTP |
| kProtocolHTTPS | 2 | HTTPS |
| kProtocolIMAP | &h1000 | IMAP |
| kProtocolIMAPS | &h2000 | IMAPS |
| kProtocolLDAP | &h80 | LDAP |
| kProtocolLDAPS | &h100 | LDAPS |
| kProtocolMQTT | &h10000000 | MQTT |
| kProtocolPOP3 | &h4000 | POP3 |
| kProtocolPOP3S | &h8000 | POP3S |
| kProtocolRTMP | &h80000 | RTMP |
| kProtocolRTMPE | &h200000 | RTMPE |
| kProtocolRTMPS | &h800000 | RTMPS |
| kProtocolRTMPT | &h100000 | RTMPT |
| kProtocolRTMPTE | &h400000 | RTMPTE |
| kProtocolRTMPTS | &h1000000 | RTMPTS |
| kProtocolRTSP | &h40000 | RTSP |
| kProtocolSCP | &h10 | SCP |
| kProtocolSFTP | &h20 | SFTP |
| kProtocolSMB | &h4000000 | SMB |
| kProtocolSMBS | &h8000000 | SMBS |
| kProtocolSMTP | &h10000 | SMTP |
| kProtocolSMTPS | &h20000 | SMTPS |
| kProtocolTelnet | &h40 | Telnet |
| kProtocolTFTP | &h800 | TFTP |

Proxy Types

| Constant | Value | Description |
|---|---|---|
| kPROXY_HTTP | 0 | |
| kPROXY_HTTP10 | 1 | Force to use CONNECT HTTP/1.0. |
| kPROXY_HTTP11 | 0 | Connect using HTTP/1.1. |
| kPROXY_HTTPS3 | 8 | HTTPS and attempt HTTP/3, added in CURL 8.21.0 |
| kPROXY_SOCKS4 | 4 | |
| kPROXY_SOCKS4A | 6 | Using SOCKS 4A. |
| kPROXY_SOCKS5 | 5 | |
| kPROXY_SOCKS5_Hostname | 7 | Use the SOCKS5 protocol but pass along the host name rather than the IP address. added in 7.18.0 |

Seek Origin Constants

| Constant | Value | Description |
|---|---|---|
| kSeekOriginCurrent | 1 | Seek relative to current file position. |
| kSeekOriginEnd | 2 | Seek relative to end of file. |
| kSeekOriginSet | 0 | Seek relative to start of file. |

Seek Event Result Values

| Constant | Value | Description |
|---|---|---|
| kSeekReturnCantSeek | 3 | Return this value if you can't seek as you are not using a file, but for example a stream. |
| kSeekReturnFail | 2 | Returns this value if your seek operation failed. |
| kSeekReturnOk | 1 | Returns this value if your seek operation succeeded. |

SSH Authentication

| Constant | Value | Description |
|---|---|---|
| kSSHAuthAgent | 16 | agent (ssh-agent, pageant...) |
| kSSHAuthAny | -1 | Any allowed |
| kSSHAuthDefault | -1 | Default: Any |
| kSSHAuthGSSAPI | 32 | gssapi (kerberos, ...) |
| kSSHAuthHost | 4 | host key files |
| kSSHAuthKeyboard | 8 | keyboard interactive |
| kSSHAuthNone | 0 | none allowed, silly but complete |
| kSSHAuthPassword | 2 | password |
| kSSHAuthPublicKey | 1 | public/private key files |

SSL Option Flags

| Constant | Value | Description |
|---|---|---|
| kSSLOptionAllowBeast | 1 | tells libcurl to allow the BEAST SSL vulnerability in the name of improving interoperability with older servers. Some SSL libraries have introduced work-arounds for this flaw but those work-arounds sometimes make the SSL communication fail. To regain functionality with those broken servers, a user can this way allow the vulnerability back. |
| kSSLOptionAutoClientCert | 32 | Tells libcurl to automatically locate and use a client certificate for authentication. (Schannel) |
| kSSLOptionEarlyData | 64 | Tell libcurl to try sending application data as TLS1.3 early data. This option is only supported for GnuTLS. This option works on a best effort basis, in cases when it wasn't possible to send early data the request is resent normally post-handshake. This option does not work when using QUIC. (Added in 8.11.0) |
| kSSLOptionNativeCA | 16 | tells libcurl to use standard certificate store of operating system. Currently implemented under MS-Windows. |
| kSSLOptionNoPartialChain | 4 | tells libcurl to *NOT* accept a partial certificate chain if possible. The OpenSSL backend has this ability. |
| kSSLOptionNoRevoke | 2 | tells libcurl to disable certificate revocation checks for those SSL backends where such behavior is present. |
| kSSLOptionRevokeBestEffort | 8 | tells libcurl to ignore certificate revocation offline checks and ignore missing revocation list for those SSL backends where such behavior is present. |

SSL Versions

| Constant | Value | Description |
|---|---|---|
| kSSLVersionDefault | 0 | The default acceptable version range. The minimum acceptable version is by default TLS v1.0 since 7.39.0 (unless the TLS library has a stricter rule). |
| kSSLVersionSSLv2 | 2 | SSL v2 (but not SSLv3) |
| kSSLVersionSSLv3 | 3 | SSL v3 (but not SSLv2) |
| kSSLVersionTLSv1 | 1 | TLS v1.0 or later |
| kSSLVersionTLSv10 | 4 | TLS v1.0 or later (Added in 7.34.0) |
| kSSLVersionTLSv11 | 5 | TLS v1.1 or later (Added in 7.34.0) |
| kSSLVersionTLSv12 | 6 | TLS v1.2 or later (Added in 7.34.0) |
| kSSLVersionTLSv13 | 7 | TLS v1.3 or later (Added in 7.52.0) |

Maximum SSL Versions

| Constant | Value | Description |
|---|---|---|
| kSSLVersionMaxDefault | &h10000 | The flag defines the maximum supported TLS version by libcurl, or the default value from the SSL library is used. libcurl uses a sensible default maximum, which was TLS v1.2 up to before 7.61.0 and is TLS v1.3 since then - assuming the TLS library support it. |
| kSSLVersionMaxNone | 0 | No maximum. |
| kSSLVersionMaxTLSv10 | &h40000 | The flag defines maximum supported TLS version as TLS v1.0. |
| kSSLVersionMaxTLSv11 | &h50000 | The flag defines maximum supported TLS version as TLS v1.1. |
| kSSLVersionMaxTLSv12 | &h60000 | The flag defines maximum supported TLS version as TLS v1.2. |
| kSSLVersionMaxTLSv13 | &h70000 | The flag defines maximum supported TLS version as TLS v1.3. |

Time Conditions

| Constant | Value | Description |
|---|---|---|
| kTimeConditionIfModifiedSince | 1 | |
| kTimeConditionIfUnModifiedSince | 2 | |
| kTimeConditionNone | 0 | No condition. |

Upload Flags for IMAP

| Constant | Value | Description |
|---|---|---|
| kUploadFlagAnswered | 1 | Mark email as answered. |
| kUploadFlagDeleted | 2 | Mark email to be deleted. |
| kUploadFlagDraft | 4 | Mark email as draft. |
| kUploadFlagFlagged | 8 | Mark email as flagged. |
| kUploadFlagSeen | 16 | Mark email as seen. |

SSL Option

| Constant | Value | Description |
|---|---|---|
| kUseSSLall | 3 | Require SSL for all communication or fail with kError_FTP_SSL_FAILED. |
| kUseSSLcontrol | 2 | Require SSL for the control connection or fail with kError_FTP_SSL_FAILED. |
| kUseSSLnone | 0 | Don't attempt to use SSL. |
| kUseSSLtry | 1 | Try using SSL, proceed as normal otherwise. |

WebSocket Options

| Constant | Value | Description |
|---|---|---|
| kWebSocketNoAutoPong | 1 | No Auto Pong. |
| kWebSocketRaw | 1 | RAW mode for WebSocketOptions. |

## 5.19 class CURLSMimePartMBS

### 5.19.1 class CURLSMimePartMBS

Plugin Version: 18.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The class for mime parts.
**Example:**

```
// upload a file with a form field as multipart/form-data with CURL
Var curl As New CURLSMBS
curl.OptionURL = "https://www.example.com/upload.php"

Var field As CURLSMimePartMBS = curl.AddMimePart
field.Name = "title"
field.DataString = "Holiday photo"

Var upload As CURLSMimePartMBS = curl.AddMimePart
upload.Name = "file"
upload.File = SpecialFolder.Desktop.Child("photo.jpg")
upload.MimeType = "image/jpeg"
curl.FinishMime

Var result As Integer = curl.Perform
MessageBox "Result: " + result.ToString + EndOfLine + curl.OutputData
```

**Notes:** You can provide data via file path, folderitem, data in memoryblock or string.
This is an abstract class. You can't create an instance, but you can get one from various plugin functions.
**Blog Entries**

- MonkeyBread Software Releases the MBS Xojo Plugins in version 18.2
- MBS Xojo Plugins, version 18.2pr4

**Videos**

- Presentation from Munich conference about MBS Plugins.
- Presentation from Xojo Developer Conference 2019 in Miami.

### 5.19.2 Methods

### 5.19.3 Constructor

Plugin Version: 18.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The private constructor.

### 5.19.4 Headers as String()

Plugin Version: 18.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Queries header.

### 5.19.5 SetHeaders(headers() as String)

Plugin Version: 18.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Sets header.

### 5.19.6 Properties

### 5.19.7 DataMemory as Memoryblock

Plugin Version: 18.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The mime part data source from memory data.
**Notes:** (Read and Write property)

### 5.19.8 DataString as String

Plugin Version: 18.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The mime part data source from memory data.
**Example:**

```
Var c as new CURLSMBS

// add mime
Var p as CURLSMimePartMBS = c.AddMimePart

p.name = "Text"
p.FileName = "test.txt"
p.MimeType = "text/plain"
p.DataString = "Hello World"

c.FinishMime
// now you can send...
```

**Notes:** (Read and Write property)

### 5.19.9 Encoding as String

Plugin Version: 18.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The mime data transfer encoder.
**Notes:** If set to binary, 8bit, 7bit, base64 or quoted-printable, the matching encoding is applied.
(Read and Write property)

### 5.19.10 File as FolderItem

Plugin Version: 18.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The file to stream.
**Notes:** When you set property, the plugin will open file and may raise IOException on failure.
(Read and Write property)

### 5.19.11 FileName as String

Plugin Version: 18.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The mime part remote file name.
**Notes:** If mime type is not set, we pick extension from file name.
This includes gif, jpg, jpeg, png, svg, txt, htm, html, pdf and xml file extensions.
(Read and Write property)

### 5.19.12 FilePath as String

Plugin Version: 18.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The mime part data source from named file.
**Notes:** (Read and Write property)

### 5.19.13 Lasterror as Integer

Plugin Version: 18.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The last error code.
**Notes:** (Read and Write property)

### 5.19.14 MimeType as String

Plugin Version: 18.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The mime part type.
**Notes:** (Read and Write property)

### 5.19.15 Name as String

Plugin Version: 18.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The mime/form part name.
**Notes:** (Read and Write property)

### 5.19.16 Parent as Variant

Plugin Version: 18.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The parent object.
**Notes:** (Read only property)

### 5.19.17 Constants

Encodings

| Constant | Value | Description |
|---|---|---|
| kEncoding7bit | ”7bit” | 7bit |
| kEncoding8bit | ”8bit” | 8bit |
| kEncodingBase64 | ”base64” | Base64 |
| kEncodingBinary | ”binary” | Binary mode |
| kEncodingNone | ”” | No mode, so data is passed through and header has no encoding defin |
| kEncodingQuotedPrintable | ”quoted-printable” | Quoted printable |

Mime Types

| Constant | Value | Description |
|---|---|---|
| kMimeTypeGIF | ”image/gif” | GIF |
| kMimeTypeHTML | ”text/html” | HTML |
| kMimeTypeJPEG | ”image/jpeg” | JPEG |
| kMimeTypePDF | ”application/pdf” | PDF |
| kMimeTypePNG | ”image/png” | PNG |
| kMimeTypeSVG | ”image/svg+xml” | SVG |
| kMimeTypeText | ”text/plain” | Text |
| kMimeTypeXML | ”application/xml” | XML |

# 5.20 class CURLSMissingFunctionExceptionMBS

## 5.20.1 class CURLSMissingFunctionExceptionMBS

Plugin Version: 13.5, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** An exception raised if a CURL library function is not loaded.
**Notes:** If you call load library before you use the CURLSMBS Constructor, you should never see this.
Subclass of the RuntimeException class.

## 5.21 class CURLSMultiMBS

### 5.21.1 class CURLSMultiMBS

Plugin Version: 15.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The class for multiple CURL transfers running in parallel.
**Example:**

```
// download three files at the same time
// MyMulti is a subclass of CURLSMultiMBS with the TransferFinished event implemented.
// Multi is a property of the window: Multi As MyMulti
Multi = New MyMulti

Var urls() As String = Array("https://www.monkeybreadsoftware.de/", "https://www.mbsplugins.de/",
"https://www.mbsplugins.eu/")
For Each url As String In urls
Var d As New CURLSMBS
d.OptionURL = url
d.OptionFollowLocation = 1
Call Multi.AddCURL(d)
Next

// in MyMulti:
Sub TransferFinished(CURL As CURLSMBS, result As Integer, RemainingFinishedTransfers As Integer)
Handles TransferFinished
System.DebugLog CURL.OptionURL + ": result " + result.ToString + ", HTTP " + CURL.GetInfoRe-
sponseCode.ToString + ", " + CURL.OutputData.Bytes.ToString + " bytes"
End Sub
```

**Blog Entries**

- MonkeyBread Software Releases the MBS Xojo Plugins in version 26.3
- MBS Xojo Plugins, version 26.3pr1
- News from the MBS Xojo Plugins Version 25.5
- MonkeyBread Software Releases the MBS Xojo Plugins in version 25.5
- Using ChatGPT in Xojo
- MonkeyBread Software Releases the MBS Xojo Plugins in version 24.4
- MQTT in Xojo
- News from the MBS Xojo Plugins Version 23.2
- Easier multi transfer for our Xojo CURL Plugin
- Batch Emailer Application for Xojo as a sample project

**Xojo Developer Magazine**

- 24.1, page 9: News
- 22.6, page 10: News
- 22.5, page 19: Xojo and MQTT, Learn about MQTT, a popular messaging transport protocol, and how you can use it in your Xojo-based apps. by Tim Dietrich
- 21.4, page 10: News

### 5.21.2 Methods

### 5.21.3 AddCURL(curl as CURLSMBS, handler as CURLSTransferFinishedMBS = nil) as boolean

Plugin Version: 15.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Add a standard CURL handle to the multi stack.
**Notes:** Lasterror is set.

We added handler parameter for v23.2 to make it easier to run things asynchronously.

### 5.21.4 ClearSharedInstance

Plugin Version: 24.4, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Clears the shared instance.
**Notes:** This will remove the global reference to the shared instance and thus free the CURLSMultiMBS object.
Only needed to debug memory leaks.

### 5.21.5 CURLs as CURLSMBS()

Plugin Version: 15.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Queries list of current CURL instances.

### 5.21.6 ErrorString(ErrorCode as Integer) as String

Plugin Version: 15.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Queries text message for a given error code.

### 5.21.7 NetworkChanged

Plugin Version: 26.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Signal network changed.
**Notes:** Informs CURL about a network change, so it can discard connections or DNS cache entries.

This method can be called at any time and repeatedly. Each call only affects the currently cached connections and DNS information. Any connection created or DNS information added afterwards is cached the usual way again.

The call affects only the connection and DNS cache of the multi handle itself and not the ones owned by SHARE handles.

Tells libcurl to clear "everything" that could be associated with this network, including both connections and DNS data.
See also:

- 5.21.8 NetworkChanged(ClearConns as Boolean, ClearDNS as Boolean) 286

### 5.21.8 NetworkChanged(ClearConns as Boolean, ClearDNS as Boolean)

Plugin Version: 25.5, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Signal network changed.
**Notes:** Informs CURL about a network change, so it can discard connections or DNS cache entries.

This method can be called at any time and repeatedly. Each call only affects the currently cached connections and DNS information. Any connection created or DNS information added afterwards is cached the usual way again.

The call affects only the connection and DNS cache of the multi handle itself and not the ones owned by SHARE handles.

ClearConns: No longer reuse any existing connection in the multi handle's connection cache. This closes all connections that are not in use. Ongoing transfers continue on the connections they operate on.

ClearDNS: Clear the multi handle's DNS cache.
See also:

• 5.21.7 NetworkChanged 286

### 5.21.9 Perform

Plugin Version: 15.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Checks for things to see.
**Notes:** When the app thinks there's data available for CURL it calls this function to read/write whatever there is right now. This returns as soon as the reads and writes are done. This function does not require that there actually is data available for reading or that data can be written, it can be called just in case.

Lasterror is set. This only provides errors etc regarding the whole multi stack. There might still have occurred problems on invidual transfers even when this returns OK.

Sets RunningTransfers property.

### 5.21.10 RemoveAll

Plugin Version: 23.4, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Removes all curl handles.
**Notes:** Same as looping over CURLs() array and calling RemoveCURL for each.
This effectively cancels all requests.

