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# WebFrameLoadDelegate Protocol Reference

Networking, Internet, & Web: Web Client



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# WebFrameLoadDelegate Protocol Reference

(informal protocol)

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<b>Framework</b>	/System/Library/Frameworks/WebKit.framework
<b>Availability</b>	Available in Mac OS X v10.2 with Safari 1.0 and later. Available in Mac OS X v10.2.7 and later.
<b>Companion guide</b>	WebKit Objective-C Programming Guide
<b>Declared in</b>	WebFrameLoadDelegate.h

## Overview

WebView frame load delegates implement this informal protocol to be notified while frame loads are in progress. Delegates are notified when a frame load starts, when a page title or icon is loaded, when a redirect occurs, when a data source is committed, and when the change is complete. The [webView:didStartProvisionalLoadForFrame:](#) (page 12) method is invoked when a frame load starts, and the [webView:didFinishLoadForFrame:](#) (page 10) method is invoked when the change is done. However, depending on the content being loaded, some of the other methods defined in this protocol may be invoked multiple times. All the methods in this protocol are optional.

## Tasks

### State Change Messages

- [webView:didStartProvisionalLoadForFrame:](#) (page 12) *required method*  
Invoked when a page load is in progress in a given frame. (required)
- [webView:didFinishLoadForFrame:](#) (page 10) *required method*  
Invoked when a page load completes. (required)
- [webView:didCommitLoadForFrame:](#) (page 8) *required method*  
Invoked when content starts arriving for a page load. (required)
- [webView:willCloseFrame:](#) (page 12) *required method*  
Invoked when a frame will be closed. (required)
- [webView:didChangeLocationWithinPageForFrame:](#) (page 7) *required method*  
Invoked when the scroll position within a frame changes. (required)

## Data Received Messages

- `webView:didReceiveTitle:forFrame:` (page 11) *required method*  
Invoked when the page title of a frame loads or changes. (required)
- `webView:didReceiveIcon:forFrame:` (page 10) *required method*  
Invoked when a page icon changes. (required)

## Error Messages

- `webView:didFailProvisionalLoadWithError:forFrame:` (page 9) *required method*  
Invoked if an error occurs when starting to load data for a page. (required)
- `webView:didFailLoadWithError:forFrame:` (page 8) *required method*  
Invoked when an error occurs loading a committed data source. (required)

## Client and Server Redirect Messages

- `webView:didCancelClientRedirectForFrame:` (page 6) *required method*  
Invoked when a client redirect is cancelled. (required)
- `webView:willPerformClientRedirectToURL:delay:fireDate:forFrame:` (page 13) *required method*  
Invoked when a frame receives a client redirect and before it is fired. (required)
- `webView:didReceiveServerRedirectForProvisionalLoadForFrame:` (page 11) *required method*  
Invoked when a provisional data source for a frame receives a server redirect. (required)

## WebScript Messages

- `webView:didClearWindowObject:forFrame:` (page 7) *required method*  
Invoked when the JavaScript window object in a frame is ready for loading. (required)
- `webView>windowScriptObjectAvailable:` (page 15) *required method* **Deprecated in Mac OS X v10.4.11**  
Invoked when a frame's scripting object for a page is available. (Use the `webView:didClearWindowObject:forFrame:` (page 7) method instead.) (required)

## Instance Methods

### **webView:didCancelClientRedirectForFrame:**

Invoked when a client redirect is cancelled. (required)

- (void)webView:(WebView \*)senderdidCancelClientRedirectForFrame:(WebFrame \*)frame

### Parameters

*sender*

The web view containing the frame.

*frame*

The frame being loaded.

### Discussion

This might happen if a frame changes locations before a pending client redirect is fired. The client redirect occurred in *frame*.

### Availability

Available in Mac OS X v10.2 with Safari 1.0 and later.

Available in Mac OS X v10.2.7 and later.

### See Also

- [webView:willPerformClientRedirectToURL:delay:fireDate:forFrame:](#) (page 13)

### Declared In

WebFrameLoadDelegate.h

## webView:didChangeLocationWithinPageForFrame:

Invoked when the scroll position within a frame changes. (required)

```
- (void)webView:(WebView *)sender didChangeLocationWithinPageForFrame:(WebFrame *)frame
```

### Parameters

*sender*

The web view containing the frame.

*frame*

The frame being loaded.

### Discussion

Typically, invoked when the user clicks on an anchor within a page. Additional information about the request can be obtained from the data source of *frame*.

### Availability

Available in Mac OS X v10.2 with Safari 1.0 and later.

Available in Mac OS X v10.2.7 and later.

### Declared In

WebFrameLoadDelegate.h

## webView:didClearWindowObject:forFrame:

Invoked when the JavaScript window object in a frame is ready for loading. (required)

```
- (void)webView:(WebView *)sender didClearWindowObject:(WebScriptObject *)windowObject forFrame:(WebFrame *)frame
```

**Parameters***sender*

The web view sending this message.

