

Release Bulletin for PowerBuilder 2019 R2

PowerBuilder® 2019 R2
FOR WINDOWS

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Contents

1 System Requirements	1
2 Known Issues	2
3 Bug Fixes	3
4 PowerServer (PB Edition) VS. Other PowerServer Editions	6
5 Product Compatibilities	8
6 Third-Party Components and Deployment	9
6.1 Apache Files	9
6.2 Microsoft Files	9
6.3 Oracle files	10
6.4 Software Used for SOAP Clients for Web Services (Obsolete)	10
6.5 List of Free Download Components (Including Open Source Components)	11
7 Upgrade Information	12

1 System Requirements

Make sure your system meets all requirements before you install PowerBuilder® 2019 R2.

If you want to install PowerServer 2020 and SnapDevelop 2019 R2, check the [system requirements for PowerServer 2020](#) and the [system requirements for SnapDevelop 2019 R2](#).

Note

If you want to install PowerBuilder from the PowerBuilder Installer (an online installation program), make sure you have Universal C Runtime (CRT) and Microsoft .NET Framework 4.6.1 SDK or later installed before running the PowerBuilder Installer.

Table 1.1: System Requirements for PowerBuilder

Product	Computer	Minimum memory	Hard disk space	Operating system
This table provides system requirements for PowerBuilder. The disk space requirements provided are approximate. The actual disk space you need for each product might vary depending on hard disk size, partitioning, and the features you choose to install. Additional temporary space is required on the hard disk during installation for uncompressing install files.				
PowerBuilder	Intel Core i3 or higher	1 GB	2 GB for all components	<p>Supported by PowerBuilder IDE and runtime:</p> <p>Windows 7 32-bit or 64-bit with SP1 KB3033929</p> <p>Windows 8.1 32-bit or 64-bit</p> <p>Windows 10 32-bit or 64-bit (excluding Windows IoT and Windows Embedded Compact)</p> <p>Supported by PowerBuilder runtime only:</p> <p>Windows Server 2019</p> <p>Windows Server 2016</p> <p>Windows Server 2012 R2</p>

2 Known Issues

PowerBuilder 2019 R2 has the following known issues:

- The following functionalities do not work if the computer connects with the Internet through a proxy server requiring user authentication: 1) PowerBuilder online license, 2) PowerBuilder Installer (the online installation program), 3) PowerServer Mobile Templates Manager.
- If you run PowerBuilder as a guest (not an administrator), you may come across the following license issues: the license login screen may not show the status of the settings correctly; the license file may not be accessed after upgrade; or the new login credentials may not be saved properly.
- If you have only upgraded SnapDevelop to version 2019 R2, and have not upgraded PowerBuilder, then launching SnapDevelop from the PowerBuilder IDE will cause the PowerBuilder IDE to crash.
- When you launch SnapDevelop from the PowerBuilder IDE to debug C# assemblies, you may find that SnapDevelop may stop responding or the debugger may stop working.

3 Bug Fixes

The following bugs are fixed in PowerBuilder 2019 R2; any bugs fixed for the subsequent MR(s) will be published on <https://www.appeon.com/developers/library/product-readme-for-pb>.

The following bugs are fixed in PowerBuilder 2019 R2 MR 2328 (compared to 2019 R2 GA 2323):

- (Bug ID: 4384) The application icon setting will not take effect in compiled applications. Instead, the Windows default EXE icon is used as the application icon.
- (Bug ID: 4391) In an MDI application that applies the UI theme feature, if a sheet window is opened using the OpenSheet function with the arrangeopen parameter being Layered! or Cascaded! , the Open event of the sheet window would fail to get the correct window.width. As the result, if a function or service (for example, pfc_resize) uses the windows.width value, the function/service cannot work correctly.
- (Bug ID: 4388) With the Built-in Text Control used as the rich edit control, when saving a multi-page RichText style DataWindow as PDF, there are duplicate pages in the PDF.
- (Bug ID: 4386) "Cannot find or open the PDB file" error occurs when using ORCA to regenerate DataWindows.
- (Bug ID: 4431) When selecting "Left text" for a checkbox in a DataWindow, the text appears under the checkbox at design time.
- (Bug ID: 4421) The Sorted property on the DropDownListBox is not working as before.
- (Bug ID: N/A) The Resize event is triggered before the Constructor event on the custom visual object when using the UI theme feature.