### 5.21.11 RemoveCURL(CURL as CURLSMBS) as boolean

Plugin Version: 15.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Removes a CURL handle from the multi stack again.
**Notes:** Lasterror is set.
Plugin calls this automatically when TransferFinished event was called.

### 5.21.12 SharedInstance as CURLSMultiMBS

Plugin Version: 23.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The shared instance.
**Notes:** Either you create a new CURLSMultiMBS object, which then takes this place.
Or you don't and the plugin creates an object for you to easily schedule transfers asynchronously.

### 5.21.13 Properties

### 5.21.14 AutoPerform as Boolean

Plugin Version: 23.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Whether to run a timer and run Perform automatically for you.
**Notes:** Set to true to run Perform automatically. For this the plugin manages a timer to call perform regularly.
We set this to true for the default shared instance, so it runs without you doing anything.
(Read and Write property)

### 5.21.15 ChunkLengthPenaltySize as Int64

Plugin Version: 15.0, Platforms: macOS, Linux, Windows, Targets: All.

**Deprecated:** This item is deprecated and should no longer be used. **Function:** A connection with a chunk length longer than this will not be considered for pipelining.
**Notes:** (Read and Write property)

### 5.21.16 ContentLengthPenaltySize as Int64

Plugin Version: 15.0, Platforms: macOS, Linux, Windows, Targets: All.

**Deprecated:** This item is deprecated and should no longer be used. **Function:** A connection with a content-length longer than this will not be considered for pipelining.
**Notes:** (Read and Write property)

### 5.21.17 Handle as Integer

Plugin Version: 15.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The internal object reference.
**Notes:** (Read only property)

### 5.21.18 Lasterror as Integer

Plugin Version: 15.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The last error code.
**Notes:** (Read and Write property)

### 5.21.19 MaxConcurrentStreams as Integer

Plugin Version: 20.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The maximum number of concurrent connections to a server.
**Notes:** Maximum number of concurrent streams to support on a connection.
(Read and Write property)

### 5.21.20 MaxConnects as Integer

Plugin Version: 15.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Maximum number of entries in the connection cache.
**Notes:** If value is greater than 0, a fixed limit of the maximum number of entries we are allowed to grow the connection cache to.

Default is -1 for no limit.
(Read and Write property)

### 5.21.21 MaxHostConnections as Integer

Plugin Version: 15.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Maximum number of (pipelining) connections to one host.
**Notes:** If value is greater than 0, a fixed limit of the maximum number of connections per host.
(Read and Write property)

### 5.21.22 MaxPipelineLength as Integer

Plugin Version: 15.0, Platforms: macOS, Linux, Windows, Targets: All.

**Deprecated:** This item is deprecated and should no longer be used. **Function:** Maximum number of requests in a pipeline.
**Notes:** (Read and Write property)

### 5.21.23 MaxTotalConnections as Integer

Plugin Version: 15.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Maximum number of open connections in total.
**Notes:** If value is greater than 0, a fixed limit of the maximum number of connections in total.
(Read and Write property)

### 5.21.24 Pipelining as Integer

Plugin Version: 15.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Set to 1 to enable pipelining for this multi handle.
**Notes:** Only for HTTP protocol.
Used to be a boolean property for 15.0 to 18.1, but changed to integer for 18.2.
(Read and Write property)

### 5.21.25 QuickExit as Boolean

Plugin Version: 26.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Whether to do a quick exit and not wait for DNS resolver threads.
**Notes:** Set to true for not joining threads when multi is cleaned up.
(Read and Write property)

### 5.21.26 ResolveThreadsMax as Integer

Plugin Version: 26.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Maximum number of threads used with threaded DNS resolver.
**Notes:** (Read and Write property)

### 5.21.27 RunningTransfers as Integer

Plugin Version: 15.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Number of running transfers.
**Notes:** Set by Perform method.
(Read only property)

### 5.21.28 Tag as Variant

Plugin Version: 23.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The tag value.
**Notes:** You can store whatever reference value you need.
(Read and Write property)

### 5.21.29 TransfersAdded as UInt64

Plugin Version: 25.5, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The cumulative number of all easy handles added to the multi, ever.
**Notes:** This includes internal handles added for tasks (like resolving via DoH, for example).

For the current number of easy handles managed by the multi, use TransfersCurrent.
(Read only property)

### 5.21.30 TransfersCurrent as UInt64

Plugin Version: 25.5, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Returns the number of easy handles currently added to the multi handle.
**Notes:** This does not include already removed handles. It does include internal handles that get added for tasks (like resolving via DoH, for example).

For the total number of easy handles ever added to the multi, see TransfersAdded.
(Read only property)

### 5.21.31 TransfersDone as UInt64

Plugin Version: 25.5, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The number of easy handles currently finished, but not yet removed.
**Notes:** (Read only property)

### 5.21.32 TransfersPending as UInt64

Plugin Version: 25.5, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The number of current easy handles waiting to start.
**Notes:** An added transfer might become pending for various reasons: a connection limit forces it to wait, resolving DNS is not finished or it is not clear if an existing, matching connection may allow multiplexing (HTTP/2 or HTTP/3).

(Read only property)

### 5.21.33 TransfersRunning as UInt64

Plugin Version: 25.5, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The number of easy handles currently running, e.g. where the transfer has started but not finished yet.
**Notes:** (Read only property)

### 5.21.34 Events

### 5.21.35 TransferFinished(CURL as CURLSMBS, result as Integer, RemainingFinishedTransfers as Integer)

Plugin Version: 15.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** One transfer finished.
**Notes:** Query CURL object for details.
Result is the result of the transfer as returned by Perform method of CURL object.
RemainingFinishedTransfers is how many transfers are also finished and will be called right after this event.

This event fires always when the queue is empty.
You may want to turn off the timer calling Perform method when this event fires.
Later you can start timer again if you call Add method.

### 5.21.36 TransfersFinished

Plugin Version: 15.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** All pending transfers finished.

### 5.21.37 Constants

Error Codes

| Constant | Value | Description |
|---|---|---|
| kErrorAddedAlready | 7 | An easy handle already added to a multi handle was attempted to get added - again. |
| kErrorBadEadyHandle | 2 | An easy handle was not good/valid. |
| kErrorBadFunctionArgument | 10 | A function was called with a bad parameter. |
| kErrorBadHandle | 1 | The passed-in handle is not a valid CURLM handle. |
| kErrorBadSocket | 5 | The passed in socket argument did not match. |
| kErrorCallPerform | -1 | Please call Perform soon to do some tasks. |
| kErrorInternalError | 4 | This is a libCURL bug. |
| kErrorOK | 0 | Everything OK. |
| kErrorOutOfMemory | 3 | Running low on memory. |
| kErrorRecursiveAPICall | 8 | An api function was called from inside an event. |
| kErrorUnknownOption | 6 | Tried to set unsupported option. |
| kErrorWakeupFailure | 9 | Wakeup is unavailable or failed. |

Pipeling options

| Constant | Value | Description |
|---|---|---|
| kPipeHTTP1 | 1 | Pipe with HTTP/1.1. |
| kPipeMultiPlex | 2 | Pipe with multiplex. |
| kPipeNothing | 0 | No piping. |

### 5.21.38 Delegates

### 5.21.39 CURLSTransferFinishedMBS(curl as CURLSMBS, ErrorCode as Integer)

Plugin Version: 23.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The delegate used to indicate a transfer finished.
**Notes:** ErrorCode is zero for a successful.
See kError* constants in CURLSMBS class.
**Blog Entries**

- Easier multi transfer for our Xojo CURL Plugin

## 5.22 class CURLSNotInitializedExceptionMBS

### 5.22.1 class CURLSNotInitializedExceptionMBS

Plugin Version: 9.8, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** An exception raised if CURL library is not initialized.
**Notes:** If you call load library before you use the CURLMBS Constructor, you should never see this.
Subclass of the RuntimeException class.

# 5.23 class CURLSSLBackendMBS

## 5.23.1 class CURLSSLBackendMBS

Plugin Version: 18.2, Platforms: macOS, Linux, Windows, iOS, Targets: All.

**Deprecated:** This item is deprecated and should no longer be used. You can use CURLSSSLBackendMBS instead. **Function:** The class for a SSL backend.
**Notes:** Subclass of the CURLSSSLBackendMBS class.
This is a subclass of an abstract class. You can't create an instance, but you can get one from various plugin functions.

# 5.24 class CURLSSSLBackendMBS

## 5.24.1 class CURLSSSLBackendMBS

Plugin Version: 18.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The class for a SSL backend.
**Example:**

```
Var list() As CURLSSSLBackendMBS = CURLSSSLBackendMBS.List

Var names() As String
For Each l As CURLSSSLBackendMBS In list
names.Add l.name
Next

MessageBox "Available backends: " + string.FromArray(names, ", ")
```

**Notes:** This is an abstract class. You can't create an instance, but you can get one from various plugin functions.
**Blog Entries**

- News from the MBS Xojo Plugins Version 24.2
- MonkeyBread Software Releases the MBS Xojo Plugins in version 24.2
- MBS Xojo Plugins, version 23.0pr5
- MonkeyBread Software Releases the MBS Xojo Plugins in version 18.2
- MBS Xojo Plugins, version 18.2pr3

**Videos**

- Presentation from Xojo Developer Conference 2019 in Miami.

**Xojo Developer Magazine**

- 22.5, page 10: News
- 22.4, page 9: News
- 21.1, page 9: News

## 5.24.2 Methods

## 5.24.3 Constructor

Plugin Version: 18.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The private constructor.

### 5.24.4 List as CURLSSSLBackendMBS()

Plugin Version: 18.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Lists the backends.
**Example:**

```
Var list() as CURLSSSLBackendMBS = CURLSSSLBackendMBS.List

for each l as CURLSSSLBackendMBS in list
MessageBox l.name
next
```

**Notes:** The list may not be available if called too late.

### 5.24.5 SetSSLBackend(id as Integer) as Integer

Plugin Version: 18.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Sets the SSL backend.
**Example:**

```
Var error As Integer = CURLSSSLBackendMBS.SetSSLBackend(CURLSSSLBackendMBS.kSSLBackend-
SChannel)
Select Case error
Case CURLSSSLBackendMBS.kErrorOK
MessageBox "Backend set."
Case CURLSSSLBackendMBS.kErrorNoBackends
MessageBox "No Backends"
Case CURLSSSLBackendMBS.kErrorTooLate
MessageBox "Too late. Please set before using CURL."
Case CURLSSSLBackendMBS.kErrorUnknownBackend
MessageBox "Unknown backend name."
End Select
```

**Notes:** When built with multiple SSL backends, SetSSLBackend() allows to choose one. This function can only be called once, and it must be called *before* CURL constructor().

The backend can be identified by the id (e.g. CURLSSLBACKEND_OPENSSL). The backend can also be specified via the name parameter (passing -1 as id). If both id and name are specified, the name will be ignored. If neither id nor name are specified, the function will fail with CURLSSLSET_UNKNOWN_BACKEND and set the "avail" pointer to the NULL-terminated list of available backends.

Upon success, the function returns kErrorOK.
If the specified SSL backend is not available, the function returns kErrorUnknownBackend.

The SSL backend can be set only once. If it has already been set, a subsequent attempt to change it will result in a kErrorTooLate.

Returns nil, if there are no backends to choose.
See also:

- 5.24.6 SetSSLBackend(name as string) as Integer 298

### 5.24.6 SetSSLBackend(name as string) as Integer

Plugin Version: 18.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Sets the SSL backend.
**Example:**

```
Var error As Integer = CURLSSSLBackendMBS.SetSSLBackend("openssl")
Select Case error
Case CURLSSSLBackendMBS.kErrorOK
MessageBox "Backend set."
Case CURLSSSLBackendMBS.kErrorNoBackends
MessageBox "No Backends"
Case CURLSSSLBackendMBS.kErrorTooLate
MessageBox "Too late. Please set before using CURL."
Case CURLSSSLBackendMBS.kErrorUnknownBackend
MessageBox "Unknown backend name."
End Select
```

**Notes:** When built with multiple SSL backends, SetSSLBackend() allows to choose one. This function can only be called once, and it must be called *before* CURL constructor().

The backend can be identified by the id (e.g. CURLSSLBACKEND_OPENSSL). The backend can also be specified via the name parameter (passing -1 as id). If both id and name are specified, the name will be ignored. If neither id nor name are specified, the function will fail with CURLSSLSET_UNKNOWN_BACKEND and set the "avail" pointer to the NULL-terminated list of available backends.

Upon success, the function returns kErrorOK.
If the specified SSL backend is not available, the function returns kErrorUnknownBackend.

The SSL backend can be set only once. If it has already been set, a subsequent attempt to change it will

result in a kErrorTooLate.

Returns nil, if there are no backends to choose.
See also:

- 5.24.5 SetSSLBackend(id as Integer) as Integer 297

### 5.24.7 Properties

### 5.24.8 ID as Integer

Plugin Version: 18.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The ID of this SSL backend.
**Notes:** (Read only property)

### 5.24.9 Name as String

Plugin Version: 18.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The name of this SSL backend.
**Notes:** (Read only property)

### 5.24.10 Constants

Error codes

| Constant | Value | Description |
|---|---|---|
| kErrorNoBackends | 3 | libcurl was built without any SSL support |
| kErrorOK | 0 | OK |
| kErrorTooLate | 2 | You can't set SSL backend after SSL initialization. |
| kErrorUnknownBackend | 1 | Unknown backend name or ID. |

SSL Backend IDs

| Constant | Value | Description |
|---|---|---|
| kSSLBackendDarwinSSL | 9 | DarwinSSL |
| kSSLBackendGNUTLS | 2 | GNUTLS |
| kSSLBackendGSKIT | 5 | GSKIT |
| kSSLBackendMBEDTLS | 11 | MBEDTLS |
| kSSLBackendNone | 0 | |
| kSSLBackendNSS | 3 | NSS |
| kSSLBackendOpenSSL | 1 | OpenSSL or BoringSSL |
| kSSLBackendSChannel | 8 | SChannel |
| kSSLBackendSecureTransport | 9 | DarwinSSL |
| kSSLBackendWolfSSL | 7 | WolfSSL |

# 5.25 class CURLSURLMBS

## 5.25.1 class CURLSURLMBS

Plugin Version: 18.5, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The class for CURL's URL parser.
**Example:**

```
Var c as new CURLSURLMBS

c.URL = "www.test.de/Hello World test.pdf"

// setting URL will repair the spaces
c.path = c.Path

MessageBox c.URL
```

**Blog Entries**

- MBS Xojo Plugins, version 19.3pr1
- MBS Xojo Plugins, version 19.2pr1
- MonkeyBread Software Releases the MBS Xojo Plugins in version 18.5
- MBS Xojo Plugins, version 18.5pr5

**Videos**

- Presentation from Xojo Developer Conference 2019 in Miami.

**Xojo Developer Magazine**

- 17.5, page 38: What's New in the MBS Plugins, With the Plugins growing every year, here are new capabilities you may have missed by Stefanie Juchmes

## 5.25.2 Methods

## 5.25.3 Clone as CURLSURLMBS

Plugin Version: 18.5, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Duplicates the object.

### 5.25.4 Constructor

Plugin Version: 18.5, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Creates a new URL object.

