

Supported PB Features for PowerServer Web

Appeon® PowerServer® 2020
FOR WINDOWS, UNIX & LINUX

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Contents

1 Basic Requirements and Recommendations	1
1.1 Overview	1
1.2 Basic Requirements	1
1.3 Requirements for Upgrading PowerBuilder Applications	1
1.4 Application Language Recommendations	2
2 Web Browser Limitations	3
3 Application Techniques	4
3.1 Program Access Techniques	4
3.1.1 Using OLE in an application	4
3.1.2 Using external functions	5
3.1.3 Using Run PowerScript function	7
3.1.4 Building a mail-enabled application	8
3.1.5 Using Drag and Drop	8
3.2 Using Unicode	9
4 Web enhancements and differences	10
4.1 Appeon enhancements and differences	10
4.1.1 Appeon security enhancement	10
4.1.2 Installing Appeon Xcelerator plug-in	10
4.1.2.1 Overview	10
4.1.2.2 Installing Appeon Xcelerator plug-in via Internet Explorer	10
4.1.2.3 Installing Appeon Xcelerator plug-in via Edge/Chrome/ Firefox/Opera	12
4.1.3 PowerServer open interfaces	12
4.1.4 Application differences	13
4.2 DataWindow enhancements and differences	13
4.2.1 Appeon DataWindow menu	13
4.2.2 DataWindow printing	16
4.2.3 DataWindow user operation differences	17
4.3 Object Control Enhancements and Differences	18
4.3.1 Object/control enhancements	18
4.3.2 Object/control user operation differences	18
5 System Objects and Controls	20
5.1 Controls	20
5.1.1 Supported Controls	20
5.1.1.1 CheckBox control	20
5.1.1.2 CommandButton control	23
5.1.1.3 DatePicker control	26
5.1.1.4 DropDownList control	30
5.1.1.5 DropDownPictureListBox control	34
5.1.1.6 EditMask control	38
5.1.1.7 GroupBox control	43
5.1.1.8 HProgressBar control	45
5.1.1.9 HScrollBar control	46
5.1.1.10 HTrackBar control	48
5.1.1.11 InkPicture control	50
5.1.1.12 Line control	53

5.1.1.13	ListBox control	54
5.1.1.14	ListView control	57
5.1.1.15	MonthCalendar control	63
5.1.1.16	MultiLineEdit control	67
5.1.1.17	OLEControl control	70
5.1.1.18	OLECustomControl control	74
5.1.1.19	Oval control	77
5.1.1.20	Picture control	78
5.1.1.21	PictureButton control	81
5.1.1.22	PictureHyperLink control	84
5.1.1.23	PictureListBox control	87
5.1.1.24	RadioButton control	91
5.1.1.25	Rectangle control	93
5.1.1.26	RichTextEdit control	94
5.1.1.27	RoundRectangle control	102
5.1.1.28	SingleLineEdit control	104
5.1.1.29	StaticHyperLink control	107
5.1.1.30	StaticText control	109
5.1.1.31	Tab control	111
5.1.1.32	TreeView control	115
5.1.1.33	VProgressBar control	120
5.1.1.34	VScrollBar control	122
5.1.1.35	VTrackBar control	124
5.1.1.36	Window control	126
5.1.2	Unsupported controls	135
5.2	System objects	135
5.2.1	Supported Objects	136
5.2.1.1	Application object	136
5.2.1.2	CoderObject object	139
5.2.1.3	CompressorObject object	140
5.2.1.4	Connection object	141
5.2.1.5	CORBAObject object	142
5.2.1.6	CrypterObject object	143
5.2.1.7	DynamicDescriptionArea object	144
5.2.1.8	DynamicStagingArea object	145
5.2.1.9	Environment object	146
5.2.1.10	ExtractorObject object	147
5.2.1.11	Graph object	148
5.2.1.12	grAxis object	153
5.2.1.13	grDispAttr object	155
5.2.1.14	HTTPClient object	156
5.2.1.15	Inet object	158
5.2.1.16	InternetResult object	158
5.2.1.17	JSONGenerator object	159
5.2.1.18	JSONPackage object	160
5.2.1.19	JSONParser object	162
5.2.1.20	ListViewItem object	163
5.2.1.21	mailFileDescription object	164

5.2.1.22	mailMessage object	164
5.2.1.23	mailRecipient object	165
5.2.1.24	mailSession object	165
5.2.1.25	MDIClient object	166
5.2.1.26	Menu object	167
5.2.1.27	MenuCascade object	172
5.2.1.28	Message object	174
5.2.1.29	NonVisualObject object	175
5.2.1.30	OAuthClient object	176
5.2.1.31	OAuthRequest object	176
5.2.1.32	OLEObject object	177
5.2.1.33	OLEStorage object	179
5.2.1.34	OLEStream object	179
5.2.1.35	ResourceResponse object	180
5.2.1.36	RestClient object	181
5.2.1.37	Timing object	182
5.2.1.38	TokenRequest object	183
5.2.1.39	TokenResponse object	184
5.2.1.40	Transaction object	184
5.2.1.41	TreeViewItem object	188
5.2.1.42	UserObject object	189
5.2.1.43	WSConnection object	192
5.2.2	Unsupported Objects	193
6	PowerScript Reference	195
6.1	PowerScript Topics	195
6.1.1	Overview	195
6.1.2	Object-Oriented programming	195
6.1.3	Language basics	195
6.1.3.1	Comments	195
6.1.3.2	Identifiers	196
6.1.3.3	Labels	198
6.1.3.4	Special ASCII characters	198
6.1.3.5	Null values	199
6.1.3.6	Reserved words	200
6.1.3.7	Pronouns	200
6.1.3.8	Statement continuation & separation	201
6.1.4	Data types	201
6.1.4.1	Standard data types	201
6.1.4.2	Any data type	204
6.1.4.3	System object data types	204
6.1.4.4	Enumerated data types	205
6.1.4.5	Forced conversion between data types	205
6.1.5	Declarations	207
6.1.5.1	Variables and constants	207
6.1.5.2	Arrays	209
6.1.5.3	External functions	212
6.1.6	Operators & expressions	212
6.1.7	Structures	213

6.1.7.1	Definition and declaration of structures	213
6.1.7.2	Referring to structure variables	214
6.1.7.3	Initialization and assignment of structure variables	214
6.1.7.4	Passing structures as arguments	214
6.1.7.5	Complex structures	214
6.1.7.6	Unsupported	215
6.1.8	User objects	215
6.1.8.1	User objects	215
6.1.8.2	Autoinstantiated NVO	216
6.1.8.3	Nonautoinstantiated NVO	217
6.1.9	Calling functions and events	219
6.1.9.1	Syntax for calling functions and events	219
6.1.9.2	Triggering & Posting	219
6.1.9.3	Static & dynamic calls	220
6.1.9.4	Overloading, overriding, and extending functions and events	221
6.1.9.5	Passing arguments to functions and events	222
6.1.9.6	Using return values of functions and events	223
6.1.10	Document Interface	224
6.1.11	Era setting (JP version only)	225
6.2	PowerScript statements	225
6.3	Using PowerBuilder Source Editor	230
7	Embedded SQL	231
7.1	Database server and data types	231
7.2	Operators	234
7.3	Transaction management statements	235
7.4	Non-cursor statements	235
7.5	Cursor statements	239
7.6	Database stored procedures	240
7.7	Dynamic SQL	242
8	Functions	245
8.1	System functions	245
8.1.1	Supported types	245
8.1.1.1	Array functions	245
8.1.1.2	Blob functions	246
8.1.1.3	Byte functions	247
8.1.1.4	Data type checking and conversion functions	247
8.1.1.5	Date, Day and Time functions	249
8.1.1.6	DDE client functions and events	250
8.1.1.7	File functions	251
8.1.1.8	International functions	252
8.1.1.9	Miscellaneous functions	253
8.1.1.10	Numeric functions	254
8.1.1.11	Print functions	255
8.1.1.12	Printer functions	256
8.1.1.13	Registry functions	256
8.1.1.14	String functions	258
8.1.1.15	System and environment functions	262

8.1.1.16	Timing functions	263
8.1.1.17	Window functions	264
8.1.2	Unsupported types	265
8.2	User functions	266
9	Events	267
9.1	Event types	267
9.2	System messages	268
9.3	System message (non-standard EventID)	273
10	DataWindow	274
10.1	DataWindow data sources	274
10.2	Using SQL statements in DataWindows	274
10.3	DataWindow presentation styles	275
10.3.1	Composite DataWindow	277
10.3.2	CrossTab DataWindow	279
10.3.3	Grouping in DataWindow	280
10.3.4	Graph DataWindow	282
10.3.5	RichText DataWindow	283
10.3.6	TreeView DataWindow	286
10.4	Displaying and validating data	287
10.5	Dynamic DataWindow	289
10.6	DataWindow operators and expressions	292
10.7	DataWindow objects and their properties	296
10.7.1	DataWindow object	296
10.7.2	DataWindow object properties	297
10.7.3	Controls in a DataWindow and their properties	303
10.7.3.1	Button control	303
10.7.3.2	Column control	305
10.7.3.3	Computed Field control	309
10.7.3.4	Graph control	312
10.7.3.5	GroupBox control	313
10.7.3.6	Line control	315
10.7.3.7	Oval control	315
10.7.3.8	Picture control	316
10.7.3.9	Rectangle control	317
10.7.3.10	Report control	318
10.7.3.11	RoundRectangle control	319
10.7.3.12	Text control	320
10.7.3.13	Unsupported controls	322
10.8	DataWindow data and property expressions	322
10.9	DataWindow constants	324
10.10	DataWindow control	325
10.10.1	Properties of DataWindow control	325
10.10.2	Events for the DataWindow control	326
10.10.3	Functions of DataWindow control	328
10.11	DataStore object	334
10.11.1	Properties of DataStore object	334
10.11.2	Events of DataStore object	334
10.11.3	Functions of DataStore object	335

10.12 DataWindowChild object	338
10.12.1 Properties of DataWindowChild object	338
10.12.2 Functions for DataWindowChild	338
10.13 DataWindow performance considerations	341
11 DBParm parameters in Database	343
12 Calling Web Service	345
13 PowerBuilder Document Object Model	346
14 Undetected Unsupported Features	347

1 Basic Requirements and Recommendations

1.1 Overview

Apeon® PowerServer® is able to deploy most PowerBuilder features to Web successfully. However there are still some unsupported features to remove, general guideline to follow and common pitfalls to avoid during the Web migration process. An application that contains unsupported features and does not adhere to some basic requirements and architectural requirements, may fail to migrate to the Web and suffer from performance problems.

This book will help you:

1. Figure out what PowerBuilder features are supported in PowerServer and what are not;
2. Understand PowerServer Web features.

1.2 Basic Requirements

There are some basic requirements for the PowerBuilder application which is going to move to the Web with PowerServer.

1. The code is upgraded to be 100% compatible with PowerServer-supported environment. For details, refer to the Chapter 2, *Installation Requirements in Installation Guide for .NET*.
2. The application can generate .exe files (with no errors) in the PowerBuilder version that you install PowerServer Toolkit to.
3. The application has been tested thoroughly to be bug-free.

1.3 Requirements for Upgrading PowerBuilder Applications

The application code must be 100% PowerBuilder 2019 R2.

Non-PowerBuilder 2019 R2 code, including code that is defined as obsolete in PowerBuilder 2019 R2 help, must be replaced/upgraded before you can begin to use Apeon PowerServer. In addition, supported PowerBuilder 2019 R2 code is demonstrated in the PowerBuilder Help. Undocumented syntax is unsupported.

All objects that are referenced by PBLs need to be available - PBLs cannot point to objects that do not exist. If a PBL does reference an unavailable object, the PowerServer Web application deployment process will crash.

Upgrading DataWindow objects to PowerBuilder 2019 R2

- In PowerBuilder 9 and later versions, the DataWindow column name cannot be null (in PowerBuilder 8 or earlier, this was allowed). Ensure that the column names of DataWindows are not null.
- In in PowerBuilder 8 or earlier, the edit style of a DataWindow could be null. The user must make sure that after upgrading to PowerBuilder 9 or later versions, the edit styles of the DataWindows are not null.

- In PowerBuilder 8 or earlier, the user could use the GetChild function to provide a reference to a child DataWindow in the DataWindow itself. This is unsupported in PowerBuilder 9 and later versions.
- If an application is updated to PowerBuilder 9 or later version, some DataWindow columns may have duplicate names. Duplicate names for columns in a DataWindow are unsupported.
- If a DataWindow is not correctly upgraded to a PowerBuilder 2019 R2 format, the problematic DataWindow(s) will be reported with the following information: PBL > DATAWINDOW NAME.

Upgrading Menu objects to PowerBuilder 2019 R2

- With menu inheritance, the source code in earlier versions of PowerBuilder is different from the source code in PowerBuilder 2019 R2. The user must open the menu objects with inheritance in PowerBuilder 9 or later and upgrade the objects to PowerBuilder 9 or later objects.

Upgrading color specification to PowerBuilder 2019 R2

- A color value in an earlier PowerBuilder version may map to a different color of the same value in PowerBuilder 9 or later. If you prefer the color of the earlier version, be sure to verify that the correct colors are selected when upgrading the application to a PowerBuilder 9 or later application.

1.4 Application Language Recommendations

Apeon conducted comprehensive test for the Web application under the following language environment. Other languages can potentially be supported, but they have not been tested.

- English
- Simplified Chinese
- Traditional Chinese
- Korean
- Japanese

2 Web Browser Limitations

PowerServer Web applications run well in the Edge, Chrome, FireFox, Opera, and Internet Explorer with the following limitations:

1. More than one PowerServer application can run in the same IE 8\9\10\11 session, but cannot in IE 7, Edge, Chrome, FireFox, and Opera.
 - With IE 8\9\10\11, by default, you can run no more than two PowerServer Web applications in different tab pages, or different IE browsers. The third PowerServer Web application can not be run with the default IE settings. If you need to run multiple PowerServer Web applications (more than 3) with IE 8\9\10\11 you can
 - Click the File | New Session menu of IE 8\9\10\11. Then access PowerServer applications in the new opened IE browser.
 - Run iexplore.exe with the -nomerge parameter so that whenever you open a new IE browser, a new session will be created. For example, you can change the shortcut of IE 8\9\10\11 to "C:\Program Files\Internet Explorer\iexplore.exe" -nomerge.
 - With IE 7, Edge, Chrome, FireFox, and Opera, tab browsing multiple PowerServer applications that are deployed with same PowerServer version is unsupported since all tabs are sharing the same session in these Web browsers.
2. When the Web browser is refreshed, you need to log in the Web application again.

If you are an Internet Explorer user, there are more known issues:

- Internet Explorer supports page zoom, enlarging individual Web pages, including both text and graphics, to either focus on specific content or to make content more accessible to those with vision limitations, however, this feature has no effect to PowerServer application Web pages and places the UI elements in disorder.
- When a response window of the PowerServer Web application is opened in Internet Explorer, if you click the area out of the response window, the focus will be moved away from the window and you will not be able to set focus to the response window again.
- When a PowerServer Web application is opened in Internet Explorer, if you move the focus which is currently on the treeview of an MDIClient window to a different tab which has opened a non-PowerServer application, and then switch back to the PowerServer Web application, the toolbar of Internet Explorer will not be able to get the focus.
- When Internet Explorer browser is displayed in full screen, the pop-up menu on the PowerServer Web application will be closed automatically, because Internet Explorer automatically switches the focus.
- When a PowerServer Web application is opened in Internet Explorer, thumbnail images are unsupported.
- If the shortcut defined in PowerBuilder application is the same as the shortcut of Internet Explorer, shortcuts in Internet Explorer have a higher priority when it is converted to the Web.

3 Application Techniques

3.1 Program Access Techniques

3.1.1 Using OLE in an application

OLE, originally an acronym for Object Linking and Embedding, is a facility that allows Windows programs to share data and program functionality. PowerServer supports the use of OLE in three ways:

- OLE control
- OLECustomControl
- OLE object

Table 3.1:

OLE controls	Supported
	OLEControl control
	OLECustomControl control
	Unsupported
	OLE Control of DataWindow
OLE objects	Supported
	OLEObject object
	OLEStorage object
	OLEStream object
	Unsupported
	OLERuntimeError
	OLERuntime OLETxnObject Large Binary/Text database OLE Object of DataWindow
Calling OLE object functions	Requirements
	Using parentheses when calling an OLEObject method is required, even if the OLEObject method does not require any parameter. For example, when executing the Save function for a Microsoft Word document:
	Unsupported script:
	<pre>o1.ActiveDocument.Save //Unsupported</pre>
	Supported script:
	<pre>o1.ActiveDocument.Save() //Supported</pre>
	Unsupported

	<p>1. OLEObject object does not support cascaded calling. The following example is unsupported:</p> <pre>OleObject.function1.function2()</pre> <p>2. The OLE object method cannot contain reference parameters.</p>
Shortcut	Unsupported
	Using shortcuts in the OLECustomControl control are unsupported.
Requirements for client environment	Requirements
	<p>When an OLE object is called in a deployed application, the location used to store the OLE object on the client should match the location specified in the original PowerBuilder application.</p> <p>ActiveX control(s), if used in the Web application, should be installed and registered on the client. There are two ways to install and register ActiveX controls:</p> <p>Manually install and register ActiveX controls that are associated with the Web application.</p> <p>Deploy ActiveX controls that are associated with the Web application to the PowerServer's web server, so ActiveX controls can be automatically downloaded and registered on the client. For detail information on deploying ActiveX controls to the Web Server, refer to Section 3.2.1.2.3, "Additional Files" in <i>PowerServer Toolkit User Guide</i>.</p>

3.1.2 Using external functions

Table 3.2:

Data types of external function arguments	Supported			
	Array	Boolean	Blob	Char
	Date	DateTime	Decimal*	Integer
	Long	Real	String*	Structure
	Void			
	<i>String</i>			
	The length of an argument or return value as String data type can not be larger than 512 characters.			
	<i>Decimal</i>			
The precision of Decimal argument is the same as the precision of Double data type.				
Data types of external	Unsupported			
	LongLong	Object	UInt	UnsignedInt
	UnsignedInteger	UnsignedLong		
	Supported			
	Array	Boolean	Blob	Char

function return values	Date	DateTime	Double	Decimal*
	Integer	Long	Real	String*
	Unsigned Integer	Unsigned Long	Void	
	<i>String</i>			
	The length of an argument or return value as String data type can not be larger than 512 characters.			
	<i>Decimal</i>			
The precision of Decimal argument is the same as the precision of Double data type.				
Unsupported				
	LongLong	Structure	Object	
DLLs or shared libraries Location	Supported			
	<p>When your application calls an external function, it must be able to find the DLL (Dynamic link library) or the shared library in which that function resides. To ensure this, you must update the library path environment variable on the client machine to include the directory where that DLL or shared library is stored. The directory is searched in the following order of precedence:</p> <ol style="list-style-type: none"> 1. Windows system directory: The 32-bit Windows system directory. Use the GetSystemDirectory function to get the path of this directory. The name of this directory is SYSTEM32. 2. The Windows directory uses the GetWindowsDirectory function to get the path of this directory. 3. The directories that are listed in the PATH environment variable. <p>When you make changes to the environment variables, the environment variables take effect only after you restart the machine.</p>			
Ensuring the resource file in an external function when running Web application	Supported			
	<ol style="list-style-type: none"> 1. If the file is an Image, directly specify the file name. When you deploy the application with PowerServer Toolkit, you need to deploy the Image file with the application files to the Web server. For instructions, refer to Section 3.2.1.2.3, “Additional Files” in <i>PowerServer Toolkit User Guide</i>. 2. If the file is a DLL or OCX, to ensure the resource file in an external function, directly specify the file name. When you deploy the application with PowerServer Toolkit, you need to deploy the DLL or OCX file with the application files to the Web server. For instructions, refer to Section 3.2.1.2.3, “Additional Files” in <i>PowerServer Toolkit User Guide</i>. 			

	3. If the file type is not Image, DLL, or OCX, specify the file name and the absolute file path. The client that runs the application must have the file ready in the same path before executing the external function.
Others	Supported
	Calling external functions in Win32-based DLLs (including both the system DLLs and the user-defined DLLs) is supported. API for file and directory access operations is supported.
	Unsupported
	Graphs created by Windows API function may not be displayed on the Web. Calling external functions in the Timer event will result in unexpected errors on the Web if the external functions are called in other places of the application.

3.1.3 Using Run PowerScript function

Table 3.3:

Syntax	Supported
	Run(string {, windowstate}) The value of a string argument can be a filename without a path or extension. The following examples are supported: <i>run("notepad")</i> <i>run("notepad.exe")</i> <i>run("C:\winnt\system32\notepad")</i> <i>run("C:\winnt\system32\notepad.exe")</i>
Application programs location	Supported When you call the Run function and do not specify the path of the application program to the string argument, make sure that the application program is stored in one of the following directories. If it is not, an execution error will occur. The directory is searched in the following order: 1. Windows system directory: The 32-bit Windows system directory. Use the GetSystemDirectory function to get the path of this directory. The name of this directory is SYSTEM32. 2. The Windows directory Use the GetWindowsDirectory function to get the path of this directory. 3. The directories that are listed in the PATH environment variable. When you make changes to the environment variables, the environment variables take effect only after you restart the machine.

3.1.4 Building a mail-enabled application

PowerServer supports MAPI (messaging application program interface), so you can enable your Web applications to send and receive messages using any MAPI-compliant electronic mail system.

PowerServer supports the following mail related objects and structures to enable the mail service.

Table 3.4:

A mail-related system object	Supported		
	MailSession		
Mail-related structures	Supported		
	MailMessage	MailFileDescription	MailRecipient
	Unsupported		
	Properties of the three structures cannot be NULL.		
Object-level functions for the MailSession object	Supported		
	mailAddress	mailDeleteMessage	mailGetMessages
	mailHandle	mailLogoff	mailLogon
	mailReadMessage	mailRecipientDetails	mailResolveRecipient
	mailSaveMessage	mailSend	
Enumerated data types	Supported		
	MailFileType	MailLogonOption	MailReadOption
	MailRecipientType	MailReturnCode	

3.1.5 Using Drag and Drop

Drag and drop allows users to initiate activities by dragging a control and dropping it on another control. Except OLE, drag and drop is supported for other draggable controls and objects with features listed in the table below:

Table 3.5:

Drag and Drop properties	Supported			
	DragAuto	DragIcon		
Drag and Drop Events	Supported			
	BeginDrag	BeginRightDrag	DragDrop	DragEnter
	DragLeave	DragWithin		
	Unsupported			
	If the DragIcon is not specified for a control except the ListView or TreeView control, pressing the left mouse button without moving will trigger both DragEnter and DragWithin events in PowerBuilder, however, DragEnter event only on the Web.			
Drag and Drop Functions	Supported			

	Drag	DraggedObject		
Drag mode	Unsupported			
	Key event is unsupported if controls are in drag mode.			
UI differences during the drag and drop	Difference			
	(For all supported draggable controls except the TreeView and ListView controls) The icon of the mouse will not change, if it is not on the client area of a control.			
	(For TreeView and ListView) When you drag a control, you cannot see the mouse icon during the drag.			
	PowerServer does not support dragging and dropping multiple controls simultaneously. You can only drag and drop one control at a time.			

3.2 Using Unicode

PowerServer supports the Unicode character encoding in PowerBuilder 2019 R2. You can display characters from multiple languages on the same page of a Web application.

String related functions

PowerServer supports the string related functions in PowerBuilder 2019 R2. The following changes, made since PowerBuilder 10, are also supported.

1. Modified processing of string-manipulation functions.
2. Asc and Char functions.
3. Blob and String conversion functions.

Support ANSI and Unicode database

PowerServer supports both ANSI and Unicode database. For Unicode database it is recommended to use iAnywhere and jConnect driver because using JDBC-ODBC driver with Unicode databases may cause problems.

Calling external functions

PowerServer supports both Unicode encoding and ANSI encoding when the Web application calls external functions.

4 Web enhancements and differences

4.1 Appeon enhancements and differences

4.1.1 Appeon security enhancement

If your PowerBuilder application has no coded username/password verification during application startup, Appeon's built-in user group management can assist you. Refer to Section 1.2.3, “Configuration during security management” in *PowerServer Configuration Guide for .NET* or *PowerServer Configuration Guide for J2EE*. When using Appeon's built-in security, you will be prompted to enter a user name and password in the Appeon Login dialog box.

4.1.2 Installing Appeon Xcelerator plug-in

4.1.2.1 Overview

The Appeon Xcelerator plug-in is downloaded and installed using different ways for Internet Explorer and the other Web browsers (such as Edge, Chrome, Firefox, and Opera). And due to the restrictions of Internet Explorer, the plug-in installed via Internet Explorer **cannot** be accessed by the other Web browsers, while the plug-in installed via the other Web browsers **can** be accessed by Internet Explorer.

4.1.2.2 Installing Appeon Xcelerator plug-in via Internet Explorer

The Appeon Xcelerator plug-in will be downloaded as ActiveX plug-ins when downloaded and installed to Internet Explorer. There are two ActiveX plug-ins and the cabinet files for these two ActiveX plug-ins can be found in %appeon%\weblibrary_ax\x32 (or x64). And once downloaded and installed on the client side, they can be found as DLL files (for example, weblibrary68.dll and downloadcenter68.dll while the number 68 indicates the internal product version number) in C:\Windows\Downloaded Program Files. See the following table for details.

File Name	File Size	Technology	Purpose
ceondownloadcenter.cab	230 KB	A Microsoft ActiveX Web-browser plug-in	It consists of the EonDownloadCenter COM component which manages the downloading and caching of PowerServer Web applications.
weblibrary.cab	2509 KB	A Microsoft ActiveX Web-browser plug-in.	It consists of two COM components: EonUISpace and EonObject which act as the bridge to interact between the C++/JS libraries and the Web page.

There are two ways to install the Appeon ActiveX plug-ins:

- **Automatic installation:** Appeon ActiveX will be automatically downloaded and installed to the client when you access the Web application with correct IE settings and user

privileges. For step-by-step instructions on configuring the IE settings and user privileges, refer to Section 5.2, “Configuration for Web client PC” in *Installation Guide for .NET*.

- **Manual installation:** Manually download or copy the zip package of ActiveX control from IE to the client, decompress the zip package, right click the Update.exe file in the package and select "Run as administrator" to install the Apeon ActiveX control.

The end user will be prompted to manually download the zip package when they access the Web application with insufficient user privileges or incorrect settings in Internet Explorer. You can also find the zip package (ax_install_x32.zip for 32-bit client or ax_install_x64.zip for 64-bit client) under the PowerServer installation directory (for example, C:\inetpub\wwwroot\apeon\weblibrary_ax\support) and send it to the end users.

Alternatively, the user can open the command prompt window, navigate to the current location of update.exe, for example, C:\ax_install_x32\, and execute update.exe with -s command line option to install the Apeon ActiveX. More command-line options are provided below.

Apeon command-line options

Starting from version 6.1, Apeon PowerServer provides the following command-line options to enable you silently install or uninstall the Apeon ActiveX control. You should execute these command lines in the command prompt window.

Table 4.1:

Option	Description
-s	<p>Silently executes the installation or uninstallation. With this command you will not see any graphical user interface that relates to the installation/uninstallation of the Apeon ActiveX control.</p> <p>For example, to install the Apeon ActiveX control in the silent mode:</p> <pre>cd C:\ax_install_x32\ Update.exe -s</pre> <p>For example, to uninstall the Apeon ActiveX control in the silent mode:</p> <pre>cd C:\ax_install_x32\ Update.exe -s -u</pre>
-u	<p>Uninstalls the Apeon ActiveX in the GUI mode.</p> <p>For example, to uninstall the Apeon ActiveX control in the GUI mode:</p> <pre>cd C:\ax_install_x32\ Update.exe -u</pre>

If for any reason Apeon ActiveX controls need to be removed from the client, you can follow instructions in this article in the Apeon support portal: <http://support.appeon.com/index.php?Knowledgebase/Article/View/55/10/the-steps-to-remove-appeon-activex-and-components>.

4.1.2.3 Installing Apeon Xcelerator plug-in via Edge/Chrome/Firefox/Opera

The Apeon Xcelerator plug-in is contained in the **Apeon multi-browser plug-in** when downloaded and installed to Edge, Chrome, Firefox or Opera. There are two ways to install the Apeon multi-browser plug-in:

- **Automatic download and manual installation:** The setup program of Apeon multi-browser plug-in will be automatically downloaded to the Web browser; and then you run this downloaded setup program to install the Apeon multi-browser plug-in.
- **Manual download/installation:** You can also find the setup program of Apeon multi-browser plug-in (apeonbrowser.exe) under the PowerServer installation directory (for example, C:\inetpub\wwwroot\apeon\weblibrary_ax\crossbrowser), send it to the end users, and have the end users install the Apeon multi-browser plug-in to their client machines.

If for any reason the Apeon multi-browser plug-in needs to be removed from the client, you can follow instructions in this article in the Apeon support portal: <http://support.appeon.com/index.php?/Knowledgebase/Article/View/93/10/how-to-remove-the-apeon-plug-ins-for-multi-browser>.

4.1.3 PowerServer open interfaces

PowerServer open interfaces give users the opportunity to manage services provided by PowerServer through PowerBuilder code. There are the following open interfaces provided by PowerServer:

- **getAllClients** gets the IP addresses of all client machines which correspond to the active sessions that are opened for the specified application in the specified PowerServer.
- **getAllSessions** returns the detail information of active sessions with XML format, which are opened for the specific application in the specific PowerServer.
- **getSessionByID** returns the detail information of the specified session with XML format.
- **getSessionCount** gets the total number of active sessions in a specified PowerServer or a PowerServer cluster.
- **getServerVersion** gets the version number of the specified PowerServer.
- **killAllSessions** kills all active sessions in a PowerServer or a PowerServer cluster and rolls back all associated transactions.
- **killSessions** kills the specified session(s) in a PowerServer or a PowerServer cluster and rolls back the associated transactions.
- **rollbackAllTransactions** rolls back all transactions in a PowerServer or a PowerServer cluster. To roll back all transactions in a PowerServer cluster, you need to first configure the cluster in AEM.

For the syntax of PowerServer open interfaces, refer to Chapter 4, *PowerServer open interfaces* in *Workarounds & APIs Guide*.

4.1.4 Application differences

User interface and operation difference

- There may be slight differences in color and size between the Web UI and the PowerBuilder UI due to minor mismatching of the conversion algorithm for converting PowerBuilder measurements to Web measurements.
- Using the middle mouse key to operate the Web application is unsupported.
- Keyboard Navigation: tab order and arrow keys are partially supported.
- All Appeon system error messages appear in the Internet Explorer status bar rather than in a dialog box.
- While a Web application is running and the TextSize in the Internet Explorer is reset, the Web application will not change its font size accordingly.

Design-time property settings difference

- Appeon creates the resulting Web application based on design-time property settings of the application obtained from PowerBuilder. Therefore, even if the PowerBuilder application does not work properly at run-time, the PowerServer-deployed Web application may still run properly. For instance, in a particular build, the PowerBuilder Edit Mask DataWindow column style did not run properly in the PBVM, but the PowerServer Edit Mask DataWindow column style ran successfully because the Appeon framework for Web applications works properly.

Printing

- The manual feeder feature of Print is unsupported.

Section 508 compliance

All standard controls supported by Web applications are section 508 compliant but with the following noted issue on keyboard focus:

- When a PowerServer Web application runs in Internet Explorer, the keyboard focus, by default, is on the Web application. You can press Alt+Tab to shift the focus to Internet Explorer, and then press Tab to shift the focus back to the application.
- You can press Alt to access the menu of the application (or Internet Explorer) when the keyboard focus is on the application (or Internet Explorer).

4.2 DataWindow enhancements and differences

4.2.1 Appeon DataWindow menu

Appeon DataWindow menu client functions

You can enable the Appeon DataWindow Menu by calling two Appeon client functions that are defined in the Appeon Workarounds PBL.

1. AppeonPopupMenu function

Description

Pops up Appeon DataWindow menu at a specified position in a specified DataWindow control.

Syntax

AppeonPopupMenu (datawindow *adw_dw*, Integer *nx*, Integer *ny*)

Argument	Description
<i>adw_dw</i>	The DataWindow control on which you want to pop up the Appeon DataWindow menu.
<i>nx</i>	The instance from the left edge of the DataWindow control.
<i>ny</i>	The instance from the top edge of the DataWindow control.

Return value

None.

Usage

- User customized RMB menus should have a higher priority than Appeon customized menus.
- The AppeonPopupMenu function has a higher priority than the AppeonPopupMenuOn function.
- Defining your RMB menu in RButtonDown event is not recommended because this will cause the confusion in the system. To work around this, define your RMB menu in the RButtonUp event.

2. AppeonPopupMenuOn function

Description

Pops up Appeon DataWindow menu in a specified window when you right click the mouse button.

Syntax

AppeonPopupMenuOn (datawindow *adw_dw*, Boolean *ab_show*)

Argument	Description
<i>adw_dw</i>	The DataWindow control on which you want to show the Appeon DataWindow menu.
<i>ab_show</i>	The Boolean value that decides whether to show Appeon DataWindow menu. <ul style="list-style-type: none"> • True - Enables the display of the Appeon DataWindow menu. • False - Disables the display of the Appeon DataWindow menu.

None.

Usage

- User customized RMB menus should have a higher priority than Apeon customized menus.
- The ApeonPopupMenu function has a higher priority than the ApeonPopupMenuOn function.
- Defining your RMB menu in RButtonDown event is not recommended because this will cause the confusion of the system. To work around this, define your RMB menu in the RButtonUp event.

How to invoke an Apeon DataWindow Menu

There are two ways to invoke an Apeon DataWindow menu:

1. Execute the ApeonPopupMenu function for a specified DataWindow.
2. After the ApeonPopupMenuOn function is executed for a specified DataWindow, right click on a DataWindow (the area clicked should not be a DataWindow field that has focus).

Note: If the area clicked is a DataWindow field that has focus, the DataWindow menu that pops up is the same as it would be in PowerBuilder, and contains the following items: Undo, Cut, Copy, Past, Delete, and Select All.

Apeon DataWindow Menu Items

Menu Items	Functionality
Find	Finds a record with user-specified text.
Find next	Finds the next record with the specified text.
Find previous	Finds the previous record with the specified text.
Sort	Displays a sort dialog for the user to specify sorting criteria and sorts the DataWindow.
Filter	Displays a filter dialog for the user to specify filtering criteria and filters the DataWindow records. This is done on the client side.
Print...	Prints the content in the DataWindow with a Client printer. <ul style="list-style-type: none"> • At the click of the Print button, a Print Setup dialog pops up with the names of all the Client printers listed for the printing job. • Using PDFPrinter on the Client for printing is not recommended. If the default printer on the Client is PDFPrinter, the printed result is saved to the "\\My Documents\Apeon Printer" folder on the Client. By default, the PDF file that

Menu Items	Functionality
	is generated is only named with the .pdf extension and will have no name. If a previously printed .pdf document resides in the "Apeon Printer" folder then it will be overwritten the next time a document is printed to the folder. If the previously printed .pdf file is open, printing of the new document will fail.

4.2.2 DataWindow printing

Starting from Apeon 6.5 all the printing will be done on the client side. A printing command is directly sent to a printer at the client.

DataWindow printing

To print the DataWindows at the Client, you can choose any of the following methods. There are slight differences between the two methods.

1. Using the Print item in the Apeon DataWindow Menu. At the click of the Print... button in the Apeon DataWindow, a Print Setup dialog pops up with the names of all the Client printers listed. The user can select one of the printers for printing the DataWindow. For more information, refer to [Apeon DataWindow menu](#).
2. Executing the DataWindow Print function. This is the same as in PowerBuilder applications: when the DataWindow Print function is executed in the Web application, the DataWindow is printed on the Client's default printer.

PDF printing

There are two ways to print the DataWindow into PDF format.

1. Call the print function of the DataWindow. Then the end user sets the default printer on the client side to a PDF printer.
2. Call the SaveAs function of the DataWindow or Child DataWindow. In the **Save As** window (as shown in the following figure) that displays at runtime, the end user sets the **Save as type** to **NativePDF (*.pdf)** or **PDF (*.pdf)**.

The following settings in the **Print Specification** property window are supported as the printing parameter during the PDF generation: LeftMargin, RightMargin, BottomMargin, PaperSize, Display Buttons-Print.

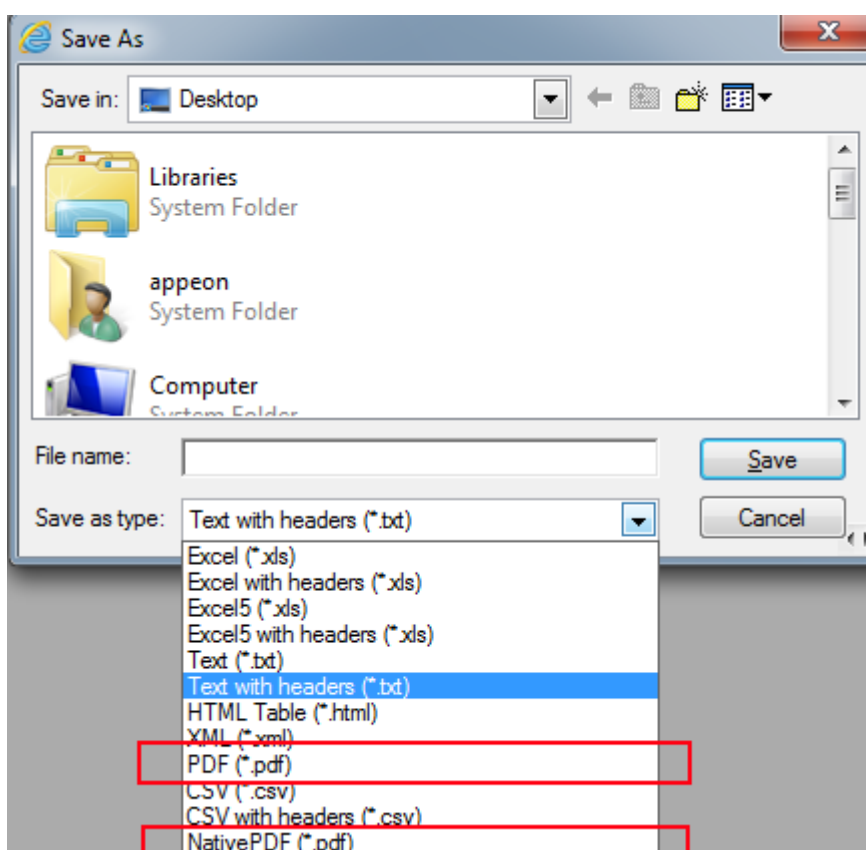
NativePDF (*.pdf) -- generates a standard native PDF file. Be aware of the following limitation of the PDF file generated in this way:

- Export.PDF.NativePDF.UserPassword property, Export.PDF.NativePDF.MasterPassword property, Export.PDF.NativePDF.Restrictions property and SaveNativePDFToBlob function are not supported by PowerServer 2020.
- Some data in the nested reports may not print (appear as blank) in the PDF file. If this issue occurs, you can adjust the height of the problematic nested report to avoid it.
- NativePDF is unsupported in Mobile apps and IWA apps.

PDF (*.pdf) -- prints the page as an image file and then saves the image file as a PDF file. Be aware of the following limitations of the PDF file generated in this way:

- The PDF file is not editable and can only be created in a monitor with 32-bit color quality settings or above.
- The page frame size setting is restrained by the type of operating system. For example, in Windows Vista, the upper limit of customized page frame size is around 5500*5500. The page frame size can also be 1024*10000 by reducing page width and increasing page height in the meanwhile.
- For the best display quality it is recommended to set the display DPI to 96.

Figure 4.1: PDF file types



4.2.3 DataWindow user operation differences

User interface differences

- In some cases, text in the DataWindow will appear truncated or UI elements may not be fully visible in the Window. This is because the PowerBuilder units used to size the UI of the application, such as the DataWindow rows and columns, the Window object, etc, cannot be converted to the Web perfectly.
- The number of data records displayed per page in deployed DataWindows may be different from that in PowerBuilder.

DataWindow modify/update

- When you click a date field in a DataWindow, the format of the date is changed to format yyyy-mm-dd, regardless of what the original display format is.
- If a cell in a DataWindow contains a value that is composed of only spaces and no other characters, the update to the database will fail (the value is updated to the database as an empty string rather than blank spaces). The retrieving functionality still works correctly and is not affected. Workaround: If a cell must be empty, make sure its value is an empty string, not a string composed of only one or more spaces. This issue affects SAP ASE, Oracle, and Microsoft SQL Server. It does not affect SAP SQL Anywhere.
- In PowerBuilder, if the user drags the scroll bar while a DataWindow field is being edited, AcceptText will not be executed for the field. In a Web DataWindow, AcceptText is executed for the field.

More behavioral differences

- Motion effect of GIF files is unsupported.

4.3 Object Control Enhancements and Differences

4.3.1 Object/control enhancements

MultiLineEdit

- In the Web MultiLineEdit control, the user can drag and drop the selected text.
- In the Web MultiLineEdit control, the user can select characters by mouse dragging and right-click on the selected characters to display the popup menu to copy/cut/paste the characters.

SingleLineEdit

- In the Web SingleLineEdit control, the user can select characters by mouse dragging and right-click on the selected characters to display the popup menu to copy/cut/paste the characters.

4.3.2 Object/control user operation differences

Controls

Controls in the Web application get focus when SetFocus is triggered, while controls in the PowerBuilder application get focus when the LoseFocus event of the control (which is to lose focus) is triggered. For example, when focus is moved from Control A to Control B due to the user operation, on Web, Control B gets focus when the SetFocus event of Control B is triggered, while in PowerBuilder, Control B gets focus when the LoseFocus event of Control A is triggered. This does not affect the user operation, but may affect the execution result of script dependent on the focus.

DropDownListBox, DropdownPictureListBox, ListBox or PictureListBox

The size of the pictures displayed in a PictureListBox will always be 16px * 16px. It will not adjust according to the actual height and width available as it does in PowerBuilder.

Motion effect

Motion effect of GIF files is unsupported.

5 System Objects and Controls

5.1 Controls

Important Requirements

- Supported controls can be dynamically created (e.g. using the CREATE statement).
- Creating a new control in a child object by copying and pasting an existing control in the PowerBuilder painter is unsupported if the existing control is inherited from the parent object.

Supported

- The following list includes the controls PowerServer supports:

Table 5.1:

CheckBox	CommandButton	DatePicker	DataWindow
DropDownListBox	DropDownPicture ListBox	EditMask	GroupBox
HProgressBar	HScrollBar	HTrackBar	InkPicture
Line	ListBox	ListView	MonthCalendar
MultiLineEdit	OLEControl	OLECustomControl	Oval
Picture	PictureButton	PictureHyperLink	PictureListBox
RadioButton	Rectangle	RichTextEdit	RoundRectangle
SingleLineEdit	StaticHyperLink	StaticText	Tab
TreeView	VProgressBar	VScrollBar	VTrackBar
Window			

- For information on properties, events and functions of supported controls, refer to the remaining sections in this chapter.
- For DataWindow controls, please refer to the [DataWindow](#) section.

Unsupported

- It is unsupported to change the skin of system standard controls on the Web.

5.1.1 Supported Controls

5.1.1.1 CheckBox control

5.1.1.1.1 Properties for CheckBox control

Table 5.2:

Property	Support Level	Example Code
Automatic	Supported	cbx_1.Automatic = TRUE

Property	Support Level	Example Code
BackColor	Supported	cbx_1.BackColor = ll_value cbx_1.BackColor = RGB(192,192,192) Note: transparent value is unsupported.
BorderStyle	Supported	cbx_1.BorderStyle = StyleLowered! cbx_1.BorderStyle = StyleRaised!
BringToTop	Supported	cbx_1.BringToTop = TRUE
Checked	Supported	cbx_1.Checked = TRUE cbx_1.Checked = lb_value
DragAuto	Supported	cbx_1.DragAuto = TRUE
DragIcon	Supported	cbx_1.DragIcon = 'c:\archive\arrow.ico'
Enabled	Supported	cbx_1.Enabled=TRUE cbx_1.Enabled = lb_value
FaceName	Supported	cbx_1.FaceName = "" cbx_1.FaceName = ls_value
FontCharSet	Supported	cbx_1.FontCharSet = ANSI!
FontFamily	Supported	cbx_1.FontFamily = Roman!
FontPitch	Supported	cbx_1.FontPitch = Fixed!
Height	Supported	cbx_1.Height=889 cbx_1.Height = li_value
Italic	Supported	cbx_1.Italic=TRUE cbx_1.Italic = lb_value
LeftText	Supported	cbx_1.LeftText = TRUE
Pointer	Supported	cbx_1.Pointer='Cross!' cbx_1.Pointer='d:\archive\IBEAM.CUR'
RightToLeft	Supported	cbx_1.RightToLeft = TRUE
TabOrder	Supported	cbx_1.TabOrder = 10
Tag	Supported	cbx_1.Tag = ls_value
Text	Supported	cbx_1.Text = ls_value
TextColor	Supported	cbx_1.TextColor = long(88995) cbx_1.TextColor = RGB(0,0,255)
TextSize	Supported	cbx_1.TextSize = 15 cbx_1.TextSize = li_value
ThirdState	Supported	cbx_1.ThreeState = TRUE cbx_1.ThirdState = TRUE
ThreeState	Supported	cbx_1.ThreeState = TRUE

Property	Support Level	Example Code
		<code>cbx_1.ThirdState = TRUE</code>
Underline	Supported	<code>cbx_1.Underline = TRUE</code> <code>cbx_1.Underline = lb_value</code>
Visible	Supported	<code>cbx_1.Visible = TRUE</code> <code>cbx_1.Visible = lb_value</code>
Weight	Supported	<code>cbx_1.Weight = 700</code> <code>cbx_1.Weight = li_value</code> In both PowerBuilder and PowerServer Web applications, a weight value smaller or equal to 550 indicates a normal weight, and a weight value larger than 550 indicates a bold weight.
Width	Supported	<code>cbx_1.Width=899</code> <code>cbx_1.Width = li_value</code>
X	Supported	<code>cbx_1.X = 100</code> <code>cbx_1.X = li_value</code>
Y	Supported	<code>cbx_1.Y = 500</code> <code>cbx_1.Y = li_value</code>
ClassDefinition	Unsupported	
Transparency	Unsupported	

5.1.1.1.2 Events for CheckBox control

Table 5.3:

Event	Support Level	Example Code
Clicked	Supported	<code>Clicked()</code>
Constructor	Supported	<code>Constructor()</code>
Destructor	Supported	<code>Destructor()</code>
DragDrop	Supported	<code>DragDrop(source)</code>
DragEnter	Supported	<code>DragEnter(source)</code>
DragLeave	Supported	<code>DragLeave(source)</code>
DragWithin	Supported	<code>DragWithin(source)</code>
GetFocus	Supported	<code>GetFocus()</code>
LoseFocus	Supported	<code>LoseFocus()</code>
RButtonDown	Supported	<code>RbuttonDown(flags, xpos, ypos)</code>
Help	Unsupported	
Other	Unsupported	

5.1.1.1.3 Functions for CheckBox control

Table 5.4:

Function	Support Level	Example Code
ClassName	Supported	ls_return = cbx_1.ClassName()
Drag	Supported	cbx_1.Drag(Begin!)
GetParent	Supported	lobj_parent = cbx_1.GetParent()
Hide	Supported	li_return = cbx_1.Hide()
Move	Supported	cbx_1.Move(100,100] li_return = cbx_1.Move(li_x,li_y)
PointerX	Supported	li_return = cbx_1.PointerX()
PointerY	Supported	li_return = cbx_1.PointerY()
PostEvent	Supported	cbx_1.PostEvent(RButtonDown!) lb_return = cbx_1.PostEvent(event)
Resize	Supported	cbx_1.Resize(100,20) li_return = cbx_1.Resize(li_x, li_y)
SetFocus	Supported	cbx_1.SetFocus() li_return = cbx_1.SetFocus() Unsupported: SetFocus(cbx_1)
SetPosition	Supported	li_return = cbx_1.SetPosition(position)
SetRedraw	Supported	li_return= cbx_1.SetRedraw(TRUE)
Show	Supported	li_return = cbx_1.Show()
TriggerEvent	Supported	cbx_1.TriggerEvent(RButtonDown!)
TypeOf	Supported	if cbx_1.TypeOf() = Checkbox! Then ls_return = "Checkbox!" else ls_return = "Not a Checkbox" end if
GetContextService	Unsupported	
Print	Unsupported	

5.1.1.2 CommandButton control

5.1.1.2.1 Properties for CommandButton control

Table 5.5:

Property	Support Level	Example Code
BringToTop	Supported	cb_1.BringToTop = TRUE
Cancel	Supported	cb_1.Cancel = TRUE

Property	Support Level	Example Code
Default	Supported	cb_1.Default = TRUE
DragAuto	Supported	cb_1.DragAuto = TRUE
DragIcon	Supported	cb_1.DragIcon = 'c:\archive\arrow.ico'
Enabled	Supported	cb_1.Enabled = lb_value
FaceName	Supported	cb_1.FaceName = "" cb_1.FaceName = "Courier"
Height	Supported	cb_1.Height = li_value
FontCharSet	Supported	cb_1.FontCharSet = ANSI!
FontFamily	Supported	cb_1.FontFamily = Roman!
FontPitch	Supported	cb_1.FontPitch = Fixed!
Italic	Supported	cb_1.Italic = lb_value
Pointer	Supported	cb_1.Pointer = 'Size!' cb_1.Pointer = 'd:\archive\IBEAM.BMP.cur'
TabOrder	Supported	cb_1.TabOrder = 20
Tag	Supported	cb_1.Tag = ls_value
Text	Supported	cb_1.Text = ls_value
TextSize	Supported	cb_1.TextSize = li_value
Underline	Supported	cb_1.Underline = TRUE cb_1.Underline = lb_value
Visible	Supported	cb_1.Visible = TRUE cb_1.Visible = lb_value
Weight	Supported	cb_1.Weight = 700 cb_1.Weight = li_value
Width	Supported	cb_1.Width = 750 cb_1.Width = li_value
X	Supported	cb_1.X = 280 cb_1.X = li_value
Y	Supported	cb_1.Y = 1280 cb_1.Y = li_value
ClassDefinition	Unsupported	

5.1.1.2.2 Events for CommandButton control

Table 5.6:

Event	Support Level	Example Code
Clicked	Supported	Clicked()
Constructor	Supported	Constructor()

Event	Support Level	Example Code
Destructor	Supported	Destructor()
DragDrop	Supported	DragDrop(source)
DragEnter	Supported	DragEnter(source)
DragLeave	Supported	DragLeave(source)
DragWithin	Supported	DragWithin(source)
GetFocus	Supported	GetFocus()
LoseFocus	Supported	LoseFocus()
RButtonDown	Supported	RButtonDown(flags, xpos, ypos)
Help	Unsupported	
Other	Unsupported	

5.1.1.2.3 Functions for CommandButton control

Table 5.7:

Function	Support Level	Example Code
ClassName	Supported	ls_return = cb_1.ClassName()
Drag	Supported	cb_1.Drag(Begin!)
GetParent	Supported	PowerObject lpo_return lpo_return = cb_1.GetParent()
Hide	Supported	li_return = cb_1.Hide()
Move	Supported	cb_1.Move(200,800) li_return = cb_1.Move(li_x,li_y)
PointerX	Supported	li_return = cb_1.PointerX()
PointerY	Supported	li_return = cb_1.PointerY()
PostEvent	Supported	cb_1.PostEvent(Clicked!)
Resize	Supported	cb_1.Resize(200,800) li_return = cb_1.Resize(li_x, li_y)
SetFocus	Supported	li_return = cb_1.SetFocus() Unsupported: SetFocus(cb_1)
SetPosition	Supported	ll_return = cb_1.SetPosition(ToTop!)
SetRedraw	Supported	li_return = cb_1.SetRedraw(TRUE)
Show	Supported	li_return = cb_1.Show()
TriggerEvent	Supported	li_return = cb_1.TriggerEvent(Clicked!)
TypeOf	Supported	if cb_1.TypeOf() = commandbutton! then ls_return = "commandbutton!" end if

Function	Support Level	Example Code
GetContextService	Unsupported	
Print	Unsupported	

5.1.1.3 DatePicker control

Difference

Left mouse clicking on the DatePicker control will trigger the Clicked, GetFocused events in sequence.

5.1.1.3.1 Properties for DatePicker control

Table 5.8:

Property	Support Level	Example Code
Accelerator	Supported	dp_1.Accelerator=67
Accessible Description	Supported	
AccessibleName	Supported	
AccessibleRole	Supported	
AllowEdit	Supported	dp_1.AllowEdit = TRUE
Border	Supported	dp_1.Border = TRUE
BorderStyle	Supported	dp_1.BorderStyle = StyleBox! dp_1.BorderStyle = StyleLowered! dp_1.BorderStyle = StyleRaised! Note: StyleShadowBox! is unsupported.
BringToTop	Supported	
CalendarBack Color	Supported	dp_1.CalendarBackColor = RGB(255, 255, 0)
CalendarFont Charset	Supported	db_1.CalendarFontCharset = ANSI!
CalendarFont Family	Supported	dp_1.CalendarFontFamily = Roman!
CalendarFont Name	Supported	dp_1.CalendarFontName = ls_value
CalendarFont Pitch	Supported	dp_1.CalendarFontPitch = Fixed!
CalendarFont Weight	Supported	dp_1.CalendarFontWeight = li_value
CalendarItalic	Supported	dp_1.CalendarItalic = lb_value
CalendarText Color	Supported	dp_1.CalendarTextColor = RGB(0,0,255)

Property	Support Level	Example Code
CalendarTextSize	Supported	dp_1.CalendarTextSize = li_value
CalendarTitleBackColor	Supported	dp_1.CalendarTitleBackColor = RGB(128, 255, 128)
CalendarTrailingTextColor	Supported	dp_1.CalendarTrailingTextColor = RGB(128, 255, 128)
CalendarUnderline	Supported	dp_1.CalendarUnderline = lb_value
CustomFormat	Supported	dp_1.CustomFormat = ls_value
DateValue	Supported	dp_1.DateValue = ld_value
DragAuto	Supported	<p>dp_1.DragAuto = TRUE</p> <p>Notes:</p> <ol style="list-style-type: none"> 1. On the Web, dragging a DatePicker control will not trigger the DropDown event if the DragAuto property is set to True, which means there is no Month Calender displayed on the Web when you Drag the DatePicker with setting the DragAuto property to True. 2. On the Web, if the DragAuto is set to True, clicking, dragging, and releasing the DatePicker control will trigger the following event in sequence: DragEnter, DragWithin, DragLeave.
DragIcon	Supported	dp_1.DragIcon = 'arrow.ico'
DropDownRight	Supported	dp_1.DropDownRight = true
Enabled	Supported	dp_1.Enabled = TRUE
FaceName	Supported	dp_1.FaceName = ""
FirstDayOfWeek	Supported	dp_1.FirstDayOfWeek = Monday!
FontCharSet	Supported	dp_1.FontCharSet = ANSI!
FontFamily	Supported	dp_1.FontFamily = Roman!
FontPitch	Supported	dp_1.FontPitch = Fixed!
FontWeight	Supported	dp_1.FontWeight = 700
Format	Supported	dp_1.Format = dtfShortDate!
Height	Supported	<p>dp_1.Height = 750</p> <p>dp_1.Height = li_value</p>
Italic	Supported	<p>dp_1.Italic=TRUE</p> <p>dp_1.Italic = lb_value</p>
MaxDate	Supported	dp_1.MaxDate = Date("2007/06/30")
MinDate	Supported	dp_1.MinDate = Date("2006/09/01")
Pointer	Supported	dp_1.Pointer = 'Size!'

Property	Support Level	Example Code
ShowUpDown	Supported	dp_1.ShowUpDown = true
TabOrder	Supported	dp_1.TabOrder = 30
Tag	Supported	dp_1.Tag = ls_value
Text	Supported	dp_1.Text = ls_value
TextSize	Supported	dp_1.TextSize = li_value
TimeValue	Supported	lt_value = dp_1.TimeValue
TodayCircle	Supported	dp_1.TodayCircle = false
TodaySection	Supported	dp_1.TodaySection = false
Underline	Supported	dp_1.Underline = TRUE
Value	Supported	dp_1.Value = DateTime(Date("2005/07/01"),Time("12:00:00"))
Visible	Supported	dp_1.Visible = True
WeekNumbers	Supported	dp_1.WeekNumbers = true
Width	Supported	dp_1.Width = li_value Note: 1. If the Width value is set to -32768, obtaining the width property returns -32768 on the Web, however it returns 0 in PowerBuilder. 2. If the Width value is set to 32768, obtaining the width property returns 0 on the Web, however it returns -32768 in PowerBuilder.
X	Supported	dp_1.X = li_value Note: 1. If the X value is set to -32768, obtaining the X property returns -32768 on the Web, however it returns 0 in PowerBuilder. 2. If the Width value is set to 32768, obtaining the width property returns 0 on the Web, however it returns -32768 in PowerBuilder.
Y	Supported	dp_1.Y = li_value Note: 1. If the Y value is set to -32768, obtaining the Y property returns -32768 on the Web, however it returns 0 in PowerBuilder.

Property	Support Level	Example Code
		2. If the Width value is set to 32768, obtaining the width property returns 0 on the Web, however it returns -32768 in PowerBuilder.
ClassDefinition	Unsupported	
RightToLeft	Unsupported	

5.1.1.3.2 Events for DatePicker control

Table 5.9:

Event	Support Level	Example Code
Clicked	Supported	Clicked()
CloseUp	Supported	CloseUp()
Constructor	Supported	Constructor()
Destructor	Supported	Destructor()
DoubleClicked	Supported	Doubleclicked(flags,xpos,ypos)
DragDrop	Supported	DragDrop()
DragEnter	Supported	DragEnter(source)
DragLeave	Supported	DragLeave(source)
DragWithin	Supported	DragWithin(source)
DropDown	Supported	DropDown()
LoseFocus	Supported	GetFocus()
GetFocus	Supported	GetFocus()
RButtonDown	Supported	RButtonDown(flags, xpos, ypos)
ValueChanged	Supported	Valuechanged(flag,dtm)
Help	Unsupported	
PreCreateWindow	Unsupported	
UserString	Unsupported	
Other	Unsupported	

5.1.1.3.3 Functions for DatePicker Control

Table 5.10:

Function	Support Level	Example Code
ClassName	Supported	ls_value = dp_1.ClassName()
Drag	Supported	dp_1.Drag(dragmode) Note: If you use Drag(Begin!), single mouse clicking will trigger DragEnter and DragDrop event in sequence on the Web. This is different from the event sequences in PowerBuilder.
GetCalendar	Supported	dp_1.getcalendar()

Function	Support Level	Example Code
GetParent	Supported	PowerObject lpo_returnvalue lpo_returnvalue = dp_1.GetParent()
GetText	Supported	ls_text = dp_1.GetText()
GetToday	Supported	currentdate = dp_1.GetToday()
GetValue	Supported	li_value = dp_1.GetValue(dt)
Hide	Supported	li_return = dp_1.Hide()
Move	Supported	li_return = dp_1.Move(li_x,li_y)
PointerX	Supported	li_value = dp_1.PointerX()
PointerY	Supported	li_value = dp_1.PointerY()
PostEvent	Supported	dp_1.PostEvent(Constructor!)
Resize	Supported	li_return = dp_1.Resize(li_width,li_height)
SetFocus	Supported	li_return = dp_1.SetFocus()
SetPosition	Supported	li_return = dp_1.SetPosition(position)
SetRedraw	Supported	li_return= dp_1.SetRedraw(FALSE)
SetToday	Supported	li_return = dp_1.SetToday(currentdate)
SetValue	Supported	dp_1.SetValue(dt)
Show	Supported	li_return = dp_1.Show()
TriggerEvent	Supported	dp_1.TriggerEvent(Constructor!)
TypeOf	Supported	if dp_1.TypeOf() = DatePicker! Then ls_return = 'DatePicker!' else ls_return = 'invalid' end if
GetContextService	Unsupported	
Print	Unsupported	

5.1.1.4 DropDownListBox control

Important Requirements

In PowerBuilder, if a DropDownListBox has no item, an empty row will display in the ListBox portion when the user clicks the down arrow. However, on the Web application, no empty row will display.

5.1.1.4.1 Properties for DropDownListBox control

Table 5.11:

Property	Support Level	Example Code
Accelerator	Supported	ddlb_1.Accelerator=67
AllowEdit	Supported	ddlb_1.AllowEdit = TRUE

Property	Support Level	Example Code
		ddlb_1.AllowEdit = lb_value Note: The pbm_keydown event is unsupported if the AllowEdit property is set to true.
AutoHScroll	Supported	ddlb_1.AutoHScroll = TRUE
BringToTop	Supported	ddlb_1.BringToTop = TRUE
BackColor	Supported	ddlb_1.BackColor = RGB(0, 0, 255) ddlb_1.BackColor = ll_value Note: transparent value is unsupported.
Border	Supported	ddlb_1.Border = TRUE ddlb_1.Border = lb_value
BorderStyle	Supported	ddlb_1.BorderStyle = StyleBox! ddlb_1.BorderStyle = StyleLowered! ddlb_1.BorderStyle = StyleRaised!
DragAuto	Supported	ddlb_1.DragAuto = TRUE
DragIcon	Supported	ddlb_1.DragIcon = 'c:\archive\arrow.ico'
Enabled	Supported	ddlb_1.Enabled=TRUE ddlb_1.Enabled = lb_value
FaceName	Supported	ddlb_1.FaceName = "" ddlb_1.FaceName = ls_value
FontCharSet	Supported	ddlb_1.FontCharSet = ANSI!
FontFamily	Supported	ddlb_1.FontFamily = Roman!
FontPitch	Supported	ddlb_1.FontPitch = Fixed!
Height	Supported	ddlb_1.Height = 750 ddlb_1.Height = li_value
HScrollBar	Supported	ddlb_1.HScrollBar = TRUE ddlb_1.HScrollBar = lb_value
Italic	Supported	ddlb_1.Italic=TRUE ddlb_1.Italic = lb_value
Item[]	Supported	ls_value = ddlb_1.Item[1]
Limit	Supported	ddlb_1.Limit = 256 ddlb_1.Limit = li_value
Pointer	Supported	ddlb_1.Pointer = 'Size!' ddlb_1.Pointer ='d:\archive\IBEAM.BMP.cur'
RightToLeft	Supported	ddlb_1.RightToLeft = TRUE
ShowList	Supported	ddlb_1.ShowList = TRUE

Property	Support Level	Example Code
Sorted	Supported	ddlb_1.Sorted = TRUE ddlb_1.Sorted = lb_value
TabOrder	Supported	ddlb_1.TabOrder = 30
Tag	Supported	ddlb_1.Tag = ls_value
Text	Supported	ddlb_1.Text = ls_value
TextColor	Supported	ddlb_1.TextColor = ll_value ddlb_1.TextColor = RGB(192,192,192)
TextSize	Supported	ddlb_1.TextSize = li_value
Underline	Supported	ddlb_1.Underline= TRUE ddlb_1.Underline = lb_value
Visible	Supported	ddlb_1.Visible = TRUE ddlb_1.Visible = lb_value
VScrollBar	Supported	ddlb_1.VScrollBar = TRUE ddlb_1.VscrollBar = lb_value
Weight	Supported	ddlb_1.Weight = 700 ddlb_1.Weight = li_value
Width	Supported	ddlb_1.Width = li_value
X	Supported	ddlb_1.X = li_value
Y	Supported	ddlb_1.Y = li_value
ClassDefinition	Unsupported	
Transparency	Unsupported	

5.1.1.4.2 Events for DropDownListBox control

Table 5.12:

Event	Support Level	Example Code
Constructor	Supported	Constructor()
Destructor	Supported	Destructor()
DoubleClicked	Supported	DoubleClicked()
DragDrop	Supported	DragDrop(source)
DragEnter	Supported	DragEnter(source)
DragLeave	Supported	DragLeave(source)
DragWithin	Supported	DragWithin(source)
GetFocus	Supported	GetFocus()
LoseFocus	Supported	LoseFocus()
Modified	Supported	Modified()

Event	Support Level	Example Code
		Note: it is unsupported to trigger the event by clicking the Enter key.
RButtonDown	Supported	RButtonDown(flags, xpos, ypos)
SelectionChanged	Supported	SelectionChanged(index) If the return value of the event is greater than 0, the Modified event will be triggered. Otherwise, continue processing.
Help	Unsupported	
Other	Unsupported	

5.1.1.4.3 Functions for DropDownListBox control

Table 5.13:

Function	Support Level	Example Code
AddItem	Supported	li_return = ddlb_1.AddItem(item)
ClassName	Supported	ls_return = ddlb_1.ClassName()
Clear	Supported	li_return = ddlb_1.Clear()
Copy	Supported	li_return = ddlb_1.Copy()
Cut	Supported	li_return = ddlb_1.Cut()
DeleteItem	Supported	li_return = ddlb_1.DeleteItem(index)
DirList	Supported	ddl_b_1.DirList("C:\EMPLOYEE*.TXT", 0)
DirSelect	Supported	lb_dir = ddlb_1.DirSelect(ls_dirname)
Drag	Supported	ddl_b_1.Drag(Cancel!)
FindItem	Supported	li_return = ddlb_1.FindItem('hello', 4) li_return = ddlb_1.FindItem(text, index)
GetParent	Supported	PowerObject lpo_return lpo_return = ddlb_1.GetParent()
Hide	Supported	li_return = ddlb_1.Hide()
InsertItem	Supported	ddl_b_1.InsertItem('hello',3) li_return = ddlb_1.InsertItem(item, index)
Move	Supported	ddl_b_1.Move(200,400) li_return = ddlb_1.Move(li_x,li_y)
Paste	Supported	li_return = ddlb_1.Paste()
PointerX	Supported	li_return = ddlb_1.PointerX()
PointerY	Supported	li_return = ddlb_1.PointerY()
PostEvent	Supported	ddl_b_1.PostEvent(Clicked!)
ReplaceText	Supported	ddl_b_1.ReplaceText("60 Days")

Function	Support Level	Example Code
Reset	Supported	li_return = ddlb_1.Reset()
Resize	Supported	ddlb_1.Resize(200,800) li_return = ddlb_1.Resize(li_x, li_y)
SelectItem	Supported	ddlb_1.SelectItem ('hello',3) li_return = ddlb_1.SelectItem(item, index)
SelectedLength	Supported	li_returnvalue = ddlb_1.SelectedLength()
SelectedStart	Supported	li_returnvalue = ddlb_1.SelectedStart()
SelectedText	Supported	li_returnvalue = ddlb_1.SelectedText()
SelectText	Supported	li_returnvalue = ddlb_1.SelectText(start, length)
SetFocus	Supported	li_return = ddlb_1.SetFocus() Unsupported: SetFocus(ddlb_1)
SetPosition	Supported	ddlb_1.SetPosition(ToTop!) li_return = ddlb_1.SetPosition(position)
SetRedraw	Supported	li_return = ddlb_1.SetRedraw(FALSE)
Show	Supported	li_return = ddlb_1.Show()
Text	Supported	ls_return = ddlb_1.Text(index)
TotalItems	Supported	li_return = ddlb_1.TotalItems()
TriggerEvent	Supported	ddlb_1.TriggerEvent(Constructor!) li_return = ddlb_1.TriggerEvent(event)
TypeOf	Supported	if ddlb_1.typeof() = DropDownListBox! then messagebox("show"," DropDownListBox!") end if
GetContextService	Unsupported	
Position	Unsupported	
Print	Unsupported	

5.1.1.5 DropDownPictureListBox control

5.1.1.5.1 Properties for DropDownPictureListBox control

Table 5.14:

Property	Support Level	Example Code
Accelerator	Supported	ddplb_1.Accelerator = 67
AllowEdit	Supported	ddplb_1.AllowEdit = TRUE ddplb_1.AllowEdit = lb_value Note: The pbm_keydown event is unsupported if the AllowEdit property is set to true.

