

## Using Cortona3D Viewer in HTML

To display a VRML world in a Web browser authors should use the **EMBED** or **OBJECT** elements with the proper attributes in an HTML document.

### An example of using EMBED tag

```
<embed src=" http://www.sample.com/sample.wrl"  
width="128"  
height="128"  
type="application/x-cortona"  
pluginspage="http://www.cortona3d.com/cortona"  
vrml_splashscreen="false"  
vrml_dashboard="false"  
vrml_background_color="#CDCDCD"  
contextmenu="false">
```

where:

- **SRC** specifies the name of the VRML scene to be loaded;
- **TYPE** MIME type (must be "model/vrml" for Cortona browser);
- **WIDTH, HEIGHT** standard formatting attributes;
- **VRML\_SPLASHSCREEN** "TRUE" - turns on Cortona SplashScreen; "FALSE" - turns off;
- **VRML\_DASHBOARD** "TRUE" - turns on horizontal and vertical toolbars; "FALSE" - turns off;
- **VRML\_BACKGROUND\_COLOR** "#rrggbb" specifies the background color of the 3D window (hexadecimal);
- **CONTEXTMENU** "TRUE" - enables context menu in the 3D window; "FALSE" - disables.

For more information about the Cortona plug-in specific attributes, see OBJECT and EMBED Parameters section below.

## An example of using OBJECT tag

```
<OBJECT  
CLASSID="CLSID:86A88967-7A20-11d2-8EDA-00600818EDB1"  
WIDTH="128"  
HEIGHT="128">  
<PARAM NAME="SRC" VALUE="http://www.sample.com/sample.wrl">  
<PARAM NAME="VRML_BACKGROUND_COLOR" VALUE="#CDCDCD">  
<PARAM NAME="VRML_DASHBOARD" VALUE="false">  
<PARAM NAME="VRML_SPLASHSCREEN" VALUE="false">  
<PARAM NAME="CONTEXTMENU" VALUE="false">  
</OBJECT>
```

where:

- **CLASSID** identifies the Cortona ActiveX control for the browser. The value must be entered exactly as shown;
- **WIDTH, HEIGHT** standard formatting attributes;

Params (properties):

- **SRC** specifies the name of the VRML scene to be loaded;
- **VRML\_SPLASHSCREEN** "TRUE" - turns on Cortona SplashScreen; "FALSE" - turns off;
- **VRML\_DASHBOARD** "TRUE" - turns on horizontal and vertical toolbars; "FALSE" - turns off;
- **VRML\_BACKGROUND\_COLOR** "#rrggbb" specifies the background color of the 3D window (hexadecimal);
- **CONTEXTMENU** "TRUE" - enables context menu in the 3D window; "FALSE" - disables.

For more information about the Cortona3D Viewer properties, see OBJECT and EMBED Parameters section below.

## OBJECT and EMBED Parameters

Parameter	Default values	Possible values	Description
AnimateViewpoints	False	True, False	Determines whether the viewer moves smoothly between the previous and the chosen viewpoints. If this parameter is set to True, the viewer's motion is smooth. If this parameter is set to False, the viewer jumps instantaneously from one viewpoint to another.
BackColor	&h000000	&h000000 - &hFFFFFF	Specifies the background color of the Cortona 3D window (for example, blue color: "&hFF0000"). This property is ignored if the current VRML scene contains Background VRML nodes.
ColliderMode	0	0,1,2	Specifies collision detection in Cortona. If this parameter is set to "0", Cortona uses the collision method specified by the author of the VRML scene. If the bound NavigationInfo VRML node in the scene defines the WALK navigation type, collision detection is enabled, otherwise it is disabled. Note that if the current scene does not contain a NavigationInfo node, collision detection is disabled. If this parameter is set to "1", collision detection is always on. If this parameter is set to "2", collision detection is always off.
ConsoleMode	0	0,1,2	Specifies the behaviour of the Cortona Console window. If this parameter is set to "0", console is invoked by a message sent to it. If this parameter is set to "1", console is hidden. If this parameter is set to "2", console is displayed.
ContextMenu	True	True, False	Determines whether the user can invoke the context (pop-up) menu in the Cortona Control window. If this parameter is set to True, the user can invoke the context menu by right-clicking the Cortona Control window. If this parameter is set to False, the user cannot invoke the context menu.
CpuLoading	80	0-100	Specifies the maximum amount of the processor time (in percents) that Cortona Control can use. This parameter can take values in the range from 0 (minimum performance in Cortona, maximum processor idle time) to 100 (maximum performance in Cortona, zero processor idle time).
HeadLight	True	True, False	Specifies whether the headlight is 'on' in the Cortona 3D window. If this parameter is set to True, the headlight is turned on. If this parameter is set to

