

# Introduction to Appeon

Appeon® 6.1 for PowerBuilder®

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# 1 About This Book

## 1.1 Audience

This book is written for users of Appeon® 6.1 for PowerBuilder® and serves as a starting point to introduce Appeon's features and functionalities as well as guide users through all the documents included in the release of Appeon 6.1 for PowerBuilder. Please read the documents listed in the order that they are presented.

## 1.2 How to use this book

There are four chapters in this book.

Chapter 1: About This Book

A general description of this book

Chapter 2: Introduction to Appeon

Introduces Appeon's features and functionalities.

Chapter 3: Getting Started with Appeon

A quick reference guide that outlines the process that should be followed to install and set up Appeon

Chapter 4: Working with Appeon

Outlines a process for familiarizing yourself with Appeon and then deploying your own applications.

## 1.3 Related documents

Appeon provides the following user documents to assist you in understanding Appeon for PowerBuilder and its capabilities:

- *Appeon Demo Applications Tutorial:*

Introduces Appeon's demo applications, including the Appeon Sales Application Demo, Appeon Code Examples, Appeon ACF Demo, and Appeon Pet World, which show Appeon's capability in converting PowerBuilder applications to the Web.

- *Appeon Developer User Guide (or Working with Appeon Developer Toolbar)*

Provides instructions on how to use the Appeon Developer toolbar in Appeon 6.1.

Working with Appeon Developer Toolbar is an HTML version of the Appeon Developer User Guide.

- *Appeon Server Configuration Guide*

Provides instructions on how to configure Appeon Server Status Monitor, establish connections between Appeon Server and Database Server, and configure AEM for maintaining Appeon Server and Appeon deployed Web applications.

- *Appeon Supported Features Guide (or Appeon Features Help):*

Provides a detailed list of what PowerBuilder features are supported and can be converted to the Web with Apppeon 6.1, and what features are unsupported.

Apppeon Features Help is an HTML version of the Apppeon Supported Features Guide.

- *Apppeon Installation Guide:*

Provides instructions on how to install *Apppeon for PowerBuilder* successfully.

- *Apppeon Migration Guide:*

A process-oriented guide that illustrates the complete diagram of the Apppeon Web migration procedure and various topics related to steps in the procedure, and includes a tutorial that walks the user through the entire process of deploying a small PowerBuilder application to the Web.

- *Apppeon Performance Tuning Guide:*

Provides instructions on how to modify a PowerBuilder application to achieve better performance with its corresponding Web application.

- *Apppeon Troubleshooting Guide:*

Provides information about troubleshooting issues, covering topics such as product installation, Web deployment, AEM, Web application runtime, etc.

- *Introduction to Apppeon:*

Guides you through all the documents included in Apppeon 6.1 for PowerBuilder.

- *New Features Guide (or What's New in Apppeon):*

Introduces new features and changes in Apppeon 6.1 for PowerBuilder.

*What's New in Apppeon* is an HTML version of the *New Features Guide*.

## 1.4 If you need help

Each Sybase installation that has purchased a support contract has one or more designated people who are authorized to contact Sybase Technical Support, or an Authorized Sybase Support Partner. If you have any questions about this product, or if you need assistance during the installation process, ask a designated person to contact Sybase Technical Support, or an Authorized Sybase Support Partner based on your support contract. You may access the Technical Support Web site at <http://www.sybase.com/support>.

## 2 Introduction to Appeon

### 2.1 Editions

Appeon 6.1 for PowerBuilder contains the following editions:

**Table 2-1: Appeon edition**

OS	Editions	Application Servers
Windows	Enterprise Edition	Sybase EAServer
	Workgroup Edition	BEA WebLogic
	Developer Edition	IBM WebSphere
	Trial Edition	
Unix (IMB AIX, Sun Solaris, HP Unix), Linux (RedHat Linux)	Enterprise Edition	Sybase EAServer
	Workgroup Edition	BEA WebLogic
		IBM WebSphere

### 2.2 Feature Difference between Editions

Because of differences between different application servers (EAServer, WebLogic, WebSphere) and different platforms (Windows and Linux\Unix), some features are only available in certain circumstance. Refer to the following table for details.