Property	Support Level	Example Code
AutoHScroll	Supported	<code>ddplb_1.AutoHScroll = TRUE</code>
BackColor	Supported	<code>ddplb_1.BackColor = li_value</code> <code>ddplb_1.BackColor = RGB (0,0,255)</code> Note: transparent value is unsupported.
BringToTop	Supported	<code>ddplb_1.BringToTop = TRUE</code>
Border	Supported	<code>ddplb_1.Border = TRUE</code> <code>ddplb_1.Border = lb_value</code>
BorderStyle	Supported	<code>ddplb_1.BorderStyle = StyleBox!</code> <code>ddplb_1.BorderStyle = StyleLowered!</code> <code>ddplb_1.BorderStyle = StyleRaised!</code> Note: <code>StyleShadowBox!</code> is unsupported.
DragAuto	Supported	<code>ddplb_1.DragAuto = TRUE</code>
DragIcon	Supported	<code>ddplb_1.DragIcon = 'c:\archive\arrow.ico'</code>
Enabled	Supported	<code>ddplb_1.Enabled = TRUE</code> <code>ddplb_1.Enabled = lb_value</code>
FaceName	Supported	<code>ddplb_1.Facename = ls_value</code>
FontCharSet	Supported	<code>ddplb_1.FontCharSet = ANSI!</code>
FontFamily	Supported	<code>ddplb_1.FontFamily = Roman!</code>
FontPitch	Supported	<code>ddplb_1.FontPitch = Fixed!</code>
Height	Supported	<code>ddplb_1.Height = li_value</code>
HScrollBar	Supported	<code>ddplb_1.Hscrollbar = lb_value</code>
Italic	Supported	<code>ddplb_1.Italic = lb_value</code>
Item[]	Supported	<code>String a[] = ddplb_1.Item[]</code>
ItemImageIndex[]	Supported	<code>ddplb_1.ItemPictureIndex[] = li_value[]</code>
Limit	Supported	<code>ddplb_1.Limit = 256</code> <code>ddplb_1.Limit = li_value</code>
PictureHeight	Supported	<code>ddplb_1.PictureHeight = 16</code>
PictureWidth	Supported	<code>ddplb_1.PictureWidth = 16</code>
PictureName[]	Supported	<code>ls_value = ddplb_1.PictureName[1]</code> Assigning values to part of an array and using the default values for the other part is not supported. For example: <code>picturename[1] = "aaa.bmp"</code> <code>picturename[3] = "bbb.bmp"</code> <code>var pic1 = picturename[1]; var pic2 = picturename[3];</code>

Property	Support Level	Example Code
		A supported example is given as follows: <pre>picturename[1] = "aaa.bmp" picturename[2] = "bbb.bmp" picturename[3] = "ccc.bmp" var pic1 = picturename[1]; var pic2 = picturename[2]; var pic3 = picturename[3];</pre>
Pointer	Supported	<pre>ddplb_1.Pointer = "Beam!" dbplb_1.Pointer = 'd:\archive\IBEAM.BMP.cur'</pre>
RightToLeft	Supported	<pre>dbplb_1.RightToLeft = TRUE</pre>
ShowList	Supported	<pre>ddplb_1.ShowList = TRUE</pre>
Sorted	Supported	<pre>ddplb_1.Sorted = lb_value</pre>
TabOrder	Supported	<pre>ddplb_1.TabOrder = 40</pre>
Tag	Supported	<pre>ddplb_1.Tag = ls_value</pre>
Text	Supported	<pre>ddplb_1.Text = ls_value</pre>
TextColor	Supported	<pre>ddplb_1.Textcolor = ll_value ddplb_1.Textcolor = RGB(192,192,192)</pre>
TextSize	Supported	<pre>ddplb_1.TextSize = li_value</pre>
Underline	Supported	<pre>ddplb_1.Underline = lb_value</pre>
Visible	Supported	<pre>ddplb_1.Visible = lb_value</pre>
VScrollBar	Supported	<pre>ddplb_1.VscrollBar = lb_value</pre>
Weight	Supported	<pre>ddplb_1.Weight = li_value</pre>
Width	Supported	<pre>ddplb_1.Width = li_value</pre>
X	Supported	<pre>ddplb_1.X = li_value</pre>
Y	Supported	<pre>ddplb_1.Y = li_value</pre>
ClassDefinition	Unsupported	
PictureMaskColor	Unsupported	
Transparency	Unsupported	

5.1.1.5.2 Events for DropDownPictureListBox control

Table 5.15:

Event	Support Level	Example Code
Constructor	Supported	Constructor()
Destructor	Supported	Destructor()
DoubleClicked	Supported	DoubleClicked()
DragDrop	Supported	DragDrop(source)
DragEnter	Supported	DragEnter(source)

Event	Support Level	Example Code
DragLeave	Supported	DragLeave(source)
DragWithin	Supported	DragWithin(source)
GetFocus	Supported	GetFocus()
LoseFocus	Supported	LoseFocus()
Modified	Supported	Modified()
RButtonDown	Supported	RButtonDown(flags, xpos, ypos)
SelectionChanged	Supported	SelectionChanged(index) //If the return value is greater than 0, the Modified event will be triggered. Otherwise, continue processing.
Help	Unsupported	
Other	Unsupported	

5.1.1.5.3 Functions for DropDownPictureListBox control

Table 5.16:

Function	Support Level	Example Code
AddItem	Supported	li_return = ddplb_1.AddItem(ls_name, li_pic)
AddPicture	Supported	li_return = ddplb_1.AddPicture(picturename)
ClassName	Supported	ls_return = ddplb_1.ClassName()
Clear	Supported	ls_return = ddplb_1.Clear()
Copy	Supported	ls_return = ddplb_1.Copy()
Cut	Supported	ls_return = ddplb_1.Cut()
DeleteItem	Supported	li_return = ddplb_1.DeleteItem(index)
DeletePicture	Supported	li_return = ddplb_1.DeletePicture(index)
DeletePictures	Supported	li_return = ddplb_1.DeletePictures()
DirList	Supported	ddplb_1.DirList("C:\EMPLOYEE*.TXT", 0) ddplb_1.DirList("C:\EMPLOYEE*.DOC", 1, st_path)
DirSelect	Supported	ddplb_1.DirSelect(ls_filename)
Drag	Supported	ddplb_1.Drag(End!)
FindItem	Supported	li_return = ddplb_1.FindItem(text, index)
GetParent	Supported	PowerObject lpo_return lpo_return = ddplb_1.GetParent()
Hide	Supported	li_return = ddplb_1.Hide()
InsertItem	Supported	ddplb_1.InsertItem("Run Application", 5)
Move	Supported	li_return = ddplb_1.Move(li_x, li_y)
Paste	Supported	li_return = ddplb_1.Paste()
PointerX	Supported	li_return = ddplb_1.PointerX()

Function	Support Level	Example Code
PointerY	Supported	li_return = ddplb_1.PointerY()
PostEvent	Supported	ddplb_1.PostEvent(Clicked!) lb_return = ddplb_1.PostEvent(event)
Reset	Supported	li_return = ddplb_1.Reset()
Resize	Supported	li_return = ddplb_1.Resize(li_width,li_height)
SelectItem	Supported	li_return = ddplb_1.SelectItem(item, index)
SelectedLength	Supported	li_returnvalue = ddplb_1.SelectedLength()
SelectedStart	Supported	li_returnvalue = ddplb_1.SelectedStart()
SelectedText	Supported	li_returnvalue = ddplb_1.SelectedText()
SelectText	Supported	li_returnvalue = ddplb_1.SelectText(start, length)
SetFocus	Supported	li_return = ddplb_1.SetFocus() Unsupported: SetFocus(ddplb_1)
SetPosition	Supported	li_return = ddplb_1.SetPosition(position)
SetRedraw	Supported	li_return= ddplb_1.SetRedraw(FALSE)
Show	Supported	li_return = ddplb_1.Show()
Text	Supported	ls_return = ddplb_1.Text(index)
TotalItems	Supported	li_return = ddplb_1.TotalItems()
TriggerEvent	Supported	li_return = ddplb_1.TriggerEvent(event)
TypeOf	Supported	if ddplb_1.TypeOf() = DropDownPictureListBox! Then ls_return = 'DropDownPictureListBox' else ls_return = 'invalid' end if
GetContextService	Unsupported	
Position	Unsupported	
Print	Unsupported	

5.1.1.6 EditMask control

5.1.1.6.1 Properties for EditMask control

Table 5.17:

Property	Support Level	Example Code
Accelerator	Supported	em_1.Accelerator = 67
Alignment	Supported	em_1.Alignment = Center!
AutoHScroll	Supported	
AutoSkip	Supported	em_1.AutoSkip = TRUE
BackColor	Supported	em_1.BackColor = ll_value

Property	Support Level	Example Code
		em_1.BackColor = RGB (192,192,192) Note: transparent value is unsupported.
Border	Supported	em_1.Border = TRUE em_1.Border = lb_value
BorderStyle	Supported	em_1.BorderStyle = StyleLowered! em_1.BorderStyle = StyleRaised! em_1.BorderStyle = StyleBox! Note: StyleShadowBox! is unsupported.
BringToTop	Supported	em_1.BringToTop = TRUE
DisplayData	Supported	
DisplayOnly	Supported	em_1.DisplayOnly = TRUE em_1.DisplayOnly = lb_value
DragAuto	Supported	em_1.DragAuto = TRUE
DropDownCalendar	Supported	
DragIcon	Supported	em_1.DragIcon = 'c:\archive\arrow.ico'
Enabled	Supported	em_1.Enabled = TRUE em_1.Enabled = lb_value
FaceName	Supported	em_1.FaceName = ls_value
FontCharSet	Supported	em_1.FontCharSet = ANSI!
FontFamily	Supported	em_1.FontFamily = Roman!
FontPitch	Supported	em_1.FontPitch = Fixed!
Height	Supported	em_1.Height = li_value
HideSelection	Supported	em_1.HideSelection = FALSE
Increment	Supported	em_1.Increment = 5.0 em_1.Increment = ld_value
Italic	Supported	em_1.Italic = lb_value
Limit	Supported	em_1.Limit = 50 em_1.Limit = li_value Note: the Limit property cannot be dynamically changed.
Mask	Supported	em_1.MaskDataType =StringMask em_1.Mask = "^^^-!!!" Note: This property can only be set in the PowerBuilder Painter.
MaskDataType	Supported	em_1.MaskDataType = StringMask!

Property	Support Level	Example Code
		em_1.MaskDataType = DateTimeMask! em_1.MaskDataType = NumericMask! Note: This property can only be set in the PowerBuilder painter.
MinMax	Supported	em_1.MinMax = ("100 ~~ 10000")
Pointer	Supported	em_1.Pointer = 'AppStarting!' em_1.Pointer = 'd:\archive\IBEAM.BMP.cur'
RightToLeft	Supported	em_1.RightToLeft = TRUE
Spin	Supported	em_1.Spin = TRUE em_1.Spin = FALSE
TabOrder	Supported	em_1.TabOrder = 50
Tag	Supported	em_1.Tag = ls_value
Text	Supported	em_1.Text = ls_value
TextColor	Supported	em_1.TextColor = ll_value em_1.TextColor = RGB (192,192,192)
TextCase	Supported	em_1.TextCase = AnyCase! em_1.TextCase = Lower! em_1.TextCase = Upper!
TextSize	Supported	em_1.TextSize = li_value
Underline	Supported	em_1.Underline = TRUE em_1.Underline = lb_value
UseCodeTable	Supported	em_1.UseCodeTable = TRUE
Visible	Supported	em_1.Visible = lb_value
Weight	Supported	em_1.Weight = li_value
Width	Supported	em_1.Width = li_value
X	Supported	em_1.X = li_value
Y	Supported	em_1.Y = li_value
AutoVScroll	Unsupported	
ClassDefinition	Unsupported	
HScrollBar	Unsupported	
IgnoreDefaultButtons	Unsupported	
TabStop[]	Unsupported	
Transparency	Unsupported	
VScrollBar	Unsupported	

5.1.1.6.2 Events for EditMask control

Table 5.18:

Event	Support Level	Example Code
Constructor	Supported	Constructor()
Destructor	Supported	Destructor()
DragDrop	Supported	DragDrop(source)
DragEnter	Supported	DragEnter(source)
DragLeave	Supported	DragLeave(source)
DragWithin	Supported	DragWithin(source)
GetFocus	Supported	GetFocus()
LoseFocus	Supported	LoseFocus()
Modified	Supported	Modified()
RButtonDown	Supported	RButtonDown(flags, xpos, ypos)
Help	Unsupported	
Other	Unsupported	

5.1.1.6.3 Functions for EditMask control

Table 5.19:

Function	Support Level	Example Code
ClassName	Supported	ls_returnvalue = em_1.ClassName()
Clear	Supported	li_returnvalue = em_1.Clear()
Copy	Supported	li_returnvalue = em_1.Copy()
Cut	Supported	li_returnvalue = em_1.Cut()
Drag	Supported	em_1.Drag(Begin!)
GetData	Supported	li_returnvalue = em_1.GetData(datavariablename)
GetParent	Supported	PowerObject lpo_returnvalue lpo_returnvalue = em_1.GetParent()
Hide	Supported	li_returnvalue = em_1.Hide()
LineCount	Supported	li_returnvalue = em_1.LineCount()
LineLength	Supported	li_returnvalue = em_1.LineLength()
Move	Supported	li_returnvalue = em_1.Move(li_xpos, li_ypos)
Paste	Supported	li_returnvalue = em_1.Paste()
PointerX	Supported	li_returnvalue = em_1.PointerX()
PointerY	Supported	li_returnvalue = em_1.PointerY()
PostEvent	Supported	lb_returnvalue = em_1.PostEvent(event)
ReplaceText	Supported	li_returnvalue = em_1.ReplaceText(text)
Resize	Supported	li_returnvalue = em_1.Resize(li_width, li_height)

Function	Support Level	Example Code
SelectedLength	Supported	li_returnvalue = em_1.SelectedLength() If the control is off screen, the execution of the function may have an incorrect return result.
SelectedLine	Supported	integer li_SL li_SL = em_1.SelectedLine()
SelectedStart	Supported	li_returnvalue = em_1.SelectedStart() If the control is off screen, the execution of the function may have an incorrect return result.
SelectedText	Supported	ls_returnvalue = em_1.SelectedText() If the control is off screen, the execution of the function may have an incorrect return result.
SelectText	Supported	ls_returnvalue = em_1.SelectText(start, length) If the control is off screen, the execution of the function may have an incorrect return result.
SetFocus	Supported	li_returnvalue = em_1.SetFocus() Unsupported: SetFocus(em_test)
SetMask	Supported	li_returnvalue = em_1.SetMask(maskdatatype, mask)
SetPosition	Supported	li_returnvalue = em_1.SetPosition(position)
SetRedraw	Supported	li_returnvalue = em_1.SetRedraw (FALSE)
Show	Supported	li_returnvalue = em_1.Show()
TextLine	Supported	li_returnvalue = em_1.TextLine()
TriggerEvent	Supported	li_returnvalue = em_1.TriggerEvent()
TypeOf	Supported	If em_1.TypeOf() = editmask! Then ls_returnvalue = 'editmask!' else ls_returnvalue = 'invalid!' End if
CanUndo	Unsupported	
GetContextService	Unsupported	
Position	Unsupported	
Print	Unsupported	
Scroll	Unsupported	
Undo	Unsupported	

5.1.1.7 GroupBox control

5.1.1.7.1 Properties for GroupBox control

Table 5.20:

Property	Support Level	Example Code
BackColor	Supported	gb_1.BackColor = ll_value Note: transparent value is unsupported.
BorderStyle	Supported	gb_1.Border = TRUE gb_1.BorderStyle = StyleLowered!
BringToTop	Supported	gb_1.BringToTop = TRUE
DragAuto	Supported	gb_1.DragAuto = TRUE
DragIcon	Supported	gb_1.DragIcon = 'c:\archive\arrow.ico'
Enabled	Supported	gb_1.Enabled = lb_value
FaceName	Supported	gb_1.FaceName = ls_value
FontCharSet	Supported	gb_1.FontCharSet = ANSI!
FontFamily	Supported	gb_1.FontFamily = Roman!
FontPitch	Supported	gb_1.FontPitch = Fixed!
Height	Supported	gb_1.Height = li_value
Italic	Supported	gb_1.Italic = lb_value
Pointer	Supported	gb_1.Pointer = 'Beam!' gb_1.Pointer = 'd:\archive\IBEAM.BMP.cur'
RightToLeft	Supported	gb_1.RightToLeft = TRUE
TabOrder	Supported	gb_1.TabOrder = 50
Tag	Supported	gb_1.Tag = ls_value
Text	Supported	gb_1.Text = ls_value
TextColor	Supported	gb_1.TextColor = ll_value gb_1.TextColor = RGB(192,192,192)
TextSize	Supported	gb_1.TextSize = li_value
Underline	Supported	gb_1.Underline = lb_value
Visible	Supported	gb_1.Visible = lb_value
Weight	Supported	gb_1.Weight = li_value
Width	Supported	gb_1.Width = li_value
X	Supported	gb_1.X = li_value
Y	Supported	gb_1.Y = li_value
ClassDefinition	Unsupported	
Transparency	Unsupported	

5.1.1.7.2 Events for GroupBox control

Table 5.21:

Event	Support Level	Example Code
Constructor	Supported	Constructor()
Destructor	Supported	Destructor()
Help	Unsupported	
Other	Unsupported	

5.1.1.7.3 Functions for GroupBox control

Table 5.22:

Function	Support Level	Example Code
ClassName	Supported	ls_returnvalue = gb_1.ClassName()
Drag	Supported	gb_1.drap(Cancel!)
GetParent	Supported	PowerObject lpo_returnvalue lpo_returnvalue = gb_1.GetParent()
Hide	Supported	li_returnvalue = gb_1.Hide()
Move	Supported	gb_1.Move(200,500) li_returnvalue = gb_1.Move(li_xpos, li_ypos)
PointerX	Supported	li_returnvalue = gb_1.PointerX()
PointerY	Supported	li_returnvalue = gb_1.PointerY()
PostEvent	Supported	lb_returnvalue = gb_1.PostEvent(event)
Resize	Supported	li_returnvalue = gb_1.Resize(li_width,li_height)
SetFocus	Supported	li_returnvalue = gb_1.SetFocus() Unsupported: SetFocus(gb_text)
SetPosition	Supported	li_returnvalue = gb_1.SetPosition(position)
SetRedraw	Supported	li_value = gb_1.SetRedraw(TRUE)
Show	Supported	li_returnvalue = gb_1.Show()
TriggerEvent	Supported	li_returnvalue = gb_1.TriggerEvent(event)
TypeOf	Supported	if gb_1.TypeOf() = GroupBox! Then ls_returnvalue = "GroupBox!" else ls_returnvalue = "invalid" end if
GetContextService	Unsupported	
Print	Unsupported	

5.1.1.8 HProgressBar control

5.1.1.8.1 Properties for HProgressBar control

Table 5.23:

Property	Support Level	Example Code
BringToTop	Supported	hpb_1.BringToTop = TRUE
DragAuto	Supported	hpb_1.DragAuto = TRUE
DragIcon	Supported	hpb_1.DragIcon = 'Question!'
Height	Supported	hpb_1.Height = li_value
MaxPosition	Supported	hpb_1.MaxPosition = 120
MinPosition	Supported	hpb_1.MinPosition = 20
Pointer	Supported	hpb_1.Pointer = 'Beam!' hpb_1.Pointer = 'd:\archive\IBeam.BMP.cur'
Position	Supported	hpb_1.Position = 50
SetStep	Supported	hpb_1.setstep = 20
SmoothScroll	Supported	hpb_1.SmoothScroll = True
TabOrder	Supported	hpb_1.TabOrder = 20
Tag	Supported	hpb_1.Tag = "HProgressBar control"
Visible	Supported	hpb_1.Visible = TRUE
Width	Supported	hpb_1.Width = 700
X	Supported	hpb_1.X = 280
Y	Supported	hpb_1.Y = 1280
ClassDefinition	Unsupported	

5.1.1.8.2 Events for HProgressBar control

Table 5.24:

Event	Support Level	Example Code
Clicked	Supported	Clicked()
Constructor	Supported	Constructor()
Destructor	Supported	Destructor()
DoubleClicked	Supported	DoubleClicked()
DragDrop	Supported	DragDrop(source)
DragEnter	Supported	DragEnter(source)
DragLeave	Supported	DragLeave(source)
DragWithin	Supported	DragWithin(source)
GetFocus	Supported	GetFocus()
LoseFocus	Supported	LoseFocus()

Event	Support Level	Example Code
RightClicked	Supported	RightClicked()
Help	Unsupported	
Other	Unsupported	

5.1.1.8.3 Functions for HProgressBar control

Table 5.25:

Function	Support Level	Example Code
ClassName	Supported	ls_classnm = hpb_1.classname()
Drag	Supported	li_return = hpb_1.drag(Begin!)
GetParent	Supported	lpo_return = hpb_1.GetParent()
Hide	Supported	li_return = hpb_1.Hide()
Move	Supported	li_return = hpb_1.Move(li_x,li_y)
OffsetPos	Supported	li_return = hpb_1.OffsetPos(10)
PointerX	Supported	li_return = hpb_1.PointerX()
PointerY	Supported	li_return = hpb_1.PointerY()
PostEvent	Supported	hpb_1.PostEvent(Clicked!)
Resize	Supported	li_return = hpb_1.Resize(li_x, li_y)
SetFocus	Supported	li_return = hpb_1.SetFocus()
SetPosition	Supported	li_return = hpb_1.SetPosition(ToTop!)
SetRange	Supported	li_return = hpb_1.SetRange(1, 10)
SetRedraw	Supported	li_return = hpb_1.SetRedraw(FALSE)
Show	Supported	li_return = hpb_1.Show()
StepIt	Supported	li_return = hpb_1.StepIt()
TriggerEvent	Supported	li_return = hpb_1.TriggerEvent(Clicked!)
TypeOf	Supported	type_obj = hpb_1.typeof()
GetContextService	Unsupported	
Print	Unsupported	

5.1.1.9 HScrollBar control

5.1.1.9.1 Properties for HScrollBar control

Table 5.26:

Property	Support Level	Example Code
BringToTop	Supported	hsb_1.BringToTop = TRUE
DragAuto	Supported	hsb_1.DragAuto = TRUE
DragIcon	Supported	hsb_1.DragIcon = 'Question!'
Height	Supported	hsb_1.Height = li_value

Property	Support Level	Example Code
MaxPosition	Supported	hsb_1.MaxPosition = 120
MinPosition	Supported	hsb_1.MinPosition = 20
Pointer	Supported	hsb_1.Pointer = 'Beam!' hsb_1.Pointer = 'd:\archive\IBEAM.BMP.cur'
Position	Supported	hsb_1.Position = 50
StdHeight	Supported	hsb_1.StdHeight = True
TabOrder	Supported	hsb_1.TabOrder = 20
Tag	Supported	hsb_1.Tag = "HScrollBar control"
Visible	Supported	hsb_1.Visible = TRUE
Width	Supported	hsb_1.Width = 700
X	Supported	hsb_1.X = 280
Y	Supported	hsb_1.Y = 1280
ClassDefinition	Unsupported	

5.1.1.9.2 Events for HScrollBar control

Table 5.27:

Event	Support Level	Example Code
Constructor	Supported	Constructor()
Destructor	Supported	Destructor()
DragDrop	Supported	DragDrop(source)
DragEnter	Supported	DragEnter(source)
DragLeave	Supported	DragLeave(source)
DragWithin	Supported	DragWithin(source)
GetFocus	Supported	GetFocus()
LineLeft	Supported	LineLeft()
LineRight	Supported	LineRight() Note: User defined events in the LineLeft or LineRight events for the HScrollBar control may be triggered more than once.
LoseFocus	Supported	LoseFocus()
Moved	Supported	Moved(scrollpos)
PageLeft	Supported	PageLeft()
PageRight	Supported	PageRight()
RButtonDown	Supported	RButtonDown()
Help	Unsupported	
Other	Unsupported	

5.1.1.9.3 Functions for HScrollBar control

Table 5.28:

Function	Support Level	Example Code
ClassName	Supported	ls_classnm = hsb_1.classname()
Drag	Supported	li_return = hsb_1.drag(Begin!)
GetParent	Supported	lpo_return = hsb_1.GetParent()
Hide	Supported	li_return = hsb_1.Hide()
Move	Supported	li_return = hsb_1.Move(li_x,li_y)
PointerX	Supported	li_return = hsb_1.PointerX()
PointerY	Supported	li_return = hsb_1.PointerY()
PostEvent	Supported	hsb_1.PostEvent(Clicked!)
Resize	Supported	li_return = hsb_1.Resize(li_x, li_y)
SetFocus	Supported	li_return = hsb_1.SetFocus()
SetPosition	Supported	li_return = hsb_1.SetPosition(ToTop!)
SetRedraw	Supported	li_return = hsb_1.SetRedraw(FALSE)
Show	Supported	li_return = hsb_1.Show()
TriggerEvent	Supported	li_return = hsb_1.TriggerEvent(Clicked!)
TypeOf	Supported	type_obj = hsb_1.typeof()
GetContextService	Unsupported	
Print	Unsupported	

5.1.1.10 HTrackBar control

5.1.1.10.1 Properties for HTrackBar control

Table 5.29:

Property	Support Level	Example Code
BringToTop	Supported	htb_1.BringToTop = TRUE
DragAuto	Supported	htb_1.DragAuto = TRUE
DragIcon	Supported	htb_1.DragIcon = 'Question!'
Height	Supported	htb_1.Height = li_value
LineSize	Supported	htb_1.LineSize = li_value
MaxPosition	Supported	htb_1.MaxPosition = 120
MinPosition	Supported	htb_1.MinPosition = 20
PageSize	Supported	htb_1.PageSize = li_value
Pointer	Supported	htb_1.Pointer = 'Beam!'
Position	Supported	htb_1.Position = 50
Slider	Supported	htb_1.Slider = TRUE
SliderSize	Supported	htb_1.SliderSize = li_value

Property	Support Level	Example Code
TabOrder	Supported	htb_1.TabOrder = 20
Tag	Supported	htb_1.Tag = ls_tag
TickFrequency	Supported	htb_1.TickFrequency = li_value
TickMarks	Supported	htb_1.TickMarks = HTicksOnRight!
Visible	Supported	htb_1.Visible = TRUE
Width	Supported	htb_1.Width = li_value
X	Supported	htb_1.X = li_x
Y	Supported	htb_1.Y = li_y
ClassDefinition	Unsupported	

5.1.1.10.2 Events for HTrackBar control

Table 5.30:

Event	Support Level	Example Code
Constructor	Supported	Constructor()
Destructor	Supported	Destructor()
DragDrop	Supported	DragDrop(source)
DragEnter	Supported	DragEnter(source)
DragLeave	Supported	DragLeave(source)
DragWithin	Supported	DragWithin(source)
GetFocus	Supported	GetFocus()
LineDown	Supported	LineDown()
LineUp	Supported	LineUp()
LoseFocus	Supported	LoseFocus()
Moved	Supported	Moved(scrollpos)
PageDown	Supported	PageDown()
PageUp	Supported	PageUp()
RButtonDown	Supported	RButtonDown()
Help	Unsupported	
Other	Unsupported	

5.1.1.10.3 Functions for HTrackBar control

Table 5.31:

Function	Support Level	Example Code
ClassName	Supported	ls_classnm = htb_1.classname()
Drag	Supported	li_return = htb_1.drag(Begin!)
GetParent	Supported	lpo_return = htb_1.GetParent()

Function	Support Level	Example Code
Hide	Supported	li_return = htb_1.Hide()
Move	Supported	li_return = htb_1.Move(li_x,li_y)
PointerX	Supported	li_return = htb_1.PointerX()
PointerY	Supported	li_return = htb_1.PointerY()
PostEvent	Supported	htb_1.PostEvent(Clicked!)
Resize	Supported	li_return = htb_1.Resize(li_x, li_y)
SelectionRange	Supported	li_return = htb_1.SelectionRange(30, 70)
SetFocus	Supported	li_return = htb_1.SetFocus()
SetPosition	Supported	li_return = htb_1.SetPosition(ToTop!)
SetRedraw	Supported	li_return = htb_1.SetRedraw(FALSE)
Show	Supported	li_return = htb_1.Show()
TriggerEvent	Supported	li_return = htb_1.TriggerEvent(Clicked!)
TypeOf	Supported	type_obj = htb_1.typeof()
GetContextService	Unsupported	
Print	Unsupported	

5.1.1.11 InkPicture control

5.1.1.11.1 Properties for InkPicture control

Property added by PowerServer

Recognitiontimer - Specifies the time period in milliseconds between the last ink stroke and the start of text recognition (the [Apeon recognition \[51\]](#) event). The default is 2000 (two seconds).

Table 5.32:

Property	Support Level	Description
AutoErase	Unsupported	
BackColor	Supported	
Border	Supported	
BorderStyle	Supported	
BringToTop	Supported	
ClassDefinition	Unsupported	
CollectionMode	Supported	
DragAuto	Supported	
DragIcon	Supported	
DynamicRendering	Supported	
EditMode	Supported	InkPicSelectMode! is not supported.
Enabled	Supported	

Property	Support Level	Description
EraseMode	Supported	
EraseWidth	Unsupported	
Height	Supported	
HighContrastInk	Unsupported	
IgnorePressure	Unsupported	
InkAntiAliased	Unsupported	
InkColor	Supported	
InkEnabled	Supported	
InkFileName	Unsupported	
InkHeight	Unsupported	
InkTransparency	Unsupported	
InkWidth	Supported	
MarginX	Unsupported	
MarginY	Unsupported	
PenTip	Unsupported	
PictureFileName	Unsupported	
PictureSizeMode	Supported	
Pointer	Supported	
PowerTipText	Supported	
Status	Unsupported	
TabOrder	Supported	
Tag	Supported	
Visible	Supported	
Width	Supported	
X	Supported	
Y	Supported	

5.1.1.11.2 Events for InkPicture control

Event added by PowerServer

Apeon_recognition - Occurs when the last ink stroke has finished (that is, Stroke event is ended) for the period of time specified in the [Recognitiontimer \[50\]](#) property. This event provides a way for the developer to write PowerScript to, for example, save user strokes as images or blob data to the database.

Table 5.33:

Event	Support Level	Example Code
Clicked	Supported	

Event	Support Level	Example Code
Constructor	Supported	
Destructor	Supported	
DoubleClicked	Supported	
DragDrop	Supported	
DragEnter	Supported	
DragLeave	Supported	
DragWithin	Supported	
Gesture	Supported	
GetFocus	Supported	
Help	Supported	
LoseFocus	Supported	
Other	Supported	
RButtonDown	Unsupported	
SelectionChanged	Unsupported	
SelectionChanging	Unsupported	
SizeChanged	Supported	
Stroke	Supported	

5.1.1.11.3 Functions for InkPicture control

Table 5.34:

Function	Support Level	Example Code
ClassName	Supported	
Drag	Supported	
GetContextService	Supported	
GetParent	Supported	
Hide	Supported	
LoadInk	Unsupported	
LoadPicture	Supported	
Move	Supported	
PointerX	Supported	
PointerY	Supported	
PostEvent	Supported	
Print	Unsupported	
ResetInk	Supported	
ResetPicture	Supported	
Resize	Supported	

Function	Support Level	Example Code
Save	Supported	WithInk argument can only be set to "True", not "False".
SaveInk	Unsupported	
SetFocus	Supported	
SetPosition	Supported	
SetRedraw	Supported	
Show	Supported	
TriggerEvent	Supported	
TypeOf	Supported	

5.1.1.12 Line control

5.1.1.12.1 Properties for Line control

Table 5.35:

Property	Support Level	Example Code
BeginX	Supported	ln_1.BeginX = li_value
BeginY	Supported	ln_1.BeginY = li_value
EndX	Supported	ln_1.EndX = li_value
EndY	Supported	ln_1.EndY = li_value
LineColor	Supported	ln_1.LineColor = ll_value ln_1.LineColor = RGB(192,192,192)
LineStyle	Supported	ln_1.LineStyle = Continuous! ln_1.LineStyle = Dash! ln_1.LineStyle = DashDot! ln_1.LineStyle = DashDotDot! ln_1.LineStyle = Dot! ln_1.LineStyle = Transparent!
LineThickness	Supported	ln_1.LineThickness = li_value
Tag	Supported	ln_1.Tag = ls_value
Visible	Supported	ln_1.Visible = TRUE ln_1.Visible = lb_value
ClassDefinition	Unsupported	

5.1.1.12.2 Events for Line control

Table 5.36:

Event	Support Level	Example Code
Constructor	Supported	Constructor()
Destructor	Supported	Destructor()

5.1.1.12.3 Functions for Line control

Table 5.37:

Function	Support Level	Example Code
ClassName	Supported	ls_returnvalue = ln_1.ClassName()
GetParent	Supported	li_returnvalue = ln_1.GetParent()
Hide	Supported	li_returnvalue = ln_1.Hide()
Move	Supported	li_returnvalue = ln_1.Move(li_xpos, li_ypos)
Resize	Supported	li_returnvalue = ln_1.Resize(100, 150)
Show	Supported	li_returnvalue = ln_1.Show()
TypeOf	Supported	if ln_1.typeof() = Line! Then ls_returnvalue = 'Line!' else ls_returnvalue = 'Invalid' end if
GetContextService	Unsupported	

5.1.1.13 ListBox control

5.1.1.13.1 Properties for ListBox control

Table 5.38:

Property	Support Level	Example Code
Accelerator	Supported	lb_1.Accelerator=67
BackColor	Supported	lb_1.BackColor = ll_value lb_1.BackColor = RGB(192,192,192)
Border	Supported	lb_1.Border = lb_value
BringToTop	Supported	lb_1.BringToTop = TRUE
BorderStyle	Supported	lb_1.BorderStyle = StyleLowered! lb_1.BorderStyle = StyleRaised! lb_1.BorderStyle = StyleBox! Note: StyleShadowBox! is unsupported.
DisableNoScroll	Supported	lb_1.DisableNoScroll = FALSE lb_1.DisableNoScroll = lb_value
DragAuto	Supported	lb_1.DragAuto = TRUE
DragIcon	Supported	lb_1.DragIcon = 'c:\examples\arrow.ico' lb_1.DragIcon = 'Question!'
Enabled	Supported	lb_1.Enabled = lb_value
ExtendedSelect	Supported	lb_1.ExtendedSelect = lb_value

Property	Support Level	Example Code
FaceName	Supported	lb_1.FaceName = ls_value
FontCharSet	Supported	lb_1.FontCharSet = ANSI!
FontFamily	Supported	lb_1.FontFamily = Roman!
FontPitch	Supported	lb_1.FontPitch = Fixed!
Height	Supported	lb_1.Height = li_value
HScrollBar	Supported	lb_1.HScrollBar = TRUE lb_1.HScrollBar = lb_value
Italic	Supported	lb_1.Italic = lb_value
Item[]	Supported	ls_value = lb_1.Item[1]
MultiSelect	Supported	lb_1.MultiSelect = lb_value
Pointer	Supported	lb_1.Pointer = 'SizeNS!' lb_1.Pointer='d:\archive\IBEAM.BMP.cur'
RightToLeft	Supported	lb_1.RightToLeft = TRUE
Sorted	Supported	lb_1.Sorted = TRUE
TabOrder	Supported	lb_1.TabOrder = 60
Tag	Supported	lb_1.Tag = ls_value
TextColor	Supported	lb_1.TextColor = ll_value lb_1.TextColor = RGB(192,192,192)
TextSize	Supported	lb_1.TextSize = li_value
Underline	Supported	lb_1.Underline = lb_value
Visible	Supported	lb_1.Visible = lb_value
VScrollBar	Supported	lb_1.VscrollBar = lb_value
Weight	Supported	lb_1.Weight = li_value
Width	Supported	lb_1.Width = li_value
X	Supported	lb_1.X = li_value
Y	Supported	lb_1.Y = li_value
ClassDefinition	Unsupported	
TabStop[]	Unsupported	

5.1.1.13.2 Events for ListBox control

Table 5.39:

Event	Support Level	Example Code
Constructor	Supported	Constructor()
Destructor	Supported	Destructor()
DoubleClicked	Supported	DoubleClicked()
DragDrop	Supported	DragDrop(source)

Event	Support Level	Example Code
DragEnter	Supported	DragEnter(source)
DragLeave	Supported	DragLeave(source)
DragWithin	Supported	DragWithin(source)
GetFocus	Supported	GetFocus()
LoseFocus	Supported	LoseFocus()
RButtonDown	Supported	RButtonDown(flags, xpos, ypos)
SelectionChanged	Supported	SelectionChanged(index)
Help	Unsupported	
Other	Unsupported	

5.1.1.13.3 Functions for ListBox control

Table 5.40:

Function	Support Level	Example Code
AddItem	Supported	li_returnvalue = lb_1.AddItem(item)
ClassName	Supported	ls_returnvalue = lb_1.ClassName()
DeleteItem	Supported	li_returnvalue = lb_1.DeleteItem(index)
DirList	Supported	lb_1.DirList("C:\EMPLOYEE*.TXT", 0)
DirSelect	Supported	lb_1.DirSelect(ls_filename)
Drag	Supported	lb_1.Drag(End!)
Find Item	Supported	li_returnvalue = lb_1.FindItem(text, index)
GetParent	Supported	PowerObject lpo_returnvalue lpo_returnvalue = lb_1.GetParent()
Hide	Supported	li_returnvalue = lb_1.Hide()
InsertItem	Supported	li_returnvalue = lb_1.InsertItem(ls_x, li_y)
Move	Supported	li_returnvalue = string(lb_1.Move(li_x,li_y))
PointerX	Supported	li_returnvalue = lb_1.PointerX()
PointerY	Supported	li_returnvalue = lb_1.PointerY()
PostEvent	Supported	lb_returnvalue = string(lb_1.PostEvent(Clicked!))
Reset	Supported	li_returnvalue = lb_1.Reset()
Resize	Supported	li_returnvalue = lb_1.Resize(li_x,li_y)
SelectedIndex	Supported	li_returnvalue = lb_1.SelectedIndex()
SelectedItem	Supported	ls_returnvalue = lb_1.SelectedItem()
SelectItem	Supported	li_returnvalue = lb_1.SelectItem (item, index)
SetFocus	Supported	li_returnvalue = lb_1.SetFocus() Unsupported: SetFocus(lb_test)
SetPosition	Supported	li_returnvalue = lb_1.SetPosition(position)

Function	Support Level	Example Code
SetRedraw	Supported	li_value = lb_1.SetRedraw(TRUE)
SetState	Supported	li_returnvalue = lb_1.SetState(index, lb_y)
SetTop	Supported	li_returnvalue = lb_1.SetTop(index)
Show	Supported	li_returnvalue = lb_1.Show()
State	Supported	li_returnvalue = lb_1.State(index)
Text	Supported	ls_returnvalue = lb_1.Text (index)
Top	Supported	li_returnvalue = lb_1.Top()
TotalItems	Supported	li_returnvalue = lb_1.TotalItems()
TotalSelected	Supported	li_returnvalue = lb_1.TotalSelected()
TriggerEvent	Supported	li_returnvalue = lb_1.TriggerEvent(event)
TypeOf	Supported	if lb_1.typeof() = listbox! Then ls_returnvalue = 'listbox!' else ls_returnvalue = 'isvalid' end if
GetContextService	Unsupported	
Print	Unsupported	

5.1.1.14 ListView control

Important Requirements

In the ListView control, selecting multiple items at one time is unsupported.

5.1.1.14.1 Properties for ListView control

Table 5.41:

Property	Support Level	Example Code
Accelerator	Supported	lv_1.Accelerator=67
AutoArrange	Supported	lv_1.AutoArrange = TRUE
BackColor	Supported	lv_1.BackColor = ll_value lv_1.BackColor = RGB(192,192,192) Note: transparent value is unsupported.
Border	Supported	lv_1.Border = lb_value
BorderStyle	Supported	lv_1.BorderStyle = StyleBox! lv_1.BorderStyle = StyleLowered! lv_1.BorderStyle = StyleRaised! Note: StyleShadowBox! is not supported.
BringToTop	Supported	lv_1.BringToTop = TRUE
ButtonHeader	Supported	lv_1.ButtonHeader = TRUE

Property	Support Level	Example Code
CheckBoxes	Supported	lv_1.CheckBoxes = TRUE
DeleteItems	Supported	lv_1.DeleteItems = lb_value
DragAuto	Supported	lv_1.DragAuto = TRUE
DragIcon	Supported	lv_1.DragIcon = 'c:\archive\arrow.ico"
EditLabels	Supported	lv_1.EditLabels = lb_value
Enabled	Supported	lv_1.Enabled = lb_value
ExtendedSelect	Supported	lv_1.ExtendedSelect = TRUE
FaceName	Supported	lv_1.FaceName =ls_value
FixedLocations	Supported	lv_1.FixedLocations = FALSE
FontCharSet	Supported	lv_1.FontCharSet = ANSI!
FontFamily	Supported	lv_1.FontFamily = Roman!
FontPitch	Supported	lv_1.FontPitch = Fixed!
FullRowSelect	Supported	lv_1.FullRowSelect = TRUE
GridLines	Supported	lv_1.GridLines = TRUE
HeaderDragDrop	Supported	lv_1.HeaderDragDrop = TRUE
Height	Supported	lv_1.Height = li_value
HideSelection	Supported	lv_1.HideSelection = FALSE
Italic	Supported	lv_1.Italic = lb_value
Item[]	Supported	lv_1.item[intx] = ls_value
ItemPicture Index[]	Supported	lv_1.ItemPictureIndex [li_x] = ls_value
LabelWrap	Supported	lv_1.LabelWrap = TRUE
LargePicture Height	Supported	lv_1.LargePictureHeight = li_value Note: This value cannot be set to 0 or negative.
LargePicture MaskColor	Supported	lv_1.LargePictureMaskColor = RGB(255, 255, 0)
LargePicture Name[]	Supported	lv_1.LargePictureName [li_x] = ls_value
LargePicture Width	Supported	lv_1.LargePictureWidth = li_value Note: This value cannot be set to 0 or negative.
OneClickActivate	Supported	lv_1.OneClickActivate = TRUE
Pointer	Supported	lv_1.Pointer = 'SizeNS!' lv_1.Pointer = 'd:\archive\IBEAM.BMP.cur'
Scrolling	Supported	lv_1.Scrolling = TRUE
ShowHeader	Supported	lv_1.ShowHeader = TRUE

Property	Support Level	Example Code
SmallPictureHeight	Supported	lv_1.SmallPictureHeight = li_value Note: This value cannot be set to 0 or negative.
SmallPictureMaskColor	Supported	lv_1.SmallPictureMaskColor = RGB(255, 255, 0)
SmallPictureName	Supported	lv_1.SmallPictureName [li_x] = ls_value
SmallPictureWidth	Supported	lv_1.SmallPictureWidth = li_value Note: This value cannot be set to 0 or negative.
SortType	Supported	lv_1.SortType = Unsorted!
StatePictureMaskColor	Supported	lv_1.StatePictureMaskColor = RGB(255, 255, 0)
StatePictureName[]	Supported	lv_1.StatePictureName [li_x] = ls_value
TabOrder	Supported	lv_1.TabOrder = 70
Tag	Supported	lv_1.Tag = ls_value
TextColor	Supported	lv_1.TextColor = ll_value lv_1.TextColor = RGB(192,192,192)
TextSize	Supported	lv_1.TextSize = li_value
TrackSelect	Supported	lv_1.TrackSelect = TRUE
TwoClickActivate	Supported	lv_1.TwoClickActivate = TRUE
Underline	Supported	lv_1.Underline = lb_value
UnderlineCold	Supported	lv_1.UnderlineCold = TRUE
UnderlineHot	Supported	lv_1.UnderlineHot = TRUE
View	Supported	lv_1.View = ListViewLargeIcon!
Visible	Supported	lv_1.Visible = lb_value
Weight	Supported	lv_1.Weight = li_value
Width	Supported	lv_1.Width = li_value
X	Supported	lv_1.X = li_value
Y	Supported	lv_1.Y =li_value
ClassDefinition	Unsupported	
LayoutRTL	Unsupported	
StatePictureHeight	Unsupported	
StatePictureWidth	Unsupported	
Transparency	Unsupported	

5.1.1.14.2 Events for ListView control

Table 5.42:

Event	Support Level	Example Code
BeginDrag	Supported	BeginDrag(index)
BeginLabelEdit	Supported	BeginLabelEdit(index)
BeginRightDrag	Supported	BeginRightDrag(index)
Clicked	Supported	Clicked(index)
ColumnClick	Supported	ColumnClick(column)
Constructor	Supported	Constructor()
DeleteAllItems	Supported	DeleteAllItems()
DeleteItem	Supported	DeleteItem(index)
Destructor	Supported	Destructor()
DoubleClicked	Supported	DoubleClicked(index)
DragDrop	Supported	DragDrop(source,index)
DragEnter	Supported	DragEnter(source)
DragLeave	Supported	DragLeave(source)
DragWithin	Supported	DragWithin(source,index)
EndLabelEdit	Supported	EndLabelEdit(index,newlabel)
GetFocus	Supported	GetFocus()
InsertItem	Supported	InsertItem(index)
ItemActivate	Supported	ItemActivate(index, focuschanged, hasfocus, selectionchange, selected, otherchange)
ItemChanged	Supported	ItemChanged(index, focuschanged, hasfocus, selectionchange, selected, otherchange)
ItemChanging	Supported	ItemChanging(index, focuschange, hasfocus, selectionchange, selected, otherchange)
Key	Supported	Key(key,keyflags)
LoseFocus	Supported	LoseFocus()
RightClicked	Supported	RightClicked(index)
RightDouble Clicked	Supported	RightDoubleClicked(index)
Help	Unsupported	
Other	Unsupported	
Sort	Unsupported	

5.1.1.14.3 Functions for ListView control

Table 5.43:

Function	Support Level	Example Code
AddColumn	Supported	li_value = lv_1.AddColumn(ls_x,Center!,li_y)
AddItem	Supported	li_value = lv_1.AddItem(ls_x,li_y)
AddLargePicture	Supported	li_value = lv_1.AddLargePicture(ls_prop)
AddSmallPicture	Supported	li_value = lv_1.AddSmallPicture(ls_prop)
AddStatePicture	Supported	li_value = lv_1.AddstatePicture(ls_prop)
Arrange	Supported	li_value = lv_1.Arrange()
ClassName	Supported	ls_value = lv_1.ClassName()
DeleteColumn	Supported	li_value = lv_1.DeleteColumn(1)
DeleteColumns	Supported	li_value = lv_1.DeleteColumns()
DeleteItem	Supported	li_value = lv_1.DeleteItem(li_x)
DeleteItems	Supported	li_value = lv_1.DeleteItems()
DeleteLarge Picture	Supported	li_value = lv_1.DeleteLargePicture(li_x)
DeleteLarge Pictures	Supported	li_value = lv_1.DeleteLargePictures()
DeleteSmallPicture	Supported	li_value = lv_1.DeleteSmallPicture(li_x)
DeleteSmall Pictures	Supported	li_value = lv_1.DeleteSmallPictures()
DeleteState Picture	Supported	li_value = lv_1.DeleteStatePicture(li_x)
DeleteState Pictures	Supported	li_value = lv_1.DeleteStatePictures()
Drag	Supported	lv_1.Drag(Begin!)
EditLabel	Supported	li_value= lv_1.EditLabel()
FindItem	Supported	li_Value = lv_1.FindItem (startindex, label, partial, wrap) li_value = lv_1.FindItem (startindex, direction, focused, selected, cuthighlighted, drophighlighted)
GetColumn	Supported	li_strValue = lv_1.GetColumn(index, label, alignment, width)
GetItem	Supported	li_value = lv_1.GetItem(li_x,lv1)
GetParent	Supported	PowerObject lpo_returnvalue lpo_returnvalue = lv_1.GetParent()
Hide	Supported	li_value = lv_1.Hide()
InsertColumn	Supported	li_value = lv_1.InsertColumn(li_x,ls_x,Center!,li_y)
InsertItem	Supported	li_value = lv_1.InsertItem(2, "Insert String")

Function	Support Level	Example Code
Move	Supported	li_value = lv_1.Move(li_x,li_y)
PointerX	Supported	li_value = lv_1.PointerX()
PointerY	Supported	li_value = lv_1.PointerY()
PostEvent	Supported	lv_1.PostEvent(Clicked!)
Resize	Supported	li_value = lv_1.Resize(li_x,li_y)
SelectedIndex	Supported	li_value = lv_1.SelectedIndex()
SetColumn	Supported	li_value = lv_1.SetColumn(li_x,ls_x,Center!,li_y)
SetFocus	Supported	li_value = lv_1.SetFocus() Unsupported: SetFocus(lv_test)
SetItem	Supported	li_value = lv_1.SetItem(li_x[],li_y[],lv1)
SetPosition	Supported	li_value = lv_1.SetPosition(Behind!, lv_three)
SetRedraw	Supported	li_value = lv_1.SetRedraw(TRUE)
Show	Supported	li_value = lv_1.Show()
Sort	Supported	li_value = lv_1.Sort(Ascending!) li_value = lv_1.Sort(Descending!) li_value = lv_1.Sort(Unsorted!) Note: userdefinesort! is not supported.
TotalColumns	Supported	li_cols = lv_1.TotalColumns()
TotalItems	Supported	li_value = lv_1.TotalItems()
TriggerEvent	Supported	li_value = lv_1.TriggerEvent("Clicked")
TypeOf	Supported	if lv_1.TypeOf() = ListView! Then ls_value = "ListView!" else ls_value = "invalid" end if
SetOverlayPicture	Supported	lv_1.SetOverlayPicture(1, index)
TotalSelected	Supported	
GetContextService	Unsupported	
GetOrigin	Unsupported	
Print	Unsupported	

5.1.1.15 MonthCalendar control

5.1.1.15.1 Properties for MonthCalendar control

Table 5.44:

Property	Support Level	Example Code
Accelerator	Supported	mc_1.Accelerator=67
AccessibleDescription	Supported	
AccessibleName	Supported	
AccessibleRole	Supported	
AutoSize	Supported	mc_1.AutoSize = false
BackColor	Supported	mc_1.BackColor = RGB(0, 0, 255) mc_1.BackColor = ll_value
Border	Supported	mc_1.Border = TRUE mc_1.Border = lb_value
BorderStyle	Supported	mc_1.BorderStyle = StyleBox! mc_1.BorderStyle = StyleLowered! mc_1.BorderStyle = StyleRaised! Note: StyleShadowBox! is unsupported.
BringToTop	Supported	mc_1.BringToTop = TRUE
DragAuto	Supported	mc_1.DragAuto = TRUE Note: On the Web, dragging a DatePicker control will not trigger the DropDown event if the DragAuto property is set to True, which means there is no Month Calendar displayed on the Web when you Drag the DatePicker with setting the DragAuto property to True.
DragIcon	Supported	mc_1.DragIcon = 'arrow.ico'
Enabled	Supported	mc_1.Enabled=TRUE mc_1.Enabled = lb_value
FaceName	Supported	mc_1.FaceName = "" mc_1.FaceName = ls_value
FirstDayOfWeek	Supported	mc_1.FirstDayOfWeek = Monday!
FontCharSet	Supported	mc_1.FontCharSet = ANSI!
FontFamily	Supported	mc_1.FontFamily = Roman!
FontPitch	Supported	mc_1.FontPitch = Fixed!
Height	Supported	mc_1.Height = 750 mc_1.Height = li_value
Italic	Supported	mc_1.Italic=TRUE

Property	Support Level	Example Code
		mc_1.Italic = lb_value
MaxSelectCount	Supported	mc_1.MaxSelectCount = 7
MonthBackColor	Supported	mc_1.MonthBackColor = RGB(255, 255, 0)
Pointer	Supported	mc_1.Pointer = 'Size!'
ScrollRate	Supported	mc_1.ScrollRate = 3
TabOrder	Supported	mc_1.TabOrder = 30
Tag	Supported	mc_1.Tag = ls_value
TextColor	Supported	mc_1.TextColor = li_value
TextSize	Supported	mc_1.TextSize = li_value
TitleBackColor	Supported	mc_1.TitleBackColor = RGB(128, 255, 128)
TitleTextColor	Supported	mc_1.TitleTextColor = RGB(0,0,255)
TodayCircle	Supported	mc_1.TodaySection = false
TodaySection	Supported	mc_1.TodaySection = false
TrailingTextColor	Supported	mc_1.TrailingTextColor = 134217731
Underline	Supported	mc_1.Underline = lb_value
Visible	Supported	mc_1.Visible = True
WeekNumbers	Supported	mc_1.WeekNumbers = true
Weight	Supported	mc_1.Weight = 700 mc_1.Weight = li_value
Width	Supported	mc_1.Width = li_value Note: 1. If the Width value is set to -32768, obtaining the width property returns -32768 on the Web, however it returns 0 in PowerBuilder. 2. If the Width value is set to 32768, obtaining the width property returns 0 on the Web, however it returns -32768 in PowerBuilder.
X	Supported	mc_1.X = li_value Note: 1. If the X value is set to -32768, obtaining the X property returns -32768 on the Web, however it returns 0 in PowerBuilder. 2. If the Width value is set to 32768, obtaining the width property returns 0 on the Web, however it returns -32768 in PowerBuilder.
Y	Supported	mc_1.Y = li_value Note:

Property	Support Level	Example Code
		<ol style="list-style-type: none"> 1. If the Y value is set to -32768, obtaining the Y property returns -32768 on the Web, however it returns 0 in PowerBuilder. 2. If the Width value is set to 32768, obtaining the width property returns 0 on the Web, however it returns -32768 in PowerBuilder.
ClassDefinition	Unsupported	
RightToLeft	Unsupported	

5.1.1.15.2 Events for MonthCalendar control

Table 5.45:

Event	Support Level	Example Code
Clicked	Supported	Clicked()
Constructor	Supported	Constructor()
DateChanged	Supported	DateChanged() Note: SetSelectedDate and SetSelectedRange trigger a DateChanged event twice on the Web.
Destructor	Supported	Destructor()
DoubleClicked	Supported	DoubleClicked(flags,xpos,ypos)
DragDrop	Supported	DragDrop(source)
DragEnter	Supported	DragEnter(source)
DragLeave	Supported	DragLeave(source)
DragWithin	Supported	DragWithin(source)
RButtonDown	Supported	RButtonDown(flags, xpos, ypos)
GetFocus	Unsupported	
LoseFocus	Unsupported	
Help	Unsupported	
UserString	Unsupported	
Other	Unsupported	

5.1.1.15.3 Functions for MonthCalendar Control

Table 5.46:

Function	Support Level	Example Code
ClassName	Supported	ls_value = mc_1.ClassName()
ClearBoldDates	Supported	li_return = mc_1.ClearBoldDates()
Drag	Supported	mc_1.Drag(Begin!) Note: If you use Drag(Begin!), single mouse clicking will trigger DragEnter and DragDrop event in

Function	Support Level	Example Code
		sequence on the Web. This is different from the event sequences in PowerBuilder.
GetDateLimits	Supported	li_return = mc_1.GetDateLimits (mindate, maxdate)
GetDisplayRange	Supported	li_return = mc_1.GetDisplayRange (startdate, enddate,PartlyDisplayed!)
GetParent	Supported	PowerObject lpo_returnvalue lpo_returnvalue = mc_1.GetParent()
GetSelectedDate	Supported	li_return = mc_1.GetSelectedDate(seldate) Notes: 1. The function returns 0 on the Web if there are several dates selected or the specified date is an invalid value. 2. The function will trigger a DateChanged event twice on the Web.
GetSelectedRange	Supported	li_return = mc_1.GetSelectedRange(startdate, enddate) Note: The function will trigger a DateChanged event twice on the Web.
GetToday	Supported	currentdate = mc_1.GetToday()
Hide	Supported	li_return = mc_1.Hide()
Move	Supported	li_return = mc_1.Move(li_x,li_y)
PointerX	Supported	li_value = mc_1.PointerX()
PointerY	Supported	li_value = mc_1.PointerY()
PostEvent	Supported	mc_1.PostEvent(Constructor!)
Resize	Supported	li_return = mc_1.Resize(li_width,li_height)
SetBoldDate	Supported	li_return = mc_1.SetBoldDate(d, true)
SetDateLimits	Supported	li_return = mc_1.SetDateLimits(mindate, maxdate)
SetFocus	Supported	li_return = mc_1.SetFocus()
SetPosition	Supported	li_return = mc_1.SetPosition(position)
SetRedraw	Supported	li_return= mc_1.SetRedraw(FALSE)
SetSelectedDate	Supported	li_return = mc_1.SetSelectedDate(seldate) Notes: If input an invalid date, the function returns 0 on the Web but -1 in PowerBuilder.
SetSelectedRange	Supported	li_return = mc_1.SetSelectedRange(startdate, enddate)
SetToday	Supported	li_return = mc_1.SetToday(currentdate)
Show	Supported	li_return = mc_1.Show()
TriggerEvent	Supported	mc_1.TriggerEvent(Constructor!)

Function	Support Level	Example Code
TypeOf	Supported	<pre>if mc_1.TypeOf() = MonthCalendar! Then ls_return = 'MonthCalendar!' else ls_return = 'isvalid' end if</pre>
GetContextService	Unsupported	
Print	Unsupported	

5.1.1.16 MultiLineEdit control

5.1.1.16.1 Properties for MultiLineEdit control

Table 5.47:

Property	Support Level	Example Code
Accelerator	Supported	mle_1.Accelerator = 67
Alignment	Supported	mle_1.Alignment = Center!
AutoHScroll	Supported	mle_1.AutoHScroll = TRUE
AutoVScroll	Supported	mle_1.AutoVscroll = TRUE
BackColor	Supported	<pre>mle_1.BackColor = ll_value mle_1.BackColor = RGB(192,192,192)</pre> <p>Note: transparent value is unsupported.</p>
Border	Supported	mle_1.Border = lb_value
BorderStyle	Supported	<pre>mle_1.BorderStyle = StyleBox! mle_1.BorderStyle = StyleLowered! mle_1.BorderStyle = StyleRaised!</pre> <p>Note: StyleShadowBox! is unsupported.</p>
BringToTop	Supported	mle_1.BringToTop = TRUE
DisplayOnly	Supported	mle_1.DisplayOnly =lb_value
DragAuto	Supported	mle_1.DragAuto = TRUE
DragIcon	Supported	mle_1.DragIcon = 'c:\archive\arrow.ico'
Enabled	Supported	<pre>mle_1.Enabled = lb_valueM</pre> <p>Note: when the user moves the pointer over a MultiLineEdit control that has set the Enabled property to false, the pointer on the Web will be different from that in the PowerBuilder application.</p>
FaceName	Supported	mle_1.FaceName = ls_value

Property	Support Level	Example Code
FontCharSet	Supported	mle_1.FontCharSet = ANSI!
FontFamily	Supported	mle_1.FontFamily = Roman!
FontPitch	Supported	mle_1.FontPitch = Fixed!
Height	Supported	mle_1.Height = li_value
HideSelection	Supported	mle_1.HideSelection = FALSE
HScrollBar	Supported	mle_1.HScrollBar = TRUE
IgnoreDefault Button	Supported	mle_1.IgnoreDefaultButton = TRUE
Italic	Supported	mle_1.Italic = lb_value
Limit	Supported	mle_1.Limit = li_value
Pointer	Supported	mle_1.pointer= 'beam!' mle_1.pointer ='d:\archive\IBEAM.BMP.cur'
RightToLeft	Supported	mle_1.RightToLeft = TRUE
TabOrder	Supported	mle_1.TabOrder = 80
Tag	Supported	mle_1.Tag = ls_value
Text	Supported	mle_1.Text = ls_value It is unsupported to set the value of this property to null.
TextCase	Supported	mle_1.TextCase = AnyCase! mle_1.TextCase = Lower! mle_1.TextCase = Upper!
TextColor	Supported	mle_1.TextColor = ll_value
TextSize	Supported	mle_1.TextSize = li_value
Underline	Supported	mle_1.Underline = lb_value
Visible	Supported	mle_1.Visible = lb_value
VScrollBar	Supported	mle_1.VScrollBar = TRUE
Weight	Supported	mle_1.Weight = li_value
Width	Supported	mle_1.Width = li_value
X	Supported	mle_1.X = li_value
Y	Supported	mle_1.Y = li_value
ClassDefinition	Unsupported	
TabStop[]	Unsupported	
Transparency	Unsupported	

5.1.1.16.2 Events for MultiLineEdit control**Table 5.48:**

Event	Support Level	Example Code
Constructor	Supported	Constructor()
Destructor	Supported	Destructor()
DragDrop	Supported	DragDrop(source)
DragEnter	Supported	DragEnter(source)
DragLeave	Supported	DragLeave(source)
DragWithin	Supported	DragWithin(source)
GetFocus	Supported	GetFocus()
LoseFocus	Supported	LoseFocus()
Modified	Supported	Modified() A Modified event is followed by a LoseFocus event.
RButtonDown	Supported	RButtonDown(flags, xpos, ypos)
Help	Unsupported	
Other	Unsupported	

5.1.1.16.3 Functions for MultiLineEdit control**Table 5.49:**

Function	Support Level	Example Code
ClassName	Supported	ls_value = mle_1.ClassName()
Clear	Supported	ls_value = mle_1.Clear() Note: the function executes successfully only when the control has focus.
Copy	Supported	ls_value = mle_1.Copy()
Cut	Supported	ls_value = mle_1.Cut()
Drag	Supported	mle_1.Drag(Begin!)
GetParent	Supported	PowerObject lpo_returnvalue lpo_returnvalue = mle_1.GetParent()
Hide	Supported	ls_value = mle_1.Hide()
LineCount	Supported	li_value = mle_1.LineCount()
LineLength	Supported	li_value = mle_1.LineLength()
Move	Supported	ls_value = mle_1.Move(li_x,li_y)
Paste	Supported	ls_value = mle_1.Paste()
PointerX	Supported	ls_value = mle_1.PointerX()
PointerY	Supported	ls_value = mle_1.PointerY()
Position	Supported	mle_1.Position()
PostEvent	Supported	ls_value = mle_1.PostEvent(Constructor!)

Function	Support Level	Example Code
ReplaceText	Supported	ls_strexevalue = mle_1.ReplaceText(ls_x)
Resize	Supported	ls_value = mle_1.Resize(li_x,li_y)
Scroll	Supported	mle_1.Scroll(4)
SelectedLength	Supported	ls_value = mle_1.SelectedLength()
SelectedLine	Supported	integer li_SL li_SL = mle_1.SelectedLine()
SelectedStart	Supported	ls_value = mle_1.SelectedStart()
SelectedText	Supported	ls_value = mle_1.SelectedText()
SelectText	Supported	li_value = mle_1.SelectText(li_x,li_y)
SetFocus	Supported	ls_value = mle_1.SetFocus() Unsupported: SetFocus(mle_1)
SetPosition	Supported	mle_1.SetPosition(Behind!, mle_2) ls_value = mle_1.SetPosition(ToTop!) ls_value = mle_1.SetPosition(ToBottom!)
SetRedraw	Supported	li_return= mle_1.SetRedraw(FALSE)
Show	Supported	ls_value = mle_1.Show()
TextLine	Supported	ls_value = mle_1.TextLine()
TriggerEvent	Supported	ls_value = mle_1.TriggerEvent(Constructor!)
TypeOf	Supported	if mle_1.typeof() = MultiLineEdit! Then ls_value = 'MultiLineEdit!' else ls_value = 'Invalid' end if
Undo	Supported	li_value = mle_1.Undo()
CanUndo	Unsupported	
GetContextService	Unsupported	
Print	Unsupported	

5.1.1.17 OLEControl control

Important Requirements

The shortcut key for Ocx is unsupported.

Using parentheses when calling an OLEObject method is required.

5.1.1.17.1 Properties for OLEControl control

Table 5.50:

Property	Support Level	Example Code
Activation	Supported	ole_1.Activation = ActivateOnDoubleClick!

Property	Support Level	Example Code
		Note: activateOnGetfocus! is unsupported.
BackColor	Supported	ole_1.BackColor = ll_value ole_1.BackColor = RGB(192,192,192)
BinaryIndex	Supported	
BinaryKey	Supported	
Border	Supported	ole_1.Border = TRUE ole_1.Border = lb_value
BorderStyle	Supported	ole_1.BorderStyle = StyleBox! ole_1.BorderStyle = StyleLowered! Note: StyleShadowBox! is unsupported.
BringToTop	Supported	ole_1.BringToTop = TRUE
DisplayName	Supported	ole_1.DisplayName = "My project"
DisplayType	Supported	ole_1.DisplayType = DisplayAsIcon! Note: displayasactivexdocument! is unsupported
DocFileName	Supported	ls_ret = ole_1.docfilename
DragAuto	Supported	ole_1.DragAuto = TRUE
DragIcon	Supported	ole_1.DragIcon = 'Question!'
Enabled	Supported	ole_1.Enabled=TRUE ole_1.Enabled = lb_value
FocusRectangle	Supported	ole_1.FocusRectangle = TRUE ole_1.FocusRectangle = lb_value
Height	Supported	ole_1.Height = 750 ole_1.Height = li_value
LinkItem	Supported	ls_ret = iole.LinkItem
Object	Supported	OLEObject obj = ole_1.object.activesheet.cells Int x = ole_1.object.month
ObjectData	Supported	blob lblob_data = ole_1.objectdata
Pointer	Supported	ole_1.Pointer = 'SizeWE!' ole_1.Pointer='d:\archive\IBEAM.BMP.cur'
SizeMode	Supported	ole_1.SizeMode = Clip!
TabOrder	Supported	ole_1.TabOrder = 40 ole_1.TabOrder = li_order
Tag	Supported	ole_1.Tag = ls_value
Visible	Supported	ole_1.Visible = lb_value
Width	Supported	ole_1.Width = li_value

Property	Support Level	Example Code
X	Supported	ole_1.X = li_value
Y	Supported	ole_1.Y = li_value
ClassDefinition	Unsupported	
ClassLongName	Unsupported	
ClassShortName	Unsupported	
ContentsAllowed	Unsupported	
IsDragTarget	Unsupported	
LinkUpdate Options	Unsupported	
ParentStorage	Unsupported	

5.1.1.17.2 Events for OLEControl control

Table 5.51:

Event	Support Level	Example Code
Clicked	Supported	Clicked()
Constructor	Supported	Constructor()
DataChange	Supported	DataChange()
Destructor	Supported	Destructor()
DoubleClicked	Supported	DoubleClicked()
GetFocus	Supported	GetFocus()
LoseFocus	Supported	LoseFocus()
PropertyChanged	Supported	PropertyChanged(propertyname)
PropertyRequest Edit	Supported	PropertyRequestEdit(propertyname,cancelchange)
RButtonDown	Supported	RButtonDown(flags, xpos, ypos)
SaveObject	Supported	
Close	Unsupported	
DragDrop	Unsupported	
DragEnter	Unsupported	
DragLeave	Unsupported	
DragWithin	Unsupported	
Error	Unsupported	
ExternalException	Unsupported	
Help	Unsupported	
Other	Unsupported	
Rename	Unsupported	

Event	Support Level	Example Code
Save	Unsupported	
ViewChange	Unsupported	

5.1.1.17.3 Functions for OLEControl control

Table 5.52:

Function	Support Level	Example Code
Activate	Supported	integer li_return li_return = ole_1.Activate(OffSite!) Note: the argument InPlace! is unsupported
ClassName	Supported	ls_return = ole_1.ClassName()
Clear	Supported	li_return = ole_1.Clear()
DoVerb	Supported	li_return = ole_1.DoVerb(7)
GetData	Supported	li_return = ole_1.GetData(ClipFormatText!, ls_oledata)
GetNativePointer	Supported	UnsignedLong lul_oleptr li_return = ole_1.GetNativePointer(lul_oleptr)
GetParent	Supported	PowerObject lpo_parent lpo_parent = ole_1.GetParent()
Hide	Supported	ole_1.Hide()
InsertClass	Supported	li_return = ole_1.InsertClass("excel.sheet")
InsertFile	Supported	li_return = ole_1.InsertFile("c:\xls\expense.xls")
InsertObject	Supported	li_return = ole_1.InsertObject() Items listed in the Web Insert Object dialog box contain and only contain all the registered OLE applications in the client. Items listed in PowerBuilder Insert object dialog box are defined in PowerBuilder.
LinkTo	Supported	li_return = ole_1.LinkTo("c:\xls\expense.xls", "R1C1:R5C5")
Move	Supported	li_return = ole_1.Move(P_Train1.X + P_Train1.Width, P_Train1.Y)
Open	Supported	li_return = ole_1.Open("c:\ole2\mystuff.ole")
PointerX	Supported	li_return = ole_1.PointX()
PointerY	Supported	li_return = ole_1.PointY()
PostEvent	Supported	ole_1.PostEvent("DataChange")
ReleaseNative Pointer	Supported	li_return = ole_1.ReleaseNativePointer(lul_oleptr)
Resize	Supported	li_return = ole_1.Resize(500, 1000)

Function	Support Level	Example Code
Save	Supported	li_return = ole_1.Save()
SaveAs	Supported	li_return = ole_1.SaveAs("c:\ole\expense.ole")
SetData	Supported	li_return = ole_1.SetData(ClipFormatText!, ls_oledata)
SetFocus	Supported	li_return = ole_1.SetFocus()
SetPosition	Supported	ole_1.SetPosition(ToTop!) ole_1.SetPosition(Behind!, cb_exec)
SetRedraw	Supported	ole_1.SetRedraw(true)
Show	Supported	ole_1.Show()
TriggerEvent	Supported	li_return = ole_1.TriggerEvent("DataChange")
TypeOf	Supported	if ole_1.typeof()=olecontrol! then ls_return="olecontrol!"
Copy	Unsupported	
Cut	Unsupported	
Drag	Unsupported	
GetContextService	Unsupported	
Paste	Unsupported	
PasteLink	Unsupported	
PasteSpecial	Unsupported	
Print	Unsupported	
SelectObject	Unsupported	
UpdateLinks Dialog	Unsupported	

5.1.1.18 OLECustomControl control

Important Requirements

The shortcut key for Ocx is unsupported.

Using parentheses when calling an OLEObject method is required.

5.1.1.18.1 Properties for OLECustomControl control

Table 5.53:

Property	Support Level	Example Code
BackColor	Supported	ole_1.BackColor = ll_value ole_1.BackColor = RGB(192,192,192)
BinaryIndex	Supported	
BinaryKey	Supported	
Border	Supported	ole_1.Border = TRUE

Property	Support Level	Example Code
		ole_1.Border = lb_value
BorderStyle	Supported	ole_1.BorderStyle = StyleBox! ole_1.BorderStyle = StyleLowered! Note: StyleShadowBox! is unsupported.
BringToTop	Supported	ole_1.BringToTop = TRUE
DisplayName	Supported	ole_1.DisplayName = "My project"
DragAuto	Supported	ole_1.DragAuto = TRUE
DragIcon	Supported	ole_1.DragIcon = 'Question!'
Enabled	Supported	ole_1.Enabled = TRUE ole_1.Enabled = lb_value
FocusRectangle	Supported	ole_1.FocusRectangle = TRUE ole_1.FocusRectangle = lb_value
Object	Supported	OLEObject obj = ole_1.object.activesheet.cells Int x = ole_1.object.month
Pointer	Supported	ole_1.Pointer = 'SizeNWSE!' ole_1.Pointer='d:\archive\IBEAM.BMP.cur'
TabOrder	Supported	ole_1.TabOrder = 40 ole_1.TabOrder = li_order
Tag	Supported	ole_1.Tag = ls_value
Visible	Supported	ole_1.Visible = lb_value
Width	Supported	ole_1.Width = li_value
X	Supported	ole_1.X = li_value
Y	Supported	ole_1.Y = li_value
Alignment	Unsupported	
Cancel	Unsupported	
ClassDefinition	Unsupported	
ClassLongName	Unsupported	
ClassShortName	Unsupported	
Default	Unsupported	
FaceName	Unsupported	
FontCharSet	Unsupported	
FontFamily	Unsupported	
FontPitch	Unsupported	
IsDragTarget	Unsupported	
Italic	Unsupported	

Property	Support Level	Example Code
TextColor	Unsupported	
TextSize	Unsupported	
Underline	Unsupported	
Weight	Unsupported	

5.1.1.18.2 Events for OLECustomControl control

Table 5.54:

Event	Support Level	Example Code
Clicked	Supported	Clicked()
Constructor	Supported	Constructor()
DataChange	Supported	DataChange()
Destructor	Supported	Destructor()
DoubleClicked	Supported	DoubleClicked()
GetFocus	Supported	GetFocus()
LoseFocus	Supported	LoseFocus()
PropertyChanged	Supported	PropertyChanged(propertyname)
PropertyRequestEdit	Supported	PropertyRequestEdit(propertyname,cancelchange)
RButtonDown	Supported	RButtonDown(flags, xpos, ypos)
DragDrop	Unsupported	
DragEnter	Unsupported	
DragLeave	Unsupported	
DragWithin	Unsupported	
Error	Unsupported	
ExternalException	Unsupported	
Help	Unsupported	
Other	Unsupported	

5.1.1.18.3 Functions for OLECustomControl control

Table 5.55:

Function	Support Level	Example Code
ClassName	Supported	ls_return = ole_1.ClassName()
GetData	Supported	li_return = ole_1.GetData(ClipFormatText!, ls_oledata)
GetNativePointer	Supported	UnsignedLong lul_oleptr li_return = ole_1.GetNativePointer(lul_oleptr)
GetParent	Supported	PowerObject lpo_parent

Function	Support Level	Example Code
		<code>lpo_parent = ole_1.GetParent()</code>
Hide	Supported	<code>li_return = ole_1.Hide()</code>
Move	Supported	<code>li_return = ole_1.Move(500 , 1000)</code>
PointerX	Supported	<code>li_return = ole_1.PointX()</code>
PointerY	Supported	<code>li_return = ole_1.PointY()</code>
PostEvent	Supported	<code>ole_1.PostEvent("DoubleClicked")</code>
ReleaseNative Pointer	Supported	<code>li_return = ole_1.ReleaseNativePointer(lul_oleptr)</code>
Resize	Supported	<code>li_return = ole_1.Resize(500, 1000)</code>
SetData	Supported	<code>li_return = ole_1.SetData(ClipFormatText!, ls_oledata)</code>
SetFocus	Supported	<code>li_return = ole_1.SetFocus()</code>
SetPosition	Supported	<code>ole_1.SetPosition(ToTop!) ole_1.SetPosition(Behind!, cb_exec)</code>
SetRedraw	Supported	<code>ole_1.SetRedraw(true)</code>
Show	Supported	<code>li_return = ole_1.Show()</code>
TriggerEvent	Supported	<code>li_return = ole_1.TriggerEvent("DoubleClicked")</code>
TypeOf	Supported	<code>if ole_1.typeof()=olecustomcontrol! then ls_return="olecustomcontrol!" end if</code>
Drag	Unsupported	
GetContextService	Unsupported	
Print	Unsupported	

5.1.1.19 Oval control

5.1.1.19.1 Properties for Oval control

Table 5.56:

Property	Support Level	Example Code
FillColor	Supported	<code>o_1.FillColor=RGB(255,255,0)</code>
FillPattern	Supported	<code>o_1.FillPattern = Diamond!</code>
Height	Supported	<code>o_1.Height = 750</code>
LineColor	Supported	<code>o_1.LineColor = RGB(255,0,0)</code>
LineStyle	Supported	<code>o_1.LineStyle = Dash!</code>
LineThickness	Supported	
Tag	Supported	<code>o_1.SetMicroHelp(This.Tag)</code>
Visible	Supported	<code>o_1.Visible = TRUE</code>

Property	Support Level	Example Code
Width	Supported	<code>o_1.Width = 750</code>
X	Supported	<code>o_1.X = 215</code>
Y	Supported	<code>o_1.Y = 215</code>
ClassDefinition	Unsupported	

5.1.1.19.2 Events for Oval control

Table 5.57:

Event	Support Level	Example Code
Constructor	Supported	<code>Constructor()</code>
Destructor	Supported	<code>Destructor()</code>

5.1.1.19.3 Functions for Oval control

Table 5.58:

Function	Support Level	Example Code
ClassName	Supported	<code>ls_value = o_1.ClassName()</code>
GetParent	Supported	<code>lo_value = o_1.GetParent()</code>
Hide	Supported	<code>o_1.Hide()</code>
Move	Supported	<code>o_1.Move(150, 200)</code>
PostEvent	Supported	<code>o_1.PostEvent(Clicked!)</code> Note: The PostEvent function returns 1 if it is successful.
Resize	Supported	<code>o_1.Resize(100, 150)</code>
Show	Supported	<code>o_1.Show()</code>
TriggerEvent	Supported	<code>o_1.TriggerEvent(Clicked!)</code> Note: in an Web application the TriggerEvent function returns 1 if it is successful.
TypeOf	Supported	if <code>o_1.typeof()=Oval!</code> then <code>ls_return="Oval!"</code> end if
GetContextService	Unsupported	

5.1.1.20 Picture control

Important Requirements

Picture controls can contain images in the following formats:

- Bitmaps, with .BMP extensions

- GIF or animated GIF files, with the .GIF extension
- JPEG files, with .JPEG or .JPG extensions
- Ico files with .ICO extensions
- Cursor files with .CUR extensions
- PNG files with .PNG extensions

Pictures in an application

- The name of a picture file cannot be a string that ends with '!'.
For example:
- The picture directory can be an absolute path or relative path.