Parameter	Default values	Possible values	Description
			False, the headlight is turned off.
InputDevices	7	0-7	Specifies input devices that can be used for navigating in the Cortona 3D window: devKeyboard = 1 (Keyboard), devMouse = 2 (Mouse), devJoystick = 4 (Joystick). These values are bit flags, and may be combined to select multiple input devices. The absence of a flag signifies that the the corresponding device is disabled. By default, all the input devices are enabled and the property has a value 7.
LoadDroppedScene	True	True, False	Determines whether the VRML scene with its uniform resource locator (URL) dragged to the Cortona 3D window replaces the current scene. If this parameter is set to True, the current scene is replaced. If this parameter is set to False, the current scene is not replaced. This parameter should be used together with a DropSensor node. For more details, see VRML extensions in Cortona (Handling a drag-and-drop operation in Cortona).
MuteSound	0	0,1,2	Specifies whether sounds are on in Cortona. If this parameter is set to "0", sound is muted when a window containing Cortona Control loses focus. If this parameter is set to "1", sound is off. If this parameter is set to "2", sound is on.
NavigationBar	1	0,1	Determines whether the Cortona navigation bar (toolbars) is displayed or hidden. If this parameter is set to "0", the navigation bar is hidden. If this parameter is set to "1", the navigation bar is displayed.
NavigationMode	1	0,1,2,3,4	Specifies navigation mode (type) in Cortona. 0 - the NONE navigation type 1 - the WALK navigation type 2 - the FLY navigation type 3 - the EXAMINE navigation type 4 - the AVATAR navigation type
NavigationStyle	"plan"	"plan", "pan", "turn", "roll"	Specifies navigation style (option) in Cortona.
PixelBufferAccess	False	True, False	Activates the mode, where Picture property of Cortona Control or GetBuffer in I3DviewService3 interface is accessible. If this parameter is set to True, the DirectX9 printing compatible mode is activated If this parameter is set to False, the

Parameter	Default values	Possible values	Description
			DirectX9 printing compatible mode is deactivated. Note: This property is used in the DirectX9.0 renderer mode only.
RendererHints	Depends on selected renderer	0-16777215	16 (0010 hex) Optimize all textures in the scene for speed (this hint corresponds to the Limit texture sizes option in the Cortona Control Properties dialog box). 32 (0020 hex) Optimize all textures in the scene for quality. 128 (0080 hex) Do not render textures. 256 (0100 hex) Show the Wireframe View of the scene. Objects in the scene appear to be outlined with wires rather than solid. 512 (0200 hex) Anti-alias geometry edges (dynamic anti-aliasing). The anti-aliasing technique smoothes out jaggies in curves displayed in the Cortona 3D window. 1024 (0400 hex) Dither colors if needed. Dithering improves the quality of rendering, but may lower performance. 4096 (1000 hex) Use texture mip-mapping. When a scene contains acutely angled polygons that disappear into the distance, low- and high-resolution versions of the same texture are mixed to reduce the jagged effect. 16384 (4000 hex) Use Phong lighting model. 32768 (8000 hex) Anti-alias geometry edges in static scenes. 1048576 (100000 hex) Render VRML scenes in accordance with the VRML97 Specification. If this hint is not set, simplified lighting equations and rendering techniques, which provide higher performance, are used.
RendererMaxTextureSize	0	0,256,512,1024,2048	Specifies the renderer's maximal textures size. 0 The maximal textures size has no limitations, 256 256x256 pixels texture 512 512x512 pixels texture 1024 1024x1024 pixels texture 2048 2048x2048 pixels texture
RendererName	Depends on hardware configuration	"OpenGL Renderer", "DirectX Renderer", "R98 Renderer"	Specifies the renderer in Cortona by name. Assignments of a new value to this parameter forces Cortona to use the chosen renderer.

