

# Rules for Object Recognition

**SilkTest<sup>®</sup>**  
**2008 R2**

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# Construction of Window Declaration Identifiers and Tags

SilkTest's object recognition system uses a window declaration identifier as the logical name of an object and a tag or multitag as the attribution for uniquely identifying an object. To permit robust operation across browsers, SilkTest uses a complicated system of rules to construct the identifiers and associated attributes.

The window declaration identifiers and tags or multitags are constructed hierarchically from information such as HTML object attributes and closest static text. The class dependent caption and windowID construction rules form the basis for the window declaration identifier, single tag, and multitag construction rules. The Index construction rules are class independent.

## Legend and Notes

Recognition effectiveness is not usually affected by the character length restrictions placed on the caption, windowID, and window declaration identifier.

### Legend

CST	Closest Static Text
BNT	Browser Nearest Text Checkbox (Agent CST default, Browser CST option)
Caption	Restricted to 127 characters
WindowID	Restricted to 63 characters
HTML Tag Attributes	ALT, CONTENT, HREF, HTTP-EQUIV, ID, NAME, SRC, VALUE
">"	Interpret as "takes precedence over"
4Test	Produces – Window Declaration Identifier, Single Tag or Multitag
Agent	Produces – Index, Prior Text, Location
Extension	Produces – WindowID, Caption

## DOM Extension

The following tables define the fundamental relationships and rules used during DOM processing.

### Fundamental Relationships in DOM

Class	Caption Rules	WindowID Rules
Browser Child	TITLE -> Page Location (URL)	Page Location (URL)
Browser Child Frame	TITLE (Frame) -> NAME (Frame) -> Page Location (URL)	None
HtmlCheckBox	Browser CST	NAME -> Class Name Counter
HtmlColumn	Inner Text -> BNT	ID
HtmlComboBox	Not applicable in DOM	
HtmlForm	NAME -> BNT	ID
HtmlHeading	Text	ID
HtmlHidden	Inner Text -> BNT	NAME
HtmlImage <IMG SRC>	ALT -> BNT	NAME -> HREF
HtmlImage <INPUT type=image SRC>	Not applicable in DOM – mapped to HtmlPushButton	
HtmlLink-text <A>HREF text </A>	Inner Text -> Agent CST	NAME -> HREF
HtmlList	Browser CST	NAME
HtmlListBox	Browser CST	NAME -> Blank
HtmlMarquee	BNT	NAME
HtmlMeta	NAME -> HTTP-EQUIV -> BNT	CONTENT
HtmlPopupList	BNT	NAME
HtmlPushButton <INPUT type=image SRC>	ALT -> Agent CST	NAME

Class	Caption Rules	WindowID Rules
HtmlPushButton <INPUT type=[reset,submit] SRC>     <BUTTON>	VALUE -> Agent CST (when '<' is first character of VALUE)	NAME
HtmlRadioButton	BNT	NAME -> Class Name Counter
HtmlRadioList	BNT	NAME -> Class Name Counter
HtmlTable	Caption -> BNT	ID
HtmlText	Text	ID
HtmlTextField	Browser CST	NAME
HtmlTextField <INPUT type=file SRC>	Browser CST	NAME -> FILE_INPUT
XMLNode	VALUE -> NAME	Internally Generated Integer

Window Declaration Identifier Rules in DOM	
Class	Rule
All	for Use WindowID option: WindowID -> Caption -> Index
	for Use Caption option: Caption -> WindowID -> Index
All	Same CST used for multiple objects of same class: postpend WindowID with Index, postpend Caption with Index in brackets
All	Same CST used for multiple objects of different classes: postpend WindowID with Index
All	Only Index exists: postpend class with Index

### Index Rules in DOM

Class	Rule
All	Relative to parent: left-to-right then top-to-bottom

Single Tag Rules in DOM	
Class	Rule
All	User Interface controls Tag selection

Multitag Rules in DOM	
Class	Rule
Browser Child	Caption - not selectable through UI
Browser Child Frame	Caption - not selectable through UI
HtmlCheckBox	Caption, Index, and WindowID - not selectable through UI
HtmlColumn	Selectable through UI
HtmlComboBox	not applicable in DOM
HtmlForm	Caption, Index, and WindowID - not selectable through UI
HtmlHeading	Selectable through UI
HtmlHidden	Caption, Index, and WindowID - not selectable through UI
HtmlImage <IMG SRC>	Caption, Index, and WindowID - not selectable through UI
HtmlImage <INPUT type=image SRC>	not applicable in DOM - mapped to HtmlPushButton
HtmlLink-text <A>HREF text </A>	Caption, Index, and WindowID - not selectable through UI
HtmlList	Selectable through UI
HtmlListBox	Caption, Index, and WindowID - not selectable through UI
HtmlMarquee	Caption, Index, and WindowID - not selectable through UI
HtmlMeta	Caption, Index, and WindowID - not selectable through UI
HtmlPopupList	Caption, Index, and WindowID - not selectable through UI
HtmlPushButton <INPUT type=image SRC>	Caption, Index, and WindowID - not selectable through UI
HtmlPushButton <INPUT type=[reset,submit] SRC> <BUTTON>	Caption, Index, and WindowID - not selectable through UI
HtmlRadioList	Caption, Index, and WindowID - not selectable through UI
HtmlTable	Selectable through UI
HtmlText	Selectable through UI
HtmlTextField	Caption, Index, and WindowID - not selectable through UI
HtmlTextField <INPUT type=file SRC>	Caption, Index, and WindowID - not selectable through UI
XMLNode	Selectable through UI

## Html Object Recognition

This table shows how SilkTest maps 4Test objects to HTML objects.

Html Object Recognition	
4Test class	HTML tag
HtmlCheckBox	<input type=checkbox>
HtmlColumn	<th>, <td> is column if the <td> is in the first row and there is no <th>
HtmlForm	<form>
HtmlHeading	<h1>, <h2>, <h3>, <h4>, <h5>, <h6>, <th>
HtmlHidden	<input type=hidden>
HtmlImage	<img>
HtmlLink-text	<a href=...> <area>
HtmlList	<ol, <ul, <dl, <dir, <menu
HtmlListBox	<select size=1>
HtmlMeta	<meta>
HtmlPopupList	<select size= > if size is larger than 1
HtmlPushButton	<button>, <input type=button>, <input type=file>, <input type=image>, <input type=reset>, <input type=submit>
HtmlRadioList	<input type=radio>
HtmlTable	<table>
HtmlText	<a> without <href>, <abbr>, <acronym>, <b>, <bdo>, <big>, <blockquote>,  , <center>, <cite>, <code>, <dd>, <dfn>, <div>, <dt>, <em>, <font> <kbd>, <l>, <label>, <left>, <legend>, <li>, <nobr>, <p>, <pre>, <q>, <right>, <s>, <samp>, <sapn>, <small>, <strike>, <strong>, <sub>, <sup>, <tt>, <u>, <var>, <xmp>
HtmlTextField	<input type=file>, <input type=password>, <input type=text>, <textarea>
XMLNode	

For detailed information about the HTML object attributes tag, refer to the SilkTest online help.