### 5.25.5 Properties

### 5.25.6 Flags as Integer

Plugin Version: 18.5, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The flags to use.
**Notes:** Our default is combination of:

- kFlagsNoDefaultPort
- kFlagsNonSupportScheme
- kFlagsURLDecode
- kFlagsURLEncode
- kFlagsGuessScheme
- kFlagsDefaultScheme

(Read and Write property)

### 5.25.7 Fragment as String

Plugin Version: 18.5, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Get/Set fragment part of URL.
**Notes:** Sets lasterror property.
(Read and Write property)

### 5.25.8 Handle as Integer

Plugin Version: 18.5, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Internal object reference.
**Notes:** (Read and Write property)

### 5.25.9 Host as String

Plugin Version: 18.5, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Get/Set host part of URL.
**Notes:** Sets lasterror property.
(Read and Write property)

### 5.25.10 Lasterror as Integer

Plugin Version: 18.5, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The last error code reported by one of the functions.
**Notes:** This changes while using debugger because getting or setting properties also sets this property.
(Read and Write property)

### 5.25.11 Options as String

Plugin Version: 18.5, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Get/Set options part of URL.
**Notes:** Sets lasterror property.
(Read and Write property)

### 5.25.12 Password as String

Plugin Version: 18.5, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Get/Set password part of URL.
**Notes:** Sets lasterror property.
(Read and Write property)

### 5.25.13 Path as String

Plugin Version: 18.5, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Get/Set path part of URL.
**Notes:** Sets lasterror property.
(Read and Write property)

### 5.25.14 Port as String

Plugin Version: 18.5, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Get/Set port part of URL.
**Notes:** Sets lasterror property.
(Read and Write property)

### 5.25.15 Query as String

Plugin Version: 18.5, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Get/Set query part of URL.
**Notes:** Sets lasterror property.
(Read and Write property)

### 5.25.16 Scheme as String

Plugin Version: 18.5, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Get/Set scheme part of URL.
**Notes:** Sets lasterror property.
(Read and Write property)

### 5.25.17 URL as String

Plugin Version: 18.5, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Get/Set full URL.
**Example:**

```
Var c As New CURLSURLMBS

// load absolute URL
c.URL = "http://domain.com/folder/page1.htm"

// load relative URL
c.URL = "page2.htm"

// get final URL
MessageBox c.URL
```

**Notes:** Sets lasterror property.

(Read and Write property)

### 5.25.18 User as String

Plugin Version: 18.5, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Get/Set user part of URL.
**Notes:** Sets lasterror property.
(Read and Write property)

### 5.25.19 ZoneID as String

Plugin Version: 19.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The zone ID.
**Notes:** (Read and Write property)

### 5.25.20 Constants

Constants

| Constant | Value | Description |
|---|---|---|
| kFlagsNoAuthority | 1024 | Allow URLs without authority.<br>Allow empty authority when the scheme is unknown. |
| kFlagsNoGuessScheme | 32768 | One of the flags.<br>For get, do not accept a guess. |

Error Constants

| Constant | Value | Description |
|---|---|---|
| kErrorBadFileURL | 19 | The file:// URL is invalid. |
| kErrorBadFragment | 20 | The fragment part of the URL contained bad or invalid characters. |
| kErrorBadHostname | 21 | The hostname contained bad or invalid characters. |
| kErrorBadIPv6 | 22 | The IPv6 address hostname contained bad or invalid characters. |
| kErrorBadLogin | 23 | The login part of the URL contained bad or invalid characters. |
| kErrorBadPassword | 24 | The password part of the URL contained bad or invalid characters. |
| kErrorBadPath | 25 | The path part of the URL contained bad or invalid characters. |
| kErrorBadQuery | 26 | The query part of the URL contained bad or invalid characters. |
| kErrorBadScheme | 27 | The scheme part of the URL contained bad or invalid characters. |
| kErrorBadSlashes | 28 | The URL contained an invalid number of slashes. |
| kErrorBadUser | 29 | The user part of the URL contained bad or invalid characters. |
| kErrorNoZoneID | 18 | There is no zoneid set in the URL. |

Error Codes

| Constant | Value | Description |
|---|---|---|
| kErrorBadHandle | 1 | An argument that should be a CURLU pointer was passed in as a NULL. Should never happen with plugin as you would get exception. |
| kErrorBadPartpointer | 2 | A NULL pointer was passed to the 'part' argument of curl_url_get. Should never happen with plugin as you would get exception. |
| kErrorBadPortNumber | 4 | The port number was not a decimal number between 0 and 65535. |
| kErrorLacksIDN | 30 | IDN missing. |
| kErrorMalformedInput | 3 | A malformed input was passed to a URL API function. |
| kErrorNoFragment | 17 | There is no fragment part in the URL. |
| kErrorNoHost | 14 | There is no host part in the URL. |
| kErrorNoOptions | 13 | There is no options part in the URL. |
| kErrorNoPassword | 12 | There is no password part in the URL. |
| kErrorNoPort | 15 | There is no port part in the URL. |
| kErrorNoQuery | 16 | There is no query part in the URL. |
| kErrorNoScheme | 10 | There is no scheme part in the URL. |
| kErrorNoUser | 11 | There is no user part in the URL. |
| kErrorOk | 0 | No error. |
| kErrorOutOfMemory | 7 | A memory function failed. |
| kErrorUnknownPart | 9 | An unknown part ID was passed to a URL API function. |
| kErrorUnsupportedScheme | 5 | This libcurl build doesn't support the given URL scheme. |
| kErrorUrlDecode | 6 | |
| kErrorUserNotAllowed | 8 | Credentials was passed in the URL when prohibited. |

Flags

| Constant | Value | Description |
|---|---|---|
| kFlagsAllowSpace | 2048 | Whether to allow space character in URLs. |
| kFlagsAppendQuery | 256 | Append a form style part. |
| kFlagsDefaultPort | 1 | Return default port number. |
| kFlagsDefaultScheme | 4 | Return default scheme if missing. |
| kFlagsDisallowUser | 32 | No user+password allowed. |
| kFlagsGetEmpty | 16384 | Allow empty queries and fragments when extracting the URL or the components. |
| kFlagsGuessScheme | 512 | Legacy curl-style guessing. |
| kFlagsNoDefaultPort | 2 | Act as if no port number was set, if the port number matches the default for the scheme. |
| kFlagsNonSupportScheme | 8 | Allow non-supported scheme. |
| kFlagsPathAsIs | 16 | Leave dot sequences. |
| kFlagsPuny2IDN | 8192 | Whether to do punycode to IDN conversion |
| kFlagsPunyCode | 4096 | get the host name in pynycode |
| kFlagsURLDecode | 64 | URL decode on get. |
| kFlagsURLEncode | 128 | URL encode on set. |

# 5.26 class CURLSVersionMBS

## 5.26.1 class CURLSVersionMBS

Plugin Version: 9.8, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** A class to hold version information from libCURL.
**Example:**

```
// show which libCURL version and features the plugin uses
Var v As CURLSVersionMBS = CURLSMBS.Version
MessageBox "CURL " + v.Version + EndOfLine + _
"SSL: " + v.SSLVersion + EndOfLine + _
"HTTP/2: " + v.nghttp2Version + EndOfLine + _
"IPv6: " + v.SupportsIPV6.ToString + ", compression: " + v.SupportsLIBZ.ToString
```

### Blog Entries

- News from the MBS Xojo Plugins in Version 23.0
- MonkeyBread Software Releases the MBS Xojo Plugins in version 23.0
- MBS Xojo Plugins, version 23.0pr5
- News from the MBS Xojo Plugins Version 21.1
- MBS Xojo Plugins, version 20.4pr5
- MBS Xojo Plugins, version 20.2pr6
- MBS Xojo Plugins, version 19.4pr7
- MBS Xojo Plugins, version 18.2pr3

### Xojo Developer Magazine

- 21.3, page 9: News
- 21.2, page 9: News

## 5.26.2 Methods

## 5.26.3 Constructor

Plugin Version: 15.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The constructor.

### 5.26.4 FeatureNames as String()

Plugin Version: 23.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Queries the feature names.
**Example:**

```
Var v as new CURLSVersionMBS
Var features() as string = v.FeatureNames
Var Names as string = string.FromArray(features)
MessageBox Names
```

**Notes:** Values are e.g. alt-svc AsynchDNS HSTS HTTPS-proxy IPv6 Largefile libz NTLM NTLM_WB SSL threadsafe TLS-SRP UnixSockets zstd

### 5.26.5 Protocol(index as Integer) as string

Plugin Version: 9.8, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** An array containing the names protocols that libCURL supports (using lowercase letters).
**Notes:** The protocol names are the same as would be used in URLs.
Index is zero based.

### 5.26.6 Protocols as String()

Plugin Version: 23.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** An array containing the names protocols that libCURL supports (using lowercase letters).
**Example:**

```
Var v as new CURLSVersionMBS
Var Protocols() as string = v.Protocols
Var Names as string = string.FromArray(Protocols)
MessageBox Names
```

**Notes:** The protocol names are the same as would be used in URLs.

### 5.26.7 Properties

### 5.26.8 brotliVersion as String

Plugin Version: 18.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Brotli library version string.
**Notes:** Empty if library is not used in the CURL library you use.
(Read only property)

### 5.26.9 brotliVersionNumber as Integer

Plugin Version: 18.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Version of brotli version.
**Notes:** (Read only property)

### 5.26.10 CAInfo as String

Plugin Version: 20.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The built-in default CURLOPT_CAINFO.
**Notes:** Should be empty within plugin.
(Read only property)

### 5.26.11 CAPath as String

Plugin Version: 20.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The built-in default CURLOPT_CAPATH.
**Example:**

```
Var version As New CURLSVersionMBS
MessageBox "Default CAPath: " + version.CAPath
```

**Notes:** Should be empty within plugin.
(Read only property)

### 5.26.12 Features as Integer

Plugin Version: 9.8, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Bits which define what features libCURL can and can't.
**Notes:** Use the Supports Boolean properties instead.
Additional feature bits may be found in the libCURL documentation.
(Read only property)

### 5.26.13 gsaslVersion as String

Plugin Version: 21.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The version string of the GNU SASL Library version.
**Notes:** (Read only property)

### 5.26.14 Host as String

Plugin Version: 9.8, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** An ascii string showing what host information that this libCURL was built for.
**Notes:** As discovered by a configure script or set by the build environment.
e.g. "powerpc-apple-darwin8.0"
(Read only property)

### 5.26.15 hyperVersion as String

Plugin Version: 21.1, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Human readable string.
**Notes:** (Read only property)

### 5.26.16 iconvVersionNumber as Integer

Plugin Version: 18.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Version number of iconv library.
**Notes:** (Read only property)

### 5.26.17 libidnVersion as String

Plugin Version: 18.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Version of LibIDN used.
**Example:**

```
Var version As New CURLSVersionMBS
MessageBox "libIDN Version: " + version.libidnVersion
```

**Notes:** Empty if library is not used in the CURL library you use.

(Read only property)

### 5.26.18 libsshVersion as String

Plugin Version: 18.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Version of LibSSH2 used.
**Example:**

```
Var version As New CURLSVersionMBS
MessageBox "LibSSH Version: " + version.libsshVersion
```

**Notes:** Empty if library is not used in the CURL library you use.
(Read only property)

### 5.26.19 LibZVersion as String

Plugin Version: 9.8, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** An ascii string (there is no numerical version).
**Example:**

```
Var version As New CURLSVersionMBS
MessageBox "LibZ Version: " + version.LibZVersion
```

**Notes:** If libCURL has no libz support, this is "".
e.g. "1.2.3"
(Read only property)

### 5.26.20 nghttp2Version as String

Plugin Version: 19.4, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The version string for nghttp2 library.
**Notes:** (Read only property)

### 5.26.21 nghttp2VersionNumber as Integer

Plugin Version: 19.4, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The version number for nghttp2.
**Notes:** Numeric nghttp2 version: (MAJOR * 65536) + (MINOR * 256) + PATCH
(Read only property)

### 5.26.22 ProtocolCount as Integer

Plugin Version: 9.8, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The number of entries in the Protocol array.
**Notes:** (Read only property)

### 5.26.23 quicVersion as String

Plugin Version: 19.4, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The version of quic version.
**Notes:** human readable quic (+ HTTP/3) library version.
(Read only property)

### 5.26.24 SSLVersion as String

Plugin Version: 9.8, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** An ascii string for the OpenSSL version used.
**Example:**

```
Var version As New CURLSVersionMBS
MessageBox "SSL Version: " + version.SSLVersion
```

**Notes:** If libCURL has no SSL support, this is "".
e.g. " OpenSSL/0.9.7l"
(Read only property)

### 5.26.25 SupportsASYNCHDNS as Boolean

Plugin Version: 9.8, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Whether libCURL was built with support for asynchronous name lookups, which allows more exact timeouts (even on Windows) and less blocking when using the multi interface.
**Notes:** (added in 7.10.7)

(Read only property)

### 5.26.26 SupportsBrotli as Boolean

Plugin Version: 18.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Brotli features are present.
**Notes:** (Read only property)

### 5.26.27 SupportsConv as Boolean

Plugin Version: 18.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Character conversions supported.
**Notes:** (Read only property)

### 5.26.28 SupportsGSSAPI as Boolean

Plugin Version: 18.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Built against a GSS-API library.
**Notes:** (Read only property)

### 5.26.29 SupportsGSSNEGOTIATE as Boolean

Plugin Version: 9.8, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Whether libCURL supports HTTP GSS-Negotiate
**Notes:** (added in 7.10.6)
(Read only property)

### 5.26.30 SupportsHTTP2 as Boolean

Plugin Version: 15.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Whether currently used CURL library supports HTTP2.
**Example:**

```
Var c as new CURLSMBS
Var v as CURLSVersionMBS = c.version
```

```
if v.SupportsHTTP2 then
MessageBox "HTTP2 is supported"
else
MessageBox "HTTP2 is not supported"
end if
```

**Notes:** While our CURL Plugin with CURLSMBS plugin may not support this currently, you could use LoadLibrary function to load a CURL library supporting it.
(Read only property)

### 5.26.31 SupportsHTTP3 as Boolean

Plugin Version: 19.4, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Whether HTTP3 features are present.
**Example:**

```
Var version As New CURLSVersionMBS
MessageBox "Supports HTTP/3: " + version.SupportsHTTP3.ToString
```

**Notes:** (Read only property)

### 5.26.32 SupportsHTTPSProxy as Boolean

Plugin Version: 18.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** HTTPS-proxy support built-in.
**Notes:** (Read only property)

### 5.26.33 SupportsIDN as Boolean

Plugin Version: 9.8, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Whether libCURL was built with support for IDNA, domain names with international letters.
**Example:**

```
Var version As New CURLSVersionMBS
MessageBox "Supports IDN: " + version.SupportsIDN.ToString
```

**Notes:** (Added in 7.12.0)
(Read only property)

### 5.26.34 SupportsIPV6 as Boolean

Plugin Version: 9.8, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Whether libCURL supports IPv6
**Example:**

```
Var version As New CURLSVersionMBS
MessageBox "Supports IPv6: " + version.SupportsIPV6.ToString
```

**Notes:** (Read only property)

### 5.26.35 SupportsKERBEROS4 as Boolean

Plugin Version: 9.8, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Whether libCURL supports kerberos4 (when using FTP).
**Notes:** (Read only property)

### 5.26.36 SupportsKerberos5 as Boolean

Plugin Version: 18.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Kerberos V5 auth is supported.
**Notes:** (Read only property)

### 5.26.37 SupportsLARGEFILE as Boolean

Plugin Version: 9.8, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Whether libCURL was built with support for large files.
**Example:**

```
Var version As New CURLSVersionMBS
MessageBox "Supports large file: " + version.SupportsLARGEFILE.ToString
```

**Notes:** (Added in 7.11.1)
(Read only property)

### 5.26.38 SupportsLIBZ as Boolean

Plugin Version: 9.8, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Whether libCURL supports HTTP deflate using libz
**Example:**

```
Var version As New CURLSVersionMBS
MessageBox "Supports libz: " + version.SupportsLIBZ.ToString
```

**Notes:** (Added in 7.10)
(Read only property)

### 5.26.39 SupportsMultiSSL as Boolean

Plugin Version: 18.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Multiple SSL backends available.
**Example:**

```
Var version As New CURLSVersionMBS
MessageBox "Supports MultiSSL: " + version.SupportsMultiSSL.ToString
```

**Notes:** (Read only property)

### 5.26.40 SupportsNTLM as Boolean

Plugin Version: 9.8, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Whether libCURL supports HTTP NTLM
**Example:**

```
Var c as new CURLSMBS
Var v as CURLSVersionMBS = c.Version

MessageBox "SupportsNTLM: "+str(v.SupportsNTLM)
```

**Notes:** (added in 7.10.6)
(Read only property)

### 5.26.41 SupportsNTLMWB as Boolean

Plugin Version: 18.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** NTLM delegation to winbind helper is supported.
**Notes:** (Read only property)

### 5.26.42 SupportsPSL as Boolean

Plugin Version: 18.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Mozilla's Public Suffix List, used for cookie domain verification.
**Notes:** (Read only property)

### 5.26.43 SupportsSPNEGO as Boolean

Plugin Version: 9.8, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Whether libCURL was built with support for SPNEGO authentication
**Notes:** (Simple and Protected GSS-API Negotiation Mechanism, defined in RFC 2478.) (added in 7.10.8)
(Read only property)

### 5.26.44 SupportsSSL as Boolean

Plugin Version: 9.8, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Whether libCURL supports SSL (HTTPS/FTPS)
**Notes:** (Added in 7.10)
(Read only property)

### 5.26.45 SupportsSSPI as Boolean

Plugin Version: 9.8, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Whether libCURL was built with support for SSPI.
**Notes:** This is only available on Windows and makes libCURL use Windows-provided functions for NTLM authentication. It also allows libCURL to use the current user and the current user's password without the app having to pass them on. (Added in 7.13.2)
(Read only property)

### 5.26.46 SupportsTLSAUTHSRP as Boolean

Plugin Version: 18.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** TLS-SRP auth is supported.
**Notes:** (Read only property)

### 5.26.47 SupportsUnicode as Boolean

Plugin Version: 20.4, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Whether unicode for Windows is enabled.
**Notes:** libcurl was built with Unicode support on Windows. This makes non-ASCII characters work in filenames and options passed to libcurl. (Added in 7.72.0)
(Read only property)

### 5.26.48 SupportsUnixSockets as Boolean

Plugin Version: 18.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Unix domain sockets support.
**Notes:** (Read only property)

### 5.26.49 SupportsZSTD as Boolean

Plugin Version: 20.4, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Supports HTTP zstd content encoding using zstd library.
**Notes:** Added in CURL 7.72.0
(Read only property)

### 5.26.50 Version as String

Plugin Version: 9.8, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** An ascii string for the libCURL version.
**Example:**

```
Var version As New CURLSVersionMBS
MessageBox "Version: " + version.Version
```

**Notes:** e.g. "7.13.1"
(Read only property)

### 5.26.51 VersionNumber as Integer

Plugin Version: 9.8, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The version of libCURL as number.
**Notes:** a 24 bit number created like this:
<8 bits major number>| <8 bits minor number>| <8 bits patch number>.
Version 7.9.8 is therefore returned as 0x070908.
(Read only property)

### 5.26.52 zstdVersion as String

Plugin Version: 20.4, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Human readable string version for zstd library.
**Notes:** (Read only property)

### 5.26.53 zstdVersionNumber as Integer

Plugin Version: 20.4, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Numeric Zstd version.
**Notes:** Major 8 bits, minor 12 bits, Patch 12 bits.
(Read only property)

## 5.27 class CURLSWebSocketFrameMBS

### 5.27.1 class CURLSWebSocketFrameMBS

Plugin Version: 23.0, Platforms: macOS, Linux, Windows, iOS, Targets: All.