For example:

this.picturename = "c:\app\about.bmp"

or **this**.picturename = " image\about.bmp"

- Different from PB, PowerServer supports using an Internet URL as the value for PictureName, for example,
this.picturename = "http://192.168.168.52/Apeon/AEM/images/AEM_TOP.jpg"
- If a picture fails to display in the Web application, copy the picture directly to the *Web Root Path /images* directory. *Web Root Path* stands for the folder in the Web server that is configured in PowerServer Toolkit Config for storing the Web application files.

5.1.1.20.1 Properties for Picture control

Table 5.59:

Property	Support Level	Example Code
Border	Supported	p_1.Border = lb_value
BringToTop	Supported	p_1.BringToTop = TRUE
BorderStyle	Supported	p_1.BorderStyle = StyleBox! p_1.BorderStyle = StyleLowered! p_1.BorderStyle = StyleRaised! Note: StyleShadowBox! is unsupported.
DragAuto	Supported	p_1.DragAuto = TRUE
DragIcon	Supported	p_1.DragIcon = 'c:\examples\arrow.ico'
Enabled	Supported	p_1.Enabled = lb_value
FocusRectangle	Supported	p_1.FocusRectangle = TRUE
Height	Supported	p_1.Height = li_value
Invert	Supported	p_1.Invert = FALSE
OriginalSize	Supported	p_1.OriginalSize = lb_value

Property	Support Level	Example Code
PictureName	Supported	<p>p_1.PictureName = ls_value</p> <p>Note: It is unsupported to dynamically change this property if the initial value is a GIF file.</p> <p>Different from PB, PowerServer supports using an Internet URL as the value for PictureName, for example,</p> <p>p_1.Picturename = "http://192.168.168.52/Apeon/AEM/images/AEM_TOP.jpg"</p>
Pointer	Supported	<p>p_1.pointer= 'size!'</p> <p>p_1.pointer= "'d:\archive\IBEAM.BMP.cur'</p>
PowerTipText	Supported	p_1.PowerTipText = "Cancel the operation"
TabOrder	Supported	p_1.TabOrder = 100
Tag	Supported	p_1.Tag = ls_value
Visible	Supported	p_1.Visible = lb_value
Width	Supported	p_1.Width = li_value
X	Supported	p_1.X = li_value
Y	Supported	p_1.Y = li_value
ClassDefinition	Unsupported	
Map3DColors	Unsupported	

5.1.1.20.2 Events for Picture control

Table 5.60:

Event	Support Level	Example Code
Clicked	Supported	Clicked()
Constructor	Supported	Constructor()
Destructor	Supported	Destructor()
DoubleClicked	Supported	DoubleClicked()
DragDrop	Supported	DragDrop(source)
DragEnter	Supported	DragEnter(source)
DragLeave	Supported	DragLeave(source)
DragWithin	Supported	DragWithin(source)
GetFocus	Supported	GetFocus()
LoseFocus	Supported	LoseFocus()
RButtonDown	Supported	RButtonDown(flags, xpos, ypos)
Help	Unsupported	
Other	Unsupported	

5.1.1.20.3 Functions for Picture control

Table 5.61:

Function	Support Level	Example Code
ClassName	Supported	ls_value = p_1.ClassName()
Drag	Supported	p_1.Drag(Begin!)
Draw	Supported	li_value = p_1.Draw(li_x,li_y) Note: run the Draw function once the picture has been resized. After conversion, the size of the modified picture will be the same as the most recent state. In PowerBuilder, the size of the drawn picture will be the same as the original one.
GetParent	Supported	PowerObject lpo_value lpo_value = p_1.GetParent()
Hide	Supported	li_value = p_1.Hide()
Move	Supported	li_value = p_1.Move(li_x,li_y)
PointerX	Supported	li_value = p_1.PointerX()
PointerY	Supported	li_value = p_1.PointerY()
PostEvent	Supported	lb_value = p_1.PostEvent(Clicked!)
Resize	Supported	li_value = p_1.Resize(li_x,li_y)
SetFocus	Supported	li_value = p_1.SetFocus() Unsupported: SetFocus(p_1)
SetPicture	Supported	p_1.SetPicture(Emp_pic)
SetPosition	Supported	li_value = p_1.SetPosition()
SetRedraw	Supported	li_value = p_1.SetRedraw(FALSE)
Show	Supported	li_value = p_1.Show()
TriggerEvent	Supported	li_value = p_1.TriggerEvent(Clicked!)
TypeOf	Supported	if p_1.TypeOf() = Picture! Then ls_value = "Picture!" else ls_value = "invalid" end if
GetContextService	Unsupported	
Print	Unsupported	

5.1.1.21 PictureBox control

Important Requirements

It is unsupported to use GIF files in PictureBox controls.

5.1.1.21.1 Properties for PictureBox control

Table 5.62:

Property	Support Level	Example Code
BackColor	Supported	pb_1.BackColor = 8421376 Note: transparent value is unsupported.
BringToFront	Supported	pb_1.BringToFront = TRUE
Cancel	Supported	pb_1.Cancel = TRUE
Default	Supported	pb_1.Default = TRUE
DisabledName	Supported	pb_1.DisabledName = "d:\pbhelp\controls.bmp"
DragAuto	Supported	pb_1.DragAuto = TRUE
DragIcon	Supported	pb_1.DragIcon = 'c:\archive\arrow.ico'
Enabled	Supported	pb_1.Enabled = TRUE
FaceName	Supported	pb_1.FaceName = ls_value
FontCharSet	Supported	pb_1.FontCharSet = ANSI!
FontFamily	Supported	pb_1.FontFamily = Roman!
FontPitch	Supported	pb_1.FontPitch = Fixed!
Height	Supported	pb_1.Height = li_value
HTextAlign	Supported	pb_1.HtextAlign = "Left!" //Specifies how the text in the control is aligned. Values are: Center! Justify! Left! Right!
Italic	Supported	pb_1.Italic = lb_value
OriginalSize	Supported	pb_1.OriginalSize = FALSE //Specifies whether the width and height properties of a bitmap image (picture) are set to their original values.
PictureName	Supported	pb_1.PictureName = ls_value Different from PB, PowerServer supports using an Internet URL as the value for PictureName, for example, pb_1.Picturename = "http://192.168.168.52/Apeon/AEM/images/AEM_TOP.jpg"
Pointer	Supported	pb_1.pointer = 'Arrow!' pb_1.pointer = 'd:\archive\IBEAM.BMP.cur'
PowerTipText	Supported	pb_1.PowerTipText = "This button opens a new form"
TabOrder	Supported	pb_1.TabOrder = 10
Tag	Supported	pb_1.Tag = ls_value
Text	Supported	pb_1.Text = ls_value
TextColor	Supported	pb_1.TextColor = li_value

Property	Support Level	Example Code
TextSize	Supported	pb_1.TextSize = li_value
Underline	Supported	pb_1.Underline = lb_value
Visible	Supported	pb_1.Visible = lb_value
VTextAlign	Supported	pb_1.VTextAlign= Top! //Specifies how the text in the control is aligned. Values are: Bottom!, MultiLine!, Top!, and VCenter! All these values, except for MultiLine!, assume that there is only one line of text.
Weight	Supported	pb_1.Weight = li_value
Width	Supported	pb_1.Width = li_value
X	Supported	pb_1.X = li_value
Y	Supported	pb_1.Y = li_value
ClassDefinition	Unsupported	
FlatStyle	Unsupported	
Map3DColors	Unsupported	
Transparency	Unsupported	

5.1.1.21.2 Events for PictureBox control

Table 5.63:

Event	Support Level	Example Code
Clicked	Supported	Clicked()
Constructor	Supported	Constructor()
Destructor	Supported	Destructor()
DragDrop	Supported	DragDrop(source)
DragEnter	Supported	DragEnter(source)
DragLeave	Supported	DragLeave(source)
DragWithin	Supported	DragWithin(source)
GetFocus	Supported	GetFocus()
LoseFocus	Supported	LoseFocus()
RButtonDown	Supported	RButtonDown(flags, xpos, ypos)
Help	Unsupported	
Other	Unsupported	

5.1.1.21.3 Functions for PictureBox control

Table 5.64:

Function	Support Level	Example Code
ClassName	Supported	ls_returnvalue = pb_1.ClassName()

Function	Support Level	Example Code
Drag	Supported	pb_1.Drag (Cancel!)
GetParent	Supported	PowerObject lpo_returnvalue lpo_returnvalue = pb_1.GetParent()
Hide	Supported	li_returnvalue = pb_1.Hide()
Move	Supported	li_returnvalue = pb_1.Move(li_xpos, li_ypos)
PointerX	Supported	lb_returnvalue = pb_1.PointerX()
PointerY	Supported	lb_returnvalue = pb_1.PointerY()
PostEvent	Supported	lb_returnvalue = pb_1.PostEvent(event)
Resize	Supported	li_returnvalue = pb_1.Resize(li_width, li_height)
SetFocus	Supported	li_returnvalue = pb_1.SetFocus() Unsupported: SetFocus(pb_1)
SetPosition	Supported	li_returnvalue = pb_1.SetPosition(position)
SetRedraw	Supported	li_returnvalue = pb_1.SetRedraw (TRUE)
Show	Supported	li_returnvalue = pb_1.Show()
TriggerEvent	Supported	li_returnvalue = pb_1.TriggerEvent(event)
TypeOf	Supported	if pb_1.TypeOf() = PictureBox! Then ls_returnvalue = 'PictureBox!' end if
GetContextService	Unsupported	
Print	Unsupported	

5.1.1.22 PictureBox control

Important Requirements

The PictureBox controls can contain images in the following formats:

- Bitmaps, with .BMP extensions
- GIF or animated GIF files, with the .GIF extensions
- JPEG files, with .JPEG or .JPG extensions
- Ico files with .ICO extensions
- Cursor files with .CUR extensions

5.1.1.22.1 Properties for PictureBox control

Table 5.65:

Property	Support Level	Example Code
Border	Supported	phl_1.Border = lb_value
BorderStyle	Supported	phl_1.BorderStyle = StyleBox!

Property	Support Level	Example Code
		<pre>phl_1.BorderStyle = StyleLowered!</pre> <pre>phl_1.BorderStyle = StyleRaised!</pre> <p>Note: StyleShadowBox! is unsupported.</p>
BringToTop	Supported	<pre>phl_1.BringToTop = TRUE</pre>
DragAuto	Supported	
DragIcon	Supported	
Enabled	Supported	<pre>phl_1.Enabled = lb_value</pre>
FocusRectangle	Supported	<pre>phl_1.FocusRectangle = TRUE</pre>
Height	Supported	<pre>phl_1.Height = li_value</pre>
OriginalSize	Supported	<pre>phl_1.OriginalSize = lb_value</pre>
PictureName	Supported	<pre>phl_1.PictureName = ls_value</pre> <p>Different from PB, PowerServer supports using an Internet URL as the value for PictureName, for example,</p> <pre>phl_1.Picturename = "http://192.168.168.52/Apeon/AEM/images/AEM_TOP.jpg"</pre>
Pointer	Supported	<pre>phl_1='Size!'</pre> <pre>phl_1='d:\archive\IBEAM.BMP.cur'</pre>
PowerTipText	Supported	<pre>phl_1.PowerTipText = "This button opens a new form"</pre>
TabOrder	Supported	<pre>phl_1.TabOrder = 100</pre>
Tag	Supported	<pre>phl_1.Tag = ls_value</pre>
URL	Supported	<pre>phl_1.URL = "http://www.appeon.com/"</pre>
Visible	Supported	<pre>phl_1.Visible = lb_value</pre>
Width	Supported	<pre>phl_1.Width = li_value</pre>
X	Supported	<pre>phl_1.X = li_value</pre>
Y	Supported	<pre>phl_1.Y = li_value</pre>
ClassDefinition	Unsupported	
Invert	Unsupported	
Map3DColors	Unsupported	

5.1.1.22.2 Events for PictureHyperLink control

Table 5.66:

Event	Support Level	Example Code
Clicked	Supported	Clicked()
Constructor	Supported	Constructor()
Destructor	Supported	Destructor()

Event	Support Level	Example Code
DoubleClicked	Supported	DoubleClicked()
DragDrop	Supported	DragDrop(source)
DragEnter	Supported	DragEnter(source)
DragLeave	Supported	DragLeave(source)
DragWithin	Supported	DragWithin(source)
GetFocus	Supported	GetFocus()
LoseFocus	Supported	LoseFocus()
RButtonDown	Supported	RButtonDown(flags, xpos, ypos)
Help	Unsupported	
Other	Unsupported	

5.1.1.22.3 Functions for PictureHyperLink control

Table 5.67:

Function	Support Level	Example Code
ClassName	Supported	ls_value = phl_1.ClassName()
Draw	Supported	li_value = phl_1.Draw(li_x,li_y)
Drag	Supported	phl_1.Drag(Begin!)
GetParent	Supported	PowerObject lpo_value lpo_value = phl_1.GetParent()
Hide	Supported	li_value = phl_1.Hide()
Move	Supported	li_value = phl_1.Move(li_x,li_y)
PointerX	Supported	li_value = phl_1.PointerX()
PointerY	Supported	li_value = phl_1.PointerY()
PostEvent	Supported	lb_value = phl_1.PostEvent(Clicked!)
Resize	Supported	li_value = phl_1.Resize(li_x,li_y)
SetFocus	Supported	li_value = phl_1.SetFocus() Unsupported: SetFocus(phl_1)
SetPicture	Supported	phl_1.SetPicture(Emp_pic)
SetPosition	Supported	li_value = phl_1.SetPosition()
SetRedraw	Supported	li_returnvalue = phl_1.SetRedraw (FALSE)
Show	Supported	li_value = phl_1.Show()
TriggerEvent	Supported	li_value = phl_1.TriggerEvent(Clicked!)
TypeOf	Supported	if phl_1.TypeOf() = PictureHyperLink! Then ls_value = "PictureHyperLink!" else ls_value = "invalid"

Function	Support Level	Example Code
		end if
GetContextService	Unsupported	
Print	Unsupported	

5.1.1.23 PictureBox control

Important Requirements

Setting a PictureBox as a Dropdown PictureBox is not supported.

5.1.1.23.1 Properties for PictureBox control

Table 5.68:

Property	Support Level	Example Code
Accelerator	Supported	plb_1.Accelerator=67
BackColor	Supported	plb_1.BackColor = ll_value plb_1.BackColor = RGB(192,192,192)
Border	Supported	plb_1.Border = lb_value
BorderStyle	Supported	plb_1.BorderStyle = StyleLowered! plb_1.BorderStyle = StyleRaised! plb_1.BorderStyle = StyleBox! Note: StyleShadowBox! is not supported.
BringToFront	Supported	plb_1.BringToFront = TRUE
DisableNoScroll	Supported	plb_1.DisableNoScroll = lb_value
DragAuto	Supported	plb_1.DragAuto = TRUE
DragIcon	Supported	plb_1.DragIcon ='c:\archive\arrow.ico'
Enabled	Supported	plb_1.Enabled = lb_value
ExtendedSelect	Supported	plb_1.ExtendedSelect = lb_value
FaceName	Supported	plb_1.FaceName = ls_value
FontCharSet	Supported	plb_1.FontCharSet = ANSI!
FontFamily	Supported	plb_1.FontFamily = Roman!
FontPitch	Supported	plb_1.FontPitch = Fixed!
Height	Supported	plb_1.Height = li_value
HScrollBar	Supported	plb_1.Hscrollbar = lb_value
Italic	Supported	plb_1.Italic = lb_value
Item[]	Supported	plb_1.Item[] = ls_value
ItemImageIndex[]	Supported	plb_1.ItemPictureIndex[] = li_value[]
MultiSelect	Supported	plb_1.MultiSelect = lb_value

Property	Support Level	Example Code
PictureHeight	Supported	plb_1.PictureHeight = 16
PictureWidth	Supported	plb_1.PictureWidth = 16
PictureName[]	Supported	<p>ls_result[] = plb_1.PictureName[li_x[]]</p> <p>Assigning values to part of an array and using the default values for the other part is not supported.</p> <p>For example:</p> <pre> picturename[1] = "aaa.bmp" picturename[3] = "bbb.bmp" var pic1 = picutrename[1]; var pic2 = picturename[3]; </pre> <p>A supported example is given as follows:</p> <pre> picturename[1] = "aaa.bmp" picturename[2] = "bbb.bmp" picturename[3] = "ccc.bmp" var pic1 = picutrename[1]; var pic2 = picturename[2]; var pic3 = picturename[3]; </pre>
Pointer	Supported	<pre> plb_1.pointer = 'Icon!' plb_1.pointer = 'd:\archive\IBEAM.BMP' </pre>
RightToLeft	Supported	plb_1.RightToLeft = TRUE
Sorted	Supported	plb_1.Sorted = lb_value
TabOrder	Supported	plb_1.TabOrder = 110
Tag	Supported	plb_1.Tag = ls_value
TextColor	Supported	plb_1.Textcolor = ll_value
TextSize	Supported	plb_1.TextSize = li_value
Underline	Supported	plb_1.Underline = lb_value
Visible	Supported	plb_1.Visible = lb_value
VScrollBar	Supported	plb_1.VScrollBar = lb_value
Weight	Supported	plb_1.Weight = li_value
Width	Supported	plb_1.Width = li_value
X	Supported	plb_1.X = li_value
Y	Supported	plb_1.Y = li_value
PictureMaskColor	Supported	plb_1.PictureMaskColor= ll_value
ClassDefinition	Unsupported	
ShowList	Unsupported	

Property	Support Level	Example Code
TabStop[]	Unsupported	

5.1.1.23.2 Events for PictureBox control

Table 5.69:

Event	Support Level	Example Code
Constructor	Supported	Constructor()
Destructor	Supported	Destructor()
DoubleClicked	Supported	DoubleClicked()
DragDrop	Supported	DragDrop(source)
DragEnter	Supported	DragEnter(source)
DragLeave	Supported	DragLeave(source)
DragWithin	Supported	DragWithin(source)
GetFocus	Supported	GetFocus()
LoseFocus	Supported	LoseFocus()
RButtonDown	Supported	RButtonDown(flags, xpos, ypos)
SelectionChanged	Supported	SelectionChanged(index)
Help	Unsupported	
Other	Unsupported	

5.1.1.23.3 Functions for PictureBox control

Table 5.70:

Function	Support Level	Example Code
AddItem	Supported	li_position = plb_1.AddItem(ls_name, li_pic)
AddPicture	Supported	li_pic = plb_1.AddPicture("c:\pics\cardinal.bmp")
ClassName	Supported	ls_value = plb_1.ClassName()
DeleteItem	Supported	plb_1.DeleteItem(li_value)
DeletePicture	Supported	plb_1.DeletePicture (6)
DeletePictures	Supported	plb_1.DeletePictures ()
DirList	Supported	plb_1.DirList("C:\EMPLOYEE*.TXT", 0)
DirSelect	Supported	plb_1.DirSelect(ls_filename)
Drag	Supported	plb_1.Drag(End!)
FindItem	Supported	li_index = plb_1.FindItem ("Delete", 1)
GetParent	Supported	PowerObject lpo_value lpo_value = plb_1.GetParent()
Hide	Supported	li_value = plb_1.Hide()
InsertItem	Supported	plb_1.InsertItem("Run Application", 5)

Function	Support Level	Example Code
		<code>plb_1.InsertItem("Run Application", 5, 4)</code>
Move	Supported	<code>li_value = plb_1.Move(li_x[],li_y[])</code>
PointerX	Supported	<code>li_value = plb_1.PointerX()</code>
PointerY	Supported	<code>li_value = plb_1.PointerY()</code>
PostEvent	Supported	<code>lb_value = plb_1.PostEvent(Clicked!)</code>
Reset	Supported	<code>li_value = plb_1.Reset()</code>
Resize	Supported	<code>li_value = plb_1.Resize(li_x[],li_y[])</code>
SelectedIndex	Supported	<code>li_index = plb_1.SelectedIndex()</code>
SelectedItem	Supported	<code>li_item = plb_1.SelectedItem()</code>
SelectItem	Supported	<code>li_value = plb_1.SelectItem (li_x[],li_y[])</code>
SetFocus	Supported	<code>li_value = plb_1.SetFocus()</code> Unsupported: <code>SetFocus(plb_1)</code>
SetPosition	Supported	<code>li_returnvalue = plb_1.SetPosition(position)</code>
SetRedraw	Supported	<code>li_returnvalue = plb_1.SetRedraw (FALSE)</code>
SetState	Supported	<code>plb_1.SetState(6, TRUE)</code>
SetTop	Supported	<code>plb_1.SetTop(6)</code>
Show	Supported	<code>li_value = plb_1.Show()</code>
State	Supported	<code>li_item = plb_1.State(3)</code>
Text	Supported	<code>ls_return = plb_1.Text(2)</code>
Top	Supported	<code>li_num = plb_1.Top()</code>
TotalItems	Supported	<code>li_value= plb_1.TotalItems()</code>
TotalSelected	Supported	integer SelectedTotal <code>SelectedTotal = plb_1.TotalSelected()</code>
TriggerEvent	Supported	<code>li_value = plb_1.TriggerEvent(Constructor!)</code>
TypeOf	Supported	<code>if plb_1.typeof()=picturelistbox! Then</code> <code>ls_value='picturelistbox!'</code> <code>else</code> <code>ls_value='isvalid'</code> <code>end if</code>
Clear	Unsupported	
Copy	Unsupported	
Cut	Unsupported	
GetContextService	Unsupported	
Paste	Unsupported	
Position	Unsupported	

Function	Support Level	Example Code
Print	Unsupported	

5.1.1.24 RadioButton control

5.1.1.24.1 Properties for RadioButton control

Table 5.71:

Property	Support Level	Example Code
Automatic	Supported	rb_1.Automatic = TRUE
BackColor	Supported	rb_1.BackColor = li_value rb_1.BackColor = RGB(192,192,192) Note: transparent value is unsupported.
BorderStyle	Supported	rb_1.BorderStyle = StyleLowered! rb_1.BorderStyle = StyleRaised!
BringToTop	Supported	rb_1.BringToTop = TRUE
Checked	Supported	rb_1.Checked = lb_value
DragAuto	Supported	rb_1.DragAuto = TRUE
DragIcon	Supported	rb_1.DragIcon ='c:\archive\arrow.ico'
Enabled	Supported	rb_1.Enabled = lb_value
FaceName	Supported	rb_1.FaceName = ls_value
FontCharSet	Supported	rb_1.FontCharSet = ANSI!
FontFamily	Supported	rb_1.FontFamily = Roman!
FontPitch	Supported	rb_1.FontPitch = Fixed!
Height	Supported	rb_1.Height = li_value
LeftText	Supported	rb_1.LeftText = TRUE
Italic	Supported	rb_1.Italic = lb_value
Pointer	Supported	rb_1.Pointer ='AppStarting!' rb_1.Pointer='d:\archive\IBEAM.BMP'
RightToLeft	Supported	rb_1.RightToLeft = TRUE
TabOrder	Supported	rb_1.TabOrder = 120
Tag	Supported	rb_1.Tag = ls_value
Text	Supported	rb_1.Text = ls_value
TextColor	Supported	rb_1.TextColor = li_value
TextSize	Supported	rb_1.TextSize = li_value
Underline	Supported	rb_1.Underline = lb_value
Visible	Supported	rb_1.Visible = lb_value
Weight	Supported	rb_1.Weight = li_value

Property	Support Level	Example Code
Width	Supported	rb_1.Width = li_value
X	Supported	rb_1.X = li_value
Y	Supported	rb_1.Y = li_value
ClassDefinition	Unsupported	
Transparency	Unsupported	

5.1.1.24.2 Events for RadioButton control

Table 5.72:

Event	Support Level	Example Code
Clicked	Supported	Clicked()
Constructor	Supported	Constructor()
Destructor	Supported	Destructor()
DragDrop	Supported	DragDrop(source)
DragEnter	Supported	DragEnter(source)
DragLeave	Supported	DragLeave(source)
DragWithin	Supported	DragWithin(source)
GetFocus	Supported	GetFocus()
LoseFocus	Supported	LoseFocus()
RButtonDown	Supported	RButtonDown(flags, xpos, ypos)
Help	Unsupported	
Other	Unsupported	

5.1.1.24.3 Functions for RadioButton control

Table 5.73:

Function	Support Level	Example Code
ClassName	Supported	ls_value = rb_1.ClassName()
Drag	Supported	rb_1.Drag(Begin!)
GetParent	Supported	PowerObject lpo_value lpo_value = rb_1.GetParent()
Hide	Supported	li_value = rb_1.Hide()
Move	Supported	li_value = rb_1.Move(li_x,li_y)
PointerX	Supported	li_vaule = rb_1.PointerX()
PointerY	Supported	li_value = rb_1.PointerY()
PostEvent	Supported	lb_value = rb_1.PostEvent(Clicked!)
Resize	Supported	li_value = rb_1.Resize(li_x,li_y)
SetFocus	Supported	li_value = rb_1.SetFocus()

Function	Support Level	Example Code
		Unsupported: SetFocus(rb_1)
SetPosition	Supported	li_value = rb_1.SetPosition(ToTop!) li_value = rb_1.SetPosition(ToBottom!)
SetRedraw	Supported	li_returnvalue = rb_1.SetRedraw (FALSE)
Show	Supported	li_value = rb_1.Show()
TriggerEvent	Supported	li_value = rb_1.TriggerEvent(Clicked!)
TypeOf	Supported	if rb_1.TypeOf() = RadioButton! Then ls_value = "RadioButton!" end if
GetContextService	Unsupported	
Print	Unsupported	

5.1.1.25 Rectangle control

5.1.1.25.1 Properties for Rectangle control

Table 5.74:

Property	Support Level	Example Code
FillColor	Supported	r_1.FillColor = li_value
FillPattern	Supported	r_1.FillPattern = Diamond!
Height	Supported	r_1.Height = li_value
LineColor	Supported	r_1.LineColor = li_value
LineStyle	Supported	r_1.LineStyle = Continuous! r_1.LineStyle = Dash! r_1.LineStyle = DashDot! r_1.LineStyle = DashDotDot! r_1.LineStyle = Dot! r_1.LineStyle = Transparent!
LineThickness	Supported	r_1.LineThickness = li_value Note: If LineThickness is greater than one pixel (about four PowerBuilder units), the LineStyle property is forced to Continuous!
Tag	Supported	r_1.Tag = ls_value
Visible	Supported	r_1.Visible = lb_value
Width	Supported	r_1.Width = li_value
X	Supported	r_1.X = li_value
Y	Supported	r_1.Y = li_value

Property	Support Level	Example Code
ClassDefinition	Unsupported	

5.1.1.25.2 Events for Rectangle control

Table 5.75:

Event	Support Level	Example Code
Constructor	Supported	Constructor()
Destructor	Supported	Destructor()

5.1.1.25.3 Functions for Rectangle control

Table 5.76:

Function	Support Level	Example Code
ClassName	Supported	ls_value = r_1.ClassName()
GetParent	Supported	PowerObject lpo_value lpo_value = r_1.GetParent()
Hide	Supported	li_value = r_1.Hide()
Move	Supported	li_value = r_1.Move(li_x,li_y)
PostEvent	Supported	lb_value = r_1.PostEvent(Clicked!) Note: The PostEvent function returns 1 if it is successful.
Resize	Supported	lb_value = r_1.Resize(Clicked!)
Show	Supported	li_value = r_1.Show()
TriggerEvent	Supported	li_value = r_1.TriggerEvent(Clicked!) Note: The TriggerEvent function returns 1 if it is successful.
TypeOf	Supported	if r_1.TypeOf() = Rectangle! Then li_value = "Rectangle!" end if
GetContextService	Unsupported	

5.1.1.26 RichTextEdit control

Differences

1. On the Web, the printed result of the rich text may be different from what you see in the RichTextEdit control. This is because the printed result will be reformatted according to the size of the paper.
2. On the Web, an input field is selected when you click on it, you can then delete or replace it by using the keyboard. This is different from that in PowerBuilder.

3. Because of the following differences, the return value on the Web and in PowerBuilder is different when using the functions that relates to the calculation of length. For example, SelectText, SelectedText, SelectAllText, CopyRTF, PasteRTF, Position, Clear, LineCount, TextLine, Copy, Cut, Position, Paste and SelectLength.
 - A picture will be counted as one character on the Web.
 - A new line character will be counted as one character on the Web.
 - A line ending character will be counted as one character.
 - An input field will be counted as separated characters, therefore the return value will be the length of the content in the input fields or the content of the input field.
4. Apeon adopts Windows RTF specification, which differs from PowerBuilder RTF specification, so the display result on the Web may differ from that in PowerBuilder. For example: Copying and pasting the content to the RichTextEdit control, the display result on the Web is different from that in PowerBuilder; the content of RichTextEdit control saved on the Web differs from that in PowerBuilder. However the pure text displayed is almost the same.
5. A menu does not pop up when right clicking a picture in the RichTextEdit control on the Web. This is different from that in PowerBuilder.
6. When part of the text in an input field is selected, pressing Tab control replaces the selected text with a white space on the Web while a white space is inserted before the selected text in PowerBuilder.
7. When using CTRL + V to paste a picture to the RichTextEdit control, a shortcut icon will be shown on Web, and when clicked, the picture will display, while pasted in PowerBuilder, the picture will directly display in the RichTextEdit control.
8. Only the Detail section will be displayed by default on the Web; and when the ShowHeadFoot function is called, the Header and Footer sections will be displayed while the Detail section will not. This is different from PowerBuilder where the Header, Footer, and Detail sections can display at the same time.

Unsupported

1. After you double click the ruler bar in the RichTextEdit control, Paragraph window will be displayed. On the Web, the Standard tab item in the Paragraph window is unsupported.
2. End identifier is unsupported.

5.1.1.26.1 Properties for RichTextEdit control

Table 5.77:

Property	Support Level	Example Code
Accelerator	Supported	rte_1.Accelerator=67 rte_1.Accelerator = ASC("M")
BackColor	Supported	rte_1.BackColor = RGB(255, 255, 0)

Property	Support Level	Example Code
		Note: transparent value is unsupported.
Border	Supported	rte_1.Border = TRUE
BorderStyle	Supported	rte_1.BorderStyle = StyleLowered!
BottomMargin	Supported	rte_1.BottomMargin = 1
BringToTop	Supported	rte_1.BringToTop = TRUE
DisplayOnly	Supported	rte_1.DisplayOnly = TRUE
DocumentName	Supported	rte_1.DocumentName = "Report 1"
DragAuto	Supported	rte_1.DragAuto = TRUE
DragIcon	Supported	rte_1.DragIcon = 'Question!'
Enabled	Supported	rte_1.Enabled = TRUE
HeaderFooter	Supported	
Height	Supported	rte_1.Height = 750
HScrollBar	Supported	rte_1.HScrollBar = TRUE Note: On the Web, the horizontal scrollbar is always displayed even if the property is set to FALSE, However, the scroll box of the scrollbar is displayed only when all of the data cannot be displayed at one time
InputFieldNames Visible	Supported	rte_1.InputFieldNamesVisible = FALSE
InputFieldsVisible	Supported	rte_1.InputFieldsVisible = TRUE
LeftMargin	Supported	rte_1.LeftMargin = 1
Modified	Supported	
PopMenu	Supported	rte_1.PopMenu = TRUE
Resizable	Supported	rte_1.Resizable = TRUE Note: After setting this property to True, setting Border properties will not be effective.
RightMargin	Supported	rte_1.RightMargin = 1
RulerBar	Supported	rte_1.RulerBar = TRUE
TabBar	Supported	rte_1.TabBar = TRUE
TabOrder	Supported	rte_1.TabOrder = 10
Tag	Supported	rte_1.SetMicroHelp(This.Tag)
ToolBar	Supported	rte_1.ToolBar = TRUE
TopMargin	Supported	rte_1.TopMargin = 1
Visible	Supported	rte_1.Visible = TRUE
VScrollBar	Supported	rte_1.VScrollBar = TRUE

Property	Support Level	Example Code
		Note: On the Web, the vertical scrollbar is always displayed even if the property is set to FALSE. However, the scroll box of the scrollbar is displayed only when the contents of the object are outside the borders.
Width	Supported	rte_1.Width = 750
WordWrap	Supported	rte_1.WordWrap = TRUE Note: 1. When this property is changed from TRUE to FALSE, the content in the RichTextEdit control will be rearranged on the Web. This is different from that in PowerBuilder. 2. If this property is set to False, you cannot execute SetAlignment to set the alignment for the selected paragraphs on the Web and the text will not automatically wrap to the next line even if the line reaches the margin. These are different from that in PowerBuilder. 3. Alignment buttons on the Web are only effective if the WordWrap property is set to True. This is different from that in PowerBuilder.
X	Supported	rte_1.X = 215
Y	Supported	rte_1.Y = 215
ClassDefinition	Unsupported	
ImeMode	Unsupported	
InputFieldBack Color	Unsupported	
Pointer	Unsupported	
PicturesAsFrame	Unsupported	
ReturnsVisible	Unsupported	
SpacesVisible	Unsupported	
TabsVisible	Unsupported	
Transparency	Unsupported	
UndoDepth	Unsupported	

5.1.1.26.2 Events for RichTextEdit control

Table 5.78:

Event	Support Level	Example Code
Constructor	Supported	Constructor
Destructor	Supported	Destructor
DoubleClicked	Supported	DoubleClicked
GetFocus	Supported	rte_1 = GetFocus()
Key	Supported	IF key = KeyF1! THEN Beep(1) Note: Some keystrokes take no effect in formatting the document in RichText DataWindow. For example, pressing Esc after updating data in an input field restores the data in PowerBuilder but takes no effect on the Web.
LoseFocus	Supported	
Modified	Supported	
MouseDown	Supported	
MouseMove	Supported	
MouseUp	Supported	
RButtonDown	Supported	
RButtonUp	Supported	
DragDrop	Supported	
DragEnter	Supported	
DragLeave	Supported	
DragWithin	Supported	
FileExists	Unsupported	
Help	Unsupported	
InputFieldSelected	Unsupported	
Other	Unsupported	
PictureSelected	Unsupported	
PrintFooter	Unsupported	
PrintHeader	Unsupported	

5.1.1.26.3 Functions for RichTextEdit control

Table 5.79:

Function	Support Level	Example Code
ClassName	Supported	ls_value = rte_1.ClassName(gd_double)
Clear	Supported	rte_1.Clear()

Function	Support Level	Example Code
		Note: Executing this function on the Web clears the selected text as well as the format from the control. However, in PowerBuilder, it only clears the selected text.
Copy	Supported	li_value = rte_1.Copy()
CopyRTF	Supported	ls_value = rte_1.CopyRTF()
Cut	Supported	rte_1.Cut()
DataSource	Supported	rte_1.DataSource(dw_1)
Drag	Supported	rte_1.Drag(Begin!)
Find	Supported	li_value = rte_1.Find(sle_search.Text, TRUE, & TRUE, FALSE, TRUE)
FindNext	Supported	rte_1.FindNext()
GetAlignment	Supported	l_align = rte_1.GetAlignment()
GetParagraph Setting	Supported	ll_value = rte_1.GetParagraphSetting(Indent!)
GetParent	Supported	luo_value = rte_1.GetParent()
GetSpacing	Supported	l_spacing = rte_1.GetSpacing()
GetTextColor	Supported	ll_color = rte_1.GetTextColor()
GetTextStyle	Supported	lb_value = rte_1.GetTextStyle(Bold!)
Hide	Supported	rte_1.Hide()
InputField ChangeData	Supported	li_value = rte_1.InputFieldChangeData ("instrument", & lb_instruments.SelectedItem())
InputField CurrentName	Supported	ls_value = rte_1.InputFieldCurrentName()
InputField DeleteCurrent	Supported	li_value = rte_1.InputFieldDeleteCurrent() The input field that is being edited can be deleted by executing the InputFieldDeleteCurrent function on the Web. But it cannot be deleted in PowerBuilder in that way.
InputField GetData	Supported	ls_value = rte_1.InputFieldGetData(empname)
InputFieldInsert	Supported	ls_value = String(rte_1.InputFieldInsert("lastname")) Note: On the Web, when you click on an input field and then execute InputFieldInsert, the input field is replaced by the new one. In PowerBuilder, the new input field is inserted and the old one will still exist.
InputFieldLocate	Supported	ls_value = rte_1.InputFieldLocate(Last!, "address")
InsertDocument	Supported	li_value = rte_1.InsertDocument("c:\pb\test .rtf", & TRUE, FileTypeRichText!)

Function	Support Level	Example Code
InsertPicture	Supported	li_value = rte_1.InsertPicture("c:\windows\earth.bmp")
IsPreview	Supported	lb_value = rte_1.IsPreview()
LineCount	Supported	li_value = rte_1.LineCount()
LineLength	Supported	li_value = rte_1.LineLength()
Move	Supported	rte_1.Move(150, 200)
PageCount	Supported	ls_value = String(rte_1.PageCount())
Paste	Supported	rte_1.Paste() Note: Double-byte characters inserted by executing this function can not be displayed properly.
PasteRTF	Supported	string ls_richtext rte_1.PasteRTF(ls_richtext, Header!)
PointerX	Supported	li_value = rte_1.PointerX()
PointerY	Supported	li_value = rte_1.PointerY()
Position	Supported	l_band = rte_1.Position(ll_startline, ll_startchar, & ll_endline, ll_endchar)
PostEvent	Supported	rte_1.PostEvent(Clicked!)
Preview	Supported	rte_1.Preview(TRUE) Note: When executing this function to display the RichTextEdit control, the content will be rearranged according to the size of the page on the Web. This is different from that in PowerBuilder.
Print	Supported	rte_1.Print(1, "1-5", FALSE, TRUE)
ReplaceText	Supported	rte_1.ReplaceText("Draft") Note: If the text contains double-byte characters, the return value of this function is different from in PowerBuilder.
Resize	Supported	rte_1.Resize(100, 150)
SaveDocument	Supported	rte_1.SaveDocument("c:\test.rtf", FileTypeRichText!) Note: 1. encoding argument is unsupported. 2. The values FileTypePDF!, FileTypeDoc!, FileTypeHTML! of the filetype argument are unsupported.
Scroll	Supported	rte_1.Scroll(4)
ScrollNextPage	Supported	rte_1.ScrollNextPage()
ScrollNextRow	Supported	rte_1.ScrollNextRow()
ScrollPriorPage	Supported	rte_1.ScrollPriorPage()

Function	Support Level	Example Code
ScrollPriorRow	Supported	rte_1.ScrollPriorRow()
ScrollToRow	Supported	rte_1.ScrollToRow(25)
SelectedLength	Supported	ll_length = rte_1.SelectedLength()
SelectedLine	Supported	li_value = rte_1.SelectedLine()
SelectedPage	Supported	li_value = rte_1.SelectedPage()
SelectedStart	Supported	li_value = rte_1.SelectedStart()
SelectedText	Supported	ls_value = rte_1.SelectedText() Notes: 1. Executing the this function on the Web will select text and pictures , however the pictures will not appear to be selected. 2. It returns a string containing the selected text when selecting text in the header or footer bands on the Web. This is different from in PowerBuilder.
SelectText	Supported	rte_1.SelectText(1,1, 3,4) Note: 1. When the focus is on an input field, executing the SelectText function will select the input field however the input field will not appear to be selected on the Web. 2. After executing the SelectText function on the Web, if the focus is not at the area where the arguments specify, the focus will be automatically placed at that area. This is different from that in PowerBuilder. 3. If the ReadOnly is set to True, this function still takes effect on the Web.
SelectTextAll	Supported	rte_1.SelectTextAll() Note: If the focus is in the header or footer band, executing “SelectTextAll (detail!)” on the Web returns -1 and no text will be selected. However, in PowerBuilder, the text in the band, which the focus is in, will be selected.
SelectTextLine	Supported	rte_1.SelectTextLine()
SelectTextWord	Supported	rte_1.SelectTextWord()
SetAlignment	Supported	li_value = rte_1.SetAlignment(Right!)
SetFocus	Supported	rte_1.SetFocus()

Function	Support Level	Example Code
SetParagraph Setting	Supported	<code>ll_indent = rte_1.SetParagraphSetting(Indent!, 250)</code>
SetPosition	Supported	<code>rte_1.SetPosition(ToTop!)</code>
SetRedraw	Supported	<code>rte_1.SetRedraw(FALSE)</code>
SetSpacing	Supported	<code>rte_1.SetSpacing(Spacing2!)</code>
SetTextColor	Supported	<code>rte_1.SetTextColor(RGB(100, 0, 0))</code>
SetTextStyle	Supported	<p><code>rte_1.SetTextStyle(TRUE, FALSE, FALSE, & FALSE, TRUE, FALSE)</code></p> <p>Note: If the RichTextEdit control retrieves the focus by executing the SetFocus or SetText, executing the SetTextStyle function will affect the formatting of the following inputted text on the Web. This is different from that in PowerBuilder.</p>
Show	Supported	<code>rte_1.Show()</code>
ShowHeadFoot	Supported	<p><code>rte_1.ShowHeadFoot(TRUE)</code></p> <p>On the Web, ShowHeadFoot (editheadfoot) is supported, while ShowHeadFoot (editheadfoot, {headerfooter}) is unsupported.</p>
TextLine	Supported	<code>ls_value = rte_1.TextLine()</code>
TriggerEvent	Supported	<code>rte_1.TriggerEvent(Clicked!)</code>
TypeOf	Supported	<code>rte_1.Typeof()</code>
CanUndo	Unsupported	
GetContextService	Unsupported	
SelectedColumn	Unsupported	
Undo	Unsupported	

5.1.1.27 RoundedRectangle control

5.1.1.27.1 Properties for RoundedRectangle control

Table 5.80:

Property	Support Level	Example Code
CornerHeight	Supported	<code>rr_1.CornerHeight = 10</code>
CornerWidth	Supported	<code>rr_1.CornerWidth = 10</code>
FillColor	Supported	<code>rr_1.FillColor=RGB(255,255,0)</code>
FillPattern	Supported	<code>rr_1.FillPattern = Diamond!</code>
Height	Supported	<code>rr_1.Height = 750</code>
LineColor	Supported	<code>rr_1.LineColor = RGB(255,0,0)</code>
LineStyle	Supported	<code>rr_1.LineStyle = Dash!</code>

Property	Support Level	Example Code
LineThickness	Supported	rr_1.LineThickness =li_value
Tag	Supported	rr_1.Tag = ls_value
Visible	Supported	rr_1.Visible = True
Width	Supported	rr_1.Width = 750
X	Supported	rr_1.X = 215
Y	Supported	rr_1.Y = 215
ClassDefinition	Unsupported	

5.1.1.27.2 Events for RoundedRectangle control

Table 5.81:

Event	Support Level	Example Code
Constructor	Supported	Constructor()
Destructor	Supported	Destructor()

5.1.1.27.3 Functions for RoundedRectangle control

Table 5.82:

Function	Support Level	Example Code
ClassName	Supported	ls_value = rr_1.ClassName()
GetParent	Supported	PowerObject lpo_value lpo_value = rr_1.GetParent()
Hide	Supported	li_value = rr_1.Hide()
Move	Supported	li_value = rr_1.Move(li_x,li_y)
PostEvent	Supported	lb_value = rr_1.PostEvent(Clicked!) Note: The PostEvent function returns 1 if it is successful.
Resize	Supported	lb_value = rr_1.Resize(Clicked!)
Show	Supported	li_value = rr_1.Show()
TriggerEvent	Supported	li_value = rr_1.TriggerEvent(Clicked!) Note: The TriggerEvent function returns 1 if it is successful.
TypeOf	Supported	if rr_1.TypeOf() = RoundedRectangle! Then li_value = "RoundRectangle!" end if
GetContextService	Unsupported	

5.1.1.28 SingleLineEdit control

5.1.1.28.1 Properties for SingleLineEdit control

Table 5.83:

Property	Support Level	Example Code
Accelerator	Supported	sle_1.Accelerator = 67
AutoHScroll	Supported	sle_1.AutoHScroll = TRUE
BackColor	Supported	sle_1.BackColor = ll_value Note: transparent value is unsupported.
Border	Supported	sle_1.Border = lb_value
BorderStyle	Supported	sle_1.BorderStyle = StyleBox! sle_1.BorderStyle = StyleLowered! sle_1.BorderStyle = StyleRaised! Note: StyleShadowBox! is unsupported.
BringToTop	Supported	sle_1.BringToTop = TRUE
DisplayOnly	Supported	sle_1.DisplayOnly = lb_value
DragAuto	Supported	sle_1.DragAuto = TRUE
DragIcon	Supported	sle_1.DragIcon = 'c:\archive\arrow.ico'
Enabled	Supported	sle_1.Enabled = lb_value
FaceName	Supported	sle_1.FaceName = ls_value
FontCharSet	Supported	sle_1.FontCharSet = ANSI!
FontFamily	Supported	sle_1.FontFamily = Roman!
FontPitch	Supported	sle_1.FontPitch = Fixed!
Height	Supported	sle_1.Height = li_value
HideSelection	Supported	sle_1.HideSelection = FALSE
Italic	Supported	sle_1.Italic = lb_value
Limit	Supported	sle_1.Limit = li_value
Password	Supported	sle_1.Password = lb_value
Placeholder	Unsupported	
Pointer	Supported	sle_1.pointer = 'Arrow!' sle_1.pointer = 'd:\archive\IBeam.BMP.cur'
RightToLeft	Supported	sle_1.RightToLeft = TRUE
TabOrder	Supported	sle_1.TabOrder = 130
Tag	Supported	sle_1.Tag = ls_value
Text	Supported	sle_1.Text = ls_value
TextCase	Supported	sle_1.TextCase = AnyCase! sle_1.TextCase = Lower!

Property	Support Level	Example Code
		sle_1.TextCase = Upper!
TextColor	Supported	sle_1.TextColor = ll_value
TextSize	Supported	sle_1.TextSize = li_value
Underline	Supported	sle_1.Underline = lb_value
Visible	Supported	sle_1.Visible = lb_value
Weight	Supported	sle_1.Weight = li_value
Width	Supported	sle_1.Width = li_value
X	Supported	sle_1.X = li_value
Y	Supported	sle_1.Y = li_value
ClassDefinition	Unsupported	
Transparency	Unsupported	

5.1.1.28.2 Events for SingleLineEdit control

Table 5.84:

Event	Support Level	Example Code
Constructor	Supported	Constructor()
Destructor	Supported	Destructor()
DragDrop	Supported	DragDrop(source)
DragEnter	Supported	DragEnter(source)
DragLeave	Supported	DragLeave(source)
DragWithin	Supported	DragWithin(source)
GetFocus	Supported	GetFocus()
LoseFocus	Supported	LoseFocus()
Modified	Supported	Modified()
RButtonDown	Supported	RButtonDown(flags, xpos, ypos)
Help	Unsupported	
Other	Unsupported	

5.1.1.28.3 Functions for SingleLineEdit control

Table 5.85:

Function	Support Level	Example Code
ClassName	Supported	ls_returnvalue = sle_1.ClassName()
Clear	Supported	li_returnvalue = sle_1.Clear()
Copy	Supported	li_returnvalue = sle_1.Copy()
Cut	Supported	li_returnvalue = sle_1.Cut()
Drag	Supported	sle_1Drag(Cancel!)
GetParent	Supported	PowerObject lpo_returnvalue

Function	Support Level	Example Code
		lpo_returnvalue = sle_1.GetParent()
Hide	Supported	li_returnvalue = sle_1.Hide()
Move	Supported	li_returnvalue = sle_1.Move(li_x,li_y)
Paste	Supported	li_returnvalue = sle_1.Paste()
PointerX	Supported	li_returnvalue = sle_1.PointerX()
PointerY	Supported	li_returnvalue = sle_1.PointerY()
Position	Supported	sle_1.Position()
PostEvent	Supported	lb_returnvalue = sle_1.PostEvent(event)
ReplaceText	Supported	li_returnvalue = sle_1.ReplaceText(text)
Resize	Supported	li_returnvalue = sle_1.Resize(li_x,li_y)
SelectedLength	Supported	li_returnvalue = sle_1.SelectedLength() If the control is off screen, the execution of the function may have an incorrect return result.
SelectedStart	Supported	li_returnvalue = sle_1.SelectedStart() If the control is off screen, the execution of the function may have an incorrect return result.
SelectedText	Supported	ls_returnvalue = sle_1.SelectedText() If the control is off screen, the execution of the function may have an incorrect return result.
SelectText	Supported	li_returnvalue = sle_1.SelectText(start, length) If the control is off screen, the execution of the function may have an incorrect return result.
SetFocus	Supported	li_returnvalue = sle_1.SetFocus() Unsupported: SetFocus(sle_1)
SetPosition	Supported	li_returnvalue = sle_1.SetPosition(position)
SetRedraw	Supported	li_return= sle_1.SetRedraw(FALSE)
Show	Supported	li_returnvalue = sle_1.Show()
TriggerEvent	Supported	li_returnvalue = sle_1.TriggerEvent(event)
TypeOf	Supported	if sle_1.TypeOf() = SingleLineEdit! Then ls_returnvalue = "SingleLineEdit!" end if
Undo	Supported	li_returnvalue = sle_1.Undo()
CanUndo	Unsupported	
GetContextService	Unsupported	
Print	Unsupported	

5.1.1.29 StaticHyperLink control

5.1.1.29.1 Properties for StaticHyperLink control

Table 5.86:

Property	Support Level	Example Code
Alignment	Supported	shl_1.Alignment = ls_value
BackColor	Supported	shl_1.BackColor = ll_value shl_1.BackColor = RGB(192,192,192) Note: transparent value is unsupported.
Border	Supported	shl_1.Border = lb_value
BorderColor	Supported	shl_1.BorderColor = ll_value
BorderStyle	Supported	shl_1.BorderStyle = StyleBox! shl_1.BorderStyle = StyleLowered! shl_1.BorderStyle = StyleRaised! Note: StyleShadowBox! is unsupported.
BringToTop	Supported	shl_1.BringToTop = TRUE
DisabledLook	Supported	
DragAuto	Supported	shl_1.DragAuto = TRUE
DragIcon	Supported	shl_1.DragIcon = 'c:\archive\arrow.ico'
Enabled	Supported	shl_1.Enabled = lb_value Note: in PowerBuilder, setting the Enabled property of StaticHyperLink to TRUE or FALSE has no effect. The text always displays as it is.
FaceName	Supported	shl_1.FaceName = ls_value
FillPattern	Supported	shl_1.FillPattern = Diamond!
FocusRectangle	Supported	shl_1.FocusRectangle = TRUE
FontCharSet	Supported	shl_1.FontCharSet = ANSI!
FontFamily	Supported	shl_1.FontFamily = Roman!
FontPitch	Supported	shl_1.FontPitch = Fixed!
Height	Supported	shl_1.Height = li_value
Italic	Supported	shl_1.Italic = lb_value
Pointer	Supported	shl_1.Pointer = 'HourGlass!' shl_1.Pointer='d:\archive\IBEAM.BMP.cur'
RightToLeft	Supported	shl_1.RightToLeft = TRUE
TabOrder	Supported	shl_1.TabOrder = 140
Tag	Supported	shl_1.Tag = ls_value
Text	Supported	shl_1.Text = ls_value

Property	Support Level	Example Code
TextColor	Supported	shl_1.TextColor = ll_value
TextSize	Supported	shl_1.TextSize = li_value
Underline	Supported	shl_1.Underline = lb_value
URL	Supported	shl_1.URL = "http://www.appeon.com"
Visible	Supported	shl_1.Visible = lb_value
Weight	Supported	shl_1.Weight = li_value
Width	Supported	shl_1.Width = li_value
X	Supported	shl_1.X = li_value
Y	Supported	shl_1.Y = li_value
ClassDefinition	Unsupported	
Transparency	Unsupported	

5.1.1.29.2 Events for StaticHyperLink control

Table 5.87:

Event	Support Level	Example Code
Clicked	Supported	Clicked()
Constructor	Supported	Constructor()
Destructor	Supported	Destructor()
DoubleClicked	Supported	DoubleClicked()
DragDrop	Supported	DragDrop(source)
DragEnter	Supported	DragEnter(source)
DragLeave	Supported	DragLeave(source)
DragWithin	Supported	DragWithin(source)
GetFocus	Supported	GetFocus()
LoseFocus	Supported	LoseFocus()
RButtonDown	Supported	RButtonDown(flags, xpos, ypos)
Help	Unsupported	
Other	Unsupported	

5.1.1.29.3 Functions for StaticHyperLink control

Table 5.88:

Function	Support Level	Example Code
ClassName	Supported	ls_returnvalue = shl_1.ClassName()
Drag	Supported	shl_1.Drag(End!)
GetParent	Supported	PowerObject lpo_returnvalue lpo_returnvalue = shl_1.GetParent()

Function	Support Level	Example Code
Hide	Supported	li_returnvalue = shl_1.Hide()
Move	Supported	li_returnvalue = shl_1.Move(li_x,li_y)
PointerX	Supported	li_returnvalue = shl_1.PointerX()
PointerY	Supported	li_returnvalue = shl_1.PointerY()
PostEvent	Supported	lb_returnvalue = shl_1.PostEvent(event)
Resize	Supported	li_returnvalue = shl_1.Resize(li_x,li_y)
SetFocus	Supported	li_returnvalue = shl_1.SetFocus() Unsupported: SetFocus(shl_1)
SetPosition	Supported	li_returnvalue = shl_1.SetPosition(position)
SetRedraw	Supported	shl_1.SetRedraw(FALSE)
Show	Supported	li_returnvalue = shl_1.Show()
TriggerEvent	Supported	li_returnvalue = shl_1.TriggerEvent(event)
TypeOf	Supported	if shl_1.typeof() = StaticHyperLink! then ls_returnvalue = 'StaticHyperLink!' end if
GetContextService	Unsupported	
Print	Unsupported	

5.1.1.30 StaticText control

5.1.1.30.1 Properties for StaticText control

Table 5.89:

Property	Support Level	Example Code
Alignment	Supported	st_1.Alignment = ls_value
BackColor	Supported	st_1.BackColor = ll_value st_1.BackColor = RGB(192,192,192)
Border	Supported	st_1.Border = lb_value
BorderColor	Supported	st_1.BorderColor = ll_value
BorderStyle	Supported	st_1.BorderStyle = StyleBox! st_1.BorderStyle = StyleLowered! st_1.BorderStyle = StyleRaised! Note: StyleShadowBox! is unsupported.
BringToTop	Supported	st_1.BringToTop = TRUE
DisabledLook	Supported	
DragAuto	Supported	st_1.DragAuto = TRUE

Property	Support Level	Example Code
DragIcon	Supported	st_1.DragIcon = 'c:\archive\arrow.ico'
Enabled	Supported	st_1.Enabled = lb_value
FaceName	Supported	st_1.FaceName = ls_value
FillPattern	Supported	st_1.FillPattern = Diamond!
FocusRectangle	Supported	st_1.FocusRectangle = TRUE
FontCharSet	Supported	st_1.FontCharSet = ANSI!
FontFamily	Supported	st_1.FontFamily = Roman!
FontPitch	Supported	st_1.FontPitch = Fixed!
Height	Supported	st_1.Height = li_value
Italic	Supported	st_1.Italic = lb_value
Pointer	Supported	st_1.Pointer = 'AppStarting!' st_1.Pointer = 'd:\archive\IBEAM.BMP.cur'
RightToLeft	Supported	st_1.RightToLeft = TRUE
TabOrder	Supported	st_1.TabOrder = 140
Tag	Supported	st_1.Tag = ls_value
Text	Supported	st_1.Text = ls_value
TextColor	Supported	st_1.TextColor = ll_value
TextSize	Supported	st_1.TextSize = li_value
Underline	Supported	st_1.Underline = lb_value
Visible	Supported	st_1.Visible = lb_value
Weight	Supported	st_1.Weight = li_value
Width	Supported	st_1.Width = li_value
X	Supported	st_1.X = li_value
Y	Supported	st_1.Y = li_value
ClassDefinition	Unsupported	

5.1.1.30.2 Events for StaticText control

Table 5.90:

Event	Support Level	Example Code
Clicked	Supported	Clicked()
Constructor	Supported	Constructor()
Destructor	Supported	Destructor()
DoubleClicked	Supported	DoubleClicked()
DragDrop	Supported	DragDrop(source)
DragEnter	Supported	DragEnter(source)
DragLeave	Supported	DragLeave(source)

Event	Support Level	Example Code
DragWithin	Supported	DragWithin(source)
GetFocus	Supported	GetFocus()
LoseFocus	Supported	LoseFocus()
RButtonDown	Supported	RButtonDown(flags, xpos, ypos)
Help	Unsupported	
Other	Unsupported	

5.1.1.30.3 Functions for StaticText control

Table 5.91:

Function	Support Level	Example Code
ClassName	Supported	ls_returnvalue = st_1.ClassName()
Drag	Supported	st_1.Drag(Cancel!)
GetParent	Supported	PowerObject lpo_returnvalue lpo_returnvalue = st_1.GetParent()
Hide	Supported	li_returnvalue = st_1.Hide()
Move	Supported	li_returnvalue = st_1.Move(li_x,li_y)
PointerX	Supported	li_returnvalue = st_1.PointerX()
PointerY	Supported	li_returnvalue = st_1.PointerY()
PostEvent	Supported	lb_returnvalue = st_1.PostEvent(event)
Resize	Supported	li_returnvalue = st_1.Resize(li_x,li_y)
SetFocus	Supported	li_returnvalue = st_1.SetFocus() Unsupported: SetFocus(st_1)
SetPosition	Supported	li_returnvalue = st_1.SetPosition(position)
Show	Supported	li_returnvalue = st_1.Show()
SetRedraw	Supported	li_returnvalue = st_1.SetRedraw (FALSE)
TriggerEvent	Supported	li_returnvalue = st_1.TriggerEvent(event)
TypeOf	Supported	if st_1.typeof() = StaticText! Then ls_returnvalue = 'StaticText!' end if
GetContextService	Unsupported	
Print	Unsupported	

5.1.1.31 Tab control

Differences

- If the MultiLine property of a Tab control is set to True, and the width of the control is exactly the same as the width of all the tabs in it, the tabs may be displayed in two lines on

the Web although one line in PowerBuilder. To avoid the difference, specify a width for the Tab control that is bigger than the width of all the tabs, and do more testing till the tabs on the Web can be displayed in the same way as in PowerBuilder.

- In the following scenario, setting the RaggedRight to TRUE will not take effect:
 1. The MultiLine property is disabled.
 2. The MultiLine property is enabled but all tabs can be located in a row.
- In PowerBuilder, if the BoldSelectText property is enabled, only the label of the selected tab page will be displayed in bold type. However, on the Web, the labels of all tabs appear in bold type. Remember to adjust the width of each tab page so that the text can be displayed within the label when enabling this property for the Web.
- In the following scenario, the width of tabs on the Web may be different from in PowerBuilder. When the MultiLine property is enabled and the RaggedRight property is disabled, the largest width of a tab is over W/N (W stands for the total width of all tabs, N stands for the total number of all tabs.)

5.1.1.31.1 Properties for Tab control

Table 5.92:

Property	Support Level	Example Code
Alignment	Supported	tab_1.Alignment = 'Center!'
BackColor	Supported	tab_1.BackColor = ll_value tab_1.BackColor = RGB(192,192,192) Note: transparent value is unsupported.
BoldSelectedText	Supported	tab_1.BoldSelectedText = TRUE
BringToTop	Supported	tab_1.BringToTop = TRUE
Control[]	Supported	Userobject luo_1 luo_1 = tab_1.Control[1] Note: this property cannot be dynamically changed.
CreateOnDemand	Supported	tab_1.CreateOnDemand = TRUE
DragAuto	Supported	tab_1.DragAuto = True
DragIcon	Supported	tab_1.DragIcon ='c:\archive\arrow.ico'
Enabled	Supported	tab_1.Enabled = FALSE
FaceName	Supported	tab_1.FaceName = ls_value
FixedWidth	Supported	tab_1.FixedWidth = lb_value
FocusOnButton Down	Supported	tab_1.FocusOnButtonDown = TRUE
FontCharSet	Supported	tab_1.FontCharSet = ANSI!
FontFamily	Supported	tab_1.FontFamily = Roman!

Property	Support Level	Example Code
FontPitch	Supported	tab_1.FontPitch = Fixed!
Height	Supported	tab_1.Height = li_value
Italic	Supported	tab_1.Italic = lb_value
MultiLine	Supported	tab_1.Multiline = TRUE
PictureOnRight	Supported	tab_1.PictureOnRight = TRUE
Pointer	Supported	tab_1.Pointer='SizeNWSE!' tab_1.Pointer='d:\archive\IBEAM.BMP.cur'
PowerTips	Supported	tab_1.PowerTips = TRUE
RaggedRight	Supported	tab_1.RaggedRight=TRUE
SelectedTab	Supported	tab_1.SelectedTab = li_value
ShowPicture	Supported	tab_1.ShowPicture = TRUE
ShowText	Supported	tab_1.ShowText = lb_value
TabOrder	Supported	tab_1.TabOrder = 150
TabPosition	Supported	tab_1.TabPosition = TabsOnTop! The TabPosition property is partially supported: <ul style="list-style-type: none"> Supported values of the TabPosition property: TabsOnBottom!,TabsOnTop! Unsupported values of the TabPosition property: TabsOnBottomAndTop!, TabsOnLeftAndRight!, TabsOnRightAndLeft!, TabsOnTopAndBottom!,TabsOnLeft!, TabsOnRight!
Tag	Supported	tab_1.Tag = ls_value
TextSize	Supported	tab_1.TextSize = li_value
Underline	Supported	tab_1.Underline = lb_value
Visible	Supported	tab_1.Visible = lb_value
Weight	Supported	tab_1.Weight = li_value
Width	Supported	tab_1.Width = li_value
X	Supported	tab_1.X = li_value
Y	Supported	tab_1.Y = li_value
ClassDefinition	Unsupported	
PerpendicularText	Unsupported	
Transparency	Unsupported	

5.1.1.31.2 Events for Tab control**Table 5.93:**

Event	Support Level	Example Code
Clicked	Supported	Clicked(index)
Constructor	Supported	Constructor()
Destructor	Supported	Destructor()
DoubleClicked	Supported	DoubleClicked()
DragDrop	Supported	DragDrop(source,index)
DragEnter	Supported	DragEnter(source)
DragLeave	Supported	DragLeave(source)
DragWithin	Supported	DragWithin(source,index)
GetFocus	Supported	GetFocus()
Key	Supported	Key(key,keyflags)
LoseFocus	Supported	LoseFocus()
3Clicked	Supported	RightClicked(index)
RightDouble Clicked	Supported	RightDoubleClicked(index)
SelectionChanged	Supported	SelectionChanged(oldindex,newindex)
Selection Changing	Supported	SelectionChanging(oldindex,newindex)
Help	Unsupported	
Other	Unsupported	

5.1.1.31.3 Functions for Tab control**Table 5.94:**

Function	Support Level	Example Code
ClassName	Supported	ls_returnvalue = tab_1.ClassName()
CloseTab	Supported	li_returnvalue = tab_1.CloseTab()
Drag	Supported	li_returnvalue = tab_1.Drag()
GetParent	Supported	PowerObject lpo_returnvalue lpo_returnvalue = tab_1.GetParent()
Hide	Supported	li_returnvalue = tab_1.Hide()
Move	Supported	li_returnvalue = tab_1.Move(li_x,li_y)
MoveTab	Supported	li_returnvalue = tab_1.MoveTab(li_x,li_y)
OpenTab	Supported	li_returnvalue = tab_1.OpenTab()
OpenTabWith Parm	Supported	li_returnvalue = tab_1.OpenTabWithParm()
PointerX	Supported	li_returnvalue = tab_1.PointerX()

Function	Support Level	Example Code
PointerY	Supported	li_returnvalue = tab_1.PointerY()
PostEvent	Supported	li_returnvalue = tab_1.PostEvent(Clicked!)
Resize	Supported	li_returnvalue = tab_1.Resize(li_x,li_y)
SelectTab	Supported	li_returnvalue = tab_1.SelectTab(tabidentifier)
SetFocus	Supported	li_returnvalue = tab_1.SetFocus() Unsupported: SetFocus(tab_1)
SetPosition	Supported	li_returnvalue = tab_1.SetPosition(position)
SetRedraw	Supported	li_return= tab_1.SetRedraw(FALSE)
Show	Supported	li_returnvalue = tab_1.Show()
TabTriggerEvent	Supported	li_returnvalue = tab_address.TabTriggerEvent("ue_display")
TriggerEvent	Supported	li_returnvalue = tab_1.TriggerEvent(event)
TypeOf	Supported	if tab_1.typeof() = Tab! then ls_returnvalue = 'Tab!' endif
GetContextService	Unsupported	
Print	Unsupported	
TabPostEvent	Unsupported	

5.1.1.32 TreeView control

Differences

The length of the converted TreeView labels has minor differences to those in PowerBuilder.