The following bugs are fixed in the PowerServer Mobile Templates 2020 MR 2328 (compared to 2020 GA 2323) (you can download the latest templates from the Appeon website):

- When calling SendRequest to send the request from the HTTPClient object to the server, the method failed with the return code: 0- Msg: undefined.

The following bugs are fixed in PowerBuilder 2019 R2 GA 2323 (compared to 2019 MR 2170):

- (Bug ID: 3612) Failed to trigger the event for DataWindow object when RowCount is 0.
- (Bug ID: 3072) The toolbar item picture disappeared.
- (Bug ID: N/A) Cannot create user event on the application object.
- (Bug ID: 1692) SetTransObject() fails on the dynamically generated DataStore, due to memory leakage caused by SyntaxFromSql.
- (Bug ID: 3059) DataWindow PictureButtons render blurry.

- (Bug ID: 323) When scrolling with the mouse wheel in Grid DataWindow through remote desktop access, it scrolls the whole page instead of 3 rows every time.
- (Bug ID: 2300) ORCA API "PBORCA_ExecutableCreate" creates the executable using TE RichTextEditor by default, ignoring the rich text editor settings in the Application object.
- (Bug ID: 4246) DataWindow GetItemDateTime gets the null exception instead of "??/??/?? 12:00:00".
- (Bug ID: 3513) Application crashes randomly when running report.
- (Bug ID: 3663) PowerBuilder IDE crashes when committing objects to a branch using Git Commit.
- (Bug ID: 3949, 4132) window.print() function does not work.
- (Bug ID: 3248) When printing a window with the Print function in Windows 10, the background around it is printed.
- (Bug ID: 4030) pbm_syscommand event cannot be triggered if a theme is applied.
- (Bug ID: 3961) Oracle18c/19c error when calling stored procedures with arrays of strings as arguments.
- (Bug ID: 3846) When XLSX file is output using the SaveAs method, line breaks and spaces are set in the null or empty column of the output file.
- (Bug ID: 3681) The "Open Containing Folder" menu is not available for the workspace; the "Open Containing Folder" menu does not work for the target and library when the workspace is under source control and the target and library are not.
- (Bug ID: 3528, 3537) The Application object for the newly created Target has no richtextedittype, richtexteditversion, richtexteditkey, themepath, and themename properties.

The following bugs are fixed in PowerBuilder 2019 R2 GA 2323 (compared to the beta version):

- (Bug ID: 3575) RibbonBar Builder caused IDE font size, menus, and toolbar buttons to shrink until it's reopened.
- (Bug ID: 3683) RibbonBar control cannot change FaceName at runtime.
- (Bug ID: 3672) RibbonBar Builder does not support selecting pictures with an ! in the file path.
- (Bug ID: 4034) If ItemUnselected event shows a message box more than one RibbonBar buttons are selected when moving mouse over.
- (Bug ID: 3914) Closing the window from the RibbonBar item user event causes the application to crash.

- (Bug ID: 3865) (Regression bug) PBC runtime error.

4 PowerServer (PB Edition) VS. Other PowerServer Editions

PowerServer (PB Edition) indicates the PowerServer provided in the PowerBuilder CloudPro Edition; its Developer license supports deploying Web and mobile apps to the .NET-based PowerServer back-ends. Other PowerServer editions indicate the PowerServer (Developer/Workgroup/Enterprise Edition) which supports Web and mobile deployments on both the .NET and J2EE application servers. Notice the different components contained in these editions.

Table 4.1: Components contained in different editions

Component	PowerServer (PB Edition)			Other PowerServer Editions		
	Developer Edition	Standalone Production Edition	Clustered Production Edition	Developer Edition	Workgroup Edition	Enterprise Edition
PowerServer Web/Mobile	Available	Available (Mobile only)	Available (Mobile only)	Available	Available	Available
PowerServer Web Component	Available	Available	Available	Available	Available	Available
PowerServer Help	Available	Available	Available	Available	Available	Available
PowerServer Toolkit	PowerServer Toolkit is only available in the PowerBuilder CloudPro Edition. It can deploy PowerBuilder apps as mobile apps or Web apps to PowerServer 2020, 2019, 2017 R3, 2017 R2, and 2017 based on the .NET or J2EE application servers.					

