

Web Server Configuration Guide

Appeon® for PowerBuilder® 2013 R2
FOR WINDOWS & UNIX & LINUX

DOCUMENT ID: ADC50000-01-0680-01

LAST REVISED: February 11, 2014

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1 About This Book

1.1 Audience

This book is for programmers who want to configure IIS or Apache to work with the Appeon Server.

1.2 How to use this book

There are three chapters in this book.

Chapter 1: About This Book

A general description of this book.

Chapter 2: Configuring IIS

Describes how to configure IIS for different platforms and application servers.

Chapter 3: Configuring Apache

Describes how to configure Apache for different platforms and application servers.

1.3 Related documents

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

- **Introduction to Appeon:**
Gives general introduction to Appeon for PowerBuilder and its editions.
- **Getting Started (for Appeon Mobile):**
Guides you through installing PowerBuilder and Appeon for PowerBuilder, and developing and deploying a mobile application.
- **New Features Guide:**
Introduces new features and changes in Appeon for PowerBuilder.
- **Appeon Mobile Tutorials:**
Gives instructions on deploying, running, and debugging the mobile application, distributing native mobile apps, and configuring the Appeon Server cluster.
- **Appeon Mobile (Offline) Tutorials:**
Gives instructions on setting up the Appeon Mobile (Offline) environment, and configuring, deploying, running, updating, and debugging the offline application.
- **Appeon Installation Guide:**
Provides instructions on how to install Appeon for PowerBuilder successfully.
- **Installation Guide on Cloud Platform:**

Provides instructions on how to install Appeon for PowerBuilder on the cloud-based platform such as Windows Azure and AWS EC2 and S3.

- **Mobile UI Design & Development Guide:**

Introduces general guidelines on designing and developing the mobile app and UI.

- **Migration Guidelines for Appeon Web:**

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

- **Supported PB Features:**

Provides a detailed list of supported PowerBuilder features which can be converted to the Web/Mobile with Appeon as well as which features are unsupported.

- **Appeon Developer User Guide:**

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

- **Workarounds & API Guide:**

Provides resolutions for unsupported features and various APIs to facilitate you to implement the features (including Web and mobile) that are not easy or impossible to implement in the PowerBuilder IDE.

- **Appeon Workspace User Guide:**

Gives a general introduction on Appeon Workspace and provides detailed instructions on how to use it.

- **Appeon Server Configuration Guide:**

Provides instructions on how to configure Appeon Server Monitor, establish connections between Appeon Servers and database servers, and configure AEM for maintaining Appeon Server and the deployed applications.

- **Web Server Configuration Guide:**

Describes configuration instructions for different types of Web servers to work with the Appeon Server.

- **Troubleshooting Guide:**

Provides information on troubleshooting issues; covering topics, such as product installation, application deployment, AEM, and Appeon application runtime issues.

- **Appeon Performance Tuning Guide:**

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

- Testing Appeon Web Applications with QTP:

Provides instructions on how to test Appeon Web applications with QTP.

1.4 If you need help

If you have any questions about this product or need assistance during the installation process, access the Technical Support Web site at <http://www.appeon.com/support>.

2 Configuring IIS

This section provides instructions of

- [Configuring for Appeon Server cluster](#)

Detailed instructions are provided in Chapter 6, *Tutorial 5: Configure Appeon Server Cluster* in *Appeon Mobile Tutorials*.

- [Configuring for single Appeon Server](#)

Each sub-section will try to cover the following aspects:

- Redirector plug-in configuration, which enables Web server to redirect requests to an Appeon Server.
- Load balancing configuration. Load balancing can be implemented using the Web server redirector plug-in or the Appeon plug-in. This section will only describe how to implement load balancing with multiple Appeon Servers (not Appeon Server cluster) using the Web server redirector plug-in. Description of implementing load balancing (and failover) with Appeon Server cluster using the Appeon plug-in will be described in the [Configuring for Appeon Server cluster](#) section.
- DataWindow data cache configuration. The Web server must be configured properly to support the DataWindow data cache feature.

