Appeon Enterprise Manager (AEM)
User Guide

Appeon® 3.1 for PowerBuilder®

FOR WINDOWS

DOCUMENT ID: DC37815-01-0310-01

LAST REVISED: September 13, 2005

Appeon Corporation, 1/F, Shell Industrial Building, 12 Lee Chung Street, Chai Wan District, Hong Kong.

Contents

1 About This Book

1.1 Audience

This book is written for Appeon Server system administrators. It mainly introduces Appeon Enterprise Manager's (AEM) tools. AEM enables administrators to manage all Web applications converted onto the Web with Appeon, as well as Appeon Server over the Internet, an intranet or an extranet. Chapter 7 in this book introduces how to configure and use Appeon Status Monitor that monitors whether Appeon Server is in "started" status. Status Monitor can automatically start Appeon Server if Appeon Server abnormally shuts down.

1.2 How to use this book

There are eight chapters in this book.

Chapter 1: About This Book

A general description of the Appeon Enterprise Manager User Guide.

Chapter 2: Introduction

Overview of Appeon Enterprise Manager.

Chapter 3: Getting Started

Important steps to take before using AEM.

Chapter 4: Server Properties

Instructions for using the Server Properties tool for AEM.

Chapter 5: Application Properties

Instructions for using the Application Properties tool for AEM.

Chapter 6: Security

Instructions for using the Security tool for AEM to manage AEM security and application security.

Chapter 7: Appeon Server Status Monitor

Instructions for using Appeon Server Status Monitor.

Chapter 8: Technical Support

A list of files that users may need when seeking technical support.

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, and the Appeon ACF Demo, 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 3.1.

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

- *Appeon Enterprise Manager User Guide:*

  Introduces the Appeon Enterprise Manager, a Web application that maintains Appeon Web applications and Appeon Server over the Internet, an intranet, or an extranet.

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

  Provides a detailed list of what PowerBuilder features are supported and can be converted to the Web with Appeon 3.1, using the Appeon Xcelerator deployment option, and what features are unsupported.

  Appeon Features Help for Appeon Xcelerator is an HTML version of the *Appeon Supported Features Guide for Appeon Xcelerator Deployment.*

- *Appeon Supported Features Guide for Pure-JavaScript (or Appeon Features Help for Pure-JavaScript):*

  Provides a detailed list of what PowerBuilder features are supported and can be converted to the Web with Appeon 3.1, using the Pure-JavaScript deployment option, and what features are unsupported.

  Appeon Features Help for Pure-JavaScript is an HTML version of the *Appeon Supported Features Guide for Pure-JavaScript Deployment*.

- *Appeon Installation Guide:*

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

- *Appeon Migration Guide:*

  A process-oriented guide that illustrates the complete diagram of the Appeon Web migration procedure, and includes various topics related to steps in the procedure.

- *Appeon Migration Tutorial:*

  A tutorial that walks the user through the entire process of deploying a small PowerBuilder application to the Web.

- *Appeon Performance Tuning Guide:*

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

- *Appeon Troubleshooting Guide:*

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

- *Introduction to Appeon:*

  Guides you through all the documents included in Appeon 3.1 for PowerBuilder.

- *Using the PowerBuilder Foundation Class Library with Appeon (or Appeon-compliant Framework Reference):*

Provides a detailed list of what PowerBuilder PFC features are supported and can be converted to the Web with Appeon, and what features are not supported.

Appeon-compliant Framework Reference is an HTML version of the *Using the PowerBuilder Foundation Class Library with Appeon*.

- *What's New in Appeon:*

  Introduces new features and changes in Appeon 3.1 for PowerBuilder.

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

2.1 Overview

Appeon Enterprise Manager (AEM) is a Web-based application that is automatically installed with Appeon Server to manage the Appeon Server and Appeon deployed Web applications.

AEM is designed to manage both single-server installations and cluster-server installations with the same ease and power, and it provides an additional layer of security to the existing security already coded into your PowerBuilder application. It also allows the administrator to use the built-in Appeon security management system or LDAP security (recommended) to control the access rights at the application level.

All the settings configured in AEM are saved to several XML files in the %JAGUAR%/bin folder, where %JAGUAR% stands for the installation path of the EAServer on the computer. The value of %JAGUAR% can be obtained from the System Environment Variables.

2.2 AEM tools

AEM contains three sets of tools: Server Properties, Application Properties, and Security. After login, you can access each tool either from the treeview window on the left or from the Welcome window on the right. Refer to Figure 2-1.

Figure 2-1: AEM Console

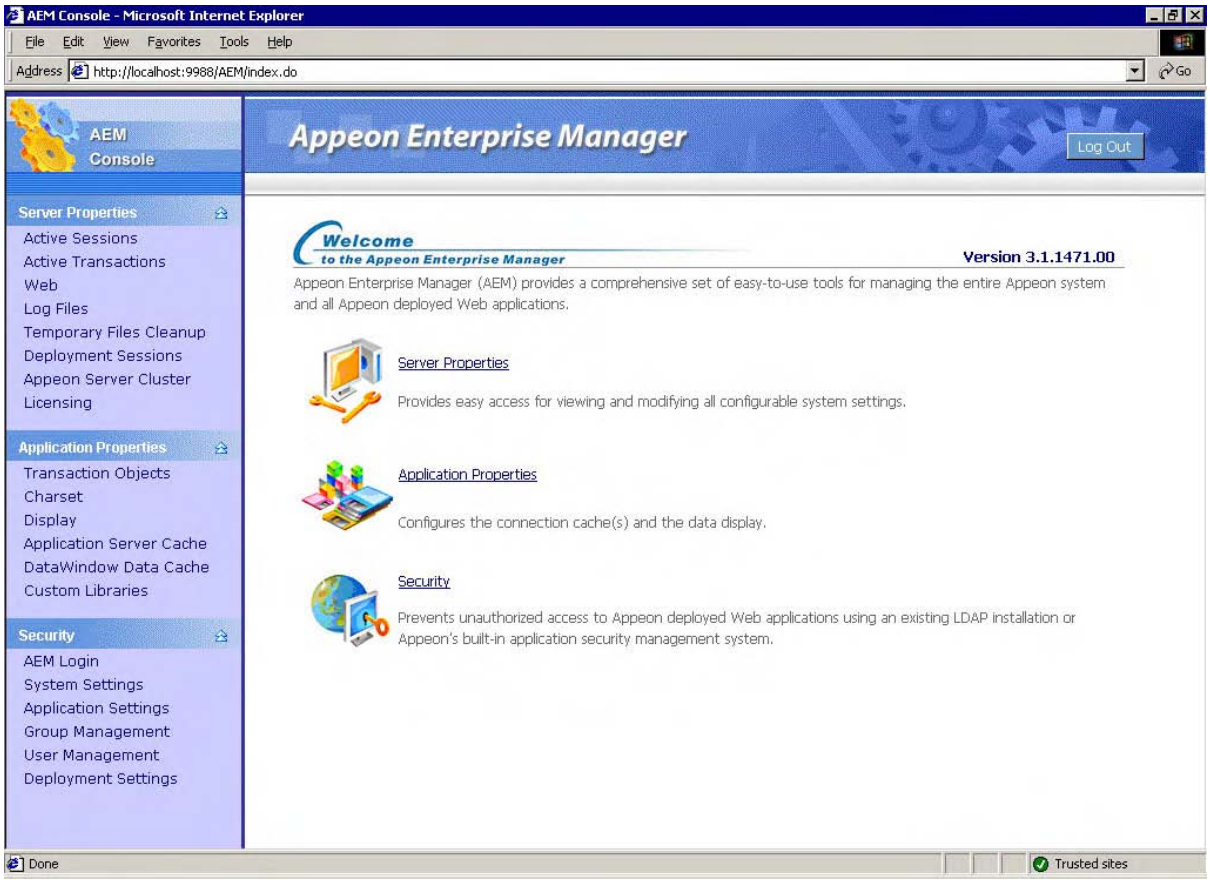


Table 2-1 explains the functionality of AEM tools and when to use them.

Table 2-1: AEM tools

	AEM Tool	Use the tool when you are …
Server Properties	Active Sessions	Managing and monitoring all active sessions on the system.
	Active Transactions	Managing and monitoring all active transactions on the system.
	Web	Configuring Web settings such as Temporary Files Path, PDF Printing, Session Timeout, and Transaction Timeout.
	Log Files	Configuring log file settings: Log Files Operation, and Replace Log Files.
	Temporary Files Cleanup	Removing temporary files. The Cleanup tool enables a periodical auto-cleanup and an on-site manual-cleanup.
	Deployment Sessions	Managing and monitoring all active deployment sessions on the system.
	Appeon Server Cluster	Using Appeon Server cluster. This tool provides the connection information for each EAServer in the cluster.
Application Properties	Transaction Objects	Deploying an application to the Web. The Transaction Objects tool maps Transaction objects correctly to connection cache.
	Charset	Using non-UTF-8 characters set in your database or using a character set at the client that the database does not support. The Charset tool converts data from the client character set to the database character set.
	Display	Setting the display formats for your web application deployed in Pure-JavaScript.
	Application Server Cache	Caching DataWindow syntax and SQL statements.
	DataWindow Data Cache	Caching data retrieved into DataWindow objects.
	Custom Libraries	Downloading and installing DLL and OCX files.
Security	AEM Login	Changing the default or current username and password for AEM logon.
	System Settings	Managing security settings at the system level. The System Settings tool determines whether or not to turn the security toggle on and which security type to be used; it also provides relevant security settings.
	Application Settings	Setting security permissions granted to Groups for a specific application.

	Group Management	Managing Groups. The Group Management tool allows you to add, edit, delete, search and filter groups.
	User Management	Managing Users. The User Management tool allows you to add, edit, delete, search and filter users.
	Deployment Settings	Managing deployment security settings.

3 Getting Started

3.1 Overview

Appeon Server must be running before you start AEM for the Appeon Server.

If using a group of Appeon Servers, which is called an Appeon Server cluster in this document, you should only use AEM in one Appeon Server to manage all the servers in the cluster. All the servers in the cluster must be running before you start AEM.

3.2 Running Appeon Server

STEP 1 – Start Appeon Server. On the computer where Appeon Server is installed, choose *Programs* | *Appeon 3.1 for PowerBuilder* | *Jaguar Server* from the Windows Start menu.

STEP 2 – When the Jaguar CTS Jaguar window displays "Accepting connections", Appeon Server is ready for use.

3.3 Starting AEM

3.3.1 AEM URL

The URL for launching AEM for a given Appeon Server is HTTP://*HOST_NAME*:*PORT*/AEM/ or HTTPS://HOST_NAME:*PORT/AEM/*, where *HOST_NAME* is the machine name or IP address of the server, and *PORT* is the HTTP or HTTPs port for the server.

The Appeon installation program creates an HTTP listener (localhost: 9988) for Appeon Server. If you want to start AEM from the computer that hosts the Appeon Server, the following URL should work: http://localhost:9988/AEM. However, you should not use a "localhost" listener in a production environment.

3.3.2 Three ways to launch AEM

There are three ways to launch AEM:

1. Type the AEM URL in any Web browser that is able to connect via HTTP or HTTPS to the Web port of the Appeon Server.
2. In the computer where the Appeon Server is installed, select Programs | Appeon 3.1 for PowerBuilder | Appeon Enterprise Manager from the Windows Start menu.
3. In the computer where Appeon Developer is installed, click the *AEM* button () in the Appeon Developer toolbar. Before doing this, ensure that the AEM URL has been configured correctly for the server in Appeon Developer.

3.3.3 AEM username and password

Enter a valid username and password for AEM. The username and password are those you specified when installing Appeon Server. If you did not specify the username and password during the installation, you can use the default user name and password (both "admin") to log into AEM. For security purposes, Appeon recommends that you change the username and password after the initial login.

4 Server Properties

4.1 Overview

Server Properties is a set of tools for viewing and modifying all configurable system settings. There are seven tools: Active Sessions, Active Transactions, Web, Log Files, Temporary Files Cleanup, Deployment Sessions, and Appeon Server Cluster. Refer to Figure 4-1.

Figure 4-1: Server Properties

4.2 Active sessions

The AEM Active Sessions tool helps you manage and monitor all active sessions on the system. Refer to Figure 4-2.

Figure 4-2: Active Sessions

4.2.1 Viewing active sessions on an Appeon Server

By default, the Active Sessions table lists the current active sessions on all Appeon Servers. If you want to view active sessions on an Appeon Server, select the Appeon Server from the "Viewing active sessions for" dropdown list box, and click the Refresh button. The dropdown list box lists all the servers configured in the AEM Appeon Server Cluster tool.

You can sort the Active Sessions table by clicking any heading of the following columns: Session ID, User Name and IP Address.

4.2.2 Killing active session(s)

You can kill a single or multiple active sessions in the Active Sessions table to release Appeon Server resources or if you want to perform database maintenance. Each session may include several transactions. When you kill an active session, the active transactions that belong to the session will be rolled back.

STEP 1 – Check the active sessions to be killed.

Proceed with caution when checking sessions to be killed.

STEP 2 – Click the *Kill Checked Sessions* button.

A message box displays for you to confirm the action. Once you confirm the action, the selected sessions are immediately killed and the Active Sessions table is refreshed.

4.3 Active transactions

The AEM Active Transactions tool helps you manage and monitor all active transactions on the system. Refer to Figure 4-3.

Figure 4-3: Active Transactions

4.3.1 Viewing active transactions on an Appeon Server

By default, the Active Transactions table lists the current active transactions on all Appeon Servers. If you want to view active transactions on an Appeon Server, select the Appeon Server from the "Viewing active transactions for" dropdown list box, and click the Refresh button. The dropdown list box lists all the servers configured in the AEM Appeon Server Cluster tool.

You can sort the Active Transactions table by clicking any heading of the following columns: Transaction ID, Session ID, User Name, IP Address, and Process Time.

4.3.2 Rolling back active transaction(s)

You can roll back a single or multiple active transactions in the Active Transactions table to release Appeon Server resources or in case of a database deadlock.

STEP 1 – Check the active transaction(s) that you want to roll back.

Proceed with caution when checking transactions you want to roll back.

STEP 2 – Click the Rollback Checked Transactions button.

A message box displays for you to confirm the action. Once you confirm the action, the selected sessions are immediately killed and the Active Sessions table is refreshed.