5.1.1.32.1 Properties for TreeView control

Table 5.95:

Property	Support Level	Example Code
Accelerator	Supported	tv_1.Accelerator = 67
BackColor	Supported	tv_1.BackColor = ll_value tv_1.BackColor = RGB(192,192,192) Note: transparent value is unsupported.
Border	Supported	tv_1.Border = lb_value
BorderStyle	Supported	tv_1.BorderStyle=StyleRaised! tv_1.BorderStyle=StyleBox! tv_1.BorderStyle=StyleLowered! Note: StyleShadowBox! is not supported.
BringToTop	Supported	tv_1.BringToTop = TRUE

Property	Support Level	Example Code
CheckBoxes	Supported	tv_1.CheckBoxes = lb_value
DeleteItems	Supported	tv_1.DeleteItems = lb_value
DisableDragDrop	Supported	tv_1.DisableDragDrop = TRUE
DragAuto	Supported	tv_1.DragAuto = TRUE
DragIcon	Supported	tv_1.DragIcon='c:\archive\arrow.ico'
EditLabels	Supported	tv_1.EditLabels = lb_value
Enabled	Supported	tv_1.Enabled = lb_value
FontCharSet	Supported	tv_1.FontCharSet = ANSI!
FontFamily	Supported	tv_1.FontFamily = Roman!
FontPitch	Supported	tv_1.FontPitch = Fixed!
FaceName	Supported	tv_1.FaceName = ls_value
FullRowSelect	Supported	tv_1.FullRowSelect = TRUE
HasButtons	Supported	tv_1.HasButtons = lb_value
HasLines	Supported	tv_1.HasLines = lb_value
Height	Supported	tv_1.Height = li_value
HideSelection	Supported	tv_1.HideSelection = FALSE
Indent	Supported	tv_1.Indent = 100
Italic	Supported	tv_1.Italic = lb_value
LinesAtRoot	Supported	tv_1.LinesAtRoot = lb_value
PictureHeight	Supported	tv_1.PictureHeight = 16
PictureMaskColor	Supported	tv_1.PictureMaskColor = RGB(255, 255, 0)
PictureName	Supported	<p>tv_1.PictureName = ls_value</p> <p>Assigning values to part of an array and using the default values for the other part is not supported.</p> <p>For example:</p> <pre>picturename[1] = "aaa.bmp" picturename[3] = "bbb.bmp" var pic1 = picutrename[1]; var pic2 = picturename[3];</pre> <p>A supported example is given as follows:</p> <pre>picturename[1] = "aaa.bmp" picturename[2] = "bbb.bmp" picturename[3] = "ccc.bmp" var pic1 = picutrename[1]; var pic2 = picturename[2]; var pic3 = picturename[3];</pre>
PictureWidth	Supported	tv_1.PictureWidth = 16
Pointer	Supported	<p>tv_1.Pointer ='UPArrow!'</p> <p>tv_1.Pointer ='d:\archive\IBEAM.BMP.cur'</p>

Property	Support Level	Example Code
SingleExpand	Supported	tv_1.SingleExpand = TRUE
StatePicture Height	Supported	tv_1.StatePictureHeight = 16
StatePicture MaskColor	Supported	tv_1.StatePictureMaskColor = RGB(255, 255, 0)
StatePicture Name[]	Supported	<p>ls_value[] = tv_1.StatePictureName[]</p> <p>Assigning values to part of an array and using the default values for the other part is not supported.</p> <p>For example:</p> <pre>statepicturename[1] = "aaa.bmp" statepicturename[3] = "bbb.bmp" var pic1 = statepicturename[1]; var pic2 = statepicturename[3];</pre> <p>A supported example is given as follows:</p> <pre>statepicturename[1] = "aaa.bmp" statepicturename[2] = "bbb.bmp" statepicturename[3] = "ccc.bmp" var pic1 = statepicturename[1]; var pic2 = statepicturename[2]; var pic3 = statepicturename[3];</pre>
StatePictureWidth	Supported	tv_1.StatePictureWidth = 16
TabOrder	Supported	tv_1.TabOrder = 160
Tag	Supported	tv_1.Tag = ls_value
TextColor	Supported	tv_1.TextColor = ll_value
TextSize	Supported	tv_1.TextSize = li_value
ToolTips	Supported	tv_1.ToolTips = TRUE
TrackSelect	Supported	tv_1.TrackSelect = TRUE
Underline	Supported	tv_1.Underline = lb_value
Visible	Supported	tv_1.Visible = lb_value
Weight	Supported	tv_1.Weight = li_value
Width	Supported	tv_1.Width = li_value
X	Supported	tv_1.X = li_value
Y	Supported	tv_1.Y = li_value
ClassDefinition	Unsupported	
SortType	Unsupported	
Transparency	Unsupported	

5.1.1.32.2 Events for TreeView control**Table 5.96:**

Event	Support Level	Example Code
BeginDrag	Supported	BeginDrag(handle)
BeginLabelEdit	Supported	BeginLabelEdit(handle)
BeginRightDrag	Supported	BeginRightDrag(handle)
Clicked	Supported	Clicked(handle)
Constructor	Supported	Constructor()
DeleteItem	Supported	DeleteItem(handle)
Destructor	Supported	Destructor()
DoubleClicked	Supported	DoubleClicked(handle)
DragDrop	Supported	DragDrop(source,handle)
DragEnter	Supported	DragEnter(source)
DragLeave	Supported	DragLeave(source)
DragWithin	Supported	DragWithin(source,handle)
EndLabelEdit	Supported	EndLabelEdit(handle,newtext)
GetFocus	Supported	GetFocus()
Key	Supported	Key(key,keyflags)
ItemCollapsed	Supported	ItemCollapsed(handle)
ItemCollapsing	Supported	ItemCollapsing(handle)
ItemExpanded	Supported	ItemExpanded(handle)
ItemExpanding	Supported	ItemExpanding(handle)
ItemPopulate	Supported	ItemPopulate(handle)
LoseFocus	Supported	LoseFocus()
RightClicked	Supported	RightClicked(handle)
RightDouble Clicked	Supported	RightDoubleClicked(handle)
SelectionChanged	Supported	SelectionChanged(oldhandle,newhandle)
Selection Changing	Supported	SelectionChanging(oldhandle,newhandle)
Help	Unsupported	
Other	Unsupported	
Sort	Unsupported	

5.1.1.32.3 Functions for TreeView control**Table 5.97:**

Function	Support Level	Example Code
AddPicture	Supported	li_returnvalue = tv_1.AddPicture(picturename)

Function	Support Level	Example Code
AddStatePicture	Supported	li_returnvalue = tv_1.AddStatePicture(picturename)
ClassName	Supported	ls_returnvalue = tv_1.ClassName()
CollapseItem	Supported	li_returnvalue = tv_1.CollapseItem(itemhandle)
DeleteItem	Supported	li_returnvalue = tv_1.DeleteItem(itemhandle)
DeletePicture	Supported	li_returnvalue = tv_1.DeletePicture(index)
DeletePictures	Supported	li_returnvalue = tv_1.DeletePictures()
DeleteState Picture	Supported	li_returnvalue = tv_1.DeleteStatePicture(index)
DeleteStatePictures	Supported	li_returnvalue = tv_1.DeleteStatePictures()
Drag	Supported	tv_1.Drag(End!)
EditLabel	Supported	li_returnvalue = tv_1.EditLabel(itemhandle)
ExpandAll	Supported	li_returnvalue = tv_1.ExpandAll(itemhandle)
ExpandItem	Supported	li_returnvalue = tv_1.ExpandItem(itemhandle)
FindItem	Supported	ll_returnvalue = tv_1.FindItem(navigationcode, itemhandle) Note: the argument <i>navigationcode</i> can only use the following values: RootTreeItem!, NextTreeItem!, PreviousTreeItem!, ParentTreeItem!, ChildTreeItem!, FirstVisibleTreeItem!, NextVisibleTreeItem!, PreviousVisibleTreeItem!, CurrentTreeItem!. The <i>navigationcode</i> value cannot be DropHighlightTreeItem!.
GetItem	Supported	li_returnvalue = tv_1.GetItem(itemhandle,tvi_ret)
GetItemAtPointer	Supported	li_index = tv_1.GetItematPointer()
GetParent	Supported	lobj_returnvalue = tv_1.GetParent()
Hide	Supported	li_returnvalue = tv_1.Hide()
InsertItem	Supported	ll_returnvalue = tv_1.InsertItem(handleparent,handleafter,item) ll_returnvalue = tv_1.InsertItem(handleparent,handleafter,label,pictureindex)
InsertItemFirst	Supported	ll_returnvalue = tv_1.InsertItemFirst(handleparent,item) ll_returnvalue = tv_1.InsertItemFirst(handleparent,label,pictureindex)
InsertItemLast	Supported	ll_returnvalue = tv_1.InsertItemLast(handleparent,item) ll_returnvalue = tv_1.InsertItemLast(handleparent, label, pictureindex)

Function	Support Level	Example Code
InsertItemSort	Supported	tv_1.InsertItemSort(ll_roothandle, l_tvi)
Move	Supported	li_returnvalue = tv_1.Move(li_xpos,li_ypos)
PointerX	Supported	li_returnvalue = tv_1.PointerX()
PointerY	Supported	li_returnvalue = tv_1.PointerY()
PostEvent	Supported	lb_returnvalue = tv_1.PostEvent(event)
Resize	Supported	li_returnvalue = tv_1.Resize(li_width,li_height)
SelectItem	Supported	ll_returnvalue = tv_1.SelectItem(itemhandle)
SetFirstVisible	Supported	li_tvret = tv_1.SetFirstVisible(ll_tvi)
SetFocus	Supported	li_returnvalue = tv_1.SetFocus() Unsupported: SetFocus(tv_1)
SetItem	Supported	li_returnvalue = tv_1.SetItem(itemhandle,item)
SetLevelPictures	Supported	tv_1.SetLevelPictures(3, li_level, li_level, & li_level, li_level)
SetOverlayPicture	Supported	tv_1.SetOverlayPicture(1, index)
SetPosition	Supported	li_returnvalue = tv_1.SetPosition(position)
SetRedraw	Supported	li_return= tv_1.SetRedraw(True)
Show	Supported	li_returnvalue = tv_1.Show()
Sort	Supported	li_returnvalue = tv_1.Sort()
SortAll	Supported	tv_1.SortAll(ll_tvi , Ascending!)
TriggerEvent	Supported	li_returnvalue = tv_1.TriggerEvent(event)
TypeOf	Supported	if tv_1.TypeOf() = TreeView! Then ls_returnvalue = 'TreeView!' end if
GetContextService	Unsupported	
Print	Unsupported	
SetDropHighlight	Unsupported	

5.1.1.33 VProgressBar control

5.1.1.33.1 Properties for VProgressBar control

Table 5.98:

Property	Support Level	Example Code
BringToTop	Supported	vpb_1.BringToTop = TRUE
DragAuto	Supported	vpb_1.DragAuto = TRUE
DragIcon	Supported	vpb_1.DragIcon = 'Question!'
Height	Supported	vpb_1.Height = li_value

Property	Support Level	Example Code
MaxPosition	Supported	vpb_1.MaxPosition = 120
MinPosition	Supported	vpb_1.MinPosition = 20
Pointer	Supported	vpb_1.Pointer = 'Beam!' vpb_1.Pointer = 'd:\archive\IBeam.BMP.cur'
Position	Supported	vpb_1.Position = 50
StdStep	Supported	vpb_1.setstep = 20
SmoothScroll	Supported	vpb_1.SmoothScroll = True
TabOrder	Supported	vpb_1.TabOrder = 20
Tag	Supported	vpb_1.Tag = "VProgressBar control"
Visible	Supported	vpb_1.Visible = TRUE
Width	Supported	vpb_1.Width = 700
X	Supported	vpb_1.X = 280
Y	Supported	vpb_1.Y = 1280
ClassDefinition	Unsupported	

5.1.1.33.2 Events for VProgressBar control

Table 5.99:

Event	Support Level	Example Code
Clicked	Supported	Clicked(flags,xpos,ypos)
Constructor	Supported	Constructor()
Destructor	Supported	Destructor()
DoubleClicked	Supported	DoubleClicked(flags,xpos,ypos)
DragDrop	Supported	DragDrop(source)
DragEnter	Supported	DragEnter(source)
DragLeave	Supported	DragLeave(source)
DragWithin	Supported	DragWithin(source)
GetFocus	Supported	GetFocus()
LoseFocus	Supported	LoseFocus()
RButtonDown	Supported	RButtonDown(flags,xpos,ypos)
Help	Unsupported	
Other	Unsupported	

5.1.1.33.3 Functions for VProgressBar control

Table 5.100:

Function	Support Level	Example Code
ClassName	Supported	ls_classnm = vpb_1.classname()

Function	Support Level	Example Code
Drag	Supported	li_return = vpb_1.drag(Begin!)
GetParent	Supported	lpo_return = vpb_1.GetParent()
Hide	Supported	li_return = vpb_1.Hide()
Move	Supported	li_return = vpb_1.Move(li_x,li_y)
OffsetPos	Supported	li_return = vpb_1.OffsetPos(10)
PointerX	Supported	li_return = vpb_1.PointerX()
PointerY	Supported	li_return = vpb_1.PointerY()
PostEvent	Supported	vpb_1.PostEvent(Clicked!)
Resize	Supported	li_return = vpb_1.Resize(li_x, li_y)
SetFocus	Supported	li_return = vpb_1.SetFocus()
SetPosition	Supported	li_return = vpb_1.SetPosition(ToTop!)
SetRange	Supported	li_return = vpb_1.SetRange(1, 10)
SetRedraw	Supported	li_return = vpb_1.SetRedraw(FALSE)
Show	Supported	li_return = vpb_1.Show()
StepIt	Supported	li_return = vpb_1.StepIt()
TriggerEvent	Supported	li_return = vpb_1.TriggerEvent(Clicked!)
TypeOf	Supported	type_obj = vpb_1.typeof()
GetContextService	Unsupported	
Print	Unsupported	

5.1.1.34 VScrollBar control

5.1.1.34.1 Properties for VScrollBar control

Table 5.101:

Property	Support Level	Example Code
BringToTop	Supported	vsb_1.BringToTop = TRUE
DragAuto	Supported	vsb_1.DragAuto = TRUE
DragIcon	Supported	vsb_1.DragIcon = 'Question!'
Height	Supported	vsb_1.Height = li_value
MaxPosition	Supported	vsb_1.MaxPosition = 120
MinPosition	Supported	vsb_1.MinPosition = 20
Pointer	Supported	vsb_1.Pointer = 'Beam!' vsb_1.Pointer = 'd:\archive\IBEAM.BMP.cur'
Position	Supported	vsb_1.Position = 50
StdWidth	Supported	vsb_1.StdHeight = True
TabOrder	Supported	vsb_1.TabOrder = 20

Property	Support Level	Example Code
Tag	Supported	<code>vsb_1.Tag = "VScrollBar control"</code>
Visible	Supported	<code>vsb_1.Visible = TRUE</code>
Width	Supported	<code>vsb_1.Width = 700</code>
X	Supported	<code>vsb_1.X = 280</code>
Y	Supported	<code>vsb_1.Y = 1280</code>
ClassDefinition	Unsupported	

5.1.1.34.2 Events for VScrollBar control

Table 5.102:

Event	Support Level	Example Code
Constructor	Supported	<code>Constructor()</code>
Destructor	Supported	<code>Destructor()</code>
DragDrop	Supported	<code>DragDrop(source)</code>
DragEnter	Supported	<code>DragEnter(source)</code>
DragLeave	Supported	<code>DragLeave(source)</code>
DragWithin	Supported	<code>DragWithin(source)</code>
GetFocus	Supported	<code>GetFocus()</code>
LineDown	Supported	<code>LineDown()</code>
LineUp	Supported	<code>LineUp()</code>
LoseFocus	Supported	<code>LoseFocus()</code>
Moved	Supported	<code>Moved(scrollpos)</code>
PageDown	Supported	<code>PageDown()</code>
PageUp	Supported	<code>PageUp()</code>
RButtonDown	Supported	<code>RButtonDown(flags,xpos,ypos)</code>
Help	Unsupported	
Other	Unsupported	

5.1.1.34.3 Functions for VScrollBar control

Table 5.103:

Function	Support Level	Example Code
ClassName	Supported	<code>ls_classnm = vsb_1.classname()</code>
Drag	Supported	<code>li_return = vsb_1.drag(Begin!)</code>
GetParent	Supported	<code>lpo_return = vsb_1.GetParent()</code>
Hide	Supported	<code>li_return = vsb_1.Hide()</code>
Move	Supported	<code>li_return = vsb_1.Move(li_x,li_y)</code>
PointerX	Supported	<code>li_return = vsb_1.PointerX()</code>

Function	Support Level	Example Code
PointerY	Supported	li_return = vsb_1.PointerY()
PostEvent	Supported	vsb_1.PostEvent(Clicked!)
Resize	Supported	li_return = vsb_1.Resize(li_x, li_y)
SetFocus	Supported	li_return = vsb_1.SetFocus()
SetPosition	Supported	li_return = vsb_1.SetPosition(ToTop!)
SetRedraw	Supported	li_return = vsb_1.SetRedraw(FALSE)
Show	Supported	li_return = vsb_1.Show()
TriggerEvent	Supported	li_return = vsb_1.TriggerEvent(Clicked!)
TypeOf	Supported	type_obj = vsb_1.typeof()
GetContextService	Unsupported	
Print	Unsupported	

5.1.1.35 VTrackBar control

5.1.1.35.1 Properties for VTrackBar control

Table 5.104:

Property	Support Level	Example Code
BringToTop	Supported	vtb_1.BringToTop = TRUE
DragAuto	Supported	vtb_1.DragAuto = TRUE
DragIcon	Supported	vtb_1.DragIcon = 'Question!'
Height	Supported	vtb_1.Height = li_value
LineSize	Supported	vtb_1.LineSize = li_value
MaxPosition	Supported	vtb_1.MaxPosition = 120
MinPosition	Supported	vtb_1.MinPosition = 20
PageSize	Supported	vtb_1.PageSize = li_value
Pointer	Supported	vtb_1.Pointer = 'Beam!' vtb_1.Pointer = 'd:\archive\IBEAM.BMP.cur'
Position	Supported	vtb_1.Position = 50
Slider	Supported	vtb_1.Slider = TRUE
SliderSize	Supported	vtb_1.SliderSize = li_value
TabOrder	Supported	vtb_1.TabOrder = 20
Tag	Supported	vtb_1.Tag = ls_tag
TickFrequency	Supported	vtb_1.TickFrequency = li_value
TickMarks	Supported	vtb_1.TickMarks = VTicksOnBottom!
Visible	Supported	vtb_1.Visible = TRUE
Width	Supported	vtb_1.Width = li_value

Property	Support Level	Example Code
X	Supported	vtb_1.X = li_x
Y	Supported	vtb_1.Y = li_y
ClassDefinition	Unsupported	

5.1.1.35.2 Events for VTrackBar control

Table 5.105:

Event	Support Level	Example Code
Constructor	Supported	Constructor()
Destructor	Supported	Destructor()
DragDrop	Supported	DragDrop(source)
DragEnter	Supported	DragEnter(source)
DragLeave	Supported	DragLeave(source)
DragWithin	Supported	DragWithin(source)
GetFocus	Supported	GetFocus()
LineDown	Supported	LineDown()
LineUp	Supported	LineUp()
LoseFocus	Supported	LoseFocus()
Moved	Supported	Moved(scrollpos)
PageDown	Supported	PageDown()
PageUp	Supported	PageUp()
RButtonDown	Supported	RButtonDown(flags,xpos,ypos)
Help	Unsupported	
Other	Unsupported	

5.1.1.35.3 Functions for VTrackBar control

Table 5.106:

Function	Support Level	Example Code
ClassName	Supported	ls_classnm = vtb_1.classname()
Drag	Supported	li_return = vtb_1.drag(Begin!)
GetParent	Supported	lpo_return = vtb_1.GetParent()
Hide	Supported	li_return = vtb_1.Hide()
Move	Supported	li_return = vtb_1.Move(li_x,li_y)
PointerX	Supported	li_return = vtb_1.PointerX()
PointerY	Supported	li_return = vtb_1.PointerY()
PostEvent	Supported	vtb_1.PostEvent(Clicked!)
Resize	Supported	li_return = vtb_1.Resize(li_x, li_y)

Function	Support Level	Example Code
SelectionRange	Supported	li_return = vtb_1.SelectionRange(30, 70)
SetFocus	Supported	li_return = vtb_1.SetFocus()
SetPosition	Supported	li_return = vtb_1.SetPosition(ToTop!)
SetRedraw	Supported	li_return = vtb_1.SetRedraw(FALSE)
Show	Supported	li_return = vtb_1.Show()
TriggerEvent	Supported	li_return = vtb_1.TriggerEvent(Clicked!)
TypeOf	Supported	type_obj = vtb_1.typeof()
GetContextService	Unsupported	
Print	Unsupported	

5.1.1.36 Window control

Important Requirements

- There are six window types: Child, Main, MDI, MDIHelp, Popup, and Response.
- Window object cannot be dynamically created (for example, using the CREATE statement); it must be defined in the PowerBuilder painter.
- Main Window can have an associated menu.
- User-defined window events and control events are supported.
- For more information relating to windows refer to the following links:

[Window types](#)

[Window variables](#)

[Opening and closing windows](#)

[User operation in windows](#)

5.1.1.36.1 Properties for Window control

Table 5.107:

Property	Support Level	Example Code
BackColor	Supported	w_1.BackColor = RGB(0, 0, 255) Note: transparent value is unsupported.
Border	Supported	w_1.Border = TRUE
BringToTop	Supported	w_1.BringToTop = TRUE
Center	Supported	w_1.Center = TRUE Note: This property is unsupported for an MDI frame window.
Control []	Supported	Control[] graphicobject lobj_control

Property	Support Level	Example Code
		<pre>lobj_control = w_1.control[1]</pre> <p>Note: This property cannot be dynamically changed.</p>
ControlMenu	Supported	<pre>w_1.ControlMenu= TRUE</pre>
Enabled	Supported	<pre>w_1.Enabled = TRUE</pre>
Height	Supported	<pre>w_1.Height = 750</pre> <p>//Specifies the height of the window w_1</p> <p>Note: The Height property is unsupported for an MDI frame window.</p>
HScrollBar	Supported	<pre>w_1.HScrollBar = TRUE</pre>
Icon	Supported	<p>PowerBuilder and Web behaves differently if no icon is specified for the window:</p> <ul style="list-style-type: none"> • For PowerBuilder, the icon (if any) specified for the application will be displayed as the icon for the window; • For Web, the Windows default icon will be displayed as the icon for the window.
MaxBox	Supported	<pre>w_1.MaxBox= TRUE</pre>
MenuID	Supported	<pre>Menu menuvar = w_1.MenuID</pre>
MenuName	Supported	<pre>ls_value = w_1.MenuName</pre>
MinBox	Supported	<pre>w_1.MinBox = TRUE</pre>
Pointer	Supported	<pre>w_1.pointer = 'Icon!'</pre> <pre>w_1.pointer ='d:\archive\IBEAM.BMP.cur'</pre>
Resizable	Supported	<pre>w_1.Resizable = TRUE</pre> <p>Notes:</p> <ol style="list-style-type: none"> 1. For MDI frame window, the Resizable property will always be TRUE. 2. At the execution of the ArrangeSheet function, no matter whether the Resizable property of each open sheet is set to TRUE or FALSE, all open sheets will be tiled and resized so that they do not overlap. 3. After setting this property to True, setting Border properties will not be effective.
RightToLeft	Supported	<pre>w_1.RightToLeft = TRUE</pre> <p>Note: If the RightToLeft property of an MDI Window is set to Yes, the content in the window except for the content in the status bar displays from right to left.</p>

Property	Support Level	Example Code
Tag	Supported	w_1.SetMicroHelp(This.Tag) //Set or get the Tag property
Title	Supported	w_1.Title = "Monthly Report"
TitleBar	Supported	w_1.TitleBar = TRUE
ToolBarVisible	Supported	w_1.ToolBarVisible = TRUE Note: The ToolBarVisible is unsupported for Popup and Main windows.
Visible	Supported	w_1.Visible = TRUE Note: This property is unsupported for sheets whose window type is Response, Popup or Main windows.
VScrollBar	Supported	w_1.VScrollBar = TRUE
Width	Supported	w_1.Width = 750 //Set or get the Width property Note: The Width property is unsupported for an MDI frame window.
WindowState	Supported	w_1.WindowState = Maximized! Note: On the Web, the initial window state for an MDI frame window is not based on the WindowState property. It will be decided by the Internet Explorer state.
WindowType	Partially Supported	IF dw_1.WindowType=Main! THEN MessaMessageBox("Window Type", "This is a main window.") END IF Note: MDIDock! and MDIDockHelp! are not supported by PowerServer (which means dockable windows are not supported).
X	Supported	w_1.X = 215 //Set or get the X property Notes: The X property is not supported for the MDI frame window.
Y	Supported	w_1.Y = 215 //Set or get the Y property Notes: The Y property is not supported for the MDI frame window.
AnimationTime	Unsupported	
ClassDefinition	Unsupported	
ClientEdge	Unsupported	

Property	Support Level	Example Code
CloseAnimation	Unsupported	
ColumnsPerPage	Unsupported	
ContextHelp	Unsupported	
KeyboardIcon	Unsupported	
LinesPerPage	Unsupported	
OpenAnimation	Unsupported	
PaletteWindow	Unsupported	
ToolBarAlignment	Unsupported	
ToolBarHeight	Unsupported	
ToolBarWidth	Unsupported	
ToolBarX	Unsupported	
ToolBarY	Unsupported	
Transparency	Unsupported	
UnitsPerColumn	Unsupported	
UnitsPerLine	Unsupported	

5.1.1.36.2 Events for Window control

Table 5.108:

Event	Support Level	Example Code
Activate	Supported	Activate Note: Activate and Deactivate events are unsupported for dialogue boxes.
Clicked	Supported	Clicked
Close	Supported	Close Note: the Close event is handled the same way as Post in PowerServer. In the Web application, the return value of the Close event may be different from that in PowerBuilder.
CloseQuery	Supported	CloseQuery
Deactivate	Supported	Deactivate Notes: 1. With the Web applications, the Activate/Deactivate events will not be triggered if the user shift the focus from a window in the current application to a place outside the application. 2. Activate and Deactivate events are unsupported for dialogue boxes.

Event	Support Level	Example Code
DoubleClicked	Supported	DoubleClicked
DragDrop	Supported	DragDrop
DragEnter	Supported	DragEnter
DragLeave	Supported	DragLeave
DragWithin	Supported	DragWithin
Hide	Supported	Hide
HotLinkAlarm	Supported	HotLinkAlarm
Key	Supported	Key
MouseDown	Supported	MouseDown
MouseMove	Supported	MouseMove
MouseUp	Supported	MouseUp
Open	Supported	Open
RButtonDown	Supported	RButtonDown
Resize	Supported	Resize
Show	Supported	Show
Timer	Supported	Timer
Help	Unsupported	
Other	Unsupported	
RemoteExec	Unsupported	
RemoteHotLinkStart	Unsupported	
RemoteHotLinkStop	Unsupported	
RemoteRequest	Unsupported	
RemoteSend	Unsupported	
SystemKey	Unsupported	
ToolbarMoved	Unsupported	

5.1.1.36.3 Functions for Window control

Table 5.109:

Function	Support Level	Example Code
ArrangeSheets	Supported	w_mdi.ArrangeSheets (arrangetype)
ChangeMenu	Supported	Parent.ChangeMenu(m_test_menu2) Notes: 1. It is unsupported to use a menu item as the <i>menuname</i> argument.

Function	Support Level	Example Code
		2. The menu you want to make the current menu and the current menu cannot be the same menu.
ClassName	Supported	ls_value = w_test.ClassName()
CloseChannel	Supported	w_test.CloseChannel()
CloseUserObject	Supported	w_test.CloseUserObject()
ExecRemote	Supported	ExecRemote ("[Save()]", "Excel", "REGION.XLS")
GetActiveSheet	Supported	w_test.GetActiveSheet()
GetDataDDE	Supported	w_test.GetDataDDE(Str20)
GetDataDDE Origin	Supported	string ls_name GetCommandDDEOrigin (ls_name)
GetFirstSheet	Supported	w_test.GetFirstSheet()
GetNextSheet	Supported	w_test.GetNextSheet()
GetRemote	Supported	GetRemote ("[Save()]", "Excel", "REGION.XLS")
GetParent	Supported	w_test.GetParent()
Hide	Supported	Parent.Hide()
Move	Supported	w_test.Move (X,Y)
OpenChannel	Supported	long handle handle = OpenChannel ("Excel", "REGION.XLS")
OpenUserObject	Supported	w_test.OpenUserObject() Note: The <i>userobjecttype</i> argument cannot be a system control. Using <i>Post</i> function to call the <i>OpenUserObject</i> function is unsupported, for example, this.post openuserobject (icbx_uo,100,100) is unsupported.
OpenUserObject WithParm	Supported	w_test.OpenUserObjectWithParm()
ParentWindow	Supported	w_parent = w_test.parentwindow()
PointerX	Supported	li_dist = w_city.PointerX()
PointerY	Supported	li_dist = w_city.PointerY()
PostEvent	Supported	w_main.PostEvent (Clicked!)
Resize	Supported	w_test.Resize (300,250)
RespondRemote	Supported	IF GetDataDDE (Value) = 1 THEN RespondRemote (TRUE) END IF
SetFocus	Supported	w_test.SetFocus() Unsupported: SetFocus (w_test)

Function	Support Level	Example Code
SetMicroHelp	Supported	w_test.SetMicroHelp ("Preview")
SetPosition	Supported	w_test.SetPosition (position [, precedingwindow]) Note: The window with the <i>TopMost</i> property may not always be the top one in PowerServer.
SetRedraw	Supported	li_return= w_test.SetRedraw(FALSE)
SetRemote	Supported	SetRemote ("R5C7", "4500", handle)
Show	Supported	Parent.Show()
StartHotLink	Supported	StartHotLink ("Any", "MyPBApp", "Any")
StopHotLink	Supported	StopHotLink ("Any", "MyPBApp", "Any")
TriggerEvent	Supported	w_test.TriggerEvent (close!)
TypeOf	Supported	if this.typeof() = window! then messagebox ("show", "test typeof()") end if
WorkSpaceHeight	Supported	Height = W_employee.WorkSpaceHeight()
WorkSpaceWidth	Supported	Width = W_employee.WorkSpaceWidth()
WorkSpaceX	Supported	w_test.WorkSpaceX()
WorkSpaceY	Supported	w_test.WorkSpaceY()
CommitDocking	Unsupported	
GetCommandDDE	Unsupported	
GetCommandDDEOrigin	Unsupported	
GetContextService	Unsupported	
GetToolbar	Unsupported	
GetToolbarPos	Unsupported	
LoadDockingState	Unsupported	
OpenSheetFromDockingState	Unsupported	
OpenSheetWithParentFromDockingState	Unsupported	
Print	Unsupported	
SaveDockingState	Unsupported	
SetDataDDE	Unsupported	
SetSheetID	Unsupported	
SetToolbar	Unsupported	
SetToolbarPos	Unsupported	
StartServerDDE	Unsupported	
StopServerDDE	Unsupported	

5.1.1.36.4 Window types

MDIDock! and MDIDockHelp! are not supported by PowerServer (which means dockable windows are not supported).

Child!, Main!, MDI!, MDIHelp!, Popup!, and Response! are supported by PowerServer with the following behavior differences.

- For a Web application, an MDI sheet will be always behind the windows that are opened with the function Open.
- For a Web application, events that should be triggered by clicking the Title bar of an MDI frame window will be triggered by clicking the Title bar of Internet Explorer.
- **Child:** In PowerBuilder, a Child window is always above its parent window. With Web applications, a Child window can be behind its parent window.

5.1.1.36.5 Window variables

- Window type arrays are supported, and window type variable that is a structure member is supported.
- The declaration and assignment of window variable are all supported.
- It is supported to dynamically create a window instance by using CREATE.

For example, the following syntax is supported:

```
window lwin_owindow  
lwin_owindow = create Window  
lwin_owindow.title = "This is a city processing window"
```

5.1.1.36.6 Opening and closing windows

Opening Windows

- Open (windowvar, windowtype{, parent})

Refer to the [Window Functions](#) section of System Functions for the supported syntax for opening the windows.

In the Web application, if window A is opened by the Open function whereas window B is opened by the OpenSheet function, window A will always display over window B.

- When a window is open, the Constructor events for the instance variables and controls are executed in the same order on the Web as in PowerBuilder:
 1. Executing Constructor events for all instance variables is prior to executing Constructor events for all controls.
 2. For the instance variables/controls, the events are triggered by the following order: outside -> inside and top -> bottom.
 3. If a control is a container (tab/tab page/visual user object), the Constructor event for the container is triggered first. Then all the controls in the container are subsequently triggered.

Events triggered for the window object follows the order Open >> Resize >> Show >> Activate.

- The same rule applies in PowerBuilder: the front-to-back order of all the controls in the window is determined by the Control[] property of the window and the BringToTop property of each specific control.

Closing Windows

- Refer to the [Window Functions](#) section for the supported syntax for closing the windows.
- When a window is closed, the Destructor events of the variables and controls in the window are executed in the same order on the Web as in PowerBuilder:
 1. The Destructor events for the controls are triggered in the same order as the Constructor events.
 2. Executing Destructor events for all controls happens prior to executing Destructor events for all instance variables.
 3. The Destructor events for the instance variables are triggered in the opposite order as the Constructor events.

5.1.1.36.7 User operation in windows

Supported

The following major user operations are supported.

- Maximize
- Restore
- Minimize
- Single-click
- Double-click
- Drag
- Close
- Switching between controls in the window with the Tab key
- Switch between windows by pressing the Ctrl + Tab key

Unsupported

- It is unsupported to scroll a window using the PageUp/PageDown, upArrow/downArrow, or leftArrow/rightArrow keys
- It is unsupported to switch between controls in a window by pressing the Enter/UpArrow/DownArrow/LeftArrow/RightArrow key

5.1.2 Unsupported controls

The following are the controls that PowerServer Web does not support:

- InkEdit control
- Animation control
- RibbonBar control
- WebBrowser control

5.2 System objects

Supported

- There can only be one Application object in an application.
- The following are the system objects that PowerServer Web supports:

Table 5.110:

Application	ExtractorObject	mailFileDescription	PowerObject
DataStore	GraphicObject	mailMessage	ResourceResponse
CoderObject	Graph	mailRecipient	RestClient
CompressorObject	grAxis	mailSession	Timing
Connection	grDispAttr	MDIClient	TokenRequest
CORBAObject	HTTPClient	Menu	TokenResponse
CrypterObject	Inet	Message	Transaction Object
DataWindowChild	InternetResult	NonVisualObject	TreeViewItem
DragObject	JSONGenerator	OAuthClient	UserObject
DWObject	JSONPackage	OAuthRequest	WindowObject
DynamicStagingArea	JSONParser	OLEObject	
DynamicDescription Area	ListViewItem	OLEStorage	
Environment	MenuCascade	OLEStream	

- DragObject, GraphicObject, PowerObject and WindowObject cannot be dynamically created (for example, by using the CREATE statement); they must be defined as static objects, created in PowerBuilder painter.

Unsupported

- It is strongly recommended that for a given application, no objects have the same name.
- The following are the system objects that PowerServer Web does not support:

Table 5.111:

ADOResultSet	CORBANoMemory	OLERuntimeError	Throwable
ArrayBounds	CORBANoPermission	OLETxnObject	TraceActivityNode
ClassDefinition	CORBANoResources	OMControl	TraceBeginEnd
ClassDefinitionObject	CORBANoResponse	OMCustomControl	TraceError
ConnectionInfo	CORBAOBJAdapter	OMEmbeddedControl	TraceESQL
ConnectObject	CORBAObjectNoText	OMObject	TraceFile
ContextInformation	CORBAPersistStore	OMStorage	TraceGarbageCollect
ContextKeyword	CORBASystemException	OMStream	TraceLine
CORBABadTypeContext	CORBATransactionRecovery	ORB	TraceObject
CORBABadInvorder	CORBATransactionRollback	PBLoopObject	TraceRoutine
CORBABadOperation	CORBATranslent	Pipeline	TraceTree
CORBABadParam	CORBAUnion	ProfileCall	TraceTreeError
CORBABadTypeCode	CORBAUnknown	ProfileClass	TraceTreeESQL
CORBACommFailure	CORBAUserException	ProfileLine	TraceTreeGarbageCollect
CORBACurrent	CPlusPlus	ProfileRoutine	TraceTreeLine
CORBADataConversion	DivideByZeroError	Profiling	TraceTreeNode
CORBAFreeMem	DWRuntimeError	RemoteObject	TraceTreeObject
CORBAImpLimit	EnumerationDefinition	ResultSet	TraceTreeRoutine
CORBAInitialize	EnumerationItemDefinition	ResultSets	TraceTreeUser
CORBAInternal	Error	RuntimeException	TraceUser
CORBAIntFrePos	ErrorLogging	ScriptDefinition	TransactionServer
CORBAInvalidTransaction	Exception	Service	Transport
CORBAInvFlag	ExtObject	SimpleTypeDefinition	TypeDefinition
CORBAInvIdentInvObjRef	JaguarORB	SSLCallBack	VariableCardinalityDefinition
CORBAMarshal	JWTGenerator	SSLServiceProvider	VariableDefinition
CORBANoImplement	NullObjectError	SystemFunctions	

5.2.1 Supported Objects

5.2.1.1 Application object

Important Requirements

- There can only be one Application object in an application.

- An application cannot be given the same name as a PowerBuilder control type. For example, naming an application "datawindow", "editmask" or "commandbutton" is not supported.
- An application name cannot be a reserved word in JavaScript. See [Identifiers](#) for more information.
- A commandline argument in the application Open event is supported.
- It is recommended that the use of Application object is limited to the following well-supported actions:
 1. Launching login screens.
 2. Opening and closing MDI, SDI, Main, Response and Popup windows.
 3. Creating instances of one or more transaction objects.

Additional properties of Application object

- You can specify an icon for the application, but the icon will be displayed in PowerBuilder only and will not be displayed on Web.
- The type of SQLCA can be a transaction user object.
- The type of SQLSA can be a DynamicStagingArea user object.
- The type of SQLDA can be a DynamicDescriptionArea user object.
- The variable type MESSAGE can use the default value "message" or a user-defined message object, and you can also customize the Message object by defining a class user object inherited from the built-in Message object.
- The specification of Error will be ignored.

5.2.1.1.1 Properties for Application object

Property added by PowerServer

nativepdfvalid - When it is set to TRUE, use NativePDF! as the default PDF method for all DataWindows in the current application. If it is set to FALSE, the setting in the scripts or in the DataWindow painter will be used as the PDF method. This property can be used to change the default method for all existing DataWindows which use the Distill! method by default. New DataWindows will automatically use the NativePDF! method by default starting from PowerBuilder 2019 R2.

nativepdfincludecustomfont - When it is set to TRUE, package the custom fonts with your application if your DataWindows use many custom fonts, and these custom fonts are not supported well by the operating system and Adobe Reader. Note that using custom fonts will increase the generated PDF file size.

Table 5.112:

Property	Support Level	Example Code
AppName	Supported	String ls_AppName

Property	Support Level	Example Code
		ls_AppName =app_1.AppName //Get the AppName property
ClassDefinition	Unsupported	
DDETimeOut	Unsupported	
DisplayName	Supported	String ls_DisplayName ls_DisplayName = app_1.DisplayName
DWMMessageTitle	Unsupported	
FreeDBLibraries	Unsupported	
MicroHelpDefault	Supported	app_1.MicroHelpDefault = 'Ready'
RightToLeft	Supported	app_1.RightToLeft = TRUE
ToolbarFrameTitle	Supported	ls_value = app_1.ToolbarFrameTitle
ToolbarPopupMenu Tex	Unsupported	
ToolbarSheetTitle	Supported	ls_value =app_1.ToolbarSheetTitle
ToolbarTips	Supported	lb_value = app_1.ToolbarTips
ToolbarText	Supported	lb_value = app_1.ToolbarText
ToolbarUser Control	Supported	

5.2.1.1.2 Events for Application object

Table 5.113:

Event	Support Level	Example Code
Close	Supported	Close
Idle	Supported	Idle
Open	Supported	Open Note: The <i>commandline</i> argument is supported. The Commandline argument cannot include continuous number signs ("#").
ConnectionBegin	Unsupported	
ConnectionEnd	Unsupported	
SystemError	Unsupported	

5.2.1.1.3 Functions for Application object

Table 5.114:

Function	Support Level	Example Code
ClassName	Supported	ls_class = l_app.ClassName()
GetParent	Supported	lobj_parent = l_app.GetParent()

Function	Support Level	Example Code
PostEvent	Supported	<code>l_app.PostEvent (Clicked!) l_app.PostEvent ("Clicked!")</code>
TriggerEvent	Supported	<code>l_app.TriggerEvent (Clicked!) l_app.TriggerEvent ("Clicked!")</code>
TypeOf	Supported	<code>string ls_applicationtype if l_app.TypeOf()=Application! Then ls_applicationtype = "Application!" end if</code>
GetContextService	Unsupported	
SetLibraryList	Unsupported	
SetTransPool	Unsupported	
Note: in PowerBuilder 2017 and later versions, GetLibrary and SetLibrary are global functions.		

5.2.1.2 CoderObject object

5.2.1.2.1 Properties for CoderObject object

Table 5.115:

Property	Support Level	Example Code
ClassDefinition	Unsupported	

5.2.1.2.2 Events for CoderObject object

Table 5.116:

Event	Support Level	Example Code
Constructor	Supported	
Destructor	Supported	

5.2.1.2.3 Functions for CoderObject object

Table 5.117:

Function	Support Level	Example Code
Base32Decode	Unsupported	
Base32Encode	Unsupported	
Base64Decode	Supported	
Base64Encode	Supported	
Base64UrlDecode	Unsupported	
Base64UrlEncode	Unsupported	
ClassName	Supported	

Function	Support Level	Example Code
GetContextService	Supported	
GetParent	Supported	
HexDecode	Supported	
HexEncode	Supported	
PostEvent	Supported	
TriggerEvent	Supported	
TypeOf	Supported	
UrlDecode	Supported	
UrlEncode	Supported	

5.2.1.3 CompressorObject object

5.2.1.3.1 Properties for CompressorObject object

Table 5.118:

Property	Support Level	Example Code
ClassDefinition	Unsupported	
Level	Supported	
Password	Supported	

5.2.1.3.2 Events for CompressorObject object

Table 5.119:

Event	Support Level	Example Code
Constructor	Supported	
Destructor	Supported	
Error	Supported	
Finished	Supported	
ProcessingFile	Supported	
SizeCompleted	Supported	
Start	Supported	

5.2.1.3.3 Functions for CompressorObject object

Table 5.120:

Function	Support Level	Example Code
Cancel	Supported	
ClassName	Supported	
Compress	Supported	

Function	Support Level	Example Code
GetContextService	Supported	
GetParent	Supported	
PostEvent	Supported	
TriggerEvent	Supported	
TypeOf	Supported	

5.2.1.4 Connection object

Important Requirements

Connection object can be created dynamically using the CREATE statement.

5.2.1.4.1 Properties for Connection object

Table 5.121:

Property	Support Level	Example Code
Application	Supported	ls_name = myconnect.application
Driver	Supported	ls_driver = myconnect.Driver Myconnect.Driver = "jaguar"
ErrCode	Supported	ll_rc = myconnect.errcode
ErrText	Supported	ll_rc = myconnect.errtext
Location	Supported	ls_location = myconnect.location myconnect.location = "192.0.0.217:9000"
UserID	Supported	ls_userid = myconnect.UserID myconnect.UserID = "jagadmin"
Password	Supported	ls_pwd = myconnect.Password myconnect.Password = ""
ClassDefinition	Unsupported	
ConnectionString	Unsupported	
Handle	Unsupported	
Options	Unsupported	
Trace	Unsupported	

5.2.1.4.2 Events for Connection object

Table 5.122:

Event	Support Level	Example Code
Constructor	Supported	Constructor
Destructor	Supported	Destructor
Error	Unsupported	

5.2.1.4.3 Functions for Connection object

Table 5.123:

Function	Support Level	Example Code
ClassName	Supported	ls_name = Myconnect.ClassName()
ConnectToServer	Supported	ll_rc = Myconnect.ConnectToServer() Note: The return value is always 0 on the Web.
CreateInstance	Supported	ll_rc = Myconnect.CreateInstance(ln_tools,"simpletest/ nvo_tools")
DisconnectServer	Supported	ll_rc = Myconnect.disconnectserver() Note: The return value is always 0 on the Web.
GetParent	Supported	lobj_parent = Myconnect.GetParent()
PostEvent	Supported	lb_rc = Myconnect.PostEvent(event)
TriggerEvent	Supported	li_rc = Myconnect.TriggerEvent(event)
TypeOf	Supported	IF Myconnect.TypeOf() = Connection! THEN ls_rc = "Connection" END IF
GetContextService	Unsupported	
GetServerInfo	Unsupported	
Lookup	Unsupported	
RemoteStop Connection	Unsupported	
RemoteStop Listening	Unsupported	

5.2.1.5 CORBAObject object

Important Requirements

The CORBAObject object can be created dynamically using the CREATE statement.

5.2.1.5.1 Properties for CORBAObject object

Table 5.124:

Property	Support Level	Example Code
ClassDefinition	Unsupported	

5.2.1.5.2 Events for CORBAObject object

Table 5.125:

Event	Support Level	Example Code
Constructor	Supported	Constructor
Destructor	Supported	Destructor

5.2.1.5.3 Functions for CORBAObject object

Table 5.126:

Function	Support Level	Example Code
ClassName	Supported	ls_name = my_corbaobj.ClassName()
GetParent	Supported	lobj_parent = my_corbaobj.GetParent()
PostEvent	Supported	lb_rc = my_corbaobj.PostEvent(event)
TriggerEvent	Supported	li_rc = my_corbaobj.TriggerEvent(event)
TypeOf	Supported	IF my_corbaobj.TypeOf() = CorbaObject! THEN ls_rc = "Connection" END IF
_Is_A	Unsupported	
_Narrow	Unsupported	
GetContextService	Unsupported	

5.2.1.6 CrypterObject object

5.2.1.6.1 Properties for CrypterObject object

Table 5.127:

Property	Support Level	Example Code
ClassDefinition	Unsupported	

5.2.1.6.2 Events for CrypterObject object

Table 5.128:

Event	Support Level	Example Code
Constructor	Supported	
Destructor	Supported	

5.2.1.6.3 Functions for CrypterObject object

Table 5.129:

Function	Support Level	Example Code
AsymmetricDecrypt	Supported	
AsymmetricEncrypt	Supported	
AsymmetricGenerateKey	Supported	
AsymmetricSign	Supported	
AsymmetricVerifySignature	Supported	
ClassName	Supported	
GetContextService	Supported	
GetParent	Supported	

Function	Support Level	Example Code
HMAC	Supported	
MD5	Supported	
PostEvent	Supported	
SHA	Supported	
SymmetricDecrypt	Supported	
SymmetricEncrypt	Supported	
SymmetricGenerateKey	Supported	
TriggerEvent	Supported	
TypeOf	Supported	

5.2.1.7 DynamicDescriptionArea object

5.2.1.7.1 Properties for DynamicDescriptionArea object

Table 5.130:

Property	Support Level	Example Code
NumInputs	Supported	Integer li_input li_input = SQLDA.NumInputs
NumOutputs	Supported	Integer li_output li_output = SQLDA.NumOutputs
InParmType[]	Supported	if SQLDA.InParmType[3] = TypeInteger! then ...
OutParmType[]	Supported	CHOOSE CASE SQLDA.OutParmType[li_Idx] On the Web, the value of this property may differ from that in PowerBuilder.
ClassDefinition	Unsupported	

5.2.1.7.2 Events for DynamicDescriptionArea object

Table 5.131:

Event	Support Level	Example Code
Constructor	Supported	Constructor
Destructor	Supported	Destructor

5.2.1.7.3 Functions for DynamicDescriptionArea object

Table 5.132:

Function	Support Level	Example Code
ClassName	Supported	ls_class = dsa_1.ClassName()
GetDynamicDate	Supported	ls_Value = String(SQLDA.GetDynamicDate(li_Idx))
GetDynamicDateTime	Supported	ls_Value = String(SQLDA.GetDynamicDateTime(li_Idx))

Function	Support Level	Example Code
GetDynamicNumber	Supported	ls_Value = String(SQLDA.GetDynamicNumber(li_Idx))
GetDynamicString	Supported	ls_Value = SQLDA.GetDynamicString(li_Idx)
GetDynamicTime	Supported	ls_Value = String(SQLDA.GetDynamicTime(li_Idx))
GetParent	Supported	PowerObject lobj_parent_name lobj_parent_name = this.GetParent ()
PostEvent	Supported	this.PostEvent (Clicked!) this.PostEvent ("Clicked")
SetDynamicParm	Supported	SQLDA.SetDynamicParm(1,2004)
TriggerEvent	Supported	this.TriggerEvent (Clicked!) this.TriggerEvent ("Clicked")
TypeOf	Supported	SQLSA.TypeOf()
GetContextService	Unsupported	

5.2.1.8 DynamicStagingArea object

Important Requirements

The DynamicStagingArea object can be created dynamically using the CREATE statement.

5.2.1.8.1 Properties for DynamicStagingArea object

Table 5.133:

Property	Support Level	Example Code
ClassDefinition	Unsupported	

5.2.1.8.2 Events for DynamicStagingArea object

Table 5.134:

Event	Support Level	Example Code
Constructor	Supported	Constructor
Destructor	Supported	Destructor

5.2.1.8.3 Functions for DynamicStagingArea object

Table 5.135:

Function	Support Level	Example Code
ClassName	Supported	ls_class = dsa_1.ClassName()
Destructor	Supported	Destructor
Constructor	Supported	Constructor
GetParent	Supported	lobj_parent_name = this.GetParent ()

Function	Support Level	Example Code
PostEvent	Supported	this.PostEvent (Clicked!) this.PostEvent ("Clicked!")
TriggerEvent	Supported	this.TriggerEvent (Clicked!) this.TriggerEvent ("Clicked!")
TypeOf()	Supported	SQLSA.TypeOf()
GetContextService	Unsupported	

5.2.1.9 Environment object

5.2.1.9.1 Properties for Environment object

Table 5.136:

Property	Support Level	Example Code
CharSet	Supported	
CPUType	Supported	
Language	Supported	
MachineCode	Supported	
OSFixesRevision	Supported	
OSMajorRevision	Supported	
OSMinorRevision	Supported	
PBFixesRevision	Supported	
PBMajorRevision	Supported	
PBMinorRevision	Supported	
NumberOfColors	Supported	
ScreenHeight	Supported	
ScreenWidth	Supported	
OSType	Supported	
PBType	Supported	
Win16	Supported	
ClassDefinition	Unsupported	

5.2.1.9.2 Functions for Environment object

Table 5.137:

Function	Support Level	Example Code
ClassName	Supported	string varname varname = ClassName(gd_double)
TypeOf	Supported	dw_1.Typeof()

Function	Support Level	Example Code
GetContextService	Unsupported	
GetParent	Unsupported	

5.2.1.10 ExtractorObject object

5.2.1.10.1 Properties for ExtractorObject object

Table 5.138:

Property	Support Level	Example Code
ClassDefinition	Unsupported	
Password	Supported	

5.2.1.10.2 Events for ExtractorObject object

Table 5.139:

Event	Support Level	Example Code
Constructor	Supported	
Destructor	Supported	
Error	Supported	
Finished	Supported	
ProcessingFile	Supported	
SizeCompleted	Supported	
Start	Supported	

5.2.1.10.3 Functions for ExtractorObject object

Table 5.140:

Function	Support Level	Example Code
Cancel	Supported	
ClassName	Supported	
Extract	Partially supported	<p>The following two syntaxes are unsupported:</p> <pre>Extract (string source, string items[], string target)</pre> <pre>Extract (string source, string item, ref blob target)</pre>
GetContextService	Supported	
GetFileCount	Unsupported	
GetFileList	Unsupported	
GetParent	Supported	
PostEvent	Supported	
TriggerEvent	Supported	

Function	Support Level	Example Code
TypeOf	Supported	

5.2.1.11 Graph object

5.2.1.11.1 Properties for Graph object

Table 5.141:

Property	Support Level	Example Code
BackColor	Supported	gr_1.BackColor = RGB(255, 255, 0) Note: transparent value is unsupported.
Border	Supported	gr_1.Border = TRUE
BorderStyle	Supported	gr_1.BorderStyle = StyleLowered!
BringToTop	Supported	gr_1.BringToTop = TRUE
Category	Supported	gr_1.Category.Label = "Types of Products"
CategorySort	Supported	gr_1.CategorySort = Unsorted! Note: If the values of Category are multibyte characters (for example, Chinese characters), they are sorted by internal statement number on the Web.
Depth	Supported	gr_1.Depth = 50
DragAuto	Supported	gr_1.DragAuto = TRUE
DragIcon	Supported	gr_1.DragIcon = 'Question!'
Elevation	Supported	gr_1.Elevation = 35
Enabled	Supported	gr_1.Enabled = TRUE
FocusRectangle	Supported	gr_1.FocusRectangle = TRUE
GraphType	Supported	gr_1.GraphType= AreaGraph! Note: The following graph types are unsupported: Area3D!, Bar3DGraph!, Col3DGraph!, Line3D!, Pie3D!
Height	Supported	gr_1.Height = 750
Legend	Supported	gr_1.Legend = AtBottom!
LegendDispAttr	Supported	
OverlapPercent	Supported	gr_1.OverlapPercent = 10
Perspective	Supported	gr_1.Perspective = 25
PieDispAttr	Supported	
Pointer	Supported	gr_1.Pointer = 'Beam!' gr_1.Pointer = 'd:\archive\IBEAM.BMP'
Rotation	Supported	gr_1.Rotation = -45
Series	Supported	gr_1.Series.Scaletype = Log10!

Property	Support Level	Example Code
SeriesSort	Supported	gr_1.SeriesSort = Unsorted! Note: 1. The result of executing this property on the Web may differ from that in PowerBuilder. This is because changing other properties may affect the SeriesSort property in PowerBuilder but it does not have such effect on the Web. 2. If the values of Category are multibyte characters (for example, Chinese characters), they are sorted by internal statement numbers on the Web.
ShadeColor	Supported	dw_1.Object.gr_1.ShadeColor = 16600000
Spacing	Supported	gr_1.Spacing = 120
TabOrder	Supported	gr_1.TabOrder = 10
Tag	Supported	gr_1.SetMicroHelp(This.Tag)
TextColor	Supported	gr_1.Series.DispAttr.TextColor = RGB(0,0,255)
Title	Supported	gr_1.TitleBar = TRUE gr_1.Title = "Monthly Report"
TitleDispAttr	Supported	
Values	Supported	ls_value = dw_1.Object.gr_1.Values
Visible	Supported	gr_1.Visible = TRUE
Width	Supported	gr_1.Width = 750
X	Supported	gr_1.X = 215
Y	Supported	gr_1.Y = 400
ClassDefinition	Unsupported	
Transparency	Unsupported	

5.2.1.11.2 Events for Graph object

Table 5.142:

Event	Support Level	Example Code
Clicked	Supported	Clicked
Constructor	Supported	Constructor
Destructor	Supported	Destructor
DoubleClicked	Supported	DoubleClicked
DragDrop	Supported	DragDrop
DragEnter	Supported	DragEnter
DragLeave	Supported	GragLeave

Event	Support Level	Example Code
DragWithin	Supported	DragWithin
GetFocus	Supported	GetFocus
LoseFocus	Supported	LoseFocus
RButtonDown	Supported	RButtonDown
Help	Unsupported	
Other	Unsupported	

5.2.1.11.3 Functions for Graph object

Table 5.143:

Function	Support Level	Example Code
AddCategory	Supported	gr_1.AddCategory("PCs")
AddData	Supported	ll_value = gr_1.FindSeries("Costs") gr_1.AddData(ll_value, 12, 3)
AddSeries	Supported	li_value = gr_1.AddSeries("Costs")
CategoryCount	Supported	li_value = gr_1.CategoryCount()
CategoryName	Supported	ls_value = gr_1.CategoryName(5)
ClassName	Supported	ls_value= gr_1.ClassName(gd_double)
Clipboard	Supported	gr_1.Clipboard()
DataCount	Supported	ll_value = gr_1.DataCount("Costs")
DeleteCategory	Supported	gr_1.DeleteCategory(CategName)
DeleteData	Supported	gr_1.DeleteData(SeriesNbr, 7)
DeleteSeries	Supported	gr_1.DeleteSeries(ls_name)
Drag	Supported	gr_1.Drag(Begin!)
FindCategory	Supported	li_value=gr_1.FindCategory(sle_ctgry.Text)
FindSeries	Supported	li_value =gr_1.FindSeries(sle_series.Text)
GetData	Supported	data_value = gr_1.GetData(SeriesNbr, ItemNbr, xValue!)
GetDataPie Explode	Supported	gr_1.GetDataPieExplode(series, datapoint, percentage) Note: This function takes effect only in the pie graph. In other graphs the return value of GetDataPieExplode is -1.
GetDataStyle	Supported	ll_color = gr_emp_data.GetDataStyle(SeriesNbr, 6, Foreground!, color_nbr) On the Web, the GetDataStyle function returns 1 if the specified data point and its series contain data, otherwise it returns -1. This is different from that in PowerBuilder.

Function	Support Level	Example Code
GetDataValue	Supported	<code>rtn = gr_1.GetDataValue(SeriesNbr, ItemNbr, data_value)</code>
GetParent	Supported	<code>luo_value = gr_1.GetParent()</code>
GetSeriesStyle	Supported	<code>gr_1.GetSeriesStyle(SeriesName, & line_style, line_width)</code>
Hide	Supported	<code>gr_1.Hide()</code>
ImportClipboard	Supported	<p><code>gr_1.ImportClipboard()</code></p> <p>Notes:</p> <ol style="list-style-type: none"> 1. The <code>importtype</code> argument of this function is unsupported. 2. When using this function, you should ensure that the data type imported matches the data type that you specified in a DataWindow control, DataStore object or graph control. Otherwise the output on the Web may be different from that in PowerBuilder. For example, if the date type specified in a DataWindow is string, when you import a file with date number (eg, 2006-08-01), on the Web the date data will be recognized as a string (2006), however in PowerBuilder, it will be recognized as a date data (2006-08-01).
ImportFile	Supported	<p><code>gr_1.ImportFile("D:\EMPLOYEE.TXT", 2, 30, 3)</code></p> <p>Note:</p> <ol style="list-style-type: none"> 1. The <i>filename</i> argument of ImportFile function must be a tab-separated file (TXT) or a comma-separated file (CSV). 2. The <code>importtype</code> argument of this function is unsupported. 3. When using this function, you should ensure that the data type imported matches the data type that you specified in a DataWindow control, DataStore object or graph control. Otherwise the output on the Web may be different from that in PowerBuilder. For example, if the date type specified in a DataWindow is string, when you import a file with date number (eg, 2006-08-01), on the Web the date data will be recognized as a string (2006), however in PowerBuilder, it will be recognized as a date data (2006-08-01).
ImportString	Supported	<code>gr_1.ImportString(ls_Text, 2, 30, 3)</code>

Function	Support Level	Example Code
		<p>Notes:</p> <ol style="list-style-type: none"> 1. The importtype argument of this function is unsupported. 2. When using this function, you should ensure that the data type imported matches the data type that you specified in a DataWindow control, DataStore object or graph control. Otherwise the output on the Web may be different from that in PowerBuilder. For example, if the date type specified in a DataWindow is string, when you import a file with date number (eg, 2006-08-01), on the Web the date data will be recognized as a string (2006), however in PowerBuilder, it will be recognized as a date data (2006-08-01).
InsertCategory	Supported	gr_1.InsertCategory("Macs", CategoryNbr)
InsertData	Supported	gr_1.InsertData(SeriesNbr, CategoryNbr + 1, 1250) Note: The data point will be inserted according to the sorting rules of the Category axis.
InsertSeries	Supported	gr_1.InsertSeries("Costs", SeriesNbr)
ModifyData	Supported	gr_1.ModifyData(SeriesNbr, & CategoryNbr, 1250)
Move	Supported	gr_1.Move(150, 200)
ObjectAtPointer	Supported	Object_type = gr_1.ObjectAtPointer(SeriesNbr, ItemNbr)
PointerX	Supported	li_value = gr_1.PointerX()
PointerY	Supported	li_value = gr_1.PointerY()
PostEvent	Supported	gr_1.PostEvent(Clicked!)
Print	Supported	gr_1.Print(1, "1-5", FALSE, TRUE)
Reset	Supported	gr_1.Reset(Series!)
ResetDataColors	Supported	gr_1.ResetDataColors(SeriesNbr, 10)
Resize	Supported	gr_1.Resize(100, 150)
SaveAs	Supported	gr_1.SaveAs()
SeriesCount	Supported	li_value = gr_1.SeriesCount()
SeriesName	Supported	ls_value = gr_1.SeriesName(5)
SetDataPieExplode	Supported	gr_1.SetDataPieExplode(series, datapoint, percentage)
SetDataStyle	Supported	gr_1.SetDataStyle("gr_depts", SeriesNbr, 6, Background!, 0)
SetFocus	Supported	gr_1.SetFocus()
SetPosition	Supported	gr_1.SetPosition(ToTop!)

Function	Support Level	Example Code
SetRedraw	Supported	gr_1.SetRedraw(FALSE)
SetSeriesStyle	Supported	gr_1.SetSeriesStyle("Costs", & SymbolPlus!) Note: When using this function to set the overlay style of Graph DataWindow to "Scatter", it returns true and displays the DataWindow with all data points connected by lines. This is different from that in PowerBuilder.
Show	Supported	gr_1.Show()
TriggerEvent	Supported	gr_1.TriggerEvent(Clicked!)
TypeOf	Supported	gr_1.Typeof()
GetContextService	Unsupported	

5.2.1.12 grAxis object

5.2.1.12.1 Properties for grAxis object

Table 5.144:

Property	Support Level	Example Code
AutoScale	Supported	gr_1.Values.AutoScale = FALSE Note: When this property is set to False, the maximum value for the axis cannot be smaller than the minimum value.
DataType	Supported	gr_1.Values.DataType = AdtDate! Notes: 1. On the Web, if the datatype of axis is set to AdtDateTime!, a graph can only display the data for one day. 2. It is unsupported to dynamically modify the GraphType property, if the datatype of the axis will be changed after the modification.
DispAttr	Supported	
DisplayEvery NLabels	Supported	gr_1.Series.DisplayEveryNLabels = 10
DropLines	Supported	gr_1.Series.DropLines = Dash!
Frame	Supported	gr_1.Series.Frame = Dash!
Label	Supported	gr_1.Values.Label = 'Lawsuits per 1000'
LabelDispAttr	Supported	
MajorDivisions	Supported	gr_1.Values.MajorDivisions = 10
MajorGridLine	Supported	gr_1.Value.MajorGridLine = Dash!

Property	Support Level	Example Code
MajorTic	Supported	gr_1.Values.MajorTic = Straddle!
MaximumValue	Supported	gr_1.Values.DataType = AdtDouble! gr_1.Values.MaximumValue = 500000.00
MaxValDateTime	Supported	gr_1.Values.DataType = AdtDate! gr_1.Values.MaxValDateTime = 12/31/1999
MinimumValue	Supported	gr_1.Values.DataType = AdtDouble! gr_1.Values.MinimumValue = 0.00
MinorDivisions	Supported	gr_1.Values.MinorDivisions = 10
MinorGridLine	Supported	gr_1.Value.MinorGridLine = Dot!
MinorTic	Supported	gr_1.Values.MinorTic = Outside!
MinValDateTime	Supported	gr_1.Values.DataType = AdtDate! gr_1.Values.MinValDateTime = 01/31/1900
OriginLine	Supported	gr_1.Values.OriginLine = Dash!
PrimaryLine	Supported	gr_1.Values.PrimaryLine = Dash!
RoundTo	Supported	gr_1.Values.DataType = AdtDate! gr_1.Values.RoundToUnit = RndMonths! gr_1.Values.RoundTo = 6
RoundToUnit	Supported	gr_1.Values.DataType = AdtDate! gr_1.Values.RoundToUnit = RndMonths! gr_1.Values.RoundTo = 6
ScaleType	Supported	gr_1.Values.ScaleType=Log10! Notes: <ol style="list-style-type: none">1. Modifying the ScaleType property for an axis on the Web will affect only the involved axis. This may differ from PowerBuilder.2. Graphs on the Web will be displayed exactly as the settings of MajorDivisions, MinorDivisions, MaximumValue, and RoundTo. There is no displaying difference between the linear and logarithmic scaling.
ScaleValue	Supported	gr_1.Values.ScaleValue = Actual!
SecondaryLine	Supported	gr_1.Values.SecondaryLine = Dash!
ShadeBackEdge	Supported	gr_1.ShadeColor = RGB(240,250,150) gr_1.Category.ShadeBackEdge = TRUE
ClassDefinition	Unsupported	

5.2.1.12.2 Functions for grAxis object

Table 5.145:

Function	Support Level	Example Code
ClassName	Supported	gr_1.value.ClassName()
GetParent	Supported	PowerObject lpo_returnvalue lpo_returnvalue = gr_1.value.GetParent()
TypeOf	Supported	If gr_1.value.TypeOf() =grAxis! Then ls_returnvalue = "grAxis!" End If
GetContextService	Unsupported	

5.2.1.13 grDispAttr object

5.2.1.13.1 Properties for grDispAttr object

Table 5.146:

Property	Support Level	Example Code
Alignment	Supported	gr_1.Alignment = Center!
AutoSize	Supported	gr_1.TitleDispAttr.AutoSize = FALSE
BackColor	Supported	gr_1.BackColor = RGB(255, 255, 0)
DisplayExpression	Supported	gr_1.TitleDispAttr.DisplayExpression = 'title + " " + Today()' Note: When specifying the display expression in the Display Expression field, please note that several items in the Columns box may be unsupported in certain situations: 1. (For all graphs) The percentofcategory and The percentofgraph are unsupported. 2. (For all graphs) The percentofseries is unsupported when the text object is set to Value Axis Text or Legend. 3. The categorypercentofgraph and percentofseries are unsupported when the text object is set to Pie Graph Labels and there are multiple series. 4. (For pie graph only) The percentofseries is unsupported when the text object is set to Legend.
Escapement	Supported	gr_1.Value.LabelDispAttr.Escapement = 900 Note:

Property	Support Level	Example Code
		<ol style="list-style-type: none"> 1. When the value of Escapement is a negative number, the text will not be rotated. 2. The text rotated can be displayed out of the control in PowerBuilder, but not in Web applications. 3. After rotated, the multiple-line text still displays in multiple lines in PowerBuilder, but displays in one line on Web.
FaceName	Supported	gr_1.FaceName = ""
FillPattern	Supported	gr_1.FillPattern = Diamond!
FontCharSet	Supported	gr_1.FontCharSet = ANSI!
FontFamily	Supported	gr_1.FontFamily = Roman!
FontPitch	Supported	gr_1.FontPitch = Fixed!
Format	Supported	gr__1.Values.DispAttr.Format = "0.00"
Italic	Supported	gr_1.Italic = TRUE
TextColor	Supported	gr_1.Series.DispAttr.TextColor = RGB(0,0,255)
TextSize	Supported	gr_1.Values.LabelDispAttr.TextSize = 12
Underline	Supported	gr_1.Values.LabelDispAttr.Underline = TRUE
Weight	Supported	gr_1.Weight = 700
ClassDefinition	Unsupported	

5.2.1.13.2 Functions for grDispAttr object

Table 5.147:

Function	Support Level	Example Code
ClassName	Supported	gr_1.ClassName()
GetParent	Supported	luo_value = gr_1.GetParent()
TypeOf	Supported	<pre>If gr_1.TypeOf() = grDispAttr! Then ls_returnvalue = "grDispAttr!" End If</pre>
GetContextService	Unsupported	

5.2.1.14 HTTPClient object

HTTPClient does not support SSL 2.0 for PowerServer Mobile.

5.2.1.14.1 Properties for HTTPClient object

Table 5.148:

Property	Support Level	Example Code
AutoReadData	Supported	

Property	Support Level	Example Code
ClassDefinition	Unsupported	
SecureProtocol	Supported	
TimeOut	Supported	

5.2.1.14.2 Events for HTTPClient object

Table 5.149:

Event	Support Level	Example Code
Constructor	Supported	Constructor
Destructor	Supported	Destructor

5.2.1.14.3 Functions for HTTPClient object

Table 5.150:

Function	Support Level	Example Code
ClassName	Supported	
ClearRequestHeaders	Supported	
GetContextService	Supported	
GetParent	Supported	
GetRequestHeader	Supported	
GetRequestHeaders	Supported	
GetResponseBody	Supported	
GetResponseHeader	Supported	
GetResponseHeaders	Supported	
GetResponseStatus	Supported	
GetResponseStatusText	Supported	
PostData	Supported	
PostDataEnd	Supported	
PostDataStart	Supported	
PostEvent	Supported	
ReadData	Supported	
SendRequest	Supported	
SetRequestHeader	Supported	
SetRequestHeaders	Supported	
TriggerEvent	Supported	
TypeOf	Supported	

5.2.1.15 Inet object**5.2.1.15.1 Properties for Inet object****Table 5.151:**

Property	Support Level	Example Code
ClassDefinition	Unsupported	

5.2.1.15.2 Events for Inet object**Table 5.152:**

Event	Support Level	Example Code
Constructor	Supported	Constructor
Destructor	Supported	Destructor

5.2.1.15.3 Functions for Inet object**Table 5.153:**

Function	Support Level	Example Code
ClassName	Supported	inet_1 = CREATE inet li_classnm = inet_1.ClassName()
GetParent	Supported	lpo_return = inet_1.GetParent()
GetURL	Supported	inet_1.GetURL()
HyperLinkToURL	Supported	inet_1.HyperlinkToURL("http://www.appeon.com")
PostEvent	Supported	inet_1.PostEvent(Clicked!)
PostURL	Supported	li_return =Inet_1.PostURL() Note: PowerServer supports https address, though PB does not support it.
TriggerEvent	Supported	inet_1.TriggerEvent(Clicked!)
TypeOf	Supported	inet_1.Typeof()
GetContextService	Supported	GetContextService("Internet", inet_base) inet_base.HyperlinkToURL("http://www.appeon.com") Note: This function is supported only when the service name parameter is "Internet".

5.2.1.16 InternetResult object**5.2.1.16.1 Properties for InternetResult object****Table 5.154:**

Property	Support Level	Example Code
ClassDefinition	Unsupported	

5.2.1.16.2 Events for InternetResult object**Table 5.155:**

Event	Support Level	Example Code
Constructor	Supported	Constructor
Destructor	Supported	Destructor

5.2.1.16.3 Functions for InternetResult object**Table 5.156:**

Function	Support Level	Example Code
ClassName	Supported	internetresult_1 = Create InternetResult li_classnm= internetresult_1.ClassName()
GetParent	Supported	lpo_return = internetresult_1.GetParent()
InternetData	Supported	li_return = internetresult_1.InternetData(data)
InternetStatus	Supported	(Not used)
PostEvent	Supported	Internetresult_1.PostEvent(Clicked!)
TriggerEvent	Supported	Internetresult_1.TriggerEvent(Clicked!)
TypeOf	Supported	Internetresult_1.Typeof()
GetContextService	Unsupported	

5.2.1.17 JSONGenerator object**5.2.1.17.1 Properties for JSONGenerator object****Table 5.157:**

Property	Support Level	Example Code
ClassDefinition	Unsupported	

5.2.1.17.2 Events for JSONGenerator object**Table 5.158:**

Event	Support Level	Example Code
Constructor	Supported	Constructor
Destructor	Supported	Destructor

5.2.1.17.3 Functions for JSONGenerator object**Table 5.159:**

Function	Support Level	Example Code
AddItemArray	Supported	

Function	Support Level	Example Code
AddItemBlob	Supported	
AddItemBoolean	Supported	
AddItemDate	Supported	
AddItemDateTime	Supported	
AddItemNull	Supported	
AddItemNumber	Supported	
AddItemObject	Supported	
AddItemString	Supported	
AddItemTime	Supported	
ClassName	Supported	
CreateJSONArray	Supported	
CreateJSONObject	Supported	
GetContextService	Supported	
GetJSONBlob	Supported	
GetJSONString	Supported	
GetParent	Supported	
PostEvent	Supported	
SaveToFile	Supported	
TriggerEvent	Supported	
TypeOf	Supported	

5.2.1.18 JSONPackage object

5.2.1.18.1 Properties for JSONPackage object

Table 5.160:

Property	Support Level	Example Code
IgnoreCase	Supported	
ClassDefinition	Unsupported	
ReturnsNullWhenEmpty	Supported	

5.2.1.18.2 Events for JSONPackage object

Table 5.161:

Event	Support Level	Example Code
Constructor	Supported	Constructor
Destructor	Supported	Destructor

5.2.1.18.3 Functions for JSONPackage object**Table 5.162:**

Function	Support Level	Example Code
ClassName	Supported	
Clear	Supported	
ContainsKey	Supported	
GetContextService	Supported	
GetJSONBlob	Supported	
GetJSONString	Supported	
GetKey	Supported	
GetParent	Supported	
GetValue	Supported	
GetValueBlob	Supported	
GetValueBoolean	Supported	
GetValueDate	Supported	
GetValueDateTime	Supported	
GetValueNumber	Supported	
GetValueString	Supported	
GetValueTime	Supported	
GetValueToDataView	Supported	
KeyCount	Supported	
LoadFile	Supported	
LoadString	Supported	
PostEvent	Supported	
Remove	Supported	
SaveToFile	Supported	
SetValue	Supported	
SetValueBlob	Supported	
SetValueBoolean	Supported	
SetValueByDataView	Supported	
SetValueDate	Supported	
SetValueDateTime	Supported	
SetValueNumber	Supported	
SetValueString	Supported	
SetValueTime	Supported	
TriggerEvent	Supported	
TypeOf	Supported	

5.2.1.19 JSONParser object**5.2.1.19.1 Properties for JSONParser object****Table 5.163:**

Property	Support Level	Example Code
ClassDefinition	Unsupported	
ReturnsNullWhenEmpty	Supported	

5.2.1.19.2 Events for JSONParser object**Table 5.164:**

Event	Support Level	Example Code
Constructor	Supported	Constructor
Destructor	Supported	Destructor

5.2.1.19.3 Functions for JSONParser object**Table 5.165:**

Function	Support Level	Example Code
ClassName	Supported	
ContainsKey	Supported	
GetChildCount	Supported	
GetChildItem	Supported	
GetChildKey	Supported	
GetContextService	Supported	
GetItemArray	Supported	
GetItemBlob	Supported	
GetItemBoolean	Supported	
GetItemDate	Supported	
GetItemDateTime	Supported	
GetItemNumber	Supported	
GetItemObject	Supported	
GetItemString	Supported	
GetItemTime	Supported	
GetItemType	Supported	
GetParent	Supported	
GetRootItem	Supported	
LoadFile	Supported	

Function	Support Level	Example Code
LoadString	Supported	
PostEvent	Supported	
TriggerEvent	Supported	
TypeOf	Supported	

5.2.1.20 ListViewItem object

5.2.1.20.1 Properties for ListViewItem object

Table 5.166:

Property	Support Level	Example Code
CutHighlighted	Supported	<code>lvi_item1.CutHighlighted = True</code>
Data	Supported	<code>any_value = lvi_item1.Data</code>
DropHighlighted	Supported	<code>lvi_item1.DropHighlighted = True</code>
HasFocus	Supported	<code>lvi_item1.HasFocus = True</code>
ItemX	Supported	
ItemY	Supported	
Label	Supported	<code>ls_value = lvi_item1.Label</code> In PowerBuilder, if the string label is too long to display in one line, the string will display in multiple lines. However, in the Web application, the string will only display in one line.
OverlayPicture Index	Supported	<code>li_value = lvi_item1.OverlayPictureIndex</code>
PictureIndex	Supported	<code>li_value = lvi_item1.PictureIndex</code>
Selected	Supported	<code>lb_value = lvi_item1.Selected</code>
StatePictureIndex	Supported	<code>li_value = lvi_item1.StatePictureIndex</code>
ClassDefinition	Unsupported	

5.2.1.20.2 Functions for ListViewItem object

Table 5.167:

Function	Support Level	Example Code
ClassName	Supported	<code>ls_objectname = lvi_item1.ClassName()</code>
TypeOf	Supported	<code>IF lvi_item1.TypeOf() = ListViewItem! THEN</code> <code>ls_returnvalue = "ListViewItem"</code> <code>END IF</code>
GetContextService	Unsupported	
GetParent	Unsupported	

5.2.1.21 mailFileDescription object

5.2.1.21.1 Properties for mailFileDescription object

Table 5.168:

Property	Support Level	Example Code
FileType	Supported	mailFileDescription mAttach mAttach.FileType = mailAttach!
Filename	Supported	mAttach.Filename = ls_filename
Pathname	Supported	mAttach.Pathname = ls_pathname
Position	Supported	mAttach.Position = ll_position
ClassDefinition	Unsupported	

5.2.1.21.2 Functions for mailFileDescription object

Table 5.169:

Function	Support Level	Example Code
ClassName	Supported	ls_classnm = mAttach.classname()
TypeOf	Supported	type_obj = mAttach.typeof()
GetContextService	Unsupported	
GetParent	Unsupported	

5.2.1.22 mailMessage object

5.2.1.22.1 Properties for mailMessage object

Table 5.170:

Property	Support Level	Example Code
AttachmentFile[]	Supported	mMsg.AttachmentFile[1] = mAttach
ConversationID	Supported	ls_ID = mMsg.ConversationID
DateReceived	Supported	mMsg.DateReceived = ls_today
MessageSent	Supported	lb_sent = mMsg.MessageSent
MessageType	Supported	ls_type = mMsg.MessageType
NoteText	Supported	ls_note = mMsg.NoteText
ReceiptRequested	Supported	lb_return = mMsg.ReceiptRequested
Recipient[]	Supported	mailRecipient recip mMsg.Recipient[1] = recip
Subject	Supported	mMsg.subject = ls_subject
Unread	Supported	mMsg.Unread = false

Property	Support Level	Example Code
ClassDefinition	Unsupported	

5.2.1.22.2 Functions for mailMessage object

Table 5.171:

Function	Support Level	Example Code
ClassName	Supported	ls_classnm = mMsg.classname()
TypeOf	Supported	type_obj = mMsg.typeof()
GetContextService	Unsupported	
GetParent	Unsupported	

5.2.1.23 mailRecipient object

5.2.1.23.1 Properties for mailRecipient object

Table 5.172:

Property	Support Level	Example Code
Address	Supported	mRecip.Address = ls_address
EntryID	Supported	ls_return = string(mRecip.EntryID)
Name	Supported	mRecip.Name = ls_name
RecipientType	Supported	mRecip.RecipientType = mailTo!
ClassDefinition	Unsupported	

5.2.1.23.2 Functions for mailRecipient object

Table 5.173:

Function	Support Level	Example Code
ClassName	Supported	ls_classnm = mRecip.classname()
TypeOf	Supported	type_obj = mRecip.typeof()
GetContextService	Unsupported	
GetParent	Unsupported	

5.2.1.24 mailSession object

5.2.1.24.1 Properties for mailSession object

Table 5.174:

Property	Support Level	Example Code
MessageID[]	Supported	ls_message = mSes.MessageID[li_i]
SessionID	Supported	ll_sessionid = mSes.SessionID

Property	Support Level	Example Code
ClassDefinition	Unsupported	

5.2.1.24.2 Events for mailSession object

Table 5.175:

Event	Support Level	Example Code
Constructor	Supported	Constructor
Destructor	Supported	Destructor

5.2.1.24.3 Functions for mailSession object

Table 5.176:

Function	Support Level	Example Code
ClassName	Supported	ls_classnm = mSes.classname()
GetParent	Supported	lobj_parent = mSes.GetParent
mailAddress	Supported	mRet = mSes.mailAddress()
mailDelete Message	Supported	mRet = mSes.mailDeleteMessage(sID)
mailGetMessages	Supported	mRet = mSes.mailGetMessages()
mailHandle	Supported	mHandle = mSes.mailHandle()
mailLogoff	Supported	mRet = mSes.mailLogoff()
mailLogon	Supported	mRet = mSes.mailLogon ()
mailReadMessage	Supported	mRet = mSes.mailReadMessage(sMessageID, mMsg , mailEntireMessage!, TRUE)
mailRecipient Details	Supported	mRet = mSes.mailRecipientDetails(mMsg.Recipient[1],TRUE)
mailResolve Recipient	Supported	mRet = mSes.mailResolveRecipient(mRecip,true)
mailSaveMessage	Supported	mRet = mSes.mailSaveMessage(mMsg.ConversationID, mMsg)
mailSend	Supported	mRet = mSes.mailsend(mMsg)
PostEvent	Supported	lb_return = mSes.PostEvent("ue_user")
TriggerEvent	Supported	lb_return = mSes.TriggerEvent("ue_user")
TypeOf	Supported	type_obj = mSes.typeof()
GetContextService	Unsupported	

5.2.1.25 MDIClient object

Important Requirements

Multiple MDI windows are supported.