**Function:** The class for a WebSocket frame.
**Example:**

```
// connect to a WebSocket server with CURL, send a text and read the answer
Var curl As New CURLSMBS
curl.OptionURL = "wss://echo.websocket.org"
curl.OptionConnectOnly = 2 // keep the connection for WebSocketSend/WebSocketReceive
Var result As Integer = curl.Perform
If result <>0 Then
MessageBox "Connect failed: " + result.ToString
Return
End If

Var message As MemoryBlock = "Hello"
Call curl.WebSocketSend(message, 0, CURLSWebSocketFrameMBS.kFlagText)

For i As Integer = 1 To 50 // poll a few times for the answer
Var frame As CURLSWebSocketFrameMBS = curl.WebSocketReceive
If frame <>Nil And frame.FlagText Then
MessageBox "Received: " + frame.Text
Exit
End If
Next
```

**Notes:** Var curl as CURLSMBS // your curl handle

Var m as CURLSWebSocketFrameMBS = curl.WebSocketReceive

if m <>nil then
TextAreaLog.AddText "Received: "+m.Text
end if
**Blog Entries**

- News from the MBS Xojo Plugins in Version 23.0
- MonkeyBread Software Releases the MBS Xojo Plugins in version 23.0
- MBS Xojo Plugins, version 22.6pr3

### 5.27.2 Properties

### 5.27.3 BytesLeft as Int64

Plugin Version: 23.0, Platforms: macOS, Linux, Windows, iOS, Targets: All.

**Function:** Number of pending bytes left of the payload.
**Notes:** (Read only property)

### 5.27.4 BytesReceived as Int64

Plugin Version: 23.0, Platforms: macOS, Linux, Windows, iOS, Targets: All.

**Function:** The number of bytes received.
**Notes:** (Read only property)

### 5.27.5 Data as MemoryBlock

Plugin Version: 23.0, Platforms: macOS, Linux, Windows, iOS, Targets: All.

**Function:** The data read.
**Notes:** (Read only property)

### 5.27.6 FlagBinary as Boolean

Plugin Version: 23.0, Platforms: macOS, Linux, Windows, iOS, Targets: All.

**Function:** This is binary data.
**Notes:** (Read only property)

### 5.27.7 FlagClose as Boolean

Plugin Version: 23.0, Platforms: macOS, Linux, Windows, iOS, Targets: All.

**Function:** Close this transfer.
**Notes:** (Read only property)

### 5.27.8 FlagContinue as Boolean

Plugin Version: 23.0, Platforms: macOS, Linux, Windows, iOS, Targets: All.

**Function:** This is not the final fragment of the message, which implies that there will be another fragment coming as part of the same message where this bit is not set.
**Notes:** (Read only property)

### 5.27.9 FlagOffset as Boolean

Plugin Version: 23.0, Platforms: macOS, Linux, Windows, iOS, Targets: All.

**Function:** This is a partial fragment.
**Notes:** The provided data is only a partial fragment and there will be more in a following call to WebSocketSend(). When sending only a piece of the fragment like this, the fragsize must be provided with the total expected fragment size in the first call and it needs to be zero in subsequent calls.
(Read only property)

### 5.27.10 FlagPing as Boolean

Plugin Version: 23.0, Platforms: macOS, Linux, Windows, iOS, Targets: All.

**Function:** This as a ping.
**Notes:** (Read only property)

### 5.27.11 FlagPong as Boolean

Plugin Version: 23.0, Platforms: macOS, Linux, Windows, iOS, Targets: All.

**Function:** This is a pong.
**Notes:** (Read only property)

### 5.27.12 Flags as Integer

Plugin Version: 23.0, Platforms: macOS, Linux, Windows, iOS, Targets: All.

**Function:** Flags for this packet.
**Notes:** See kFlag* contants.
(Read only property)

### 5.27.13 FlagText as Boolean

Plugin Version: 23.0, Platforms: macOS, Linux, Windows, iOS, Targets: All.

**Function:** The buffer contains text data.
**Notes:** Note that this makes a difference to WebSocket but CURL itself will not make any verification of the content or precautions that you actually send valid UTF-8 content.
(Read only property)

### 5.27.14 Offset as Int64

Plugin Version: 23.0, Platforms: macOS, Linux, Windows, iOS, Targets: All.

**Function:** The offset of this data into the frame.
**Notes:** (Read only property)

### 5.27.15 Text as String

Plugin Version: 23.0, Platforms: macOS, Linux, Windows, iOS, Targets: All.

**Function:** The data read as text.
**Notes:** If this is not a binary transfer, we put the text here.
(Read only property)

### 5.27.16 Constants

Flags

| Constant | Value | Description |
|---|---|---|
| kFlagBinary | 2 | This is binary data. |
| kFlagClose | 8 | Close this transfer. |
| kFlagContinue | 4 | This is not the final fragment of the message, which implies that there will be another fragment coming as part of the same message where this bit is not set. |
| kFlagOffset | 32 | This is a partial fragment.<br>The provided data is only a partial fragment and there will be more in a following call to WebSocketSend(). When sending only a piece of the fragment like this, the fragsize must be provided with the total expected fragment size in the first call and it needs to be zero in subsequent calls. |
| kFlagPing | 16 | This as a ping. |
| kFlagPong | 64 | This is a pong. |
| kFlagText | 1 | The buffer contains text data.<br>Note that this makes a difference to WebSocket but CURL itself will not make any verification of the content or precautions that you actually send valid UTF-8 content. |

# 5.28 class CURLURLMBS

## 5.28.1 class CURLURLMBS

Plugin Version: 18.5, Platforms: macOS, Linux, Windows, iOS, Targets: All.

**Deprecated:** This item is deprecated and should no longer be used. You can use CURLSURLMBS instead.
**Function:** The class for CURL's URL parser.
**Notes:** Subclass of the CURLSURLMBS class.

# 5.29 class CURLVersionMBS

## 5.29.1 class CURLVersionMBS

Plugin Version: 9.8, Platforms: macOS, Linux, Windows, iOS, Targets: All.

**Deprecated:** This item is deprecated and should no longer be used. You can use CURLSVersionMBS instead. **Function:** A class to hold version information from libCURL.
**Notes:** Subclass of the CURLSVersionMBS class.
**Blog Entries**

- News from the MBS Xojo Plugins in Version 23.0
- News from the MBS Xojo Plugins Version 21.1

# 5.30 class CURLWebSocketFrameMBS

## 5.30.1 class CURLWebSocketFrameMBS

Plugin Version: 23.0, Platforms: macOS, Linux, Windows, iOS, Targets: All.

**Deprecated:** This item is deprecated and should no longer be used. You can use CURLSWebSocketFrameMBS instead. **Function:** The class for a WebSocket frame.
**Notes:** Subclass of the CURLSWebSocketFrameMBS class.
**Blog Entries**

- News from the MBS Xojo Plugins in Version 23.0

## 5.31 Globals

### 5.31.1 FileExtensionToMimeTypeMBS(FileExtension as String) as string

Plugin Version: 15.4, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Finds a mime type for a file extension.
**Example:**

```
Var FileExtension as string = MimeTypeToFileExtensionMBS("application/pdf")
Var MimeType as string = FileExtensionToMimeTypeMBS("pdf")
Break
```

**Notes:** Please report any missing mime type in our lookup table, so we can add more.
See also MimeTypeToFileExtensionMBS.
Returns empty string if not found.
**Blog Entries**

- MBS Xojo Plugins, version 19.4pr2
- MBS Xojo / Real Studio Plugins, version 15.4pr1

### 5.31.2 MimeTypeToFileExtensionMBS(MimeType as String) as string

Plugin Version: 15.4, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Returns file extension for given mime type.
**Example:**

```
Var FileExtension as string = MimeTypeToFileExtensionMBS("application/pdf")
Var MimeType as string = FileExtensionToMimeTypeMBS("pdf")
Break
```

**Notes:** Extension is returned with dot prefix.
Please report any missing file extensions in our lookup table, so we can add more.
See also FileExtensionToMimeTypeMBS.
Returns empty string if not found.
**Blog Entries**

- MBS Xojo Plugins, version 19.4pr2
- MBS Xojo / Real Studio Plugins, version 15.4pr1

**Xojo Developer Magazine**

- 22.1, page 80: Parse your Mails in Xojo, Using EmailParser by Stefanie Juchmes

# Chapter 6

# EmailParser

## 6.1 class MimeAddressListMBS

### 6.1.1 class MimeAddressListMBS

Plugin Version: 15.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The class for a list of addresses.
**Example:**

```
// parse the recipients of an email header
Var list As New MimeAddressListMBS("John Smith <john@example.com>, Team: anna@example.com,
bert@example.com;")
Var lines() As String
For Each a As MimeAddressMBS In list.Addresses
If a.isGroup Then
lines.Add "Group: " + a.StringValue
Else
lines.Add a.Mailbox.LabelDecoded + " <" + a.Mailbox.Email + ">"
End If
Next
MessageBox list.Count.ToString + " addresses" + EndOfLine + String.FromArray(lines, EndOfLine)
```

**Xojo Developer Magazine**


- 22.1, page 80: Parse your Mails in Xojo, Using EmailParser by Stefanie Juchmes

### 6.1.2 Methods

### 6.1.3 Addresses as MimeAddressMBS()

Plugin Version: 15.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The array of addresses.
See also:

- 6.1.4 Addresses(index as Integer) as MimeAddressMBS 330

### 6.1.4 Addresses(index as Integer) as MimeAddressMBS

Plugin Version: 15.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Queries address by index.
**Notes:** Index is zero based.
See also:

- 6.1.3 Addresses as MimeAddressMBS() 330

### 6.1.5 Constructor(TextToParse as String)

Plugin Version: 15.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Parses a text with addresses.

### 6.1.6 Properties

### 6.1.7 AddressesVariant as Variant

Plugin Version: 15.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The array of addresses.
**Notes:** This property is only to see array in debugger.
(Read only property)

### 6.1.8 Count as Integer

Plugin Version: 15.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The number of addresses in this list.
**Notes:** (Read only property)

### 6.1.9 StringValue as String

Plugin Version: 15.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The address list as a string.
**Notes:** (Read only property)

## 6.2 class MimeAddressMBS

### 6.2.1 class MimeAddressMBS

Plugin Version: 15.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The class for an address which can be an email or a group.
**Xojo Developer Magazine**

- 22.1, page 80: Parse your Mails in Xojo, Using EmailParser by Stefanie Juchmes

### 6.2.2 Methods

### 6.2.3 Constructor(TextToParse as String)

Plugin Version: 15.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Parses an address from text.
**Example:**

```
Var m as new MimeAddressMBS("=?utf-8?Q?M=C3=BCller?= <zivi@mac.com>")
MessageBox m.Mailbox.LabelDecoded
```

### 6.2.4 Properties

### 6.2.5 Group as MimeGroupMBS

Plugin Version: 15.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The group for this address.
**Notes:** (Read only property)

### 6.2.6 isGroup as Boolean

Plugin Version: 15.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Whether this address is a group.
**Notes:** (Read only property)

### 6.2.7 Mailbox as MimeMailboxMBS

Plugin Version: 15.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The mailbox for this address.
**Notes:** (Read only property)

### 6.2.8 StringValue as String

Plugin Version: 15.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The address as a string.
**Notes:** (Read only property)

## 6.3 class MimeAttachmentMBS

### 6.3.1 class MimeAttachmentMBS

Plugin Version: 15.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The class for an attachment.
**Example:**

```
// save all attachments of an email file to a folder
Var mail As New MimeEmailMBS(SpecialFolder.Desktop.Child("mail.eml"))
Var folder As FolderItem = SpecialFolder.Desktop.Child("Attachments")
If Not folder.Exists Then folder.CreateFolder

For Each a As MimeAttachmentMBS In mail.Attachments
If a.Filename = "" Then Continue
Var stream As BinaryStream = BinaryStream.Create(folder.Child(a.Filename), True)
stream.Write a.Data
stream.Close
System.DebugLog "Saved " + a.Filename + " (" + a.MimeType + ", " + a.Data.Bytes.ToString + " bytes)"
Next
```

**Notes:** This is an abstract class. You can't create an instance, but you can get one from various plugin functions.
**Blog Entries**

- XDevMag: Parse your Mails in Xojo
- MBS Xojo Plugins, version 22.6pr3

**Xojo Developer Magazine**

- 22.1, page 80: Parse your Mails in Xojo, Using EmailParser by Stefanie Juchmes
- 22.1, page 78: Parse your Mails in Xojo, Using EmailParser by Stefanie Juchmes

### 6.3.2 Methods

### 6.3.3 Constructor

Plugin Version: 15.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The private constructor.

### 6.3.4 Properties

### 6.3.5 Body as MimeBodyMBS

Plugin Version: 15.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The reference to the body of this attachment.
**Notes:** The StringValue of the body has the attachment's encoded data.
(Read only property)

### 6.3.6 ContentDescription as String

Plugin Version: 15.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The content description.
**Notes:** (Read only property)

### 6.3.7 ContentDisposition as String

Plugin Version: 15.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The content disposition.
**Notes:** e.g. inline; filename="agb.pdf"
(Read only property)

### 6.3.8 contentId as String

Plugin Version: 15.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The content ID for inline graphics.
**Notes:** e.g. c1441531740.48804.1@MacbookPro-Christian.local
(Read only property)

### 6.3.9 ContentTransferEncoding as String

Plugin Version: 15.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The content transfer encoding.
**Notes:** e.g. base64
(Read only property)

### 6.3.10 ContentType as String

Plugin Version: 15.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The content type.
**Notes:** e.g. text/plain, charset=utf-8 or application/pdf; name="agb.pdf"
(Read only property)

### 6.3.11 Data as String

Plugin Version: 15.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The data for this attachment.
**Notes:** Decoded for your convenience.
(Read only property)

### 6.3.12 Filename as String

Plugin Version: 15.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The filename for this attachment.
**Notes:** The class pulls this from various header fields and decodes it if necessary.
The file name may contain invalid characters for your platform.
Like double colons for OS X or backslash for Windows.
(Read only property)

### 6.3.13 Header as MimeHeaderMBS

Plugin Version: 15.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The header details for this attachment.
**Notes:** (Read only property)

### 6.3.14 MimeType as String

Plugin Version: 15.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The mime type of the attachment.
**Notes:** e.g. "application/pdf" for a PDF file
See also MimeTypeToFileExtensionMBS function.
(Read only property)

### 6.3.15 MimeVersion as String

Plugin Version: 15.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The mime version of the attachment.
**Notes:** e.g. ”1.0”
(Read only property)

# 6.4 class MimeBodyMBS

## 6.4.1 class MimeBodyMBS

Plugin Version: 15.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The class for a body of a mime entity.
**Notes:** This is an abstract class. You can't create an instance, but you can get one from various plugin functions.

## 6.4.2 Methods

## 6.4.3 Constructor

Plugin Version: 15.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The private constructor.