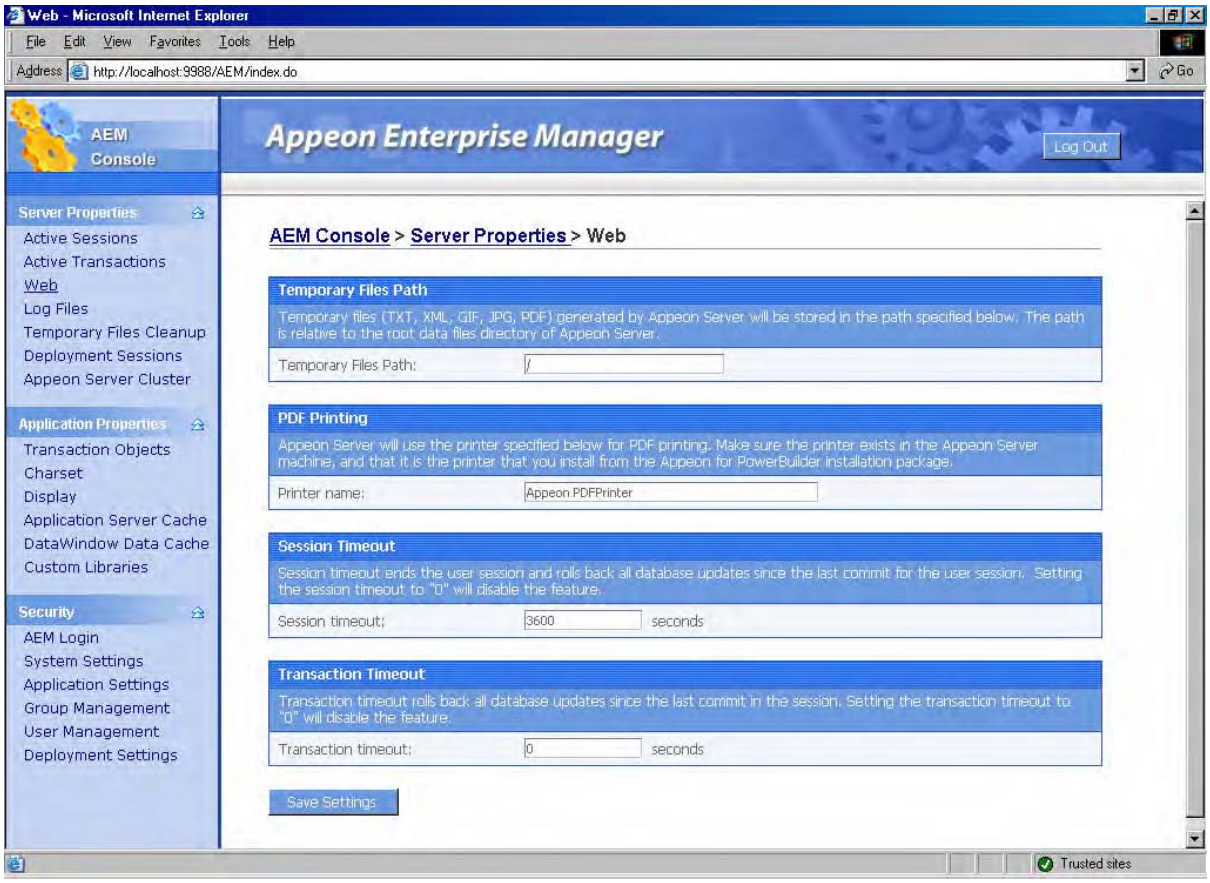
4.4 Web

The Web tool provides configuration for four important functions of Appeon Server for Web applications (refer to Figure 4-4):

- Where to store data files (Temporary Files Path)
- What is the name of the printer for PDF printing (PDF Printing)
- When the session will timeout (Session Timeout)
- When the transaction will timeout (Transaction Timeout)

After making any changes to the configuration, remember to click the *Save Settings* button.

Figure 4-4: Web tool in Server Properties



4.4.1 Temporary Files Path

4.4.1.a Temporary data files and temporary files path

Temporary data files are generated in Appeon Server when you execute SaveAs or PDF printing for Web applications.

Appeon Server creates three folders for storing temporary data files: dwfile, imagefile and reportfile. The three folders can be placed directly in the %JAGUAR%\html directory or in a folder of that directory. If you prefer the three data files folders be placed in a folder of the directory, specify the name of the folder in the "Temporary Files Path" field.

You can specify the name of an existent or non-existent folder. If it is a non-existent folder, Appeon Server will create the folder in the %JAGUAR%\html directory, and create dwfile, imagefile and reportfile folders in the folder for storing different types of data files. For example, if you specify the temporary files path as "/tempfiles", temporary data files are respectively stored in %JAGUAR%\html\tempfiles\dwfile, %JAGUAR%\html\tempfiles\imagefile and %JAGUAR%\html\tempfiles\reportfile.

Note: The Temporary Files path must start with a slash "/".

4.4.1.b How data retrieval works for Appeon Server cluster

When installing Appeon into an Appeon Server cluster, the installation paths of each EAServer must be identical so that the same temporary data files path can be used across all EAServers.

If using an Appeon Server cluster, the Web server is responsible for redirecting the request from an application to an Appeon Server in the cluster. During one session, the Web server only communicates with one Appeon Server. All the data files generated in the session will be stored in the data files path of that Appeon Server\EAServer.

4.4.2 PDF Printing

By default, the printer name is "Appeon PDFPrinter" in AEM. The printer name specified in AEM should be identical to the name of the PDFPrinter that is added to the list of printers in Appeon Server by the Appeon PDFPrinter installation program. The PDFPrinter will not work if the two names do not match. If you change the name of the PDFPrinter in Appeon Server, update the printer name with the new name in the PDF Printing box.

4.4.3 Session timeout

A session starts when the user sends a request to load a Web application from the server, and ends if the user closes the application or has not sent any requests to the server during the "session timeout" period.

- By default, the timeout period for a session is 3600 seconds.
- You can set a timeout interval that is shorter or longer than the default setting. The session timeout can be removed altogether by setting the timeout value to 0. This is not recommended because it will eventually exhaust system resources unless old sessions are manually cleared out using the Active Sessions functionality of AEM.

4.4.4 Transaction timeout

Appeon supports COMMIT and ROLLBACK transaction management statements, and provides a "transaction timeout" setting in AEM that can force a transaction to roll back and release database resource.

The transaction timeout can be removed altogether by setting the timeout value to 0; it is recommended that you set the timeout interval to a small non-0 value, because a small transaction timeout value can prevent:

- Database locking. When a Web application closes abnormally, the active transaction in it can neither commit nor roll itself back.
- Application locking. If an application is deadlocked, other applications cannot proceed.

4.5 Log file

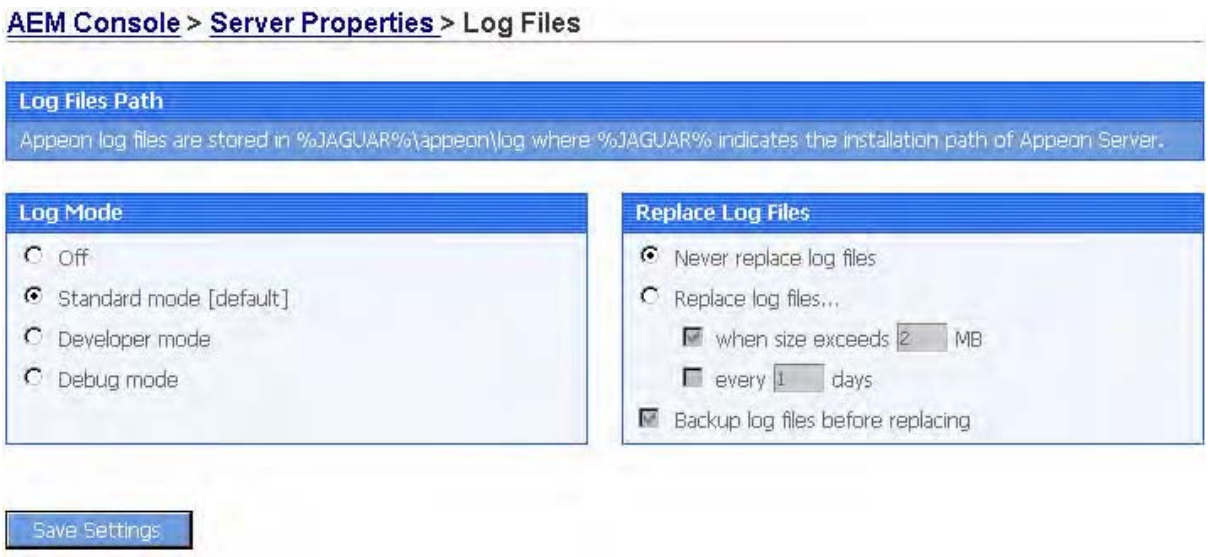
Appeon Server creates log files for record keeping and for future use in troubleshooting (refer to Figure 4-5). The log files are save in text file format (.txt) and stored under %JAGUAR%\appeon\log, where %JAGUAR% indicates the installation path of EAServer.

The user can configure two log file settings:

- Log Mode
- Replace Log Files

Click the *Save Settings* button to save changes.

Figure 4-5: Log Files



4.5.1 Log Mode

Select one of the following four modes for log file operation.

- Mode 1: Off

  Off mode does not generate any log files except error log files. It offers the fastest performance.

- Mode 2: Standard mode

This is the default mode, and should be used once the system stabilizes. It generates standard log files that are sufficient for providing basic system activity information and notifies you if errors have occurred. This mode may be inadequate for detailed troubleshooting.

- Mode 3: Developer mode

  Developer mode generates detailed log files that are sufficient for routine checking and troubleshooting. Performance speed decreases when using this mode.

- Mode 4: Debug mode

  Debug mode generates log files that record every system activity in detail and provide the user with information for troubleshooting **obscure** or **hard to find** issues. Debug mode log files are useful for technical support. There is a noticeable slowdown in performance when using this mode.

4.5.2 Replace log files

Log files accumulate over time, and if they become too large, they can decrease Appeon Server performance. Select the "Replace log files…" option to replace the log files periodically.

To configure log file settings:

STEP 1 – Decide whether the log files should be replaced.

- Option 1: Never replace log files

  If you select this option, the log files will never be replaced. This option may compromise system performance when the log files become large, in which case they should be manually deleted.

- Option 2: Replace log files …

  If you select this option, this option will replace log files according to conditions configured in STEP 2**. It is highly recommended that you use this option**. To create and keep an archive of all logs, check the "Backup log files before replacing" option.

STEP 2 – Set the condition for replacing log files by checking one of the options.

- Option 1: Replace log files when size exceeds ___ MB.

  The system automatically replaces the log files when the file size exceeds the value set here.

- Option 2: Replace log files every ___ days.

  The system automatically replaces the log files as stipulated by the value set here.

STEP 3 – Decide whether the log files should be backed up.

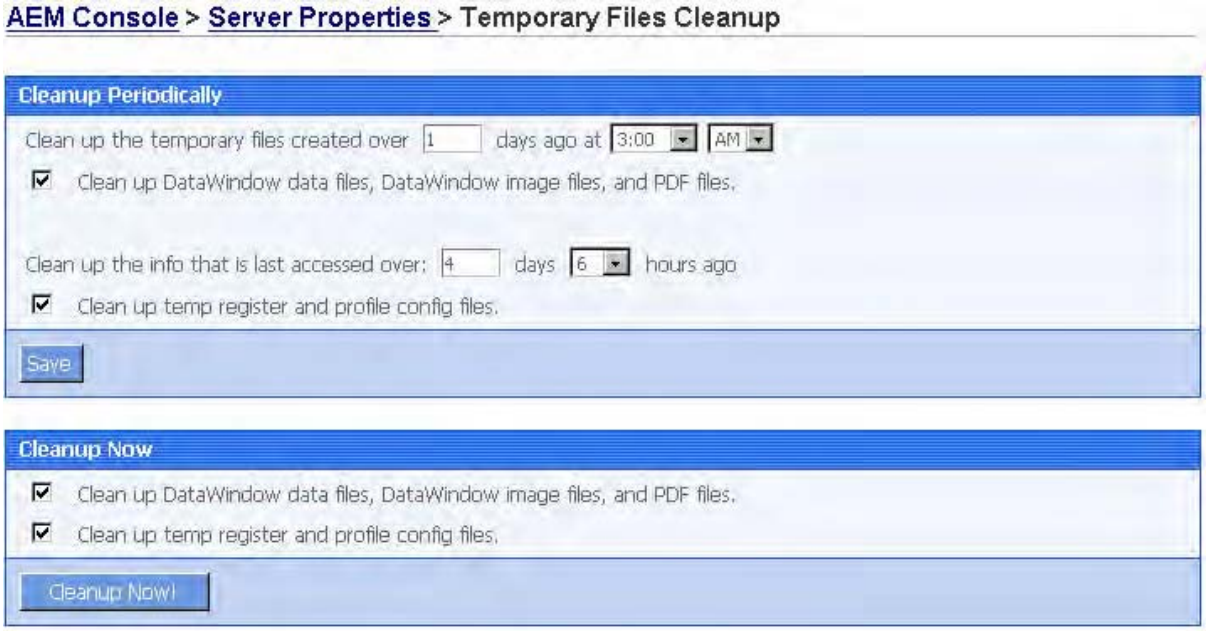
- This setting allows Appeon Server to back up the log files before replacing them. If this option is checked, all log files are backed up before they are replaced so an archive of the log files is maintained. Maintaining this archive does not compromise system performance, but there must be adequate hard disk space for the backup log files.

- All backup log files are named according to the following format: Log File name (“LogSystem”) + an underscore (“_”) + the time of the creation of the backup file (yyyy/mm/dd/hh/mm) + “.bak”. For example: LogSystem_200504081213.bak.

4.6 Temporary Files Cleanup

Temporary Files Cleanup helps you manage the temporary files cleanup automatically or manually. Refer to Figure 4-6.

Figure 4-6: Temporary Files Cleanup



4.6.1 Auto cleanup

To perform an auto-cleanup for temporary files in the “Cleanup Periodically” group box:

STEP 1 – Select the file types to the clean up and specify cleanup time.

- Option 1: Clean up DataWindow data files, DataWindow image files, PDF files
- Option 2: Clean up temp register and profile config files

  Both Option 1 and Option 2 are checked by default. You can choose whether or not to perform these two cleanup jobs by selecting or deselecting these two options.
- Option 3: Clean up the temporary files ____ days ago at ___ am/pm.

  Use this option to specify a particular time for temporary DataWindow data files, DataWindow image files, and PDF files to be cleaned up. For example, “Clean up the temporary files 2 days ago at 8:00 am” denotes that all temporary files generated 2 days ago will be cleaned up everyday at 8:00 am.
- Option 4: Clean up the info that is last accessed: ___ days ___ hours ago.

  Use this option to specify a particular time based on which the temporary register and profile configuration files will be cleaned up. For example, “Clean up the info that is last accessed: 2 days 4 hours ago” denotes that all temporary register and profile configuration files that were accessed over 2 days and 4 hours ago will be cleaned up everyday.