2.1 Configuring for Appeon Server cluster

Appeon Server cluster is a feature provided by Appeon for implementing load balancing and failover with the Appeon plug-in. It will not interfere with the existing application server cluster, such as EAServer, WebLogic, WebSphere, JBoss, or JEUS cluster.

For detailed instructions on configuring IIS with the Appeon Server cluster, please refer to Chapter 6, *Tutorial 5: Configure Appeon Server Cluster* in *Appeon Mobile Tutorials*.

2.2 Configuring for single Appeon Server

This section provides configuration for IIS with single Appeon Server. Each sub-section will try to cover the following aspects:

- Redirector plug-in configuration, which enables Web server to redirect requests to an Appeon Server.
- Load balancing configuration. Load balancing can be implemented using the Web server redirector plug-in or the Appeon plug-in. This section will only describe how to implement load balancing with multiple Appeon Servers (not Appeon Server cluster) using the Web server redirector plug-in. Description of implementing load balancing (and failover) with Appeon Server cluster using the Appeon plug-in will be described in the [Configuring for Appeon Server cluster](#) section.
- DataWindow data cache configuration. For some reason, the Web server must be configured to support the DataWindow data cache feature.

2.2.1 Configuring IIS with JBoss

2.2.1.1 Configuring IIS 7.x with JBoss

The **Default Web Site** of the IIS server is used as examples in this section. You can choose another existing Web site, or create a new Web site.

2.2.1.1.1 Installing Appeon Server Web Component to the IIS Web root

Run the Appeon setup program and install **Appeon Server Web Component** to the Web root of the IIS Web site, for example, the Web root for the **Default Web site** is **C:\inetpub\wwwroot**.

If you have installed **Appeon Server Web Component** to another location, then you should copy the entire "**appeon**" folder from the installation directory of Appeon Server Web Component to the IIS Web root.

2.2.1.1.2 Creating a virtual directory

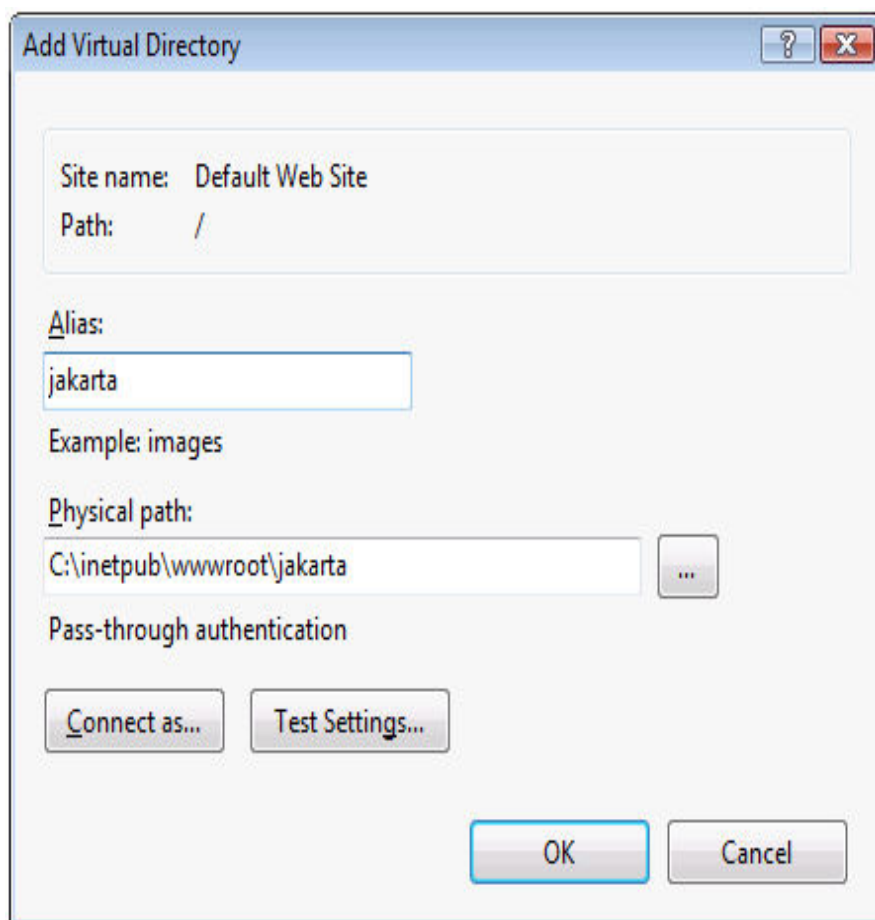
Step 1: Open **Control Panel | Administrative Tools | Internet Information Service (IIS) Manager**.