**Table 2-2: Feature difference**

Feature	EAServer		WebLogic\ WebSphere
	Windows	Linux\Unix	
PowerBuilder NVOs <sup>①</sup>	Yes	Yes	—
Server-side PDF printing & AppeonPrint2PDF function	Yes	—	—
Save As WMF format	Yes	Yes	—
AppeonDataWindow and AppeonDataStore	Yes	Yes	—
Distributed DataWindows	Yes	—	—
Web Demos	Yes	Yes	Yes
EJB Components	Yes	Yes	—
Com/Com+/NET Components	—	—	Yes
DataWindow Data Caching <sup>②</sup>	Yes	Yes	Yes
Appeon Server Status Monitor <sup>③</sup>	Yes	Yes	—
Cluster & Failover	Yes	Yes	—
Load Balance <sup>④</sup>	Yes	Yes	Yes
LDAP Security <sup>⑤</sup>	Yes	Yes	Yes
Appeon Server Open Interface	Yes	Yes	--

Note:

- ① PB NVOs are supported by EAServer only, and at the same time the corresponding version of PBVM must be installed.
- ② All types of Appeon Server support Application Server data cache and client-side data cache, but support Web server data cache on Windows platform only. If data caching feature is enabled in Web server, but if it does not work due to improper configuration or unsupported platform (such as Unix, Linux), then the Application Server data cache is automatically enabled.
- ③ EAServer 6.1/6.2 does not support Status Monitor.
- ④ J2EE edition supports load balancing via Appeon plug-in that is developed by Appeon and must be installed to the Web server (such as Apache or IIS).
- ⑤ J2EE edition supports IBM LDAP, Netscape LDAP, Sun LDAP, and Microsoft Active Directory.

## 2.3 Appeon Components

Appeon for PowerBuilder extends the capabilities of Sybase® PowerBuilder so that a PowerBuilder application can be deployed to the Web. The deployment process produces a true n-Tier Web application with a J2EE-based back-end and an HTML UI front-end. The source PowerBuilder application that will be deployed to the Web may be an existing 2-tier application or a new 3-tier Web application in PowerBuilder. A 3-tier Web application can be constructed quickly and easily, using only your PowerBuilder skills. Either way, Appeon is the fastest way to: 1) convert PowerBuilder applications into bona fide Web applications, and 2) convert PowerBuilder developers into highly productive Web application developers.

Appeon is composed of a developer tool and a set of runtime server components: Appeon Developer, Appeon Server (which includes the Appeon Enterprise Manager), Appeon Server Web Component, and Appeon Help:

- **Appeon Developer.** An extension to PowerBuilder that enables the Web application generation, maintenance, and upgrades within the PowerBuilder IDE. It is only available in the Appeon for PowerBuilder for Windows editions.
- **Appeon Server.** Composed of J2EE and PowerBuilder server components that provide runtime services for the deployed Web application such as data connectivity, complete DataWindows support, transaction management, printing, and security.
- **Appeon Server also includes Appeon Enterprise Manager (AEM),** which is essentially the user interface for Appeon Server. This UI is implemented as a J2EE Web application enabling the system administrator to manage deployed Web applications and Appeon Server over the Internet, an intranet or an extranet.

Appeon Server Web Component is a series of JavaScript-based Web components generating PowerBuilder-style GUI in standard Microsoft Internet Explorer.

- **Appeon Help.** Provides easy access to all user documents. It saves time and conveniently places the help information, such as, the Appeon supported features, at your fingertips. It is only available in the Appeon for PowerBuilder for Windows editions.