STEP 2 – Click the *Save* button to have settings take effect.

4.6.2 Manual cleanup

This feature is not usually necessary if the auto-cleanup feature is used, but it can be helpful between scheduled cleanups if a sudden increase in activity on the system causes an influx of temporary files resulting in declines in performance.

To perform a manual cleanup in the "Cleanup Now" group box:

STEP 1 – Select the temporary files to be cleaned up.

Determine which temporary files are to be cleaned up by selecting the following options: "Clean up DataWindow data files, DataWindow image files, PDF files", and "Clean up temp register and profile config files". Both of these options are checked by default.

STEP 2 – Click the *Cleanup Now!* button to commit the cleanup.

The selected temporary files will be deleted immediately from all the EAServers that are configured in the AEM Appeon Server Cluster page.

4.7 Deployment sessions

The Deployment Sessions tool can help you manage and monitor all the active deployment sessions on the system. Refer to Figure 4-7.

Figure 4-7: Deployment Sessions

An active deployment session automatically starts and displays in the Deployment Sessions table when Appeon Developer starts to upload the embedded SQL statements, DataWindow SQLs, and INI files of an application to Appeon Server. It ends and disappears automatically from the table when the upload process is completed.

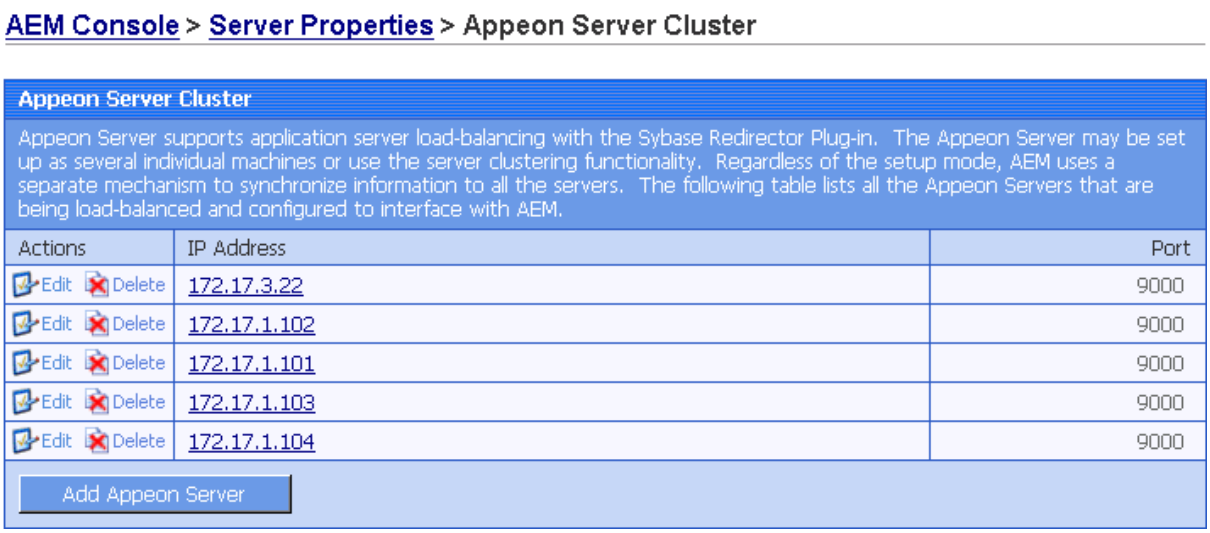
There is one special scenario in which you need to manually kill a deployment session in AEM. If the Deployment Wizard of Appeon Developer abnormally exits during the above-mentioned upload process, the deployment session stays in active status in Appeon Server, and Appeon Developer cannot resume the upload process. Only after you kill the deployment session (by checking the session and clicking the *Kill Checked Sessions* button) or restart Appeon Server can the Deployment Wizard continue its job and upload the application.

Note: Killing a deployment session does not affect the ongoing deployment process. It does not have a negative effect if you kill a deployment session by mistake.

4.8 Appeon Server cluster

An Appeon Server cluster is essentially a group of individual EAServers, each of which has Appeon Server installed. The Appeon Server Cluster tool allows you to add multiple Appeon Servers and manage them with only one AEM. After Appeon Servers are added, you can configure a specific setting in the current AEM and synchronize\save it to AEMs residing in other Appeon Servers. This is especially efficient for managing multiple Appeon Servers used for similar purpose (for example, load-balancing) in your application production environment.

Figure 4-8: Appeon Server Cluster



4.8.1 Important Requirements

- The local Appeon Server will be automatically added. You will get an error message when trying to add the local Appeon Server to the list.
- Use the IP address or machine name of the Appeon Server when adding an Appeon Server. Do not use “localhost”.
- The IP address or machine name and port number must match the settings of IIOP listeners in EAServer Manager.
- To successfully synchronize/save a specific setting to all servers in the list, verify that servers are running before you save it.

4.8.2 Steps to add an Appeon Server

STEP 1 – Click the *Add Appeon Server* button in the Appeon Server Cluster page. The Add New Appeon Server page opens.

STEP 2 – Verify that the Appeon Server to be configured is running and provide the required information (IP address or machine name, Port, Username, and Password). For example:

- IP address: 161.0.0.1
- Port: 9987
- User Name: jagadmin
- Password: (null)

STEP 3 – Click the *Add Appeon Server* button. The program will automatically test the connection and add the Appeon Server if the test is successful.

Adding an Appeon Server will succeed only if:

1. The Appeon Server is new to AEM.
2. The information provided is correct.
3. The Appeon Server is running.

4.8.3 Steps to edit an Appeon Server

If the port number or the login information of a configured Appeon Server changes, click the *Edit* icon in the Appeon Server Cluster tool to edit the Appeon Server:

STEP 1 – Click the *Edit* button next to the IP address or machine name of the Appeon Server in the Appeon Server Cluster page. The Edit Appeon Server page opens.

STEP 2 – Make changes to the Appeon Server settings, and click the *Save Changes* button.

AEM will test the connection to the Appeon Server with the new settings. If the test fails, the changes will not be saved, and AEM still keeps the previous settings of the Appeon Server.

4.8.4 Steps to remove an Appeon Server

To delete an Appeon Server from the list:

STEP 1 – Click the *Delete* button next to the IP address or machine name of the Appeon Server in the Appeon Server Cluster page.

STEP 2 – A message box appears requiring confirmation. Choose *OK* to proceed with the deletion, or choose *Cancel* to cancel.

STEP 3 – By clicking on the *OK* button, the Appeon Server is removed from the Appeon Server list. AEM no longer interfaces with the Appeon Server.

5 Application Properties

5.1 Overview

Applications deployed to Appeon Server are registered in AEM with their application profile names.

Application Properties are a set of tools for setting the server-related properties for Web applications. There are six tools: Transaction Objects, Charset, Display, Application Server Cache, DataWindow Data Cache, and Custom Libraries, as shown in Figure 5-1. The settings for each application profile affect Web application(s) deployed from the application profile.

Figure 5-1: Application properties

5.2 Transaction Objects

A database-driven PowerBuilder application has at least one database connection, which is accomplished through the use of transaction objects. When the PowerBuilder application is deployed to the Web, Appeon Server handles the database connection using connection caches configured in Appeon Server rather than transaction objects defined in the PowerBuilder application.

All transaction objects in the PowerBuilder application must be mapped to a correct Appeon Server connection cache. "Correct" means that the connection cache should be created as a JDBC connection cache in the EAServer Manager of Appeon Server, and it should connect to the same database that the Transaction Object connects to in the application.

There are two types of transaction object to connection cache mapping methods:

- Dynamic Transaction object to connection cache mapping via PowerScript
- Static Transaction object to connection cache mapping in AEM

The dynamic mapping in PowerScript has priority over the static mapping in AEM. This section introduces how to set up the static mapping in AEM. For information about the mapping in PowerScript, refer to Chapter 8: *Database Connection Setup* in the *Appeon Migration Guide*.

5.2.1 Delete application

In the Transaction Objects page, AEM provides the *Delete Application* button for the user to delete an application, as illustrated in Figure 5-2.

Figure 5-2: Delete an application

Delete Application – deletes an existing application together with all settings made to the application within AEM, including transaction objects, display settings, application settings, etc. To do this, the user only needs to select the application and click the *Delete Application* button.

Note: Deleting an application by clicking the *Delete Application* button removes all the information of the application from Appeon Server (including AEM), but does not remove the application Web files folder in the Web server. An application cannot be run after being deleted in this way. If you want to run the application again or add the application in AEM, redeploy the application in Appeon Developer.

5.2.2 JDBC requirement for transaction object mappings

Appeon Server is based on J2EE architecture and therefore requires JDBC to interface with the database. The JDBC connection caches can use any of the following four types of JDBC drivers: JDBC-ODBC Bridge, Native-API/partly Java driver, Net-protocol/all-Java driver, or Native-protocol/all-Java driver.

When choosing a driver, the user needs to use knowledge of databases and JDBC, and perform tests to decide which type of JDBC driver works best for the specific application and database needed. For example, because of some known issues, it is advised to avoid using Sybase jConnect™ driver for JDBC™ with the Sybase Adaptive Server® Enterprise database (refer to the *Appeon Release Bulletin*). In this case, the user can choose a connection cache that uses JDBC-ODBC Bridge driver (Sybase iAnywhere JDBC driver is a recommended JDBC-ODBC Bridge driver).

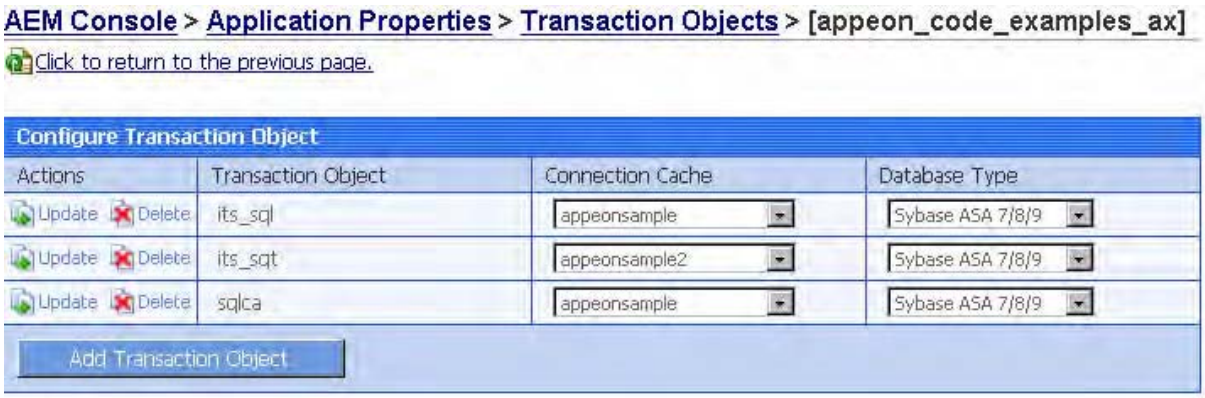
Refer to Chapter 8: *Database Connection Setup* in the *Appeon Migration Guide* for more information on this topic, including recommendations on which JDBC driver to use and instructions for creating connection caches.

5.2.3 Configuring transaction object mappings for an application

When an application is deployed to Appeon Server, AEM automatically adds the application name into the application list of the Transaction Objects tool.

To view the static transaction object mappings for an application, click the application in the Transaction Objects tool. A new page opens and displays the current transaction mapping(s) for the application, as shown in Figure 5-3

Figure 5-3: Configuring transaction object mappings for an application



5.2.3.a Modifying an existing transaction object mapping

1) To change the connection cache

For each transaction object, there is a dropdown list box in the "Connection Cache" column. The list box lists the JDBC connection caches created in Appeon Server.

Make sure the selected connection cache connects to the same database that the transaction object connects to.

You can change the current connection cache by selecting another connection cache from the dropdown list box. Click *Update* to apply the change.

2) To change the database type

If the database the transaction object connects to is changed (for example, if all the data is moved from Oracle to Sybase), AEM must be updated.

Change the current database type by selecting another database type from the dropdown list box in the "Database type" column. Click *Update* to apply the change.

3) To delete an existing transaction object mapping

Clicking the *Delete* button will delete a transaction object mapping. A pop-up message will ask you to confirm deletion.

By default, a "SQLCA" transaction object is configured in AEM for each application. If the PowerBuilder application does not contain a SQLCA transaction object, you can delete the SQLCA transaction object mapping.

5.2.3.b Adding an transaction object mapping

STEP 1 – Click the *Add Transaction Object* button in Figure 5-3. The Add Transaction Object page displays as shown in Figure 5-4.

Figure 5-4: Add transaction object

STEP 2 – Enter the transaction object name in the "Transaction object" field. The transaction object name is case insensitive and is the same as the one used in the original PowerBuilder application.

STEP 3 – Select the connection cache from the "Connection cache" dropdown list box. The list box lists the JDBC connection caches created in Appeon Server.

Make sure the selected connection cache connects to the same database that the transaction object connects to.

STEP 4 – Select the database type from the "Database type" dropdown list box.

Make sure the selected database type is identical to what the transaction object connects to.

STEP 5 – Double-check the information entered because AEM does not validate user-entered data.

STEP 6 – Click the *Add Transaction Object* button.

To add more transaction object mappings, repeat the above steps.

5.3 Charset

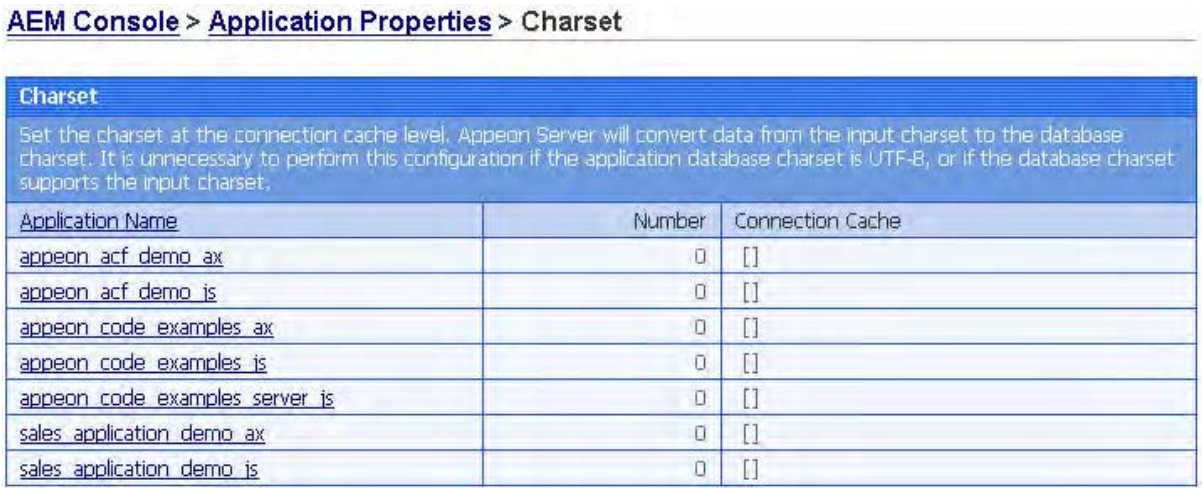
The character set conversion can be enabled at the connection cache level for each application if you specify the input Charset and database Charset for the cache in AEM. Refer to Figure 5-5.