Step 2: Right click the **Default Web Site** and select **Add Virtual Directory**.

Step 3: Input the alias name, for example, **jakarta**.

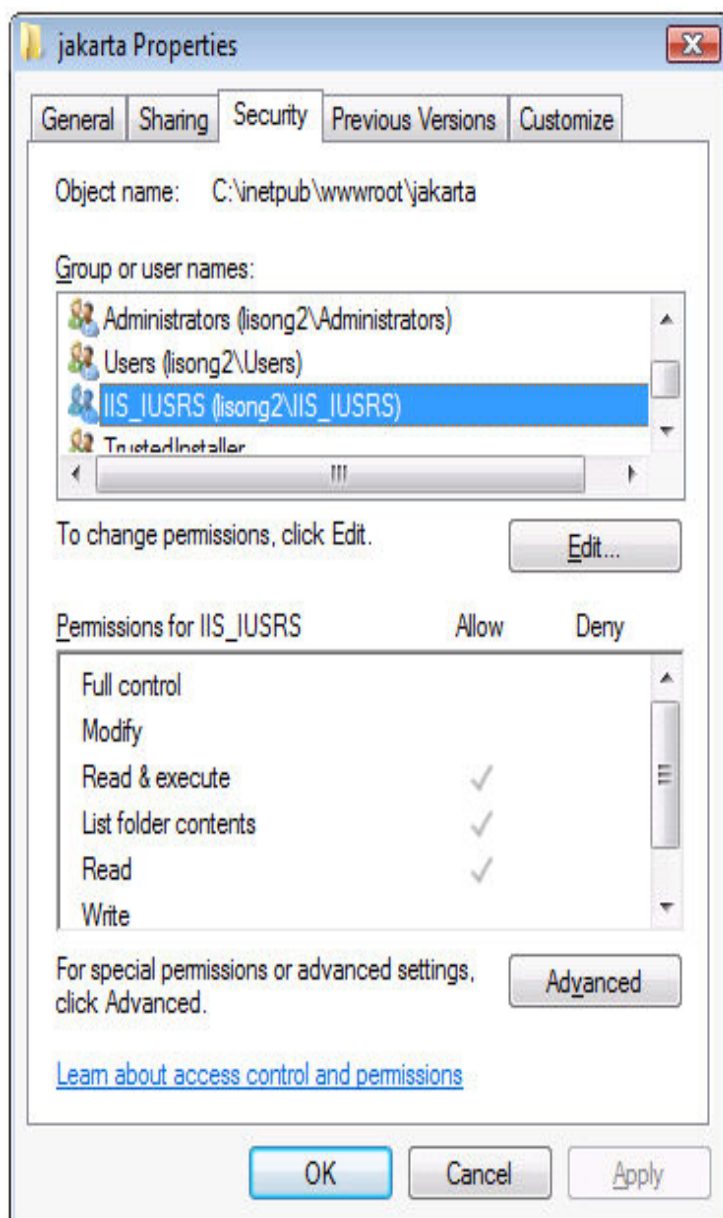
Step 4: Choose a local path in the **Physical path** box, for example, **C:\inetpub\wwwroot\jakarta**.