Appeon provides several additional tools (included in the installation package) to aid you in deploying existing PowerBuilder applications to the Web:

- **Appeon Workarounds PBL.** Provides you several Appeon workaround functions that can help work around the unsupported features, such as DataWindow GetFullState, SetFullState, GetChanges and SetChanges functions. Refer to the help file: *Appeon Workarounds Guide* | *Appeon Workarounds PBL Reference* for the functions provided in Appeon Workarounds PBL.
- **Appeon Sales Application Demo.** Familiarize yourself with the Appeon Developer toolbar in PowerBuilder and with the deployment process by converting the Sales Application Demo to the Web with the *Appeon Demo Applications Tutorial*.
- **Appeon Code Examples and Appeon ACF Demo.** Explore examples of some of the rich PowerBuilder and PFC functionalities that Appeon can support on the Web. Appeon Code Examples also serves as a reference for how to best implement these supported PowerBuilder features. An application that is compliant with Appeon-supported features can be deployed to the Web in a few minutes with the click of a button.

## 2.4 Product features

### 2.4.1 Product capabilities

Appeon transforms PowerBuilder into the most productive Web development tool for the J2EE platform. It is capable of migrating existing PowerBuilder applications to the Web with unprecedented speed, where 80-95% of existing PowerBuilder application code and objects are automatically converted. It is also capable of building new rich Web applications with the unbeatable 4GL productivity of PowerBuilder that is at least 4 times faster than ASP.NET or typical JSP authoring tools. The only skill required are your existing PowerBuilder skills that you have mastered over the years. All future Web application maintenance is carried out in the familiar PowerBuilder IDE using only those skills.

### 2.4.2 PowerBuilder application

Appeon provides robust support for both PowerBuilder non-visual and visual features, including the PFC framework. Moreover, Appeon for EAServer edition supports PowerBuilder non-visual objects (NVO). No other product supports as many PowerBuilder features as Appeon and faithfully replicates the rich PowerBuilder UI in standard HTML and JavaScript.

Currently Appeon extends the supported features to encompass Client/Server-centric features and boost the performance to make it ideal for larger and more complex Web migrations.

### 2.4.3 Integration

Appeon provides extremely flexible integration options both at the client and server so that you can integrate nearly any application imaginable.

- **Client-side integration** – Appeon Web applications can invoke non-visual OLE objects, Windows APIs and DLLs, and other executable programs that are installed on the Windows-based client computer. This support enables Appeon Web applications to integrate with essentially any application installed on the client computer and to work with any peripherals that are connected to the client computer.

- **J2EE integration** – Appeon Web applications are based on J2EE technology and deploy to a J2EE application server. This architecture enables Appeon Web applications to natively integrate with all J2EE Web and distributed Client/Server applications.
- **CORBA integration** – Appeon’s server architecture supports CORBA standards and IIOP protocol. This support enables Appeon Web applications to seamlessly integrate with server components written in a number of languages, including C/C++, Java, and PowerBuilder.
- **Web services** – Web services are supported in conjunction with PowerBuilder 9 or later. This support enables Appeon Web applications on the server-side to integrate with any Web services-enabled application, including .NET Web and Client/Server applications.

Appeon uniquely empowers you to marry Microsoft technologies and J2EE in one happy union. Unlike other solutions, you are not forced to decide between Microsoft technologies or Java, and you do not need to Web service-enable your system to take advantage of extensive integration options.

For more information about Appeon architecture and integration, please read the Appeon Whitepaper, *Understanding the Architecture of Appeon*, which can be downloaded from the Appeon Website: <http://www.appeon.com/support/documents-32572814ace53119-34.html>.

#### 2.4.4 Performance

Even though Appeon Web applications offer extremely rich UIs and very powerful PowerBuilder functionality, there are a number of built-in features to ensure it performs and scales well, especially when deployed outside of a LAN environment.

**Bandwidth & connectivity** – All communication between the browser and server utilizes the HTTP standard (connectionless protocol) and 10X data compression is applied automatically.

**Scalability** – Appeon middle-tier offers the superior scalability of J2EE architecture. It can be clustered/load-balanced to support any number of users. In addition, database access utilizes connection-pooling technology to minimize the load on your database by as much as 10 times.

