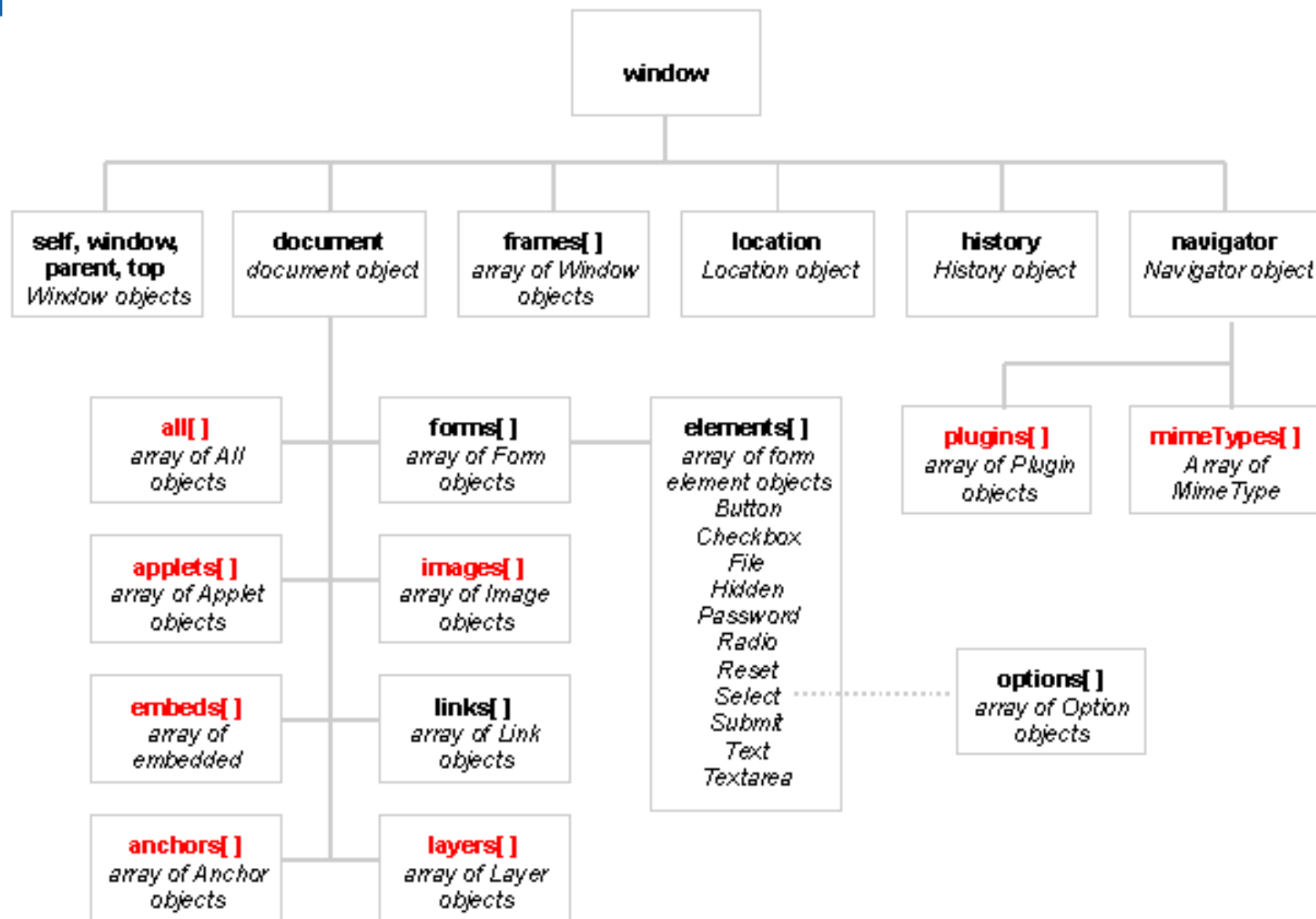


JavaScript Object Hierarchy

Object Hierarchy



HTMLElement Object Events

Event	Description
onblur	When an element loses focus
onclick	When a mousedown on an element
ondblclick	When a mouse-doubeclk on an element
onfocus	When an element gets focus
onkeydown	When a keyboard key is pressed
onkeypress	When a keyboard key is pressed or held down
onkeyup	
onmousedown	
onmousemove	
onmouseout	
onmouseover	
onmouseup	
onresize	

window object

- **window** object is the highest level JavaScript object which corresponds to the web browser window.
- **window** object contains **document** , **location**, **frames** and **history** object.
- By default the **window** object is automatically available to the java script code written for the browser.
- In other words **alert()** implicitly implies **window.alert()** and **prompt()** implicitly implies **window.prompt()**

Properties and events

Properties

- **name** :window name
- **self** :current window
- **top** : top most window
- **parent** :parent window
- **opener** :object that caused the window to open
- **status** : to write a message in the status bar
- **defaultStatus** : default message that is loaded into the status bar when the window loads
- **closed** : A boolean value that indicates whether the window is closed
- **length** :No. of frames that the window contains

Events

- **onError**
- **onLoad**
- **onscroll**
- **onselectstart**
- **onUnload**

+ HTMLElement
Object Events

Example –status bar

```
<html><head>
<script>
function setStatus(x) {
status=x;
}
```