Parameter	Default values	Possible values	Description
Scene	""	valid URL	Specifies the URL of the scene. In case of the relative path, it is resolved as relative to the directory, containing HTML page with the control. The loading is asynchronous.
ShowFps	True	True, False	Determines whether the status bar of the Internet browser displays the current frame rate in the Cortona 3D window. If this parameter is set to True, frame rate is displayed. If this parameter is set to False, frame rate is not displayed. The format of the frame rate output is determined by the value of the showrenderingtime parameter.
show_hidden_viewpoints	False	True, False	Determines whether the list of viewpoints in Cortona Control includes Viewpoint nodes with empty description fields. If this parameter is set to True, viewpoints with empty description fields are shown. If this parameter is set to False, viewpoints with empty description fields are hidden.
ShowLogo	True	True, False	Determines whether Cortona splashscreen is shown when the VRML file is loaded in Cortona Control. If this parameter is set to True, Cortona splashscreen is shown. If this parameter is set to False, Cortona splashscreen is not shown.
ShowProgress	True	True, False	Determines whether the status bar of the Internet browser shows the current state of the scene loading process. If this parameter is set to True, the state of the scene loading process is shown. If this parameter is set to False, the state of the scene loading process is not shown.
showRenderingTime	False	True, False	Specifies format of the frame rate output in the status bar of the Internet browser. If this parameter is set to True, frame rate is displayed in milliseconds per frames (ms). If this parameter is set to False, it is displayed in frames per seconds (fps).
Skin	"{1706B265-E103-4332-9871-7FEE6C37C699}"	valid clsid	Specifies the name of the current skin in Cortona Control. An assignment of a new value to this property forces Cortona to redraw the Cortona Control window with the specified skin. Format: <clsid>[;<URL>[#Version=<version>]] where<clsid> - UUID of the skin. Should be equal to UUID defined in the manifest file and in the skin definition file of the package file. - The URL of the package file that contains the skin. For relative

Parameter	Default values	Possible values	Description
			URLs, the base URL is the URL of the HTML document. - The skin version number in the following format: major, minor, release, build. Possible values of <clsid>: "{1706B265-E103-4332-9871-7FEE6C37C699}" Default skin "{46BB95BF-8EB4-481A-A1EF-50D43FC32B9D}" CAD-like skin
SlowMode	0	>=0	Specifies a factor of rendering speed reduction in the Cortona 3D window. The value of this property should be greater or equal to 0. The default value of this property is 0 (speed is not decreased).
src	""	valid URL	the URL of the current VRML scene. When the property is set, launches the specified VRML file.
TravelSpeed	1	0,1,2,3,4	Determines the speed factor for the viewer navigation in the VRML scene. The actual speed of the viewer in the scene is the multiplication of the speed factor and the value of the speed field of the bound NavigationInfo node in the VRML scene (the default value of this field is 1 metre per second).
VRML_BACKGROUND_COLOR	#000000	#000000 - #FFFFFF	Determines the background color of the Cortona 3D window. This parameter is ignored if the current VRML scene contains Background VRML nodes.
VRML_DASHBOARD	True	True, False	Determines whether the Cortona navigation bar (toolbars) is displayed or hidden. If this parameter is set to False, the navigation bar is hidden. If this parameter is set to True, the navigation bar is displayed.
VRML_SPLASHSCREEN	True	True, False	Determines whether Cortona splashscreen is shown when the VRML file is loaded in Cortona Control. If this parameter is set to True, Cortona splashscreen is shown. If this parameter is set to False, Cortona splashscreen is not shown.
viewpoint_transition_mode	0	0,1,2	Specifies whether transitions between viewpoints (when a new viewpoint is bound) are smooth. If this parameter is set to "0", the behaviour of the viewpoint depends on the value of the jump field of the Viewpoint node to be bound. If this parameter is set to "1", the viewer moves to a new position with a transitional effect. If this parameter is set to "2", the viewer instantaneously jumps to a new position.

<b>Parameter</b>	<b>Default values</b>	<b>Possible values</b>	<b>Description</b>
WaitForAllResourses	False	True, False	Specifies whether Cortona delays displaying the scene until all its resources are loaded. If this parameter is set to True, the scene will not be shown until all resourses are loaded. If this parameter is set to False, the geometry of the scene will be shown immediately after the main VRML file is loaded.

If you have any technical questions please contact the Cortona3D support team at [support@cortona3d.com](mailto:support@cortona3d.com)