Step 5: Click **OK**.

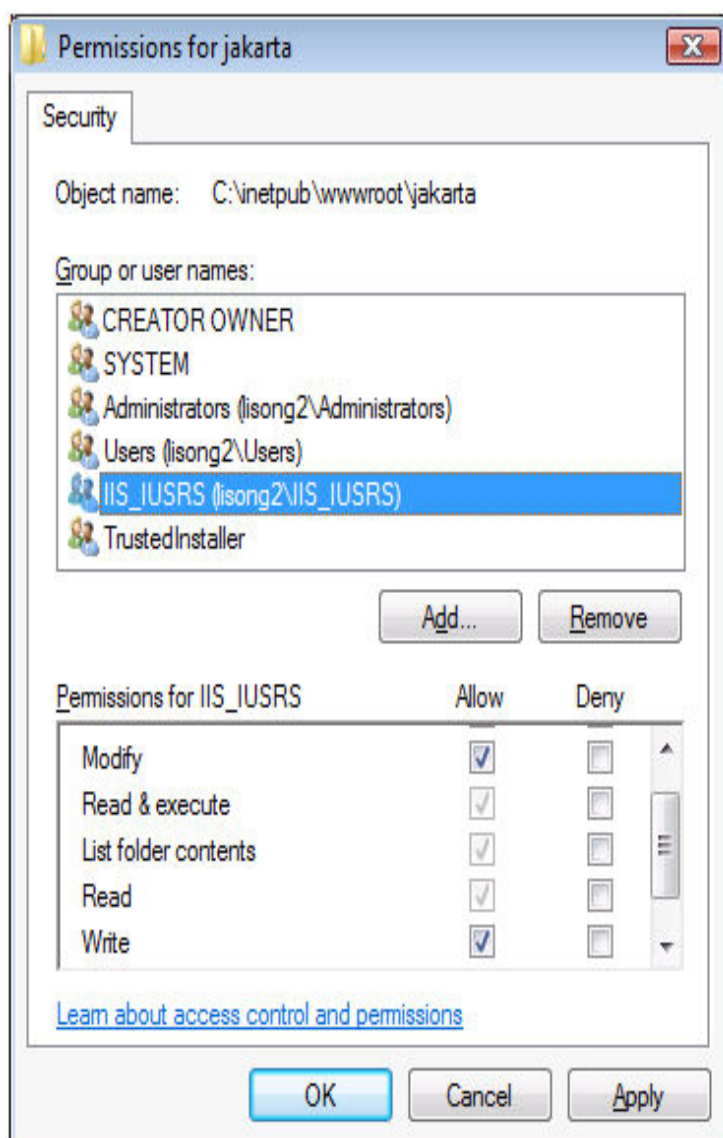
Figure 2.1: Add virtual directory

Step 6: Right click the **jakarta** virtual directory and select **Edit Permissions**.

Step 7: Choose the **Security** tab page, select **IIS_IUSRS (WIN-TDTR6ISYCD \IIS_IUSRS)** in the **Group or user names** list box, and then click the **Edit** button.

Figure 2.2: jakarta properties

Step 8: Select **IIS_IUSRS (WIN-TDTR6ISIIYCD\IIS_IUSRS)** in the **Group or user names** list box, and then select **Modify** and **Write** in the **Allow** column of the **Permissions for IIS_IUSRS** list box.

Figure 2.3: permissions for jakarta

Step 9: Click **OK** to go back to the IIS window.

2.2.1.1.3 Copying plug-in (isapi_redirect.dll)

Step 1: Download the required plug-in from <http://archive.apache.org/dist/jakarta/tomcat-connectors/jk/binaries/win32>.

Step 2: Paste it to the newly created virtual directory: **C:\inetpub\wwwroot\jakarta** in this section.