Note how script is written with the event



```
</script>
</head>
```

```
<body onLoad="defaultStatus='welcome' "
onBlur="setStatus('OUT') "
onFocus="setStatus('ON') ">
```

Change the focus from in and out of the window and watch the message in the status bar

```
</body>
</html>
```

window object popup boxes methods

- `alert(displayString)`
- `String`
`prompt(question, defaultanswer)`
 - If user clicks OK it returns the string entered by the user
 - If user clicks CANCEL it returns NULL
- `boolean confirm(question)`
 - If user clicks OK it returns the `true`
 - If user clicks CANCEL it returns `false`

Example using pop-ups

```
<html><head>
<script>
function communicate() {
alert("Hello");
s=prompt("What is your name", "xyz");
b=confirm("Do you want to see your name
displayed in red color");
if(b) {
var text = document.createTextNode(s);
document.body.appendChild(text);
document.body.setAttribute("text","red");
}}
</script>
</head><body onUnload="alert('Bye!')">
<script> communicate()</script>
</body></html>
```


window object methods

- **Timer setTimeout(expression, millisecs)**
 - calls a function after the specified time in milliseconds
- **clearTimeout(timerobj)**
 - clears the timeout that was set using the **setTimeout** function

Example: clock

```
<html><head>
<script type="text/javascript">
function startTime(){
var today=new Date();
var h=today.getHours();
var m=today.getMinutes();
var s=today.getSeconds();
document.getElementById('txt').innerHTML=h+":
"+m+": "+s;
t=setTimeout('startTime()',1000);
}
</script></head><body onload="startTime()">
<div id="txt"></div>
</body>
</html>
```

Opening a window

- The open method is used to open a new window
- `open(url,name,[options])`
 - where options are
 - status, toolbar, location, menubar, directories, resizable, scrollbars, height, width

Positioning and resizing window methods

- **moveBy (x, y)** -The window is moved the specified number of pixels in the X and Y direction.
- **moveTo (x, y)** -The window is moved to the specified X and Y pixel location in the browser
- **resizeBy (X, Y)** - Adjusts the window size relative to the current value.
- **resizeTo (X, Y)** - Adjusts the window size to set X and Y width and height values.
- **scroll (X, Y)** - The window is scrolled to the location specified by the X and Y values in pixels .
- **scrollBy (X, Y)** - The window is scrolled relative to the location specified by the X and Y values in pixels .
- **scrollTo (X, Y)** – same as **scroll ()**

```
<html>
```

```
<body>
```

```
<script language="JavaScript">
```

```
var win= open("3-  
counter.html", "counter",  
"toolbar=no,menubar=no,width=200,height  
=200,resizable=yes");
```

```
win.moveTo(0,0);
```

```
</script>
```

Do you see a window open up with no
toolbar, menubar ?

```
</body>
```

```
</html>
```

location

- property of the **window** object
 - used to control the web page displayed by the browser
 - Properties :gets the parts of the url
 - **href**
 - **hostname**
 - **host** (hostname and port)
 - **hash**
 - **pathname**
 - **port**
 - **protocol**
 - **search** (query string section)
- Methods→
- reload()** - The current window document is reloaded.
 - replace(URL)**
Replaces the current document with a new one

Example

```
<html>
<body onclick="location.href='11-
clock.html'">
<script>
switch (window.location.protocol) {
    case "http:":
        alert("From Web<BR>\n");
        break
    case "file:":
        alert("From Local computer<BR>\n");
        break
    default:
        alert ("Unknown Source<BR>\n");
        break ;
}
</script></body></html>
```

frames

- Property of **window** object representing array of **window** objects
- frame object represents **<frame>** inside the **<frameset>**

Example- displaying image on right frame based on what is selected on the left frame

```
<html>
<head><title> frames</title>
</head>
<frameset cols="200,*">
<frame name="f1" src="nav1.html">
<frame name="f2" src="body.html">
</frameset>
</html>
```

body.html

```
<html>
<body>Hello world
</body></html>
```

```

<html><head><title>left bar</title>
<script>
function ask() {
arr=new
Array('happy.jpg','afraid.jpg','wink.jpg');
var x=prompt("enter 0 for happy, 1 for angry and
2 for wink","0");
if(x.match(/[0-2]/)!=x )
alert("wrong input");
else change(arr[parseInt(x)]);
}
function change(pic){
    top.f2.location.href
parent.f2.location.href=pic; }
</script>
</head>
<body bgcolor="grey" onLoad="ask()"
OnClick="ask()">
Click to change the picture
</body></html>
    parent.frames[1].location.href

```

document object

- Represents html document
- Property of window object

Properties:

`anchors[] , forms[] , images[] , links[] , title ,
cookie , domain , lastModified , referrer , URL`

Methods:

`write() , writeln() , getElementById() ,
getElementsByName() , getElementsByTagName()`

Events: HTMLElement Object Events

```
<html>
<title>document writing</title>
<body>
<pre>
<script type="text/javascript">
document.writeln("Title: "+
document.title);
document.writeln("URL: "+
document.URL);
</script>
</pre>
</body>
</html>
```