The PowerServer Web/Mobile server component from **PowerServer (PB Edition)** and the PowerServer Web/Mobile server component from other **Apppeon PowerServer Editions** must be installed on different servers. If you install them on the same server, unpredictable issues may occur, and you should uninstall both, and then install them separately on different servers.

Also notice the different features supported in these editions.

Table 4.2: Features supported in different editions

Feature	PowerServe Toolkit	PowerServer (PB Edition)			Other PowerServer Editions		
	-	Developer Edition	Standalone Production Edition	Clustered Production Edition	Developer Edition	Workgroup Edition	Enterprise Edition
Mobile apps	Supported	Supported	Supported	Supported	Supported	Supported	Supported
Web apps	Supported	Supported	Not supported	Not supported	Supported	Supported	Supported

Feature	PowerServe Toolkit	PowerServer (PB Edition)			Other PowerServer Editions		
	-	Developer Edition	Standalone Production Edition	Clustered Production Edition	Developer Edition	Workgroup Edition	Enterprise Edition
.NET application server	Supported	Supported	Supported	Supported	Supported	Supported	Supported
J2EE application server	Supported	Not supported	Not supported	Not supported	Supported	Supported	Supported
Clustering (failover)	Supported	Not supported	Not supported	Supported	Not supported	Not supported	Supported
Offline mobile capability	Supported	Supported	Supported	Supported	Supported	Supported	Supported
Free or paid	Free	Free	Free	Paid	Paid	Paid	Paid
Licensing model	-	Subscription	Subscription	Subscription	Perpetual	Perpetual	Perpetual
Supported OS	Windows	Windows	Windows	Windows	Win/ Linux/ Unix	Win/ Linux/ Unix	Win/ Linux/ Unix
User sessions	-	5 (in total)	Unlimited	Unlimited	5	Variable	Variable

5 Product Compatibilities

PowerBuilder has been tested for compatibility with a number of software products.

Table 5.1: Software Products Tested with PowerBuilder

Software Type or Product	Compatibility Description
SQL Anywhere	PowerBuilder 2019 R2 has been tested with SQL Anywhere 12.0 thru 17.0.
Microsoft .NET Framework	PowerBuilder 2019 R2 is compatible with Microsoft .NET Framework 4.0 or later.
Oracle JDK	PowerBuilder 2019 R2 is compatible with Oracle JDK 1.6.

6 Third-Party Components and Deployment

PowerBuilder applications have some dependencies on third-party components that are installed with PowerBuilder.

Most of these components are not installed with the PowerBuilder Runtime Packager. You may redistribute some of these components with your application, but others must be obtained from the vendor.

6.1 Apache Files

You may redistribute the Apache files that are included with PowerBuilder to your users.

Any use or distribution of the Apache code included with PowerBuilder 2019 R2 must comply with the terms of the Apache License, which is located in the free download terms document for PowerBuilder.

Version 0.20.5 of the Apache Formatting Objects Processor (FOP) is required if your application uses XSL-FO to save files as PDF. See the Apache FOP Web site at <https://xmlgraphics.apache.org/fop/>.

The Apache Xerces files *xerces-c_2_8.dll* and *xerces-depdom_2_8.dll* are required for XML Web DataWindow support, XML support for DataWindows and DataStores, PBDOM, and SOAP clients for Web services. See the Xerces C++ Parser Web site at <http://xerces.apache.org/xerces-c/>.

6.2 Microsoft Files

Special Microsoft files are required on runtime computers for various PowerBuilder features.

6.2.1 Visual C++ Runtime and the Active Template Library

When you deploy the core PowerBuilder runtime files, make sure the *msvcr100.dll* and *msvcp100.dll* Microsoft Visual C++ runtime libraries and the Microsoft .NET Active Template Library (ATL) module *atl100.dll*, are present on the user's computer or server.

The PowerBuilder runtime files have a runtime dependency on these files and they are required for all applications and components that require the PowerBuilder runtime. You can obtain these DLL files from the `\%Appeon%\Shared\PowerBuilder` or `\%Appeon%\Shared\PowerBuilder\x64` folder, or from DLL archive Web sites at <http://dlldump.com> or <http://driverskit.com/>. Make sure you obtain the same version (32-bit or 64-bit) of the these DLL files as the version (32-bit or 64-bit) of the PowerBuilder application executable.