2.2.1.1.4 Installing plug-in as ISAPI Filters

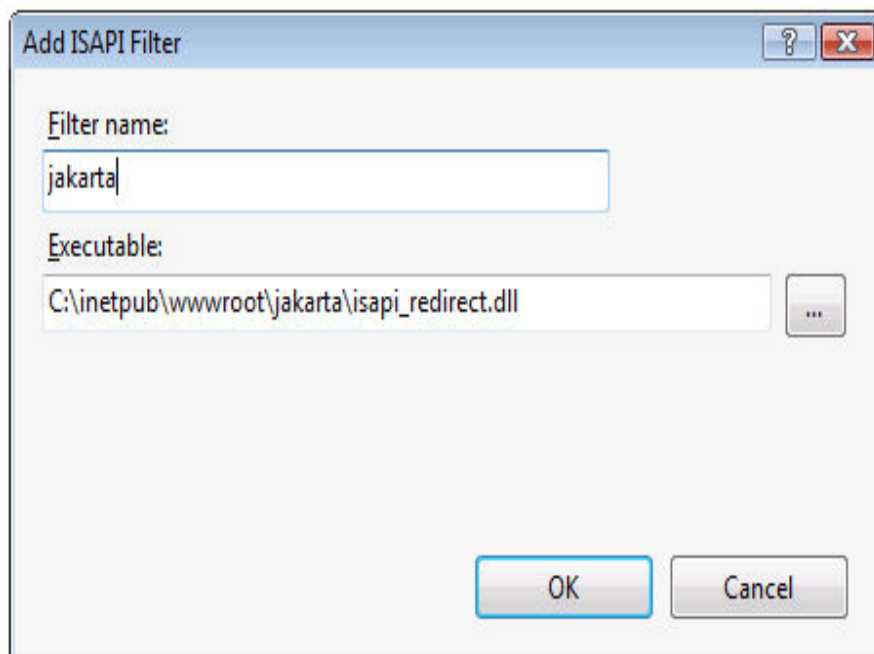
Step 1: Open **Control Panel | Administrative Tools | Internet Information Service (IIS) Manager**.

Step 2: Click the **Default Web Site** and then double-click **ISAPI Filters** on the right side.

Step 3: Right-click the blank area on the **ISAPI Filters** page, and click **Add**.

Step 4: Input **jakarta** in the **Filter name** box and select **isapi_redirect.dll** as the ISAPI filter in the **Executable** box (C:\inetpub\wwwroot\jakarta\isapi_redirect.dll in this section). Click **OK**.

Figure 2.4: Add ISAPI filter



2.2.1.1.5 Creating the redirector configuration file

Step 1: Go to %IIS_REDIRECT%\conf. %IIS_REDIRECT% indicates the location of the plug-in.

Step 2: In %IIS_REDIRECT%\conf, create the **uriworker.properties** file and add the following scripts to it:

```
# uriworker.properties -  
#  
# This file provides sample mappings for example  
# ajpl3w worker defined in workermap.properties.minimal  
/AEM/*=node1  
/servlet/*=node1  
/AEM=node1  
/servlet=node1
```

Step 3: In %IIS_REDIRECT%\conf, create the **workers.properties.minimal** file and add the following scripts to it:

```
# workers.properties.minimal -
#
# This file provides minimal jk configuration properties needed to
# connect to Tomcat.
#
# The workers that jk should create and work with
#
worker.list= node1
#
# Defining a worker named node1 and of type ajp13
# Note that the name and the type do not have to match.
#
worker. node1.type=ajp13
# IP of JBoss server
worker. node1.host=192.0.2.217
# ajp13 port of JBoss server
worker. node1.port=8009
```

2.2.1.1.6 Setting ISAPI and CGI Restrictions

Step 1: Open **Control Panel | Administrative Tools | Internet Information Service (IIS) Manager**.