## 6.4.4 Parts as MimeEntityMBS()

Plugin Version: 15.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The array of parts.
**Notes:** Mime Entities are organized often in a tree. The email is an entity and has sub entities for html, plain text and attachments.
See also:

- 6.4.5 Parts(index as Integer) as MimeEntityMBS 338

## 6.4.5 Parts(index as Integer) as MimeEntityMBS

Plugin Version: 15.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Queries part by index.
**Notes:** Index is zero based.
See also:

- 6.4.4 Parts as MimeEntityMBS() 338

### 6.4.6 Properties

### 6.4.7 epilogue as String

Plugin Version: 15.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The epilogue of the body.
**Notes:** (Read only property)

### 6.4.8 PartsVariant as Variant

Plugin Version: 15.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The array of parts.
**Notes:** Mime Entities are organized often in a tree. The email is an entity and has sub entities for html, plain text and attachments.
This property is only to see array in debugger.
(Read only property)

### 6.4.9 preamble as String

Plugin Version: 15.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The preamble of the body.
**Notes:** This is sometimes a message like: "This is a MIME encoded message."
(Read only property)

### 6.4.10 StringValue as String

Plugin Version: 15.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The string value of the body.
**Notes:** (Read only property)

## 6.5 class MimeEmailMBS

### 6.5.1 class MimeEmailMBS

Plugin Version: 15.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The class for an email.
**Example:**

```
// parse an email file and save its attachments
Var mail As New MimeEmailMBS(SpecialFolder.Desktop.Child("message.eml"))

Var lines() As String
lines.Add "Subject: " + mail.Subject
lines.Add "Text: " + mail.PlainText.Left(200)

For Each att As MimeAttachmentMBS In mail.Attachments
lines.Add "Attachment: " + att.Filename + " (" + att.MimeType + ", " + att.Data.Bytes.ToString + "
bytes)"

Var stream As BinaryStream = BinaryStream.Create(SpecialFolder.Desktop.Child(att.Filename), True)
stream.Write att.Data
stream.Close
Next

MessageBox String.FromArray(lines, EndOfLine)
```

**Notes:** Subclass of the MimeEntityMBS class.
**Blog Entries**

- News from the MBS Xojo Plugins in Version 25.1
- XDevMag: Parse your Mails in Xojo
- MBS Xojo Plugins, version 25.1pr1
- MBS Xojo Plugins, version 22.5pr3
- MBS Xojo Plugins, version 22.2pr4
- MBS Xojo Plugins, version 21.6pr3
- MonkeyBread Software Releases the MBS Xojo Plugins in version 21.0
- MBS Xojo Plugins, version 20.6pr1
- MBS Xojo Plugins, version 20.4pr7
- MBS Xojo / Real Studio plug-ins in version 15.4

**Xojo Developer Magazine**

- 22.1, page 77: Parse your Mails in Xojo, Using EmailParser by Stefanie Juchmes
- 19.2, page 10: News

### 6.5.2 Methods

### 6.5.3 Attachments as MimeAttachmentMBS()

Plugin Version: 15.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The array of attachments.
**Example:**

```
Var f as FolderItem = SpecialFolder.Desktop.Child("test.eml")
Var m as new MimeEmailMBS(f)

MessageBox str(m.Attachments.Count)+" attachments and "+str(m.Inlines.Count)+" inlines"

for each a as MimeAttachmentMBS in m.Inlines
MessageBox "Inline: " + a.Filename
next
```

See also:

- 6.5.4 Attachments(index as Integer) as MimeAttachmentMBS 341

### 6.5.4 Attachments(index as Integer) as MimeAttachmentMBS

Plugin Version: 15.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Queries attachment by index.
**Notes:** Index is zero based.
See also:

- 6.5.3 Attachments as MimeAttachmentMBS() 341

### 6.5.5 Constructor(Content as MemoryBlock)

Plugin Version: 15.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Parses an email from a memoryblock.
See also:

- 6.5.6 Constructor(Content as string) 342
- 6.5.7 Constructor(File as FolderItem) 342

### 6.5.6 Constructor(Content as string)

Plugin Version: 15.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Parses an email from a string.
**Example:**

```
Var f as FolderItem = SpecialFolder.Desktop.Child("test.eml")
Var b as BinaryStream = BinaryStream.Open(f)
Var s as string = b.Read(b.Length)
Var m as new MimeEmailMBS(s)

MessageBox m.Subject
```

**Notes:** This is to parse raw email text, e.g. eml file.
To parse emlx, open the text file and read the first line. The first line contains the length of the email. Then read the following number of bytes of that value and that is the eml content. Followed by a plist structure.
See also:

- 6.5.5 Constructor(Content as MemoryBlock) 341
- 6.5.7 Constructor(File as FolderItem) 342

### 6.5.7 Constructor(File as FolderItem)

Plugin Version: 15.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Parses an email from a text file.
**Example:**

```
Var f as FolderItem = SpecialFolder.Desktop.Child("test.eml")
Var m as new MimeEmailMBS(f)

MessageBox m.Subject
```

**Notes:** You can pass here an EML file.
See also:

- 6.5.5 Constructor(Content as MemoryBlock) 341
- 6.5.6 Constructor(Content as string) 342

### 6.5.8 DecodeInline(Text as String) as String

Plugin Version: 16.5, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Decodes a text with inline encoded text.
**Example:**

```
Var e,s as string

s = "=?UTF-8?B?WW91ciBBY2NvdW50IFNuYXBzaG90?="
e = MimeEmailMBS.DecodeInline(s)

MessageBox e
```

**Notes:** This is the function our plugin uses to decode names and subject in the email.
You don't need to use it unless you got subject/name encoded from somewhere else.

### 6.5.9 HTMLToPlainText(HTMLText as String) as String

Plugin Version: 15.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Converts html to plain text.
**Notes:** This is the function our plugin uses internally to fill PlainText field for html only email.
Removes HTML tags, decodes entities and adds returns where appropriated.

### 6.5.10 Inlines as MimeAttachmentMBS()

Plugin Version: 15.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The array of inline items.
**Example:**

```
Var f as FolderItem = SpecialFolder.Desktop.Child("test.eml")
Var m as new MimeEmailMBS(f)

MessageBox str(m.Attachments.Count)+" attachments and "+str(m.Inlines.Count)+" inlines"

for each a as MimeAttachmentMBS in m.Inlines
MessageBox "Inline: " + a.Filename
next
```

**Notes:** Inline items are like attachments, but shown in the email and normally referenced by ID from the html text.
See also:

- 6.5.11 Inlines(index as Integer) as MimeAttachmentMBS 344

### 6.5.11 Inlines(index as Integer) as MimeAttachmentMBS

Plugin Version: 15.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Queries inline by index.
**Notes:** Index is zero based.
See also:

- 6.5.10 Inlines as MimeAttachmentMBS() 343

### 6.5.12 SourceWithoutAttachments as String

Plugin Version: 25.1, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Returns the source of the email without attachments.
**Example:**

```
Var f As New FolderItem("/Users/cs/Desktop/test.eml", FolderItem.PathModes.Native)
Var m As New MimeEmailMBS(f)

// get original source and a variant without attachments.
Var s1 As String = m.Source
Var s2 As String = m.SourceWithoutAttachments

// normalize line endings for split
s1 = ReplaceLineEndings(s1, EndOfLine)
s2 = ReplaceLineEndings(s2, EndOfLine)

Var l1() As String = s1.Split(EndOfLine)
Var l2() As String = s2.Split(EndOfLine)

MessageBox _
"original "+s1.Bytes.ToString+" bytes and "+l1.Count.toString + " lines" + _
"without attachments "+s2.Bytes.ToString+" bytes and "+l2.Count.toString + " lines"

// without attachments, the number of bytes and lines should be much smaller.
```

**Notes:** The plugin passes the email, removes attachments and produces this source for you.
Can be useful to archive emails without attachments.

### 6.5.13 Properties

### 6.5.14 AttachmentsVariant as Variant

Plugin Version: 15.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The array of attachments.
**Notes:** This property is only to see array in debugger.
(Read only property)

### 6.5.15 Date as Date

Plugin Version: 15.4, Platforms: macOS, Linux, Windows, Targets: Desktop, Console & Web.

**Function:** Queries the sent date of the email.
**Notes:** Can be undefined and return nil.
The plugin looks in email headers for a Date: header and parses the date.
The returned date is normalized to current time zone.
(Read only property)

### 6.5.16 HTMLText as String

Plugin Version: 15.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The html text of the email.
**Example:**

```
Var f as FolderItem = SpecialFolder.Desktop.Child("test.eml")
Var m as new MimeEmailMBS(f)

MessageBox m.HTMLText
```

**Notes:** Decoded for your convenience.
You may want to use ReplaceLineEndings to make sure the line endings are what you need them to be.
(Read only property)

### 6.5.17 InlinesVariant as Variant

Plugin Version: 15.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The array of inline items.
**Notes:** Inline items are like attachments, but shown in the email and normally referenced by ID from the html text.
This property is only to see array in debugger.
(Read only property)

### 6.5.18 PlainText as String

Plugin Version: 15.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The plain text of the email.
**Example:**

```
Var f as FolderItem = SpecialFolder.Desktop.Child("test.eml")
Var m as new MimeEmailMBS(f)

MessageBox m.PlainText
```

**Notes:** Decoded for your convenience.
You may want to use ReplaceLineEndings to make sure the line endings are what you need them to be.
(Read only property)

### 6.5.19 RaiseUnknownFormatExceptions as Boolean

Plugin Version: 15.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Whether to raise an exception when plugin finds encoding in email which is not in list of known encodings.
**Notes:** Used to find unknown encodings.
(Read and Write property)

### 6.5.20 ReceivedDate as Date

Plugin Version: 16.4, Platforms: macOS, Linux, Windows, Targets: Desktop, Console & Web.

**Function:** Queries the receive date of the email.
**Notes:** Can be undefined and return nil.
The plugin looks in email headers for a Receive: header and parses the date.
The returned date is normalized to current time zone.
(Read only property)

### 6.5.21 Source as String

Plugin Version: 15.4, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The source code of the email parsed.
**Notes:** (Read only property)

### 6.5.22 Subject as String

Plugin Version: 15.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The decoded subject line of the email.
**Notes:** (Read only property)

## 6.6 class MimeEntityMBS

### 6.6.1 class MimeEntityMBS

Plugin Version: 15.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The class for a mime entity.
**Notes:** This is an abstract class. You can't create an instance, but you can get one from various plugin functions.

### 6.6.2 Methods

### 6.6.3 Constructor

Plugin Version: 15.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The private constructor.

### 6.6.4 Properties

### 6.6.5 Body as MimeBodyMBS

Plugin Version: 15.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The raw content of this entity.
**Notes:** This may be quoted printable, base64 or otherwise encoded.
(Read only property)

### 6.6.6 BodyDecoded as String

Plugin Version: 15.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The decoded body content.
**Notes:** (Read only property)

### 6.6.7 Header as MimeHeaderMBS

Plugin Version: 15.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The header for this entity.
**Notes:** The email itself has header, but each entity in the mime tree has also headers.
(Read only property)

## 6.7 class MimeFieldMBS

### 6.7.1 class MimeFieldMBS

Plugin Version: 15.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The class for a header field.

### 6.7.2 Methods

### 6.7.3 Constructor(TextToParse as String)

Plugin Version: 15.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Parses the text in a field.

### 6.7.4 Properties

### 6.7.5 Name as String

Plugin Version: 15.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The field name.
**Notes:** (Read only property)

### 6.7.6 Value as String

Plugin Version: 15.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The field value.
**Notes:** (Read only property)

# 6.8 class MimeGroupMBS

## 6.8.1 class MimeGroupMBS

Plugin Version: 15.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The class for an email group.
**Example:**

```
Var g as new MimeGroupMBS("clients:=?utf-8?Q?Josef=20M=C3=BCller?= <josef@test.test>, =?utf-8?Q?Peter=20M=C3=BCller?= <peter@test.test>;")

MessageBox g.NameDecoded+" "+str(g.Count)
MessageBox g.Mailboxes(0).LabelDecoded
MessageBox g.Mailboxes(1).LabelDecoded
```

## 6.8.2 Methods

## 6.8.3 Constructor(TextToParse as String)

Plugin Version: 15.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Parses a group.
**Example:**

```
Var g as new MimeGroupMBS("clients:=?utf-8?Q?Josef=20M=C3=BCller?= <josef@test.test>, =?utf-8?Q?Peter=20M=C3=BCller?= <peter@test.test>;")

MessageBox g.NameDecoded+" "+str(g.Count)
```

## 6.8.4 Mailboxes as MimeMailboxMBS()

Plugin Version: 15.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The array of mailboxes in this group.
See also:

- 6.8.5 Mailboxes(index as Integer) as MimeMailboxMBS 351

## 6.8.5 Mailboxes(index as Integer) as MimeMailboxMBS

Plugin Version: 15.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Queries a mailbox in the group.
**Example:**

```
Var g as new MimeGroupMBS("clients:=?utf-8?Q?Josef=20M=C3=BCller?= <josef@test.test>, =?utf-8?Q?Peter=20M=C3=BCller?= <peter@test.test>;")

MessageBox g.Mailboxes(0).LabelDecoded
MessageBox g.Mailboxes(1).LabelDecoded
```

See also:

- 6.8.4 Mailboxes as MimeMailboxMBS() 351

### 6.8.6 Properties

### 6.8.7 Count as Integer

Plugin Version: 15.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The number of emails in this group.
**Notes:** (Read only property)

### 6.8.8 MailboxesVariant as Variant

Plugin Version: 15.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The array of mailboxes in this group.
**Notes:** This property is only to see array in debugger.
(Read only property)

### 6.8.9 Name as String

Plugin Version: 15.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The name of the group.
**Notes:** The name property has the raw name while the NameDecoded property has the decoded version for displaying to user.
(Read only property)

### 6.8.10 NameDecoded as String

Plugin Version: 15.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The name of the group.
**Notes:** The name property has the raw name while the NameDecoded property has the decoded version for displaying to user.
(Read only property)

### 6.8.11 StringValue as String

Plugin Version: 15.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The group as a string.
**Notes:** (Read only property)

## 6.9 class MimeHeaderMBS

### 6.9.1 class MimeHeaderMBS

Plugin Version: 15.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The class for headers of a mime entity.
**Example:**

```
// read an email file and show content type and size of each attachment
Var mail As New MimeEmailMBS(SpecialFolder.Desktop.Child("mail.eml"))
Var lines() As String
lines.Add "Subject: " + mail.Subject

For Each a As MimeAttachmentMBS In mail.Attachments
Var h As MimeHeaderMBS = a.Header
lines.Add a.Filename + ": " + h.ContentType + ", " + h.ContentTransferEncoding + ", " + h.ContentDis-
position
Next
MessageBox String.FromArray(lines, EndOfLine)
```

**Notes:** This is an abstract class. You can't create an instance, but you can get one from various plugin functions.
**Blog Entries**

- XDevMag: Parse your Mails in Xojo
- MBS Xojo Plugins, version 24.6pr1

**Xojo Developer Magazine**

- 22.1, page 80: Parse your Mails in Xojo, Using EmailParser by Stefanie Juchmes

### 6.9.2 Methods

### 6.9.3 Constructor

Plugin Version: 15.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The private constructor.

### 6.9.4 FieldByName(name as string) as MimeFieldMBS

Plugin Version: 15.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Finds a field by name.
**Example:**

```
Var f as FolderItem = SpecialFolder.Desktop.Child("test.eml")
Var m as new MimeEmailMBS(f)

Var h as MimeHeaderMBS = m.Header
MessageBox h.FieldByName("Date").Value
```

**Notes:** e.g. "Sat, 5 Sep 2015 23:52:13 +0200" for the date field.

### 6.9.5 Fields as MimeFieldMBS()

Plugin Version: 15.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The array of fields in this header.
See also:

- 6.9.6 Fields(index as Integer) as MimeFieldMBS 355

### 6.9.6 Fields(index as Integer) as MimeFieldMBS

Plugin Version: 15.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Queries field by index.
**Notes:** Index is zero based.
See also:

- 6.9.5 Fields as MimeFieldMBS() 355

### 6.9.7 hasField(name as string) as boolean

Plugin Version: 15.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Whether a certain field exists.
**Example:**

```
Var f as FolderItem = SpecialFolder.Desktop.Child("test.eml")
Var m as new MimeEmailMBS(f)

Var h as MimeHeaderMBS = m.Header
if h.hasField("Date") then
MessageBox "Has date: "+h.FieldByName("Date").Value
end if
```

### 6.9.8 Properties

### 6.9.9 bcc as MimeAddressListMBS

Plugin Version: 15.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The BCC address list.
**Example:**

```
Var f as FolderItem = SpecialFolder.Desktop.Child("test.eml")
Var m as new MimeEmailMBS(f)

Var h as MimeHeaderMBS = m.Header
// get BCC
Var l as MimeAddressListMBS = h.BCC
// get addresses
Var a() as MimeAddressMBS = l.Addresses
// get first one
Var b as MimeAddressMBS = a(0)
// assume it's an email and get it
Var x as MimeMailboxMBS = b.Mailbox
// and show to user with name and email
MessageBox x.LabelDecoded+" "+x.Email
```

**Notes:** (Read only property)

### 6.9.10 cc as MimeAddressListMBS

Plugin Version: 15.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The CC address list.
**Example:**

```
Var f as FolderItem = SpecialFolder.Desktop.Child("test.eml")
Var m as new MimeEmailMBS(f)

Var h as MimeHeaderMBS = m.Header
// get CC
Var l as MimeAddressListMBS = h.CC
// get addresses
Var a() as MimeAddressMBS = l.Addresses
// get first one
Var b as MimeAddressMBS = a(0)
// assume it's an email and get it
Var x as MimeMailboxMBS = b.Mailbox
// and show to user with name and email
```

MessageBox x.LabelDecoded+" "+x.Email

**Notes:** (Read only property)

### 6.9.11 ContentDescription as String

Plugin Version: 15.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The content description.
**Notes:** (Read only property)

### 6.9.12 ContentDisposition as String

Plugin Version: 15.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The content disposition.
**Notes:** (Read only property)

### 6.9.13 contentId as String

Plugin Version: 15.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The content ID for an inline graphic.
**Example:**

```
Var f as FolderItem = SpecialFolder.Desktop.Child("test.eml")
Var m as new MimeEmailMBS(f)

Var h as MimeHeaderMBS = m.Header
MessageBox h.contentId
```

**Notes:** (Read only property)

### 6.9.14 ContentTransferEncoding as String

Plugin Version: 15.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The content transfer encoding.
**Notes:** e.g. base64
(Read only property)

### 6.9.15 ContentTransferEncodingMechanism as String

Plugin Version: 15.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The content transfer encoding mechanism.
**Notes:** base64
(Read only property)

### 6.9.16 ContentType as String

Plugin Version: 15.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The content type.
**Notes:** e.g. "multipart/alternative; boundary="Apple-Mail=_F9738882-571C-4469-8349-574115CE32F4""
(Read only property)

### 6.9.17 from as MimeMailboxListMBS

Plugin Version: 15.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The from address list.
**Example:**

```
Var f as FolderItem = SpecialFolder.Desktop.Child("test.eml")
Var m as new MimeEmailMBS(f)

Var h as MimeHeaderMBS = m.Header
// get from
Var l as MimeMailboxListMBS = h.from
// get mailboxes
Var a() as MimeMailboxMBS = l.Mailboxes
// get first one
Var b as MimeMailboxMBS = a(0)
// and show to user with name and email
MessageBox b.LabelDecoded+" "+b.Email
```