Unlike “quick n’ dirty” migration solutions, Appeon’s architecture empowers your system to scale in all senses of the word. It can deploy the most demanding applications, handle large numbers of users, and work across geographies without restrictions on network connection type and quality. Appeon is designed to serve your organization as it grows not only in headcount but globally as well.

For more information about Appeon architecture and performance, please read the Appeon Whitepaper, *Understanding the Architecture of Appeon*, which can be downloaded from the Appeon Website: <http://www.appeon.com/support/documents-32572814ace53119-34.html>.

#### 2.4.5 Security

Appeon supports strict Web security standards and practices. Built-in user authentication ensures that all users of your Web application have authorized access. This can be configured to work with your existing or a new LDAP server. All data transmitted between the Web client and server can be encrypted using HTTPS/SSL. Since Appeon Web applications can be deployed using just HTML and JavaScript over HTTP port 80, there is no need to relax your firewall security measures at all.

For more information about Appeon architecture and security, please read the Appeon Whitepaper, *Understanding the Architecture of Appeon*, which can be downloaded from the Appeon Website: <http://www.appeon.com/support/documents-32572814ace53119-34.html>.

## 3 Getting Started with Appeon

### 3.1 Overview

Take time to read the documents mentioned below in order to get the most of using Appeon. You can view the PDF or HTML version of the documents.

**Table 3-1: User documents**

When you want to...	Refer to
Get a general idea of the Appeon products suite	<i>Introduction to Appeon</i>
Obtain important installation and general information on Appeon 6.1 for PowerBuilder	<i>Release Bulletin</i> (Only PDF is provided.)
Check system requirements Note: DO NOT start installation if the computer does not meet the specified requirements. Install Appeon 6.1 for PowerBuilder and other accessories	<i>Appeon Installation Guide</i>
Try the Appeon demo applications. (Sales Application Demo, Appeon Code Examples, Appeon ACF Demo, and Appeon Pet World)	<i>Appeon Demo Applications Tutorial</i> (Only PDF is provided.)
Learn the basic processes of developing new Web applications with Appeon Learn the basic processes of deploying PowerBuilder applications	<i>Appeon Migration Guide</i>
Familiarize yourself with the Appeon Developer toolbar that is integrated into PowerBuilder	<i>Appeon Developer User Guide</i>
Establish database connection with Appeon Server Use <i>AEM</i> to configure the server	<i>Appeon Server Configuration Guide</i>
The new features and enhancements for the latest version of Appeon; new levels of support or product compatibilities	<i>New Features Guide</i>
Work on custom PowerBuilder application migration: remove or rewrite unsupported features	<i>Appeon Supported Features Guide</i>
Configure third-party Web servers to work with Appeon Server	<i>Web Server Configuration Guide</i> (Only HTML help is provided.)
Find workarounds for Appeon unsupported features	<i>Appeon Workarounds Guide</i> (Only HTML help is provided.)
Tune the performance of the Web applications	<i>Appeon Performance Tuning Guide</i>
Troubleshoot any problems you encounter along the way	<i>Appeon Troubleshooting Guide</i>

In addition to the documents listed above, valuable information can be obtained from the following website:

- For information about PowerBuilder, EAServer, and Sybase Adaptive Server<sup>®</sup> Anywhere: visit Sybase website at <http://www.sybase.com/>;
- For information about IIS: visit Microsoft Website at <http://www.microsoft.com/>;

- For information about WebLogic: visit BEA WebLogic website at <http://www.bea.com/>;
- For information about WebSphere: visit IBM website at <http://www.ibm.com/>.

Since Appeon 6.0/6.1 for PowerBuilder heavily integrates and interacts with these products, it is necessary for the user to have a solid understanding of them.

### 3.2 Read the Appeon Release Bulletin

After reading through this Introduction document, the *Release Bulletin* should be the next document you read. This critical document provides an update of all of the latest technical issues and new content that may not be included in the latest version of Appeon for PowerBuilder. Please read carefully and pay special attention to the *Known Problems* section.