You will find the Charset tool useful when:

- The database uses non-UTF-8 character set, and
- The language display of the Web application has error code in it

Otherwise, it is unnecessary to use this tool.

Figure 5-5: Charset settings



5.3.1 Configuring database Charset for a connection cache

STEP 1 – Click an application in the Application Name column.

STEP 2 – Click the Add Charset button.

STEP 3 – Select the connection cache from the dropdown list box in the "Connection cache" field.

STEP 4 – Select the Database Charset type from the dropdown list box in the "Database Charset" field. The Charset should be consistent with the Charset used in the database. This will not change the setting in the database.

STEP 5 – Select the Input Charset type from the dropdown list box in the "Client-side Charset" field. This setting should match the input Charset type at the client side.

STEP 6 – Click the Add Charset button to confirm the configuration.

5.3.2 Charset options given in the Charset fields

Table 5-1 lists all the Charset options provided in the "Database Charset" field and the "Client-side Charset" field, and provides a brief description of each Charset. If the actual database Charset or the input Charset is not provided as an option, you can use the following method to manually add the type as an option:

STEP 1 – Open the file Charset.properties in the directory %JAGUAR%\Repository\WebApplication\AEM\WEB-INF\classes\.

STEP 2 – Add the Charset type as an entry into the file, and save the file.

For example, if the Charset type that you want to add is "gbk", you can add a new line "gbk=gbk" in the file.

STEP 3 – Refresh AEM and the "gbk" Charset will be added to the Charset lists.

Table 5-1: Charset options

Types	Description
ASCII	American Standard Code for Information Interchange
Cp1252	Windows Latin-1
ISO8859_1	ISO 8859-1, Latin alphabet No. 1
UnicodeBig	Sixteen-bit Unicode Transformation Format, big-endian byte order, with byte-order mark
UnicodeBigUnmarked	Sixteen-bit Unicode Transformation Format, big-endian byte order
UnicodeLittle	Sixteen-bit Unicode Transformation Format, little-endian byte order, with byte-order mark
UnicodeLittleUnmarked	Sixteen-bit Unicode Transformation Format, little-endian byte order
UTF8	Eight-bit Unicode Transformation Format
UTF-16	Sixteen-bit Unicode Transformation Format, byte order specified by a mandatory initial byte-order mark
Big5	Big5, Traditional Chinese
Big5_HKSCS	Big5 with Hong Kong extensions, Traditional Chinese
Cp037	USA, Canada (Bilingual, French), Netherlands, Portugal, Brazil, Australia
Cp273	IBM Austria, Germany
Cp277	IBM Denmark, Norway
Cp278	IBM Finland, Sweden
Cp280	IBM Italy
Cp284	IBM Catalan/Spain, Spanish Latin America
Cp285	IBM United Kingdom, Ireland
Cp297	IBM France
Cp420	IBM Arabic
Cp424	IBM Hebrew
Cp437	MS-DOS United States, Australia, New Zealand, South Africa
Cp500	EBCDIC 500V1
Cp737	PC Greek
Cp775	PC Baltic
Cp838	IBM Thailand extended SBCS
Cp850	MS-DOS Latin-1
Cp852	MS-DOS Latin-2

Cp855	IBM Cyrillic
Cp856	IBM Hebrew
Cp857	IBM Turkish
Cp858	Variant of Cp850 with Euro character
Cp860	MS-DOS Portuguese
Cp861	MS-DOS Icelandic
Cp862	PC Hebrew
Cp863	MS-DOS Canadian French
Cp864	PC Arabic
Cp865	MS-DOS Nordic
Cp866	MS-DOS Russian
Cp868	MS-DOS Pakistan
Cp869	IBM Modern Greek
Cp870	IBM Multilingual Latin-2
Cp871	IBM Iceland
Cp874	IBM Thai
Cp875	IBM Greek
Cp918	IBM Pakistan (Urdu)
Cp921	IBM Latvia, Lithuania (AIX, DOS)
Cp922	IBM Estonia (AIX, DOS)
Cp930	Japanese Katakana-Kanji mixed with 4370 UDC, superset of 5026
Cp933	Korean Mixed with 1880 UDC, superset of 5029
Cp935	Simplified Chinese Host mixed with 1880 UDC, superset of 5031
Cp937	Traditional Chinese Host mixed with 6204 UDC, superset of 5033
Cp939	Japanese Latin Kanji mixed with 4370 UDC, superset of 5035
Cp942	IBM OS/2 Japanese, superset of Cp932
Cp942C	Variant of Cp942
Cp943	IBM OS/2 Japanese, superset of Cp932 and Shift-JIS
Cp943C	Variant of Cp943
Cp948	OS/2 Chinese (Taiwan) superset of 938
Cp949	PC Korean
Cp949C	Variant of Cp949
Cp950	PC Chinese (Hong Kong, Taiwan)

Cp964	AIX Chinese (Taiwan)
Cp970	AIX Korean
Cp1006	IBM AIX Pakistan (Urdu)
Cp1025	IBM Multilingual Cyrillic: Bulgaria, Bosnia, Herzegovinia, Macedonia (FYR)
Cp1026	IBM Latin-5, Turkey
Cp1046	IBM Arabic – Windows
Cp1097	IBM Iran (Farsi)/Persian
Cp1098	IBM Iran (Farsi)/Persian (PC)
Cp1112	IBM Latvia, Lithuania
Cp1122	IBM Estonia
Cp1123	IBM Ukraine
Cp1124	IBM AIX Ukraine
Cp1140	Variant of Cp037 with Euro character
Cp1141	Variant of Cp273 with Euro character
Cp1142	Variant of Cp277 with Euro character
Cp1143	Variant of Cp278 with Euro character
Cp1144	Variant of Cp280 with Euro character
Cp1145	Variant of Cp284 with Euro character
Cp1146	Variant of Cp285 with Euro character
Cp1147	Variant of Cp297 with Euro character
Cp1148	Variant of Cp500 with Euro character
Cp1149	Variant of Cp871 with Euro character
Cp1250	Windows Eastern European
Cp1251	Windows Cyrillic
Cp1253	Windows Greek
Cp1254	Windows Turkish
Cp1255	Windows Hebrew
Cp1256	Windows Arabic
Cp1257	Windows Baltic
Cp1258	Windows Vietnamese
Cp1381	IBM OS/2, DOS People's Republic of China (PRC)
Cp1383	IBM AIX People's Republic of China (PRC)

Cp33722	IBM-eucJP – Japanese (superset of 5050)
EUC_CN	GB2312, EUC encoding, Simplified Chinese
EUC_JP	JIS X 0201, 0208, 0212, EUC encoding, Japanese
EUC_JP_LINUX	JIS X 0201, 0208, EUC encoding, Japanese
EUC_KR	KS C 5601, EUC encoding, Korean
EUC_TW	CNS11643 (Plane 1-3), EUC encoding, Traditional Chinese
GBK	GBK, Simplified Chinese
ISO2022CN	ISO 2022 CN, Chinese (conversion to Unicode only)
ISO2022CN_CNS	CNS 11643 in ISO 2022 CN form, Traditional Chinese (conversion from Unicode only)
ISO2022CN_GB	GB 2312 in ISO 2022 CN form, Simplified Chinese (conversion from Unicode only)
ISO2022JP	JIS X 0201, 0208 in ISO 2022 form, Japanese
ISO2022KR	ISO 2022 KR, Korean
ISO8859_2	ISO 8859-2, Latin alphabet No. 2
ISO8859_3	ISO 8859-3, Latin alphabet No. 3
ISO8859_4	ISO 8859-4, Latin alphabet No. 4
ISO8859_5	ISO 8859-5, Latin/Cyrillic alphabet
ISO8859_6	ISO 8859-6, Latin/Arabic alphabet
ISO8859_7	ISO 8859-7, Latin/Greek alphabet
ISO8859_8	ISO 8859-8, Latin/Hebrew alphabet
ISO8859_9	ISO 8859-9, Latin alphabet No. 5
ISO8859_13	ISO 8859-13, Latin alphabet No. 7
ISO8859_15_FDIS	ISO 8859-15, Latin alphabet No. 9
JIS0201	JIS X 0201, Japanese
JIS0208	JIS X 0208, Japanese
JIS0212	JIS X 0212, Japanese
JISAutoDetect	Detects and converts from Shift-JIS, EUC-JP, ISO 2022 JP (conversion to Unicode only)
Johab	Johab, Korean
KOI8_R	KOI8-R, Russian
MS874	Windows Thai
MS932	Windows Japanese
MS936	Windows Simplified Chinese

MS949	Windows Korean
MS950	Windows Traditional Chinese
MacArabic	Macintosh Arabic
MacCentralEurope	Macintosh Latin-2
MacCroatian	Macintosh Croatian
MacCyrillic	Macintosh Cyrillic
MacDingbat	Macintosh Dingbat
MacGreek	Macintosh Greek
MacHebrew	Macintosh Hebrew
MacIceland	Macintosh Iceland
MacRoman	Macintosh Roman
MacRomania	Macintosh Romania
MacSymbol	Macintosh Symbol
MacThai	Macintosh Thai
MacTurkish	Macintosh Turkish
MacUkraine	Macintosh Ukraine
SJIS	Shift-JIS, Japanese
TIS620	TIS620, Thai

5.4 Display

Web applications **in Pure-JavaScript deployments** cannot adopt the local settings of the Client operating system for displaying date, time, and currency data. As an alternative, AEM allows you to set the default formats. If the display formats for date, time, or currency type data are specified in the PowerBuilder source code, Web applications will display the same as set in PowerBuilder. Otherwise, Web applications will display that as specified in AEM.

Note that this Display feature only applies to Web applications in Pure-JavaScript deployments. Web applications **in Appeon Xcelerator deployments** can take the local settings of the Client operating system for displaying date, time, and currency data, so the applications do not read the display settings in AEM.

5.4.1 Viewing display settings

The Display Settings table lists the settings for all the applications, but you should ignore the settings for the following two types of applications:

- Applications deployed with Appeon Xcelerator
- Applications deployed in Pure-JavaScript, but with their display formats specified in the source code

Figure 5-6: Display settings

5.4.2 Modifying display settings for an application

STEP 1 – Click an application in the Display Settings table of Figure 5-6 to change the display settings in it.

Figure 5-7: Modify display settings for an application

STEP 2 – Select the desired formats for displaying date, time or currency data.

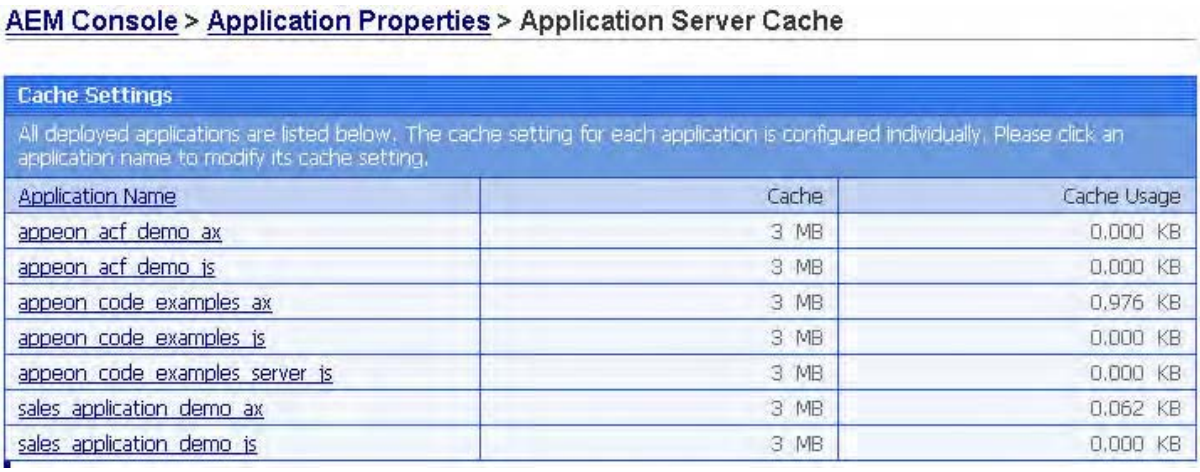
STEP 3 – Click the *Save Settings* button to save the changes.

5.5 Application Server Cache

Every time a Web application starts, Appeon Server loads the DataWindow syntax and embedded SQLs of the application to its memory. If Appeon Server is supporting multiple applications and loads all the syntax and SQLs of the applications into the memory, too much server memory is consumed. The result is that the performance of all applications is reduced.

AEM provides the Application Server Cache tool for you to leverage Appeon Server resources and make sure it has enough resources for supporting important applications.

Figure 5-8: Application Server Cache



5.5.1 What is Application Server cache?

An Application Server cache is a portion of Appeon Server memory that is allocated for temporarily storing DataWindow syntax and embedded SQLs of an application.

Depending on the cache size specified for an application, Appeon Server loads part or all of the application DataWindow syntax and embedded SQLs when the application starts. If Appeon Server only loads part of the DataWindow syntax and embedded SQLs of an application to the cache, the application runtime performance is affected because Appeon Server needs to read some DataWindow syntax and embedded SQLs from the database instead of reading from the memory.

Make sure that the cache size is large enough for essential applications and those frequently accessed by users. If the Appeon Server memory is tight, you can consider decreasing the cache size for minor applications.

5.5.2 Modifying the Appeon Server cache setting for an application

In the Cache Settings table of Figure 5-8, the Cache column shows the Appeon Server cache size allocated for the corresponding application, while the Cache Usage column shows how much cache the application currently occupies in the Appeon Server memory.

Take the following steps if you want to change the cache size for an application:

STEP 1 – Click an application listed in the Cache Settings table of Figure 5-8. A new page opens and displays the current cache setting for the application, as shown in Figure 5-9.

Figure 5-9: Modify Cache Setting

STEP 2 – Modify the cache size. You can:

- Set the size to a figure bigger than "0". By default, the cache size is 3MB. This is suitable for a common application.

  For example, suppose there are two applications, appA (which is less important) and appB (which is important). You can set the memory limit for appA as 3MB, and set the memory limit for appB as 10MB. If the client runs appA, Appeon Server loads a maximum of 3MB syntax and SQL into its memory; if the client runs appB, Appeon Server loads a maximum of 10MB syntax and SQL into its memory. If the actual size of appA syntax and SQL is very large (more than 10MB), the running of appA will not affect the running of appB.