Defining the size of the client area in an MDI window is supported.

If there are multiple MDI frames, the second frame window of the Web application will be loaded at a much slower speed up to four times slower than the first one. If the first MDI is closed, the second one will not function.

When the MDI frame is closed in a PowerServer-deployed application, the Web browser will also close automatically.

5.2.1.25.1 Properties for MDIClient object

Table 5.177:

Property	Support Level	Example Code
BackColor	Supported	w_main.mdi_1.BackColor = ll_value
Height	Supported	w_main.mdi_1.Height = li_value
MicroHelpHeight	Supported	li_return = w_main.mdi_1.MicroHelpHeight
Tag	Supported	w_main.mdi_1.Tag = ls_value
Width	Supported	w_main.mdi_1.Width = li_value
X	Supported	w_main.mdi_1.X = li_value
Y	Supported	w_main.mdi_1.Y = li_value
BringToTop	Unsupported	
ClassDefinition	Unsupported	
Visible	Supported	

5.2.1.25.2 Functions for MDIClient object

Table 5.178:

Function	Support Level	Example Code
ClassName	Supported	ls_classname = w_main.mdi_1.Classname()
GetParent	Supported	PowerObject lpo_returnvalue lpo_returnvalue = this.GetParent()
Hide	Supported	w_main.Hide()
Move	Supported	w_main.Move(150,200)
Resize	Supported	w_main.Resize(100, 150)
SetRedraw	Supported	w_main.SetRedraw(FALSE)
Show	Supported	m_main.Show()
TypeOf	Supported	ls_type = w_main.mdi_1.TypeOf()
GetContextService	Unsupported	

5.2.1.26 Menu object

Important Requirements

- Menus can be dynamically created (for example, using the CREATE statement).

- When a menu is dynamically created, it is unsupported to create multiple items to the menu at one time.
- Use of Main menu should be limited to no more than five layers of submenus for a single menu item.
- More levels of dropdown menus under a menu bar item are supported.
- PowerServer supports user-defined menu events and functions.
- For more information on menu object, refer to: [Menu Features](#) and [Toolbar Features](#).

5.2.1.26.1 Menu features

Supported

- Menu object may be implemented with the following functionalities:
 1. Modifying menu items based on user rights using the enable and visible properties.
 2. User-defined functions in menu object.
- It is supported to have a menu object as a structure variable, or define a structure/declare a structure instance in a menu object.
- It is supported to declare a menu type array.
- It is supported to qualify the item of a child menu with the class name of the parent menu.

For example:

m_city is the menu for the window w_citysheet, and is inherited from m_main. m_file is an item of the menu m_city.

The following two lines of code have the same effect on the Web:

```
m_main.m_file.enabled = FALSE  
m_city.m_file.enabled = FALSE
```

- It is supported to declare a menu variable, assign value to it, and pass the variable as argument.

For example:

```
menu lm_onemenu  
lm_onemenu = create menu  
lm_onemenu.text = "Open a window" //or  
lm_onemenu = m_main.m_file //or  
lm_onemenu = m_main.Item[1].Item[1]
```

- A window control can use the ChangeMenu function to dynamically change the menu. See the [ChangeMenu function](#) for Window control.
- Switching between different menus is allowed. However, only one menu can be displayed at one time. For example, the MDI window menu can be dynamically refreshed when a sheet is opened or closed.

- Append the names of open sheets (window list) to a menu item.
- Using the UpArrow/DownArrow/LeftArrow/RightArrow to change the currently selected menu item is supported.
- Shortcut keys for menu items are supported.

Unsupported

- In PowerBuilder, the menu items always show in front of main window or popup window. In Web applications, the menu items may get hidden behind a main window or a popup window.
- Different from PowerBuilder as follows: In the case of multiple Web windows loading the same menu, when a window (window A) accesses the menu object, the menu object accessed is not the menu in the window A, but the menu in the window that is most recently opened.
- It is not supported to access the menu of the window that currently does not have focus.

5.2.1.26.2 Toolbar features

Supported

- The toolbar item synchronizes with the relevant menu item. If the property of the menu item changes, the property of the toolbar item changes accordingly.
- Multiple toolbars are supported.
- Multiple toolbars can be displayed at the same time, but docked toolbar or toolbar toggle are not supported.
- Toolbar can only be displayed in the MDI and MDIHelp windows.

Unsupported

- In Web applications, the toolbars are always placed directly below the menu. The Web toolbar cannot be dragged around or placed at any other place.
- In PowerBuilder, if the user right mouse clicks over a toolbar, a popup menu is displayed with the available options, for example: Left, Right, Floating, Show Text, Show PowerTips. The popup menu will not display in Web applications. The toolbar item cannot show text but can show PowerTips.
- Clicking the toolbar item will not trigger the Selected event for Menu object.
- If the ShiftToRight property is set to TRUE, menu objects may shift to right and toolbar items will automatically adjust its places according to the menu changes in PowerBuilder. However, toolbar items will not automatically adjust its places on the Web.

5.2.1.26.3 Properties for Menu object

Table 5.179:

Property	Support Level	Example Code
Checked	Supported	<code>m_function.m_testitemforfunction.Checked = lb_value</code>
Default	Supported	<code>m_function.m_testitemforfunction.Default = TRUE</code>
Enabled	Supported	<code>m_function.m_testitemforfunction.Enabled = lb_value</code>
Item []	Supported	<p><code>Menu lmenu_item[]</code></p> <p><code>lmenu_item =m_menu.Item[]</code></p> <p>Support using Item[] in different ways:</p> <p><code>lm_onemenu = m_main.Item[1].Item[1]</code></p> <p><code>m_main.Item[1].Item[1].text = "open a Window"</code></p> <p><code>m_main.Item[1].Item[1].triggerevent(clicked)</code></p> <p>Dynamically adding menu items with Item[] is supported.</p>
MicroHelp	Supported	<code>m_function.m_testitemforfunction.MicroHelp = ls_value</code>
ParentWindow	Supported	<code>w_value = m_function.Parentwindow</code>
ShiftToRight	Supported	<code>m_function.m_testitemforfunction.ShiftToRight = true</code>
Shortcut	Supported	
Tag	Supported	<code>m_function.m_testitemforfunction.Tag = ls_value</code>
Text	Supported	<code>m_function.m_testitemforfunction.Text = ls_value</code>
ToolBarItemBar Index	Supported	<p><code>m_function.m_testitemforfunction.ToolBarItemBarIndex = li_value</code></p> <p>Note: If the property ToolBarItemBarIndex is set to 0, the toolbar does not display in PowerBuilder but displays on the Web.</p>
ToolBarItemDown	Supported	<code>m_function.m_testitemforfunction.ToolBarItemDown = true</code>
ToolBarItemDown Name	Supported	<code>m_function.m_testitemforfunction.ToolBarItemDownName = ls_value</code>
ToolBarItemName	Supported	<code>m_function.m_testitemforfunction.ToolBarItemName = ls_value</code>
ToolBarItemOrder	Supported	<code>m_function.m_testitemforfunction.ToolBarItemOrder = li_value</code>
ToolBarItemSpace	Supported	<code>m_function.m_testitemforfunction.ToolBarItemSpace = 5</code>
ToolBarItemText	Supported	<code>m_function.m_testitemforfunction.ToolBarItemText = ls_value</code>

Property	Support Level	Example Code
ToolBarItemVisible	Supported	m_function.m_testitemforfunction.ToolBarItemVisible = lb_value
Visible	Supported	m_function.m_testitemforfunction.Visible = lb_value
ClassDefinition	Unsupported	
MenuItemType	Unsupported	
MergeOption	Unsupported	

5.2.1.26.4 Events for Menu object

Table 5.180:

Event	Support Level	Example Code
Clicked	Supported	Note: The Clicked event cannot be triggered for a menu item that has a submenu.
Selected	Supported	
Help	Unsupported	

5.2.1.26.5 Functions for Menu object

Table 5.181:

Function	Support Level	Example Code
Check	Supported	ll_returnvalue = m_function.m_testitemforfunction.Check()
ClassName	Supported	ls_returnvalue = m_function.m_testitemforfunction.ClassName()
Disable	Supported	ll_returnvalue = m_function.m_testitemforfunction.Disable()
Enable	Supported	ll_returnvalue = m_function.m_testitemforfunction.Enable()
GetParent	Supported	lobj_returnvalue = m_function.GetParent()
Hide	Supported	ll_returnvalue = m_function.m_testitemforfunction.Hide()
PopupMenu	Supported	ll_returnvalue = m_function.m_testitemforfunction.PopupMenu(xlocation, ylocation)
PostEvent	Supported	ll_returnvalue = m_function.m_testitemforfunction.PostEvent(event)
Show	Supported	ll_returnvalue = m_function.m_testitemforfunction.Show()
TriggerEvent	Supported	ll_returnvalue = m_function.m_testitemforfunction.TriggerEvent(event)
TypeOf	Supported	If m_function.m_testitemforfunction.TypeOf() = menu! Then

Function	Support Level	Example Code
		ls_returnvalue = "menu" end if
Uncheck	Supported	ll_returnvalue = m_function.m_testitemforfunction.Uncheck()
GetContextService	Unsupported	

5.2.1.27 MenuCascade object

Important requirements

- It is unsupported to place a cascading menu in another cascading menu.
- When you extend a cascading menu, the first dropdown item automatically get focus on the Web. Pressing the blank key can trigger the Click event of the item with focus and the focus can be shifted between items if you pressing the Up and Down arrow keys.
- Changes to a Web menu will be updated automatically without calling the Hide and Show functions for the Menu.

5.2.1.27.1 Properties for MenuCascade object

Table 5.182:

Property	Support Level	Example Code
Checked	Supported	m_function.m_testitemforfunction.Checked = lb_value
Column	Supported	m_menu.Columns = li_count
CurrentItem	Supported	
Default	Supported	m_menu.Default = TRUE
DropDown	Supported	m_menu.DropDown = False
Enabled	Supported	m_function.m_testitemforfunction.Enabled = lb_value
Item []	Supported	lmenu_item = m_menu.Item[]
MicroHelp	Supported	m_function.m_testitemforfunction.MicroHelp = ls_value
ParentWindow	Supported	w_value = m_function.Parentwindow
ShiftToRight	Supported	m_menu.ShiftToRight = True
Shortcut	Supported	li_return = m_menu.Shortcut
Tag	Supported	m_function.m_testitemforfunction.Tag = ls_value
Text	Supported	m_function.m_testitemforfunction.Text = ls_value
ToolbarItemDown	Supported	m_function.m_testitemforfunction.ToolbarItemDown = lb_flag
ToolbarItemDown Name	Supported	m_function.m_testitemforfunction.ToolbarItemDownName = ls_value
ToolbarItemBar Index	Supported	m_function.m_testitemforfunction.ToolbarItemBarIndex = li_value

Property	Support Level	Example Code
		Note: If the property <code>ToolBarItemBarIndex</code> is set to 0, the toolbar does not display in PowerBuilder but displays on the Web.
<code>ToolBarItemName</code>	Supported	<code>m_function.m_testitemforfunction.ToolBarItemName = ls_value</code>
<code>ToolBarItemOrder</code>	Supported	<code>m_function.m_testitemforfunction.ToolBarItemOrder = li_value</code> Note: the value of <code>ToolBarItemOrder</code> cannot be a negative number.
<code>ToolBarItemText</code>	Supported	<code>m_function.m_testitemforfunction.ToolBarItemText = ls_value</code>
<code>ToolBarItemVisible</code>	Supported	<code>m_function.m_testitemforfunction.ToolBarItemVisible = lb_value</code>
<code>Visible</code>	Supported	<code>m_function.m_testitemforfunction.Visible = lb_value</code>
<code>ClassDefinition</code>	Unsupported	
<code>MenuItemType</code>	Unsupported	
<code>MergeOption</code>	Unsupported	

5.2.1.27.2 Events for MenuCascade object

Table 5.183:

Event	Support Level	Example Code
<code>Clicked</code>	Supported	<code>Clicked</code> Note: The <code>Clicked</code> event cannot be triggered for a menu item that has a submenu.
<code>Selected</code>	Supported	<code>Selected</code>
<code>Help</code>	Unsupported	

5.2.1.27.3 Functions for MenuCascade object

Table 5.184:

Function	Support Level	Example Code
<code>Check</code>	Supported	<code>ll_returnvalue = m_function.m_testitemforfunction.Check()</code>
<code>ClassName</code>	Supported	<code>ls_returnvalue = m_function.m_testitemforfunction.ClassName()</code>
<code>Disable</code>	Supported	<code>ll_returnvalue = m_function.m_testitemforfunction.Disable()</code>
<code>Enable</code>	Supported	<code>ll_returnvalue = m_function.m_testitemforfunction.Enable()</code>
<code>GetParent</code>	Supported	<code>lobj_returnvalue = m_function.GetParent()</code>

Function	Support Level	Example Code
Hide	Supported	ll_returnvalue = m_function.m_testitemforfunction.Hide()
PopupMenu	Supported	ll_returnvalue = m_function.m_testitemforfunction.PopupMenu(xlocation, ylocation)
PostEvent	Supported	ll_returnvalue = m_function.m_testitemforfunction.PostEvent(event)
Show	Supported	ll_returnvalue = m_function.m_testitemforfunction.Show()
TriggerEvent	Supported	ll_returnvalue = m_function.m_testitemforfunction.TriggerEvent(event)
TypeOf	Supported	If m_function.m_testitemforfunction.TypeOf() = menu! Then ls_returnvalue = "menu" end if
Uncheck	Supported	ll_returnvalue = m_function.m_testitemforfunction.Uncheck()
GetContextService	Unsupported	

5.2.1.28 Message object

Important Requirements

- Both the system message and the user-defined message are supported.

5.2.1.28.1 Properties for Message object

Table 5.185:

Property	Support Level	Example Code
DoubleParm	Supported	OpenWithParm(w_1, ld_value) ld_value = Message.DoubleParm
LongParm	Supported	ls_value = Message.LongParm
PowerObjectParm	Supported	OpenWithParm(w_1, s_value) ls_value = Message.PowerObjectParm
Processed	Supported	
StringParm	Supported	OpenWithParm(w_1, ls_value) ls_value = Message.StringParm
WordParm	Supported	
ClassDefinition	Unsupported	
Handle	Unsupported	
Number	Unsupported	

Property	Support Level	Example Code
ReturnValue	Unsupported	

5.2.1.28.2 Events for Message object

Table 5.186:

Event	Support Level	Example Code
Constructor	Supported	
Destructor	Supported	

5.2.1.28.3 Functions for Message object

Table 5.187:

Function	Support Level	Example Code
ClassName	Supported	string varname varname = ClassName(gd_double)
GetParent	Supported	lobj_parent = cb_1.GetParent()
PostEvent	Supported	cb_1.PostEvent(Clicked!)
TriggerEvent	Supported	cb_1.TriggerEvent(Clicked!)
TypeOf	Supported	dw_1.Typeof()
GetContextService	Unsupported	

5.2.1.29 NonVisualObject object

5.2.1.29.1 Properties for NonVisualObject object

Table 5.188:

Property	Support Level	Example Code
ClassDefinition	Unsupported	

5.2.1.29.2 Events for NonVisualObject object

Table 5.189:

Event	Support Level	Example Code
Constructor	Supported	Constructor
Destructor	Supported	Destructor

5.2.1.29.3 Functions for NonVisualObject object

Table 5.190:

Function	Support Level	Example Code
ClassName	Supported	nvo_test.classname()
GetParent	Supported	lobj_parent = nvo_test.GetParent()
PostEvent	Supported	nvo_test.PostEvent(Constructor!)

Function	Support Level	Example Code
TriggerEvent	Supported	nvo_test.TriggerEvent(Constructor!)
TypeOf	Supported	If nvo_test.typeof()=nonvisualobject! Then ls_value='nonvisualobject!' End If
GetContextService	Unsupported	

5.2.1.30 OAuthClient object

5.2.1.30.1 Properties for OAuthClient object

Table 5.191:

Property	Support Level	Example Code
ClassDefinition	Unsupported	

5.2.1.30.2 Events for OAuthClient object

Table 5.192:

Event	Support Level	Example Code
Constructor	Supported	
Destructor	Supported	

5.2.1.30.3 Functions for OAuthClient object

Table 5.193:

Function	Support Level	Example Code
AccessToken	Supported	
ClassName	Supported	
GetContextService	Supported	
GetParent	Supported	
PostEvent	Supported	
RequestResource	Supported	
TriggerEvent	Supported	
TypeOf	Supported	

5.2.1.31 OAuthRequest object

5.2.1.31.1 Properties for OAuthRequest object

Table 5.194:

Property	Support Level	Example Code
ClassDefinition	Unsupported	
Method	Supported	

Property	Support Level	Example Code
SecureProtocol	Supported	
Timeout	Supported	
URL	Supported	

5.2.1.31.2 Functions for OAuthRequest object

Table 5.195:

Function	Support Level	Example Code
ClassName	Supported	
ClearHeaders	Supported	
GetBody	Supported	
GetContextService	Supported	
GetHeader	Supported	
GetHeaders	Supported	
GetParent	Supported	
SetAccessToken	Supported	
SetBody	Supported	
SetHeader	Supported	
SetHeaders	Supported	
TypeOf	Supported	

5.2.1.32 OLEObject object

Unsupported

The shortcut key for OCX is unsupported.

It is unsupported to have blob, DateTime, Date, or Time parameters in functions of OLEObject object.

The datatype of the property value cannot be Datetime, Date, or Time.

5.2.1.32.1 Properties for OLEObject object

Table 5.196:

Property	Support Level	Example Code
ClassDefinition	Unsupported	
Handle	Unsupported	

5.2.1.32.2 Events for OLEObject object

Table 5.197:

Event	Support Level	Example Code
Constructor	Supported	Constructor

Event	Support Level	Example Code
Destructor	Supported	Destructor
Error	Unsupported	
ExternalException	Unsupported	

5.2.1.32.3 Functions for OLEObject object

Table 5.198:

Function	Support Level	Example Code
ClassName	Supported	ls_return = ole_1.ClassName()
ConnectToNew Object	Supported	OLEObject myoleobject myoleobject = CREATE OLEObject li_return = myoleobject.ConnectToNewObject("excel.application")
ConnectToObject	Supported	OLEObject myoleobject myoleobject = CREATE OLEObject li_return = myoleobject.ConnectToObject("c:\excel \expense.xls")
DisconnectObject	Supported	li_return = myoleobject.DisconnectObject()
GetAutomation NativePointer	Supported	UnsignedLong lul_oleptr li_return = ocx_spell.GetNativePointer(lul_oleptr)
IsAlive	Supported	IF ole_1.IsAlive() THEN return
PostEvent	Supported	ole_1.PostEvent("Error")
Release AutomationNative Pointer	Supported	li_return = ocx_spell.ReleaseNativePointer(lul_oleptr)
SetAutomation Pointer	Supported	li_return = oleChild.SetAutomationPointer(myoleobject)
TriggerEvent	Supported	li_return = ole_1.TriggerEvent("Error")
TypeOf	Supported	
ConnectToNew RemoteObject	Unsupported	
ConnectTo RemoteObject	Unsupported	
GetContextService	Unsupported	
GetParent	Supported	
SetAutomation Locale	Unsupported	
SetAutomation Timeout	Unsupported	

5.2.1.33 OLEStorage object**5.2.1.33.1 Properties for OLEStorage object****Table 5.199:**

Property	Support Level	Example Code
ClassDefinition	Unsupported	
DocumentName	Unsupported	

5.2.1.33.2 Events for OLEStorage object**Table 5.200:**

Event	Support Level	Example Code
Constructor	Supported	Constructor
Destructor	Supported	Destructor

5.2.1.33.3 Functions for OLEStorage object**Table 5.201:**

Function	Support Level	Example Code
ClassName	Supported	
Clear	Supported	
Close	Supported	
GetContextService	Supported	
GetParent	Supported	
MemberDelete	Unsupported	
MemberExists	Supported	
MemberRename	Supported	
Open	Supported	
PostEvent	Supported	
Save	Supported	
SaveAs	Unsupported	
TriggerEvent	Supported	
TypeOf	Supported	

5.2.1.34 OLEStream object**5.2.1.34.1 Properties for OLEStream object****Table 5.202:**

Property	Support Level	Example Code
ClassDefinition	Unsupported	

Property	Support Level	Example Code
Name	Unsupported	
Storage	Unsupported	

5.2.1.34.2 Events for OLEStream object

Table 5.203:

Event	Support Level	Example Code
Constructor	Supported	Constructor
Destructor	Supported	Destructor

5.2.1.34.3 Functions for OLEStream object

Table 5.204:

Function	Support Level	Example Code
ClassName	Supported	
Close	Supported	
GetContextService	Supported	
GetParent	Supported	
Length	Supported	The return value in PowerServer Web is as follows (which is different from PowerBuilder): >=0 -- The length of stream. -1 -- Stream is not opened. -9 -- Other errors.
Open	Supported	
PostEvent	Supported	
Read	Supported	
Seek	Supported	
TriggerEvent	Supported	
TypeOf	Supported	
Write	Supported	

5.2.1.35 ResourceResponse object

5.2.1.35.1 Properties for ResourceResponse object

Table 5.205:

Property	Support Level	Example Code
ClassDefinition	Unsupported	

5.2.1.35.2 Functions for ResourceResponse object**Table 5.206:**

Function	Support Level	Example Code
ClassName	Supported	
GetBody	Supported	
GetContextService	Supported	
GetHeader	Supported	
GetHeaders	Supported	
GetParent	Supported	
GetStatusCode	Supported	
GetStatusText	Supported	
TypeOf	Supported	

5.2.1.36 RestClient object**5.2.1.36.1 Properties for RestClient object****Table 5.207:**

Property	Support Level	Example Code
ClassDefinition	Unsupported	
SecureProtocol	Supported	
Timeout	Supported	

5.2.1.36.2 Events for RestClient object**Table 5.208:**

Event	Support Level	Example Code
Constructor	Supported	Constructor
Destructor	Supported	Destructor

5.2.1.36.3 Functions for RestClient object**Table 5.209:**

Function	Support Level	Example Code
ClassName	Supported	
ClearRequestHeaders	Supported	
GetContextService	Supported	
GetJWTToken	Supported	
GetOAuthToken	Supported	
GetParent	Supported	
GetRequestHeader	Supported	

Function	Support Level	Example Code
GetRequestHeader	Supported	
GetResponseHeader	Supported	
GetResponseHeader	Supported	
GetResponseStatus	Supported	
GetResponseStatus	Supported	
PostEvent	Supported	
Retrieve	Supported	
RetrieveOne	Supported	
SendDeleteRequest	Supported	
SendGetRequest	Supported	
SendPatchRequest	Supported	
SendPostRequest	Supported	
SendPutRequest	Supported	
SetJWTToken	Supported	
SetOAuthToken	Supported	
SetRequestHeader	Supported	
SetRequestHeader	Supported	
Submit	Supported	
TriggerEvent	Supported	
TypeOf	Supported	

5.2.1.37 Timing object

5.2.1.37.1 Properties for Timing object

Table 5.210:

Property	Support Level	Example Code
Interval	Supported	ld_return = timing_1.interval
Running	Supported	lb_return = timing_1.running
ClassDefinition	Unsupported	

5.2.1.37.2 Events for Timing object

Table 5.211:

Event	Support Level	Example Code
Constructor	Supported	Constructor
Destructor	Supported	Destructor
Timer	Supported	Timer(10, w_main)

5.2.1.37.3 Functions for Timing object**Table 5.212:**

Function	Support Level	Example Code
ClassName	Supported	timing_1 = CREATE uo_timer ls_classnm = timing_1.ClassName()
GetParent	Supported	lobj_parent_name = timing_1.GetParent()
PostEvent	Supported	timing_1.PostEvent(Clicked!)
Start	Supported	timing_1.Start(60)
Stop	Supported	timing_1.Stop()
TriggerEvent	Supported	timing_1.TriggerEvent(Clicked!)
TypeOf	Supported	timing_1.Typeof()
GetContextService	Unsupported	

5.2.1.38 TokenRequest object**5.2.1.38.1 Properties for TokenRequest object****Table 5.213:**

Property	Support Level	Example Code
ClassDefinition	Unsupported	
ClientId	Supported	
ClientSecret	Supported	
GrantType	Supported	
Method	Supported	
Password	Supported	
Scope	Supported	
SecureProtocol	Supported	
Timeout	Supported	
TokenLocation	Supported	
UserName	Supported	

5.2.1.38.2 Functions for TokenRequest object**Table 5.214:**

Function	Support Level	Example Code
AppendParam	Supported	
ClassName	Supported	
ClearHeaders	Supported	
ClearParams	Supported	
GetContextService	Supported	

Function	Support Level	Example Code
GetHeader	Supported	
GetHeaders	Supported	
GetParent	Supported	
SetHeader	Supported	
SetHeaders	Supported	
TypeOf	Supported	

5.2.1.39 TokenResponse object

5.2.1.39.1 Properties for TokenResponse object

Table 5.215:

Property	Support Level	Example Code
ClassDefinition	Unsupported	

5.2.1.39.2 Functions for TokenResponse object

Table 5.216:

Function	Support Level	Example Code
ClassName	Supported	
GetAccessToken	Supported	
GetBody	Supported	
GetContextService	Supported	
GetExpiresIn	Supported	
GetHeader	Supported	
GetHeaders	Supported	
GetParent	Supported	
GetRefreshToken	Supported	
GetStatusCode	Supported	
GetStatusText	Supported	
GetTokenError	Supported	
GetTokenType	Supported	
TypeOf	Supported	

5.2.1.40 Transaction object

Important Requirements

The Transaction object can either be global or local. The instance transaction object is unsupported.

The user-defined Transaction object is supported.

The type of SQLCA can be transaction or transaction user object. It is supported if the user defines a transaction user object (for example, u_trans) and sets the type of SQLCA to the transaction user object (for example, u_trans).

An application can have multiple Transactions Objects, and the Transaction Objects can be connected to different type of databases.

The specification of isolation level for a database profile in PowerBuilder is not supported.

5.2.1.40.1 Properties for Transaction object

Apeon ignores the dynamic property settings for the data source and Transaction Object except for the AutoCommit property.

Table 5.217:

Property	Support Level	Example Code
AutoCommit	Supported	sqlca.AutoCommit = lb_value Notes: 1. If the database server is Oracle and the driver is native driver, the AutoCommit setting is always interpreted as FALSE. 2. The AutoCommit property is the only property that may be dynamically modified.
Database	Supported	ls_value = sqlca.Database
DBMS	Supported	ls_value = sqlca.DBMS Apeon extends this property so it can be used to specify the database type of the data source that is used by the CacheName parameter. For values representing the different database types, refer to Table 3.12, “Setting the DBMS property based on the database type” in <i>PowerServer Configuration Guide for .NET</i> or Table 3.24, “Setting the DBMS property based on the database type” in <i>PowerServer Configuration Guide for J2EE</i> .
DBPass	Supported	
DBParm	Supported	<ul style="list-style-type: none"> The ConnectString parameter will be ignored when executed in the mobile or Web application, because the database connection for the mobile or Web application (called data source) is configured separately in PowerServer or the application server. For details, refer to Chapter 3, <i>Database Connection Setup</i> in <i>PowerServer Configuration Guide for .NET</i> or Chapter 3, <i>Database Connection Setup</i> in <i>PowerServer Configuration Guide for J2EE</i>. The CacheName parameter is enhanced by PowerServer, so it is working differently when

Property	Support Level	Example Code
		<p>executed in the mobile or Web application than when executed in the PB application.</p> <p>CacheName is optional depending on the specific scenario of the database connection used in the mobile or Web application. If one transaction object needs to connect with more than one database, then CacheName can be used and set to the name of the data source (as shown in the code example below); if one transaction object connects with only one database, then CacheName might not be necessary, as you can statically map the transaction object with the data source in AEM.</p> <p>For example,</p> <pre data-bbox="715 797 1394 831">sqlca.DBParm = "CacheName='ASADDataSource1'"</pre> <p>Using CacheName enables the mobile or Web application to dynamically change the data source at runtime, rather than statically mapping the transaction object with the data source in AEM before the application is run. For more information, refer to Section 3.5, “Setting up transaction object to data source mapping” in <i>PowerServer Configuration Guide for .NET</i> or Section 3.4, “Setting up transaction object to data source mapping” in <i>PowerServer Configuration Guide for J2EE</i>.</p>
LogID	Supported	ls_value = sqlca.LogID
LogPass	Supported	ls_value = sqlca.LogPass
ServerName	Supported	ls_value = sqlca.ServerName
SQLCode	Supported	<p>ll_value = sqlca.SQLCode</p> <p>The returned value of SQLCode in PowerServer:</p> <p><0 – Error; the statement failed. This is different from PowerBuilder where -1 will be returned, while in PowerServer, it could be any negative number when there is an error. Therefore, it is recommended to use <0 as the evaluation value for errors in both PowerBuilder and Apeon.</p> <p>0 – Success.</p> <p>100 – No result.</p>
SQLDBCCode	Supported	<p>ll_value = sqlca.SQLDBCCode</p> <p>Notes:</p>

Property	Support Level	Example Code
		<ol style="list-style-type: none"> 1. In PowerBuilder, if <code>sqlca.SQLCode=100</code>, <code>sqlca.SQLDBCode = 3</code>. In PowerServer, when <code>sqlca.SQLCode=100</code>, <code>sqlca.SQLDBCode = 0</code>. 2. In the Web application, <code>SQLDBCode</code> returns a different value from PowerBuilder. It is recommended not to use <code>SQLDBCode</code> in statements such as <code>IF...ELSE</code>.
<code>SQLErrText</code>	Supported	<code>ls_value = sqlca.SQLErrText</code>
<code>SQLNRows</code>	Supported	<code>ll_value = sqlca.SqlNRows</code>
<code>UserID</code>	Supported	<code>ls_value = sqlca.UserID</code>
<code>ClassDefinition</code>	Unsupported	
<code>Lock</code>	Unsupported	
<code>SQLReturnData</code>	Unsupported	

5.2.1.40.2 Events for Transaction object

Table 5.218:

Event	Support Level	Example Code
Constructor	Supported	Constructor
Destructor	Supported	Destructor
<code>DBNotification</code>	Unsupported	
<code>DBError</code>	Unsupported	
<code>SQLPreview</code>	Unsupported	

5.2.1.40.3 Functions for Transaction object

Table 5.219:

Function	Support Level	Example Code
<code>ClassName</code>	Supported	<code>ls_returnvalue = sqlca.ClassName()</code>
<code>TypeOf</code>	Supported	<pre>if this.TypeOf() = transaction! Then Is_returnvalue = "transaction!" end if</pre>
<code>DBHandle</code>	Supported	
<code>PostEvent</code>	Supported	
<code>SyntaxFromSQL</code>	Supported	<pre>ls_dw_syntax = SQLCA.SyntaxFromSQL(ls_sql_syntax, ls_style, ls_dw_err)</pre> <p>Notes:</p> <ol style="list-style-type: none"> 1. The following syntax is unsupported:

Function	Support Level	Example Code
		<pre>ls_dw_syntax = SyntaxFromSQL(sqlca, ls_sql_syntax, ls_style, ls_dw_err)</pre> <ol style="list-style-type: none"> The data type of computed columns in SyntaxFromSQL cannot be the Apeon unsupported data type. The length of return value on the Web is different from PowerBuilder The return value of the SyntaxFromSQL function on the Web contains a column name for each column although it is not in PowerBuilder. The function cannot generate correct source code for TreeView DataWindow.
TriggerEvent	Supported	
GetContextService	Unsupported	
GetParent	Supported	

5.2.1.41 TreeViewItem object

5.2.1.41.1 Properties for TreeViewItem object

Table 5.220:

Property	Support Level	Example Code
Bold	Supported	<code>tv_treeviewitem.Bold = TRUE</code>
Children	Supported	<code>tv_treeviewitem.Children = FALSE</code>
Data	Supported	<code>tv_treeviewitem.Data = sle_prop.text</code>
Expanded	Supported	<code>tv_treeviewitem.Expanded = TRUE</code> Note: the property is supported but is read-only.
ExpandedOnce	Supported	<code>tv_treeviewitem.ExpandedOnce = TRUE</code> Note: the property is supported but is read-only.
HasFocus	Supported	<code>tv_treeviewitem.HasFocus = TRUE</code> Note: the property is supported but is read-only.
ItemHandle	Supported	<code>tv_treeviewitem.Itemhandle = long(sle_prop.text)</code> Note: This property is supported but is read-only.
OverlayPicture Index	Supported	<code>l_tvi.OverlayPictureIndex = 2</code>
Label	Supported	<code>tv_treeviewitem.Label = sle_prop.text</code>
Level	Supported	<code>tv_treeviewitem.Level = long(sle_prop.text)</code>

Property	Support Level	Example Code
PictureIndex	Supported	tv_treeviewitem.PictureIndex = long(sle_prop.text)
SelectedPictureIndex	Supported	tv_treeviewitem.SelectedPictureIndex = long(sle_prop.text)
Selected	Supported	lb_value = tv_treeviewitem.Selected
StatePictureIndex	Supported	li_value = tv_treeviewitem.StatePictureIndex
ClassDefinition	Unsupported	
CutHighLighted	Unsupported	
DropHighLighted	Unsupported	

5.2.1.41.2 Functions for TreeViewItem object

Table 5.221:

Function	Support Level	Example Code
ClassName	Supported	ls_returnvalue = tv_treeviewitem.ClassName()
TypeOf	Supported	If Itvi_1.TypeOf() = TreeViewItem! Then ls_returnvalue = "TreeViewItem!" End If
GetContextService	Unsupported	
GetParent	Unsupported	

5.2.1.42 UserObject object

Important Requirements

The UserObject object can be dynamically created (for example, by using the CREATE statement).

5.2.1.42.1 Properties for UserObject object

Table 5.222:

Property	Support Level	Example Code
BackColor	Supported	uo_test.BackColor = ll_value Note: transparent value is unsupported.
Border	Supported	uo_test.Border = lb_value
BorderStyle	Supported	uo_test.BorderStyle = StyleBox! uo_test.BorderStyle = StyleLowered! uo_test.BorderStyle = StyleRaised! Note: StyleShadowBox! is unsupported.
ClassName	Supported	ls_value = uo_test.ClassName
BringToTop	Supported	uo_test.BringToTop = TRUE

Property	Support Level	Example Code
Control[]	Supported	WindowObject lobj_control[] lobj_control[] = uo_test.control[]
DragAuto	Supported	uo_test.DragAuto=TRUE
DragIcon	Supported	uo_test.DragIcon='c:\archive\arrow.ico'
Enabled	Supported	uo_test.Enabled = TRUE
Height	Supported	uo_test.Height = 300
HScrollBar	Supported	uo_1.HScrollBar = false
Pointer	Supported	uo_test.Pointer='Help!' uo_test.Pointer='d:\archive\IBeam.BMP.cur'
PictureName	Supported	uo_test.PictureName = "c:\pictures\pb1.bmp"
PowerTipText	Supported	uo_test.PowerTipText="UserObject PowerTip"
TabBackColor	Supported	uo_tab.tab_page1.TabBackColor = RGB(0,0,255)
TabOrder	Supported	uo_test.TabOrder = li_value
TabTextColor	Supported	uo_tab.tab_page1.TabTextColor =5566
Tag	Supported	uo_test.Tag = ls_value
Text	Supported	uo_test.Text = ls_value
Visible	Supported	uo_test.Visible = lb_value
VScrollBar	Supported	uo_test.VScrollBar = lb_value
Width	Supported	uo_test.Width = li_value
X	Supported	uo_test.X = li_value
Y	Supported	uo_test.Y = li_value
ClassDefinition	Unsupported	
ColumnsPerPage	Unsupported	
LibraryName	Unsupported	
LinesPerPage	Unsupported	
ObjectType	Unsupported	
PictureMaskColor	Unsupported	
Style	Unsupported	
Transparency	Unsupported	
UnitsPerColumn	Unsupported	
UnitsPerLine	Unsupported	

5.2.1.42.2 Events for UserObject object

Table 5.223:

Event	Support Level	Example Code
Constructor	Supported	

Event	Support Level	Example Code
Destructor	Supported	
DragDrop	Supported	
DragEnter	Supported	
DragLeave	Supported	
DragWithin	Unsupported	
RButtonDown	Supported	
Help	Unsupported	
Other	Unsupported	

5.2.1.42.3 Functions for UserObject object

Table 5.224:

Function	Support Level	Example Code
ClassName	Supported	uo_test.classname()
Drag	Supported	uo_test.Drag(Begin!)
GetParent	Supported	lobj_parent_name = this.GetParent()
Hide	Supported	uo_test.Hide()
Move	Supported	uo_test.Move(x1,y1)
OpenUserObject	Supported	Note: Using <i>Post</i> function to call the <i>OpenUserObject</i> function is unsupported, for example, this.post openuserobject (icbx_uo,100,100) is unsupported.
PointerX	Supported	uo_test.PointerX()
PointerY	Supported	uo_test.PointerY()
PostEvent	Supported	uo_test.PostEvent(Clicked!)
Resize	Supported	uo_test.Resize(x1,y1)
SetFocus	Supported	uo_test.SetFocus()
SetPosition	Supported	uo_test.SetPosition(ToTop!) uo_two.SetPosition(Behind!, uo_three)
SetRedraw	Supported	li_return= uo_test.SetRedraw(TRUE)
Show	Supported	uo_test.Show()
TriggerEvent	Supported	uo_test.TriggerEvent(Clicked!)
TypeOf	Supported	If uo_test.typeof()=CheckBox! Then ls_value='CheckBox!' End If
AddItem	Unsupported	
CreatePage	Unsupported	
DeleteItem	Unsupported	

Function	Support Level	Example Code
GetContextService	Unsupported	
InsertItem	Unsupported	
OpenUserObjectWithPassword	Unsupported	
PageCreated	Unsupported	
Print	Unsupported	

5.2.1.43 WSCConnection object

5.2.1.43.1 Properties for WSCConnection object

Table 5.225:

Property	Support Level	Example Code
Endpoint	Supported	
Authentication Mode	Unsupported	
ClassDefinition	Unsupported	
ClientCertificate File	Unsupported	
Password	Unsupported	
ProxyServerHost Name	Unsupported	
ProxyServer Password	Unsupported	
ProxyServerPort	Unsupported	
ProxyServer UserName	Unsupported	
Timeout	Unsupported	
UserDomain	Unsupported	
UserName	Unsupported	
UseWindows Integrated Authentication	Unsupported	

5.2.1.43.2 Events for WSCConnection object

Table 5.226:

Event	Support Level	Example Code
Constructor	Supported	Note: Activate and Deactivate events are unsupported for dialogue boxes.
Destructor	Supported	Clicked

5.2.1.43.3 Functions for WSCONNECTION object

Table 5.227:

Function	Support Level	Example Code
ClassName	Supported	w_mdi.ArrangeSheets(arrangetype)
GetParent	Supported	Parent.ChangeMenu(m_test_menu2)
PostEvent	Supported	ls_value = w_test.ClassName()
TriggerEvent	Supported	w_test.CloseChannel()
TypeOf	Supported	w_test.CloseUserObject()
GetContextService	Unsupported	

5.2.2 Unsupported Objects

The following are the system objects that Apeon does not support:

Table 5.228:

ADOResultSet	ArrayBounds	ClassDefinition	ClassDefinitionObject
ConnectionInfo	ConnectObject	ContextInformation	ContextKeyword
CORBABadTypeCode	CORBABadInvorder	CORBABadOperation	CORBABadParam
CORBABadTypeCode	CORBACommFailure	CORBACurrent	CORBADataConversion
CORBAFreeMem	CORBAImpLimit	CORBAInitialize	CORBAInternal
CORBAIntFrePos	CORBAInvalidTransaction	CORBAInvFlag	CORBAInvIdentInvObjRef
CORBAMarshal	CORBANOImplement	CORBANOmemory	CORBANOpermission
CORBANOResources	CORBANOResponse	CORBAObjAdapter	CORBAObjectNoExist
CORBAPersistStore	CORBASystemException	CORBATransactionRequired	CORBATransactionRolledback
CORBATranslent	CORBAUnion	CORBAUnknown	CORBAUserException
CPlusPlus	DivideByZeroError	DWRuntimeError	EnumerationDefinition
EnumerationItemDefinition	Error	ErrorLogging	Exception
ExtObject	JaguarORB	NullObjectError	OLERuntimeError
OLETxnObject	OMControl	OMCustomControl	OMEmbeddedControl
OMObject	OMStorage	OMStream	ORB
PBTocppObject	Pipeline	ProfileCall	ProfileClass
ProfileLine	ProfileRoutine	Profiling	RemoteObject
ResultSet	ResultSets	RuntimeError	ScriptDefinition
Service	SimpleTypeDefinition	SSLCallBack	SSLServiceProvider
SystemFunctions	Throwable	TraceActivityNode	TraceBeginEnd
TraceError	TraceESQL	TraceFile	TraceGarbageCollect
TraceLine	TraceObject	TraceRoutine	TraceTree

TraceTreeError	TraceTreeESQL	TraceTreeGarbageCollect	TraceTreeLine
TraceTreeNode	TraceTreeObject	TraceTreeRoutine	TraceTreeUser
TraceUser	TransactionServer	Transport	TypeDefinition
VariableCardinalityDefinition	VariableDefinition		

6 PowerScript Reference

6.1 PowerScript Topics

6.1.1 Overview

The PowerBuilder language is PowerScript. PowerScript is used in scripts and user-defined functions to build PowerBuilder applications.

During conversion of a PowerBuilder application, script compiled in PowerScript is converted to JavaScript.

In the following section, PowerScript refers to the PowerBuilder programming language, while JavaScript refers to the programming language used for PowerBuilder-to-Web conversion.

6.1.2 Object-Oriented programming

The application may make use of the powerful object-oriented programming techniques that are typically found in PowerBuilder applications:

- Inheritance

Creating a new control in a child object by copying and pasting an existing control in the PowerBuilder painter is unsupported if the existing control is inherited from the parent object.

- Encapsulation

- Polymorphism

6.1.3 Language basics

6.1.3.1 Comments

Supported

1. Common Comments

- Double-slash method: *Code // Comment*

```
A= B + C // Comment
```

- Slash-and-asterisk method: */* Comment */*

```
A= /* comment */ B + C
```

2. Embedded comments

```
// Comment1 /* Comment2
```

```
/* Comment1 // Comment2 */
```

```
/* Comment1 /* Comment2 */ Comment3 */
```

For example:

```
A = B + C /* This comment starts here.  
/* This is the start of a nested comment. The nested comment ends here. */  
The first comment ends here.  
*/ + D + E + F
```

Unsupported

Do not use the double-slash method to comment out scripts in the SQL statement for DataWindows.

6.1.3.2 Identifiers

Supported

Identifiers in PowerServer refer to global/instance/local variable names, or object names, or menu names & menu item names. Note that menu names & menu item names are regarded as identifiers.

Rules for identifiers:

- Identifiers can be reserved words in JavaScript, apart from the identifier word "Object".
- Can have up to 40 characters but no spaces.
- Must start with a letter or an underscore ("_") and can include any combination of the letters, numbers and special characters listed in [Appeon supported identifiers](#).
- In the case of duplicate objects, objects earlier in the PBL list overwrite those later in the PBL list.

Unsupported

- Objects of different types cannot have the same name.
- Objects of the same type, even if they are in different PBLs, cannot have the same name.
- Instance variable and function in the same object cannot have the same name.
- The "#" will not be automatically converted to “#” in Appeon.
- Identifiers cannot be reserved words in PowerServer: appeondatawindow, appeondatastore, appeonservice, appeon_nvo_db_update, appeonnextfuncs, appeonfileservice, ejbserial, ejbobject and parse_retval_object.

6.1.3.2.1 Appeon supported identifiers

Letters, numbers or special characters with Unicode listed below or within the intervals are supported.

- All intervals are closed intervals.

- Cannot start with the letter, number or special character corresponding to the Unicode (or within the intervals) marked with "*".

Table 6.1:

30-39 *	41-5A	5F	61-7A	B7 *	C0-D6
D8-F6	F8-131	134-13E	141-148	14A-17E	180-1C3
1CD-1F0	1F4-1F5	1FA-217	250-2A8	2BB-2C1 *	2D0-2D1 *
300-345 *	360-361 *	386	387*	388-38A	38C
38E-3A1	3A3-3CE	3D0-3D6	3DA	3DC	3DE
3E0	3E2-3F3	401-40C	40E-44F	451-45C	45E-481
483-486 *	490-4C4	4C7-4C8	4CB-4CC	4D0-4EB	4EE-4F5
4F8-4F9	531-556	559 *	561-586	591-5A1 *	5A3-5B9 *
5BB-5BD *	5BF *	5C1-5C2 *	5C4 *	5D0-5EA	5F0-5F2
621-63A	640 *	641-64A	64B-652 *	660-669 *	670 *
671-6B7	6BA-6BE	6C0-6CE	6D0-6D3	6D5	6D6-6E8 *
6EA-6ED *	6F0-6F9 *	901-903 *	905-939	93C-94D *	951-954 *
958-961	962-963 *	966-96F *	981-983 *	985-98C	98F-990
993-9A8	9AA-9B0	9B2	9B6-9B9	9BC *	9BE-9C4 *
9C7-9C8 *	9CB-9CD *	9D7 *	9DC-9DD	9DF-9E1	9E2-9E3 *
9E6-9EF *	9F0-9F1	A02 *	A05-A0A	A0F-A10	A13-A28
A2A-A30	A32-A33	A35-A36	A38-A39	A3C *	A3E-A42 *
A47-A48 *	A4B-A4D *	A59-A5C	A5E-A5E	A66-A74 *	A81-A83 *
A85-A8B	A8D	A8F-A91	A93-AA8	AAA-AB0	AB2-AB3
AB5-AB9	ABC-AC5 *	AC7-AC9 *	ACB-ACD *	AE0	AE6-AEF *
B01-B03 *	B05-B0C	B0F-B10	B13-B28	B2A-B30	B32-B33
B36-B39	B3C-B43 *	B47-B48 *	B4B-B4D *	B56-B57 *	B5C-B5D
B5F-B61	B66-B6F *	B82-B83 *	B85-B8A	B8E-B90	B92-B95
B99-B9A	B9C	B9E-B9F	BA3-BA4	BA8-BAA	BAE-BB5
BB7-BB9	BBE-BC2 *	BC6-BC8 *	BCA-BCD *	BD7 *	BE7-BEF *
C01-C03 *	C05-C0C	C0E-C10	C12-C28	C2A-C33	C35-C39
C3E-C44 *	C46-C48 *	C4A-C4D *	C55-C56 *	C60-C61	C66-C6F *
C82-C83 *	C85-C8C	C8E-C90	C92-CA8	CAA-CB3	CB5-CB9
CBE-CC4 *	CC6-CC8 *	CCA-CCD *	CD5-CD6 *	CDE	CE0-CE1
CE6-CEF *	D02-D03 *	D05-D0C	D0E-D10	D12-D28	D2A-D39
D3E-D43 *	D46-D48 *	D4A-D4D *	D57 *	D60-D61	D66-D6F *
E01-E2E	E30	E31 *	E32-E33	E34-E3A *	E40-E45
E46-E4E *	E50-E59 *	E81-E82	E84	E87-E88	E8A
E8D	E94-E97	E99-E9F	EA1-EA3	EA5	EA7

EAA-EAB	EAD-EAE	EB0-EB9 *	EBB-EBD *	EC0-EC4 *	EC6 *
EC8-ECD *	ED0-ED9 *	F18-F19 *	F20-F29 *	F35 *	F37 *
F39 *	F3E-F3F *	F40-F47	F49-F69	F71-F84 *	F86-F8B *
F90-F95 *	F97 *	F99-FAD *	FB1-FB7 *	FB9 *	10A0-10C5
10D0-10F6	1100	1102-1103	1105-1107	1109	110B-110C
110E-1112	113C	113E	1140	114C	114E
1150	1154-1155	1159	115F-1161	1163	1165
1167	1169	116D-116E	1172-1173	1175	119E
11A8	11AB	11AE-11AF	11B7-11B8	11BA	11BC-11C2
11EB	11F0	11F9	1E00-1E9B	1EA0-1EF9	1F00-1F15
1F18-1F1D	1F20-1F45	1F48-1F4D	1F50-1F57	1F59	1F5B
1F5D	1F5F-1F7D	1F80-1FB4	1FB6-1FBC	1FBE *	1FC2-1FC4
1FC6-1FCC	1FD0-1FD3	1FD6-1FDB	1FE0-1FEC	1FF2-1FF4	1FF6-1FFC
20D0-20DC *	20E1 *	2126 *	212A-212B *	212E *	2180-2182 *
3005 *	3007	3021-302F *	3031-3035 *	3041-3094	3099-309A *
309D-309E *	30A1-30FA	30FC-30FE	3105-312C	4E00-9FA5	AC00-D7A3

6.1.3.3 Labels

Labels and GOTO statements are unsupported.

6.1.3.4 Special ASCII characters

Supported

Table 6.2:

ASCII character	To Specify This	Enter This
Common ASCII characters	Newline	~n
	Tab	~t
	Carriage return	~r In PowerServer, "~r" is considered a newline character.
	Formfeed	~f
	Backspace	~b
	Double quote	~"
	Single quote	~'
	Tilde	~~
Any ASCII character	Hexadecimal	~h##

ASCII character	To Specify This	Enter This
	Octal	~o###

Unsupported

1. In a Web application, a character whose ASCII value is greater than 127 cannot be saved to the database.
2. In PowerBuilder, for characters whose ASCII value is greater than 128, the equal operator will consider them the same. However, in PowerServer, the equal operator will not consider them the same.
3. Common ASCII character: Vertical tab (~v).
4. Any ASCII character: Decimal (~###) Note: Apeon ignores the escape character ("~") specified in the PowerBuilder painter. In SQL statements, "~" is handled as escape character.
5. Tilde ("~") on the web may not take effect if it is contained in a nested string that is a variable or it is contained in a string whose nested level is up to two.

6.1.3.5 Null values

Supported

NULL means undefined or unknown. It is not the same as an empty string, a zero, or a date of 0000-00-00. For example, NULL is neither 0 nor "" (empty string).

Null in PowerBuilder is directly translated into Null in JavaScript.

Unsupported

Expressions involving Null values may arrive at different values in JavaScript from their values in PowerScript. For example, the expression $A + B$ in PowerScript will return Null if any of A or B is Null. However, in JavaScript, the expression will not return Null even if A or B is Null. In addition, an arithmetic or relational operation involving a null value always returns null in PowerBuilder. As shown in the following table, the return value is not always null in JavaScript:

Table 6.3:

Operation	Return Value	
	PowerBuilder	JavaScript
Assuming SetNull(A), SetNull(B)		
Arithmetic	$A+1$	Null
	$A+B$	Null
	$A*B$	Null
Relational	$A=1$	False
	$A<>1$	True

Operation	Return Value		
	NOT (A=1)	Null	True
	A=A	Null	True
	A=B	Null	True
	IsNull(A=1)	True	False
String concatenation	A+"ABC"	Null	"NULLABC"
	A+B	Null	"NULLNULL"

6.1.3.6 Reserved words

Supported Reserved Words

Table 6.4:

and	call	case	catch	choose	close	commit	connect
constant	continue	create	cursor	declare	delete	describe	disconnect
do	dynamic	else	elseif	end	event	execute	exit
false	fetch	first	for	forward	from	function	global
halt	if	immediate	insert	into	is	last	loop
next	not	of	on	open	or	parent	post
prior	prepare	ref	return	rollback	rpcfunc	select	step
subroutine	super	then	this	to	trigger	true	try
type	until	update	using	while	with	within	selectblob
updateblob							

- The reserved word HALT is supported, but the code after the Halt statement will not be executed in PowerServer Mobile.
- PROCEDURE can only be used in the DECLARE Procedure SQL statement.

Unsupported Reserved Words

Table 6.5:

enumerated	external	finally	goto	indirect	intrinsic	library	system
systemread	systemwrite	throw	throws	Eon	EonApp	EonObject	EonStatic
EonMenu	PB	PBGlobal	PBArray				

6.1.3.7 Pronouns

Supported

The following pronouns in PowerScript are supported:

- Parent - refers to the object that contains the current object.

Using Parent in the script for a visual user object is supported.

- This - refers to the window, user object, menu, application object, or control that owns the current script.
- Super - refer to the immediate ancestor for a descendant object or control.

Unsupported

None.

6.1.3.8 Statement continuation & separation

Supported

- The statement continuation character (&) and syntax are supported. The syntax is as follows:

```
Start of statement &
    more statement &
end of statement
```

- The statement separation character (;) and syntax are supported. The syntax is as follows:

```
Statement1; statement2
```

Note: White Space (Blanks, tabs, formfeeds, and comments) in the statement is supported and treated the same way as in PowerBuilder.

Unsupported

None.

6.1.4 Data types

6.1.4.1 Standard data types

Supported

PowerServer supports all standard PowerBuilder data types as outlined in the table below:

Table 6.6:

Blob	Boolean	Byte	Char or character	Date
DateTime	Decimal or Dec*	Double	Integer or Int	Long
Real	String	Time	UnsignedInteger, UnsignedInt, or UInt	UnsignedLong or ULong

Unsupported

PowerServer does not support LongPtr data type.

Limitations

- In operations that do not contain calculations of precision, values/variables of number data type are handled as values/variables of Decimal data type in PowerServer.
- In operations that contain calculations of precision, values/variables of number data type (such as Decimal, Real, Double) are handled as values/variables of **Double** data type in PowerServer, while they are handled as values/variables of **Decimal** data type in PowerBuilder. The reason for handling in this way is PowerServer takes advantage of JavaScript to calculate the numbers, and JavaScript has only one number data type which is Double. The following table lists the major differences between Decimal and Double.

	Range	Bytes Occupied	Valid Digits	Precision
Decimal	1E-28#7.9228 x 10 ²⁸ -1E-28#-7.9228 x 10 ²⁸	12	28	Precisely represent both the fractional portion and the integer portion.
Double	1.7E-308#1.7E+308 -1.7E-308#-1.7E+308	8	15	Precisely represent the integer portion, but not the fractional portion.

From this table, we can see that

- Decimal can exactly represent all numbers within its range, but the range is smaller.
- Double cannot precisely represent the fractional portion of the number within its range, but the range is larger.

Double occupies only 8 bytes, but it can represent a range much larger than Decimal, mainly because it compromises the precision of the fractional portion. For example: 1234.503 is represented as 1234.5029999999999 in Double.

Therefore, PowerServer will be different from PowerBuilder in the following two areas:

- Precision in mathematical operation

After the mathematical operation, PowerServer produces different results from PowerBuilder. For example,

```
Operation:          9876543219876 - 9876543219875.1 - 0.3 - 0.1
PowerBuilder result: 0.5
PowerServer result: 0.500390625
```

```
Operation:          123456789- 123456788.05 - 0.3 - 0.05
PowerBuilder result: 0.6
PowerServer result: 0.6000000029802321
```

```
Operation:          15918.73 - 15.92 - 0.36 - 15902.45
PowerBuilder result: 0
PowerServer result: -1.8189894035458565e-12
```

- Data range

PowerBuilder by default can support up to 28 digits (including integer portion and fractional portion); while PowerServer can only support up to 15 digits (including integer portion and fractional portion), numbers more than that will get truncated

automatically. For example, the value 1234567890123456 will be returned as 123456789012345 in Apeon.

An exception is that if the number is assigned to a DataWindow, then the decimal precision can be extended from 15 digits to 28 digits; however, you cannot manipulate 28-digit decimal in a DataWindow via Get/Set function and dot notation.

- UnsignedLong (32-bit) and UnsignedInteger (16-bit)

The UnsignedLong (32-bit) and UnsignedInteger (16-bit) data types are handled as Long and Integer. Therefore, the supported range for UnsignedLong is from 0 to 4,294,967,295, and the supported range for UnsignedInteger is from 0 to 65,535.

- You must ensure that the result of a numeric expression will not cause overflow in PowerBuilder. Otherwise the result on the Web is different from that in PowerBuilder.

Decimal in DataWindow

The decimal precision extends to 28 digits in a DataWindow by enabling the 28-digital Decimal option in AEM.

1. Precision

With 28-digit Decimal option, the decimal precision in DataWindow supports up to 28 digits and ranges from -39,614,081,257,132,168,796,771,975,167 to +39,614,081,257,132,168,796,771,975,167.

2. Function Limitations

- 28-digit Decimal supports the following arithmetic operators:
Arithmetic operators: "+", "-", "*", "/"
Relational operators: "=", ">", "<", "<>", ">=", "<="
- 28-digit Decimal is supported in the following DataWindow expressions: Abs, Avg, CumulativeSum, Median, Sign, and Sum.

3. Function Differences

- In the calculation, values/variables of Double or Real data type are handled as values/variables of Decimal data type.
- Constants in an expression will be handled as Double data type if the expression is being dynamically modified and contains relational operators (=, >, <, <>, >=, <=).
- Constants in an expression will be handled as Decimal data type if the expression is being dynamically modified and contains arithmetic operators ("+", "-", "*", "/").
- Appending the letter D in uppercase or lowercase to identify a number as a decimal constant in a DataWindow expression is unsupported in 28-digit decimal.
- Decimal displaying in the DataWindow in PowerServer may differ from that in PowerBuilder. Sometimes Decimal displays in scientific notation in PowerBuilder but displays in standard notation in PowerServer.

- If exceeding 28 digits, the decimal number cannot be correctly displayed on the Web.

6.1.4.2 Any data type

Any data type is fully supported, with the exception as follows:

- Assigning the return value of a String function to an Any variable that has not been previously assigned is unsupported.
- Using Any in the OCX is unsupported.
- Using Any array is only supported in the retrieval argument.
- Using Any array in a dot notation is unsupported. To work around it, you can use Any variable instead of Any array.

For example:

Unsupported code:

```
la_data[] = dw_1.object.data
```

Supported code:

```
any la_data1  
la_data1 = dw_1.object.data
```

6.1.4.3 System object data types

Supported

- Autoinstantiated object data types:
 - NVOs (Class User Object) with their Autoinstantiate property checked;
 - Structure data types;
 - Autoinstantiated system objects: ListViewItem, ListViewItem.
- Nonautoinstantiated object data types:
 - NVOs (Class User Object) with their Autoinstantiate property unchecked;
 - Visual controls (user-defined visual controls and system controls)
 - Nonautoinstantiated system objects, including: Application, DataStore, DataWindowChild, DynamicStagingArea, MDIClient, Menu, Message, Transaction Object, Window.
- PowerObject classes:
 - The supported PowerObject classes include DragObject, DWObject, GraphicObject, PowerObject, and WindowObject.
 - Note: In the Web application, because the declaration of a PowerObject does not specify the object type, the initial value of the variable is NULL. Therefore, when the IsValid function is executed, IsValid returns NULL.

Unsupported

- Among all the supported system objects and system controls, if the data type is a non-global Transaction Object, the data type is not supported.
- If the data type is an unsupported system object or system control, it is unsupported.
- Do not refer to a DataWindow object by using global functions or instance variables. Otherwise the executing result will has error on the Web.

6.1.4.4 Enumerated data types

Supported

All system-defined enumerated data types and values (except JsonItemType) are supported, unless the enumerated data type belongs to an unsupported feature.

Unsupported

- JsonItemType enumerated data type is unsupported.
- Enumerated data types have predefined sets of values. Most of the PowerBuilder enumerated data types have default values. Using the default values of enumerated data types is unsupported.

6.1.4.5 Forced conversion between data types

Supported

1. Forced conversion between string and char data type:

- Assigning strings to char arrays
- Assigning char arrays to strings
- When a string literal is assigned to a char variable, the first character of the string literal is assigned to the variable.

For example:

```
char c = "xyz" //results in the character x  
being assigned to the char variable c.
```

- Special characters (such as new line, form feed, octal, hex, etc.) can be assigned to char variables using string conversion.

For example:

```
char c = "~n"
```

- A char variable assigned to a string variable results in a one-character string.
- Expressions using both strings and char arrays promote the chars to strings before evaluation.

For example:

```
char c
if (c = "x") then
// promotes the contents of c to a string before comparison with the string
"x"
```

- Using chars in PowerScript functions. All PowerScript functions that take strings also take chars, subject to the above described conversion rules.

2. Forced conversion between numeric data types:

- The order of precedence in PowerBuilder regarding numeric data types is supported. The following is the order of precedence from highest to lowest (based on the range of values for each data type):

(High) Double >> Real >> Decimal >> UnsignedLong >> Long >> UnsignedInteger >> Integer (Low)

- If operands in an expression have different data types, the value whose type has lower precedence is converted to the data type with higher precedence.

For example:

```
int x; x=2.4
```

PowerScript result: the value of x is actually 2, because x is defined as an integer. PowerBuilder will cut the digit after the decimal point, then assign 2 to x.

- Unsigned type has precedence over signed. So if one operand is signed and the other is unsigned, both are promoted to the unsigned version of the higher type. For example, if one operator is a Long and another an UnsignedInteger, both are promoted to UnsignedLong.
- Transform other numeric data types recessive to integer or int data. A force conversion from other numeric data to int/long data will arrive at the same value in PowerScript and JavaScript.

Unsupported

- In PowerBuilder, when Time data type is automatically converted into DateTime, the date is always 1900-01-01. Thus, the DataWindow always gets a value of DateTime type: Retrieve(1900-01-01 xx:xx:xx). However, if connected to a JDBC SQL Server, the default date is the current day. In other words, DataWindow gets Retrieve(today xx:xx:xx) when Time data type is automatically converted into DateTime.

Difference

When assigning a numeric number to an Any data, a forced conversion from Any to Integer may arrive at different values in PowerBuilder and on the Web. For example,

```
Integer li_value
any la_value = 3.5
li_value = Integer(la_value) // li_value will be 3 on the Web and 4 in
PowerBuilder.
```

6.1.5 Declarations

6.1.5.1 Variables and constants

Table 6.7:

Variable scope	Supported
	Global, local and instance
	Unsupported
	Shared
Variable declaration syntax	Supported
	<code>datatype { { size } } { { precision } } variablename { = value } {, variablename2 { = value2 } }</code>
	The datatype can be any standard type and system object type. Declaring multiple variables of the same type at one time is supported. For example:
	<code>integer li_a=5, li_b=10</code>
	Naming variables with Non-English characters or numbers.
Unsupported	
When a global decimal variable is declared, or a decimal constant is used to declare a variable, the specification of precision for the global decimal or the decimal constant will be ignored. A variable having the same name as a global variable is or a global function is unsupported. A global variable cannot have the same name as a control in a window. For example, if there is a GroupBox control named as gb_1, the following syntax is unsupported: Global Boolean gb_1. Placing a cursor or stored procedure declaration in the declaration of instance variables is unsupported.	
Global scope operator (::)	Unsupported
	Referring to a global variable by using the global scope operator (::) before the variable name is unsupported; (i.e. The syntax with "::globalname" is unsupported).
Constant type	Supported
	All of the standard data types
Constant declaration syntax	Supported
	<code>CONSTANT datatype constname = value</code>
	The constant can only be public. It is supported if the value is an expression. For example:
	<code>constant date ld_date = today()</code>

Access to Instance Variables	<p>Unsupported</p> <p>When the instance variable is passed by reference to a script and before the execution of this script is finished, if the value of this instance variable is changed, PowerServer cannot capture the changes.</p> <p>When the instance variable is defined in a custom class, it cannot be accessed directly using the class dot notation, for example, the following script will not work on Web: <code>mle_Result.Text = n_cst_test.COMPANYNAME</code>, <code>n_cst_test</code> is the name of the custom class and <code>COMPANYNAME</code> is its instance variable. But you can work it around by creating an object first and then using the object to access the instance variable.</p>
Initial values of variables and constants	<p>Supported</p> <p>When a variable or constant is declared, a default initial value is automatically assigned or an initial value can be specified in the declaration.</p> <p>The initial values of enumerated data types are converted to null in JavaScript. Except for the initial values of enumerated data types and the Any data type, the default initial values in PowerScript are supported.</p> <p>Unsupported</p> <p>There are different rules in PowerBuilder than in JavaScript if specifying an expression as an initial value:</p> <p>It is unsupported to use the instance constants of a non-instantiated object.</p> <p>With the syntax <code>datatype variable = expression</code>, in PowerBuilder, the expression's value is assigned to the variable when the script is compiled (not during execution). In JavaScript, the expression's value is set to the variable during execution.</p> <p>For example, if the declaration is the following:</p> <pre>date d_date = Today()</pre> <p>The value of <code>d_date</code> is the date when the script is compiled in PowerBuilder, and it is the date when the application is running in JavaScript.</p> <p>Therefore, making the declaration of a variable and assigning it with the initial value in separate PowerScript statements is recommended.</p> <p>For example:</p> <pre>date d_date d_date = Today()</pre>

6.1.5.2 Arrays

6.1.5.2.1 Declaration syntax

- The declaration syntax for arrays is supported:

```
{ access } datatype variablename { d1, ..., dn } { = { valuelist } }
```

- The access is always PUBLIC.
- The datatype cannot be an unsupported data type (refer to the [data type](#) section). For decimals, you can specify the precision of the data by including an optional value in brackets after the datatype. For example,

```
decimal {2} ld_prices[ ]
```

- Both variable-size arrays and fixed-size arrays are supported.

```
date ld_birthdays[ ]
```

```
string ls_array[10 ]
```

- Arrays with specified lower bound and upper bound are supported, even if the lower bound is a non-integer or a negative value. If the lower bound is not an integer, it will be rounded off.

```
string ls_name[-10 to 15]
```

- Both single-dimensional and multi-dimensional arrays are supported.

```
integer ls_array[10]
```

```
integer li_score[2,3]
```

- Using TO to change array index values is supported.

```
integer li_staff[100, 0 to 20, - 3 to 5]
```

- Multiple arrays of the same type can be declared simultaneously.

```
string ls_array1[10], ls_array2[5], ls_array3[100]
```

- Assigning an array to an array is unsupported if the array elements of Any data type. For example,

```
any la_1[3], la_2[4]
...
la_1[1] = la_2[4] // Unsupported
```

6.1.5.2.2 Initialization and assignment

Supported

- Each element of an array can be initialized to the same default value as its underlying data type. The default value for string data type elements is ""; the default value for numeric data type element is 0.

- The default length of variable-size arrays is 0, which means that the array does not have any elements. Initializing several elements of variable-size array is supported if the element after the several elements is assigned with a value.

For example:

```
integer li_array []
li_array[8]=8 //The values of li_array[1], ...,
li_array[7] are initialized to the default value 0
```

- Using arraylists to assign values to an array, or assign values to array elements separately, is supported. There can be expression(s) in the arraylist. The result will be the same as in PowerBuilder.

```
li_array[10] = {1,2,3,4,5}
li_array[3,2] = {1,2,3,4,5}
ld_date = {today(),relativeDate(today(),1), 2002-12-31}
```

- Assigning one array to the another is supported. The result will be the same as in PowerBuilder.

- Assigning a variable-size array to another variable-size array.

For example:

```
integer li_test1[]={1,2,3,4,5}
integer li_test2[] = {10,20,21,22,23,24,25,26,27}
...
li_test2=li_test1
```

If the array type is NVO, the assignment operation does not trigger the Constructor event.

- Assigning a fixed-size array to another fixed-size array. It can be between one-dimensional arrays, or between one-dimensional array and a multi-dimensional array, or between multi-dimensional arrays.

For example:

```
integer li_test0[10] = {21,22,23,24,25,26,27,28}
integer li_test1[5] = {1,2,3,4,5}
integer li_test2[2,6] = {11,12,13,14,15,16,17,18}
integer li_test3[2,3,5] = {11,12,13,14,15,16,17,18}

li_test1=li_test0 //assign a one-dimensional array to another one-dimensional array
li_test2=li_test1 //assign a one-dimensional array to a multi-dimensional array
li_test1=li_test2 //assign a two-dimensional array to a one-dimensional array
li_test3=li_test2 //assign a multi-dimensional array to another multi-dimensional array
```

- Assigning a variable-size array to a fixed-size array. For example:

```
integer li_test0[] = {21,22,23,24,25,26,27,28}
integer li_test1[10] = {1,2,3,4,5}
li_test1=li_test0
```

- Assigning a fixed-size array to a variable-size array. For example:

```
integer li_test1[10]={1,2,3,4,5}
integer li_test0[]
li_test0[30] = 100
li_test0=li_test1 //the element number of the
li_test0 will be 10
```

- Reinitializing arrays with the following steps is supported:

1. Declare a dummy array of the same type (never put any values into the array).
2. Simply set originalarray = dummyarray.

This will clear out the original array and cause UpperBound to return the correct value. The same rule applies to PowerBuilder.

- The index of an array can be an expression. For example:

```
for A = 1 to upperbound(ls_array)
ls_array[A,1] = .....
end for
ls_array[integer(ltvi_item.data)] =123
```

Unsupported

- Assigning values between instance variables of structure type is unsupported. For example, the following lines of code are unsupported:

```
Str_a L1
Str_b L2
L1 = L2
```

- Assigning structure arrays to non-structure arrays is unsupported. For example, the following lines of codes are unsupported:

```
str_dwstruct lst_dwstr[]
powerobject po_ary[]
po_ary = lst_dwstr // Unsupported
```

6.1.5.2.3 Passing arrays as arguments

Passing a variable-size or fixed-size array as an argument is supported. For example:

```
uf_convertarray(a) //integer a[]
uf_convertarray(a) //integer a[10]
```

Passing array elements as arguments by reference is unsupported; only the first element is passed and used as the value for all other elements. For example, the following code is unsupported:

```
lnv_bug.of_test( ls_var1, ls_var2, ls_ref[1], ls_ref[2], ls_ref[3], ls_ref[4],
ls_ref[5],
ls_ref[6], ls_ref[7], ls_ref[8], ls_ref[9], ls_ref[10])
```

The following two syntaxes will get the same result for one-dimensional, multi-dimensional, or variable-size arrays:

```
li_upper = upperbound(ls_array) // string ls_array[]
li_upper = upperbound(ls_array []) // string ls_array[]
```

6.1.5.2.4 Complex arrays

Complex arrays

- Structure arrays are supported. The declaration, initialization and assignment of structure arrays comply with the general rules for standard arrays.
- UserObject arrays are supported. Please refer to the [User Object](#) section for details.
- Nested arrays are supported.
- Enumerated type arrays are supported.

6.1.5.2.5 Unsupported

If arguments of a function are arrays, arguments and corresponding actual parameters cannot be of different dimensions.

6.1.5.3 External functions

Supported

- Declaring and calling local external functions
- Declaring and calling global external functions
- Data types of external function arguments can be the following:
Array, Boolean, Blob, Char, Date, DateTime, Double, Decimal, Integer, Long, Real, String, Structure, and Void
- Data types of external function return values can be the following:
Array, Boolean, Blob, Char, Date, DateTime, Double, Decimal, Integer, Long, Real, String, Structure, Unsigned Integer, Unsigned Long, and Void

Unsupported

- Access levels (including Public, Protected, & Private) for local external functions are unsupported.

6.1.6 Operators & expressions

Supported operators and expressions

- Arithmetic operators for numeric data types: +, -, *, /, ^, ++, --, +=, -=, *=, /=, ^=
- Relational operators for all data types: =, >, <, <>, >=, <=, NOT, AND, OR
- The concatenation operator for String data types: +
- DataWindow expressions are supported
- The supported features of operators & expressions are related to [null values](#) and [forced conversion](#).