### 3.3 Install Appeon 6.1 for PowerBuilder

The *Appeon Installation Guide* contains complete instructions that guide you through the installation of Appeon 6.1 for PowerBuilder.

The PowerBuilder and Web versions of the Appeon Sales Application Demo, the Appeon Code Examples, Appeon ACF Demo, and Appeon Pet World are included with the Appeon Developer and the Appeon Server installations.

Detailed instructions on preparation for installation, system requirements, and server configurations are provided in the *Appeon Installation Guide*.

### 3.4 Explore the Appeon demo applications

The *Appeon Demo Applications Tutorial* is a step-by-step guide that walks you through the Sales Application Demo, the Appeon Code Examples, Appeon ACF Demo, and Appeon Pet World. These demos are automatically installed during the Appeon Developer Setup. Use the tutorial to explore the demos and familiarize yourself with the Appeon product from a developer and end-user perspective.

## 4 Working with Appeon

### 4.1 Overview

Appeon 6.1 for PowerBuilder includes several user guides and support documents intended to help you through the process of moving PowerBuilder applications to the Web. The following sections outline the support document relevant to each stage of the process. Read these in the order they are given.

### 4.2 Familiarize yourself with Appeon Developer

The *Appeon Developer User Guide* walks you through all the features of Appeon Developer including configuration, using the analysis tool to bring your application into compliance with Appeon supported features, and deploying your PowerBuilder application to the Web. It is important for you to gain a thorough understanding of Appeon Developer before proceeding to convert any of your own applications to the Web.

### 4.3 Familiarize yourself with Appeon Enterprise Manager (AEM)

The *Appeon Server Configuration Guide* provides the user with instructions and tips for using *Appeon Enterprise Manager (AEM)* to configure the server properties and application properties. This includes database/connection cache and security properties. It is important for you to gain a thorough understanding of *AEM* before attempting to deploy any of your own applications to the Web.

### 4.4 Explore the Appeon Code Examples and the Appeon ACF Demo

The *Appeon Applications Demo Tutorial* provides the user with instructions and tips for gaining an understanding of the PowerBuilder and PFC features that Appeon supports. It also includes the coding requirements for implementing those features. However, it does not highlight every single PowerBuilder and PFC feature that Appeon supports. For a detailed description of all supported features, see *Appeon Features Help*. Especially when building new Web applications in PowerBuilder with Appeon, we suggest that you model your application based on the code and features illustrated in the examples.

### 4.5 Explore the Appeon Sales Application Demo

The *Appeon Applications Demo Tutorial* provides detailed information about the Appeon Sales Application Demo, which demonstrates Appeon's ability to convert the complex UI and event-driven logic of an average PowerBuilder application.

### 4.6 Move your application to the Web

The *Appeon Migration Guide* includes detailed requirements to begin the conversion process and walks you through the entire process of deploying a small PowerBuilder application to the Web.

*Appeon Features Help* outlines the details of what is supported and the optimal code for implementing those features. It is highly recommended that you refer to *Appeon Features Help* when attempting to rewrite or remove unsupported features.

Keep in mind that there are a small number of obscure and intricate unsupported features that cannot be detected in the Unsupported Features Analysis report. Deploy your application to the Web and verify that it is functioning to the correct specifications. If something is not functioning, refer back to *Appeon Features Help* to see if it is an unsupported feature.

The *Appeon Migration Guide* and *Appeon Features Help* will be your trusted companions throughout the conversion process.

Once your application has been deployed to the Web, the *Appeon Performance Tuning Guide* will help you boost the performance of any windows that are either too “heavy” or contain some obscure feature slowing down performance. Appeon recommends that all users study this guide before evaluating the performance of their Web application. No matter how simple or complex your application windows are, there are many ways that you can boost performance without sacrificing any functionality (from the end-user perspective).

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