- Set the size to "0", which means that no cache is available for loading DataWindow syntax or Embedded SQLs. Appeon Server always reads the DataWindow syntax and embedded SQLs from the database.

- Set the size to less than "0" (-3, for example), which means that the cache has no limit. Appeon Server will load all the DataWindow syntax, DataWindow SQLs, and Embedded SQLs of the application into the cache.

Setting the size to "0" is not recommended because it will result in slow performance. If the server has enough memory and the number of the deployed applications is less than 10, it is recommended that you set the size for all applications to less than "0". If the server does not have enough memory, but it contains many deployed applications, it is recommended that you set all important applications, as well as applications using many DataWindows and Embedded SQL, to less than "0" or much higher than 3M. Keep all other applications at the default setting.

STEP 3 – Click the *Save Settings* button to save the changes.

5.6 DataWindow Data Cache

You can apply the DataWindow Data Cache tool to cache DataWindow data that are frequently used on the Web Server. DataWindow Data Cache can significantly reduce server load and network traffic, boosting performance and scalability.

Important:

1) DataWindow Data Cache tool applies only to Appeon Xcelerator deployments.

2) DataWindow Data Cache will not be effective until you fulfill all the configuration requirements described in the following sections:

- Configuration required for database servers
- Configuration required for Web servers
- Configuration for DataWindow Data Cache in AEM

3) There is a restriction on the database table where a cache-enabled DataWindow retrieves data: the first twenty characters in the table name must be different from those in the other tables in the database. If the first twenty characters in two tables are the same, the Cache tool cannot correctly identify the table that the DataWindow uses.

5.6.1 Configuration required for database servers

Appeon provides four SQL files respectively for the four supported database servers. You need to **execute** the SQL file of a database server for the server to support the DataWindow data-caching feature.

Table 5-2 lists the SQL file that should be executed for each database server.

Table 5-2: SQL files need be executed for each database server

Database Type	SQL File
Oracle	To enable the feature for Oracle, install %JAGUAR%\appeon\SQL\sql\cache\install_appeon_cache_ORACLE.sql. To disable the feature for Oracle, uninstall %JAGUAR%\appeon\SQL\sql\cache\uninstall_appeon_cache_ORACLE.sql.
Microsoft SQL Server	To enable the feature for Microsoft SQL Server, install %JAGUAR%\appeon\SQL\sql\cache\install_appeon_cache_MSSQL.sql. To disable the feature for Microsoft SQL Server, uninstall %JAGUAR%\appeon\SQL\sql\cache\uninstall_appeon_cache_MSSQL.sql.
ASE	To enable the feature for ASE, install %JAGUAR%\appeon\SQL\sql\cache\install_appeon_cache_ASE.sql. To disable the feature for ASE, uninstall %JAGUAR%\appeon\SQL\sql\cache\uninstall_appeon_cache_ASE.sql.
ASA	To enable the feature for ASA, install %JAGUAR%\appeon\SQL\sql\cache\install_appeon_cache_ASA.sql. To disable the feature for ASA, uninstall %JAGUAR%\appeon\SQL\sql\cache\uninstall_appeon_cache_ASA.sql.

5.6.1.a Important notes

Executing the SQL files provided by Appeon is the same as executing any other SQL files, but you need to be aware of the following notes:

- If a database server has multiple users, executing the SQL file under the login of one user will be effective for that user only. To make sure all users can use the DataWindow data-caching feature, you should use different logins to execute the SQL file.
- When you execute the SQL for a database server, the current login user of the server must have the right to execute stored procedures and create functions.
- There are two ways to execute SQLs in a database server - from the database server console or from the command line. Sometimes one way will fail while the other works. For example, executing the SQL for Microsoft SQL Server from the command line may result in “parameter –D” error, while executing the SQL from the server console is successful, if the server computer has both Microsoft SQL Server and Sybase ASE server installed.

5.6.2 Configuration required for Web servers

If you use EAServer Web server as the Web server, you do not need to do any special configuration, and the DataWindow data-caching feature is automatically enabled for the Web server.

If you use a third-party Web server as the Web server, take the configuration steps in this section to enable the DataWindow data-caching feature and set the Web server cache size.

5.6.2.a Web server cache size

The default (and minimum) Web server cache size is 100MB. If you set the size to a value smaller than 100MB, the cache size will still be regarded as 100MB.

For the Web server cache to keep enough DataWindow data, the larger the cache size, the better, but you need to make sure the cache size is no larger than the available memory on the server.

5.6.2.b Configuring Apache 1.3

STEP 1 – Copy the *modcache.dll* file from *%appeon%\Apache13Support\modules* to the *modules* folder under the installation path of Apache 1.3.

%appeon% stands for the installation path of Appeon Server Web Component.

STEP 2 – Copy the *appeoncache.conf* and *easinit.conf* files from *%appeon%\Apache13Support\config* to the *config* folder under the installation path of Apache 1.3.

The *appeoncache.conf* file contains the specification for the Web server cache size (unit: MB). You can change the size based on the available memory in the server.

```
cachesize 100
```

STEP 3 – Add the following code at the end of the *httpd.conf* file in the *conf* folder under the installation path of Apache 1.3.

```
#------mod_cache for web cache config-------#
LoadModule data_cache_module modules/modcache.dll
<IfModule mod_cache.c>
      include conf/appeoncache.conf
</IfModule>
#-----------------End config---------------#
```

The code loads the *modcache.dll* file and includes the *appeoncache.conf* file in Apache 1.3.

5.6.2.c Configuring Apache 2.0

STEP 1 – Copy the *modcache2.dll* file from *%appeon%\Apache20Support\modules* to the *modules* folder under the installation path of Apache 2.0.

%appeon% stands for the installation path of Appeon Server Web Component.

STEP 2 – Copy the *appeoncache.conf* and *easinit.conf* files from *%appeon%\Apache20Support\config* into the *config* folder under the installation path of Apache 2.0.

The *appeoncache.conf* file contains the specification for the Web server cache size (unit: MB). You can change the size based on the available memory in the server.

```
cachesize 100
```

STEP 3 – Add the following code at the end of the *httpd.conf* file that is stored in the *conf* folder under the installation path of Apache 2.0.

```
#------mod_cache for web cache config-------#
LoadModule data_cache_module modules/modcache2.dll
<IfModule mod_cache.c>
```

```
      include conf/appeoncache.conf
</IfModule>
#-----------------End config---------------#
```

The code loads the *modcache2.dll* file and includes the *appeoncache.conf* file in Apache 2.0.

5.6.2.d Configuring IIS 5.0 or IIS 6.0

STEP 1 – Copy the *AppDataBuf.dll* file and *appeoncache.conf* from *%appeon%\IIS5Support* into the *inetpub\scripts* folder under the installation path of IIS 5.0 or IIS 6.0.

%appeon% stands for the installation path of Appeon Server Web Component.

STEP 2 – In the registry, create a new entry "Filter DLLs" for "HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\W3SVC\Parameters" if the entry does not exist.

STEP 3 – Assign the full path of the *AppDataBuf.dll* file as the data value of the "Filter DLLs". For example, assign "C:\Inetpub\scripts\AppDataBuf.dll" as the data value of the "Filter DLLs".

STEP 4 – Restart IIS to get the above configuration take effect.

STEP 5 – Modify the cache size in the *appeoncache.conf* if you want to.

The *appeoncache.conf* file contains the specification for the Web server cache size (unit: MB). You can change the size based on the available memory in the server.

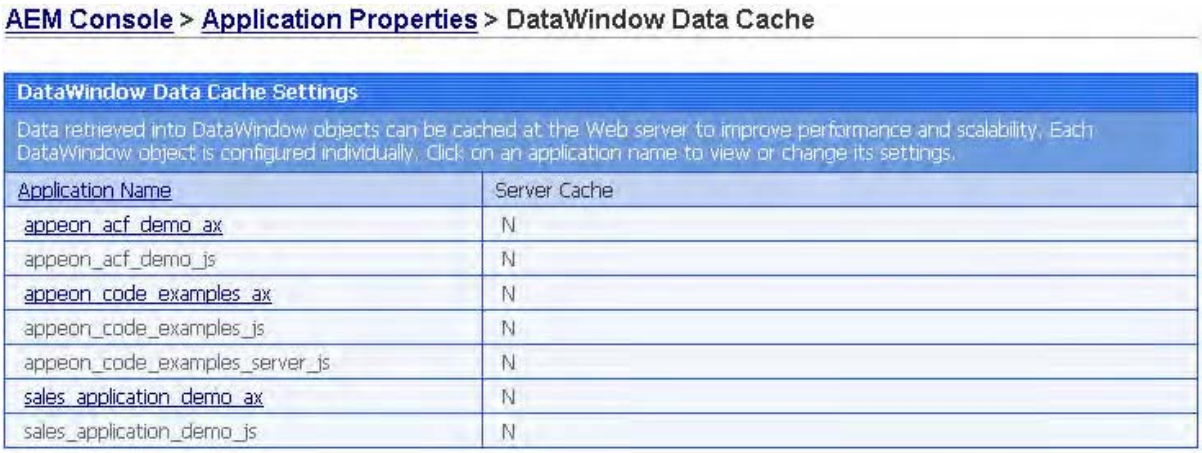
```
cachesize 100
```

5.6.3 Configuring for DataWindow Data Cache in AEM

This section takes the sales_application_demo_ax as an example to show how to configure the DataWindow Data Cache in AEM.

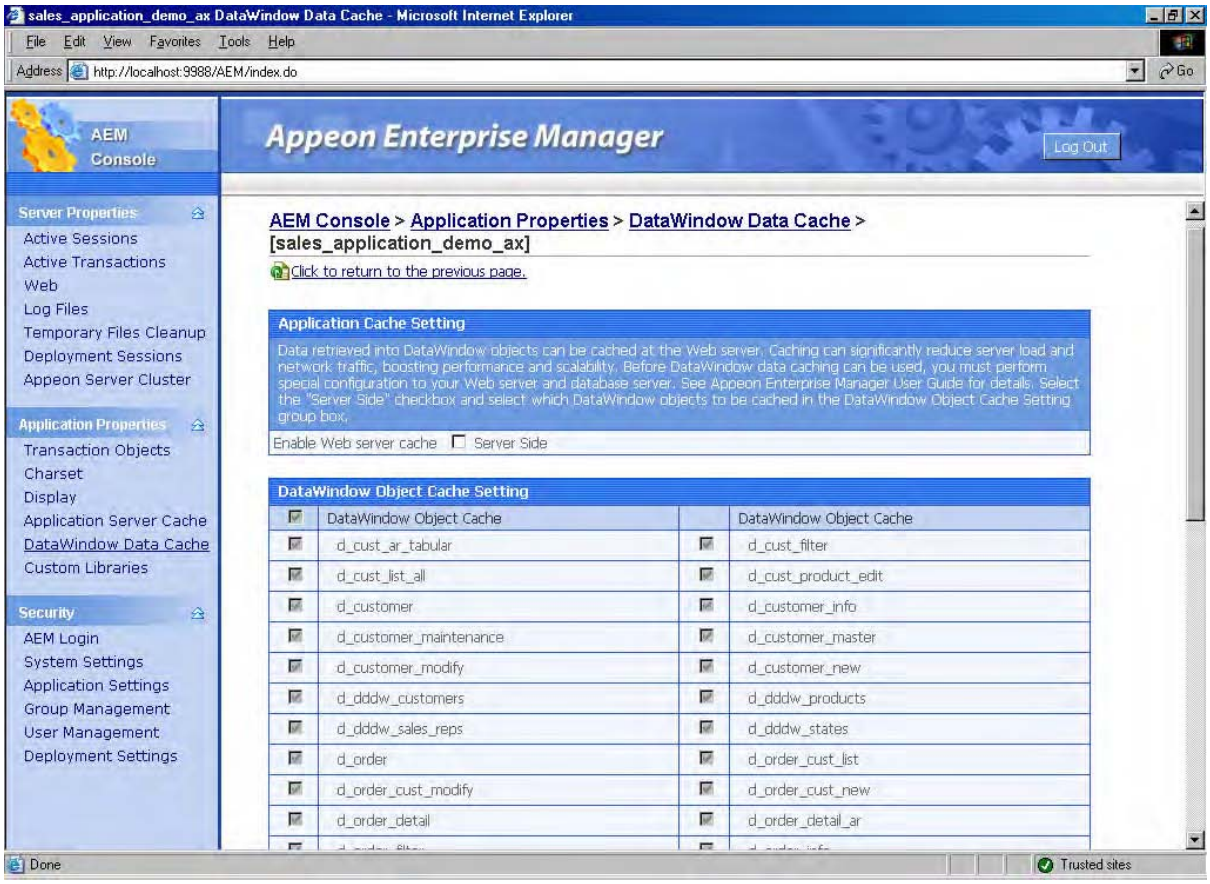
STEP 1 – Select Application Properties | DataWindow Data Cache on the left pane of the AEM Console. The DataWindow Data Cache page displays on the right pane of the Console, as shown in Figure 5-10.

Figure 5-10: DataWindow Data Cache



STEP 2 – Click "sales_application_demo_ax" listed in the "Application Name" column of the table. The sales_application_demo_ax page displays as shown in Figure 5-11.

Figure 5-11: DataWindow Data Cache for sale_application_demo_ax



STEP 3 – In the Application Cache Setting box, select the "Server Side" check box to enable the Web server cache for the application DataWindows.

After you enable the "Server Side" cache setting, DataWindow objects listed in the DataWindow Object Cache Setting box are available to select.

STEP 4 – In the DataWindow Object Cache Setting box, check the DataWindow object(s) on which you want to have the data-caching feature.

Notes: 1) If a DataWindow object has a Child DataWindow object, its Child DataWindow will also be listed in the table. Checking either of them will enable the data caching for them both. 2) It is recommended that you check the DataWindow objects that do not have frequent data updates, and leave unchecked the DataWindow objects that have frequent data updates.

STEP 5 – Click the *Save* button to save the changes.

5.7 Custom Libraries

If your application calls to any DLL or OCX files, make the following two configurations to make sure the deployed Web application can successfully call the DLL or OCX files:

- Configure the DLL or OCX files in the application profile, to deploy the files together with the application to Appeon Server. Refer to Section 4.2.2.c, *Configuring Additional Files tab*, in the *Appeon Developer User Guide* on how to configure and deploy DLL or OCX files to Appeon Server.
- Configure how the DLL or OCX files should be downloaded to the Client using the AEM Custom Libraries tool.

Figure 5-12: Custom Libraries

5.7.1 Viewing default Custom Libraries Install Settings

View the current install settings for all applications in the Custom Libraries page (as shown in Figure 5-12).

