4D Live Window

Web Browser Plug-In
Windows®/Mac OS®

4th Dimension®

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4D Live Window
For Windows® and Mac OS®

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4D Live Window

The Web Browser plug-in allows embedding an internet browser into a 4D form, similar to a 4D Write area. The area can be used to display local documents, like an online help or live internet feeds, like Google Maps. The plugin is a very light browser, providing basic HTML functionality.

Requirements

You need 4th Dimension Version 2004.5 or newer and the following minimum requirements:

	Windows	***Mac OS***
Operating system	Windows 2000, Windows XP Service 2 or newer	Version 10.4 (Tiger) or newer
Browser	MS Internet Explorer 6 or newer	Safari 2 or newer

To redistribute the MS Internet Explorer on your CD with your product, you can optain a royality free license here: http://www.microsoft.com/technet/prodtechnol/ie/ieak/default.mspx

On Windows the plug-in uses the Microsoft Web Browser control, which is based on Microsoft Internet Explorer. The look, feel, and functionality depend on the version of Internet Explorer installed.

On Mac OS the plug-in uses Apple's Webkit framework and the same technology developed for Safari 2.0. Therefore, it is not possible to use the plug-in on systems older than Mac OS X 10.4.

Because the plug-in uses native operating system functionality it behaves differently on both Windows and Mac OS X, and so different features are supported respectively as well.

Both platforms support documents in http:// format. In addition to valid HTTP content some documents can be displayed directly, like images (JPEG, GIF, PNG) and PDF documents. The Mac OS System displays PDF documents using the Preview tool, while Windows needs an installed Acrobat Reader to support PDF viewing.

On Windows it also supports the displaying and editing of Microsoft Office documents (if Microsoft Office is installed). More specifically Word, Excel and PowerPoint documents such as .doc, .xls, .ppt are supported. MS Office XML format is also supported.

On Windows 4D Live Window also supports the display of local folders and external folders via ftp:// or via network folders (\\myserver\myvolume).

Documents must start with file://. Also note that the filename must be decoded as a URL (ie. from"my document.pdf" to "my%20document.pdf"). 4D Live Windows also allows you to drag&drop a supported document from the Finder/Explorer into the 4D Live Window area.

Examples for different behavior on Mac/Windows

On Mac OS the browser window ignores an Open Window command from Javascript. On Windows, however, using the Javascript command or using the context menu Open in New Window will open another MS Internet Explorer Window outside of 4D.

On the Mac a web site with Javascript code may produce problems while resizing the window. This is especially true for maps.google.com. To avoid unexpected crashes resizing functionality on the Mac OS is limited. The area size is determined upon opening the form only. After that point resize operations are not allowed. The developer can enable resize operations using the command Web_SetPreferences if the displayed page does not contain resize dependent Javascript code, such as online documentation or email display.

On Windows, browser plug-ins like Flash may produce Javascript errors. Plug-ins may have problems opening windows. For example, QuickTime cannot request additional codecs.

On Windows some keystrokes are not supported inside the browser area, such as the <Tab> and <Del> keys and command shortcuts (such as <CTRL> + C). What is supported, however, are the <Backspace> key and copy and paste operations via the right-click context menu.

On Windows the MS Internet Explorer plug-in does not return time to 4D while downloading a single resource. So while downloading a web page, for example, you will not be able to see how long the download will take place. This also makes it impossible to access the web server of the 4D application hosting the plug-in. Of course 4D Client can access a web server run from 4D Server, but not on its own web server.

Office 2007 does not support displaying documents embedded in a browser area, it will always opens a new window.

The content/features of the right-click context menu are different between Mac and Windows.

Plug-in Installation

The plug-in is to be installed into the "Plug-in" folder next to your structure file. The plug-in area is placed on a form similar to a plug-in like 4D Write. Note that if you want to use several plug-in areas in the same form (even on different form pages), they must use different variable names even if they display the same URL. This is similar to several browser windows as each runs independently.

Command Description

Web_SETURL

WEB_SETURL (Area; URL; MacOSPath) → error code

Parameter	Type		Description
Area	Longint	→	4D Live Window area
URL	Text	→	Full URL (http://www.4d.com)
MacOSPath	Longint	→	0 for URL, 1 for path, unused on Windows
Function result	Longint	←	Error code (0 = No error)

Web_SetURL is usually the first command you need to apply to an area, it specifies the URL (or document) to be opened.