**Notes:** (Read only property)

### 6.9.18 messageid as String

Plugin Version: 15.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The message ID for this email.
**Example:**

```
Var f as FolderItem = SpecialFolder.Desktop.Child("test.eml")
Var m as new MimeEmailMBS(f)

Var h as MimeHeaderMBS = m.Header
MessageBox h.messageid
```

**Notes:** e.g. "<599782DA-09A0-4461-8474-2BE9F3197CAF@macsw.de>"
(Read only property)

### 6.9.19 MimeVersion as String

Plugin Version: 15.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The mime version.
**Example:**

```
Var f as FolderItem = SpecialFolder.Desktop.Child("test.eml")
Var m as new MimeEmailMBS(f)

Var h as MimeHeaderMBS = m.Header
MessageBox h.MimeVersion
```

**Notes:** e.g. "1.0"
(Read only property)

### 6.9.20 replyto as MimeAddressListMBS

Plugin Version: 15.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The replyto address field.
**Example:**

```
Var f as FolderItem = SpecialFolder.Desktop.Child("test.eml")
Var m as new MimeEmailMBS(f)

Var h as MimeHeaderMBS = m.Header
// get replyto
Var l as MimeAddressListMBS = h.replyto
// get addresses
Var a() as MimeAddressMBS = l.Addresses
// get first one
Var b as MimeAddressMBS = a(0)
```

```
// assume it's an email and get it
Var x as MimeMailboxMBS = b.Mailbox
// and show to user with name and email
MessageBox x.LabelDecoded+" "+x.Email
```

**Notes:** (Read only property)

### 6.9.21 sender as MimeMailboxMBS

Plugin Version: 15.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The sender of the email.
**Example:**

```
Var f as FolderItem = SpecialFolder.Desktop.Child("test.eml")
Var m as new MimeEmailMBS(f)

Var h as MimeHeaderMBS = m.Header
Var b as MimeMailboxMBS = h.sender
MessageBox b.Email
```

**Notes:** May be different from "from" field.
(Read only property)

### 6.9.22 subject as String

Plugin Version: 15.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The original subject line.
**Example:**

```
Var f as FolderItem = SpecialFolder.Desktop.Child("test.eml")
Var m as new MimeEmailMBS(f)

Var h as MimeHeaderMBS = m.Header
MessageBox h.subject
```

**Notes:** The subject property has the original subject line while the plugin provides the decoded subjected line in the subjectDecoded for display to user.
(Read only property)

### 6.9.23 subjectDecoded as String

Plugin Version: 15.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The decoded subject line.
**Example:**

```
Var f as FolderItem = SpecialFolder.Desktop.Child("test.eml")
Var m as new MimeEmailMBS(f)

Var h as MimeHeaderMBS = m.Header
MessageBox h.subjectDecoded
```

**Notes:** The subject property has the original subject line while the plugin provides the decoded subjected line in the subjectDecoded for display to user.
(Read only property)

### 6.9.24 too as MimeAddressListMBS

Plugin Version: 15.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The TO receivers.
**Example:**

```
Var f as FolderItem = SpecialFolder.Desktop.Child("test.eml")
Var m as new MimeEmailMBS(f)

Var h as MimeHeaderMBS = m.Header
// get to
Var l as MimeAddressListMBS = h.too
// get addresses
Var a() as MimeAddressMBS = l.Addresses
// get first one
Var b as MimeAddressMBS = a(0)
// assume it's an email and get it
Var x as MimeMailboxMBS = b.Mailbox
// and show to user with name and email
MessageBox x.LabelDecoded+" "+x.Email
```

**Notes:** Named "too" in this class as "to" is a reserved word.
(Read only property)

## 6.10 class MimeMailboxListMBS

### 6.10.1 class MimeMailboxListMBS

Plugin Version: 15.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The class for a list of mailboxes.
**Example:**

```
// split a list of mailboxes into name and email address
Var list As New MimeMailboxListMBS("""Smith, John"" <john@example.com>, anna@example.org")
Var lines() As String
For Each m As MimeMailboxMBS In list.Mailboxes
lines.Add "Name: " + m.LabelDecoded + ", mailbox: " + m.Mailbox + ", domain: " + m.Domain
Next
MessageBox String.FromArray(lines, EndOfLine)
```

**Xojo Developer Magazine**

- 22.1, page 80: Parse your Mails in Xojo, Using EmailParser by Stefanie Juchmes

### 6.10.2 Methods

### 6.10.3 Constructor(TextToParse as String)

Plugin Version: 15.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Parses a list of mailboxes.
**Example:**

```
Var m as new MimeMailboxListMBS("=?utf-8?Q?M=C3=BCller?= <test@test.com>")
MessageBox str(m.Count)
```

### 6.10.4 Mailboxes as MimeMailboxMBS()

Plugin Version: 15.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The array of mailboxes.
See also:

- 6.10.5 Mailboxes(index as Integer) as MimeMailboxMBS

### 6.10.5 Mailboxes(index as Integer) as MimeMailboxMBS

Plugin Version: 15.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Queries mailbox by index.
**Notes:** Index is zero based.
See also:

- 6.10.4 Mailboxes as MimeMailboxMBS() 362

### 6.10.6 Properties

### 6.10.7 Count as Integer

Plugin Version: 15.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Queries number of mailboxes in list.
**Example:**

```
Var m as new MimeMailboxListMBS("=?utf-8?Q?M=C3=BCller?= <test@test.com>")
MessageBox str(m.Count)
```

**Notes:** (Read only property)

### 6.10.8 MailboxesVariant as Variant

Plugin Version: 15.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The array of mailboxes.
**Notes:** This property is only to see array in debugger.
(Read only property)

### 6.10.9 StringValue as String

Plugin Version: 15.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The content of this list as a string.
**Notes:** (Read only property)

## 6.11 class MimeMailboxMBS

### 6.11.1 class MimeMailboxMBS

Plugin Version: 15.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The class for an email address.
**Example:**

```
Var m as new MimeMailboxMBS("=?utf-8?Q?M=C3=BCller?= <zivi@mac.com>")
MessageBox m.LabelDecoded+" "+m.Email
```

### 6.11.2 Methods

### 6.11.3 Constructor(TextToParse as String)

Plugin Version: 15.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Parses an email address.
**Example:**

```
Var m as new MimeMailboxMBS("=?utf-8?Q?M=C3=BCller?= <zivi@mac.com>")
MessageBox m.LabelDecoded+" "+m.Email
```

### 6.11.4 Properties

### 6.11.5 Domain as String

Plugin Version: 15.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The domain name of the email address.
**Notes:** (Read only property)

### 6.11.6 Email as String

Plugin Version: 15.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The email address.
**Notes:** Mailbox and Domain together.
(Read only property)

### 6.11.7 Label as String

Plugin Version: 15.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The label for this email address.
**Notes:** Label is the raw value and LabelDecoded is the decoded value.
So please use LabelDecoded for display.
(Read only property)

### 6.11.8 LabelDecoded as String

Plugin Version: 15.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The label for this email address.
**Notes:** Label is the raw value and LabelDecoded is the decoded value.
So please use LabelDecoded for display.
(Read only property)

### 6.11.9 Mailbox as String

Plugin Version: 15.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The name of the email mailbox.
**Notes:** (Read only property)

### 6.11.10 Sourceroute as String

Plugin Version: 15.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The source route parameter.
**Notes:** (Read only property)

### 6.11.11 StringValue as String

Plugin Version: 15.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The email address as a string.
**Notes:** (Read only property)

# Chapter 7

# Network

## 7.1 class SSH2ChannelMBS

### 7.1.1 class SSH2ChannelMBS

Plugin Version: 14.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The class for a SSH2 channel.
**Example:**

```
// run a command on an SSH server and read the output
// Session is a property of the window: Session As SSH2SessionMBS (connected and authenticated)
Var channel As SSH2ChannelMBS = Session.OpenSession
channel.Execute "ls -l"

Var output As String
While Not channel.EOF
output = output + channel.Read
Wend

channel.Close
MessageBox output + EndOfLine + "Exit status: " + channel.ExitStatus.ToString
```

**Blog Entries**

- News from the MBS Xojo Plugins Version 20.5
- MBS Xojo Plugins in version 20.5
- MBS Xojo Plugins, version 20.5pr3
- SSH Terminal example for Xojo

- SSH tunnel in Xojo

### 7.1.2 Methods

### 7.1.3 Close(Wait as Boolean = true)

Plugin Version: 14.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Close a channel.
**Notes:** Lasterror is set.
Close an active data channel. In practice this means sending an SSH_MSG_CLOSE packet to the remote host which serves as instruction that no further data will be sent to it. The remote host may still send data back until it sends its own close message in response. To wait for the remote end to close its connection as well, follow this command with WaitClosed.
Lasterror is set to kErrorEAgain when it would otherwise block. While kErrorEAgain is an error, it isn't really a failure per se.

If wait parameter is true, the plugin does a loop to try close until it receives an okay (and not EAGAIN).

### 7.1.4 Constructor

Plugin Version: 14.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The private constructor.
See also:

- 7.1.5 Constructor(session as SSH2SessionMBS) 368

### 7.1.5 Constructor(session as SSH2SessionMBS)

Plugin Version: 20.5, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The constructor to create new channel.
**Notes:** May raise UnsupportedOperationException if channel creation fails.
See also:

- 7.1.4 Constructor 368

### 7.1.6 Destructor

Plugin Version: 14.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The destructor.

### 7.1.7 EOF as boolean

Plugin Version: 14.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Check a channel's EOF status.
**Example:**

```
Var s as string
Var channel as SSH2ChannelMBS // your channel

// read all till end of channel
s = ""
do
app.YieldToNextThread
Var r as string = channel.Read(50000)
s = s + r

if channel.LastError = SSH2SessionMBS.kErrorEagain then
// no answer yet
Continue
elseif channel.LastError = SSH2SessionMBS.kErrorNone then
// we got something
if channel.EOF then
// done?
MessageBox "Result: " + s
exit
end if
else
exit
end if
loop
```

**Notes:** Check if the remote host has sent an EOF status for the selected stream.
Returns true if the remote host has sent EOF, otherwise false.
Lasterror is set. On error, this function returns true.

### 7.1.8 Execute(command as string)

Plugin Version: 14.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Executes something on the server.
**Notes:** Lasterror is set.
Lasterror is set to kErrorEAgain when it would otherwise block. While kErrorEAgain is an error, it isn't really a failure per se.

### 7.1.9 Flush

Plugin Version: 14.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Flush stream for this channel.
**Notes:** Lasterror is set.

### 7.1.10 FlushAll

Plugin Version: 14.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Flush all streams for this channel.
**Notes:** Lasterror is set.

### 7.1.11 FlushExtendedData

Plugin Version: 14.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Flush extended data stream for this channel.
**Notes:** Lasterror is set.

### 7.1.12 FlushStdErr

Plugin Version: 14.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Flush stderr stream for this channel.
**Notes:** Lasterror is set.

### 7.1.13 Read(length as Integer = 65536) as string

Plugin Version: 14.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Read data from a channel stream.
**Example:**

```
Var s as string
Var channel as SSH2ChannelMBS // your channel

// read all till end of channel
s = ""
do
app.YieldToNextThread
```

```
Var r as string = channel.Read(50000)
s = s + r

if channel.LastError = SSH2SessionMBS.kErrorEagain then
// no answer yet
Continue
elseif channel.LastError = SSH2SessionMBS.kErrorNone then
// we got something
if channel.EOF then
// done?
MessageBox "Result: " + s
exit
end if
else
exit
end if
loop
```

**Notes:** Lasterror is set.
Attempt to read data from a stdout channel stream.
Returns data read.
Lasterror is set to kErrorEAgain when it would otherwise block. While kErrorEAgain is an error, it isn't really a failure per se.
Version up to 18.2 return text marked as UTF-8, but in 18.3 we change to return text without encoding marking. So if you expect UTF-8, you can apply UTF-8 encoding with DefineEncoding.

### 7.1.14 ReadStdErr(length as Integer = 65536) as string

Plugin Version: 14.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Read data from a channel stream.
**Notes:** Lasterror is set.
Attempt to read data from a stderr channel stream.
Returns data read.
Lasterror is set to kErrorEAgain when it would otherwise block. While kErrorEAgain is an error, it isn't really a failure per se.

### 7.1.15 RequestPTY(term as string)

Plugin Version: 14.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Request a PTY on an established channel.
**Notes:** Lasterror is set.
Note that this does not make sense for all channel types and may be ignored by the server despite returning

success.
Lasterror is set to kErrorEAgain when it would otherwise block. While kErrorEAgain is an error, it isn't really a failure per se.

### 7.1.16 SendEOF

Plugin Version: 14.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Send EOF to remote server.
**Notes:** Lasterror is set.
Tell the remote host that no further data will be sent on the specified channel. Processes typically interpret this as a closed stdin descriptor.
Lasterror is set to kErrorEAgain when it would otherwise block. While kErrorEAgain is an error, it isn't really a failure per se.

### 7.1.17 SetBlocking(blocking as boolean)

Plugin Version: 14.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Set or clear blocking mode on channel.

### 7.1.18 SetEnv(name as string, value as string)

Plugin Version: 14.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Set an environment variable on the channel.
**Notes:** Lasterror is set.
Lasterror is set to kErrorEAgain when it would otherwise block. While kErrorEAgain is an error, it isn't really a failure per se.

### 7.1.19 Shell

Plugin Version: 14.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Request a shell on a channel.
**Notes:** Lasterror is set.
Lasterror is set to kErrorEAgain when it would otherwise block. While kErrorEAgain is an error, it isn't really a failure per se.

### 7.1.20 WaitClosed

Plugin Version: 14.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Wait for the remote to close the channel.
**Notes:** Lasterror is set.

Enter a temporary blocking state until the remote host closes the named channel. Typically sent after Close in order to examine the exit status.
Lasterror is set to kErrorEAgain when it would otherwise block. While kErrorEAgain is an error, it isn't really a failure per se.

### 7.1.21 WaitEOF

Plugin Version: 14.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Wait for the remote end to acknowledge an EOF request.
**Notes:** Lasterror is set.
May give kErrorEAgain error which means you should try again later.

### 7.1.22 Write(data as MemoryBlock) as Integer

Plugin Version: 14.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Write data to a channel stdout stream.
**Notes:** Lasterror is set.

Write functions will use as much as possible of the buffer and put it into a single SSH protocol packet. This means that to get maximum performance when sending larger files, you should try to always pass in at least 32K of data to this function.

Returns actual number of bytes written. Lasterror being kErrorEagain when it would otherwise block. While kErrorEagain is an error, it isn't really a failure per se.
See also:

- 7.1.23 Write(text as string) as Integer 373

### 7.1.23 Write(text as string) as Integer

Plugin Version: 14.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Write data to a channel stdout stream.

**Notes:** Lasterror is set.

Write functions will use as much as possible of the buffer and put it into a single SSH protocol packet. This means that to get maximum performance when sending larger files, you should try to always pass in at least 32K of data to this function.

Returns actual number of bytes written. Lasterror being kErrorEagain when it would otherwise block. While kErrorEagain is an error, it isn't really a failure per se.

Until version 18.2 we send text as UTF-8. Version 18.3 or newer send bytes as they are in whatever encoding your string has.
See also:

- 7.1.22 Write(data as MemoryBlock) as Integer 373

### 7.1.24 WriteStdErr(data as MemoryBlock) as Integer

Plugin Version: 14.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Write data to a channel stderr stream.
**Notes:** Lasterror is set.

Write functions will use as much as possible of the buffer and put it into a single SSH protocol packet. This means that to get maximum performance when sending larger files, you should try to always pass in at least 32K of data to this function.

Returns actual number of bytes written. Lasterror being kErrorEagain when it would otherwise block. While kErrorEagain is an error, it isn't really a failure per se.
See also:

- 7.1.25 WriteStdErr(text as string) as Integer 374

### 7.1.25 WriteStdErr(text as string) as Integer

Plugin Version: 14.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Write data to a channel stderr stream.
**Notes:** Lasterror is set.

Write functions will use as much as possible of the buffer and put it into a single SSH protocol packet. This means that to get maximum performance when sending larger files, you should try to always pass in at least 32K of data to this function.

Returns actual number of bytes written. Lasterror being kErrorEagain when it would otherwise block. While kErrorEagain is an error, it isn't really a failure per se.

Until version 18.2 we send text as UTF-8. Version 18.3 or newer send bytes as they are in whatever encoding your string has.
See also:

- 7.1.24 WriteStdErr(data as MemoryBlock) as Integer 374

### 7.1.26 Properties

### 7.1.27 ExitStatus as Integer

Plugin Version: 14.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Get the remote exit code.
**Notes:** Returns the exit code raised by the process running on the remote host at the other end of the named channel. Note that the exit status may not be available if the remote end has not yet set its status to closed.
Returns 0 on failure, otherwise the Exit Status reported by remote host.
(Read only property)

### 7.1.28 Handle as Integer

Plugin Version: 14.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Internal object reference.
**Notes:** (Read and Write property)

### 7.1.29 LastError as Integer

Plugin Version: 14.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The last error code.
**Notes:** See SSH2SessionMBS.kError* constants.
(Read and Write property)

### 7.1.30 Session as SSH2SessionMBS

Plugin Version: 14.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The session this channel belongs to.
**Notes:** (Read and Write property)

### 7.1.31 Tag as Variant

Plugin Version: 14.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The tag value.
**Notes:** A property where you can store any value you like.
(Read and Write property)

### 7.1.32 Events

### 7.1.33 DataAvailable(Data as string, ErrorChannel as boolean)

Plugin Version: 20.5, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The event for new data coming in.
**Notes:** For console app with DoEvents loop or for GUI apps.
Works starting with running Execute as that initializes the DataAvailable event.