- Application Name – Lists the names of all deployed applications. The names are automatically added in the page when applications are deployed by Appeon Developer to Appeon Server.
- Install Mode – Shows the configured custom library install mode for each of the application. By default, the mode is set to "Install automatically without asking user".

5.7.2 Modifying Custom Libraries Install Settings

By clicking an application name in the Custom Libraries page, you can enter the custom libraries install mode configuration page of the application and modify the configuration.

Figure 5-13: Modify Custom Libraries install settings

"Install Mode" defines how the DLL or OCX files of the selected application should be installed to a client browser. Whichever install mode is selected, when a DLL or OCX file is downloaded to a client, the folder for keeping the DLL or OCX file at the client is

%WINDOWS%\system32\AppeonPlugin\appname, where *appname* stands for the name of the Web application. You can select the install mode that is most suitable for the application according to the description in Table 5-3.

Table 5-3: Install mode options

Install Mode	Description
Install automatically without asking user	Default. Before the Web application runs, the DLL and OCX files of the application are automatically downloaded and installed without giving any notification.
Confirm with user, then install automatically	Before the Web application runs, a message box will prompt the user to install the DLL and OCX files. If the user confirms this action, those files will be automatically installed.
Install manually (no automatic installation)	With this option, Appeon does not handle the DLL and OCX files installation for the application. Users must manually install the DLL and OCX files of the application before accessing the application. This option is recommended if the DLL and OCX files used by the application are large size and take a long time to be downloaded over the network.

"Conflict Resolution Mode" defines how to resolve file conflicts when a different file with the same file name already exists in the folder to which a DLL or OCX is downloaded. There are three mode options.

Table 5-4: Conflict resolution mode options

Conflict Resolution Mode	Description
Install anyway without asking user	Default. Directly replaces the file of the same name without notifying you.
Do not install; use existing file	Continues using the existing file.
Ask the user what to do	Displays a message box for the user to select whether to replace or keep the existing file.

After the install and conflict resolution modes are selected, click the *Save Settings* button to apply the settings to the selected application, or click the *Apply to all applications* button to apply the settings to all available applications.

6 Security

6.1 Overview

AEM Security allows you to configure three types of security in the Appeon system:

- Security for accessing AEM. Configures the user name and password for AEM.
- Security for deploying applications to Appeon Servers. Configures the user group that has the right to deploy applications to Appeon Server. By default, all users have the right to deploy applications to Appeon Server.
- Security for accessing deployed applications. You can add an additional layer of security provided by AEM on top of any PowerBuilder security coded in the application. By default, the security is disabled.

Appeon provides the following six tools for AEM Security: AEM Login, System Settings, Application Settings, Group Management, User Management, and Deployment Settings. Refer to Figure 6-1.

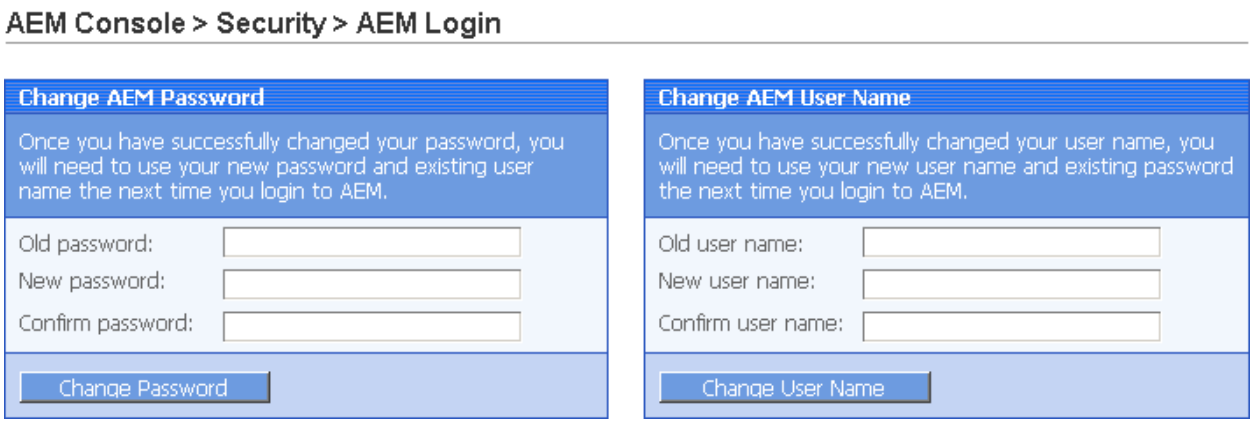
Figure 6-1: Security

You should verify the System Settings are set as required before configuring Application Settings, Group Management, User Management, or Deployment Settings.

6.2 AEM login

The user can change the default or current username and password to log on to AEM.

Figure 6-2: AEM Login



1) Change AEM Password

The new password will overwrite the user's existing password, but the existing username will be used to login. In order to successfully change the password, the user must enter information in the following fields as shown in Figure 6-2:

- Old password – Correctly enter the current password (case sensitive).
- New password – Enter a new password to replace the old password (case sensitive).
- Confirm password – Retype the new password. The value entered in this field must match the 'New password' field (case sensitive).

2) Change AEM Username

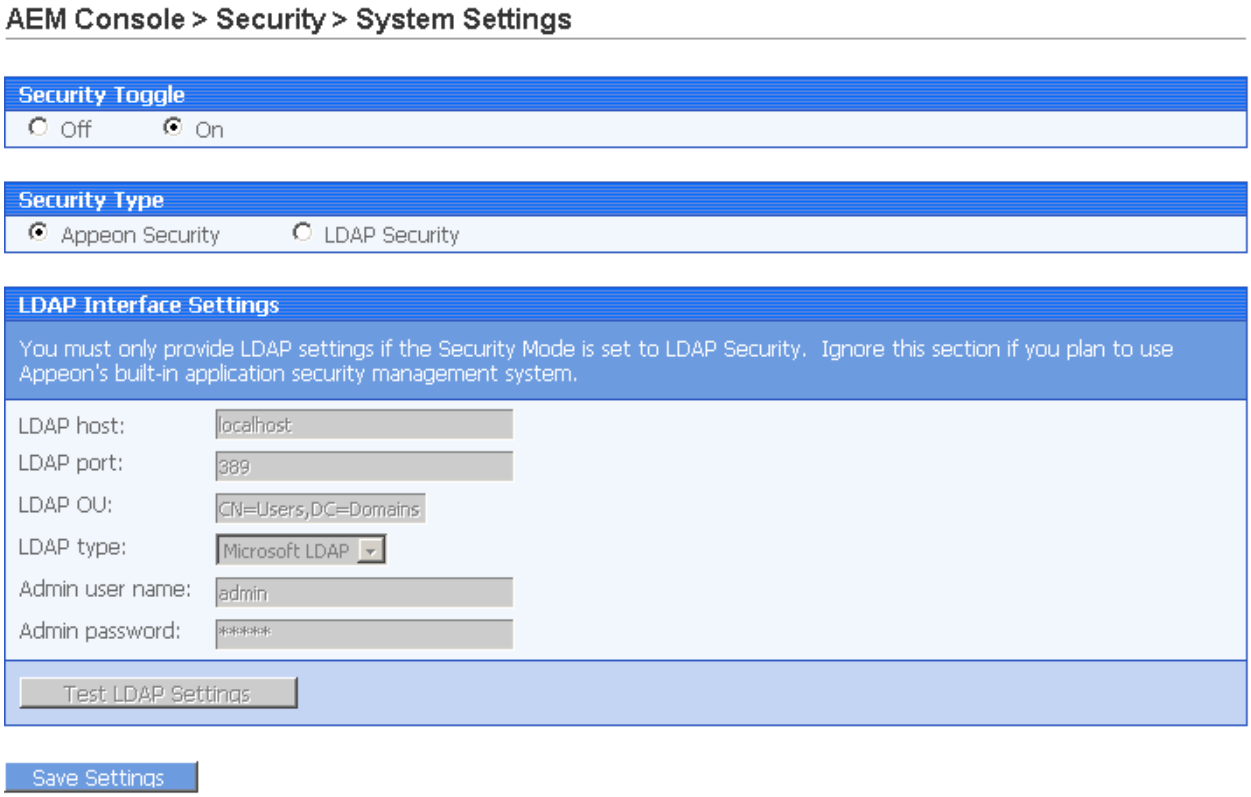
The new username will overwrite the user's existing username, but the existing password will be used to login. In order to successfully change the username, the user must enter information in the following fields as shown in Figure 6-2:

- Old username – Correctly enter the current username (case sensitive).
- New username – Enter a new username to replace the old username (case sensitive).
- Confirm username – Retype the new username. The value entered in this field must match the New username field (case sensitive)

Note that if this is the first time you are using this AEM Login tool, the old username and password are those you specified when installing the Appeon Server. If you did not specify the username and password during the installation, the old user name and password are both "admin" by default. For security purposes, Appeon recommends that you change the username and password after the initial login.

6.3 System settings

Figure 6-3: System Settings



As Figure 6-3 illustrates, the System Settings covers three important issues:

- Security Toggle – Turns application security on and off at the system level. All application security and settings are ignored when set to off, but the settings will not be lost.
- Security Type – Determines which system, Appeon built-in system or LDAP server, is applied to implement the security feature. Note that the Group Management and User Management tools only work with the Appeon built-in system.
- LDAP Interface Settings – If you are using LDAP server, the user must configure LDAP interface settings to connect the LDAP server with Appeon Server.

Table 6-1: LDAP security type and LDAP server type

LDAP types	Requirements
Netscape LDAP	Netscape LDAP 4.2 or above
Sun LDAP	Sun LDAP 5.1 (Sun LDAP is very similar to Netscape LDAP)
Microsoft LDAP	Win 2000 Active Directory
IBM LDAP	Directory Services (LDAP) 5.1

6.3.1 Security toggle and security type

Table 6-2 shows how the Security Toggle and Security Type settings determine which security tools are applied and what security features are performed.

Table 6-2: Security toggle, Security type and Security Settings

Security Toggle	Security Type	Settings in Security	Security Feature
Off	Not Available	Not Available	Disabled. Any available users are allowed to load or deploy any deployed Web applications.
On	Appeon Security	User Management Group Management Application Settings Deployment Settings	The Appeon built-in security is enabled. Only authorized groups and users of a deployed Web application are allowed to load or deploy the Web application. Three consecutive invalid logins will result in an exceptional exit of the login dialog from the Web application. In this case, the user can click the *Refresh* button to obtain the login dialog again and re-log in with the correct username and password.
	LDAP Security	LDAP Interface Settings Application settings Deployment settings	Enabled. Any authorized LDAP groups and users of a Web application are allowed to load or deploy the Web application. Three consecutive invalid logins will result in an exceptional exit of the login dialog from the Web application. In this case, the user can click the *Refresh* button to obtain the login dialog again and re-log in with the correct username and password.

- Appeon security and LDAP security provides the user with options of using Appeon Server or LDAP to assign groups to the application. The security groups will be read from either LDAP (if it is LDAP security) or Appeon Server (if it is Appeon security).
- When the user attempts to change the security type, a message box will prompt the user to confirm the change.

6.3.2 LDAP interface settings

If you are using the LDAP security, you must perform additional steps to access and manage the user/group information.

6.3.2.a LDAP interface settings in AEM

To access the user and group information on your LDAP server, it is necessary to provide the LDAP interface settings in AEM. AEM interfaces with the LDAP server every time it opens the page that displays the users and groups information stored in the server.

All the fields in the LDAP Interface Settings group box are required:

- LDAP host – The IP address or domain name of the LDAP Server.
- LDAP port – Port of the LDAP Server.
- LDAP OU – The LDAP organization unit where the users and groups are created.

  If using Netscape LDAP or Sun LDAP, the LDAP OU should be "ou=*AAA*, o=*BBB*", where *AAA* stands for the organization unit in which all the groups are created, and *BBB* stands for the domain name (DN).

If using Microsoft LDAP, the LDAP OU should be "DC=*AAA*, DC=*BBB*, *(DC=CCC*)", where *AAA* stands for the domain component (DC) that contains all the groups, and *BBB* stands for the domain component that contains the *AAA* component.

If using IBM LDAP, the LDAP OU should be "o=*AAA*, c=*BBB*", where *AAA* stands for the organization suffix, and *BBB* stands for the country.

- LDAP type – Type of the LDAP server.

  There are four options (the LDAP servers that Appeon supports): Netscape LDAP, Microsoft LDAP, Sun LDAP, and IBM LDAP.

- Admin username – The administrator username.

  If using Microsoft LDAP, the username should be the username for the domain of the LDAP (The username has access rights to the specified LDAP domain component).

- Admin password – The administrator password.

After all the fields are filled, do the following:

1. Click the *Test LDAP Settings* button to test whether the settings are correct or not. If the message indicates that the settings are incorrect, continue to verify the settings until the LDAP settings are correct.
2. Click the *Save Settings* button.

6.3.2.b User and group management at LDAP server side

Managing users and groups "at the LDAP server side" means that the administrator adds/removes/modifies users and groups in the LDAP server rather than in the user management and group management of AEM. The following are the steps to perform LDAP user and group management:

1. Set up the LDAP server in the system

   Refer to the documentation supplied by the LDAP server vendor for installation and setup instructions for your LDAP server.

2. Create an organization unit in the LDAP server.

   Only a single organization unit can be used to host all the groups and users for the Appeon Web application.

3. Create/manage users and groups in the organization unit in accordance with the LDAP server documentation.

6.4 Application settings

Figure 6-4: Application Settings

6.4.1 Viewing the current settings

1) View the current application security settings for all applications available in the Application Settings page (as shown in Figure 6-4).