The URL must be passed as fully qualified URL (i.e. http://www.4D.com or file:///C:/my %20Document.pdf).

On Mac OS a file name must be valid Unix path name, in the form: file://localhost/Users/thomas/Documents/image%C3.jpg.

8-bit characters and special character like blanks must be encoded. Invalid encoded characters may crash the application.

The parameter *MacOSPath* allows automatic file path encoding. Pass 1 to use an HFS path like "MyDisk:Users:thomas:Documents:imageö.jpg".

On Windows real file names are accepted, like "C:\my Document.pdf" or "Straße.jpg" with no encoded special characters. Also simple URL's like "www.4D.com" are accepted as well. Still, it is recommended to use fully qualified names.

Function result
If the call was successful it returns 0. Otherwise it was an error.

Web_GetURL

Web_GetURL (Area; URL) → error code

Parameter	Type		Description
Area	Longint	→	4D Live Window area
URL	Text	→	Current URL
Function result	Longint	←	Error code (0 = No error)

The command Web_SetURL returns the current displayed URL.

Function result
If the call was successful it returns 0. Otherwise it was an error.

Web_Back

Web_Back (Area) → error code

Parameter	Type		Description
Area	Longint	→	4D Live Window area
Function result	Longint	←	Error code (0 = No error)

The command Web_Back Back calls the **Back** function of the browser, going to the previously displayed URL.

Function result
If the call was successful it returns 0. Otherwise it was an error.

Web_Forward

Web_Forward (Area) → error code

Parameter	Type		Description
Area	Longint	→	4D Live Window area
Function result	Longint	←	Error code (0 = No error)

The command Web_Forward calls the **Forward** function of the browser, reverting the usage of the **Back** function. If the **Back** function was not used before, the call has no result.

Web_GetContent

Web_GetContent (Area; content) → error code

Parameter	Type		Description
Area	Longint	→	4D Live Window area
Content	Blob	→	Page content as blob
Function result	Longint	←	Error code (0 = No error)

The command Web_GetContent returns the content of the main frame as blob.

Function result
If the call was successful it returns 0. Otherwise it was an error.

Web_SetPreferences

Web_SetPreferences (Area; Selector; NumValue, StringValue) → error code

Parameter	Type		Description
Area	Longint	→	4D Live Window area
Selector	Longint	→	Preferences Selector
NumValue	Longint	→	Numerical value to set
StringValue	Alpha	→	String value to set
Function result	Longint	←	Error code (0 = No error)

The command Web_SetPreferences allows to change the behavior of the 4D Live Window plug-in.

Note: In Release 1.0 the 4th parameter StringValue is not used, always pass "" for future compatibility.

Selector	Code	Usage
Web_kResize	1	0=disable resizing; 1=enable resizing (1)
Web_kVisible	2	0=hide the browser; 1=show the browser (2)

Notes: (1) Web_kResize
Mac OS only: if the plugin area is resized, some web sites (specially maps.google.com) acts on the resize by using Javascript to change the position of some elements. This may lead to a crash if the site was already displayed. To avoid this crash the developer is supposed to set the browser area to a fixed size (not resizeable).

(2) In any case the browser area is not automatically resized on Mac except for the first display (opening a window before loading a web site). If you display HTML content (or PDF images) without Javascript, you may enable the resize functionality by using this option. In that case you should not allow the end user to manually enter a URL. Using this option has no result on Windows.

(3) Web_kVisible
The 4D Command SET VISIBLE does not fully hide the browser because the browser responds directly to events such as mouse-over or Javascript triggered redraws. So it is necessary to hide/show the browser area by using both SET VISIBLE and Web_SetPreferences.

Function result
If the call was successful it returns 0. Otherwise it was an error.

Example

```
$err:=Web_SetPreferences(mybrowser; 1; 1; "")
                                                ` to enable resizing
```

Error Codes

All commands of the *4D Live Window* plug-in return 0, if the call was successful. Possible error codes are:

-15001 The specified area is not a 4D Live Window area
-15002 Invalid parameter passed
-15003 Internal error