ErrorChannel is true, if we got data from the stderr channel instead of stdout channel.

## 7.2 class SSH2ConnectFailedExceptionMBS

### 7.2.1 class SSH2ConnectFailedExceptionMBS

Plugin Version: 14.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The exception for an error in the SSH2SessionMBS.Constructor.
**Notes:** Subclass of the RuntimeException class.
**Blog Entries**

- MBS Xojo / Real Studio Plugins, version 14.0pr5

## 7.3 class SSH2SessionMBS

### 7.3.1 class SSH2SessionMBS

Plugin Version: 14.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The class for a SSH2 session.
**Example:**

```
// connect to a server via SSH, log in with a password and run a command
Var session As New SSH2SessionMBS("ssh.example.com", 22)
session.SessionHandshake
If session.LastError <>0 Then
MessageBox "Handshake failed: " + session.LastError.ToString
Return
End If

// check the server fingerprint, e.g. against a stored value
System.DebugLog "Fingerprint: " + EncodeHex(session.HostKeyHash(SSH2SessionMBS.kHostKeyHashSHA256))

session.UserAuthPassword("user", "password")
If Not session.Authenticated Then
MessageBox "Login failed."
Return
End If

Var channel As SSH2ChannelMBS = session.OpenSession
channel.Execute "uname -a"

Var output As String
While Not channel.EOF
output = output + channel.Read
Wend
channel.Close

session.Disconnect "Bye"
MessageBox output
```

**Notes:** For macOS and iOS, your application may need to have the NSLocalNetworkUsageDescription in info.plist for local network access and your sandboxed application may need need the com.apple.security.network.client entitlement.
**Blog Entries**

- MBS Xojo Plugins, version 22.5pr1
- MBS Xojo Plugins, version 22.3pr3
- News from the MBS Xojo Plugins Version 20.5

- SSH Terminal example for Xojo
- News from the MBS Xojo Plugins Version 20.4
- MBS Xojo Plugins, version 18.5pr1
- MBS Xojo Plugins 18.3
- MBS Xojo Plugins, version 18.3pr3
- SSH tunnel in Xojo
- MonkeyBread Software Releases the MBS Xojo / Real Studio plug-ins in version 15.0

**Videos**

- Presentation from Xojo Developer Conference 2019 in Miami.

### 7.3.2 Methods

### 7.3.3 Banner as string

Plugin Version: 14.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Get the remote banner.
**Notes:** Once the session has been setup and Handshake has completed successfully, this function can be used to get the server id from the banner each server presents.

### 7.3.4 CipherNames as String()

Plugin Version: 18.5, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Queries list of all ciphers.
**Example:**

```
// see hash and encryption algorithms available
Var CipherNames() as string = SSH2SessionMBS.CipherNames
Var DigestNames() as string = SSH2SessionMBS.DigestNames
Break
```

**Notes:** The list may not be the same for Mac, Windows and Linux.

### 7.3.5 ConfigureKeepAlive(WantReply as Boolean = true, Interval as Integer = 2)

Plugin Version: 20.4, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Configures keep alive probes.
**Notes:** Set how often keepalive messages should be sent.
WantReply indicates whether the keepalive messages should request a response from the server.
Interval is number of seconds that can pass without any I/O, use 0 to disable keepalives. To avoid some busy-loop corner-cases, if you specify an interval of 1 it will be treated as 2.

### 7.3.6 Constructor(IP as string, Port as Integer = 22, TimeOut as Integer = 30)

Plugin Version: 14.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The constructor for using a new socket.
**Notes:** The plugin creates a new socket, connects to the given IP&Port and than creates a new session for it.
Lasterror is set.
Please check if Handle property is non zero after constructor finishes.

Timeout defines timeout for connection in seconds. While waiting, the plugin yields time to other threads. If timeout is zero, the connection will not yield and take up to the default TCP/IP timeout.

IPv4, IPv6 address or domain name with version 18.3 or newer.
See also:

- 7.3.7 Constructor(socket as TCPSocket) 380
- 7.3.8 Constructor(socketHandle as Integer, CloseSocketLater as boolean = false) 381

### 7.3.7 Constructor(socket as TCPSocket)

Plugin Version: 14.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The constructor for using an existing socket.
**Notes:** Initializes a new session.
socket: The socket to use. The plugin keeps reference to this socket in socket property.

You can use a Xojo socket and connect it. Once connected, pass it here, so the session can use this socket for communication.
If you connect the xojo socket in a loop on a thread, be sure to call poll method of socket, so it processes events like connecting. In main thread with timer, you would get this automatically.
See also:

- 7.3.6 Constructor(IP as string, Port as Integer = 22, TimeOut as Integer = 30) 380
- 7.3.8 Constructor(socketHandle as Integer, CloseSocketLater as boolean = false) 381

### 7.3.8 Constructor(socketHandle as Integer, CloseSocketLater as boolean = false)

Plugin Version: 14.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The constructor for using an existing socket.
**Notes:** Initializes a new session.
socketHandle: The socket to use. Can be TCPSocket's handle property for a Xojo socket. Or a socket connected via declares.
You can put the socket in the socket property to keep it alive as long as session is in memory.

Set CloseSocketLater = true if you pass a socket which can be closed in destructor. For Xojo socket, pass false as Xojo closes socket later.
You can use a Xojo socket and connect it. Once connected, pass it here, so the session can use this socket for communication.
See also:

- 7.3.6 Constructor(IP as string, Port as Integer = 22, TimeOut as Integer = 30) 380
- 7.3.7 Constructor(socket as TCPSocket) 380

### 7.3.9 Destructor

Plugin Version: 14.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The destructor.

### 7.3.10 DigestNames as String()

Plugin Version: 18.5, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Queries list of all digest algorithms.
**Example:**

```
// see hash and encryption algorithms available
Var CipherNames() as string = SSH2SessionMBS.CipherNames
Var DigestNames() as string = SSH2SessionMBS.DigestNames
Break
```

**Notes:** The list may not be the same for Mac, Windows and Linux.

### 7.3.11 Disconnect(description as string)

Plugin Version: 14.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Terminate transport layer.
**Notes:** Lasterror is set.
description: Human readable reason for disconnection.
See also:

- 7.3.12 Disconnect(reason as Integer, description as string, lang as string = "") 382

### 7.3.12 Disconnect(reason as Integer, description as string, lang as string = "")

Plugin Version: 14.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Terminate transport layer.
**Notes:** Lasterror is set.

reason: One of the Disconnect Reason constants.
description: Human readable reason for disconnection.
lang: Localization string describing the langauge/encoding of the description provided.
See also:

- 7.3.11 Disconnect(description as string) 381

### 7.3.13 HostKey(byref Type as Integer) as string

Plugin Version: 14.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Get the remote key.

### 7.3.14 HostKeyHash(HashType as Integer) as string

Plugin Version: 14.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Return a hash of the remote host's key.
**Notes:** HashType: kHostKeyHashSHA1 or kHostKeyHashMD5.
Returns the computed digest of the remote system's hostkey. The length of the returned string is hash_type specific (e.g. 16 bytes for MD5, 20 bytes for SHA1).
Computed hostkey hash value, or empty string if the information is not available (either the session has not yet been started up, or the requested hash algorithm was not available). The hash consists of raw binary bytes, not hex digits, so it is not directly printable.

### 7.3.15 OpenDirectTCPIPChannel(host as string, port as integer, sourceHost as string = "127.0.0.1", sourcePort as Integer = 22) as SSH2ChannelMBS

Plugin Version: 18.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Tunnel a TCP connection through an SSH session.
**Notes:** host: Third party host to connect to using the SSH host as a proxy.
port: Port on third party host to connect to.
SourceHost: Host to tell the SSH server the connection originated on.
SourcePort: Port to tell the SSH server the connection originated from.

Tunnel a TCP/IP connection through the SSH transport via the remote host to a third party. Communication from the client to the SSH server remains encrypted, communication from the server to the 3rd party host travels in cleartext.

This is not a replacement for ssh in command line with -L option.

Returns a newly allocated channel object, or nil on errors.

### 7.3.16 OpenSession as SSH2ChannelMBS

Plugin Version: 14.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Establish a generic session channel.
**Notes:** Lasterror is set.
Returns nil if the session start fails.

### 7.3.17 SessionFlag(Flag as Integer, Value as boolean)

Plugin Version: 14.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Get/Set a session flag.
**Notes:** See kFlag* constants.
Lasterror is set.

### 7.3.18 SessionHandshake

Plugin Version: 14.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Perform the SSH handshake.
**Notes:** Lasterror is set.

### 7.3.19 SetBanner(Banner as string)

Plugin Version: 14.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Set the SSH prococol banner for the local client.
**Notes:** Set the banner that will be sent to the remote host when the SSH session is started with Handshake. This is optional; a banner corresponding to the protocol and libssh2 version will be sent by default.
Lasterror is set.

### 7.3.20 SetMethodPreference(methodType as Integer, Pref as string) as Boolean

Plugin Version: 18.5, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Set preferred key exchange method.
**Example:**

```
// set preferences for key exchange method:
Var r as Boolean = s.SetMethodPreference(SSH2SessionMBS.kMethodKEX, "diffie-hellman-group-exchange-sha256")
```

**Notes:** methodType: One of the Method Type constants.
Pref: Coma delimited list of preferred methods to use with the most preferred listed first and the least preferred listed last. If a method is listed which is not supported by libssh2 it will be ignored and not sent to the remote host during protocol negotiation.

Set preferred methods to be negotiated. These preferences must be set prior to calling SessionHandshake, as they are used during the protocol initiation phase.

Return true on success or false on failure. Lasterror is set. Lasterror is set to LIBSSH2_ERROR_EAGAIN (-37) when it would otherwise block. While LIBSSH2_ERROR_EAGAIN is a negative number, it isn't really a failure per se.

### 7.3.21 SupportedAlgorithms(methodType as Integer) as String()

Plugin Version: 18.5, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Get list of supported algorithms.
**Example:**

```
Var s as new SSH2SessionMBS("localhost")
```

```
Var KeyExchange() as string = s.SupportedAlgorithms(SSH2SessionMBS.kMethodKEX)
Var HostKey() as string = s.SupportedAlgorithms(SSH2SessionMBS.kMethodHostKey)
Var CryptCS() as string = s.SupportedAlgorithms(SSH2SessionMBS.kMethodCryptCS)
Var CryptSC() as string = s.SupportedAlgorithms(SSH2SessionMBS.kMethodCryptSC)
Var MacCS() as string = s.SupportedAlgorithms(SSH2SessionMBS.kMethodMacCS)
Var MacSC() as string = s.SupportedAlgorithms(SSH2SessionMBS.kMethodMacSC)
Var CompCS() as string = s.SupportedAlgorithms(SSH2SessionMBS.kMethodCompCS)
Var CompSC() as string = s.SupportedAlgorithms(SSH2SessionMBS.kMethodCompSC)
Var LangCS() as string = s.SupportedAlgorithms(SSH2SessionMBS.kMethodLangCS)
Var LangSC() as string = s.SupportedAlgorithms(SSH2SessionMBS.kMethodLangSC)

Break
```

**Notes:** Method type: see kMethod* constants.

Get a list of supported algorithms for the given methodType. The methodType parameter is equivalent to methodType in SetMethodPreference.

In order to get a list of all supported compression algorithms, SessionFlag(SSH2SessionMBS.kFlagCompress, true) must be called before calling this function, otherwise only ”none” will be returned.

On success, returns array with algorithms
Lasterror is set with error code.

### 7.3.22 UserAuthKeyboardInteractive(UserName as string)

Plugin Version: 14.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Authenticate a session using keyboard-interactive authentication.
**Notes:** username: Name of user to attempt keyboard-interactive authentication for.
Lasterror is set.
Calls KeyboardCallback callback to query input from user.

### 7.3.23 UserAuthList(username as string) as string

Plugin Version: 14.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** List supported authentication methods.
**Notes:** username: Username which will be used while authenticating. Note that most server implementations do not permit attempting authentication with different usernames between requests. Therefore this must be the same username you will use on later userauth calls.

Send a SSH_USERAUTH_NONE request to the remote host. Unless the remote host is configured to accept none as a viable authentication scheme (unlikely), it will return SSH_USERAUTH_FAILURE along with a listing of what authentication schemes it does support. In the unlikely event that none authentication succeeds, this method with return NULL. This case may be distinguished from a failing case by examining Authenticated.

### 7.3.24 UserAuthPassword(UserName as string, Password as string)

Plugin Version: 14.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Authenticate a session with username and password.
**Notes:** username: Name of user to attempt plain password authentication for.
password: Password to use for authenticating username.

Attempt basic password authentication. Note that many SSH servers which appear to support ordinary password authentication actually have it disabled and use Keyboard Interactive authentication (routed via PAM or another authentication backed) instead.
Lasterror is set.

### 7.3.25 UserAuthPublicKeyFromFile(UserName as string, publickey as folderitem, privatekey as folderitem, Passphrase as string)

Plugin Version: 14.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Authenticate a session with a public key, read from a file.
**Notes:** Lasterror is set.
username: user name to authenticate as.
publickey: Path of the public key file. (e.g. /etc/ssh/hostkey.pub). If libssh2 is built against OpenSSL, this option can be set to ""/nil.
privatekey: Path of the private key file. (e.g. /etc/ssh/hostkey)
passphrase: Passphrase to use when decoding privatekey.

Attempt public key authentication using a PEM encoded private key file stored on disk
See also:

- 7.3.26 UserAuthPublicKeyFromFile(UserName as string, publickey as string, privatekey as string, Passphrase as string) 386

### 7.3.26 UserAuthPublicKeyFromFile(UserName as string, publickey as string, privatekey as string, Passphrase as string)

Plugin Version: 14.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Authenticate a session with a public key, read from a file.
**Notes:** Lasterror is set.
username: user name to authenticate as.
publickey: Path of the public key file. (e.g. /etc/ssh/hostkey.pub). If libssh2 is built against OpenSSL, this option can be set to ""/nil.
privatekey: Path of the private key file. (e.g. /etc/ssh/hostkey)
passphrase: Passphrase to use when decoding privatekey.

Attempt public key authentication using a PEM encoded private key file stored on disk
See also:

- 7.3.25 UserAuthPublicKeyFromFile(UserName as string, publickey as folderitem, privatekey as folderitem, Passphrase as string) 386

### 7.3.27 UserAuthPublicKeyFromMemory(UserName as string, publickey as string, privatekey as string, Passphrase as string)

Plugin Version: 16.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Authenticate a session with a public key, read from memory
**Notes:** This function allows to authenticate a session with a public key read from memory.
Lasterror is set.

username - Remote user name to authenticate as.
publickeydata - Buffer containing the contents of a public key file. Optional.
privatekeydata - Buffer containing the contents of a private key file.
passphrase - Passphrase to use when decoding private key file.

Keys must have LF as line ending, not CR.

Attempt public key authentication using a PEM encoded private key file stored in memory.

### 7.3.28 Version as string

Plugin Version: 14.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Queries the version for the SSH library.
**Example:**

MessageBox SSH2SessionMBS.Version

### 7.3.29 WaitSocket(TimeOut as Double = 0.1)

Plugin Version: 14.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Waits on the socket for sending or receiving.
**Notes:** Default used to be 10 seconds, but that may be to much, so since v22.3 the value can be customized and is now 1/10th of a second.

### 7.3.30 Properties

### 7.3.31 Authenticated as Boolean

Plugin Version: 14.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Return authentication status.
**Notes:** Indicates whether or not the named session has been successfully authenticated.
Returns true if authenticated and false if not.
(Read only property)

### 7.3.32 Blocking as Boolean

Plugin Version: 14.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The blocking mode on session.
**Notes:** blocking: Set to a non-zero value to make the channel block, or zero to make it non-blocking.