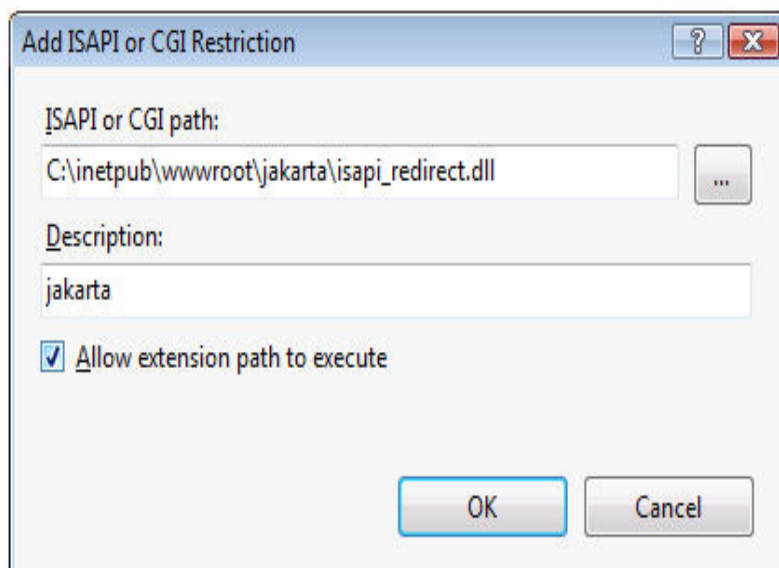
Step 2: Right-click the local machine, and then double-click **ISAPI and CGI Restrictions** on the right side.

Step 3: Right-click the blank area of the **ISAPI and CGI Restrictions** page and click **Add**.

Step 4: Specify the local path of **isapi_redirect.dll** in the **ISAPI or CGI path** box and input **jakarta** in the **Description** box, and then select **Allow extension path to execute**.

Step 5: Click **OK**.

Figure 2.5: Add ISAPI or CGI restriction



2.2.1.1.7 Enabling ISAPI-dll

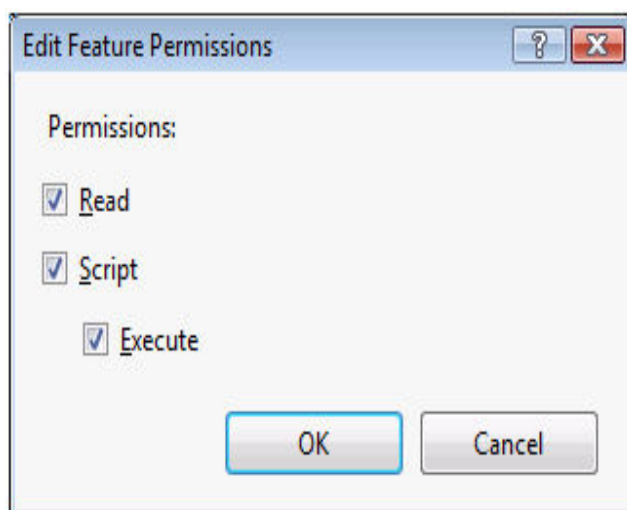
Step 1: Open **Control Panel | Administrative Tools | Internet Information Service (IIS) Manager**.

Step 2: Expand the **Default Web Site**, click **jakarta**, and then double-click **Handler Mappings** on the right side.

Step 3: Right-click **ISAPI-dll**, and select **Edit Feature Permissions**.

Step 4: Select **Read**, **Script**, **Execute**, and click **OK**.

Figure 2.6: Edit feature permissions



2.2.1.1.8 Adding MIME type

Add a MIME type for loading the files with no extensions or MIME type definition.

Step 1: Click the **Default Web Site** and then double-click **MIME Types** on the right of the page.