*windowObject*

The cleared JavaScript window object.

*frame*

The frame containing the JavaScript window object.

**Discussion**

Use this method to set custom properties on the window object before the page is actually loaded.

**Availability**

Available in Mac OS X v10.4.11 and later.

**Declared In**

WebFrameLoadDelegate.h

**webView:didCommitLoadForFrame:**

Invoked when content starts arriving for a page load. (required)

```
- (void)webView:(WebView *)senderdidCommitLoadForFrame:(WebFrame *)frame
```

**Parameters***sender*

The web view containing the frame.

*frame*

The frame being loaded.

**Discussion**

This method is invoked when a data source transitions from a provisional to committed state—that is, once the data source of *frame* has received one byte or more of data. This method is invoked after a [webView:didStartProvisionalLoadForFrame:](#) (page 12) message but before a [webView:didFinishLoadForFrame:](#) (page 10) message is sent to the delegate.

In some cases, a single frame load may be committed more than once. This happens in the case of multipart/x-mixed-replace, also known as a “server push.” In this case, a single frame load results in multiple documents loaded in sequence. This method is invoked once for each document that is successfully loaded.

**Availability**

Available in Mac OS X v10.2 with Safari 1.0 and later.

Available in Mac OS X v10.2.7 and later.

**Declared In**

WebFrameLoadDelegate.h

**webView:didFailLoadWithError:forFrame:**

Invoked when an error occurs loading a committed data source. (required)

```
- (void)webView:(WebView *)senderdidFailLoadWithError:(NSError *)errorforFrame:(WebFrame *)frame
```

### Parameters

*sender*

The web view containing the frame.

*error*

The type of error that occurred during the load.

*frame*

The frame being loaded.

### Discussion

This method is called after the data source has been committed but resulted in an error.

### Availability

Available in Mac OS X v10.2 with Safari 1.0 and later.

Available in Mac OS X v10.2.7 and later.

### See Also

- [webView:didFinishLoadForFrame:](#) (page 10)

### Declared In

WebFrameLoadDelegate.h

## webView:didFailProvisionalLoadWithError:forFrame:

Invoked if an error occurs when starting to load data for a page. (required)

```
- (void)webView:(WebView *)senderdidFailProvisionalLoadWithError:(NSError *)errorforFrame:(WebFrame *)frame
```

### Parameters

*sender*

The web view containing the frame.

*error*

Specifies the type of error that occurred during the load.

*frame*

The frame being loaded.

### Discussion

The frame continues to display the committed data source if there is one.

### Availability

Available in Mac OS X v10.2 with Safari 1.0 and later.

Available in Mac OS X v10.2.7 and later.

### See Also

- [webView:didFinishLoadForFrame:](#) (page 10)

### Declared In

WebFrameLoadDelegate.h

**webView:didFinishLoadForFrame:**

Invoked when a page load completes. (required)

```
- (void)webView:(WebView *)senderdidFinishLoadForFrame:(WebFrame *)frame
```

**Parameters**

*sender*

The web view containing the frame.

*frame*

The frame being loaded.

**Discussion**

This method is invoked when a location request for *frame* has successfully completed; that is, when all the resources are done loading. Additional information about the request can be obtained from the data source of *frame*.

**Availability**

Available in Mac OS X v10.2 with Safari 1.0 and later.

Available in Mac OS X v10.2.7 and later.

**See Also**

- [webView:didStartProvisionalLoadForFrame:](#) (page 12)

**Declared In**

WebFrameLoadDelegate.h

**webView:didReceiveIcon:forFrame:**

Invoked when a page icon changes. (required)

```
- (void)webView:(WebView *)senderdidReceiveIcon:(NSImage *)imageforFrame:(WebFrame *)frame
```

**Parameters**

*sender*

The web view containing the frame.

*image*

The page icon for a data source.

*frame*

The frame being loaded.

**Discussion**

This method may be invoked multiple times before all resources for *frame* are completely loaded. Sometimes a page uses a default icon or stored image that changes when the actual images is loaded.

**Availability**

Available in Mac OS X v10.2 with Safari 1.0 and later.

Available in Mac OS X v10.2.7 and later.

**Declared In**

WebFrameLoadDelegate.h

**webView:didReceiveServerRedirectForProvisionalLoadForFrame:**

Invoked when a provisional data source for a frame receives a server redirect. (required)

```
- (void)webView:(WebView *)senderdidReceiveServerRedirectForProvisionalLoadForFrame:(WebFrame *)frame
```

**Parameters**

*sender*

The web view containing the frame.

*frame*

The frame being loaded.

**Discussion**

A **server redirect** is when one URL location is redirected to another. Additional information about the new request can be obtained from the data source of *frame*.