Set or clear blocking mode on the selected on the session. This will instantly affect any channels associated with this session. If a read is performed on a session with no data currently available, a blocking session will wait for data to arrive and return what it receives. A non-blocking session will return immediately with an empty buffer. If a write is performed on a session with no room for more data, a blocking session will wait for room. A non-blocking session will return immediately without writing anything.
(Read and Write property)

### 7.3.33 Handle as Integer

Plugin Version: 14.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Internal object reference.
**Notes:** (Read and Write property)

### 7.3.34 LastErrNo as Integer

Plugin Version: 14.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Get the most recent error number.
**Notes:** Returns a numeric error code corresponding to the Error Code constants.
(Read only property)

### 7.3.35 LastError as Integer

Plugin Version: 14.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The last error code.
**Notes:** (Read and Write property)

### 7.3.36 Socket as TCPSocket

Plugin Version: 14.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The socket value.
**Notes:** This is set by constructor if you base the session on an existing session.
But you can assign a socket here if you like.
(Read and Write property)

### 7.3.37 Tag as Variant

Plugin Version: 14.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The tag value.
**Notes:** A property where you can store any value you like.
(Read and Write property)

### 7.3.38 TimeOut as Integer

Plugin Version: 14.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The timeout for blocking functions.
**Notes:** In milliseconds.
(Read and Write property)

### 7.3.39 Events

### 7.3.40 KeyboardCallback(Name as string, Instruction as string, PromptCount as Integer, Prompts() as SSH2UserAuthKeyboardInteractivePromptMBS, responses() as SSH2UserAuthKeyboardInteractiveResponseMBS)

Plugin Version: 14.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Event to ask for user input on a UserAuthKeyboardInteractive run.
**Notes:** You can ask user for password, e.g. with a modal dialog.
You find prompt text in SSH2UserAuthKeyboardInteractivePromptMBS object and place answer in SSH2User-AuthKeyboardInteractiveResponseMBS objects.

### 7.3.41 Constants

Error Codes

| Constant | Value | Description |
|---|---|---|
| kErrorAgentProtocol | -42 | Invalid agent protocol. |
| kErrorAlloc | -6 | Out of memory. |
| kErrorAuthenticationFailed | -18 | Authentication failed. |
| kErrorBadSocket | -45 | Bad socket handle. |
| kErrorBadUse | -39 | Bad use. |
| kErrorBannerRecv | -2 | Failed to receive banner. |
| kErrorBannerSend | -3 | Failed to send banner. |
| kErrorBufferTooSmall | -38 | Memory buffer is too small. |
| kErrorChannelClosed | -26 | Channel is already closed. |
| kErrorChannelEofSent | -27 | Chanel sent EOF. |
| kErrorChannelFailure | -21 | Generic error on a channel. |
| kErrorChannelOutoforder | -20 | Channel commands out of order. |
| kErrorChannelPacketExceeded | -25 | Channel packet exceeded. |
| kErrorChannelRequestDenied | -22 | Channel request denied. |
| kErrorChannelUnknown | -23 | Unknown channel. |
| kErrorChannelWindowExceeded | -24 | Channel window exceeded. |
| kErrorChannelWindowFull | -47 | Channel window is full. |
| kErrorCompress | -40 | Compression error. |
| kErrorDecrypt | -12 | Error with decryption. |
| kErrorEagain | -37 | Please try again later. |
| kErrorEncrypt | -44 | Error on encrypting. |
| kErrorFile | -16 | File IO error. |
| kErrorHostkeyInit | -10 | Failed to init host key. |
| kErrorHostkeySign | -11 | Failed to sign host key. |
| kErrorInval | -34 | Input value error. |
| kErrorInvalidMac | -4 | Invalid MAC address. |
| kErrorInvalidPollType | -35 | Invalid poll type. |
| kErrorKexFailure | -5 | Key exchange failed. |
| kErrorKeyExchangeFailure | -8 | Key exchange failed. |
| kErrorKeyfileAuthFailed | -48 | Authorization with key file failed. |
| kErrorKnownHosts | -46 | Unknown host. |
| kErrorMethodNone | -17 | No method. |
| kErrorMethodNotSupported | -33 | Method not supported. |
| kErrorNone | 0 | No error. |
| kErrorOutOfBoundary | -41 | Out of Boundary. |
| kErrorPasswordExpired | -15 | Password expired. |
| kErrorProto | -14 | Protocol error. |
| kErrorPublickeyProtocol | -36 | Publickey protocol failed. |
| kErrorPublickeyUnverified | -19 | Publickey is not verified. |
| kErrorRequestDenied | -32 | Request denied. |
| kErrorScpProtocol | -28 | Error with SCP protocol. |
| kErrorSftpProtocol | -31 | Error with SFTP protocol. |
| kErrorSocketDisconnect | -13 | Socket got disconnected. |
| kErrorSocketNone | -1 | No socket error. |
| kErrorSocketRecv | -43 | Socket receive failed. |
| kErrorSocketSend | -7 | Socket send failed. |
| kErrorSocketTimeout | -30 | Socket timeout. |
| kErrorTimeout | -9 | Timeout. |
| kErrorZlib | -29 | Error with zlib (Compression). |

Flags

| Constant | Value | Description |
|---|---|---|
| kFlagCompress | 2 | Set options for the created session. flag is the option to set, while value is typically set to 1 or 0 to enable or disable the option.<br>If set - before the connection negotiation is performed - libssh2 will try to negotiate compression enabling for this connection. By default libssh2 will not attempt to use compression. |
| kFlagSigPipe | 1 | Set options for the created session. flag is the option to set, while value is typically set to 1 or 0 to enable or disable the option.<br>If set, libssh2 will not attempt to block SIGPIPEs but will let them trigger from the underlying socket layer. |

Hash Type

| Constant | Value | Description |
|---|---|---|
| kHostKeyHashMD5 | 1 | MD5 |
| kHostKeyHashSHA1 | 2 | SHA1 |
| kHostKeyHashSHA256 | 3 | SHA256 |

Method Preferences

| Constant | Value | Description |
|---|---|---|
| kMethodCompCS | 6 | Compression method.<br>e.g. zlib, zlib@openssh.com, none |
| kMethodCompSC | 7 | Compression method.<br>e.g. zlib, zlib@openssh.com, none |
| kMethodCryptCS | 2 | Crypt Method.<br>e.g. aes128-ctr, aes192-ctr, aes256-ctr, aes256-cbc, rijndael-cbc@lysator.liu.se, aes192-cbc, aes128-cbc, blowfish-cbc, arcfour128, arcfour, cast128-cbc, 3des-cbc. |
| kMethodCryptSC | 3 | Crypt Method.<br>e.g. aes128-ctr, aes192-ctr, aes256-ctr, aes256-cbc, rijndael-cbc@lysator.liu.se, aes192-cbc, aes128-cbc, blowfish-cbc, arcfour128, arcfour, cast128-cbc, 3des-cbc |
| kMethodHostKey | 1 | Host key method.<br>e.g. ssh-rsa, ssh-dss |
| kMethodKEX | 0 | Key Exchange Method.<br>e.g. diffie-hellman-group-exchange-sha256, diffie-hellman-group-exchange-sha1, diffie-hellman-group14-sha1 or diffie-hellman-group1-sha1. |
| kMethodLangCS | 8 | Language. |
| kMethodLangSC | 9 | Language. |
| kMethodMacCS | 4 | MAC method (hash)<br>e.g. hmac-sha2-256, hmac-sha2-512, hmac-sha1, hmac-sha1-96, hmac-md5, hmac-md5-96, hmac-ripemd160, hmac-ripemd160@openssh.com |
| kMethodMacSC | 5 | MAC method (hash)<br>e.g. hmac-sha2-256, hmac-sha2-512, hmac-sha1, hmac-sha1-96, hmac-md5, hmac-md5-96, hmac-ripemd160, hmac-ripemd160@openssh.com |

## 7.4 class SSH2TunnelMBS

### 7.4.1 class SSH2TunnelMBS

Plugin Version: 18.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The class for a SSH tunnel.
**Example:**

```
// forward local port 3307 through SSH to a MySQL server on the remote network
// Session is a property of the window: Session As SSH2SessionMBS (connected and authenticated)
// Tunnel is a property of the window: Tunnel As SSH2TunnelMBS
Tunnel = New SSH2TunnelMBS(Session)
Tunnel.LocalAddress = "127.0.0.1"
Tunnel.LocalPort = 3307
Tunnel.RemoteAddress = "db.internal"
Tunnel.RemotePort = 3306

// start forwarding
```

```
Tunnel.Run

// now connect your database client to 127.0.0.1:3307
// check Tunnel.Running and Tunnel.Messages for the state
// to stop: Tunnel.Cancel = True
```

**Notes:** The MBS Plugin can spin of a new preemptive thread to run a tunnel to forward a SSH connection from local socket to remote server via SSH tunnel.
This works well for database access with MySQL.
By using our own thread, we are not blocking or blocked by your Xojo code.

The tunnel allows currently one connection through it, e.g. run one tunnel per MySQL connection to go through the tunnel. If you need multiple tunnels, please create multiple SSH tunnels.

For macOS and iOS, your application may need to have the NSLocalNetworkUsageDescription in info.plist for local network access and your sandboxed application may need need the com.apple.security.network.client entitlement.
**Blog Entries**

- MBS Xojo Plugins, version 22.1pr6
- MBS Xojo Plugins, version 20.3pr1
- MBS Xojo Plugins, version 20.2pr1
- MBS Xojo Plugins, version 18.5pr3
- MBS Xojo Plugins 18.3
- MBS Xojo Plugins, version 18.3pr3
- SSH tunnel in Xojo

**Videos**

- Presentation from Munich conference about MBS Plugins.
- Presentation from Xojo Developer Conference 2019 in Miami.

### 7.4.2 Methods

### 7.4.3 Constructor(session as SSH2SessionMBS)

Plugin Version: 18.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The constructor.
**Notes:** Please pass connected SSH session.

### 7.4.4 Destructor

Plugin Version: 18.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The destructor.

### 7.4.5 Run

Plugin Version: 18.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Runs the thread with the tunnel.

### 7.4.6 Properties

### 7.4.7 BytesReceived as Int64

Plugin Version: 18.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Number of bytes received.
**Notes:** (Read only property)

### 7.4.8 BytesSent as Int64

Plugin Version: 18.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Number of bytes sent.
**Notes:** (Read only property)

### 7.4.9 Cancel as Boolean

Plugin Version: 18.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Whether to cancel tunnel.
**Notes:** This property can be set to request end of the thread.
(Read and Write property)

### 7.4.10 Connected as Boolean

Plugin Version: 20.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Queries whether tunnel is connected and transfers data.
**Notes:** Returns true if connected or false if not.
(Read only property)

### 7.4.11 KeepAlive as Boolean

Plugin Version: 20.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Whether to sent keep-alive packets.
**Example:**

```
Var tunnel as SSH2TunnelMBS // your tunnel

// avoid timeing out in Socket and SSH layers
tunnel.KeepAlive = True
session.ConfigureKeepAlive
```

**Notes:** If set to true, TCP keep alive probes will be sent to avoid TCP/IP timeouts.
Set to false (default behavior) to disable keep alive probes.

You may also need to use ConfigureKeepAlive on the SSH2SessionMBS class.
(Read and Write property)

### 7.4.12 LocalAddress as String

Plugin Version: 18.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The local address to use.
**Notes:** Defines where we wait for a connection to forward.
IPv4 or IPv6 address.
(Read and Write property)

### 7.4.13 LocalPort as Integer

Plugin Version: 18.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The local port to use.
**Notes:** (Read and Write property)

### 7.4.14 Messages as String

Plugin Version: 18.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Log messages.
**Notes:** Filled by thread to tell you about errors.
(Read only property)

### 7.4.15 RemoteAddress as String

Plugin Version: 18.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The remote address to use.
**Notes:** When connecting through tunnel this address is used from server to connect to.
IPv4 or IPv6 address.
(Read and Write property)

### 7.4.16 RemotePort as Integer

Plugin Version: 18.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The remote port to use.
**Notes:** When connecting through tunnel this port is used from server to connect to.
(Read and Write property)

### 7.4.17 Running as Boolean

Plugin Version: 18.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Whether tunnel is running.
**Notes:** True if running, false if not.
(Read only property)

### 7.4.18 Session as SSH2SessionMBS

Plugin Version: 18.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The session used for the tunnel.
**Notes:** (Read only property)

## 7.5 class SSH2UserAuthKeyboardInteractivePromptMBS

### 7.5.1 class SSH2UserAuthKeyboardInteractivePromptMBS

Plugin Version: 14.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The class for an interactive keyboard authentication prompt.
**Notes:** This is an abstract class. You can't create an instance, but you can get one from various plugin functions.

### 7.5.2 Methods

### 7.5.3 Constructor

Plugin Version: 14.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The private constructor.

### 7.5.4 Destructor

Plugin Version: 14.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The destructor.

### 7.5.5 Properties

### 7.5.6 Echo as Integer

Plugin Version: 14.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The echo flag.
**Notes:** (not sure what this is)
(Read and Write property)

### 7.5.7 Length as Integer

Plugin Version: 14.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The length of the text.
**Notes:** (Read and Write property)

### 7.5.8 Text as String

Plugin Version: 14.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The text message.
**Notes:** (Read and Write property)

## 7.6 class SSH2UserAuthKeyboardInteractiveResponseMBS

### 7.6.1 class SSH2UserAuthKeyboardInteractiveResponseMBS

Plugin Version: 14.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The class for a response with interactive keyboard login.
**Notes:** This is an abstract class. You can't create an instance, but you can get one from various plugin functions.

### 7.6.2 Methods

### 7.6.3 Constructor

Plugin Version: 14.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The private constructor.

### 7.6.4 Destructor

Plugin Version: 14.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The destrutor.

### 7.6.5 Properties

### 7.6.6 Text as String

Plugin Version: 14.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The response text.
**Notes:** Usually a password.
(Read and Write property)

# Chapter 8

# List of Questions in the FAQ


- 9.0.1 How do I decode correctly an email subject? 403
- 9.0.2 How to delete file with ftp and curl plugin? 404
- 9.0.3 How to fix CURL error 60/53 on connecting to server? 404
- 9.0.4 How to move file with ftp and curl plugin? 405

# Chapter 9

# The FAQ

### 9.0.1 How do I decode correctly an email subject?

Plugin Version: all, Platforms: macOS, Linux, Windows.

**Answer:** The following code can be used to decode an email subject including several encodings including Base 64.
**Example:**

```
Var src as string // input

Var theRegex as Regex
Var theRegexMatch as RegexMatch
Var result, infoCharset, encodedPart as string
Var theStart as Integer

if instr(src, "=?") >0 then
theRegex = new Regex
theRegex.Options.Greedy = false
theRegex.searchPattern = "(.*)=\?(.+)\?(Q | B)\?(.+)\?="
theRegexMatch = theRegex.search(src)
while theRegexMatch <>nil
theStart = theRegexMatch.subExpressionStartB(0) + len(theRegexMatch.subExpressionString(0))

result = result + theRegexMatch.subExpressionString(1)
infoCharset = theRegexMatch.subExpressionString(2)
encodedPart = theRegexMatch.subExpressionString(4)
if theRegexMatch.subExpressionString(3) = "B" then
encodedPart = DecodeBase64(encodedPart)
elseif theRegexMatch.subExpressionString(3) = "Q" then
encodedPart = DecodeQuotedPrintable(encodedPart)
end if
if right(result, 1) = " " then
```

```
result = mid(result, 1, len(result)-1)
end if
encodedPart = encodedPart.DefineEncoding(GetInternetTextEncoding(infoCharset))
result = result + encodedPart

theRegex.SearchStartPosition = theStart
theRegexMatch = theRegex.search()
wend

result = result + mid(src, theStart+1)

else
result = src
end if
// theRegexMatch = theRegex.search

MessageBox result
```

**Notes:** May not look nice depending on the controls used.
This is no longer needed when using MimeEmailMBS class which decodes for you.

### 9.0.2 How to delete file with ftp and curl plugin?

Plugin Version: all, Platforms: macOS, Linux, Windows.

**Answer:** You can set post/pre quotes to have ftp commands executed before or after the download/upload.
**Example:**

```
Var d as CURLMBS // your curl object

// delete file
Var ws() As String
ws.Add "DELE Temp.txt"

d.SetOptionPostQuote(ws)
```

**Notes:** Use SetOptionPostQuote, SetOptionPreQuote or SetOptionQuote.
The ftp commands you pass here are native ftp commands and not the commands you use with ftp applications. To delete use DELE and the file path.

### 9.0.3 How to fix CURL error 60/53 on connecting to server?

Plugin Version: all, Platform: macOS.

**Answer:** You probably connect with SSL and you have no valid certificate.
**Example:**

```
Var d as new CURLSMBS

// Disable SSL verification
d.OptionSSLVerifyHost = 0 // don't verify server
d.OptionSSLVerifyPeer = 0 // don't proofs certificate is authentic

// With SSL Verification:
Var cacert as FolderItem = New FolderItem("cacert.pem")
d.OptionCAInfo = cacert.NativePath
d.OptionSSLVerifyHost = 2 // verify server
d.OptionSSLVerifyPeer = 1 // proofs certificate is authentic
```

**Notes:** You can either use the code above to disable the SSL verification and have no security.
Or you use the cacert file and enable the verification. Than you only get a connection if the server has a valid certificate.

see also:
http://curl.haxx.se/ca/

### 9.0.4 How to move file with ftp and curl plugin?

Plugin Version: all, Platforms: macOS, Linux, Windows.

**Answer:** You can set post/pre quotes to have ftp commands executed before or after the download/upload.
**Example:**

```
Var d as CURLMBS // your curl object

// rename/move file
Var ws() As String
ws.Add "RNFR Temp.txt"
ws.Add "RNTO MyFile.txt"

d.SetOptionPostQuote(ws)
```

**Notes:** Use SetOptionPostQuote, SetOptionPreQuote or SetOptionQuote.
The ftp commands you pass here are native ftp commands and not the commands you use with ftp applications. So rename is two commands. First RNFR to tell where to rename from and second RNTO with the new file name. To delete use DELE and the file path.