Note

Some files that are installed by the MSI file generated by the PowerBuilder Runtime Packager have dependencies on these files. For example, *atl100.dll* must be installed on the user's computer before the *pbjvm<version>.dll* file can be registered. Make sure these files are on the target computer before you run the MSI file generated by the Runtime Packager.

6.2.2 Ink Picture Libraries

Microsoft.Ink, *Microsoft.Ink.dll*, and *Microsoft.Resources.dll* are required if your application uses InkEdit and InkPicture controls. These files are part of the Microsoft .NET Framework 3.5 and later, and are available at C:\Windows\winsxs and its sub-folders after .NET framework is installed.

6.2.3 DirectX Runtime

PowerBuilder applications can use DirectX 3D rendering to display 3D graphs (Pie3D, Bar3D, Column3D, Line3D, and Area3D) with a more sophisticated look. You can use data item or series transparency with the DirectX graph styles to improve the presentation of data.

The DirectX 3D rendering depends on the DirectX runtime. The first time you select the Render3D check box on the General tab of the Properties view for a 3D graph, PowerBuilder launches the DirectX installer. If you opt out of the installation, the Render3D property is ignored. End users of PowerBuilder applications must also have the DirectX runtime installed on their computers to view the DirectX graph styles. You can download the DirectX runtime from the Microsoft Web site at <https://www.microsoft.com/en-us/download/details.aspx?id=35>.

For computers with older graphics drivers, you can check whether DirectX is supported by running *dxdiag.exe*. This file is typically installed in the Windows\System32 directory. The Display tab of the DirectX Diagnostic Tool that opens when you run *dxdiag.exe* indicates whether Direct3D is enabled.

6.3 Oracle files

The Java Runtime Environment (JRE) is required for EJB clients, JDBC connections, and saving as PDF using XSL-FO. For a copy of third-party terms and conditions for the JRE, see the free download terms document. The JRE can be downloaded from the Oracle Technology Network at <http://www.oracle.com/technetwork/java/javase/downloads/index.html>.

6.4 Software Used for SOAP Clients for Web Services (Obsolete)

PowerBuilder applications can use EasySoap to connect to Web services. The EasySoap ++ library in executable form (*EasySoap190.dll*), which is dynamically linked to *PBSoapClient190.pbx*, is distributed with PowerBuilder.

The EasySoap++ library and its use are covered by the GNU Lesser General Public License (LGPL). For a copy of this license, see the free download terms document.

You may distribute the EasySoap++ library to third parties, subject to the terms and conditions of the LGPL.

The complete machine-readable source code for the EasySoap++ library is in the *EasySoap.zip* file in the *Support\WSExtn* folder on the installation package. In addition, the object code and Microsoft Visual C++ project file for the *PBSoapClient190.pbx* are in the *soapclient.zip* file in the same directory.

These files are provided under the terms of the LGPL so you can modify the EasySoap ++ library and then relink to produce a modified *EasySoap190.dll*. You can also relink *PBSoapClient190.pbx* with the modified EasySoap++ import library. According to the terms

of the LPGL, you may not be able to recompile *PBSoapClient190.pbx* to use the definitions you have modified in the EasySoap++ library.

Follow the instructions in the *Readme.txt* file in the *soapclient.zip* file to build *PBSoapClient190.pbx*.

6.5 List of Free Download Components (Including Open Source Components)

For the complete list of the free download components (including open-source components), view the [Free Download Terms document](#) on the Appeon Web site.

7 Upgrade Information

You can upgrade a PowerBuilder application from any version of PowerBuilder directly to PowerBuilder 2019 R2. You cannot downgrade applications from PowerBuilder 2019 R2 to older versions of PowerBuilder.

Before you upgrade, back up your files and use the Migration Assistant to identify obsolete code. The applications you build using the current version of PowerBuilder must be deployed with the PowerBuilder runtime DLLs from the current version.

Note

The "Upgrading PowerBuilder Applications" technical document at https://docs.appeon.com/appeon_online_help/pb2019r2/upgrading_pb_apps/index.html includes information on changes to PowerBuilder since version 6.5 that might affect the conversion of applications to a more recent PowerBuilder version.