**Availability**

Available in Mac OS X v10.2 with Safari 1.0 and later.

Available in Mac OS X v10.2.7 and later.

**Declared In**

WebFrameLoadDelegate.h

**webView:didReceiveTitle:forFrame:**

Invoked when the page title of a frame loads or changes. (required)

```
- (void)webView:(WebView *)senderdidReceiveTitle:(NSString *)titleforFrame:(WebFrame *)frame
```

**Parameters**

*sender*

The web view containing the frame.

*title*

The newly loaded title.

*frame*

The frame being loaded.

**Discussion**

This method may be invoked multiple times before all resources for *frame* are completely loaded. Delegates might implement this message to display the page title to the user.

**Availability**

Available in Mac OS X v10.2 with Safari 1.0 and later.

Available in Mac OS X v10.2.7 and later.

**Declared In**

WebFrameLoadDelegate.h

**webView:didStartProvisionalLoadForFrame:**

Invoked when a page load is in progress in a given frame. (required)

```
- (void)webView:(WebView *)senderdidStartProvisionalLoadForFrame:(WebFrame *)frame
```

**Parameters**

*sender*

The web view containing the frame.

*frame*

The frame being loaded.

**Discussion**

This method is invoked when a new client request is made by *sender* to load a provisional data source for *frame*. This method may be invoked after sending `loadRequest:` to a `WebFrame` object or as a consequence of the user clicking a link displayed in a web frame view. Delegates might implement this method to notify the user that a request is in progress. Additional information about the request can be obtained from the data source of *frame*.

**Availability**

Available in Mac OS X v10.2 with Safari 1.0 and later.

Available in Mac OS X v10.2.7 and later.

**See Also**

- [webView:didFinishLoadForFrame:](#) (page 10)

**Declared In**

WebFrameLoadDelegate.h

**webView:willCloseFrame:**

Invoked when a frame will be closed. (required)

```
- (void)webView:(WebView *)senderwillCloseFrame:(WebFrame *)frame
```

**Parameters**

*sender*

The web view containing the frame.

*frame*

The frame being loaded.

**Discussion**

Invoked right before WebKit is done with *frame* and the objects it owns.

**Availability**

Available in Mac OS X v10.2 with Safari 1.0 and later.

Available in Mac OS X v10.2.7 and later.

**See Also**

- [webView:willPerformClientRedirectToURL:delay:fireDate:forFrame:](#) (page 13)

**Declared In**

WebFrameLoadDelegate.h

**webView:willPerformClientRedirectToURL:delay:fireDate:forFrame:**

Invoked when a frame receives a client redirect and before it is fired. (required)

```
- (void)webView:(WebView *)senderwillPerformClientRedirectToURL:(NSURL
    *)URLdelay:(NSTimeInterval)secondsfireDate:(NSDate *)dateforFrame:(WebFrame
    *)frame
```

**Parameters**

*sender*

The web view containing the frame.

*URL*

The redirect location.

*seconds*

The number of seconds from *date* before the redirect will be fired.

*date*

The date and time to fire the redirect.

*frame*

The frame where the redirect occurred.

**Discussion**

Delegates might implement this method to display progress while a client redirect is pending. If a client redirect is cancelled the [webView:didCancelClientRedirectForFrame:](#) (page 6) delegate method is invoked.

**Availability**

Available in Mac OS X v10.2 with Safari 1.0 and later.

Available in Mac OS X v10.2.7 and later.

**See Also**

- [webView:didCancelClientRedirectForFrame:](#) (page 6)

**Declared In**

WebFrameLoadDelegate.h



# Deprecated WebFrameLoadDelegate Methods

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A method identified as deprecated has been superseded and may become unsupported in the future.

## Deprecated in Mac OS X v10.4.11

### **webView:windowScriptObjectAvailable:**

Invoked when a frame's scripting object for a page is available. (Use the [webView:didClearWindowObject:forFrame:](#) (page 7) method instead.) (required) (Deprecated in Mac OS X v10.4.11.)

```
- (void)webView:(WebView *)sender windowScriptObjectAvailable:(WebScriptObject *)windowScriptObject
```

#### **Parameters**

*sender*

The web view containing the frame.

*windowScriptObject*

The window object in the scripting environment.

#### **Discussion**

This method is invoked before the page is actually loaded.

#### **Availability**

Available in Mac OS X v10.3.9 and later.

Deprecated in Mac OS X v10.4.11.

#### **See Also**

- [windowScriptObject](#)

#### **Declared In**

WebFrameLoadDelegate.h



# Document Revision History

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This table describes the changes to *WebFrameLoadDelegate Protocol Reference*.

Date	Notes
2009-04-08	Added separate parameter and return value descriptions.
2008-10-15	Minor edits throughout.
2008-06-19	Updated for Mac OS X v10.5.
2006-05-23	First publication of this content as a separate document.

## REVISION HISTORY

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