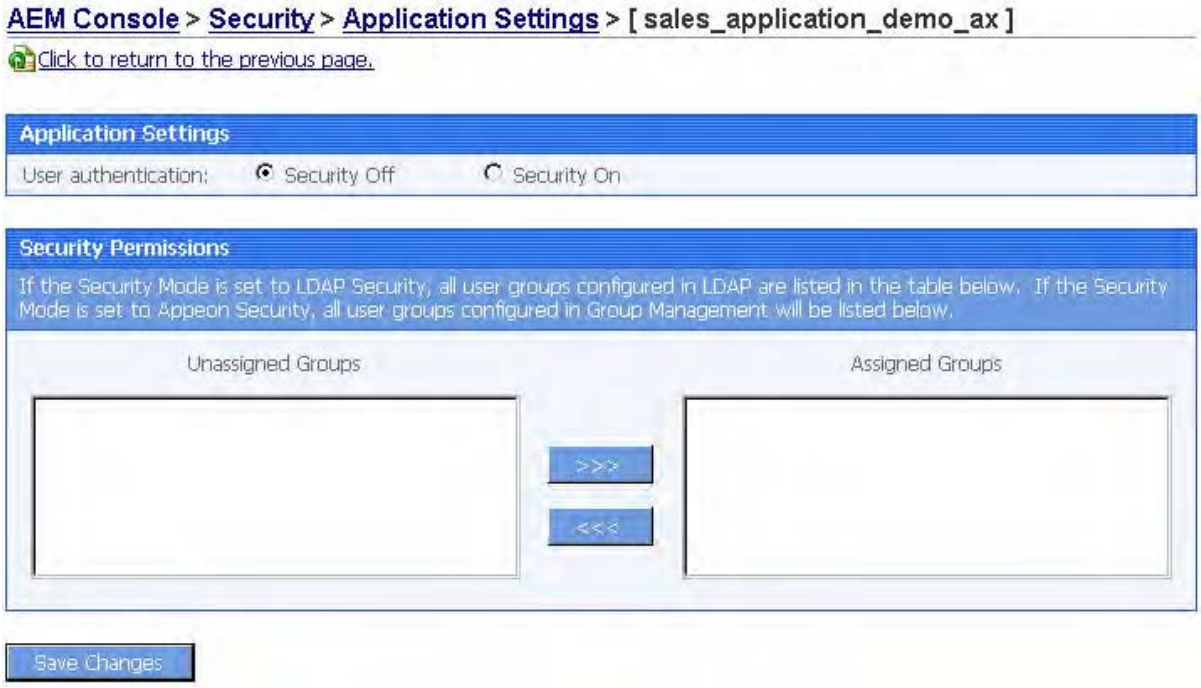
- Application Name – Lists the names of all the deployed applications. The names are automatically registered with AEM when an application is deployed by Appeon Developer to the Appeon Server.
- Configured Groups – The number of groups with access rights to the Web application.

  To view the names of the groups, click the link at the application name. To view details of the groups, go to the Group Management page.
- User Authentication – Shows the security mode for user authentication.

  "Security on" explicates that the user will be prompted to enter the username and password when accessing the selected application, while "Security off" requires no username and password for the application access. You can click the link of an application name listed in the Application Security Settings table and switch the security mode in the page that displays subsequently.

2) View the details of the current application security settings for a single application, by clicking an application. The detailed security settings for the selected application are displayed as shown in Figure 6-5.

Figure 6-5: Detailed security settings for an application



As Table 6-3 shows, different application security settings determine different security behaviors in a Web application.

Table 6-3: Application security settings and security behaviors in a Web application

User Authentication	A Given Group	Security behaviors in a Web application
Off	Assigned	All users can access to a Web application without being prompted for a username or password.
	Unassigned	
On	Assigned	Users of an assigned group have access rights to a Web application and are prompted for usernames and passwords when loading a Web application.
	Unassigned	Users of an unassigned group do not have access rights to the Web application.

6.4.2 Modifying the security settings of an application

By clicking an application name link in the Application Security page, the user can enter the security-setting page of the application.

With the LDAP security type selected, the security-setting page automatically loads the latest user and group information from the specified LDAP server. If changes are made to users and groups at the LDAP server, you can use the *Refresh* button (on the Internet Explorer toolbar) to include the latest update to the page.

With the Appeon security type selected, the security-setting page loads users and groups information from AEM Group Management and User Management.

In this page, you are able to:

1. Skip the login window when loading the application…

Set the user authentication to **Security Off** in the Application Settings group box. By default, the "Security Off" option is selected. This assumes that all users can access an application without user authentication.

2. Display a login window before loading the application …

   Set the user authentication to **Security On** by selecting the *Security On* radio button.

3. Assign a group to the application…

   Select a group from the Unassigned Groups list. Click the forward button (">>>") to shift the group to the Assigned Groups list.

   By default, all the groups are listed in the Unassigned Groups list. The groups are read from the Appeon Server (if the security type is Appeon security) or the LDAP server (if the security type is LDAP security) in use.

4. Unassign a group from the application…

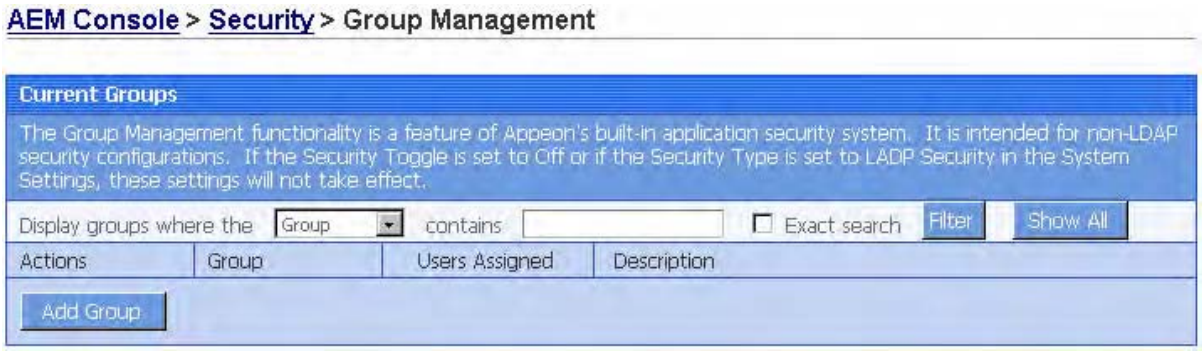
   Select a group from the Assigned Groups list. Click the back button ("<<<") to shift the group to the Unassigned Groups list.

Click the *Save Changes* button to have the changes take effect.

6.5 Group management

If the security type is Appeon security, you can use the Group Management tool of AEM to set up various security groups and assign user accounts to the groups. This feature is not applicable to LDAP systems. For LDAP systems, use LDAP to add or remove security groups.

Figure 6-6: Group Management



6.5.1 Viewing groups

You can view the group information and associated user information in the following two ways:

1) Click the *Show All* button to display all the groups.

2) Specify filter criteria to view groups:

STEP 1 – Select "Group" or "Description" in the dropdown list box as the type of the filter criteria.

STEP 2 – Enter the contents that are expected to be included in the item specified in the dropdown list box. Based on the criteria, groups that contain the specified information will be displayed.

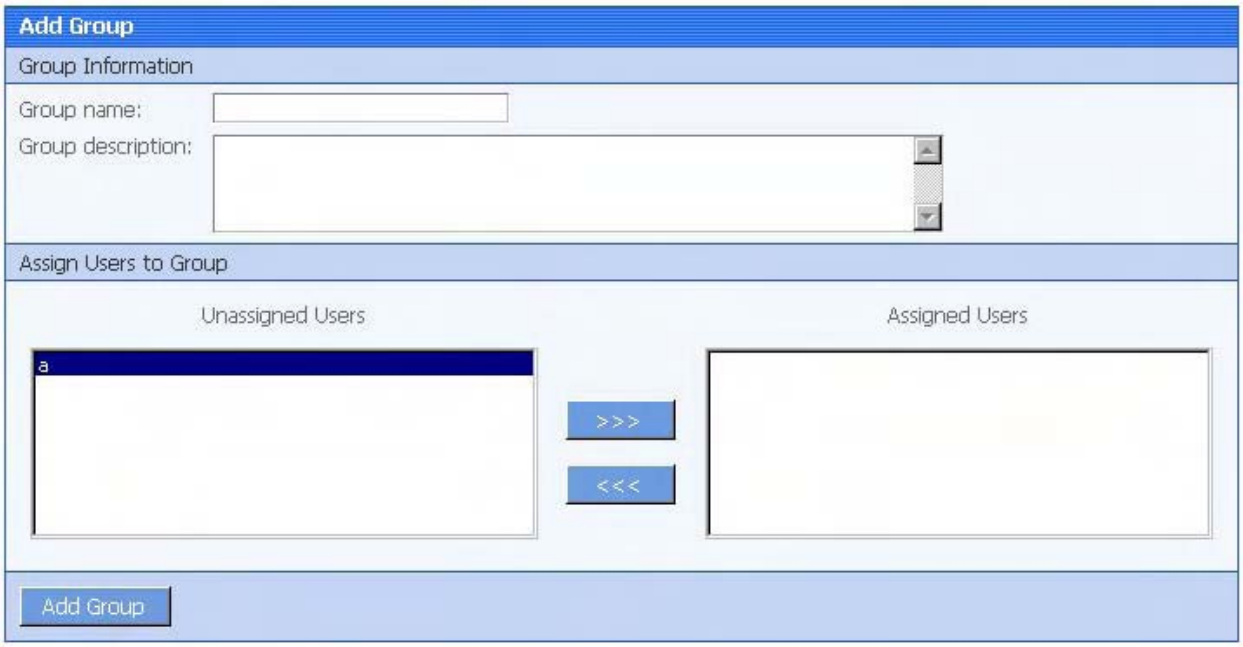
STEP 3 – Enable or disable the “Exact search”.

STEP 4 – Click the *Filter* button and the groups that meet the criteria will be displayed.

6.5.2 Adding a new group

To add one or more groups, click the *Add Group* button in the Group Management page (as shown in Figure 6-6) and the Add Group page will be displayed as shown in Figure 6-7.

Figure 6-7: Add a group



- Group name – The group identifier. This field is required. Chinese characters are unsupported.
- Group description – Some explanation about the group. This field is optional.
- Assign or unassign users to the group.

  1. To assign a user to the group…

     Select a user from the Unassigned Users list. Click the forward button to shift the user to the Assigned Users list.

     By default, all the users are listed in the Unassigned Users list. The users are configured in AEM User Management.

  2. To unassign a user from the application.

     Select a user from the Assigned Users list by clicking it. Click the back button to shift the user to the Unassigned Users list.

6.5.3 Editing an existing group

To edit a specific group, click the *Edit* button in the Group Management page (as shown in Figure 6-6) and enter the Edit Group page.

The Edit Group page is similar to the Add Group page except that the group name is not editable. You can modify the group description, or assign (unassign) users to the group in the same way as instructed in Section 6.5.2: *Adding a new group*.

6.5.4 Deleting a group

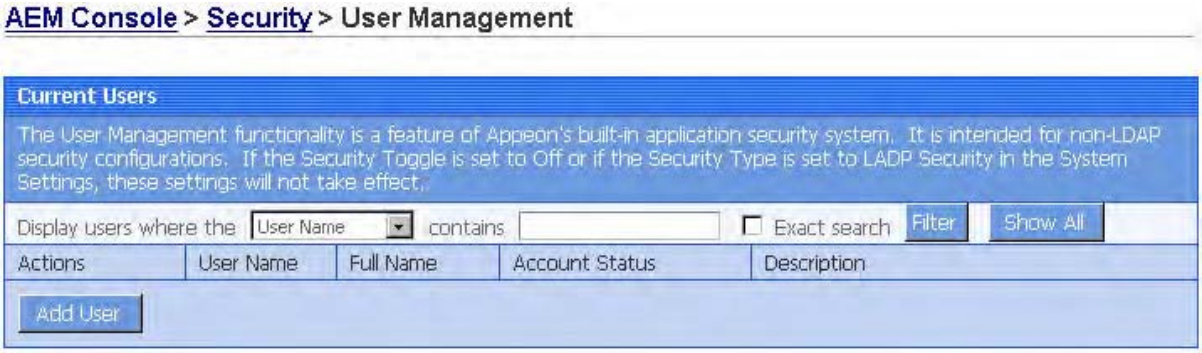
Delete a group by clicking the *Delete* button in the Group Management page (as shown in Figure 6-6). A message box will prompt you to confirm the action.

Click the *OK* button to confirm the deletion or the *Cancel* button to cancel the deletion.

6.6 User management

If the security type is Appeon security, you can use the User Management tool of AEM to set up user accounts. This feature is not applicable to LDAP systems. For LDAP systems, use LDAP to add or remove security groups.

Figure 6-8: User Management



In the User Management page, you can view which users are currently in the system and whether their accounts are enabled or disabled. By default, all existing users are displayed.

You can view user names and associated user information in the following two ways:

1) Click the *Show All* button to display all users.

2) Specify filter criteria to view users:

STEP 1 – Select “User name”, “Full Name”, “Account Status”, or “Description” in the dropdown list box as the type of filter criteria.

STEP 2 – Enter the contents that are expected to be included in the item specified in the dropdown list box.

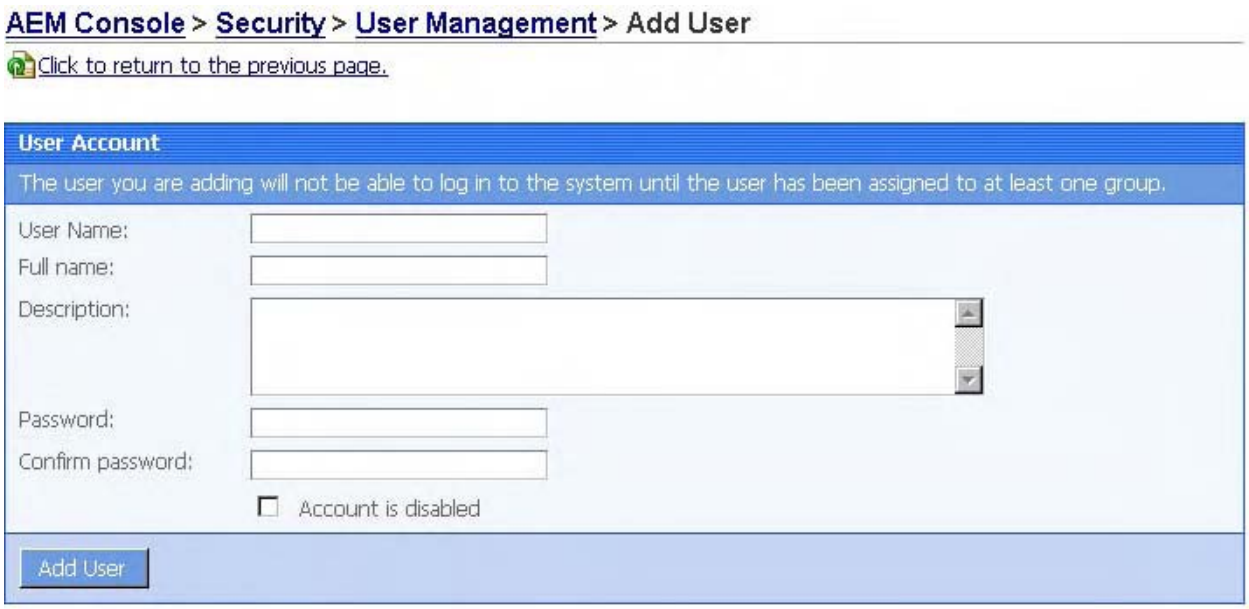
STEP 3 – Enable or disable the “Exact search”.

STEP 4 – Click the *Filter* button. Users that meet the criteria will be displayed.