Precedence of supported operators

These operators will follow the order of precedence listed in the table below:

Table 6.8:

Order	Operator	Purpose
1	()	Grouping
2	+, -, NOT	Unary plus (indicates positive number), unary minus (indicates negative number), Negation
3	^	Exponentiation
4	*, /	Multiplication and division
5	+, -	Addition and subtraction; string concatenation
6	>, <, <=, >=	Relational operators
7	=,	Relational operators
8	AND	Logical and
9	OR	Logical or

Unsupported

Avoid data overflow in the application. If there is data overflow, the Web application handles the data differently from the PowerBuilder application.

6.1.7 Structures

6.1.7.1 Definition and declaration of structures

Defining a structure in the Structure painter or an object painter is supported:

- If the structure is defined in the Structure painter, the structure is global structure, and instances of the structure can be declared in a script or in an object's instance variable.
- If the structure is defined in an object painter, the structure is an object structure, and instances of the structure can only be declared in the object's instance variables and script. An object structure can be defined in any of the following painters: Application, Window, Menu, Function or UserObject.

Declaring global or local instances for global structures is supported. Declaring instance and local instances for object structures is also supported. Several instances for a structure can be declared at one time.

For example:

```
str_emp_data str_emp1, str_emp2
```

Declaring structure arrays is supported.

The arrays can be single or multi-dimensional, variable-sized or fixed sized. The supported features for structure arrays are the same as the supported features for any other arrays.

For example:

```
s_ employee lstr_temp[10] s_ employee lstr_employee[]
```

If an object structure's name is identical to that of a global structure, the object structure has higher priority than the global structure (same as in PowerBuilder).

6.1.7.2 Referring to structure variables

The following syntaxes are supported:

```
structurename.variable //referring to a structure variable by using dot notations
objectname.structurename.variable //referring to a variable of an object
structure
```

For example:

```
str_emp1.emp_lname = "Jones"
This.str_cust1.name
w_customer.str_cust1.name
```

6.1.7.3 Initialization and assignment of structure variables

For each variable of a structure, the variable will be initialized with default values according to its data type. If it is a string type variable, the default value is ""; if it is numeric type variable, the default value is 0.

A structure instance can be assigned when it is declared or after it is declared.

For example:

```
s_ employee lstr_ouremployee1, lstr_outemployee2
s_ employee lstr_youremployee = lstr_ouremployee1
lstr_youremployee = lstr_ouremployee2
```

As in PowerBuilder, when assigning one structure to another, the whole structure is copied so that there are two copies of the structure.

6.1.7.4 Passing structures as arguments

Passing structures as arguments by value, by reference, or as read-only is supported.

6.1.7.5 Complex structures

The following types of complex structures are supported:

- Structures which have one or more of their structure variables being referred to another structure.
- One or more structure variables which are autoinstantiated or non-autoinstantiated objects.

For example:

```
s_ employee lstr_employee[] //the structure
s_ employee is defined with a DataWindow type variable
long ll_employee
lstr_employee[1].adw_employee=w_employee.dw_1
ll_employee=lstr_employee[1].adw_employee.Retrieve()
```

- One or more structure variables which are arrays that have no unsupported features.

6.1.7.6 Unsupported

- Cross-definition of structures. For example, structure A has a structure variable that is structure B, while structure B has a structure variable that is structure A.
- Inheritance of an object structure is unsupported; inheritance of an object structure instances is unsupported as well.
- If one or more member variables in the structure are unsupported data types, Apeon still supports the structure as long as unsupported variables are not used.
- If there are member variables of enumerated data type in the structure, the default values of the enumerated variables are unsupported.
- Comments of the structure are unsupported.

6.1.8 User objects

6.1.8.1 User objects

Important Requirements

- For standard class user objects:
 1. Standard class user objects can only inherit from the following non-visual system objects: DataStore, Transaction Object, DynamicStagingArea and OLEObject.
 2. Non-visual standard class user objects must be defined in a PowerBuilder painter. They can be dynamically created (for example, by using the CREATE statement).
 3. If a non-visual object is a local variable, the Destructor event in the non-visual object cannot be triggered unless there is a Destroy statement for the non-visual object as well.
- For custom class user objects:
 1. Non-visual custom class user objects must be defined in PowerBuilder painter. They can be dynamically created (for example, by using the CREATE statement).
 2. If a non-visual object is a local variable, the Destructor event in the non-visual object cannot be triggered unless there is a Destroy statement for the non-visual object as well.
- For standard and custom visual user objects:
 1. Must be defined in PowerBuilder painter.
 2. The SetFocus function is not supported for custom visual user objects, but is supported for standard visual user objects.
 3. Standard Visual Object is an extension of the visual system object (control), and it is used to customize the function of the visual system object (control). For more details, please refer to [System Objects](#) and [System Controls](#).

Supported

- Custom class user objects
- Custom visual user objects
- Standard class user objects
- Standard visual user objects

Unsupported

1. External visual user objects

In the PowerBuilder application, the Destructor event sequence for a user object will be triggered in accordance with the Control[] property of the user object. In the Web application, the Destructor event sequence is unsupported.

2. Nonvisual objects (Custom Class Objects and Standard Class Objects)

To insert nonvisual object(s) between objects (window, user object, NVO, application), you can select any items on the *Insert menu* / *Object menu* of the PowerBuilder painter. However, PowerServer does not support this.

6.1.8.2 Autoinstantiated NVO

- Declaring an autoinstantiated NVO
 1. Declaring an autoinstantiated user object creates an instance of that object (just like a structure), and the Constructor events are triggered for the instance variables.
 2. If an instance variable contains an autoinstantiated NVO(b) and the Constructor event is triggered for the instance variable, an instance of NVO(b) is automatically created, and the Constructor events are triggered for the instance variables of NVO(b).
- Assignment for autoinstantiated NVO
 1. When an autoinstantiated object is assigned to another autoinstantiated object, the whole object is copied to the second variable.

For example:

```
n_cst_string lnv_string1, lnv_string2  
  
lnv_string2 = lnv_string1 //lnv_string2 is a  
copy of lnv_string 1
```

2. Assigning a NonVisualObject object to an autoinstantiated NVO or a NonVisualObject object is **unsupported** (please note that NonVisualObject is a system object and it is different from an NVO (non visual user object)).

For example, the following script is unsupported:

```
NonVisualObject lnv_test //lnv_test is a NonVisualObject object  
  
n_cst_string lnv_string //n_cst_string is an autoinstantiated NVO  
  
lnv_test = lnv_string //unsupported
```


- Defining autoinstantiated NVO

The following can be included in the definition of an autoinstantiated NVO:

1. Instance variable. The instance variable can be an autoinstantiated NVO, an object, or have the same name as a window instance variable
2. System function or user defined function or object function
3. Constructor event, or object event or user-defined event
4. Using a Destructor event in the definition of an autoinstantiated NVO is unsupported.

- Autoinstantiated NVO array

1. If the autoinstantiated NVO array is a fixed-size array and the array is declared, instances of each NVO are created, the instance variables of each NVO are instantiated, and the Constructor event is triggered for each instance variable. For example:

```
n_cst_string lnv_string[10]
```

2. If the autoinstantiated NVO array is variable-size array, the NVO instances are not created when the array is declared. When an array element is named (an NVO), the instances of the element and the foregoing elements are created, the instance variables of each NVO are instantiated, and the Constructor event is triggered for each instance variable.

For example:

```
n_cst_string lnv_string[]
lnv_string[10].is_source = ls_model
```

- Autoinstantiated NVO as a structure member

When the structure is declared, an instance of the autoinstantiated NVO is created. When the structure is called, the Constructor event is not triggered for the NVO. In PowerBuilder, the Constructor event is triggered when the NVO is first used.

- Inheritance

Inheritance is supported if the ancestor of an autoinstantiated NVO is a nonautoinstantiated NVO.

6.1.8.3 Nonautoinstantiated NVO

- Declaring a non-autoinstantiated NVO

1. To use a non-autoinstantiated NVO, you will have to declare a variable of the user object type and create an instance of it using the CREATE statement. Declaring an object variable declares an object reference.

For example:

```
n_base lnv_base //n_base is a nonautoinstantiated NVO
lnv_base = Create n_base //Create an instance of n_base
```

Note: PowerBuilder also supports using a non-autoinstantiated NVO by directly placing the non-autoinstantiated NVO in a window or user object (using the Insert menu or the drag-and-drop technique so it can be listed in Non-Visual Object List view), however, the instance created by this method is unsupported by PowerServer.

2. When the object instance is created, the instance variables of the NVO are instantiated, and the Constructor event is triggered for each instance variable.
3. Instantiating an ancestor variable with an instance of one of its descendants is supported.

For example:

```
n_base lnv_base //n_base is a nonautoinstantiated NVO
lnv_base = Create using "n_cst_sqlspy" //n_cst_sqlspy is a descendant of
n_base
```

- Assignment for nonautoinstantiated NVO

1. When a non-autoinstantiated object is assigned to another non-autoinstantiated object, a reference to the object instance is copied. Only one copy of the object exists.

For example:

```
n_cst_string lnv_string1, lnv_string2
lnv_string2 = lnv_string1 //Both point to same object instance
```

2. Unlike autoinstantiated NVOs, assigning a NonVisualObject object to a non-autoinstantiated NVO or assign a non-autoinstantiated NVO to a NonVisualObject object is supported.

For example, the following script is supported:

```
NonVisualObject lnv_test //lnv_test is a NonVisualObject object
n_cst_string lnv_string2 //n_cst_string is a non-autoinstantiated NVO
lnv_test = lnv_string2 //supported
```

- Defining non-autoinstantiated NVOs

The following can be included in the definition of a non-autoinstantiated NVO:

1. Instance variables. An instance variable can be an autoinstantiated NVO, an object, or have the same name as a window instance variable
2. System, user defined, or object functions
3. Constructor, Destructor, object, and user-defined events. The Destructor event cannot be triggered unless there is a Destroy statement for the object as well.

- Non-autoinstantiated NVO array

There can be fixed-size or variable size non-autoinstantiated NVO arrays. When the array is declared, an instance of the object is not created. A non-autoinstantiated NVO will only be created when there is a CREATE statement for the NVO.

- Non-autoinstantiated NVO as a structure member

1. Defining a non-autoinstantiated NVO in a structure is supported.

For example:

```
global type str_model from structure
string s_emplid
Date ld_inputday
n_cst_base lnv_base
end type
```

2. When the structure is declared, an instance of the non-autoinstantiated NVO is not created. A non-autoinstantiated NVO will only be created when there is a CREATE statement for the NVO.

6.1.9 Calling functions and events

6.1.9.1 Syntax for calling functions and events

Supported

- The syntax used to call all PowerBuilder functions and events:

```
{objectname.} {type} {calltype} {when} name
({argumentlist})
```

If the *calltype* argument is DYNAMIC, it is unsupported to specify a reference argument in the argumentlist.

- The syntax used to call functions and events in an object's ancestor:

```
{objectname.} ancestorclass ::{type}
{when} name ({argumentlist})
```

- If the function name is not qualified with an object or a control, PowerBuilder searches for the function and executes the first one it finds that matches the name and arguments. This is supported in PowerServer.

Unsupported

- Referring to a global function by using the global scope operator (::) before the function name is unsupported.

6.1.9.2 Triggering & Posting

Table 6.9:

Triggering	Supported
	<ul style="list-style-type: none"> • Triggering for functions • Triggering for events
	Unsupported
	For application and message objects, triggering for functions and events are unsupported.

Posting	Supported
	<ul style="list-style-type: none"> • Posting for functions • Posting for events • Posting function B that is called inside function A. For example: <pre>Function A () { Post Function B () //unsupported to post function B }</pre>
	Unsupported
	Posting a function containing reference arguments, which is a local variable is unsupported. Please use the instance variable to replace the local variable to work around this unsupported feature.
Post function	Supported
	<p>There are three POST syntax supported, and two of them are supported with limitations.</p> <ul style="list-style-type: none"> • Post Close(window) • Post Open(window) <p>Limitations: the window argument cannot be an array variable. For example, the following script is unsupported:</p> <pre>//Unsupported window winname[2] Post open(winname[1],....) - Post open(windowvariable)</pre> <ul style="list-style-type: none"> • Post user_function() <p>Limitations: The reference argument cannot be a local variable. For example, the following script is unsupported:</p> <pre>//Unsupported Integer gf_string (ref string as_parm1) Post gf_String(ls_Parm) // ls_parm is a local variable.</pre>

6.1.9.3 Static & dynamic calls

Supported

- Static calls to functions
- Static calls to events
- Dynamic calls to functions
- Dynamic calls to events

Unsupported

- Dynamic calling for overloaded functions is unsupported.
- Dynamically calling a function that has an argument passed by reference is unsupported .
- If a function is dynamically called, its return value cannot be passed as an argument of another function.
- Nested call of more than one layer dynamic code is unsupported. For example:

```
ll_row2 = invo_test.dynamic of_dynamic1
(invo_test.dynamic of_dynamic2(ll_row))
```

The workaround is to execute the dynamic nested call separately. The above example should be modified as below:

```
tt = invo_test.dynamic of_dynamic2(ll_row)
ll_row2 = invo_test.dynamic of_dynamic1(tt);
```

6.1.9.4 Overloading, overriding, and extending functions and events

Supported

- Function overriding is supported.
- Extending and overriding events are supported.

Unsupported

- Overloading system functions is unsupported.
- Dynamic calling for overloaded functions is unsupported.
- Overloading a function that has a dot notation as an argument is unsupported. For example, overloading the following function is unsupported:

```
wf_getname(dw_1.object.s_id[1])
```

- Using the local variable AncestorReturnValue in an event of a descendant object is unsupported, unless the event of the descendant object is an extended event from the ancestor object.
- The following scenario is unsupported:

In object A (parent object), function g() calls function f(type1 arg 1).

```
g()
{
f(type1 arg1);
}
```

In object B (child object), function f(type2 arg2) is the overloading function of function f(type1 arg 1), and object B inherits function g() from object A.

- Object type of passed parameter must exactly match with the declaration of function overloading. For example, in the following overloading function, the object type of the third parameter is **n_tr**:

```
public function integer of_register (string as_id, string as_dwobjectname, n_tr
  atr_obj, boolean ab_initialload)
public function integer of_register (string as_id, string as_dwobjectname, n_tr
  atr_obj, any aa_args[20])
public function integer of_register (string as_id, string as_dwobjectname, n_tr
  atr_obj, any aa_args[20], boolean ab_initialload)
```

In the following script that calls the above function, if the third parameter *sqlca* is not **n_tr**, for example, it is an ancestor of **n_tr** or a descendant of **n_tr**, Apeon might call the wrong function.

```
gmv_app.inv_dwcache.of_register('inventory_header','d_inventory_data', sqlca,
  la_args)
```

6.1.9.5 Passing arguments to functions and events

Passing arguments

There are three ways to pass arguments to functions and events:

- By value
- By reference
- Read-only

Arguments can be passed with one **limitation** that each function or event can have a maximum of 20 arguments. If the number of arguments exceeds 20, the arguments after the 20th argument will be invalid.

Unsupported

- If both function A and function B have an argument passed by reference, calling function A that has one argument calling to function B, while the argument (that is passed by reference) in the two functions uses the same variable, is unsupported.

For example:

Supported syntax:

```
f(int a, ref int b); g(ref int a)
```

Unsupported syntax:

```
f(g(a),a);
```

- Function A has two arguments passed by reference. It is unsupported for the two arguments to use the same variable.

For example:

Unsupported syntax:

```
f(a,a) //f(ref int a,ref int b);
```

- Passing a property dot notation as the function argument is unsupported if the property refers to an object, however, this can be worked around.

For example:

Unsupported syntax:

```
lvn_security.Of_setmenuright(this.MENUID)
```

Workaround:

```
menu m_1=this.MENUID
lvn_security.Of_setmenuright(m_1)
```

- Passing an argument that is an object property by reference is unsupported.

Unsupported example:

```
/*Define a function of display()*/
public Function string of_display(ref string str_data)
.....//The code in the function
return str_data
end function
/*Call to the function in the Clicked event of a CommandButton control*/
string ls_string1
ls_string1 = of_display(this.text)
```

6.1.9.6 Using return values of functions and events

Supported

To use the return value, assign it to a variable of the appropriate data type or call the function where you can use a value of that data type:

- Return values for built-in PowerScript functions
- User-defined functions or events that have return values
- Return values for system events
- User-defined events that have return values
- The function has parameters of standard data type passed by reference and the return value is used as a condition in RETURN, IF ... THEN, CHOOSE...ASE, or DO ... LOOP statements.
- The function has parameters of object data type passed by value and the return value is used as a condition in RETURN, IF ... THEN, CHOOSE...ASE, or DO ... LOOP statements.
- The return value of one function is used as the parameter of another function, for example, func1(func2()).

To use cascaded call and return values:

- It is supported to get/set the property of an object that is the return value of a function:

Syntax:

```
function.property
```

For example:

```
ParentWindow( ).Enabled = TRUE
```

- It is supported to call the function of an object that is the return value of a function.

Syntax:

```
function1.function2
```

For example:

```
ParentWindow( ).Hide( )  
Ls_test = String(m_main.GetParent( ).ClassName  
( )
```

Limitations of using cascaded call and return values:

- It is unsupported to use the DYNAMIC keyword.
- Except the first call in the chain of cascaded calls, it is unsupported to use reference arguments.

6.1.10 Document Interface

Important Requirements

The following are limitations for using MDI and SDI:

- When a sheet window is opened within MDI, the toolbar of the sheet window will be added as a whole new row below the toolbar of the MDI window. (This is more limited than in PowerBuilder, where you can choose for the sheet toolbar to be added after the MDI toolbar, on the left/right of the screen, to be floating, etc.)
- PowerServer supports the toolbar if the window is opened by opensheet () function, but please don't use open() function. And the opensheet toolbar will be displayed right under the toolbar of the MDI window.
- SDI can have only one menu and one toolbar.

Supported

- Both MDI and SDI are supported, and both multiple MDI windows and multiple MDI frames are supported.
- An MDI window can have its menu and toolbar, and every sheet window can have its own menu and toolbar, exactly like in PowerBuilder.
- When a sheet window is opened within MDI, the menu of the sheet window will replace the menu of the MDI window. (This is called a menu switch, just as it is in PowerBuilder).
- Appending the names of open sheets (Window list) to a menu item is supported.

6.1.11 Era setting (JP version only)

PowerBuilder and PowerServer have the following differences when dealing with the era settings for date format.

- In the Japanese version 2017 and 2019 R2, PowerBuilder always reads the Windows registry to display the date format. The era settings in the GENGOJPN.INI file will be ignored.

The Windows registry key is Computer\HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Control\Nls\Calendars\Japanese\Eras.

- In the Japanese version 2017 MR and 2019 MR, PowerServer Web (Web only, no Mobile) can also read the Windows registry to display the date format. However, if the GENGOJPN.INI file is detected, then the era settings in GENGOJPN.INI will take precedence over the settings in the Windows registry.

The priority for era settings to take effect in PowerServer Web is: INI file > Windows registry > hard code; the priority in PowerServer Mobile is: INI file > hard code.

- For PowerServer Web/Mobile to support the era setting in GENGOJPN.INI, the GENGOJPN.INI file will need to be deployed to PowerServer via the PowerServer Toolkit first.

How the INI file settings are interpreted in PowerServer Web/Mobile:

- Every era definition must contains four parts, respectively: era, abbreviation, start date, and end date (for example, ##,NN,20190501,21171230)
- The setting of the last era can be ended with or without “;”, but cannot be ended with some other special character.
- Actually the program will ignore the setting of the end date, it would use the start date minus one of the next era as the end date of the current era. The end date of the last era will be taken as 99991231. And to be compatible with the earlier versions, the end date must be specified in the required format.

How the registry settings are interpreted in PowerServer Web:

- Since there is no end date for each era, the start date minus one of the next era will be taken as the end date of the current era (such as 99991231). This is the same behavior as PowerBuilder.
- The end of date of the last era will be 99991231. This is different from PowerBuilder, because in PowerBuilder, the end date of the last era is the last day in the start year of the last era plus 99 years. For example, if the start date of the last era is 20190501, the end date of the era ## is 21171231. Therefore, the date 20180101 will be shown as “??” in PowerBuilder, but shown as ## in PowerServer Web.

6.2 PowerScript statements

Supported

The following table shows the supported PowerScript statements with examples:

Table 6.10:

Statement	Examples
Assignment	<pre>a = b + 2</pre> <p>Note: There must not be any space between the following operators: ++, --, +=, -=, *=, /=, ^=.</p>
CALL	<p>CALL ancestorobject {controlname}::event</p> <p>Call super::<i>eventname</i></p> <p>Example:</p> <pre>Call super::clicked</pre> <p>Note: It is supported to use the local variable AncestorReturnValue in an event of a descendant object, if the AncestorReturnValue is generated in a Call Super statement.</p> <p>Call windowname:: eventname</p> <p>Example:</p> <pre>Call w_parent::ue_ok</pre> <p>Call windowname`Controlname:: eventname</p> <p>Example:</p> <pre>Call w_parent`dw_1::ue_retrieve</pre>
CHOOSE...CASE	<pre>CHOOSE CASE testexpression CASE expressionlist statementblock ... { CASE expressionlist statementblock CASE expressionlist statementblock } CASE ELSE statementblock } END CHOOSE</pre> <p>Notes: Expressionlist can be one of the following expressions:</p> <ol style="list-style-type: none"> 1. A single value 2. A list of values separated by commas (such as 2, 4, 6, 8) 3. A TO clause (such as 1 TO 30) 4. IS followed by a relational operator and comparison value (such as IS>5) 5. Functions 6. Any combination of the above with an implied OR between expressions (such as 1, 3, 5, 7, 9, 27 TO 33, IS >42)

CONTINUE	<pre>integer A=1, B=1 DO WHILE A < 10 A ++ IF A < 3 THEN CONTINUE B+=A LOOP</pre>
CREATE	<p>CREATE</p> <p>Support creating object instances for all objects except for PowerObject object, GraphicObject object, WindowObject object, DragObject object, DrawObject object, Function_object object and SystemFunctions object.</p> <p>CREATE USING</p> <p>Support dynamically creating object instances except for:</p> <ol style="list-style-type: none"> 1. Dynamically creating PowerObject object, GraphicObject object, WindowObject object, DragObject object, DrawObject object, Function_object object and SystemFunctions object. <p>Example:</p> <pre>UserObject luo_1 luo_1 = create using "PowerObject"</pre> <ol style="list-style-type: none"> 2. Dynamically creating Transaction object. <p>Example:</p> <pre>lds_main = Create using "Transaction"</pre> <ol style="list-style-type: none"> 3. Dynamically creating object instances for nested objects. <p>Example:</p> <pre>w_main'cb_1 lcb lcb = Create using "w_main'cb_1"</pre>
DESTROY	<p>DESTROY DBTrans</p> <p>Supported:</p> <ol style="list-style-type: none"> 1. The Destroy statement in non-visual system objects (DataStore, DynamicStagingArea, and Transaction Object) and non_visual user objects is supported. <p>Example:</p> <pre>Destroy Inv_string // Inv_string = create n_cst_string</pre> <ol style="list-style-type: none"> 2. The Destroy statement in visual controls and visual user objects is supported. <p>Example:</p> <pre>commandbutton lcb_1 lcb_1 = create using "cb_2" Destroy lcb_1</pre>

	<p>Note: As one of the best development practices, it is strongly recommended that you use DESTROY statement.</p>
DO...LOOP	<p>Four formats of Do...Loop:</p> <p>Do...Until</p> <pre>DO UNTIL a > 15 a = (a + 1) * b LOOP</pre> <p>Do...While</p> <pre>Integer a = 1, b = 1 DO WHILE a <= 15 a = (a + 1) * b LOOP</pre> <p>Loop...Until</p> <pre>Integer a = 1, b = 1 DO a = (a + 1) * b LOOP UNTIL a > 15</pre> <p>Loop...While</p> <pre>Integer a = 1, b = 1 DO a = (a + 1) * b LOOP WHILE a <= 15</pre> <p>Nesting of Do...Loop statement.</p> <p>Example:</p> <pre>Int li_array[100,50,200] FOR i = 1 to 100 FOR j = 1 to 50 FOR k = 1 to 200 ll_array[i,j,k]= i + j + k NEXT NEXT NEXT</pre> <p>Nesting of Do...Loop statement and For...Next statement.</p> <p>Example:</p> <pre>FOR ll_i = 5 to 25 DO UNTIL ll_j > 15 ll_j ++ LOOP ll_j = 1 NEXT</pre>
EXIT	<pre>DO WHILE a < 10 a ++ IF a > 3 THEN EXIT b += a LOOP</pre>
FOR...NEXT	<pre>Integer a=1</pre>

	<pre>Integer start, end, increment ... For n=start TO end STEP increment a*=n Next</pre> <p>1. End the FOR loop with the keywords END FOR instead of NEXT.</p> <p>Example:</p> <pre>FOR ll_i = 5 to 25 ll_j = ll_j+10 END FOR</pre> <p>2. Using a positive or negative variable for the step increment.</p> <p>Example:</p> <pre>FOR N = 5 TO 25 STEP 5 A = A+10 NEXT</pre> <p>3. Nesting of the For...Next statements or For ... Next statement with Do ... Loop statement.</p> <p>Example:</p> <pre>Int li_array[100,50,200] FOR i = 1 to 100 FOR j = 1 to 50 FOR k = 1 to 200 ll_array[i,j,k]= i + j + k NEXT NEXT NEXT</pre>
HALT	<pre>IF sle_password.Text <> CorrectPassword THEN HALT CLOSE</pre> <p>Notes:</p> <ol style="list-style-type: none"> 1. The code following the Halt statement will not be executed in PowerServer Mobile. For example, in the following script, "close(parent)" will be ignored in the Apeon conversion process. <pre>Halt //supported Close(parent) //this will be ignored</pre> <ol style="list-style-type: none"> 2. The reserved word HALT is supported. 3. If HALT CLOSE statement is invoked in a nested call, Web application won't be closed immediately at the execution of the statement. Instead Web application will be closed when the nest call is completed executed.
IF...THEN	<pre>IF num >= 1 THEN result = 1 ELSE result = 0 IF num >= 1 then result = 1 ELSEIF num <= -1 then result = -1</pre>

	<pre>ELSE result = 0 END IF</pre>
RETURN	<pre>RETURN 0</pre>

Unsupported

The following statements are unsupported:

- GOTO
- THROW
- THROWS
- TRY...CATCH...FINALLY...END TRY

6.3 Using PowerBuilder Source Editor

A script that is manually added in the Edit Source window will not be converted to the Web. For example, the following script that follows "on w_1.create"; in the Edit Source window will have no effect: `MessageBox ("Welcome", "Welcome to Appeon!")`.

For a descendant object, it is unsupported to declare the event of its ancestor object in the Edit Source window.

7 Embedded SQL

7.1 Database server and data types

Supported

The supported database servers and data types are listed in the table below:

Table 7.1:

MS SQL Server	Supported		
	binary*	bit	bigint
	char	date	datetime
	datetime2	datetimeoffset(7)	decimal
	float	int	image*
	money	nchar	numeric
	ntext	nvarchar	nvarchar(MAX)
	real	small datetime	small money
	smallint	sql_variant	text
	tinyint	timestamp	uniqueidentifier
	varbinary*	varbinary(MAX)	varchar
	varchar(MAX)	xml	
	You can only use the default value for the user_quoted_identifier property.		
Unsupported			
The data types that are marked with a "*" symbol can only be used in SELECTBLOB and UPDATEBLOB SQL statements.			
binary & varbinary			
On the Web, the data length of the two types can exceed 255 digits. Digits that exceed 255 can either be read from or updated to the database by SELECTBLOB or UPDATEBLOB statement.			
SAP ASE Server	Supported		
	binary	bit	char
	date	datetime	decimal
	float	Image	int
	money	nchar	nvarchar
	numeric	real	smalldatetime
	smallint	smallmoney	text
	timestamp	tinyint	varbinary
	varchar		
	Unsupported		
In a column, data of timestamp type cannot be displayed correctly.			

	Timestamp data type is unsupported when dynamically creating DataWindows.		
SAP SQL Anywhere Server	Supported		
	binary*	bit	bigint
	char	date	decimal
	double	float	integer
	long_binary*	long_varchar	money
	numeric	smallint	smallmoney
	time	timestamp	tinyint
	unsigned_bigint	unsigned_int	unsigned_smallint
	varbinary*	varchar	
	Unsupported		
The data types that are marked with a "*" symbol can only be used in SELECTBLOB and UPDATEBLOB SQL statements.			
Oracle Server	Supported		
	blob*	char	character
	clob*	date	dec
	decimal	float	integer
	interval_day_to_second	interval_year_to_month	long
	nchar	nvarchar2	number
	numeric	raw*	real
	ref cursor	rowid*	timestamp
	timestampwithtimezone	timestampwithlocaltimezone	zoneid*
	varchar	varchar2	
Unsupported			
The data types that are marked with a "*" symbol can only be used in SELECTBLOB and UPDATEBLOB SQL statements.			
IBM DB2 Server	Supported		
	bigint	blob*	char
	clob*	date	dbclob*
	decimal	double	graphic
	integer	real	smallint
	time	timestamp	varchar
	vargraphic		
Unsupported			
The data types that are marked with a "*" symbol can only be used in SELECTBLOB and UPDATEBLOB SQL statements.			

	Use Double variables instead of Real variables when obtaining float data from the database.		
SAP IQ	Supported		
	bigint	binary*	blob*
	char	clob	date
	datetime	decimal	float
	hs_blockmapidentity*	hs_vdoidentity*	hs_vdorecid*
	image	int	long_binary*
	long_varchar	money	numeric
	oldbit	real	rowid
	smalldatetime	smallint	sysname
	time	timestamp	text
	tinyint	uniqueidentifier*	uniqueidentifierstr
	unsigned bigint	unsigned int	unsigned smallint
	varbinary*	varchar	xact_id
	xml		
	Unsupported		
The data types that are marked with a "*" symbol can only be used in SELECTBLOB and UPDATEBLOB SQL statements.			
Informix	Supported		
	blob*	boolean	byte*
	char	clob*	date
	datetime	decimal	float
	int8	integer	interval
	lvarchar	money	nchar
	nvarchar	real	serial
	serial8	smallint	text
	time	varchar	
	Unsupported		
The data types that are marked with a "*" symbol can only be used in SELECTBLOB and UPDATEBLOB SQL statements. (* .NET only) The NumericScale attribute is unsupported.			
MySQL	Supported		
	BigInt	Binary(M)	Bit
	Blob	Char(M)	Date
	Date Time	Decimal(M,D)	Double(M,D)
	Float(M,D)	Int	LongBlob

	Long Text	MediumBlob	MediumInt
	Medium Text	SmallInt	Text
	TimeStamp	TinyBlob	TinyInt
	Tiny Text	VarBinary(M)	VarChar(M)
	Unsupported		
	Enum	Geometry	GeometryCollection
	LineString	MultiLineString	MultiPoint
	MultiPolygon	Point	Polygon
	Set	Time	Year
PostgreSQL	Supported		
	bigint	bigserial	bit [(n)]
	bit varying [(n)]	boolean	character varying [(n)]
	character [(n)]	date	double precision
	inet	integer	money
	numeric [(p, s)]	real	smallint
	text	timestamp [(p)] [without time zone]	timestamp [(p)] with time zone
	uuid		
	Unsupported		
	box	bytea	cidr
	circle	interval [(p)]	line
	lseg	macaddr	path
	point	polygon	serial
	time [(p)] [without time zone]	time [(p)] with time zone	tsquery
	tsvector	txid_snapshot	xml

7.2 Operators

Supported

The following are the SQL operators that can be used:

Table 7.2:

=	<	>	<=	>=	<>	between	exists
in	like	not between	not exists	not in	not like	is	is not
=all	!=all	<all	>all	<=all	>=all	=any	!=any
<any	>any	<=any	>=any	!=any		~	

Note: Concatenation operator (+) for String datatype is supported.

Unsupported

"^" is unsupported.

7.3 Transaction management statements

Supported

Table 7.3:

Statement	Examples
COMMIT	Commit
CONNECT	Connect
DISCONNECT	Disconnect
RollBack	Rollback
Savepoint*	Note: this statement is only supported in Oracle database.

7.4 Non-cursor statements

Requirements

1. For SQL Server database, PowerServer cannot recognize SQL statements with double quotation marks if the SET QUOTED_IDENTIFIER is OFF.
2. For SQL Server and ASE database with JDBC driver, use "SET NOCOUNT ON" before the calls to SQL statements when you create a trigger object. Otherwise, update to the database on the Web may fail with an error "Failed to update database due to java.sql.SQLException... cannot insert the value NULL..." .
3. In SQL statements, if table names and column names are in double quotation mark, string constant should be quoted as single quotation marks.

Supported

Apeon currently supports six types of non-cursor SQL statements:

Table 7.4:

DELETE	INSERT	SELECT
SELECTBLOB	UPDATE	UPDATEBLOB

The following table provides more information for supported non-cursor SQL statements:

Table 7.5:

Type	Supported Details	
SELECT	Retrieval list (SELECT clause)	<p>The retrieval list can be column names, IDs, or aliases. The column names can be expressed as characters (for example, "empid") or as dot notation (for example, emp.empid).</p> <p>Example:</p> <pre>select s_emplid, s_emplname //Column names select e.emp_lname //Table aliases</pre>

Type	Supported Details
	<pre data-bbox="504 241 1082 297">select s_emplid + s_emplname as emplinfo //Column (expression) aliases</pre> <p data-bbox="504 327 1374 432">The retrieval list can be expressions that are functions, sub queries, arithmetic operators or any combination of columns, constants, and expressions.</p> <p data-bbox="504 456 627 488">Example:</p> <pre data-bbox="504 517 1123 685">select s_emplid + s_emplname as emplinfo //Concatenation of strings select substring(s_emplid + s_emplname,1,3) as emplinfo,getdate() //Function expression select f_salary / 12 as f_persalary //Operation expression</pre> <p data-bbox="504 714 1390 779">The retrieval list can be an asterisk that represents all columns in one table.</p> <p data-bbox="504 804 627 835">Example:</p> <pre data-bbox="504 864 1166 891">select * //Asterisk symbol representing all columns.</pre> <p data-bbox="504 916 1337 1021">Web Enhancement: It is supported to use variable in the Select statement. For example, the following syntax is supported on the Web:</p> <pre data-bbox="504 1055 1110 1223">string ls_colname="emp_name" string ls_value select :ls_t_employee where id = 1:colname into:ls_value from t_employee where id = 1;</pre>
FROM clause	<p data-bbox="504 1238 1374 1344">The FROM clause can contain a single table (view) or multiple tables (views). The table can be expressed using table name or table alias.</p> <p data-bbox="504 1368 627 1400">Example:</p> <pre data-bbox="504 1429 911 1485">from Employee, viewbonus from Employee a, viewbonus b</pre> <p data-bbox="504 1514 991 1545">The tables can be locked or unlocked.</p>
WHERE clause	<p data-bbox="504 1565 1198 1597">The WHERE clause can contain any of the following:</p> <ul data-bbox="504 1632 1337 2020" style="list-style-type: none"> <li data-bbox="504 1632 802 1664">• Retrieval parameters <li data-bbox="504 1700 1209 1731">• Standard comparison operators (=, >, <, <>, >=, <=) <li data-bbox="504 1767 1114 1798">• Standard logical operators (NOT, AND, OR) <li data-bbox="504 1834 1337 1865">• Special operators (UNION, BETWEEN, IN, LIKE, IS NULL) <li data-bbox="504 1901 730 1933">• Join conditions <li data-bbox="504 1968 1302 2000">• Special characters ('&', '~', '[]', '!~!', '^', '!~@~~~~!', etc.)

Type		Supported Details
	HAVING clause	Supported
	GROUP BY clause	Supported
	COMPUTED clause	Supported
	FOR UPDATE clause	Supported
	Variables list (INTO statement)	The Variables list can be variable(s) or reference(s) to a control property. Example: <i>into: ls_emplid into: sle_1.Text</i>
	Example	<pre>SELECT f1, f2, ..., fn into :v1, :v2, ..., :vn FROM table WHERE w1 = :p1 and w2 = :p2.prop and/or ... and/or wn = :pn</pre>
SELECT BLOB	SELECT BLOB INTO clause	Supported On the Web, if the result set of SELECTBLOB contains several rows, the first row is returned and the return value of SQLNRows is 1 for every supported DBMS. This is different from PowerBuilder. SelectBlob statement may return "" (empty string) on the Web when it returns NULL in PowerBuilder. The difference is caused by the JDBC driver.
	FROM clause	Supported
	WHERE clause	Supported
	Example	<pre>Blob Emp_id_pic SELECTBLOB Emp_pic INTO :Emp_id_pic FROM Employee WHERE Employee.Emp_Num = 100 USING Emp_tran ; p_1.SetPicture(Emp_id_pic)</pre>
INSERT	INSERT INTO clause	The INSERT INTO clause can be either table (view) name(s) or a column list.
	VALUES clause	The VALUES clause can contain any of the following: <ul style="list-style-type: none"> • All supported data types in allowed scope • Space, special characters ('<>', '!', '@', '#', '\$', '%', '^', '&', '*') • Initial value, a single record, multiple records (up to 500)
	Validation	The validation will be automatically done by the system.

Type		Supported Details
	Example	<pre>INSERT INTO table VALUES("v1", 12.3, :p1, :p2, ..., :pn)</pre>
UPDATE	SET clause	The SET clause can update a single record or multiple records (up to 200). It can contain special characters including '<>', '!', '@', '#', '\$', '%', '^', '&', '*'.
	Example	<pre>UPDATE table SET f1 = :p1, f2 = :p2 WHERE w1 = :p3 and/or ... wn = :pn</pre>
UPDATE BLOB	WHERE clause	Supported If data is updated by UPDATEBLOB statements without a WHERE clause, on the Web all the data will be updated to the database, and the return value of SQLNRows is equal to the number of rows that you have updated. On the Web, the <i>BlobVariable</i> could be NULL.
	Example	<pre>UPDATEBLOB Employee SET emp_pic = :Emp_id_pic WHERE Emp_num = 100 USING Emp_tran ;</pre>
DELETE	DELETE FROM clause	The FROM clause can contain a single table (view) or multiple tables (views). The table can be expressed using a table name or table alias. The DELETE statement can delete a single record or multiple records.
	WHERE clause	The WHERE clause can contain any of the following: <ul style="list-style-type: none"> • Retrieval parameters • Standard comparison operators (=, >, <, <>, >=, <=) • Standard logical operators (NOT, AND, OR) • Special operators (UNION, BETWEEN, IN, LIKE, IS NULL) • Join conditions • Special characters ('&', '~', '[]', '!~!', '```', '!~@~~~~!', etc.)
	Example	<pre>DELETE FROM table WHERE f1 = '1' and f2 = :p1 ... fn = :pn</pre>

Unsupported

- Updateblob statements cannot update multiple blob columns at one time.
- It is unsupported to parenthesize SELECT statements when using EXCEPT ALL or INTERSECT in SQL statements for DB2 database.

Unsupported example:

```
(SELECT DEP_ID FROM PUB_T_DEPARTMENT) EXCEPT ALL (SELECT DEP_ID FROM
PUB_T_EMPLOYEE)
(SELECT DEP_ID FROM PUB_T_DEPARTMENT) INTERSECT (SELECT DEP_ID FROM
PUB_T_EMPLOYEE) //Unsupported
```

Supported example:

```
SELECT DEP_ID FROM PUB_T_DEPARTMENT EXCEPT ALL SELECT DEP_ID FROM PUB_T_EMPLOYEE
SELECT DEP_ID FROM PUB_T_DEPARTMENT INTERSECT SELECT DEP_ID FROM
PUB_T_EMPLOYEE //Supported
```

- If the database is SAP ASE or SQL Server, SQL statements can contain column name(s) enclosed in double quotes (same as in PowerBuilder). If the database is not SAP ASE or SQL Server, SQL statements cannot contain column name(s) enclosed in double quotes (same as in PowerBuilder).
- Using a COMPUTE BY clause in the SELECT statement is unsupported if an application uses a JDBC driver.

7.5 Cursor statements

Supported

- The following statements for retrieving and updating cursors are supported:

Table 7.6:

CLOSE	DECLARE	DELETE	FETCH
FETCH FIRST	FETCH LAST	FETCH NEXT	FETCH PRIOR
OPEN	UPDATE		

- Local cursors are supported.
- Global and instance cursors are supported.

Unsupported

- The Cursor SQL statement UPDATE Where Current is unsupported.

Syntax:

```
UPDATE TableName SetStatement WHERE CURRENT OF CursorName;
```

- The Cursor SQL Statement DELETE Where Current is unsupported.

Syntax:

```
DELETE FROM TableName WHERE CURRENT OF CursorName;
```

- If a cursor is declared for retrieving rows from a table, modifying (inserting, deleting, or updating) the table during the cursor open close period is unsupported . Otherwise, the data retrieved is different on the Web than in the PowerBuilder application. For example:

```
DECLARE cur_empl CURSOR FOR select s_emplid, s_emplname from employee;
OPEN cur_empl;
INSERT INTO employee (s_emplid, s_emplname) VALUES (:ls_addid, :ls_addname);
```

```

    FETCH cur_empl INTO :ls_emplid, :ls_emplname;
    DO WHILE sqlca.sqlcode=0
        FETCH cur_empl INTO :ls_emplid, :ls_emplname;
    LOOP
CLOSE cur_empl;
Commit;

```

- Placing the cursor declaration syntax in a statement block that may not be executed at runtime is unsupported. In PowerBuilder, cursor declaration syntax is treated the same way as variable declaration, so the syntax will not be skipped although the statement block is not executed. However, in the Web application, the syntax may be skipped and cause errors.

For example:

```

if li_lenth = 10 then
    DECLARE cur_empl CURSOR FOR select s_emplid, s_emplname from employee;
    .....
End if
OPEN cur_empl;
FETCH cur_empl INTO :ls_emplid, :ls_emplname;
.....

```

In a Web application with the above syntax, if the li_length is not 10, the cursor declaration syntax cannot be read, and errors occur.

7.6 Database stored procedures

Table 7.7:

SQL statements	<p>Supported</p> <p>The following statements are supported:</p> <ul style="list-style-type: none"> • DECLARE <pre> DECLARE lproc_1 PROCEDURE FOR StoreProcedure @f1 = :p1 IN, @f2 = :p2 OUT, ... @fn = :pn USING trans_obj; </pre> <ul style="list-style-type: none"> • EXECUTE <pre> EXECUTE lproc_1; </pre> <ul style="list-style-type: none"> • FETCH <pre> FETCH lproc_1 INTO :v1, :v2, :v3, ...; </pre> <ul style="list-style-type: none"> • FETCH FIRST <pre> FETCH FIRST lcur_1 INTO :v1, :v2, :v3, ...; </pre> <ul style="list-style-type: none"> • FETCH LAST <pre> FETCH LAST lcur_1 INTO :v1, :v2, :v3, ...; </pre> <ul style="list-style-type: none"> • FETCH NEXT <pre> FETCH NEXT lcur_1 INTO :v1, :v2, :v3, ...; </pre> <ul style="list-style-type: none"> • FETCH PRIOR
-----------------------	--

	<pre>FETCH PRIOR lcur_1 INTO :v1, :v2, :v3, ...;</pre> <ul style="list-style-type: none"> • CLOSE <pre>CLOSE lproc_1;</pre> <p>Notes:</p> <p>Input & output parameters are supported, except that the output parameter for a stored procedure that performs DataWindow update is unsupported.</p> <p>Return value for stored procedure is supported.</p>
<p>Declaration syntax</p>	<p>All supported, except this:</p> <p>Placing the stored procedure declaration syntax in a statement block that may not be executed at runtime is unsupported.</p> <p>In PowerBuilder, stored procedure declaration syntax is treated the same way as variable declaration, so the syntax will not be skipped although the statement block is not executed. However, in the Web application, the syntax may be skipped and cause errors.</p> <p>For example:</p> <pre>if li_length = 10 then DECLARE proc_empl PROCEDURE FOR dbo.java_debug_request debugger = a1, request = a2, out_request = a3 ; ... End if OPEN proc_empl; FETCH proc_empl INTO :ls_emplid; ...</pre> <p>In a Web application with the above syntax, if the li_length is not 10, the cursor declaration syntax cannot be read, and errors occur.</p>
<p>Arguments of stored procedures</p>	<p>Supported</p> <p>Input, output & inout parameters is supported. The data type of the parameters should match the corresponding data type in database when you declare a stored procedure.</p> <p>Multiple result sets for a stored procedure are supported.</p> <p>Unsupported</p> <p>It is unsupported to call Oracle stored procedure with array parameters.</p>
<p>User-defined data types</p>	<p>Unsupported</p> <p>For the Apeon .NET edition, you can work around for SQL Server database with the following instructions.</p> <p>To use the user-defined data type of SQL Server for stored procedure, you need to take the following steps to modify the configuration file:</p>

	<ol style="list-style-type: none"> 1. Open the configuration file named "user2systemdbtype.config" in the <powerserver>/AEM/config directory. 2. Add data type mappings in the section named "sqlserver". For example, if you have created a user-defined data type named "mydatetime" that is derived from the system data type "datetime", you would need to set the value of the "userdefine-type" attribute to "mydatetime" and then set the value of the "system-type" attribute to "datetime" in the section named "datatype". If you have more than one user-defined data type, you should add all of them to the configuration file, as shown in the example below. <pre data-bbox="416 591 1390 763"> <database name="sqlserver"> <datatype userdefine-type="mydatetime" system-type="datetime" /> <datatype userdefine-type="myvarchar" system-type="varchar" /> </database> </pre> 3. Restart IIS after you make changes to the configuration file.
<p>Calling stored procedures</p>	<p>Supported</p> <p>Apeon PowerServer provides nearly full support for calling stored procedures, except for the following requirements and unsupported features.</p> <p>Requirements (For Informix database)</p> <p>The sequence of input parameters must stay the same as that in the Informix database. For example:</p> <pre data-bbox="379 1144 1390 1256"> Create procedure ProcName (Variable1 int, Variable2 varchar(10), ...) return varchar (10) End procedure ProcName Call ProcName (10, "Apeon", ...) </pre> <p>Unsupported</p> <p>PowerServer does not support using an expression as a parameter for calling the stored procedure.</p> <p>PowerServer does not support using default values for parameters in an Oracle stored procedure.</p> <p>PowerServer does not support calling an overloading stored procedure.</p> <p>(.NET only) If the parameter is null, dynamically calling stored procedure in Informix is unsupported.</p>

7.7 Dynamic SQL

Supported

- Dynamic SQL Format 1: executing a SQL statement does not produce a result set and does not require input parameters.

Example code:

```

EXECUTE IMMEDIATE :strSQL USING trans_obj;
/*Executing a SQL statement does not produce a result set and

```

```
does not require input parameters*/
```

Notes:

1. In EXECUTE IMMEDIATE SQL statement, if the number of fetched row(s) is 0, the SQLCODE in the transaction object is 0 in PowerBuilder while it is 100 in PowerServer.
 2. Using the syntax EXECUTE IMMEDIATE "set transaction isolation level n" is unsupported.
 3. (.NET* only) Input parameters are unsupported.
- Dynamic SQL Format 2: executing a SQL statement that does not produce a result set but does require input parameters.

Example code:

```
INT emp_id = 56
String fname = "jack";
PREPARE sqlsa FROM "Delete From employee Where emp_id=? And fname=?"
EXECUTE sqlsa USING :emp_id, :fname;
/*Executing a SQL statement that does not produce a result set
but does require input parameters*/
```

- Dynamic SQL Format 3: Use this format to execute a SQL statement that produces a result set in which the input parameters and result set columns are known at compile time.

Example code:

```
DECLARE Cursor | Procedure DYNAMIC CURSOR | PROCEDURE
FOR DynamicStagingArea ;
PREPARE DynamicStagingArea FROM SQLStatement {USING TransactionObject} ;
OPEN DYNAMIC Cursor {USING ParameterList} ;
EXECUTE DYNAMIC Procedure {USING ParameterList} ;
FETCH Cursor | Procedure INTO HostVariableList ;
CLOSE Cursor | Procedure ;
/*Use this format to execute a SQL statement that
produces a result set in which the input parameters
and result set columns are known at compile time*/
```

Note: The default Transaction object name SQLCA is supported.

- Dynamic SQL Format 4: executing a SQL statement that produces a result set in which the number of input parameters, result set columns, or both, are unknown at compile time.

Example code:

```
DECLARE Cursor | Procedure DYNAMIC CURSOR | PROCEDURE
FOR DynamicStagingArea ;
PREPARE DynamicStagingArea FROM SQLStatement { USING TransactionObject} ;
DESCRIBE DynamicStagingArea INTO DynamicDescriptionArea ;
OPEN DYNAMIC Cursor | Procedure USING DESCRIPTOR DynamicDescriptionArea ;
EXECUTE DYNAMIC Cursor | Procedure USING DESCRIPTOR DynamicDescriptionArea ;
FETCH Cursor | Procedure USING DESCRIPTOR DynamicDescriptionArea ;
CLOSE Cursor | Procedure ;
/*Use this format to execute a SQL statement
that produces a result set in which the input
parameters and result set columns are unknown
at compile time*/
```

- Notes:

- MERGE statement is supported.
- The default transaction object name SQLDA is supported.
- If you need a DynamicStagingArea variable other than SQLSA, you must declare it and instantiate it with the CREATE statement before using it.
- (.NET only) Because of the .NET driver for Informix, Web application differs from PowerBuilder application in the following aspect:
 - The Time data type will be returned as DateTime on the Web.
 - The Money and Float data type will be returned as Decimal data type.
- In Apeon PowerServer, when executing a dynamic embedded SQL in Dynamic SQL Format 4 (example code as shown below), ASE database cannot get the output parameters from the stored procedure.

This problem is caused by ASE database driver. If there are similar codes described below causing problems in ASE database, please turn to relevant technicians of SAP for support.

```
String ls_execute_sql = 'begin transaction apb ' + '~r~n' +&
'declare @myparm numeric(4) ' + '~r~n' +&
'exec apeon_inout @parin = 4, @parout = @myparm output' + '~r~n' +&
'SELECT @myparm ' + '~r~n' +&
'commit transaction apb '
prepare sqlsa from :ls_execute_sql using sqlca;
describe sqlsa into sqlda;
DECLARE my_cursor DYNAMIC procedure FOR SQLSA ;
execute DYNAMIC my_cursor using descriptor sqlda ;
if sqlca.sqlcode < 0 then
messagebox ('1',sqlca.sqlerrtext)
end if
FETCH my_cursor using descriptor sqlda ;
if sqlca.sqlcode < 0 then
messagebox ('2',sqlca.sqlerrtext)
else
ls_Value = String(SQLDA.GetDynamicNumber(1))
If IsNull(ls_Value) Then
ls_value = 'Null'
ElseIf ls_value = '' then
ls_value = "Empty string(')"
End If
messagebox ('3',ls_Value)
end if
close my_cursor;
```

Difference

- Calling Fetch Prior when the cursor position is on the first row or calling Fetch Next when the cursor position is on the last row returns a different sqldbcode than in PowerBuilder and on the Web.
- It is suggested to use "colname is null" instead of "colname = null".

8 Functions

8.1 System functions

Supported

The following are the categories with some or all of their functions supported:

Table 8.1:

Array Functions	Blob Function	Data Type Checking and Conversion Functions
Date, Day, and Time Functions	DDE Client Functions	File Functions
International Functions	Miscellaneous Functions	Numeric Functions
Print and Printer Functions	Registry Functions	String Functions
System and Environment Functions	Timing Functions	Window Functions

DDE client does not support 64-bit.

Unsupported

- The following are the unsupported system function categories that do not contain any supported individual functions:

Table 8.2:

Class Definition Functions	DDE Server Functions	Garbage Collection Functions
Help Functions	Library Functions	Shared Object Functions (SharedObject Functions)
Tracing Functions		

- Having a parent object dynamically call a system function that is overloaded by its child object is unsupported.

8.1.1 Supported types

8.1.1.1 Array functions

Table 8.3:

Function	Support Level	Coding Examples
LowerBound	Supported	<pre>Int b[-5 to 2,5],a[5],c[] li_lower = LowerBound(b,2) li_lower = LowerBound(b,1) li_lower = LowerBound(a) li_lower = LowerBound(a,1)</pre>

Function	Support Level	Coding Examples
		li_lower = LowerBound(c)
UpperBound	Supported	<pre> Int b[-15 to -5,5],a[5],c[] li_upper = UpperBound(b,2) li_upper = UpperBound(b,1) li_upper = UpperBound(a) li_upper = UpperBound(a,1) li_upper = UpperBound(c) </pre>

8.1.1.2 Blob functions

Table 8.4:

Function	Support Level	Coding Examples
Blob	Supported	<pre> blob lb_data = blob("convert string to blob") string ls_data lb_data = blob(ls_data) </pre>
BlobEdit	Supported	<pre> ulong ll_var blob lb_data ll_var = BlobEdit(lb_data, 1, "String") ll_var = BlobEdit(lb_data, 3, 12345) ll_var = BlobEdit(lb_data, 9, 2004-12-03) ll_var = BlobEdit(lb_data, 1, blob("blob")) </pre> <p>Note: The <i>data</i> argument cannot be Any data type.</p>
BlobMid	Supported	<pre> blob lb_data,lb_subdata lb_subdata = BlobMid(lb_data,3) lb_subdata = BlobMid(lb_data,5) </pre>
Len	Supported	<pre> long ll_len blob lb_data,lb_subdata ll_len = len(lb_data) ll_len = len(lb_subdata) </pre>
Lenw	Supported	<pre> long ll_len blob lb_data,lb_subdata ll_len = LenW(lb_data) ll_len = LenW(lb_subdata) </pre>
String	Supported	<pre> blob lb_data,lb_subdata string ls_data </pre>

Function	Support Level	Coding Examples
		<pre>ls_data = string(lb_data) ls_data = string(lb_subdata)</pre>

8.1.1.3 Byte functions

Table 8.5:

Function	Support Level	Coding Examples
Byte	Supported	
GetByte	Supported	
SetByte	Supported	
GetByteArray	Supported	

8.1.1.4 Data type checking and conversion functions

Table 8.6:

Function	Support Level	Coding Examples
Asc	Supported	<pre>li_test = Asc ('adfsd') li_test = Asc ('~nern') li_test = Asc (ls_test) li_test = Asc (wf_getstring()) //wf_getstring() is a function that has a string return value</pre>
Char	Supported	<pre>ls_test1 = Char (65) ls_test1 = Char (65) ls_test1 = Char ("~n~djfkSDL")</pre>
Dec	Supported	<pre>ldec_test = Dec ("1.234567") //Return the string as a decimal ldec_test = Dec ("1234567") ldec_test = Dec (dw_1.object.data[1,2])</pre>
Double	Supported	<pre>ldb_test = Double("78.7956") //Return the string as a double</pre>
Integer	Supported	<pre>li_test = Integer ("93") //Return the string as an integer</pre>
Long	Supported	<pre>ll_test = long ("99.88") //Return the string as a long ll_test = long (16119,26930) //Convert the two UnsignedIntegers into a long</pre>
Real	Supported	<pre>lr_test = Real ("88.56") //Return the string as a real</pre>
Date	Supported	<pre>ld_test = Date (ldt_test) //ldt-test is a datetime variable ld_test = Date (now()) ld_test = Date (ls_test) //ls_test is a string variable</pre>

		<pre>ld_test = Date (2003, 4, 1)</pre> <p>Note: if the argument contains an invalid date, Date returns NULL in PowerBuilder, whereas in the Web application, it returns an empty string ("").</p>
DateTime	Supported	<pre>ldt_test = Datetime (ld_test)</pre> <pre>ldt_test = Datetime (ld_test, lt_test)</pre> <p>Note: After conversion, the microsecond portion in the time argument will be omitted.</p>
IsDate	Supported	<pre>If IsDate ("Jan 32, 1993") = TRUE Then... //</pre> <p>Determines whether the string is a valid date</p>
IsNull	Supported	<p>Integer a, b...</p> <pre>lb_value = isnull (a+b) //If the value of</pre> <p>expression a+b is null, lb_value is set as True; otherwise, False</p>
IsNumber	Supported	<p>If IsNumber("23.45") Then ...</p> <p>//Return True since the value of the string is a number</p> <p>Note: PowerBuilder does not support 1E123 (more than two digits after E). Functions such as IsNumber ("1E123") in PowerBuilder return FALSE, but after conversion, IsNumber returns TRUE.</p>
IsTime	Supported	<p>IsTime (timevalue)</p> <pre>If IsTime ("23:11") Then ... //hh:mm</pre> <pre>If IsTime ("23:11:33") Then ... //hh:mm:ss</pre> <pre>If IsTime ("23:11:33.123456") Then ... //</pre> <p>hh:mm:ss.xxxxxx</p>
String	Supported	<p>String (data {, format})</p> <pre>ls_test = string (1993-05-17, "mm/dd/yyyy") //</pre> <p>Convert a date to string</p> <pre>ls_test = string (07:12:28, "hh:mm:ss") //Convert</pre> <p>a time to string</p> <pre>ls_test = string (44.56, "\$#,##0.00") //Convert a</pre> <p>numeric to string</p> <pre>ls_test = string ("gf", "@*") //Convert a string</pre> <p>to formatted string</p> <p>Notes:</p> <ol style="list-style-type: none"> 1. String(data, format) cannot be used in DataWindow property expression. 2. When a format is specified in the String function, make sure that the format is one of the supported types for EditMask. The string argument cannot

		<p>contain special case conversion formats such as "!!!", "aaa"</p> <p>3. The format argument cannot be [currency].</p>
Time	Supported	<pre>lt_test = time ("23:00")</pre> <p>Note: After conversion, the microsecond portion of the time will be omitted.</p>
LongLong	Unsupported	

8.1.1.5 Date, Day and Time functions

Table 8.7:

Function	Support Level	Coding Examples
Day	Supported	<pre>li_test = Day(2003-04-01) li_test = Day(ld_today) li_test = Day(today())</pre>
DayName	Supported	<pre>ls_test = DayName(2003-04-01) ls_test = DayName(ld_today) ls_test = DayName(today())</pre>
DayNumber	Supported	<pre>li_test = DayNumber(2003-04-01) li_test = DayNumber (ld_today) li_test = DayNumber (today())</pre>
DaysAfter	Supported	<pre>ll_test = DaysAfter(2003-04-01, 2003-04-01) ll_test = DaysAfter(ld_test1, today())</pre>
Hour	Supported	<pre>Hour(<i>time</i>) li_test = Hour(21:00:00) li_test = Hour(lt_test) li_test = Hour(Now())</pre>
Minute	Supported	<pre>li_test = Minute (21:00:00) li_test = Minute (lt_test) li_test = Minute (Now())</pre>
Month	Supported	<pre>li_test = Month (2003-04-01) li_test = Month (ld_today) li_test = Month (today())</pre>
Now	Supported	<pre>ldt_test = Now()</pre>
RelativeDate	Supported	<pre>ld_test = RelativeDate (2003-04-01, 27) ld_test = RelativeDate (ld_test1, li_after) ld_test = RelativeDate (today(), li_after)</pre>
RelativeTime	Supported	<pre>lt_test = RelativeTime (21:00:00, 60)</pre>

Function	Support Level	Coding Examples
		lt_test = RelativeTime (ld_test1, li_after) lt_test = RelativeTime (now(), li_after)
Second	Supported	li_test = Second (21:00:00) li_test = Second (lt_test) li_test = Second (Now())
SecondsAfter	Supported	ll_test = SecondsAfter (21:00:00, 09:00:00) ll_test = SecondsAfter (lt_test1, now())
Today	Supported	ld_test = Today()
Year	Supported	li_test = Year (2003-04-01) li_test = Year (ld_today) li_test = Year (today())

8.1.1.6 DDE client functions and events

Table 8.8:

Function	Support Level	Coding Examples
CloseChannel	Supported	CloseChannel(handle, Handle(w_sheet))
ExecRemote	Supported	
GetDataDDE	Supported	string Str20 GetDataDDE(Str20)
GetDataDDEOrigin	Supported	string WhichAppl, WhatTopic, WhatLoc GetDataDDEOrigin(WhichAppl, WhatTopic, WhatLoc)
GetRemote	Supported	
OpenChannel	Supported	long handle handle = OpenChannel("Excel", "REGION.XLS") Note: It is recommended to determine whether the execution succeeds by its returning -1, -9 or a positive integer. Do not assume that it has failed because it returns a negative integer.
RespondRemote	Supported	IF GetDataDDE(Value) = 1 THEN RespondRemote(TRUE)
SetRemote	Supported	
StartHotLink	Supported	StartHotLink("Any", "MyPBApp", "Any")
StopHotLink	Supported	StopHotLink("Any", "MyPBApp", "Any")
HotLinkAlarm	Unsupported	

8.1.1.7 File functions

Important Requirements

On the Web, the reference of the relative path is the Desktop directory, however in PowerBuilder, the reference of relative path is the target application's current directory.

Table 8.9:

Function	Support Level	Coding Examples
ChangeDirectory	Supported	int li_return li_return = ChangeDirectory(sle_path.text)
CreateDirectory	Supported	int li_return li_return = CreateDirectory(sle_path.text)
DirectoryExists	Supported	if DirectoryExists(sle_path.text) then ls_tosting = "The directory exists!"
FileClose	Supported	li_return = FileClose(li_FileNum)
FileCopy	Supported	li_return = FileCopy(li_FileNum)
FileDelete	Supported	if FileDelete(sle_filename.text) then ls_tosting = "True:FileDelete"+sle_filename.text
FileEncoding	Unsupported	
FileExists	Supported	if FileExists(sle_filename.text) then ls_tosting = "The file exists!"
FileOpen	Supported	integer li_FileNum li_FileNum = FileOpen("D:\temp\new.txt", TextMode!, Write!, LockReadWrite!, Replace!, EncodingUTF8!)
FileLength	Supported	long ll_FileLen ll_FileLen = FileLength(sle_filename.text)
FileLength64	Unsupported	
FileMove	Supported	li_return = FileMove (sle_filename.text, sle_2.text)
FileRead	Supported	blob Emp_Id_Pic li_bytes = FileRead (li_FileNum, Emp_Id_Pic)
FileReadEx	Supported	blob Emp_Id_Pic li_bytes = FileReadEx (li_FileNum, Emp_Id_Pic)
FileSeek	Supported	ll_FileLen = FileSeek (li_FileNum, 14, FromCurrent!) FileSeek (li_FileNum, -14, FromEnd!)
FileSeek64	Unsupported	
FileWrite	Supported	blob Emp_Id_Pic FileWrite (li_FileNum, "New Employees") FileWrite (li_FileNum, emp_id_pic)
FileWriteEx	Supported	blob Emp_Id_Pic

Function	Support Level	Coding Examples
		FileWriteEx (li_FileNum, "New Employees") FileWriteEx (li_FileNum, emp_id_pic)
GetCurrent Directory	Supported	sle_1.text = GetCurrentDirectory() Note: GetCurrentDirectory returns full path name of Desktop on the Web, and it returns the full path name of the current directory in PowerBuilder.
GetFileOpenName	Supported	li_return = GetFileOpenName (sle_po.text, sle_path.text, ls_file[], "TXT", "Text Files (*.TXT), *.TXT, Doc Files (*.DOC),*.DOC") li_return = GetFileOpenName (sle_po.text, sle_path.text, sle_filename.text, "TXT", "Text Files (*.txt), *.txt" , sle_2.text)
GetFileSaveName	Supported	li_return = GetFileSaveName(sle_po.text, sle_path.text, ls_file[], "TXT", "Text Files (*.TXT),*.TXT, Doc Files (*.DOC),*.DOC") li_return = GetFileSaveName(sle_po.text, sle_path.text, sle_filename.text, "TXT", "Text Files (*.txt), *.txt", sle_2.text)
GetFolder	Supported	li_return = GetFolder("Folder", sle_path.text)
RemoveDirectory	Supported	li_return = RemoveDirectory(sle_path.text)

8.1.1.8 International functions

Table 8.10:

Function	Support Level	Coding Examples
Reverse	Supported	ls_return = Reverse(ls_test)
IsAllArabic	Unsupported	
IsAllHebrew	Unsupported	
IsAnyArabic	Unsupported	
IsAnyHebrew	Unsupported	
IsArabic	Unsupported	
IsArabic AndNumbers	Unsupported	
IsHebrew	Unsupported	
IsHebrew AndNumbers	Unsupported	
FromAnsi	Unsupported	
FromUnicode	Unsupported	
ToAnsi	Unsupported	
ToUnicode	Unsupported	

8.1.1.9 Miscellaneous functions

Table 8.11:

Function	Support Level	Coding Examples
Beep	Supported	Beep(5)
ChooseColor	Supported	li_color = ChooseColor(red, custom [])
ClassName	Supported	ls_classname = ClassName(li_array) Note: If the argument is a numeric data type, the function returns number.
DebugBreak	Supported	IF IsNull(auo_ext) THEN DebugBreak()
DraggedObject	Supported	DragObject poj_ctr poj_ctr = DraggedObject()
GetFolder	Supported	integer li_result li_result = GetFolder("my targets", ls_path)
IntHigh	Supported	li_high = IntHigh(ll_value)
IntLow	Supported	li_low = IntLow(ll_value)
IsValid	Supported	IF IsValid(w_emp) = FALSE THEN Open(w_emp)
KeyDown	Supported	KeyDown (keycode) Notes In the PowerServer deployed application, the function returns TRUE only when the key is being pressed and FALSE if not. However, the KeyDown function returns TRUE once the key is pressed and FALSE if not.
MessageBox	Supported	li_return = MessageBox('Title1','Text1',Information!,OK!,1)
PixelsToUnits	Supported	li_return = PixelsToUnits(35, XPixelsToUnits!)
RGB	Supported	ll_color = RGB(255, 255, 255) The RGB value scope supported: 0~16777215 The custom color scope supported: 16777216~33554431 Note: If the color value is -2 or -1 (Transparent), the color display effect will be different in the Web from in the PowerBuilder application. If it is a color unsupported (the color value is less than -2), the color will be replaced with ButtonFace color.
SetNull	Supported	SetNull(ls_test)
SetPointer	Supported	SetPointer(Cross!)
Sleep	Supported	Sleep(5)
UnitsToPixels	Supported	li_return = UnitsToPixels(350, YUnitsToPixels!)

Function	Support Level	Coding Examples
PopulateError	Unsupported	
SignalError	Unsupported	

8.1.1.10 Numeric functions

Table 8.12:

Function	Support Level	Coding Examples
Abs	Supported	ldec_return = Abs(-15725.12) ldec_return = Abs(ai_num)
ASin	Supported	ldb_return = ASin(.84147) ldb_return = ASin(af_num)
ACos	Supported	ldb_return = ACos(.84147) ldb_return = ACos(af_num)
ATan	Supported	ldb_return = ATan(.84147) ldb_return = ATan(af_num)
Ceiling	Supported	li_return = Ceiling(3558.5) li_return = Ceiling(af_num)
Cos	Supported	ldb_return = Cos(10586.3) ldb_return = Cos(af_num)
Exp	Supported	ldb_return = Exp(17438.15) ldb_return = Exp(af_num)
Fact	Supported	ldb_return = Fact(14) ldb_return = Fact(af_num)
Int	Supported	li_return = Int(8314.11) li_return = Int(af_num)
Log	Supported	ldb_return = Log(7628) ldb_return = Log(af_num)
LogTen	Supported	ldb_return = LogTen(30975.5) ldb_return = LogTen(af_num)
Max	Supported	ldec_return = Max(1019,21120) ldec_return = Max(af_num,bf_num)
Min	Supported	ldec_return = Min(1019,21120) ldec_return = Min(af_num,bf_num)
Mod	Supported	ldec_return = Mod(32526,8261.15) ldec_return = Mod(af_num,bf_num)

Function	Support Level	Coding Examples
Pi	Supported	ldb_return = Pi(20852) ldb_return = Pi(af_num)
Rand	Supported	ldec_return = Rand(14888) ldec_return = Rand(af_num)
Randomize	Supported	Randomize(0)
Round	Supported	ldec_return = Round(6655.16973,3) ldec_return = Round(af_num,b_num) Executing Round in SQL statements, decimals will be ignored on the Web.
Sign	Supported	li_return = Sign(0) li_return = Sign(-543534) li_return = Sign(4563) li_return = Sign(af_num)
Sin	Supported	ldb_return = Sin(-751) ldb_return = Sin(751) ldb_return = Sin(af_num)
Sqrt	Supported	ldb_return = Sqrt(740752012) ldb_return = Sqrt(af_num)
Tan	Supported	ldb_return = Tan(28713.4) ldb_return = Tan(af_num)
Truncate	Supported	ldec_return = Truncate(21133.24473,3) ldec_return = Truncate(af_num)

8.1.1.11 Print functions

Table 8.13:

Function	Support Level	Coding Examples
Print	Supported	Print(Job, "SAP company", 5000) Note: You can call Print in DataWindow to workaround the PrintDataWindow function.
PrintBitmap	Supported	PrintBitmap(li_job, "d:\PB\BITMAP1.BMP", &50,100, 0,0)
PrintCancel	Supported	PrintCancel(li_job)
PrintClose	Supported	PrintClose(li_job)
PrintDataWindow	Supported	PrintDataWindow(job, dw_EmpHeader)
PrintDefineFont	Supported	PrintDefineFont(li_job, 1, "Courier 10Cpi", -18, &400, Default!, Decorative!, FALSE, FALSE)

Function	Support Level	Coding Examples
		Note: Using user-defined fonts that cannot be supported by the system is unsupported.
PrintLine	Supported	PrintLine(li_job,0,5,7500,5,10)
PrintOpen	Supported	Ulong li_job = PrintOpen("Phone List")
PrintOval	Supported	PrintOval(li_job, 4000, 3000, 1000, 1000, 10)
PrintPage	Supported	PrintPage(li_job)
PrintRect	Supported	PrintRect(li_job, 4000,3000, 1000,1000, 125)
PrintRoundRect	Supported	PrintRoundRect(li_job, 1000,1000, 6250,9000, &300,300, 125)
PrintScreen	Supported	PrintScreen(li_job,500,1000,5000,5000)
PrintSetFont	Supported	PrintSetFont(li_job, 2)
PrintSetSpacing	Supported	PrintSetSpacing(li_job, 1.5)
PrintSetup	Supported	PrintSetup()
PrintText	Supported	PrintText(li_job,"PowerBuilder", 3700, 10,3)
PrintWidth	Supported	Int W = PrintWidth(li_job,"PowerBuilder")
PrintX	Supported	Int LocX = PrintX(li_job)
PrintY	Supported	Int LocY = PrintY(li_job)
PrintSend	Unsupported	Note: This function is obsolete for PowerBuilder, so PowerServer does not support it either

8.1.1.12 Printer functions

Table 8.14:

Function	Support Level	Coding Examples
PrintGetPrinter	Supported	String ls_fullstring=PrintGetPrinter()
PrintGetPrinters	Supported	String ls_prntrs = PrintGetPrinters()
PrintSetPrinter	Supported	String ls_setprn PrintSetPrinter (ls_setprn)
PrintSetupPrinter	Supported	PrintSetupPrinter ()

8.1.1.13 Registry functions

Table 8.15:

Function	Support Level	Coding Examples
RegistryDelete	Supported	RegistryDelete("HKEY_LOCAL_MACHINE \Software\MyApp.Settings\Fonts", "Title")
RegistryGet	Supported	RegistryGet("HKEY_USERS\MyApp.Settings\Fonts", "NameOfEntryNum", RegULong!, ul_num) Note: The ValueType argument:

Function	Support Level	Coding Examples
		<ul style="list-style-type: none"> • can be RegString!, RegExpandString!, ReguLong!, ReguLongBigEndian!, or RegMultiString!. • cannot be RegMultiString! when implementing this function on the client. • cannot be RegBinary!, RegMultiString! or RegLink! when implementing this function on the server.
RegistryKeys	Supported	li_rtn = RegistryKeys("HKEY_CLASSES_ROOT\nMyApp", & ls_subkeylist)
RegistrySet	Supported	RegistrySet("HKEY_USERS\MyApp.Settings\Fonts", "NameOfEntryNum", RegULong!, ul_num) Notes: 1. The ValueType argument: <ul style="list-style-type: none"> • can be RegString!, RegExpandString!, ReguLong!, ReguLongBigEndian!, or RegMultiString!. • cannot be RegMultiString! when implementing this function on the client. • cannot be RegBinary!, RegMultiString! or RegLink! when implementing this function on the server. 2. The ValueType argument must be used in the syntax.
RegistryValues	Supported	string ls_valuearray[] RegistryValues("HKEY_LOCAL_MACHINE\nSoftware\MyApp.Settings\Fonts", ls_valuearray)

When setting the value for a key and value name in the system registry, the value name will be converted into lowercase. Therefore, the functions are case insensitive.

Naming rules for the files, sections, registry keys used in the Registry and Profile functions:

- Must start with an '_' (underscore), a '\$' (dollar sign), or a letter.
- Can include any combination of characters, numbers, '.' (point), '_' (underscore), '-' (dash), space, '\' (backslash) and '\$' (dollar sign).
- Cannot include single quotation marks, quotation marks, '&' (ampersand sign), or '/' (slash).

Functionality difference in different Registry Mode:

If the Registry Mode in AEM is set to "Use client machine Windows registry", the registry functions are supported the same way as in PowerBuilder.

If the Registry Mode in AEM is set to "Use Appeon registry emulation", Web applications cannot use RegistryGet and RegistryValues for accessing the Windows registry directly. The Registry functions are implemented as workarounds. They do not read from the actual Windows registry. Instead, Appeon creates a mock registry in the PowerServer database, which initially has no values. Therefore, you must first set a value using the RegistrySet function before trying to use RegistryGet and RegistryValues functions. In this case the registry functions are only supported to work with existing registry keys, and it is not supported to create new keys during application runtime.

8.1.1.14 String functions

8.1.1.14.1 String functions for PowerBuilder 9

Table 8.16:

Functions	Support Level	Coding Examples
Asc	Supported	<pre>li_test = Asc('adfsd') li_test = Asc('~nern') li_test = Asc(ls_test) li_test = Asc(wf_getstring())</pre>
Char	Supported	<pre>ls_test1 = Char(65) ls_test1 = Char("~n~~djfkSDL")</pre>
Fill	Supported	<pre>ls_fill = Fill('-+',10) ls_fill = Fill('hello', 6)</pre>
FillW	Supported	<pre>ls_fill = FillW('-+',10) ls_fill = FillW('hello', 6)</pre>
LastPos	Supported	<pre>ll_return = LastPos('Appeon Appeon', 'Ap') ll_return = LastPos('Appeon Appeon', 'Ap',4)</pre>
Left	Supported	<pre>ls_return = string(Left('z{uDPk7#k',9))</pre>
LeftW	Supported	<pre>ls_return = string(LeftW('z{uDPk7#k',9))</pre>
LeftTrim	Supported	<pre>ls_return = string(LeftTrim(' fdfsdf')) ls_return = string(LeftTrim(' 34trtrtergre'))</pre> <p>The second argument is unsupported, for example, the following script is unsupported:</p> <pre>ls_return = string(LeftTrim(' fdfsdf', true)) ls_return = string(LeftTrim(' 34trtrtergre', true))</pre>
LeftTrimW	Supported	<pre>ls_return = string(LeftTrimW(' fdfsdf')) ls_return = string(LeftTrimW(' 34trtrtergre'))</pre>
Len	Supported	<pre>ls_return = string(Len('gfgdfgsdrgdfg'))</pre>

Functions	Support Level	Coding Examples
LenW	Supported	ls_return = string(LenW('fgdfgsdrgdfg'))
Lower	Supported	ls_return = Lower("You ARE Welcome!")
Match	Supported	ls_return = string(Match('ABBBC,ABB*C'))
MatchW	Supported	ls_return = string(MatchW('ABBBC,ABB*C'))
Mid	Supported	ls_return = string(Mid('Apeon Apeon',5,2))
MidW	Supported	ls_return = string(MidW('Apeon Apeon',5,2))
Pos	Supported	ls_return = string(Pos('Apeon Apeon','on')) ls_return = string(Pos('Apeon Apeon','peon',2))
PosW	Supported	ls_return = string(PosW('Apeon Apeon','on')) ls_return = string(PosW('Apeon Apeon','peon',2))
Replace	Supported	ls_return = string(Replace('BABE RUTH', 1, 4, 'BABY'))
ReplaceW	Supported	ls_return = string(ReplaceW('BABE RUTH', 1, 4, 'BABY'))
Reverse	Supported	ls_return = string(Reverse('vDI%Qv'))
Right	Supported	ls_return = string(Right('Davis', 4))
RightW	Supported	ls_return = string(RightW('Davis', 4))
RightTrim	Supported	ls_return = string(RightTrim('fsdjd ')) ls_return = string(RightTrim('fsdfjdlfsd ')) The second argument is unsupported, for example, the following script is unsupported: ls_return = string(RightTrim('fsdjd ', true)) ls_return = string(RightTrim('fsdfjdlfsd ', true))
RightTrimW	Supported	ls_return = string(RightTrimW('fsdjd ')) ls_return = string(RightTrimW('fsdfjdlfsd '))
Space	Supported	ls_return = string(Space(14))
Trim	Supported	ls_return = string(Trim(' uifusd ')) The second argument is unsupported, for example, the following script is unsupported: ls_return = string(Trim(' uifusd ', true))
TrimW	Supported	ls_return = string(TrimW(' uifusd '))
WordCap	Supported	ls_return = string(WordCap('how do you do?'))
Upper	Supported	ls_return = string(Upper('how do you do?'))

8.1.1.14.2 String functions for PowerBuilder 10 or above

Table 8.17:

Functions	Support Level	Coding Examples
AscA	Supported	<pre>li_test = AscA('adfsd')</pre> <pre>li_test = AscA(ls_test)</pre> <p>Note: The function returns different value on the Web from that in PowerBuilder if the character encoding is non-SJIS.</p>
Asc	Supported	<pre>li_test = Asc('~nern')</pre> <pre>li_test = Asc(wf_getstring())</pre>
CharA	Supported	<pre>ls_test = CharA(65)</pre> <pre>ls_test = CharA("~n~~djfkSDL")</pre> <p>Note: The function returns different value on the Web from that in PowerBuilder if the character encoding is non-SJIS.</p>
Char	Supported	<pre>ls_test = Char(65)</pre> <pre>ls_test = Char("~n~~djfkSDL")</pre>
Fill	Supported	<pre>ls_fill = Fill('-',10)</pre> <pre>ls_fill = Fill('hello', 6)</pre>
FillA	Supported	<pre>ls_fill = FillA('-',10)</pre> <pre>ls_fill = FillA('hello', 6)</pre> <p>Note: The function returns different value on the Web from that in PowerBuilder if the character encoding is non-SJIS.</p>
FillW	Supported	<pre>ls_fill = FillW('-',10)</pre> <pre>ls_fill = FillW('hello', 6)</pre>
LastPos	Supported	<pre>ll_return = LastPos('Appeon Appeon', 'Ap')</pre> <pre>ll_return = LastPos('Appeon Appeon', 'Ap',4)</pre>
Left	Supported	<pre>ls_return = string(Left('z{uDPk7#k',9))</pre>
LeftA	Supported	<pre>ls_return = string(LeftA('z{uDPk7#k',9))</pre> <p>Note: The function returns different value on the Web from that in PowerBuilder if the character encoding is non-SJIS.</p>
LeftW	Supported	<pre>ls_return = string(LeftW('z{uDPk7#k',9))</pre>
LeftTrim	Supported	<pre>ls_return = string(LeftTrim(' fdfsdf'))</pre> <pre>ls_return = string(LeftTrim(' 34trtrtergre'))</pre> <p>The second argument is unsupported, for example, the following script is unsupported:</p>

Functions	Support Level	Coding Examples
		<pre>ls_return = string(LeftTrim(' fdfsdf', true)) ls_return = string(LeftTrim(' 34ttrtertgre', true))</pre>
LeftTrimW	Supported	<pre>ls_return = string (LeftTrimW (' fdfsdf')) ls_return = string (LeftTrimW (' 34ttrtertgre'))</pre>
Len	Supported	<pre>ls_return = string (Len ('gfgdfgsdrgdfg'))</pre>
LenA	Supported	<pre>ls_return = string(LenA('gfgdfgsdrgdfg'))</pre> <p>Note: The function returns different value on the Web from that in PowerBuilder if the character encoding is non-SJIS.</p>
LenW	Supported	<pre>ls_return = string(LenW('gfgdfgsdrgdfg'))</pre>
Lower	Supported	<pre>ls_return = Lower("You ARE Welcome!")</pre>
Match	Supported	<pre>ls_return = string(Match('ABBBC,ABB*C'))</pre>
MatchW	Supported	<pre>ls_return = string(MatchW('ABBBC,ABB*C'))</pre>
Mid	Supported	<pre>ls_return = string(Mid('Apeon Apeon',5,2))</pre>
MidA	Supported	<pre>ls_return = string(MidA('Apeon Apeon',5,2))</pre> <p>Note: The function returns different value on the Web from that in PowerBuilder if the character encoding is non-SJIS.</p>
MidW	Supported	<pre>ls_return = string(MidW('Apeon Apeon',5,2))</pre>
Pos	Supported	<pre>ls_return = string(Pos('Apeon Apeon','on')) ls_return = string(Pos('Apeon Apeon','peon',2))</pre>
PosA	Supported	<pre>ls_return = string(PosA('Apeon Apeon','on')) ls_return = string(PosA('Apeon Apeon','peon',2))</pre> <p>Note: The function returns different value on the Web from that in PowerBuilder if the character encoding is non-SJIS.</p>
PosW	Supported	<pre>ls_return = string(PosW('Apeon Apeon','on')) ls_return = string(PosW('Apeon Apeon','peon',2))</pre>
Replace	Supported	<pre>ls_return = string(Replace('BABE RUTH', 1, 4, 'BABY'))</pre>
ReplaceA	Supported	<pre>ls_return = string(ReplaceA('BABE RUTH', 1, 4, 'BABY'))</pre> <p>Note: The function returns different value on the Web from that in PowerBuilder if the character encoding is non-SJIS.</p>
ReplaceW	Supported	<pre>ls_return = string(ReplaceW('BABE RUTH', 1, 4, 'BABY'))</pre>

Functions	Support Level	Coding Examples
Reverse	Supported	ls_return = string(Reverse('vDI%Qv'))
Right	Supported	ls_return = string(Right('Davis', 4))
RightA	Supported	ls_return = string(RightA('Davis', 4)) Note: The function returns different value on the Web from that in PowerBuilder if the character encoding is non-SJIS.
RightW	Supported	ls_return = string(RightW('Davis', 4))
RightTrim	Supported	ls_return = string(RightTrim('fsdjd ')) ls_return = string(RightTrim('fsdfjdlfsd ')) The second argument is unsupported, for example, the following script is unsupported: ls_return = string(RightTrim('fsdjd ', true)) ls_return = string(RightTrim('fsdfjdlfsd ', true))
RightTrimW	Supported	ls_return = string(RightTrimW('fsdjd ')) ls_return = string(RightTrimW('fsdfjdlfsd '))
Space	Supported	ls_return = string(Space(14))
Trim	Supported	ls_return = string(Trim(' uifusd ')) The second argument is unsupported, for example, the following script is unsupported: ls_return = string(Trim(' uifusd ', true))
TrimW	Supported	ls_return = string(TrimW(' uifusd '))
WordCap	Supported	ls_return = string(WordCap('how do you do?'))
Upper	Supported	ls_return = string(Upper('how do you do?'))

8.1.1.15 System and environment functions

Table 8.18:

Function	Support Level	Coding Examples
Clipboard	Supported	string ls_CoName ls_CoName = Clipboard()
CommandParm	Supported	String ls_command_line ls_command_line = CommandParm()
GetEnvironment	Supported	environment env integer rtn rtn = GetEnvironment(env)
GetFocus	Supported	Lobj_control = GetFocus()
GetApplication	Supported	application app

Function	Support Level	Coding Examples
		app = GetApplication()
Handle	Supported	Note: the Handle property is partially supported <ul style="list-style-type: none"> Supported syntax: Handle (objectname) Unsupported syntax: Handle (objectname, previous)
Post	Supported	Post(Handle(w_date), 277, 3, 0) Note: the <i>message#</i> argument cannot be a user defined message number.
ProfileInt	Supported	ProfileInt ("C:\PROFILE.INI", "PB", "maximized", 3)
ProfileString	Supported	ProfileString ("C:\PROFILE.INI", "Employee", "Name", "None")
Run	Supported	run("notepad") run("notepad.exe") run("C:\winnt\system32\notepad") run("C:\winnt\system32\notepad.exe")
Send	Supported	Send(Handle(w_emp), 277, 2, 0) Note: the <i>message#</i> argument cannot be a user defined message number.
SetProfileString	Supported	SetProfileString("C:\PROFILE.INI", "Position", "Title", "MGR")
Yield	Supported	Yield()
Restart	Unsupported	
SignalError	Unsupported	

Naming rules for the files, sections, registry keys used in the Registry and Profile functions:

- Must start with an '_' (underscore) or a '\$' (dollar sign) or a letter.
- Can include any combination of characters, numbers, '.' (point), '_' (underscore), '-' (dash), space, '\' (backslash) and '\$' (dollar sign).
- Cannot include single quotation mark, quotation mark, '&' (ampersand sign), or '/' (slash).
- Files with the same name cannot be used in Profile functions.

8.1.1.16 Timing functions

Table 8.19:

Function	Support Level	Coding Examples
CPU	Supported	long ll_start ll_start = Cpu()
Idle	Supported	Idle(300)

Function	Support Level	Coding Examples
Timer	Supported	Timer(10, w_main)
Start	Unsupported	

8.1.1.17 Window functions

Table 8.20:

Function	Support Level	Coding Examples
Close	Supported	<pre>close (w_commandbutton)</pre> <pre>close (parent)</pre>
CloseWithReturn	Supported	<pre>CloseWithReturn (parent, "return value")</pre> <p>Notes:</p> <ol style="list-style-type: none"> 1. In PowerBuilder, the return value is Null when there are two Nulls in the parameter. In this case, the return value in JavaScript is not Null. 2. On the Web, if the <i>returnvalue</i> parameter is NULL, the return value will be stored in the PowerObjectParm property of the Message object.
Open	Supported	<pre>Open (w_main, parent)</pre>
OpenSheet	Supported	<pre>OpenSheet (w_main, w_parent)</pre> <pre>OpenSheet (lw_main, "w_main", w_frame, 2, Cascaded!)</pre> <p>Notes:</p> <ol style="list-style-type: none"> 1. When opening the same local window variables more than once within the same function, the result is unpredictable. Avoid using the OpenSheet window function in the following manner: <pre>w_11 ww opensheet (ww, "w_11", w_2, 2, Cascaded!) opensheet (ww, "w_11", w_2, 0, Cascaded!)</pre> 2. The following syntax is supported: <pre>OpenSheet (sheetrefvar{, windowtype}, mdiframe{, position {, arrangeopen}})</pre> 3. PowerServer supports appending a window list to a menu item on the Web. 4. The ArrangeOpen argument can be Cascaded!, Layered!, Original!. If the argument is Cascaded!, the size of the sheet on the Web is different from that in PowerBuilder.

Function	Support Level	Coding Examples
		<p>5. In Windows 7, the upper part of the window (sheet) that is opened by using <code>OpenSheet</code> or <code>OpenSheetWithParm</code> may be overlapped by the MDI frame window. If this happens, you can work it around by using the <code>Post</code> function with <code>OpenSheet</code> or <code>OpenSheetWithParm</code> as shown below:</p> <pre>post opensheet (w_main, w_mdi, ...)</pre>
<code>OpenSheetAsDocument</code>	Unsupported	
<code>OpenSheetDocked</code>	Unsupported	
<code>OpenSheetInTabGroup</code>	Unsupported	
<code>OpenSheetWithParm</code>	Supported	<pre>String ls_str OpenSheetWithParm (w_main, ls_str, w_parent)</pre> <p>Note: The window type in the function cannot be MDI or MDIHelp.</p> <p>The following syntax is supported:</p> <pre>OpenSheetWithParm (sheetrefvar, parameter{, windowtype}, mdiframe{, position{, arrangeopen}})</pre> <p>PowerServer supports appending a window list to a menu item on the Web.</p>
<code>OpenSheetWithParmAsDocument</code>	Unsupported	
<code>OpenSheetWithParmDocked</code>	Unsupported	
<code>OpenSheetWithParmInTabGroup</code>	Unsupported	
<code>OpenWithParm</code>	Supported	<pre>OpenWithParm (w_main, w_parent)</pre> <p>Notes:</p> <ol style="list-style-type: none"> 1. The window type in the function cannot be MDI or MDIHelp. 2. On the Web, if the <i>parameter</i> argument is NULL, the argument will be stored in the <code>PowerObjectParm</code> property of the Message object.
<p>*Note that <code>Open</code>, <code>OpenSheet</code>, <code>OpenWithParm</code> and <code>OpenSheetWithParm</code> support <i>windowtype</i> strings as parameters (see PowerBuilder syntax).</p>		

8.1.2 Unsupported types

Unsupported

- The following are the unsupported system function categories that do not contain any supported individual functions:

Table 8.21:

Class Definition Functions	DDE Server Functions	Garbage Collection Functions
Help Functions	Library Functions	Shared Object Functions (SharedObject Functions)
Tracing Functions	ApplyTheme function	

- Having a parent object dynamically call a system function that is overloaded by its child object is unsupported.

8.2 User functions

Supported

- Object Functions
- Global Functions
- Global and local External Functions
- Global and local Remote Procedure Calls (RPC)

Unsupported

- Dynamic creation of global functions.

9 Events

9.1 Event types

Supported

- User-defined events can be attached to the Application object.
- User-defined events without an ID are supported.
- User-defined events with an ID are supported to the extent that the system message is supported.

Unsupported

- User-defined system messages are not supported.
- The system messages specific for the unsupported system objects/controls are unsupported.
- Selecting the same event ID to declare two events that have different names is not supported.
- Using the local variable AncestorReturnValue in an event of a descendant object is unsupported unless the event of the descendant object is an extended event from the ancestor object, or the AncestorReturnValue is generated in Call Super statement.
- If a system event involves a UI operation, the subsequent event will not be triggered until the UI operation is done.
- Avoid the following code, because it will cause system error to the deployed application:
An event in an event sequence destroys some container (such as closing a window or destroying a user object), and then a subsequent event in the sequence calls to the container or controls/objects in the container.
For example, in case uo_1 contains cb_1 and there is an event sequence (ue_1 -> ue_2 -> ue_3), if uo_1 is deleted in ue_2 but cb_1 is called in ue_3, the Internet Explorer that runs the sequence will crash.
- In some cases, the event triggering sequence is inconsistent between PB and Web, for example, the code as shown below:

```
event open;
String ls_Title,ls_FilePath,ls_FileName
Post Event pfc_PostOpen()
is_EventTrack += This.ClassName() + '.Open1()~r~n'
GetFileOpenName(ls_Title,ls_FilePath,ls_FileName)
is_EventTrack += This.ClassName() + '.Open2()~r~n'
end event
```

On PB, the pfc_PostOpen event is triggered only after the Open event is executed completely. Whereas, on the Web, the pfc_PostOpen event is triggered right after the GetFileOpenName function is executed.

9.2 System messages

The following table lists the supported system messages.

Table 9.1:

Object/Control	Event ID	System Event using the ID
All	pbm_constructor	Constructor
	pbm_destructor	Destructor
	pbm_keydown	Key
Controls and windows	pbm_rbuttondown	RButtonDown
Window	pbm_activate	Activate
	pbm_close	Close
	pbm_closequery	CloseQuery
	pbm_deactivate	Deactivate
	pbm_dragdrop	DragDrop
	pbm_dragenter	DragEnter
	pbm_dragleave	DragLeave
	pbm_dragwithin	DragWithin
	pbm_hidewindow	Hide
	pbm_lbuttonclk	Clicked
	pbm_lbuttondblclk	DoubleClicked
	pbm_lbuttondown	MouseDown
	pbm_lbuttonup	MouseUp
	pbm_mousemove	MouseMove
	pbm_open	Open
	pbm_showwindow	Show
	pbm_size	Resize
pbm_timer	Timer	
CheckBox, CommandButton, Picture PictureButton, RadioButton, StaticText	pbm_bnclicked	Clicked
	pbm_bndragdrop	DragDrop
	pbm_bndragenter	DragEnter
	pbm_bndragleave	DragLeave
	pbm_bndragwithin	DragWithin
	pbm_bnkillfocus	LoseFocus
pbm_bnsetfocus	GetFocus	
DropDownList Box/ DropDownPicture ListBox	pbm_cbnkillfocus	LoseFocus
	pbm_cbnmodified	Modified
	pbm_cbnselchange	SelectionChanged

Object/Control	Event ID	System Event using the ID
	pbm_cbnssetfocus	GetFocus
DataWindow, DataStore	pbm_dwnchanging	EditChanged
	pbm_dwnbuttonclicked	ButtonClicked
	pbm_dwnbuttonclicking	ButtonClicking
	pbm_dwndragdrop	DragDrop
	pbm_dwndragenter	DragEnter
	pbm_dwndragleave	DragLeave
	pbm_dwndragwithin	DragWithin
	pbm_dwndberror	DBError
	pbm_dwnhscroll	ScrollHorizontal
	pbm_dwnitemchange	ItemChanged
	pbm_dwnitemchange focus	ItemFocusChanged
	pbm_dwnitemvalidationerror	ItemError
	pbm_dwnkillfocus	LoseFocus
	pbm_dwnlbuttonclk	Clicked
	pbm_dwnlbuttondblclk	DoubleClicked
	pbm_dwnrbuttondown	RButtonDown
	pbm_dwnresize	Resize
	pbm_dwnretrieveend	RetrieveEnd
	pbm_dwnretrievestart	RetrieveStart
	pbm_dwnrowchange	RowFocusChanged
pbm_dwnrowchanging	RowFocusChanging	
pbm_dwnsetfocus	GetFocus	
pbm_dwnupdateend	UpdateEnd	
pbm_dwnupdatestart	UpdateStart	
SingleLineEdit, EditMask, MultiLineEdit, StaticText	pbm_endragdrop	DragDrop
	pbm_endragenter	DragEnter
	pbm_endragleave	DragLeave
	pbm_endragwithin	DragWithin
	pbm_enkillfocus	LoseFocus
	pbm_enmodified	Modified
	pbm_ensetfocus	GetFocus
OLEControl	(none)	Clicked
	(none)	PropertyChanged
	(none)	PropertyRequestEdit

Object/Control	Event ID	System Event using the ID
	pbm_omnclose	Close
	pbm_constructor	Constructor
	pbm_doubleclick	DoubleClicked
	pbm_omndragdrop	DragDrop
	pbm_omndragenter	DragEnter
	pbm_omndragleave	DragLeave
	pbm_omndragwithin	DragWithin
	pbm_omnrename	Rename
	pbm_omnsave	Save
	pbm_omnsaveobject	SaveObject
	pbm_omnviewchange	ViewChange
HScrollBar, HTrackBar, VScrollBar, VTrackBar	pbm_sbndragdrop	DragDrop
	pbm_sbndragenter	DragEnter
	pbm_sbndragleave	DragLeave
	pbm_sbndragwithin	DragWithin
	pbm_sbnlinedown	LineDown, LineRight
	pbm_sbnlineup	LineLeft, LineUp
	pbm_sbnthumbtrack	Moved
	pbm_sbnpagedown	PageDown, PageRight
	pbm_sbnpageup	PageLeft, PageUp
ListBox, PictureListBox	pbm_lbndbleclk	DoubleClicked
	pbm_lbndragdrop	DragDrop
	pbm_lbndragenter	DragEnter
	pbm_lbndragleave	DragLeave
	pbm_lbndragwithin	DragWithin
ListView	pbm_lvnbegindrag	BeginDrag
	pbm_lvnbeginlabeledit	BeginLabelEdit
	pbm_lvnbeginrightdrag	BeginRightDrag
	pbm_lvncolumnclick	ColumnClick
	pbm_lvnclicked	Clicked
	pbm_lvndeleteallitems	DeleteAllItems
	pbm_lvndeleteitem	DeleteItem
	pbm_lvndoubleclicked	DoubleClicked
	pbm_lvndragdrop	DragDrop
	pbm_lvndragenter	DragEnter

Object/Control	Event ID	System Event using the ID
	pbm_lvndragleave	DragLeave
	pbm_lvndragwithin	DragWithin
	pbm_lvnnendlabeledit	EndLabelEdit
	pbm_lvnssetfocus	GetFocus
	pbm_lvnititemchanging	ItemChanging
	pbm_lvntkillfocus	LoseFocus
	pbm_lvnrclicked	RightClicked
	pbm_lvnrdoubleclicked	RightDoubleClicked
Tab	pbm_tcnclicked	Clicked
	pbm_tcndoubleclicked	DoubleClicked
	pbm_tcnrclicked	RightClicked
	pbm_tcnrdoubleclicked	RightDoubleClicked
	pbm_tcnrdragdrop	DragDrop
	pbm_tcnrdragenter	DragEnter
	pbm_tcnrdragleave	DragLeave
	pbm_tcnrdragwithin	DragWithin
	pbm_tcnsetfocus	GetFocus
	pbm_tcnsselchanging	SelectionChanging
TreeView	pbm_tvnbegindrag	BeginDrag
	pbm_tvnbeginlabeledit	BeginLabelEdit
	pbm_tvnbeginrightdrag	BeginRightDrag
	pbm_tvnclicked	Clicked
	pbm_tvndeleteitem	DeleteItem
	pbm_tvndoubleclicked	DoubleClicked
	pbm_tvndragdrop	DragDrop
	pbm_tvndragenter	DragEnter
	pbm_tvndragleave	DragLeave
	pbm_tvndragwithin	DragWithin
	pbm_tvnititemexpanded	ItemExpanded
	pbm_tvnititemexpanding	ItemExpanding
	pbm_tvnititempopulate	ItemPopulate
	pbm_tvntkillfocus	LoseFocus
	pbm_tvnselchanged	SelectionChanged
	pbm_tvnselchanging	SelectionChanging
	pbm_tvnssetfocus	GetFocus

Object/Control	Event ID	System Event using the ID
	pbm_tvnrclicked	RightClicked
	pbm_tvnnendlabeledit	EndLabelEdit
Application	(None)	Open
	(None)	Close
	(none)	Idle
User Object	pbm_uondragdrop	DragDrop
	pbm_uondragenter	DragEnter
	pbm_uondragleave	DragLeave
	pbm_uondragwithin	DragWithin
Menu	(None)	Clicked
	(None)	Selected

Unsupported

The following table lists the unsupported system messages for the supported system objects/controls:

Table 9.2:

Object/Control	Event ID	System Event using the ID
Controls and windows	pbm_other	Other
Window	pbm_help	Help
	pbm_ddedata	HotLinkAlarm
	pbm_ddeexecute	RemoteExec
	pbm_ddeadvise	RemoteHotLinkStart
	pbm_ddeunadvise	RemoteHotLinkStop
	pbm_dderequest	RemoteRequest
	pbm_ddepoke	RemoteSend
	pbm_syskeydown	SystemKey
	pbm_tbtnmoved	ToolbarMoved
DataWindow, DataStore	(none)	Error
	pbm_dwnretrieverow	RetrieveRow
	pbm_dwnvscroll	ScrollVertical
ListView	pbm_lvnititemactivate	ItemActivate
	pbm_lvnsort	Sort
Application	(none)	IdleSystemError
OLEControl	(none)	Error
	(none)	ExternalException
	pbm_help	Help

Object/Control	Event ID	System Event using the ID
	pbm_other	Other

9.3 System message (non-standard EventID)

Supported

The following table lists the supported system messages.

Table 9.3:

Object/Control	Event ID (non-standard)	System Event using the ID
All	pbm_contextmenu	ContextMenu Note: Event bubbling is unsupported.
DataWindow	pbm_dwnkey	KeyDown
	pbm_dwndropdown	DropDown
	pbm_dwnrbuttonup	Rbuttonup
	pbm_dwnprocessenter	Processenter
	pbm_rbuttondown	
	pbm_lbuttondown	
	pbm_rbuttonup	
pbm_lbuttonup		

Unsupported

Except for the system messages listed in the table above, all other system messages with non-standard event IDs are unsupported by Appeon. For example, pbm_exchange event is unsupported. Refer to PowerBuilder Help for more details.

10 DataWindow

10.1 DataWindow data sources

Supported

The following PowerBuilder data sources are supported:

- Quick Select
- SQL Select
- Query
- Stored Procedure
- External
- Web Service

Notes:

1. You can group your stored procedure in ASE Server.
2. If a DataWindow uses an external data source, the content of the DataWindow can only be saved as TXT type.
3. In the Web Service DataWindow, if the date data is empty or null, it will return a default value "0001-1-1" which will be parsed as "2001-1-1" on Web, whereas parsed as "0001-1-1" in PowerBuilder.
4. The Web Service DataWindow supports the Boolean, Byte, Char, Date, DateTime, Decimal, Double, Integer, Long, String, and Time data types and array, but does not support the Blob data type, pass by reference, and structure.

Unsupported

- Dynamically changing the SQL statement of an external data source is unsupported.
- If a DataWindow uses a stored procedure as its data source and the stored procedure has multiple result sets, the deployed DataWindow always takes the first result set.
- If a DataWindow uses a stored procedure as its data source, the Table.Select property cannot be modified, and the SetSQLSelect function cannot be executed.
- If a DataWindow uses an ASE stored procedure as its data source, the AutoCommit property must be set to TRUE and the chain must be off.

10.2 Using SQL statements in DataWindows

Requirements

- If you specify the table owner in the Specify Update Properties window in PowerBuilder, please make sure the "Enclose table and column names in quote" option is not selected in PowerServer Toolkit during the deployment or errors will occur.
- If you specify the argument name in Specify Retrieval Arguments window in PowerBuilder, use ASCII characters.
- Do not use FOR UPDATE non-cursor statement in the SQL statement for DataWindows.

10.3 DataWindow presentation styles

Table 10.1:

CrossTab, Composite, Freeform, Graph, Grid, Group, Label, N-Up, Tabular, TreeView and RichText presentation styles	Supported
	DataWindow objects and controls in a DataWindow can be dynamically created (e.g. by using the CREATE statement).
	CrossTab, Composite, Freeform, Graph, Grid, Group, Label, N-Up, Tabular, TreeView and RichText style DataWindows are implemented in XML in PowerServer deployed applications.
	Shortcut keys “Ctrl + Home” and “Ctrl + End” are supported in Grid, Freeform, Tabular and N-up DataWindows. The Web UI and behavior are identical with the original PowerBuilder DataWindows, except for a few differences listed below. Decimal retrieval argument is supported.
	Differences
	For all supported DataWindows, it ignores the upper or lower case when sorting by the column names. <i>For CrossTab style:</i> If the CrossTab DataWindow object contains over 3 headers, make sure the columns are sorted in the same order in both the DataWindow object and the SQL scripts, otherwise the value displayed in the detail field will be incorrect. Refer to the detailed description of differences CrossTab DataWindow . <i>For Composite style:</i> Refer to the detailed description of differences Composite DataWindow . <i>For Freeform style:</i> When a user adjusts a scrollbar up and down, before the user releases the scrollbar, the DataWindow's contents are scrolled up and down in correspondence with the scrollbar's position. This does not happen in PowerBuilder applications. <i>For Grid style:</i> 1. Web application supports dragging and dropping columns in different locations on a Grid DataWindow. You can select a column header and

	<p>drag it over other columns and drop the column in any location within the DataWindow. The selected column will be highlighted.</p> <ol style="list-style-type: none"> 2. Sorting a column or selecting all the items by clicking the column header is unsupported. 3. In PowerBuilder, the tab sequence in a Grid DataWindow object is always left to right (except for right-to-left operating systems). Changing the tab value to any number other than 0 has no effect. In the Web Grid DataWindow, changing the tab value to any number other than 0 does have an effect. If the user presses Tab, the focus will change according to the predefined tab order. 4. The color of the DataWindow border will be changed as the background color changes in the PowerBuilder application. This is not so in the Web application. 5. If "Suppress Repeating Values" is selected for rows, there will be noticeable short breaks in the grid lines. <p><i>For Group style:</i> Refer to the detailed description of differences Grouping in DataWindow.</p> <p><i>For Graph style:</i> Refer to the detailed description of differences Graph DataWindow.</p> <p><i>For Label style:</i> RowFocusChange event is unsupported.</p> <p><i>For N-Up style:</i> When dynamically changing the height of DataWindow, the number of pages is recalculated on the Web but it is not recalculated in PowerBuilder.</p> <p><i>For TreeView style:</i> Refer to the detailed description of differences TreeView DataWindow.</p> <p><i>For RichText style:</i> Refer to the detailed description of differences RichText DataWindow.</p> <p>For more DataWindow user operation differences, refer to DataWindow enhancements and differences.</p>
Other DataWindow presentation styles	<p>Unsupported</p> <p>OLE DataWindow</p>

10.3.1 Composite DataWindow

Table 10.2:

Nested reports in a Composite DataWindow	Supported			
	Nested reports that are of the following presentation styles can be added into the Composite DataWindow, and the Web Composite DataWindow is implemented in XML:			
	CrossTab	FreeForm	Graph	Grid
	Group	Label	N-Up	Tabular
	RichText	TreeView		
	<p>Placing reports in the Group band is supported.</p> <p>Placing Group reports in any DataWindow band is supported.</p> <p>The following is an Apeon enhanced feature (which is not available in PowerBuilder):</p> <p>In PowerServer, you can use the GetChild function to get the reference of the nested report in the Composite DataWindow or the nested DataWindow, and then use the DataWindow Create function to dynamically create the nested report via the DataWindow syntax; but using PBSELECT statement to create DataWindows is unsupported, you need to use the SQL SELECT statement. In PowerBuilder, you cannot use GetChild to get a reference to a report in a Composite DataWindow when the report itself is a Composite or nested DataWindow.</p> <p>Therefore, if you originally use the following code to dynamically create the nested report(PowerServer does not support the following code, as the DataObject cannot be deployed via PowerServer Toolkit), you can try to work it around using the above feature.</p> <p>Original code:</p> <pre>ls_dwsyntax = dw_1.Describe("DataWindow.Syntax") rtncode = LibraryImport("c:\pb\dwTemp.pbl", "d_emp", ImportDataWindow!, ls_dwsyntax, ErrorBuffer) dw_composite.Modify("dw_report.DataObject='d_emp' ")</pre> <p>Workaround code:</p> <pre>DataWindowChild dwc_report l_rtn = dw_composite.GetChild("dw_report ", dwc_report) ls_dwsyntax = dw_1.Describe("DataWindow.Syntax") dwc_report.dynamic create (ls_dwsyntax, error_create)</pre>			
Retrieval arguments	Supported			
	Retrieval arguments of the nested report is supported in the composite DataWindow.			
Row-scrolling functions	Unsupported			
	Calling the following DataWindow functions in nested reports is unsupported:			
	ScrollToRow	ScrollPriorPage	ScrollNextPage	ScrollPriorRow

	ScrollNxtRow			
Performance differences between PowerBuilder and Web	Differences			
	On the Web, if the Y property of a nested report is negative, the header band of the nested report overlaps the detail band.			
	On the Web, if the Trail_Footer property of a nested report control is set to True, the footer band of the nested report will be displayed after the summary band. If the Trail_Footer property is set to False, the footer band will always be displayed at the bottom of current DataWindow band.			
	On the Web, if the content in a Composite DataWindow cannot be displayed in one page horizontally, it will be displayed on a separate page.			
	On the Web, if you want to do a data retrieval for the Composite DataWindow, a transaction object always needs to be set.			
	If the Visible property of a nested report is dynamically changed from TRUE to FALSE, the nested report is counted as visible in PowerBuilder, but invisible on the Web, when the Composite DataWindow breaks pages or counts the height of the detail band.			
	The NewPage property will have effect in all DataWindow bands on the Web. However, it can only have effect in the detail band in PowerBuilder.			
	In the Detail band, the Height.Autosize property cannot be changed by using the Modify function.			
	In PowerBuilder, if the Summary band cannot be displayed within one page, the last row of the detail band and the whole summary band will be displayed in the next new page. However, on the Web, the summary band that cannot be fully displayed within the rest space of the page will be ignored.			
	If you set different print scales for a Composite DataWindow and the nested reports in the DataWindow, the scale for the nested reports will have no effect; instead, the scale for the Composite DataWindow will be effective for the DataWindow and the reports.			
Scrolling a composite DataWindow using the PageUp/PageDown, UpArrow/DownArrow, or LeftArrow/RightArrow keys is unsupported.				
If the width of the content of a nested CrossTab DataWindow cannot be displayed within the report control, the exceeding content will be ignored on the Web.				

10.3.2 CrossTab DataWindow

Table 10.3:

Controls in CrossTab DataWindow	Supported	
	Button	Text
	Picture	GroupBox
	Line	Oval
	Rectangle	RoundRectangle
	Computed Field	Graph
	GroupBox is visible before inputting any data and is invisible after inputting data.	
	Unsupported	
	Column	Report
	TableBlob	
DataWindow object properties for CrossTab presentation style	Supported	
	Crosstab.SourceNames(r/w)	Crosstab.Rows(r)
	Crosstab.Columns(r)	Crosstab.Values(r)
	Crosstab.StaticMode (r)	Table.CrosstabData (r)
	Properties marked with "(r)" can be read - but not changed - in script. Properties marked with "(r/w)" can be read or changed in script. It is supported to use expressions like sum (units for crosstab) only in Crosstab.Values. It is unsupported to use such expressions in other properties that can contain expressions.	
	Unsupported	
DataWindow control methods for CrossTab DataWindow	Supported	
	GetMessageText	
	Unsupported	
	CrosstabDialog	
DataWindow expression functions for CrossTab DataWindow	Supported	
	CrosstabAvg	CrosstabCount
	CorsstabMax	CrosstabMin
	CrosstabSum	
Performance differences between PowerBuilder and Web	Differences	
	Adding columns in CrossTab DataWindow is unsupported. If you add a column in CrossTab DataWindow by "copy" and "paste" in PowerBuilder, the new column will not display on the Web.	

	<p>When the footer band of a Crosstab DataWindow is higher than the DataWindow, detail band displays in PowerBuilder while footer band displays on the Web.</p> <p>If the argument of SetFilter() is NULL, in the Specify Filter dialog it displays the columns in detail band in PowerBuilder. On the Web, it displays the columns in detail band as well as the dynamically generated columns.</p> <p>After dynamically modifying Expression property of a computed field control in CrossTab DataWindow, data will be recalculated according to the new expression on the Web. In PowerBuilder, the data will not be recalculated.</p> <p>When dynamically modifying the properties that affect position, it automatically refreshes the interface on the Web but it does not in PowerBuilder.</p> <p>After retrieving data in CrossTab DataWindow, the position of controls (excluding Text control, Column control and Computed Filed control) will be rearranged on the Web. This is different from in that in PowerBuilder.</p>
Unsupported features	Unsupported
	SlideLeft property is unsupported in CrossTab DataWindow.
	For graph control in CrossTab DataWindow, Values cannot contain aggregate functions. For a CrossTab nested report with arguments, retrieval arguments are unsupported.

10.3.3 Grouping in DataWindow

Grouped DataWindow objects can be created in two ways:

- Use the Group presentation style to create a grouped DataWindow object from scratch.
- Take an existing DataWindow object and define grouping

Table 10.4:

Group bands	Supported	
	Group Header band & Group Trailer band	
	Unsupported	
	None	
Group bands options in the PowerBuilder painter	Supported	
	Color	Height*
	Group Definition	Reset Page Count
	New Page on Group Break	Autosize Height*
	Group Sort*	

	<p><i>Height</i></p> <p>When the Group Header is higher than the page, the header content will be printed into the footer area, and the content printed in the footer area will be printed again at the beginning of the next page. This is the behaviour on Web which is different from PowerBuilder.</p> <p><i>Group Sort</i></p> <p>If a DataWindow contains multiple groups and more than one group is specified with sort criterion in the Group Sort option, the criterion of the group with the largest group band ID will be valid for all the groups on the Web, while the other criteria will be ignored.</p> <p>It only supports to use aggregate functions in Group sort.</p> <p><i>Autosize Height</i></p> <p>The Autosize Height option is unsupported in Group Header and Group Trailer bands.</p>	
	Unsupported	
	None	
Properties for the Group keyword	Supported	
	New page	
	SyntaxFromSQL: <code>Group (colnum1, colnum2 NewPage)</code>	
	ResetPageCount SyntaxFromSQL: <code>Group (col1 {col2...}... ResetPageCount)</code>	
	Unsupported	
	None	
DataWindow functions for grouping	Supported	
	Groupcalc*	
	FindGroupChange <i>Groupcalc</i> In Web applications, the Groupcalc function will be executed automatically when values in a group are changed by dot notation or SetItem method.	
DataWindow expressions for grouping	Supported	
	Last	First
	Percent	CumulativeSum
	CumulativePercent	
	Unsupported	

	Large	Median
	Mode	Small
	Stdev	Stdevp
	Var Varp	

10.3.4 Graph DataWindow

Table 10.5:

Controls in Graph DataWindow	Supported	
	Graph DataWindow supports the following controls:	
	Button	Column
	Computed field	Graph
	GroupBox	Line
	Oval	OLE
	Rectangle	RoundRectangle
	Report	Picture
	Text	
	Unsupported	
None.		
Graph axes	Differences	
	Category axis	
	<ol style="list-style-type: none"> 1. When setting the categories on the Category axis, you should ensure that the category type and the Category axis type are the same. If they are not, PowerServer adopts the first category type you input for this axis and will ignore the one that does not match along with the following. 2. If the expressions are for graphs (for example, sum (units for graph)), do not use it for the category axis. 	
Properties for Graph DataWindow	Value axis	
	When setting the values on the Value axis, you should ensure that the value type and the Value axis type are the same. If they are not, Apeon adopts the first category type you input for this axis and will ignore the one that does not match along with the following.	
	Differences	
	The following DataWindow object properties can be read but not changed in Graph DataWindow:	
	Bandname.Text	HorizontalScrollMaximum
HorizontalScrollMaximum2	QueryMode	
QuerySort	Rows_Per_Detail	

	VerticalScrollMaximum	Zoom
Performance differences between PowerBuilder and Web	Differences	
	<p>On the Web, the UI will be automatically refreshed after executing RowsCopy, RowsDiscard, RowsMove and Sort. This is different from in PowerBuilder.</p> <p>Executing GetObjectAtPoint function of DataWindow control does not return the row number.</p> <p>When multiple series are of different data types, the series will be sorted and displayed according to the order of the String data type.</p> <p>It is unsupported to have a nested report in a Graph DataWindow.</p> <p>It is unsupported to operate the properties before drawing a Graph DataWindow.</p> <p>It is unsupported to use overlays in graphs in the DataWindow.</p> <p>The value of the header height cannot be smaller than 0.</p> <p>In pie graph, if there is negative data in a series, the graph displays differently on the Web from in PowerBuilder. In PowerBuilder, the total percentage exceeds 100%. But Apeon ignores the negative data, it display 100% on the Web.</p>	

10.3.5 RichText DataWindow

Table 10.6:

DataWindow control properties in RichText DataWindow	Unsupported	
	DragAuto property is unsupported.	
DataWindow control events in RichText DataWindow	Differences	
	<p><i>For ItemFocusChange event:</i></p> <p>After retrieving data in a RichText DataWindow on the Web, it triggers the ItemFocusChange event.</p> <p>Executing SetRow function triggers the ItemFocusChange event on the Web.</p> <p><i>For RowFocusChanged event:</i></p> <p>On the Web, executing InsertRow or DeleteRow may not trigger the RowFocusChanged event. This is different from that in PowerBuilder.</p> <p>Executing Clipboard, ImportFile and ImportString functions do not trigger the RowFocusChanged event on the Web. This is different from that in PowerBuilder.</p> <p><i>For KeyDown event:</i></p>	

	<p>Some keystrokes do not affect the formatting of documents in RichText DataWindow on the Web. For example, pressing Esc after updating data in an input field reverts to the old data in PowerBuilder but pressing the Esc key on the Web does not affect the updating of the data and the changes will be made.</p>				
	<p>Unsupported</p>				
	<p>PrintStart and Printed events are unsupported.</p>				
DataWindow control functions for RichText DataWindow	<p>Supported</p>				
	<p>The following functions of DataWindow control are effective only in RichText DataWindow:</p>				
	<table border="1"> <tr> <td>CopyRTF</td> <td>InsertDocument*</td> </tr> <tr> <td>PasteRTF</td> <td>ShowHeadFoot*</td> </tr> </table>	CopyRTF	InsertDocument*	PasteRTF	ShowHeadFoot*
	CopyRTF	InsertDocument*			
	PasteRTF	ShowHeadFoot*			
	<p><i>InsertDocument</i></p> <p>The value of the filetype argument can be FileTypeRichText! or FileTypeText!. The FileTypeHTML! and FileTypeDoc! are still unsupported values in current version.</p>				
	<p><i>ShowHeadFoot</i></p> <p>On the Web, ShowHeadFoot (editheadfoot) is supported, while ShowHeadFoot (editheadfoot, {headerfooter}) is unsupported.</p>				
<p>Differences</p>					
<p>For Clicked function, Xpos argument specifies the distance of the pointer from the left side of the DataWindow workspace and Ypos argument specifies the distance of the pointer from the top of the DataWindow workspace on the Web. This is different from the actual behavior of PowerBuilder.</p> <p>On the Web, the return value of GroupCalc function in RichText DataWindow is the same as in DataWindows of other presentation styles, which differs from that in PowerBuilder.</p> <p>On the Web, some functions have differences in triggering events in RichText DataWindow with that in PowerBuilder. They behave the same as in DataWindows of other presentation styles. These functions are AcceptText, ShareDataOff, SetSQLSelect, SetSort, Sort, SetFilter, Filter, SetFormat, RowsCopy, RowsDiscard and RowsMove.</p>					
<p>Unsupported</p>					
	<p>GetClickedRow and GetBandAtPointer functions are unsupported.</p>				
Performance differences between PowerBuilder and Web	<p>Differences</p>				
	<p>For RichText DataWindows, clicking the header or footer bands triggers the GetFocus event on the Web. This is different from that in PowerBuilder.</p>				

	<p>It will not verify the type of the column if it has the initial value when inserting a column on the Web. This is different from that in PowerBuilder.</p> <p>On the Web, if all data is filtered when executing SetFilter, it displays "??". This is different from that in PowerBuilder.</p> <p>Double clicking a picture in a RichText DataWindow triggers DoubleClicked event on the Web. This is different from that in PowerBuilder.</p> <p>On the Web, if the focus is in a computed field, executing GetColumnName returns only the column name excluding the name of the computed field. This is different from that in PowerBuilder.</p> <p>If there are multiple DataWindows of RichText and other presentation styles in a Window, the last-created RichText DataWindow is always on the top.</p> <p>If the size of the pasted picture is larger than the RichTextEdit control, the horizontal and vertical scroll bars will be automatically displayed on the Web, though the HScrollBar and VScrollBar properties are set to False.</p> <p>Alignment buttons on the Web are only effective if the WordWrap property is set to True. This is different from that in PowerBuilder.</p> <p>The display of scroll bars in RichText DataWindow is the same as that in RichTextEdit control. Also, if the WordWrap property of RichTextEdit control is set to True on the Web, it does not display the horizontal scroll bar.</p> <p>The behavior of the RichText bars on the Web is consistent with that in PowerBuilder 2019 R2.</p> <p>Find and Replace methods are partially supported.</p> <p>Chinese font family will not take effect on the Web.</p> <p>For RichText DataWindows without containing any field, if it is created in PowerBuilder 9 and 10, the RichText DataWindow will cause IE crash when it converts to the Web.</p> <p>Only the Detail section will be displayed by default on the Web; and when the ShowHeadFoot function is called, the Header and Footer sections will be displayed while the Detail section will not. This is different from PowerBuilder where the Header, Footer, and Detail sections can display at the same time.</p>
<p>Unsupported features</p>	<p>Unsupported</p> <p>It is unsupported to use Apeon DataWindow menu.</p> <p>It is unsupported to modify the column value in the pop-up window when right clicking a input field in a RichText DataWindow.</p> <p>It is unsupported to dynamically create RichText DataWindows (for example, using Create statement).</p>

<p>It is unsupported to use RichText DataWindow as NVO, DataStore and DropDownDataWindow.</p> <p>End identifier is unsupported.</p> <p>It is unsupported to use the shortcut "Ctrl+Z" on the Web.</p> <p>It is unsupported to set the paragraph alignment for the Text Object on the Web.</p> <p>The "text-wrap" is unsupported on the Web.</p>

10.3.6 TreeView DataWindow

Table 10.7:

DataWindow object properties for TreeView presentation style	Supported		
	AccessibleDescription	AccessibleName	AccessibleRole
	CollapsedTreeNodeIcon	DefaultExpandToLevel	ExpandedTreeNodeIconName
	Indent	Level	SelectNodeByMouse
	ShowNodeConnectLines	ShowLeafNodeConnectLines	ShowTreeNodeIcon
	StateIconAlignMode	TreeNodeIconName	
	Unsupported		
	QueryMode	QuerySort	QueryClear
	RtoLLayout		
DataWindow control functions for TreeView DataWindow	Supported		
	Collapse	CollapseAll	CollapseAllChildren
	CollapseLevel	Expand	ExpandAll
	ExpandAllChildren	ExpandLevel	IsExpanded
	SelectTreeNode		
DataWindow control events for TreeView presentation style	Supported		
	Collapsing	Collapsed	Expanding
	Expanded	TreeNodeSelecting	TreeNodeSelected
	Unsupported		
	None		
Performance differences between PowerBuilder and Web	Limitations		
	DataWindows in TreeView presentation style are restrained by all limitations for DataWindows in Group presentation style.		
	Collapsing, Collapsed, Expanding, and Expanded events cannot be triggered if the nested TreeView DataWindows.		
	If the nest level in a TreeView DataWindow is 3, the user may not correctly expand and collapse the tree node when clicking the mouse.		
	The height for the Tree.level band cannot be negative value.		

	<p>You can not set a column to current column using SetColumn function if the column cannot be focused.</p> <p>If the ScrollNextPage function is called in the last page, the current row on the Web will be set to the last row. This is different from that in PowerBuilder.</p> <p>On the Web, the SetSort function sorts data before groups data. This is different from that in PowerBuilder.</p> <p>If the Shortcut in PowerBuilder application is the same as the shortcut of IE, shortcut in IE has high priority than shortcut settings in PowerBuilder.</p>
Event sequence difference	<p>Difference</p> <p>The TreeNodeSelecting, TreeNodeSelected, RowFocusChanging and RowFocusChanged events cannot be triggered in the preview mode.</p> <p>Selecting Tree Node on the Web will sequentially trigger the events TreeNodeSelecting, TreeNodeSelected, RowFocusChanging, RowFocusChanged.</p> <p>Clicking the TreeView DataWindow on the Web will trigger the following events in sequence: LButtonDown, RowFocusChanging, RowFocusChanged, TreeNodeDelecting and TreeNodeSelected.</p> <p>On the Web calling ScrollNextPage function will trigger the following event in sequence: Rowfocuschanging, Rowfocuschanged, and ScrollVertial.</p> <p>Collapsing or expanding the tree node will trigger the collapsing(/expanding), collapsed(/expanded) and Resize events on the Web in sequence.</p> <p>Do not assign values to rows in the grouping column in a loop. You can use dot notation to directly assign values to corresponding rows.</p>

10.4 Displaying and validating data

Data validation

PowerServer supports data validation in the following two ways:

- Validating whether the data is of a correct data type and in the allowed data scope
- User-defined validation expression

The validation expressions must be DataWindow expressions that PowerServer supports (see [DataWindow operators and expressions section](#)).

Define display format

- For Web applications, formats specified in the PowerBuilder application has a higher priority than formats specified in the client machine.

- The format property is supported for column edit style Edit and EditMask. The display formats are listed in the following table:

Table 10.8:

Using sections	<p>Supported</p> <p>Each type of display format can have multiple sections, with each section corresponding to a form of the number, string, date, or time. Only one section is required. On the web, the sections can be no longer than two.</p> <p>Supported example:</p> <p><code>\$\$,###0;(\$\$,##0) //Supported</code></p> <p>Unsupported example:</p> <p><code>\$\$,###0;(\$\$,##0);(\$\$,##0.00) //Unsupported</code></p>
Number	<p>Supported</p> <p>Special characters: "#", "0", "%", "\$", "E-", "E+", "e-", "e+", "~"</p> <p>Keywords: [General], [Currency]</p> <p>Separator: ",", "."</p> <p>Default format: ###,###.00</p> <p>Unsupported</p> <p>If the currency is not US dollars, it is better to specify the format with the dollar symbol replaced with the actual currency symbol to ensure that the currency symbol displays correctly in the deployed Web application. For example, if the format is ###,###.00, then do not rely on the setting of the client machine to add the actual currency symbol.</p>
String	<p>Supported</p> <p>Special characters: "d", "dd", "ddd", "dddd", "m", "mm", "mmm", "mmmm", "yy", "yyyy"</p> <p>Separator: "-", ":", "/", ".", " "(space), ", "</p> <p>Separator: Chinese characters for year, month or day can be separators</p> <p>Keywords: [ShortDate], [LongDate]</p> <p>Default format: mm/dd/yy</p> <p>Unsupported</p> <p>None.</p>
Time	<p>Supported</p> <p>Special characters: "h", "hh", "m", "mm", "s", "ss", "ffffff", "AM/PM", "am/pm", "A/P", "a/p"</p> <p>Separators: "-", ":", "/", ".", " "(space), ", "</p> <p>Keywords: [Time]</p> <p>Default format: hh:mm:ss:fff</p>

	Unsupported
	Chinese characters as AM and PM symbols in the Control Panel Regional Options are unsupported for Web applications.
DateTime	Supported
	Separators: "/", "-", " " (space) Default format: mm/dd/yyyy hh:mm:ss:ffff When setting the date format to mm/dd/yyyy, an invalid date will turn to 01/01/1900 in PowerServer while 00/00/0000 in PowerBuilder.
	Unsupported
	None.

10.5 Dynamic DataWindow

DataWindow objects and all entities in them have a set of properties. You can look at and change the values of these properties during execution using DataWindow methods or property expressions. You can also create DataWindow objects during execution. PowerServer supports dynamically creating DataWindows with the following presentation style: FreeForm, Tabular, Grid, Graph, CrossTab, N-Up, Label, Composite, Group, TreeView. However, dynamically created RichText DataWindow is unsupported.

Also DataWindow cannot be dynamically created if the database type is **Informix** or **PostgreSQL**.

Important: Configuration required for supporting dynamic DataWindows

Configuration at the database server is required for support of dynamic DataWindows: go to the `%PowerServer_Installation_Path%\apeon\sql\dynamicsql` folder, and execute the SQL file started with "**install_**" for the database you are using, for example, execute `install_apeon_syntaxfromsql_ORACLE.sql` for the Oracle database.

You can uninstall the SQL files and disable the support of dynamic DataWindows by running the SQL files started with "**uninstall_**" in the same folder, for example, execute `uninstall_apeon_syntaxfromsql_ORACLE.sql` for the Oracle database.

Note that you should execute the SQL statement in the database console, as executing it in PowerBuilder may cause errors.

Notes:

1. When installing or uninstalling the PowerServer-provided SQL files, you must use the corresponding SQL executing tool of each database. Some databases are listed below with the tool they provided. If your database is not listed below, please check the corresponding database documentation.

Table 10.9:

SQL Anywhere	Interactive SQL
SQL Server	Query Analyzer
DB2	Command Editor
Oracle	SQLPlus WorkSheet

SAP IQ	Interactive SQL
SQL Server	Query Analyzer
Teradata	Teradata client tool

2. **(For Teradata only)** Before installing the SQL file **install_apeon_syntaxfromsql_teradata.sql** for the Teradata database, you will need to:
 - a. Copy **Apeon_teradata_extfun.jar** and **install_apeon_userfunction_teradata.sql** to the machine where the Teradata database client tool is installed.
 - b. Open **install_apeon_userfunction_teradata.sql** and modify the first line to point to the physical path of **Apeon_teradata_extfun.jar**.
 - c. Execute **install_apeon_userfunction_teradata.sql** via the Teradata client tool.
3. After installing the SQL files, you should restart PowerServer or redeploy the application to disable the caches.
4. When you use the transaction SyntaxFromSQL method, please note the following differences between PowerBuilder and the Web:
 - The length of return value on the Web is different from PowerBuilder, because the return value on the Web carries the names of all columns while the return value in PowerBuilder does not.
 - Text, the object keyword, is unsupported if there are calculation involved in SQL statements.
For example:

```
Select emp_ID, emp_Name, salary/12, "Dept="+emp_deptname from employee
```
5. When using transaction SyntaxFromSQL method for DB2 on the Web, please note that the generated DataWindow contains no primary key information and cannot be updated on the Web under the following conditions:
 - The database table contains only a simple index.
 - The database table contains a primary key that uses alias.
 - Access a table that contains a primary key as the table owner (for example, using **SELECT * FROM DB2ADMIN.PUB_T_DEPARTMENT**).

Executing SaveAs function for dynamically created DataWindows

1. A dynamic DataWindow can only be saved as TXT, HTML or XLS file. Saving it to WMF will give the error "DataObject information does not exist". The reason is that SaveAs to TXT, HTML or XLS is directly executed at the client while SaveAs to other formats is executed by the server. PowerServer cannot save the DataWindow since it cannot get the dynamically-created SQL.
2. Timestamp data type is unsupported when dynamically creating DataWindows.

3. It is unsupported to have stored procedure with input parameters as the data source when dynamically creating DataWindow.
4. It is unsupported to use EXECUTE statement to execute the SQL when dynamically creating DataWindows.

For example, the following script is unsupported:

```
Execute ('select * from employee') //Unsupported
```

5. If the DataWindow object is created dynamically, the SetSQLSelect function is unsupported.

Methods of dynamically creating DataWindows

1. Using DataWindow Create method.

Supported syntax:

```
Integer dwcontrol.Create (string syntax{, string errorbuffer})
```

Unsupported: Using PBSELECT statement in *syntax* to create DataWindows is unsupported.

2. Using transaction SyntaxFromSQL method for ASE, SQL Anywhere, SQL Server and Oracle database type.

Supported syntax:

```
transaction.SyntaxFromSQL (sqlselect, presentation, err)
```

When you use the transaction SyntaxFromSQL method, please note the following differences between PowerBuilder and Web: The length of return value on the Web is different from PowerBuilder, because the return value on the Web carries the names of all columns while the return value in PowerBuilder does not.

Note: It is unsupported to dynamically create DataWindow if the column alias specified in the SQL has the same name as the column name in the quoted table. For example, if a table t1 has the column c1, c2 and c3, syntax like "SELECT c1= c2* 10, c3 FROM t1" is unsupported.

Methods of dynamically modifying DataWindow properties

1. Using property expression.

Please refer to DataWindow | [DataWindow operators and expressions](#) for detailed information.

2. Using DataWindow Modify function.

Supported syntax:

```
string dwcontrol.Modify (string modstring)
```

You should verify that the data types of both sides of the equal symbol in the expression are compatible.

When you use the Modify function, be aware of that:

1) If the Modify function is used to modify the WHERE clause of the DataWindow object's SQL SELECT statement, make sure that the new SQL SELECT statement is correct in syntax. Otherwise, syntax errors can occur because PowerBuilder does not validate the statement whereas JavaScript does. In PowerServer Web, the Modify function cannot be used to modify the database information.

2) When executing Modify function to change the dddw.property on the Web, properties must be separated with spaces when they are concatenated into one value. For example,

Unsupported code:

```
dw_1.Modify = "emp_id.BackGround.Color=" + String(RGB(192,192,192)) +
"emp_id.Protect=1"
```

Supported code:

```
dw_1.Modify = "emp_id.BackGround.Color=" + String(RGB(192,192,192)) + "
emp_id.Protect=1"
```

Adding or deleting controls in DataWindow objects

You can use Modify method to create and destroy the controls in a DataWindow object while noting the following issues.

1. When you use this method to add controls in a DataWindow, the name of the controls should not be same.
2. If it is failed to add or delete a control in the DataWindow object, the error message reported on the Web may be different from in PowerBuilder.

10.6 DataWindow operators and expressions

Table 10.10:

DataWindow operators	Supported
	Arithmetic operators: +, -, *, /, (), ^ Relational operators: =, >, <, <>, >=, <=, BETWEEN...AND, IN, LIKE, and any of these operators in combination with NOT Logical operators for all data types: NOT, AND, OR Concatenation for string data types: +
Operator precedence in DataWindow expressions	Unsupported
	Subtraction (-). The setting of the DashesInIdentifiers property is ignored. For example, "A-B" always means subtract B from A.
Operator precedence in DataWindow expressions	Difference from PowerBuilder
	The precedence of "AND" is higher than that of "OR" (in PowerBuilder, "AND" and "OR" have the same precedence). The operators >, <, <=, >= are of higher precedence than = and <> (in PowerBuilder, the operators >, <, <=, >=, =, <> are of the same precedence).

	<p>Note: You can use parentheses to make sure the Web application has correct precedence effect as in the PowerBuilder application.</p> <p>Original expression: <i>a OR b AND c</i></p> <p>Modified expression: <i>(a OR b) AND c</i></p>	
Supported & Unsupported expressions	Supported	
	<p>Conditional expressions for property values (such as Visible, X, Y, Width, Height, BackgroundColor, TextColor)</p> <p>Expressions for computed fields</p> <p>Validation rules</p> <p>Filter and sort criteria</p> <p>Note: The information on the limitations for these types of expressions is provided in the Specific Requirements for Using Expressions.</p>	
	Unsupported	
	<p>Series and values in graphs</p> <p>Columns, rows, and values in crosstabs</p>	
Functions used in DataWindow expressions	Supported	
	Abs	Acos
	Asc	Asin
	Atan	Avg
	Bitmap	Ceiling
	Describe	Char
	Case	Cos
	Count	CrosstabAvg
	CrosstabCount	CrosstabMax
	CrosstabMin	CrosstabSum
	CumulativePercent	CumulativeSum
	CurrentRow	Date
	DateTime	Day
	DayName	DayNumber
	DaysAfter	Exp
	Fact	Fill
	First	GetText
	GetRow	Hour
	If	Int
	Integer	IsDate
IsNull	IsNumber	
IsRowModified	IsRowNew	

IsSelected	IsTime
Last	Large
LastPos	Left
LeftTrim	Len
Log	LogTen
Long	LookUpDisplay
Lower	Match
Max	Median
Mid	Min
Minute	Mod
Month	Now
Number	Page
PageCount	Percent
Pi	Pos
Rand	Real
RelativeDate	RelativeTime
Replace	RGB
Right	RightTrim
Round	RowCount
Second	SecondsAfter
Sign	Sin
RowHeight	Small
Space	Sqrt
Stdevp	Stdev
String	Sum
Tan	Time
Today	Trim
Truncate	Upper
WordCap	Year
In addition to the above functions, User functions can be used in DataWindow expressions.	
Unsupported	
Mode	PageAcross
PageCountAcross	Paint
GetPaintDC	GetPaintRectHeight
GetPaintRectWidth	GetPaintRectX
GetPaintRectY	ProfileInt

ProfileString	Var
VarP	
In addition to the above functions, System functions and External functions cannot be used in DataWindow expressions.	

Specific Requirements for Using Expressions

Rule for all DataWindow expressions

- Expressions involving Null values may arrive at different values in JavaScript from their values in PowerScript. For more details, please refer to the [Null Values](#) section.
- Expressions cannot contain "~~t".
- Expressions cannot be used in cursor or stored procedure arguments.
- For nested structures, please verify that:
 - It is supported to have single quotes nested with single quotes or double quotes nested with single quotes.
 - It is unsupported to have single quotes nested with double quotes or double quotes nested with double quotes.
 - A multi-layer nested structure may cause problems.
- If using user-defined global functions in DataWindow expressions,
 - Arguments and returned values can only be simple data tapes: Int/Integer, Boolean, String, Character, Long, UnsignedLong, UnsignedInteger.
 - Arguments cannot be references.
 - If the computed field expression is a computed field or global function, the formatting for the computed field will not take effect on the Web.

Sort and Filter expressions

- Unsupported functions: Avg, Count, Max, Min & Sum.
- Behavioral difference: In a Web application, if a Find, Filter or Sort expression contains any special characters (for example, ".", "", "/"), the execution result may differ from PowerBuilder. In a Web application, the DataWindow rows may display in a different order from PowerBuilder.

Property expressions

- Overlapped quotes, for example, "sdf~"sdf", "dfg'sdf".
- In the Web application, modifying a DataWindow property in a DataWindow expression may conflict with the settings in the application's source code.

String expressions

Operands in the string expression cannot a mix of constants and variables.

Decimal Precision in DataWindow expression

28-digit Decimal is only supported in the following DataWindow expressions: Abs, Avg, CamulativeSum, Median, Sign, and Sum.

10.7 DataWindow objects and their properties

10.7.1 DataWindow object

Table 10.11:

Controls in a DataWindow	Supported & Unsupported	
	Refer to the Controls in a DataWindow and their properties section for details.	
Column edit styles	Supported	
	CheckBox	DropDownDataWindow
	DropDownListBox	Edit
	EditMask*	RadioButtons
	Unsupported	
InkEdit (DropDown Calendar property of EditMask is unsupported.)	RichText	
DataWindow bands	Supported	
	All DataWindow bands, including Header band, Detail band, Summary band, Footer band, Trailer band, and Tree.Level band are supported.	
	All DataWindow bands can contain any supported control.	
	Unsupported	
	The height of the Header band cannot be smaller than 0.	
	The header and footer bands are unsupported in the DataWindow with the RichText presentation style.	
Notes		
1. Do not use the band name as the name of the DataWindow object, otherwise the execution result on Web will be different from that on PowerBuilder.		
2. If the content in the summary band cannot be displayed fully on the last page of the deployed DataWindow, an additional page will be displayed to show the rest of the content.		
Other	Supported	
	DataWindows that contain Blob columns are unsupported.	

10.7.2 DataWindow object properties

Supported

If a property is marked as "supported (r)" or "(r)", it means that the property can be read in script, but not changed in script, and setting the property in the painter has no effect in the converted application.

If a property is marked as "supported (r/w)" or "(r/w)", it means that the property can be read or changed in script, and setting the property is effective in the painter.

The table below lists the supported properties for DataWindow object:

Table 10.12:

Property	What's Supported	What's Unsupported
Attributes	Supported (r)	
<i>Bandname.property</i>	(r/w): Detail.Color, Detail.Height, Detail.Height.Autosize, Detail.Pointer, Footer.Color, Footer.Height, Footer.Pointer, Header.Color, Header.Height, Header.Pointer, Summary.Color, Summary.Height, Summary.Pointer, Trailer.Color, Trailer.Height, Trailer.Pointer, Height.Autosize	
<i>Bandname.Text</i>	Supported	
Bands	Supported	
BitmapName	Supported	
Color	Supported	
Column.count	Supported	
<i>Crosstab.property</i>	(r/w): Crosstab.SourceNames (r): Rows, Columns, Values, StaticMode, CrossTabData	
Data	Supported	
Data.XML	Supported	
Data.XMLDTD	Supported	
Data.XMLSchema	Supported	
FirstRowOnPage	Supported	
Grid.ColumnMove	Supported	
Grid.Lines	Supported	
HTMLDW	Supported	
HTML Gen <i>.property</i>	Supported	

Property	What's Supported	What's Unsupported
HTML Table <i>.property</i>	Supported	
Label. <i>property</i>	Supported	
LastRowOnPage	Supported (r)	
Message.Title	Supported	
Name	Supported	
Nested	Supported	
Objects	Fully supported (r) Note: In the Web application, the returned object names are listed in a different order from that in PowerBuilder.	
Pointer	Supported	
Print. <i>property</i>	<p>Supported</p> <p>(r/w): Color, Collate, Columns, Columns.Width, Copies, DocumentName, Duplex, Filename, Margin.Bottom, Margin.Left, Margin.Right, Margin.Top, Orientation, Page.Range, Page.RangeInclude, Paper.Size, Paper.Source, Preview, Preview.Rulers, Preview.Zoom, PrinterName, Prompt, Quality, Scale, CustomPage.Width, CustomPage.Length</p> <p>Notes:</p> <ol style="list-style-type: none"> 1. When Paper.Size is the default value (0), in PowerBuilder application, the default paper size for the printer will be used for the output; while in PowerServer Web application, the paper size for the local printer will be used, but if it cannot be obtained, then the monitor screen size (for example 1024x768) will be used. 2. In PowerServer Web application, the Copies property will not take 	<p>Unsupported</p> <p>CanUserDefaultPrinter, ClipText, OverridePrintJob</p>

Property	What's Supported	What's Unsupported
	<p>effect and only one copy will be printed.</p> <p>3. In PowerServer Web application, the Scale property will not take effect and the output always prints as 100% of scale.</p> <p>4. The value of MarginBottom, MarginLeft, printMarginTop, MarginRight, PreviewZoom, Scale cannot be negative.</p> <p>5. In PowerBuilder, if a printer driver does not support scaling, scaling is not supported in either DataWindow printing or preview. However, in the same scenario on the Web, scaling can work in DataWindow preview.</p> <p>6. When executing PDF printing, if the DocumentName is an empty string, on the Web, the DataWindow will be automatically saved as naming DataWindow.pdf.</p> <p>7. Filename cannot be an empty string.</p> <p>8. Newspaper Columns Across option under Columns property is supported for all DataWindows except for composite and nested DataWindows.</p>	
Print.Buttons	Supported	
Print.Preview .Buttons	Supported	
Printer	Supported	
Processing	Supported (r)	
QueryClear	<p>Supported</p> <p>Note: By setting the QueryClear property to Yes, events that are triggered by the property on</p>	

Property	What's Supported	What's Unsupported
	Web are different from those in PowerBuilder.	
QueryMode	<p>Supported</p> <p>Extending support:</p> <p>For columns of all types (except string), if the QueryMode is set to Yes, calling Find functions will take effect on the Web but not in PowerBuilder.</p> <p>Limitations:</p> <p>In the query mode, calling the following functions is not recommended because the result of calling functions on the Web is different from in PowerBuilder: InsertRow, DeleteRow, ResetUpdate, RowsDiscard, Update, SetItemStatus, Sort, GroupSort, CopyData, MoveData, GetFullState, SetFullState, GetChanges, SetChanges.</p> <p>If the QueryMode is set to Yes, it is unsupported to insert or delete rows in a DataWindow.</p> <p>If the QueryMode is set to Yes, retrieving data by column alias will cause errors on the Web.</p> <p>QueryMode is unsupported in TreeView DataWindow.</p> <p>If the QueryMode is set to Yes, executing DataWindow SaveAs function will not reset the query criteria on the Web.</p>	
QuerySort	Supported	
ReadOnly	Supported (r)	
Rows_Per_Detail	Supported	
RichText. <i>property</i>	Supported	
Selected	Unsupported	
Selected.Data	Unsupported	
Selected.Mouse	Supported	If the Selected.Mouse is set to Yes, it is unsupported to select multiple

Property	What's Supported	What's Unsupported
		columns by pressing Shift and Ctrl keys.
ShowDefinition	Supported (r)	
SlideLeft	Supported	
SlideUp	Supported	
Sparse	Supported	
Storage	Unsupported	
StoragePageSize	Unsupported	
Syntax	Supported	
Syntax.Data	Supported	
Syntax.Modified	Supported	
Table. <i>property</i>	<p>(r/w): Arguments, CrosstabData, Data.Storage, Delete.Argument, Delete.Method, Delete.Type, Filter, Select.Attribute, Update.Argument, Update.Method, Update.Type, Select, GridColumns, Insert.Argument, Insert.Method, Insert.Type, Select.Attribute, Sort, Update.Argument, Update.Method, Update.Type, UpdateKeyInPlace, UpdateTable, UpdateWhere</p> <p>(r): SQLSelect, Procedure</p> <p>In PowerBuilder, the Table.Select property contains the escape character "~" But after the execution of the SetTransObject function, "~" will be removed. During parsing of the application, "~" will be translated into a newline return. After parsing, no "~" will be found in the Table.Select property.</p> <p>In PowerBuilder, by default, the Ascending criteria will be included in the value of the Table.Sort property. However, in the Web application, the Sort is a string containing the sort criteria set by the user. Even though the string will not include the default Ascending criteria, the result will be the same as in PowerBuilder.</p>	Table. <i>property</i> is not supported for External data sources.

Property	What's Supported	What's Unsupported
	For a Web application that has more than one user accessing the same tables concurrently, set the DataWindow Table.UpdateWhere property to 1 ("Key and updatable columns") to avoid data loss.	
Tooltip. <i>property</i>	Supported: Backcolor, Enabled, Icon, Isbubble, Tip, Title, Textcolor	Unsupported: Delay.initial, Delay.visible
VerticalScroll Maximum	Supported	
VerticalScroll Position	Supported	
Units	Supported Only the type of PowerBuilder units is supported	
Zoom	Partially Supported Notes: 1. It is unsupported to zoom DataWindow object when the window's size is also changing. 2. The effect of a zoom factor appears differently in PowerBuilder than in the Web application.	