6.6.1 Adding a new user

If you want to add one or more users, click the *Add User* button in the User Management page (refer to Figure 6-8) and the Add User page will be displayed as shown in Figure 6-9.

Figure 6-9: Add a user



- Username – The user identifier. This field is required. Chinese characters are unsupported
- Full name – The full name of the user. This field is optional. Chinese characters are unsupported.
- Description – Any appropriate user information. This field is optional.
- Password – The password of the new user. This field is required.
- Confirm password – The user must enter the new password again to confirm the password. This field is required.
- Account is disabled – If this checkbox is checked, the user account is disabled.

  When the account status is disabled, the user cannot load any application with the username and password if the application requires user authentication.

  When the account status is enabled, the user can load an application with the username and password if the account is assigned to a group that is in turn assigned to the application (with application access status enabled).

6.6.2 Editing an existing user

By clicking the *Edit* button in the User Management page (refer to Figure 6-8), you can enter the Edit User page to edit an existing User.

The Edit User is similar to the Add User page except that the user name is not editable. You can modify the full name, the description, or change the password or account status in the same way as you were instructed in Section 6.6.1: *Adding a new user*.

After making any changes, click the *Save Changes* button. The changes are updated in Appeon Server.

6.6.3 Deleting a user

Delete a user by clicking the *Delete* button in the User Management page in Figure 6-8. A message box will prompt you to confirm the action:

Click the *OK* button to confirm the deletion or the *Cancel* button to cancel the deletion.

6.7 Deployment Settings

You can use the Deployment Settings tool to manage Appeon Server deployment security, which controls what PowerBuilder developers are allowed to deploy applications to Appeon Server.

Corresponding to the Deployment Settings in AEM, Appeon Developer requires PowerBuilder developers to specify deployment user name and password in the Appeon Server profile configuration. If the user name and password of the Appeon Server profile does not match the setting in Deployment Settings, the Appeon Server profile will not take any application deployments.

Figure 6-10: Deployment Settings

The Deployment Settings tool enables you to do the following:

1) Disable deployment security for Appeon Server

Select the “Security Off” radio button in the “Application Deployment Security Settings” group box. When the deployment security is off, the user name and password in the Appeon Server profile will be ignored, and the Appeon Server profile will always work for application deployments.

2) Enable deployment security for Appeon Server

STEP 1 – Select the “Security On” radio button.

STEP 2 – Select a group from the Unassigned Groups list and click the forward button (“>>>”) to shift the group to the Assigned Groups list. By doing this, that group obtains the permission to deploy applications to Appeon Server. If a user name and password that belongs to the group is specified in the Appeon Server profile configuration in Appeon Developer, the profile will work for application deployments. Otherwise, application deployments to the Appeon Server profile give an error message “Failed to call methods in Appeon Server; cannot find the user…”

By default, all groups are listed in the Unassigned Groups list. The groups are read from the Appeon Server (if the security type is Appeon security) or the LDAP server (if the security type is LDAP security) in use. You can use back button ("<<<") to shift the group to the Unassigned Groups list.

7 Appeon Server Status Monitor

7.1 Overview

Appeon Server Status Monitor (hereinafter referred to as "Status Monitor") is a small program installed during Appeon Server installation. It backs up Appeon Server session information, monitors whether Appeon Server is in "started" status, and automatically restarts Appeon Server and recovers the runtime information in the event that Appeon Server shuts down.

7.2 Configuring Status Monitor

You must configure the following files before you can successfully run Status Monitor.

<Appeon Home>/bin/appeonmonitor.bat

<Appeon Home>/bin/appeonserver.bat

<Appeon Home>/config/monitor.props

<Appeon Home> indicates the installation path of Appeon Server.

Changes to any of the files will not take effect until Status Monitor is restarted.

7.2.1 Configuring appeonmonitor.bat (for Windows)

The *appeonmonitor.bat* file is the batch program to be run when you start Status Monitor in Windows.

Make the following changes to the settings in *appeonmonitor.bat*.

Table 7-1: Settings in appeonmonitor.bat

Settings	Description
JAVA_HOME	Specifies the JDK location for Status Monitor. The JDK must be the one that EAServer uses. Example: JAVA_HOME=C:\Program Files\Sybase\Shared\jdk1.4.1_03
APPEON_HOME	Specifies the Appeon Server home directory. Example: APPEON_HOME=C:\Program Files\Sybase\EAServer\appeon
J2EE_JAR	Default setting: J2EE_JAR=<EAServer>\java\lib\easj2ee.jar You should change "<EAServer>" to the EAServer home directory. Example: J2EE_JAR=C:\Program Files\Sybase\EAServer\java\lib\easj2ee.jar
CLASS_PATH	Default setting: CLASS_PATH=%APPEON_HOME%\..\java\lib\appeon_server.jar;%J2EE_JAR% You do not need to make any changes to the default setting.

7.2.2 Configuring appeonserver.bat (for Windows)

The *appeonserver.bat* file is the batch program run by Status Monitor when it detects that Appeon Server has shut down.

The file contains the following code:

```
REM if use EAServer, please uncomment the line below.
REM @start call "<EAServer>\bin\serverstart.bat" -jvmtype server
```

Make the following changes to the file:

- Uncomment the command line for starting the server that Appeon Server is installed to. Because Appeon Server is installed to EAServer, uncomment 'REM @start call "<EAServer>\bin\serverstart.bat" -jvmtype server' by removing "REM" at the beginning of the line.
- Change "<EAServer>" to the EAServer home directory.

  Example:

  @start call "C:\Program Files\Sybase\EAServer\bin\serverstart.bat" -jvmtype server

7.2.3 Configuring monitor.pros

The *monitor.pros* file contains the property settings of Status Monitor.

Make the following changes to the property settings in *monitor.pros*, as shown in Table 7-2.

Table 7-2: Settings in monitor.pros

Setting	Description
com.appeon.server.monitor.port	The port via which Status Monitor monitors Appeon Server. You can set the port to any number between 1 ~ 65535. Make sure the port number you specify here is not occupied. Note that changes to this setting will not take effect until you restart Appeon Server. Example: com.appeon.server.monitor.port=9999
com.appeon.server.monitor.mail.server	The mail server that Status Monitor uses for sending notification emails. Contact your network administrator to get the valid mail server that can be accessed from the machine.
com.appeon.server.monitor.mail.receivers	The email address(es) of the recipient(s) to who Status Monitor will send the notification emails. It can contain one or multiple email addresses. Use the semicolon (";") as the email address separator if you want to specify multiple email receivers. For example, "*emailaddress1; emailaddress2; emailaddress3; …*".
com.appeon.server.monitor.mail.port	The port number that is specified for the mail server. Contact your network administrator to get the valid port number of the mail server specified. The default port number is "25".

com.appeon.server.monitor.command	The command line for starting Appeon Server. Default setting: com.appeon.server.monitor.command=<Appeon Home>/bin/appeonserver.bat Change "<Appeon Home>" to the Appeon Server home directory. Example: com.appeon.server.monitor.command=C:/Program Files/Sybase/EAServer/appeon/bin/appeonserver.bat
com.appeon.server.monitor.files	The files that Status Monitor keeps checking for monitoring the status of Appeon Server. When files are detected as being used, Status Monitor assumes that Appeon Server is still running. Once Status Monitor assumes that Appeon Server has shut down, Status Monitor will restart Appeon Server. Use the semicolon (";") as the separator if you attempt to specify multiple files. Among these files, a required one is *AppeonServer.log*. Example: com.appeon.server.monitor.files=C:/Program Files/Sybase/EAServer/appeon/log/AppeonServer.log
com.appeon.server.checkcycle	The interval with which Status Monitor backs up the session information. The default value is 18 seconds. Note that changes to this setting will not take effect until you restart Appeon Server.

7.3 Information backed up by Status Monitor

Status Monitor detects Appeon Server status, backs up and restores session information, and automatically restarts Appeon Server every time Appeon Server is detected "shut-down". This is very helpful, because once Appeon Server shuts down abnormally, Status Monitor will detect this and will automatically restart Appeon Server while restoring the last state of Appeon Server based on the last backup information before Appeon Server shut down.

Status Monitor periodically backs up Appeon Server session information that includes:

- User authentication information
- References to Appeon Server transaction components
- References to NVO components

Notes:

1) You can configure the interval with which Status Monitor backs up the information.

2) Information on transaction object(s) and stateful NVO will be lost, but still, you can continue with the operations on the current application without re-login.

7.4 Using Status Monitor

7.4.1 Starting Status Monitor

STEP 1 – Locate the *bin* subdirectory under <Appeon Home>/bin where appeonmonitor.bat is stored. For example: C:\Program Files\Sybase\EAServer\appeon\bin.

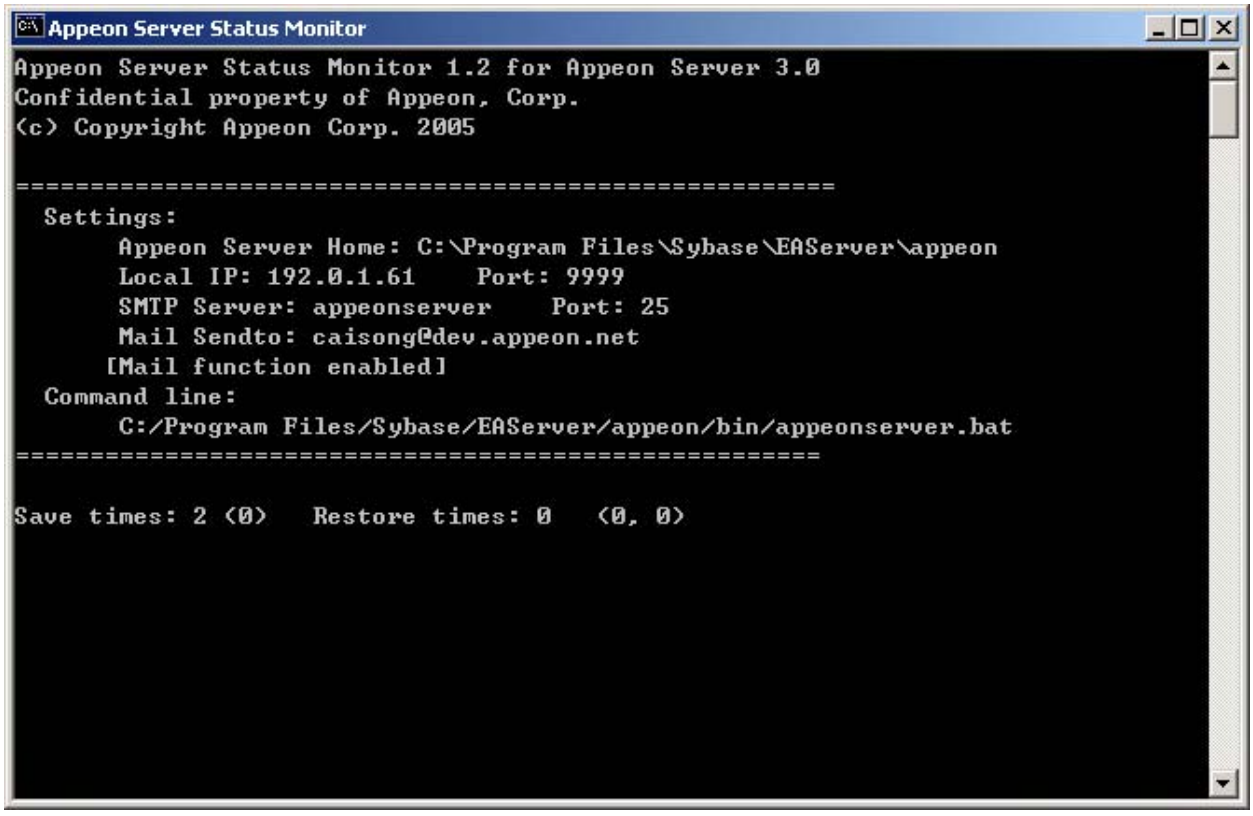
STEP 2 – Run the *appeonmonitor.bat* file to start Status Monitor.

Once Status Monitor is successfully started, the Status Monitor window displays, indicating that Status Monitor is functioning. Keep the Status Monitor window open or minimized if you want to keep Status Monitor running. If you close the Status Monitor window, Status Monitor stops working, and loses the information that has been backed up.

7.4.2 Understanding the information in Status Monitor Window

Once Status Monitor and Appeon Server are simultaneously running, the Status Monitor window as well as relevant information will display as illustrated in Figure 7-1.

Figure 7-1: Status Monitor window



Save times and Restore times

The “Save times” and “Restore times” in the Status Monitor window show the statistics for the actions taken by Status Monitor. Table 7-3 explains the statistics in “Save times” and “Restore times”.

Table 7-3: Save times and Restore times

Statistics	Description
Save times: A <B>	"A" represents the times of session backup conducted by Status Monitor. "B" represents the millisecond(s) taken by the last session backup.
Restore times: C <D, E>	"C" represents the times that Status Monitor has restarted Appeon Server since it is started. "D" represents the number of active sessions in the last backup. "E" represents the number of timeout sessions in the last backup.

8 Technical Support

Technical support information is available at http://www.sybase.com/support. Click on the *Contact Support* link for help.

When logging a case, be ready to provide the following files in Table 8-1 to Sybase Technical Support, as they will assist the debugging process.

Table 8-1: File list for technical support

File Type	File Name
EAServer configuration file	%JAGUAR%\Repository\Server\Jaguar.props %JAGUAR%\bin\serverstart.bat %JAGUAR%\bin\setenv.bat
EAServer log file	%JAGUAR%\bin\Jaguar.log %JAGUAR%\bin\Jaguarhttperror.log %JAGUAR%\bin\JaguarhttpServlet.log
Appeon Server configuration file	%JAGUAR%\appeon\config\applications-config.xml %JAGUAR%\appeon\config\server-config.xml %JAGUAR%\appeon\config\aem-config.xml
Appeon Server log file	%JAGUAR%\appeon\log\LogSystem.log %JAGUAR%\appeon\log\AppeonServer.log
Appeon Server Repository DB	%JAGUAR%\appeon\db\AppeonServer.db
Appeon license file	%JAGUAR%\appeon\license.appeon
Web Server configuration file	httpd.conf
Web Page file	Web Server path\application name\window name.html Web Server path\application name\window name.js Web Server path\application name\all DataWindows on window.xml NOTES: 1) Web Server path for EAServer is usually %JAGUAR%\html. 2) If the window named includes inheritance, then also supply all ancestors.html and ancestors.js files.
PowerBuilder exported source code file	PowerBuilder application path\exported window name.srw PowerBuilder application path\exported DataWindow names.srd Note: Exported windows should include exported ancestor windows and exported ancestor user objects.

Index

T

U

V

W