Unsupported

None of the Graphical DataWindow properties are supported.

The table below lists the unsupported properties for DataWindow objects:

Table 10.13:

Data.HTML.Table	Data.XMLWeb	HideGrayLine	Data.XSLFO
Font.Bias	Help. <i>property</i>	HorizontalScroll Maximum	HorizontalScroll Maximum2
HorizontalScroll Position	HorizontalScroll Position2	HorizontalScrollSplit	HTMLDW
OLE.Client. <i>property</i>	Retrieve.AsNeeded	Row.Resize	Table.sqlaction. <i>property</i>
Timer_Interval			

10.7.3 Controls in a DataWindow and their properties

Notes:

- Avoid placing controls above or behind other controls in a DataWindow, as overlapping controls are displayed differently on the Web than in PowerBuilder. For example, if there is a Text control behind a DropDownDataWindow column in a DataWindow, the DropDownDataWindow field cannot be pulled down correctly.

10.7.3.1 Button control

Supported

If a property is marked as "supported (r)" or "(r)", it means that the property can be read - but not changed - in script, and properties set in the painter will not take effect in the converted application.

If a property is marked as "supported (r/w)" or "(r/w)", it means that the property can be read or changed in script, and properties set in the painter will take effect.

Table 10.14:

Property	What's Supported	What's Unsupported
Action	(r/w): User Defined, Retrieve, PageNext, PagePrior, PageFirst, PageLast, Sort, Filter, DeleteRow, AppendRow, InsertRow, Update, SaveRowsAs, Print, Cancel, Preview, PreviewWithRulers, QueryMode, QuerySort, Query, Clear	This property cannot be set by using DataWindow expression. Retrieve (Yield)
Attributes	Supported (r)	
Background .property	Fully supported (r/w): Color, Mode This property can be set by using DataWindow expression.	
Band	Supported (r): Band, Background, Foreground	
Color	Fully supported (r/w) This property can be set by using DataWindow expression.	
DefaultPicture	Supported (r/w) This property cannot be set by using DataWindow expression.	
Filename	Fully supported (r/w)	
Font.property	(r/w): Charset, Escapement, Face, Family, Height, Italic, Pitch, Strikethrough, Underline, Weight Note:	Width

Property	What's Supported	What's Unsupported
	<ol style="list-style-type: none"> 1. When the value of Escapement is a negative number, the text will not be rotated. 2. The text rotated can be displayed out of the control in PowerBuilder, but not in the Web application. 3. After rotated, the multiple-line text still displays in multiple lines in PowerBuilder, but displays in one line on Web. 	
Height	Fully supported (r/w) This property can be set by using DataWindow expression.	
HTextAlign	Fully supported (r/w)	
Name	Supported (r)	
Pointer	Fully supported (r/w)	
SlideLeft	Supported (r/w)	
SlideUp	Supported (r/w)	
Tag	Fully supported (r/w)	
Text	Fully supported (r/w)	
Type	Supported (r)	
VTextAlign	Supported (r/w)	
Visible	Fully supported (r/w) This property can be set by using DataWindow expression.	
Width	Fully supported (r/w) This property can be set by using DataWindow expression.	
X	Fully supported (r/w) This property can be set by using DataWindow expression.	
Y	Fully supported (r/w) This property can be set by using DataWindow expression.	

Unsupported

- HideSnaked

- Movable
- Resizable
- SuppressEventProcessing

10.7.3.2 Column control

Supported

If a property is marked as "supported (r)" or "(r)", it means that the property can be read - but not changed - in script, and properties set in the painter will not take effect in the converted application.

If a property is marked as "supported (r/w)" or "(r/w)", it means that the property can be read or changed in script, and properties set in the painter will take effect.

Table 10.15:

Property	What's Supported	What's Unsupported
Accelerator	Fully supported (r/w)	
Alignment	Left!, Center!, Right! In PowerBuilder, when the Edit.password property is YES and the alignment of the column's text is center-aligned, the text is left-aligned when it is being edited. After the editing, the text is center-aligned. In the Web application, the text is always center-aligned.	Justify!
Attributes	Supported (r)	
Background. <i>property</i>	Fully supported (r/w): Color, Mode	
Band	(r): Band	
BitmapName	Fully supported (r/w) Different from PB, Apeon also supports specifying an Internet URL as the column's content when BitmapName is set to Yes.	
Border	(r/w): NoBorder!, Box!, Lowered!, Raised!, ShadowBox!, Underline!, ResizeBorder!	
CheckBox. <i>property</i>	(r/w): LeftText, Off, On, Other, Scale, Text, ThreeD, ThreeState	It is unsupported to dynamically change the edit style of a column by modifying this property.
Color	Fully supported (r/w) Set this property using DataWindow expression.	

Property	What's Supported	What's Unsupported
ColType	Supported (r) <pre>dw_control.object.columnname.coltype</pre> <pre>dw_control.Describe("columnname.coltype")</pre>	
Criteria. <i>property</i>	Fully supported (r/w)	
dbName	Supported (r) Example: <pre>dw_control.object.columnname.dbName</pre> <pre>dw_control.Describe("columnname.dbName")</pre>	
dddw. <i>property</i>	<p>(r/w): AllowEdit, AutoHScroll, AutoRetrieve, DataColumn, DisplayColumn, HscrollBar, Limit, Name, NilIsNull, PercentWidth, Required, UseAsBorder, VscrollBar, Case Lines, ShowList.</p> <p>(r): HSplitScroll</p> <p>The size and font size of Web DropdownDataWindows are determined by the size of the deployed DataWindow; the width of Web DropdownDataWindows, if set to be smaller than the column width, will be displayed in the same width as the column.</p> <p>When executing Modify function to change the dddw.property on the Web:</p> <p>1) the value variable must be contained in single quotation marks. For example,</p> <p>Unsupported code:</p> <pre>dw_1.Modify ("emp_id.dddw.name = dw_dddw_dropdown")</pre> <p>Supported code:</p> <pre>dw_1.Modify ("emp_id.dddw.name = 'dw_dddw_dropdown'")</pre> <p>2) properties must be separated with spaces when they are concatenated into one value. For example,</p> <p>Unsupported code:</p>	It is unsupported to dynamically change the edit style of a column by modifying this property.

Property	What's Supported	What's Unsupported
	<pre>dw_1.Modify = "emp_id.BackGround.Color=" + String(RGB(192,192,192)) + "emp_id.Protect=1"</pre> <p>Supported code:</p> <pre>dw_1.Modify = "emp_id.BackGround.Color=" + String(RGB(192,192,192)) + " emp_id.Protect=1"</pre>	
<i>ddlb.property</i>	(r/w): AllowEdit, AutoHScroll, Case, Limit, NilIsNull, Required, ShowList, Sorted, UseAsBorder, VScrollBar	It is unsupported to dynamically change the edit style of a column by modifying this property.
<i>Edit.property</i>	(r/w): AutoHScroll, AutoSelect, AutoVScroll, Case, CodeTable, DisplayOnly, HscrollBar, Limit, Name, NilIsNull, Password, Required, Style, VscrollBar, FocusRectangle, ValidateCode	<p>Format is unsupported.</p> <p>Modifying ValidateCode takes no effect.</p> <p>It is unsupported to dynamically change the edit style of a column by modifying this property.</p>
<i>EditMask.property</i>	<p>(r/w): AutoSkip, CodeTable, DDCalendar, Mask, ReadOnly, Required, Spin, SpinIncr, SpinRange, UseFormat, FocusRectangle</p> <p>In the Web application, if the Mask of a column is set to [General], the values in the column are all displayed as integers when the column gets focus.</p> <p>In the Web application, if the Mask is set to General by default, the displaying data of a column with the EditMask edit style will be converted into an integer when the column gets focus.</p> <p>For more about the supported display formats, see Displaying and validating data.</p>	<p>If a Mask is set as a four-digit string, the column will only retrieve the first four digits of the entered value when you use SetItem to set a value in the EditMask column which is different from what occurs in PowerBuilder.</p> <p>It is unsupported to dynamically change the edit style of a column by modifying this property.</p>
<i>Font.property</i>	<p>(r/w): Charset, Escapement, Face, Family, Height, Italic, Pitch, Strikethrough, Underline, Weight</p> <p>Note:</p>	Width

Property	What's Supported	What's Unsupported
	<ol style="list-style-type: none"> 1. When the value of Escapement is a negative number, the text will not be rotated. 2. The text rotated can be displayed out of the control in PowerBuilder, but not in the Web application. 3. After rotated, the multiple-line text still displays in multiple lines in PowerBuilder, but displays in one line on Web. 	
Format	Edit For more about the supported display formats, see Displaying and validating data .	
Height	Set the Height property using a DataWindow expression.	
Height.AutoSize	Supported (r)	
HideSnaked	Supported (r)	
Identity	Fully supported (r/w)	
ID	Supported (r)	
Initial	Fully supported (r/w)	
Key	Fully supported (r/w)	
LineRemove	Supported (r)	
Multiline	Fully supported (r/w)	
Name	Supported (r)	
Pointer	Supported (r/w)	
Protect	This property can be set by using DataWindow expression.	
RadioButtons. .property	Fully supported (r/w): 3D, Columns, LeftText, Scale	It is unsupported to dynamically change the edit style of a column by modifying this property.
RightToLeft	Supported This property is partially supported. It only supports the right-to-left display of characters.	
SlideLeft	Supported (r/w)	
SlideUp	Supported (r/w)	

Property	What's Supported	What's Unsupported
TabSequence	Fully supported (r/w)	
Tag	Fully supported (r/w)	
Type	Supported (r)	
Update	Fully supported (r/w)	
Validation	Supported (r)	This property cannot be dynamically changed.
ValidationMsg	Supported (r/w)	
Values	Supported (r/w) This property is supported for columns with the following edit styles: DropDownListBox, CheckBox, and RadioButtons.	
Visible	Supported (r/w) This property can be set by using DataWindow expression.	
Width	Fully supported (r/w) This property can be set by using DataWindow expression.	
Width.Autosize	Supported (r)	
X	Supported (r/w)	
Y	Supported (r/w)	

Unsupported

- Movable
- Resizable
- *HTML.property*

Notes:

1. Automatically adjusting the height of DropDownDataWindow and DropDownListBox objects in Column controls is unsupported.
2. Make sure that the length of data you specified for Column control in PowerBuilder exactly matches the length of data of the corresponding column in the database.
3. It is unsupported to nest a DropDownDataWindow with another DropDownDataWindow.

10.7.3.3 Computed Field control

Supported

If a property is marked as "supported (r)" or "(r)", it means that the property can be read - but not changed - in script, and properties set in the painter will not take effect in the converted application.

If a property is marked as "supported (r/w)" or "(r/w)", it means that the property can be read or changed in script, and properties set in the painter will take effect.

LineRemove Supported (r)

Table 10.16:

Property	What's Supported	What's Unsupported
Alignment	Fully supported (r/w): Left!, Center!, Right!	Justify!
Attributes	Supported (r)	
Background .property	Fully supported (r/w): Color, Mode	
Band	Fully supported	
Border	(r/w): NoBorder!, Box!, Lowered!, Raised!, ShadowBox!, Underline!, ResizeBorder!	
Color	Fully supported (r/w) This property can be set by using DataWindow expression.	
ColType	Supported (r)	
Expression	Supported (r/w) Note: 1. After dynamically modifying this property in CrossTab DataWindow, data will be recalculated according to the new expression on the Web. In PowerBuilder, the data will not be recalculated. 2. If the expression starts with spaces (for example, '' + mail_from), in the Web application the computed field value after the spaces always starts in a new line, despite the column height. This is different from PowerBuilder.	
Font.property	(r/w): Charset, Escapement, Face, Family, Height, Italic, Pitch, Strikethrough, Underline, Weight	Width

Property	What's Supported	What's Unsupported
	<p>Note:</p> <ol style="list-style-type: none"> 1. When the value of Escapement is a negative number, the text will not be rotated. 2. The text rotated can be displayed out of the control in PowerBuilder, but not in Web applications. 3. After rotated, the multiple-line text still displays in multiple lines in PowerBuilder, but displays in one line on Web. 	
Format	Supported (r/w)	Null-format is unsupported; positive-format, negative-format, and zero-format are supported.
Height	Fully supported (r/w) This property can be set by using DataWindow expression.	
Height.Autosize	Supported	
HideSnaked	Supported (r)	
HTML. <i>property</i>	(r): AppendedHTML, Link, LinkArgs, LinkTarget, ValueIsHTML	
Multiline	Supported	
Name	Supported	
Pointer	Supported	
SlideLeft	Supported	
SlideUp	Supported	
Tag	Supported	
Type	Supported	
Visible	Supported	
Width	Supported	
Width.Autosize	Supported	
X	Supported	
Y	Supported	

Unsupported

- Movable

- Resizable

10.7.3.4 Graph control

Supported

If a property is marked as "supported (r)" or "(r)", it means that the property can be read - but not changed - in script, and properties set in the painter will not take effect in the converted application.

If a property is marked as "supported (r/w)" or "(r/w)", it means that the property can be read or changed in script, and properties set in the painter will take effect.

Table 10.17:

Property	What's Supported	What's Unsupported
Attributes	Fully supported	
Axis	Fully supported	
Axis.property	Fully supported	
Axis.DispAttr	Fully supported	
BackColor	Fully supported	
Border	Fully supported	
Category	Fully supported	
Category.property	Fully supported	
Category.DispAttr	Fully supported	
Color	Fully supported	
Depth	Fully supported	
Elevation	Fully supported	
GraphType	(r/w): AreaGraph!, BarGraph!, BarStackGraph!, Bar3DObjGraph!, BarStack3DObjGraph!, Col3DObjGraph!, ColStack3DObjGraph!, ColGraph!, ColStackGraph!, LineGraph!, PieGraph!, ScatterGraph!	Area3D!, Bar3DGraph!, Col3DGraph!, Line3D!, Pie3D!
Height	Fully supported	
HideSnaked	Fully supported	
Legend	Fully supported	
Legend.DispAttr.property	Fully supported	
Name	Fully supported	
OverlapPercent	Fully supported	
Perspective	Fully supported	
Pie.DispAttr.fontproperty	Fully supported	

Property	What's Supported	What's Unsupported
Pointer	Fully supported	
Range	Fully supported	
Rotation	Fully supported	
Series	Fully supported	
Series.property	Fully supported	
Series.DispAttr	Fully supported	
ShadeColor	Fully supported	
SizeToDisplay	Fully supported	
SlideLeft	Fully supported	
SlideUp	Fully supported	
Spacing	Fully supported	
Tag	Fully supported	
Title	Fully supported	
Title.DispAttr.fontproperty	Fully supported	
Type	Fully supported	
Values	Fully supported	
Values.property	Fully supported	
Values.DispAttr	Fully supported	
Visible	Fully supported	
Width	Fully supported	
X	Fully supported	
Y	Fully supported	

Unsupported

- Movable
- Resizable

10.7.3.5 GroupBox control

Supported

If a property is marked as "supported (r)" or "(r)", it means that the property can be read - but not changed - in script, and properties set in the painter will not take effect in the converted application.

If a property is marked as "supported (r/w)" or "(r/w)", it means that the property can be read or changed in script, and properties set in the painter will take effect.

Table 10.18:

Property	What's Supported	What's Unsupported
Attributes	Supported (r)	
Background. <i>property</i>	Fully supported (r/w): Color, Mode	
Band	Supported (r)	
Border	Supported (r)	
Color	Fully supported (r/w)	
Font. <i>property</i>	(r/w): Charset, Escapement, Face, Family, Height, Italic, Pitch, Strikethrough, Underline, Weight Note: 1. When the value of Escapement is a negative number, the text will not be rotated. 2. The text rotated can be displayed out of the control in PowerBuilder, but not in Web applications. 3. After rotated, the multiple-line text still displays in multiple lines in PowerBuilder, but displays in one line on Web.	Width
Height	Fully supported (r/w)	
HideSnaked	Supported (r)	
Name	Supported (r)	
Pointer	Fully supported (r/w):	
SlideLeft	Supported (r/w):	
SlideUp	Supported (r/w):	
Tag	Fully supported (r/w)	
Text	Fully supported (r/w)	
Type	Supported (r)	
Visible	Fully supported (r/w)	
Width	Fully supported (r/w)	
X	Fully supported (r/w)	
Y	Fully supported (r/w)	

Unsupported

- Movable

- Resizable

10.7.3.6 Line control

Supported

If a property is marked as "supported (r)" or "(r)", it means that the property can be read - but not changed - in script, and properties set in the painter will not take effect in the converted application.

If a property is marked as "supported (r/w)" or "(r/w)", it means that the property can be read or changed in script, and properties set in the painter will take effect.

Table 10.19:

Property	What's Supported	What's Unsupported
Attributes	Supported (r)	
Background <i>.property</i>	(r/w): Color, Mode	
Band	Supported (r)	
Name	Supported (r)	
Pen. <i>property</i>	Fully supported (r/w)	
Pointer	Fully supported (r/w)	
SlideLeft	Fully supported (r/w)	
SlideUp	Fully supported (r/w)	
Tag	Fully supported (r/w)	
Type	Supported	
Visible	Fully supported (r/w)	
X1, X2	Fully supported (r/w)	
Y1, Y2	Fully supported (r/w)	

Unsupported

- Movable
- Resizable

10.7.3.7 Oval control

Supported

If a property is marked as "supported (r)" or "(r)", it means that the property can be read - but not changed - in script, and properties set in the painter will not take effect in the converted application.

If a property is marked as "supported (r/w)" or "(r/w)", it means that the property can be read or changed in script, and properties set in the painter will take effect.

Table 10.20:

Property	What's Supported	What's Unsupported
Attributes	Supported(r)	

Property	What's Supported	What's Unsupported
Background <i>.property</i>	Fully supported (r/w): Color, Mode	
Band	Supported (r)	
Brush. <i>property</i>	(r/w): Color, Hatch	
Height	Supported (r/w)	
HideSnaked	Supported (r)	
Name	Fully supported	
Pen. <i>property</i>	(r/w): Color, Style, Width	
Pointer	Fully supported (r/w)	
SlideLeft	Supported (r/w)	
SlideUp	Supported (r/w)	
Tag	Fully supported (r/w)	
Type	Supported (r)	
Visible	Fully supported (r/w)	
X	Fully supported (r/w)	
Y	Fully supported (r/w)	

Unsupported

- Movable
- Resizable

10.7.3.8 Picture control

Supported

If a property is marked as "supported (r)" or "(r)", it means that the property can be read - but not changed - in script, and properties set in the painter will not take effect in the converted application.

If a property is marked as "supported (r/w)" or "(r/w)", it means that the property can be read or changed in script, and properties set in the painter will take effect.

Table 10.21:

Property	What's Supported	What's Unsupported
Attributes	Supported(r)	
Band	Supported (r)	
Border	Fully supported (r/w)	
Filename	Fully supported (r/w)	
Height	Fully supported (r/w)	
HideSnaked	Supported (r)	

Property	What's Supported	What's Unsupported
HTML. <i>property</i>	(r): AppendedHTML, Link, LinkArgs, LinkTarget	
Invert	Supported (r)	
Name	Supported (r)	
Pointer	Supported (r/w):	
SlideLeft	Supported (r/w)	
SlideUp	Supported (r/w)	
Tag	Fully supported (r/w)	
Type	Supported (r)	
Visible	Fully supported (r/w)	
Width	Fully supported (r/w)	
X	Fully supported (r/w)	
Y	Fully supported (r/w)	

Unsupported

- Movable
- Resizable

10.7.3.9 Rectangle control

Supported

If a property is marked as "supported (r)" or "(r)", it means that the property can be read - but not changed - in script, and properties set in the painter will not take effect in the converted application.

If a property is marked as "supported (r/w)" or "(r/w)", it means that the property can be read or changed in script, and properties set in the painter will take effect.

Table 10.22:

Property	What's Supported	What's Unsupported
Attributes	Supported (r)	
Background <i>.property</i>	Fully supported (r/w): Color, Mode	
Band	Supported (r)	
Brush. <i>property</i>	(r/w): Color, Hatch	
Height	Fully supported (r/w)	
HideSnaked	Supported (r)	
Name	Supported (r)	
Pen. <i>property</i>	(r/w): Color, Style, Width	
Pointer	Fully supported (r/w)	

Property	What's Supported	What's Unsupported
SlideLeft	Supported (r/w)	
SlideUp	Supported (r/w)	
Tag	Fully supported (r/w)	
Type	Supported (r)	
Visible	Fully supported (r/w)	
X	Fully supported (r/w)	
Y	Fully supported (r/w)	

Unsupported

- Movable
- Resizable

10.7.3.10 Report control

Supported

If a property is marked as "supported (r)" or "(r)", it means that the property can be read - but not changed - in script, and properties set in the painter will not take effect in the converted application.

If a property is marked as "supported (r/w)" or "(r/w)", it means that the property can be read or changed in script, and properties set in the painter will take effect.

Table 10.23:

Property	What's Supported	What's Unsupported
Attributes	Fully supported	
Band	Fully supported	
Border	Fully supported	
DataObject	Supported (r/w)	DataWindows with the following presentation styles cannot be the DataObject: RichText, OLE and TreeView.
Height	Fully supported	
Name	Fully supported	
Nested Arguments	Fully supported	
NewPage	Supported	
Pointer	Fully supported	
Slideleft	Supported	
SlideUp	Supported	
Tag	Fully supported	
Trail footer	Supported	

Property	What's Supported	What's Unsupported
Type	Fully supported	
Visible	Fully supported	
X	Fully supported	
Y	Fully supported	

Unsupported

- Criteria
- HideSnaked
- Movable
- Resizable

Note:

- In a single data retrieval, the number of report queries cannot be over 65,535.
- It is unsupported to assign a nested report to a DataWindow object.

Unsupported example:

```
Dwobject ldwo
String ls_1
Ldwo = Dw_1.object.dw_report[1] // dw_report is a nested report.
Ls_1 = ldwo.object.lastname[2]
```

Supported example:

```
Ls_1 = Dw_1.object.dw_report[1].object.lastname[2]
```

10.7.3.11 RoundRectangle control

Supported

If a property is marked as "supported (r)" or "(r)", it means that the property can be read - but not changed - in script, and properties set in the painter will not take effect in the converted application.

If a property is marked as "supported (r/w)" or "(r/w)", it means that the property can be read or changed in script, and properties set in the painter will take effect.

Table 10.24:

Property	What's Supported	What's Unsupported
Attributes	Supported (r)	
Background .property	(r/w): Color, Mode	
Band	Supported (r)	
Brush.property	(r/w): Color, Hatch	
Height	Fully supported(r/w)	
HideSnaked	Supported (r)	

Property	What's Supported	What's Unsupported
Name	Supported (r)	
Pen. <i>property</i>	(r/w): Color, Style, Width	
Pointer	Fully supported(r/w)	
SlideLeft	Supported (r/w)	
SlideUp	Supported (r/w)	
Tag	Fully supported (r/w)	
Type	Supported (r)	
Visible	Fully supported (r/w)	
X	Fully supported (r/w)	
Y	Fully supported (r/w)	

Unsupported

- Movable
- Resizable

10.7.3.12 Text control

Supported

If a property is marked as "supported (r)" or "(r)", it means that the property can be read - but not changed - in script, and properties set in the painter will not take effect in the converted application.

If a property is marked as "supported (r/w)" or "(r/w)", it means that the property can be read or changed in script, and properties set in the painter will take effect.

Table 10.25:

Property	What's Supported	What's Unsupported
Alignment	Fully supported (r/w): Left!, Center!, Right!	Justify!
Attributes	Supported (r)	
Background <i>property</i>	Fully supported (r/w): Color, Mode	
Band	Supported (r): Band	Background, Foreground
Border	(r/w): NoBorder!, Box!, Lowered!, Raised!, ShadowBox!, Underline!, ResizeBorder!	
Color	Supported (r/w) This property can be set by using DataWindow expression.	
Font. <i>property</i>	(r/w): Charset, Escapement, Face, Family, Height, Italic, Pitch, Strikethrough, Underline, Weight	Width

Property	What's Supported	What's Unsupported
	<p>Note:</p> <ol style="list-style-type: none"> 1. When the value of Escapement is a negative number, the text will not be rotated. 2. The text rotated can be displayed out of the control in PowerBuilder, but not in Web applications. 3. After rotated, the multiple-line text still displays in multiple lines in PowerBuilder, but displays in one line on Web. 	
Height	<p>Fully supported (r/w) s</p> <p>This property can be set by using DataWindow expression.</p>	
HideSnaked	Supported (r)	
HTML. <i>property</i>	(r): AppendedHTML, Link, LinkArgs, LinkTarget, ValueIsHTML	
Name	Supported (r)	
Pointer	Fully supported(r/w)	
SlideLeft	Supported (r/w)	
SlideUp	Supported (r/w)	
Tag	Fully supported (r/w)	
Text	Supported (r/w)	
Type	Supported (r)	
Visible	<p>Fully supported (r/w)</p> <p>This property can be set by using DataWindow expression.</p>	
Width	<p>Fully supported (r/w)</p> <p>This property can be set by using DataWindow expression.</p>	
X	<p>Fully supported (r/w)</p> <p>This property can be set by using DataWindow expression.</p>	
Y	<p>Fully supported (r/w)</p> <p>This property can be set by using DataWindow expression.</p>	

Unsupported

- Height.AutoSize
- Movable
- Resizable

10.7.3.13 Unsupported controls

The properties of all the following unsupported controls are unsupported:

- InkPicture
- OLE
- TableBlob

10.8 DataWindow data and property expressions

Supported

- The following DataWindow data expressions are supported:

1. Syntax for one or all data items in a named column

```
dwcontrol.Object.dwcolumnname { .buffer } { .datasource } { [rownum] }
```

2. Syntax for selected data in a named column

```
dwcontrol.Object.dwcolumnname { .Primary } { .datasource }.Selected
```

3. Syntax for a range of data in a named column

```
dwcontrol.Object.columnname { .buffer } { .datasource } [startrow, endrow]
```

4. Syntax for a single data item in a DataWindow

```
dwcontrol.Object.Data { .buffer } { .datasource } [rownum, colnum]
```

5. Syntax for data in a block of rows and columns

```
dwcontrol.Object.Data { .buffer } { .datasource } [startrow, startcol, endrow, endcol]
```

6. Syntax for data in a single row or all rows

```
dwcontrol.Object.Data { .buffer } { .datasource } { [rownum] }
```

7. Syntax for all data from selected rows

```
dwcontrol.Object.Data { .Primary } { .datasource }.Selected
```

- The expression for accessing the text displayed in the column header is supported:

```
dwcontrol.Object.ColumnName.Text
```

- Basic syntax for DataWindow property expressions is supported:

```
dwcontrol.Object.dwcontrolname{.property}.property{=value}
```

- Setting or getting the value of a dot notation is supported, except that there is structure data in the expression.

Unsupported

- Getting the data value from a filter buffer according to the row number is unsupported. This is because data is stored in a different order in PowerServer than in PowerBuilder.

For example, the following script is unsupported:

```
dw_control.object.filter[startrow, startcol, endrow, endcol] //unsupported
```

- Setting the value of a dot notation to a structure array, or setting a structure array to a dot notation, is unsupported. For example, the following syntax is unsupported:

```
struct1 t[10]
t = dw_1.object.data[1]
```

Note: The PowerServer Unsupported Features Analysis tool cannot detect unsupported features in DataWindow dot notations. You must make sure the specifications about dot notations are satisfied in the application. Otherwise, it will cause errors. For more information on undetected features, refer to the [Undetected Features](#) section.

- Selected and Data are unsupported to be directly accessed by a DataWindow object via the dot notation.

For example:

Unsupported example:

```
ldwo_target.Primary = ldwo_column.selected //Unsupported
```

Supported example:

```
ldwo_target.Primary = dw_1.object.id.selected //Supported
```

- It is unsupported to contain Data in a dot notation to obtain the data of a column. For example:

Supported example:

```
string ls_an
dwobject dwo
dwo = dw_1.object.id
ls_an = string(dwo.data.primary[1])
```

Unsupported example:

```
string ls_an
dwobject dwo
dwo = dw_1.object.id
ls_an = string(dwo.primary[1])
```

- It is unsupported to use the following syntax in obtaining data in a row of a report.

```
dw_1.Object.dw_report[1] //Unsupported
```

10.9 DataWindow constants

Supported

In PowerBuilder, constants are defined in the DataWindow control for values of properties and arguments for methods. They are sets of values associated with enumerated data types. Values for enumerated data types always end with an exclamation point. The following list is the PowerBuilder constants PowerServer supports:

Table 10.26:

Constant	Supported Values	Unsupported Values
Alignment	Left! Center! Right!	Justify!
Band	Detail! Header! Footer!	None
Border	NoBorder! Box! Lowered! Raised!	ShadowBox! Underline! ResizeBorder!
BorderStyle	StyleBox! StyleLowered! StyleRaised!	StyleShadowBox!
CharSet	CharSetAnsi! CharSetUnicode! CharSetAnsiHebrew! CharSetAnsiArabic!	CharSetDBCS-Japanese!
DWBuffer	Primary! Delete! Filter!	None
DWItemStatus	NotModified! DataModified! New! NewModified!	None Note: It is not recommended to change status in script. Frequent or inappropriate user modification may result in unpredictable problems. The following operation is not recommended for new rows with no specified values for their columns: Changing a row's status from New!

Constant	Supported Values	Unsupported Values
		to NewModified and updating in script.
SaveAsType	Excel! Excel5! HTMLTable! PDF! Text! WMF! XML! Note: Up to 256 characters are supported and anything larger will be automatically truncated.	CSV! SYLK! WKS! WK1! DIF! dBASE2! dBASE3! SQLInsert! Clipboard! PSReport! XSLFO! Excel8! EMF!
SQLPreviewFunction	PreviewFunctionRetrieve!	PreviewFunctionReselectRow! PreviewFunctionUpdate!
SQLPreviewType	PreviewSelect!	PreviewInsert! PreviewDelete! PreviewUpdate!

If a constant is set to an unsupported value, PowerServer will use the default enumerated value as the constant value. For example, unsupported BorderStyle will be read as NoBorder.

Unsupported

The following constants are not supported:

Table 10.27:

ConnectionSource	DriverType	DWConflictResolution	FillPattern
grColorType	grDataType	grObjectType	grSymbolType
LineStyle	RowFocusInd		

10.10 DataWindow control

10.10.1 Properties of DataWindow control

Supported

The supported properties of DataWindow controls are listed in the table below:

Table 10.28:

Border	BorderStyle*	BringToTop	ControlMenu
DataObject	DragAuto	DragIcon	Enabled
Height	HScrollBar*	LiveScroll	Icon
MaxBox	MinBox	Object	Resizable*
RightToLeft	TabOrder	Tag	Title
TitleBar	Visible	VScrollBar*	Width
X	Y		

- **BorderStyle**

Three types of BorderStyle are supported: Box, 3D Raised, and 3D Lowered. Shadow Box is unsupported.

- **HScrollBar**

In PowerBuilder, when the property VScrollBar or HScrollBar is changed from visible to invisible or from invisible to visible, the Resize event will be triggered. However, in the same scenario on the Web, the Resize event will not be triggered.

- **Resizable**

The Resizable property cannot be dynamically changed.

After setting this property to True, setting Border properties will not be effective.

- **VScrollBar**

In PowerBuilder, when the property VScrollBar or HScrollBar is changed from visible to invisible or from invisible to visible, the Resize event will be triggered. However, in the same scenario on the Web, the Resize event will not be triggered.

Unsupported

The unsupported property of DataWindow control is ClassDefinition and HSplitScroll.

10.10.2 Events for the DataWindow control

Table 10.29:

Events for the DataWindow control	Supported	
	ButtonClicked	ButtonClicking
	Clicked	Constructor
	Collapsed	Collapsing
	DBError	Destructor
	DoubleClicked	DragDrop
	DragEnter	DragLeave
	DragWithin	EditChanged
	Expanded	Expanding
	GetFocus	ItemChanged

	ItemError	ItemFocusChanged
	LoseFocus	PrintPage
	RButtonDown	Resize
	RetrieveEnd	RetrieveStart
	RowFocusChanged	RowFocusChanging
	SQLPreview	ScrollHorizontal
	ScrollVertical	WSError
	<p><i>DBError</i></p> <p>The sqlsyntax and buffer arguments do not work in the DBError event.</p> <p>The GetSQLPreview function will be ignored if used in the DBError event.</p> <p><i>SQLPreview</i></p> <p>Only the value previewselect! can be used as the SQLPreview sqltype argument.</p>	
	Unsupported	
	Error	Help
	Other	PrintEnd
	PrintStart	RetrieveRow
	Using instance variables or global variables to store the dwo argument (argument type is dwoobject) for a DataWindow event is unsupported.	
Triggering of DataWindow events	Supported	
	<p>Nearly full support is available for Triggering supported DataWindow events, except for the following limitations and differences.</p> <p>(For ItemChanged event) In a Web application, if the ItemChanged event is triggered for a field whose new value does not pass validation, the focus will not go back to the column being edited.</p> <p>(For Resize event) When the Width or Height of a DataWindow control is reset, the Resize event will be triggered, regardless of whether the value is changed or remains the same.</p> <p>(For RowFocusChanged event) In PowerBuilder, RowFocusChanged will be triggered twice upon execution of the RowsCopy or RowsMove function. However, in the same scenario on the Web, the RowsFocusChanged event will only be triggered once.</p> <p>(For SQLPreview event) The SQLPreview event can only be triggered by the Retrieve function, not by Update or ReselectRow.</p> <p>If a DataWindow event requires interaction with the server, its subsequent event may not be triggered due to the time delay caused by the interaction with the server.</p>	

For label DataWindows, clicking different lines cannot trigger the RowFocusChanging and RowFocusChanged events.

10.10.3 Functions of DataWindow control

Supported

There are some limitations or differences for calling functions marked with the "*" symbol. Refer to the [Limitations and Differences for Calling Functions](#).

Table 10.30:

AcceptText	GetChild	PointerY
CategoryCount	GetClickedColumn	PostEvent
CategoryName	GetClickedRow*	Print*
ClassName	GetColumn	PrintCancel
Clear	GetColumnName	Reset*
ClearValues	GetParent	ResetDataColors
Clipboard	GetRow	ResetUpdate
Copy	GetRowFromRowId	Resize
CopyRTF	GetSelectedRow	Retrieve*
Collapse	GetSeriesStyle	RowCount
CollapseAll	GetSQLPreview	RowsCopy*
CollapseAllChildren	GetSQLSelect*	RowsDiscard
CollapseLevel	GetText	RowsMove
Cut	GetValidate	SaveAs*
DataCount	GetValue*	SaveAsAscii
DeletedCount	GroupCalc	ScrollNextPage
DeleteRow	Hide	SetColumn
Describe*	ImportClipboard*	SetDataPieExplode
Drag	ImportFile*	SetDataStyle
Expand	ImportJson	SetDetailHeight*
ExpandAll	ImportJsonByKey	SetFilter
ExpandAllChildren	ImportRowFromJson	SetFocus
ExpandLevel	ScrollNextRow	SetFormat
ExportJson	ScrollPriorPage	SetFullState
ExportRowAsJson	ScrollPriorRow	SetItem
Filter	ScrollToRow	SetItemStatus
FilteredCount	SelectedLength	SetPosition*

Find	SelectedStart	SetRedraw
FindCategory	SelectedText	SetRow
FindGroupChange	SelectedLine	SetRowFocusIndicator
FindNext	SelectRow	SetSeriesStyle
FindSeries	SelectText	SetSort*
GetBandAtPointer	SelectTextLine	SetSQLPreview
GetBorderStyle	SelectTextAll*	SetSQLSelect*
GetChanges	SelectTextWors	SetTabOrder
GetData	SetChanges	SetText
GetDataPieExplode	SeriesCount	SetTransObject
GetDataStyle	SeriesName	SetValidate
GetDataValue	SetBorderStyle	SetValue*
GetFormat	InsertDocument	SetWSObject*
GetFullState*	InsertRow	ShareData
GetItemDate	ImportString*	ShowHeadFoot
GetItemDateTime	IsExpanded	ShareDataOff
GetItemDecimal	IsSelected	Show
GetItemFormattedString	LineCount	Sort*
GetItemUnformattedString	ModifiedCount	TextLine
GetItemNumber	Modify*	TriggerEvent*
GetItemStatus	ObjectAtPointer	Typeof
GetItemString	Paste	Undo
GetItemTime	PasteRTF	Update
GetNextModified	Position	
GetObjectAtPointer	PointerX	

Unsupported

Table 10.31:

CanUndo	GetMessageText	SaveInk
CrosstabDialog	GetStateStatus	SaveInkPic
DBCcancel	GetTrans	SaveNativePDFToBlob
DBErrorCode	GetUpdateStatus	Scroll
DBErrorMessage	OLEActivate	ResetTransObject
GenerateHTMLForm	ResetInk	SetActionCode

GenerateResultSet	ReselectRow	SetHTMLAction
GetContextService	SaveAsFormattedText	SetTrans

Limitations and Differences for Calling Functions

1. Limitations

- GetFullState

The Retrieve argument is unsupported in the GetFullState function.

- GetSQLSelect

If the syntax in DataWindow is PBSELECT statement, when calling the GetSQLSelect function, it will still return the PBSELECT statement but not the SQL SELECT statement, which is different from that in PowerBuilder.

- GetValue

The *column* argument only works when the edit style of the column is CheckBox, DropDownListBox, Edit, or RadioButton.

- ImportFile, ImportString, ImportClipboard

1. The *filename* argument of ImportFile function must be a tab-separated file (TXT) or a comma-separated file (CSV).

2. The *importtype* arguments (e.g. Text!, CSV! and XML!) of ImportString function are unsupported.

The *importtype* arguments (e.g. Text!, CSV!, XML!, DBase2!, DBase3!) of ImportFile function are unsupported.

3. When using these functions, you should ensure that the data type imported matches the data type that you specified in a DataWindow control, DataStore object or graph control. Otherwise the output on the Web may be different from that in PowerBuilder. For example, if the date type specified in a DataWindow is string, when you import a file with date number (e.g., 2006-08-01), on the Web the date data will be recognized as a string (2006), however in PowerBuilder, it will be recognized as a date data (2006-08-01).

- Modify

If the Modify function is used to modify the WHERE clause of the DataWindow object's SQL SELECT statement, please make sure that the new SQL SELECT statement is correct in syntax. Otherwise, syntax errors can occur because PowerBuilder does not validate the statement whereas JavaScript does.

When executing Modify function to change the dddw.property on the Web, properties must be separated with spaces when they are concatenated into one value. For example,

Unsupported code:

```
dw_1.Modify = "emp_id.BackGround.Color=" + String(RGB(192,192,192)) +
"emp_id.Protect=1"
```

Supported code:

```
dw_1.Modify = "emp_id.BackGround.Color=" + String(192,192,192) + "
emp_id.Protect=1"
```

For more, refer to [Dynamic DataWindow](#).

- Print

1. Arguments specified in the Print function will be ignored in a Web application. Even if the CancelDialog argument is set to TRUE or FALSE, no Cancel dialog will be displayed on the Web to cancel printing.
2. When the Print function is executed for a DataWindow that contains a Text control with BorderType as None and actual length of the content larger than the length of the control, the printing result shows the content in the Text control the same way as the control is displayed in the application, although in PowerBuilder, the printing result shows the full content in the Text control.
3. For controls, print function is only supported when called in Graph controls with the following syntax.

```
integer objectname.print (long printjobnumber, integer x, integer y{, integer
width, integer height})
```

- Reset

The unsupported syntax: Reset(dwcontrol).

The supported syntax: dwcontrol.Reset.

- SaveAs

1. On the Web, Nillable attribute is unsupported in an XML schema.
2. The supported SaveAs syntax :

```
ll_testvalue = dw_test.SaveAs(filename, saveastype, colheading, encoding)
```

In the syntax:

The value of a *saveastype* argument can be TEXT, HTMLTable, XML, [PDF*](#), EXCEL, or EXCEL5. For the EXCEL format, only up to 256 characters are supported and anything larger will be automatically truncated.

When *saveastype* is PDF, the *colheading* argument is unsupported, for example, the following syntax is unsupported:

```
Integer dwcontrol.SaveAs({string filename, saveastype saveastype, boolean
colheading{, encoding encoding})
```

The unsupported SaveAs syntax:

```
dw_test.SaveAs([filename, ]graphcontrol[, saveastype, colheading])
```

3. If the DataWindow without any data is saved as an HTML file or XML file, on Web the DataWindow header will not be saved, whereas it will be saved on PB.

4. The generated file is automatically saved to the "plugin" folder under the current application directory. See "plugin" folder in *Workarounds & APIs Guide* for more.

- **SetPosition**

The supported syntax:

```
dwcontrol.SetPosition (position {, precedingobject})
```

The *position* can be ToTop! and ToBottom!, but cannot be Behind!

The unsupported syntax:

```
dwcontrol.SetPosition(objectname, band, bringtofront)
```

- **SetSQLSelect**

If a DataWindow uses a stored procedure as its data source, the SetSQLSelect function cannot be executed for the DataWindow.

- **SetValue**

The SetValue *column* argument only works if the edit style of the column is DropDownListBox.

- **SetSort**

1. If the Format argument of the SetSort contains sorting criteria for more than one column, the criteria of the columns must be separated with commas.
2. Using desc or asc as the Order will not have any effect. Please use the standard Order value A for ascending or D for descending order.

- **SetWSObject**

The SetWSObject function is used to set the authentication info for accessing Web service.

- **TriggerEvent**

The following TriggerEvent syntax is unsupported:

```
object1.TriggerEvent (object2, event)
```

2. Differences

- **Describe**

If there is no value for a property in the propertylist argument, Describe returns a question mark (?) in PowerBuilder, but returns the default value (for example, Arrow!) of the property on the Web.

- **GetClickedRow**

In a Web application, if the user clicks or double-clicks any area within a DataWindow, the GetClickedRow function returns the same value as in PowerBuilder. If the GetClickedRow is called in some control or window for a DataWindow, the return value is different on the

Web than in PowerBuilder. For example, if the *dw_1.GetClickedRow()* function is called in the Clicked event of a CommandButton, it returns -1 in PowerBuilder and 0 on the Web.

- **GetItemDecimal**

The return value of the *GetItemDecimal* function will omit the zero(s) to the right of the decimal value on the Web. For example: 3000.100 will be returned as 3000.1 on the Web but 3000.100 in PowerBuilder.

- **Retrieve**

1. Because PowerServer Web applications cannot check whether the retrieve result set matches the DataWindow definition syntax, the DBError event will not be triggered.

- **SetDetailHight**

Setting *detail.height.autosize* to true after specifying the height by this function, executing Describe returns the auto sized height on the Web. But in PowerBuilder it returns the height specified by this function.

- **RowDiscard**

For Composite, Group, Label and RichText DataWindows, if the current row is the start row, calling RowDiscard will not trigger RowFocusChanged on the Web. This is different from that in PowerBuilder.

- **SaveAsAscii**

When executing the SaveAsAscii function in PowerBuilder, invisible controls which lay in rows will not be saved as empty rows or " " (quotation marks). However, these invisible controls will be ignored on the Web.

- **SelectTextAll**

If the focus is in the header or footer band, executing SelectTextAll (detail!) on the Web returns -1 and no text will be selected. However, in PowerBuilder, the text in the band, which the focus is in, will be selected.

- **ShareData and ShareDataOff**

1. Supported:

```
CONNECT USING SQLCA;  
dw_corp.SetTransObject(SQLCA)  
dw_corp.Retrieve()  
dw_corp.ShareData(dw_emp)  
dw_corp.ShareData(dw_dept)  
... // Some processing  
dw_emp.ShareDataOff()
```

2. In Web applications, if any data in two data-sharing Group DataWindows are changed, the primary Group DataWindow will be re-grouped and re-sorted automatically, while the secondary Group DataWindow will only be re-grouped.

3. The row and column status is shared between the primary DataWindow and secondary DataWindow on the Web, although not shared in PowerBuilder.

- Sort

10.11 DataStore object

A DataStore is a nonvisual DataWindow control. DataStores act just like DataWindow controls except that many of the visual properties associated with DataWindow controls do not apply to DataStores. Because you can print DataStores, PowerBuilder provides some events and functions for DataStores that pertain to the visual presentation of the data.

However, graph functions such as CategoryCount, CategoryName, GetData, SeriesCount, and so forth depend on the visual graph control, which is not created for a DataStore object. These functions return an error value or an empty string when used with DataStores.

10.11.1 Properties of DataStore object

Supported

The supported properties of DataStore are DataObject and Object.

Unsupported

The unsupported property of DataStore is ClassDefinition.

10.11.2 Events of DataStore object

Supported

The following DataStore events are supported:

Table 10.32:

Constructor	DBError	Destructor*	ItemChanged
ItemError	PrintPage	RetrieveEnd	RetrieveStart
SQLPreview*	UpdateEnd	UpdateStart	WSError

- Destructor

If a non-visual object is a local variable, the Destructor event in the non-visual object cannot be triggered unless there is a Destroy statement for the non-visual object as well.

- SQLPreview

The SQLPreview event can be triggered by Retrieve method, but cannot be triggered by the Update or ReselectRow methods.

Unsupported

The following DataStore events are unsupported:

- Error
- PrintEnd
- PrintStart
- RetrieveRow

10.11.3 Functions of DataStore object

Supported

There are some limitations or differences for calling functions marked with the "*" symbol. Refer to the [Limitations and Differences for Calling Functions](#).

Table 10.33:

AcceptText	GetParent	SaveAs*
ClassName	GetRow	SaveAsAscii
ClearValues	GetRowFromRowId	SetDetailHeight
Create	GetRowIdFromRow	SelectRow
DeletedCount	GetSelectedRow	SetChanges
DeleteRow	GetSQLSelect*	SetColumn
Describe	GetText	SetFilter
ExportJson	GetValidate	SetFormat
ExportRowAsJson	GetValue*	SetFullState
FindGroupChange	GroupCalc	SetItem
Filter	ImportClipboard*	SetItemStatus
FilteredCount	ImportFile*	SetPosition
Find	ImportJson	SetRow
FindRequired	ImportJsonByKey	SetSort*
GenerateHTMLForm	ImportRowFromJson	SetSQLPreview
GetChanges	ImportString*	SetSQLSelect*
GetChild	InsertRow	SetText
GetColumn	IsSelected	SetTransObject
GetColumnName	ModifiedCount	SetValidate
GetFormat	Modify*	SetValue*
GetFullState	PostEvent	SetWSObject*
GetItemDate	Print	ShareData
GetItemDateTime	Reset	ShareDataOff
GetItemDecimal	ResetUpdate	Sort
GetItemNumber	Retrieve	TriggerEvent*
GetItemStatus	RowCount	TypeOf
GetItemString	RowsCopy	Update
GetItemTime	RowsDiscard	
GetNextModified	RowsMove*	

Unsupported

Table 10.34:

CategoryCount	GetClickedColumn	ResetDataColors
CategoryName	GetClickedRow	ResetTransObject
Clipboard	GetData	SaveAsFormattedText
CopyRTF	GetDataPieExplode	SaveNativePDFToBlob
CreateFrom	GetDataStyle	SeriesCount
DataCount	GetDateValue	SeriesName
DBCcancel	GetSeriesStyle	SetBorderStyle
FindCategory	GetStateStatus	SetDataPieExplode
FindSeries	GetTrans	SetDataStyle
GenerateResultSet	InsertDocument	SetHTMLAction
GetBorderStyle	PasteRTF	SetSeriesStyle
GetContextService	PrintCancel	SetTrans
	ReselectRow	

Limitations and Differences for Calling Functions

- GetValue

The *column* argument works only if the edit style of the column is CheckBox, DropDownListBox, Edit, or RadioButton.

- GetSQLSelect

If the syntax in DataWindow is PBSELECT statement, when calling the GetSQLSelect function, it will still return the PBSELECT statement but not the SQL SELECT statement, which is different from that in PowerBuilder.

- ImportFile, ImportString, ImportClipboard

1. The *filename* argument of ImportFile function must be a tab-separated file (TXT) or a comma-separated file (CSV).

2. The *string* argument of ImportString function must be a tab-separated string (text).

3. The *importtype* arguments (e.g. Text!, CSV! and XML!) of ImportString function are unsupported.

The *importtype* arguments (e.g. Text!, CSV!, XML!, DBase2!, DBase3!) of ImportFile function are unsupported.

4. When using the three functions, you should ensure that the data type imported matches the data type that you specified in a DataWindow control, DataStore object or graph control. Otherwise the output on the Web may be different from that in PowerBuilder.

For example, if the date type specified in a DataWindow is string, when you import a file with date number (eg, 2006-08-01), on the Web the date data will be recognized as a string (2006), however in PowerBuilder, it will be recognized as a date data (2006-08-01).

- **Modify**

If the Modify function is used to modify the WHERE clause of the DataWindow object's SQL SELECT statement, please make sure that the new SQL SELECT statement is correct in syntax. Otherwise, syntax errors can occur on the Web because PowerBuilder does not validate the statement whereas JavaScript does.

When executing Modify function to change the dddw.property on the Web, properties must be separated with spaces when they are concatenated into one value. For example,

Unsupported code:

```
dw_1.Modify = "emp_id.BackGround.Color=" + String(RGB(192,192,192)) +
"emp_id.Protect=1"
```

Supported code:

```
dw_1.Modify = "emp_id.BackGround.Color=" + String(RGB(192,192,192)) + "
emp_id.Protect=1"
```

In PowerServer Web, the Modify function cannot be used to modify the database information.

- **RowsMove**

Events cannot be triggered while the application moves data within the primary buffer of one DataWindow.

- **SaveAs**

1. The *saveastype* argument can be TEXT, HTMLTable, XML, [PDF*](#), EXCEL, or EXCEL5. For the EXCEL format, only up to 256 characters are supported and anything larger will be automatically truncated.

2. The supported SaveAs syntax:

```
ll_testvalue = ds_test.SaveAs(filename, saveastype, colheading, encoding)
```

SaveAs PDF cannot support the colheading argument, for example, the following syntax is unsupported:

```
integer ds_test.SaveAs ({string filename, saveastype saveastype, boolean
colheading {, encoding encoding}})
```

The unsupported SaveAs syntax:

```
ds_test.SaveAs ([filename, lgraphcontrol[, saveastype, colheading])
```

3. On the Web, Nillable attribute is unsupported in an XML schema.

4. If the DataStore without any data is saved as an HTML file or XML file, on Web the header will not be saved, whereas it will be saved on PB.

5. The generated file is automatically saved to the "plugin" folder under the current application directory. See "plugin" folder in *Workarounds & APIs Guide* for more.

- SaveAsAscii

Retainnewlinechar argument is unsupported.

- SetValue

The *column* argument works only if the edit style of the column is DropDownListBox.

- SetSort

Using "desc" or "asc" as the Order will not have any effect. Please use the standard Order value A for ascending or D for descending order.

- TriggerEvent

The following TriggerEvent syntax is unsupported:

```
object1.TriggerEvent (object2, event)
```

10.12 DataWindowChild object

10.12.1 Properties of DataWindowChild object

Supported

None.

Unsupported

The unsupported property of DataWindowChild is ClassDefinition.

10.12.2 Functions for DataWindowChild

Supported

There are some limitations or differences for calling functions marked with the "*" symbol. Refer to the [Limitations and Differences for Calling Functions](#).

Table 10.35:

AcceptText	GetParent	ScrollPriorPage
ClassName	GetRow	ScrollPriorRow
DeletedCount	GetSelectedRow	ScrollToRow
DeleteRow	GetSQLPreview	SetChanges
Describe	GetSQLSelect*	SetColumn
ExportJson	GetText	SetFilter
ExportRowAsJson	GetValidate	SetDetailHeight
Filter	GetValue	SetFormat
FilteredCount	GroupCalc	SetItem

Find	ImportClipboard*	SetItemStatus
FindGroupChange	ImportFile*	SetPosition*
FindRequired	ImportJson	SetRedraw
GetBandAtPointer	ImportJsonByKey	SetRow
GetBorderStyle	ImportRowFromJson	SetRowFocusIndicator
GetChanges	ImportString*	SetSort*
GetChild	InsertRow	SetSQLPreview
GetClickedColumn	IsSelected	SetSQLSelect
GetClickedRow	ModifiedCount	SetTabOrder
GetColumn	Modify*	SetText
GetColumnName	Reset	SetTransObject
GetFormat	ResetUpdate	SetValue
GetItemDate	Retrieve	SetValidate
GetItemDateTime	RowCount	SetWSObject*
GetItemDecimal	RowsCopy	ShareData
GetItemNumber	RowsDiscard	SharedDataOff
GetItemStatus	RowsMove	Sort*
GetItemString	SaveAs*	TypeOf
GetItemTime	ScrollNextPage	Update
GetNextModified	ScrollNextRow	
GetObjectAtPointer		

Unsupported

Table 10.36:

CrosstabDialog	GetRowFromRowID	ResetTransObject
DBCancel	GetTrans	SaveNativePDFToBlob
DBErrorCode	GetUpdateStatus	SelectRow
DBErrorMessage	OLEActivate	SetBorderStyle
GetContextService	ReselectRow	SetTrans
GetRowIDFromRow		

Limitations and Differences for Calling Functions

- GetValue

The column argument does not work only if the edit style of the column is CheckBox, DropDownListBox, Edit, or RadioButton.

- GetSQLSelect

If the syntax in DataWindow is PBSELECT statement, when calling the GetSQLSelect function, it will still return the PBSELECT statement but not the SQL SELECT statement, which is different from that in PowerBuilder.

- ImportFile, ImportString, ImportClipboard

1. The *filename* argument of ImportFile function must be a tab-separated file (TXT) or a comma-separated file (CSV).
2. The *string* argument of ImportString function must be a tab-separated string (text).
3. The *importtype* arguments (e.g. Text!, CSV! and XML!) of ImportString function are unsupported.

The *importtype* arguments (e.g. Text!, CSV!, XML!, DBase2!, DBase3!) of ImportFile function are unsupported.

4. When using the three functions, you should ensure that the data type imported matches the data type that you specified in a DataWindow control, DataStore object or graph control. Otherwise the output on the Web may be different from that in PowerBuilder. For example, if the date type specified in a DataWindow is string, when you import a file with date number (e.g., 2006-08-01), on the Web the date data will be recognized as a string (2006), however in PowerBuilder, it will be recognized as a date data (2006-08-01).

- Modify

If the Modify function is used to modify the WHERE clause of the DataWindow object's SQL SELECT statement, please make sure that the new SQL SELECT statement is correct in syntax. Otherwise, syntax errors can occur because PowerBuilder does not validate the statement whereas JavaScript does.

When executing Modify function to change the dddw.property on the Web, properties must be separated with spaces when they are concatenated into one value. For example,

Unsupported code:

```
dw_1.Modify = "emp_id.BackGround.Color=" + String(RGB(192,192,192)) +  
"emp_id.Protect=1"
```

Supported code:

```
dw_1.Modify = "emp_id.BackGround.Color=" + String(RGB(192,192,192)) + "  
emp_id.Protect=1"
```

In PowerServer Web, the Modify function cannot be used to modify the database information.

- SaveAs

1. The saveastype argument can be TEXT, HTMLTable, XML, [PDF*](#), EXCEL, or EXCEL5. For the EXCEL format, only up to 256 characters are supported and anything larger will be automatically truncated.

2. On the Web, Nillable attribute is unsupported in an XML schema.
3. The supported SaveAs syntax:

```
ll_testvalue = dwc_test.SaveAs (filename, saveastype, colheading, encoding)
```

SaveAs PDF cannot support the colheading argument, for example, the following syntax is unsupported:

```
Integer dwcontrol.SaveAs ({string filename, saveastype saveastype, boolean colheading {, encoding encoding}})
```

The unsupported SaveAs syntax:

```
dwc_test.SaveAs ([filename, ]graphcontrol[, saveastype, colheading])
```

4. If the DataWindowChild without any data is saved as an HTML file or XML file, on Web the header will not be saved, whereas it will be saved on PB.
 5. The generated file is automatically saved to the "plugin" folder under the current application directory. See "plugin" folder in *Workarounds & APIs Guide* for more.
- SetSort

Using "desc" or "asc" as the Order will not have any effect. Please use the standard Order value A for ascending or D for descending order.

- SetPosition

The following syntax is supported:

```
dwcontrol.SetPosition (position{, precedingobject})
```

The *position* can be ToTop!, ToBottom!, but cannot be Behind!

The following syntax is unsupported:

```
dwcontrol.SetPosition(objectname, band, bringtofront)
```

- SetWSObject

The SetWSObject function is used to set the authentication info for accessing Web service.

- Sort

If the items in a Web DropDownDataWindow are double-byte (such as, Chinese, Korean, or Japanese), sorting the DropDownDataWindow has a different result from PowerBuilder. This is because the sorting method of PowerScript and JavaScript is different. For example, if the charset is Chinese, PowerScript sorts by the spelling while JavaScript sorts by Unicode.

10.13 DataWindow performance considerations

Strong suggestion: reduce usage of DataWindow SQLPreview event

Each time the DataWindow SQLPreview event is triggered, the Web application will interact with PowerServer twice, which costs 1-2 seconds. Therefore, we recommend you minimize writing script into the SQLPreview event of the DataWindow.

Suggestion: use Describe and Modify to get and set DataWindow object properties

Dot notation is much less efficient than Describe and Modify functions. In general, the Describe and Modify functions are about two to three times faster than dot notation. Therefore, we recommend you use Describe function to replace dot notation that gets the DataWindow object properties, and use the Modify function to replace dot notation that sets the DataWindow object properties.

Suggestion: minimize modifying DataWindow DataObject

It takes 0.3 seconds each time the DataObject property of DataWindow/DataStore is modified during application run time. Therefore, modifying the DataObject property frequently could slow down performance significantly. We recommend you minimize modifying the DataObject property.

11 DBParm parameters in Database

Supported

The following DBParm parameters are supported: CommitOnDisconnect, CacheName, DelimitIdentifier, DateTimeAllowed, DisableBind, NCharBind, TrimSpaces and Identity.

1. The data source name for the CacheName parameter is case sensitive in JBoss, JEUS, WebLogic and WebSphere (but not in .NET IIS).
2. DisableBind parameter is only supported in ESQL.
3. In PowerServer, the data source specified applies for the connection of the deployed application to the database. Settings to the other parameters in the script will be ignored.
4. To support DelimitIdentifier parameter, you must set the "Enclose table and column names in double quotes" option in the PowerServer Toolkit | DB Type Profile Configuration page before deployment.
5. If table and column names are keywords that must be enclosed in double quotation marks (with DelimitIdentifier set to "yes"), the SQL statement cannot be a PowerBuilder SELECT statement, otherwise, PDF Print and Save As PDF will fail.
6. The DelimitIdentifier parameter is unsupported when the updated table name of DataWindow contains the owner name. In this case, be sure to clear the "Enclose table and column names in double quotes" check box in PowerServer Toolkit.
7. It is unsupported to dynamically set the DelimitIdentifier parameter. For all supported DBParm parameters (excluding DelimitIdentifier) you can only dynamically set them before executing Connect.
8. Supports the Identity property of Transaction DBParm, for example:
Identity='@@IDENTITY'.
9. NCharBind parameter is only supported in MS SQL Server. In PowerBuilder, NCharBind is effective only when DisableBind = 0; in PowerServer, NCharBind is effective regardless of the value of DisableBind.

Unsupported

Except the parameters above, other DBParm parameters are unsupported.

Parameter added by PowerServer

The *Transactionname* parameter is added by PowerServer to take care of the limitation in which if transaction objects are called with the object name and instance name for example parentname.instanceName, PowerServer can only get the instance name rather than the object name as well as the instance name; this will cause a problem for PowerServer if two transaction objects are called with the same instance name, as PowerServer cannot differentiate the instance name by their parent object, and unlike PowerBuilder which can get the precise transaction object name via SetTransObject function, PowerServer requires the precise transaction object name as soon as the ConnectString function is called (which

is before SetTransObject function is called). To work around this limitation, you can set the precise transaction object name using the *Transactionname* parameter, for example, `Transactionname="in_1.intr_pool"`, so that PowerServer knows the precise transaction object name when the ConnectString function is called.

In the following example, `userobject1` and `userobject2` have the same instance name `"intr_pool"`. Unlike PowerBuilder which gets the exact name (`userobject1.intr_pool` or `userobject2.intr_pool`) from the SetTransObject function, PowerServer can only get `"intr_pool"` as the transaction object name and will be confused of which transaction object to call. To resolve this confusion, we can specify the precise transaction object name via the *Transactionname* parameter so that PowerServer clearly knows which transaction object to use to establish the database connection.

Unsupported code:

```
n_tr intr_pool //Instance variables
public function integer of_transaction (string as_dbparm);
intr_pool.DBMS = "MSS"
intr_pool.LogPass = "apeon"
intr_pool.LogId = "sa"
intr_pool.AutoCommit = False
intr_pool.DBParm = "PROVIDER='SQLOLEDB', DATASOURCE='192.0.0.40',
  PROVIDERSTRING='database=en_sql2000', CacheName = '"+as_dbparm+ "'"
Connect using intr_pool;
RETURN 0
end function

userobject1.of_transaction ("ASATEST")
dw_1.settransobject (userobject1.intr_pool)
userobject2.of_transaction ("ASATEST")
dw_2.settransobject (userobject2.intr_pool)
```

Modified code:

```
.....
intr_pool.DBParm = "PROVIDER='SQLOLEDB', DATASOURCE='192.0.0.40',
  PROVIDERSTRING='database=en_sql2000', CacheName = '"+as_dbparm+ "',
  Transactionname = '"+as_dbtransactionname+ "'"
.....
```


12 Calling Web Service

PowerServer supports the Java Web services using Apache AXIS2. If you are interested to know more about the AXIS2 Web service, you can check this article on the Appeon support portal: <https://support.appeon.com/index.php?/Knowledgebase/Article/View/91/13/how-to-deploy-axis2-web-services-with-apb>.

PowerServer supports to call the Web service through the AppeonWebService object. AppeonWebService is an Appeon customized object, provided in the Appeon Workarounds PBL (see Chapter 1, *Appeon Workarounds PBL Reference in Workarounds & APIs Guide* for details). You can successfully call a Web service via AppeonWebService object in a Web application, without needing to install any add-on on end users' machine. The Web service call will fail in the client/server PowerBuilder application.

The following data types are **supported** by the AppeonWebService object:

- Boolean
- Byte
- Char
- Decimal
- Double
- Integer
- Long
- String

And the following data types are **unsupported** by the AppeonWebService object:

- Blob
- Date
- DateTime
- Time

Pass by reference as well as complexed data types such as array, structure etc. are **unsupported** by the AppeonWebService object.

Appeon also supports to call the Web service through the Web Service DataWindow data source provided by PowerBuilder. For details, refer to [DataWindow data sources](#).

13 PowerBuilder Document Object Model

The PowerBuilder Document Object Model (PBDOM) is unsupported by Apeon.

14 Undetected Unsupported Features

Apeon PowerServer provides an Unsupported Features Analysis tool for detecting unsupported features in a PowerBuilder application before generating files for the application. The Unsupported Features Analysis scans each object within a PowerBuilder application for unsupported features and generates a report that, when combined with the this help, provides a foundation for bringing a PowerBuilder application to specification.

The PowerServer Unsupported Features Analysis is capable of highlighting the majority of unsupported features contained in the PowerBuilder application; however, there are some features that the Unsupported Features Analysis will not detect, and thus they will not be listed in the Analysis Report. Approximately 5% of PowerBuilder features that are not supported by PowerServer may not be detected in the Unsupported Features Analysis.

An application containing unsupported features can still be converted to the Web and work correctly, depending on the type and number of unsupported features. If the Web application does not work correctly but the Unsupported Features Analysis does not indicate any unsupported features that are likely to cause such a problem, the problem may be caused by an unsupported feature that has not been detected. In this case, it is strongly recommended that you carefully read the undetected features listed below and examine your application to determine if it contains any of these features.

The following are unsupported features that are not detected during Unsupported Features Analysis.

Table 14.1: Undetected features

Naming conventions	<ul style="list-style-type: none"> • Duplicate object names. No two objects should have the same name in an application, whether they are of the same type or not. The Unsupported Features Analysis cannot detect whether object names are duplicated in an application. • More than one application object. Having more than one application object in an application is unsupported. The Unsupported Features Analysis cannot detect whether more than one application object is present. • Applications named as objects or controls. Application names that have the same name as PowerBuilder control/object types are not supported. The Unsupported Features Analysis cannot detect whether this unsupported issue is present in an application.
Null values	<ul style="list-style-type: none"> • Unsupported operation • Expressions with Null values
ASCII characters	Vertical tab (~v)
Non-visual UserObject	A NonVisualObject object assigned to an autoinstantiated NVO or an autoinstantiated NVO assigned to a NonVisualObject object.
Variables and constants	<ul style="list-style-type: none"> • Instance variables have identical names as global variables. • longlong variable

	<ul style="list-style-type: none"> • PUBLIC, PROTECTED, PRIVATE qualifier in the variable declaration 												
Forced conversion	Forced conversion between types												
Window	Multiple MDI windows in an application.												
Overloading, overriding functions	<ul style="list-style-type: none"> • Dynamic calling for overloaded functions • Dynamic calling for overriding functions 												
Using the return value of some supported functions	The return value of the Open or OpenSheet functions												
Operators	The operator '^' with embedded SQL statements.												
Stored procedure	<ul style="list-style-type: none"> • Stored procedures declared in the conditional statement • DB2 stored procedures • Stored procedures placed inside an Oracle package • Oracle stored procedures with PowerServer unsupported features 												
Cursor declare requirement	<ul style="list-style-type: none"> • Cursor declared in the conditional statement; • If a cursor is declared for retrieving rows from table X, the table X (insert, delete, update) is modified during the cursor declare-close period. 												
Cursor statements	<ul style="list-style-type: none"> • UPDATE TableName SetStatement WHERE CURRENT OF CursorName; • DELETE FROM TableName WHERE CURRENT OF CursorName. 												
DataWindow expression function	<table border="1"> <tr> <td>lastpos</td> <td>lastposw</td> <td>mode</td> <td>pageAcross</td> <td>pageCount Across</td> <td>profileint</td> </tr> <tr> <td>profile string</td> <td>stdev</td> <td>var</td> <td>varp</td> <td></td> <td></td> </tr> </table>	lastpos	lastposw	mode	pageAcross	pageCount Across	profileint	profile string	stdev	var	varp		
lastpos	lastposw	mode	pageAcross	pageCount Across	profileint								
profile string	stdev	var	varp										
Partially supported features	Some partially supported features, for example, reading Object.DataWindow.CrossTab.Rows is supported by PowerServer, but writing is not, therefore, using DataWindow Modify function or equivalent to write this property cannot be detected by UFA.												
User interface interactions	Unsupported features in the UI such as shortcut key.												
Enumerated data type	Default values of enumerate type variable												
Data source	The data sources of dynamically created DataWindows are stored procedures with input parameters.												
Dynamic calls	<ul style="list-style-type: none"> • Dynamically call the method of a menu object. 												

	<ul style="list-style-type: none"> • Dynamically call the method that contains reference arguments. 					
Others	<ul style="list-style-type: none"> • PBX • PSR, for example: dw.dataobject='*.psr' • Unsupported DBParm parameters • Encoding parameter of the Blob functions • filename & importtype arguments of ImportFile, ImportString, & ImportClipboard (filename can only be a text file (TXT)) • Property defined in the string variable • Structure member has comment property 					
System events	The following are unsupported and undetected system events.					
	cbgetcount	dderequest	gettext length	mmmom close	sbnpageup	vbxevent12
	cbgetcursel	ddetermine	globalrc change	mmmom done	sbnsetfocus	vbxevent13
	cbget dropped controlrect	ddeun advise	heditctl	mmmom open	sbthumb position	vbxevent14
	cbget dropped state	deactivate	help	mmwim close	sbthumb track	vbxevent15
	cbgeteditse	deadchar	hookrc result	mmwim data	sbntop	vbxevent16
	cbgettext endedui	deleteitem	hscroll	mmwim open	setcursor	vbxevent17
	cbgetitem data	destroyclipboard	hscrollclip board	mmwom close	setfont	vbxevent18
	cbgetitem height	devmode change	iconerese bkgnd	mmwom done	settext	vbxevent19
	cbgetlbtext len	drawclipboard	initdialog	mmwom open	sizeclip board	vbxevent20
	cbinsert string	drawitem	initmenu	mouse activate	skb	vbxevent21
	cblimittext	dropfiles	initmenu popup	move	spooler status	vbxevent22
	cbncloseup	dwclosedropdown	keyup	ncactivate	syschar	vbxevent23
	cbndblclk	dwescape	lbaddstring	nccalcsize	syscolor change	vbxevent24

cbndelayed recogfail	dwnbackt about	lbdelete string	nccreate	sys command	vbxevent25
cbndrag drop	dwndrop down	lbdir	ncdestroy	sysdead char	vbxevent26
cbndrag enter	dwngraph create	lbfindstring	nchittest	syskeydown	vbxevent27
cbndrag leave	emgetword breakproc	lbfindstring exact	nclbutton dblclk	systemerror	vbxevent28
cbndrag within	emlimittext	lbgetcaret index	nclbutton down	sysykeyup	vbxevent29
cbndrop down	emlinefrom char	lbgetcount	ncmbutton dblclk	tbnmoved	vbxevent30
cbnedit change	emlineindex	lbgetcursel	ncmbutton down	tcnclicked	vbxevent31
cbneditup date	emline length	lbgeth orizontal extent	ncmbutton up	tcdouble clicked	vbxevent32
cbnendrec	emline scroll	lbgetitem data	ncmouse move	tcdragdrop	vbxevent33
cbnerrspace	emreplace sel	lbgetitem height	ncpaint	tcdragenter	vbxevent34
cbnkillfocus	emscroll	lbgetitem rect	ncrbutton dblclk	tcdragleave	vbxevent35
cbn modified	emsetfont	mbutton down	ncrbutton down	tcdrag within	vbxevent36
cbnrcresult	emset handle	mbuttonup	ncrbuttonup	tcnenterkey	vbxevent37
cbnsel change	emset modify	mdiactivate	nextdlgctl	tcnkeydown	vbxevent38
cbnselend cancel	emsetpass wordchar	mdicascade	omnclose	tcnkillfocus	vbxevent39
cbnselend ok	emsetread only	mdicon arrange	omndata change	tcnrclicked	vbxevent40
cbnsetfocus	emsetrect	mdicreate	omndrag drop	tcnrdouble clicked	vbxevent41
cbreset content	emsetrectnp	mdidestroy	omndrag enter	tcnsel changed	vbxevent42
cbselect string	emsetsel	mdiget active	omndrag within	tcnsel changing	vbxevent43
cbsetcursel	emsettab stops	mdimaxi mize	querynew palette	tcnsetfocus	vbxevent44

cbseteditselect	emsetword break	mdinext	queryopen	timechange	vbxevent45
cbsetextend edui	emsetword breakproc	mdirestore	queuesync	tvnenterkey	vbxevent46
cbsetitem data	emundo	mdisetmenu	quit	uondrag drop	vbxevent47
cbsetitem height	enable	mditile	rcresult	uondrag enter	vbxevent48
cbshow dropdown	enchange	measure item	renderall formats	uondrag leave	vbxevent49
change cb chain	endsession	menuchar	render format	uondrag within	vbxevent50
char	enerrspace	menuselect	renhscroll	uonexternal 01	vkeytoitem
chartoitem	enhscroll	mmjoy1 buttondown	renvscroll	vbxevent01	vscroll
child activate	enmaxtext	mmjoy1 buttonup	sbnbottom	vbxevent02	vscroll clipboard
comm notify	enteridle	mmjoy1 move	sbn drag drop	vbxevent03	windowpos changed
compacting	enupdate	mmjoy1z move	sbn drag enter	vbxevent04	windowpos changing
compare item	envscroll	mmmci notify	sbn drag leave	vbxevent05	winini change
ctlcolor	erasebknd	mmmim close	sbn drag within	vbxevent06	Selected
ddeack	fontchange	mmmim data	sbnend scroll	vbxevent07	OMNDrag Leave
ddead vise	getdlgcode	mmmim error	sbnkillfocus	vbxevent08	nclbuttonup
ddedata	getfont	mmmim longdata	sbnline down	vbxevent09	
ddeexecute	getmin maxinfo	mmmim longerror	sbnlineup	vbxevent10	
ddepoke	gettext	mmmim open	sbnpage down	vbxevent11	