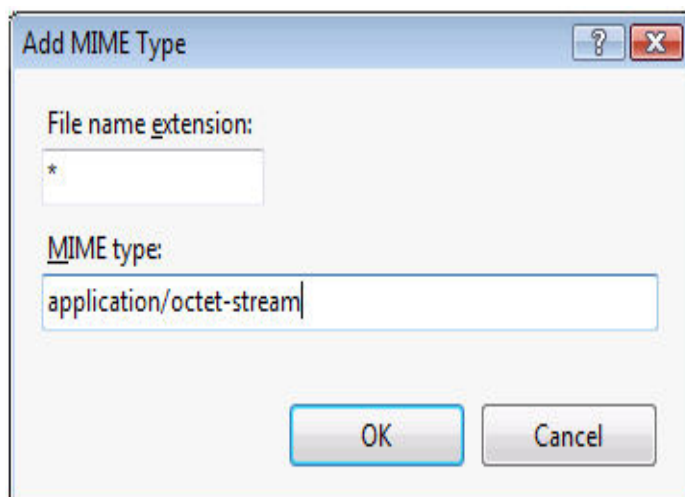
Step 2: Right-click the blank area of the **MIME Types** page, and click **Add**.

Step 3: Specify the following settings:

- Extension: *
- MIME Type: application/octet-stream

Step 4: Click **OK**.

Figure 2.7: Add MIME type



2.2.1.1.9 Restarting IIS

Restart IIS to make the new settings effective.

2.2.1.1.10 Configuring for DataWindow Data Cache

The DataWindow data cache feature is not available in IIS 7.x.

2.2.1.2 Configuring IIS 6.0 with JBoss

The **Default Web Site** of the IIS server is used as examples in this section. You can choose another existing Web site, or create a new Web site.

Step 1: Run the Apeon setup program and install **Apeon Server Web Component** to the Web root of the IIS Web site, for example, the Web root for the **Default Web site** is **C:\Inetpub\wwwroot**.

If you have installed **Apeon Server Web Component** to another location, then you should copy the entire "**apeon**" folder from the installation directory of Apeon Server Web Component to the IIS Web root.

Step 2: Download the required plug-in from <http://archive.apache.org/dist/jakarta/tomcat-connectors/jk/binaries/win32>.

Step 3: Create a virtual directory: In the IIS manager, right click **Default Web Site**, select **New | Virtual Directory**, input **jakarta** as the virtual directory name, point the path to **%IISHome%\bin**, and select **Execute** for the virtual directory.

Step 4: Add the ISAPI filter: In the IIS manager, right click **Default Web Site**, select **Properties | ISAPI Filters | Add**, input the following:

- Filter Name: jakarta
- Executable: %IIS_REDIRECT%/bin/isapi_redirect.dll

%IIS_REDIRECT% indicates the installation directory of the plug-in.

Step 5: In **%IIS_REDIRECT%\conf**, create the **uriworker.properties** file, and add the following scripts to it:

```
# uriworker.properties -  
#  
# This file provides sample mappings for example  
# ajpl3w worker defined in workermap.properties.minimal  
/AEM/*=node1  
/servlet/*=node1  
/AEM=node1  
/servlet=node1
```

Step 6: In **%IIS_REDIRECT%\conf**, create the **workers.properties.minimal** file, and add the following scripts to it:


```
# workers.properties.minimal -
#
# This file provides minimal jk configuration properties needed to
# connect to Tomcat.
#
# The workers that jk should create and work with
#
worker.list= node1
#
# Defining a worker named ajp13w and of type ajp13
# Note that the name and the type do not have to match.
#
worker.node1.type=ajp13
# IP of JBoss server
worker.node1.host=192.0.2.217
# ajp13 port of JBoss server
worker.node1.port=8009
```

Step 7: Add a MIME type for loading the DataWindow files (for IIS 6.0 only): In the IIS manager, right click **Default Web Site**, select **Properties** | **HTTP Headers** | **MIME Types**, input the following:

- Extension: dat
- MIME type: text/html

Step 8: Activate the ISAPI filter: Open the IIS manager, click **Web Service Extensions** on the left side of IIS manager, select **All Unknown ISAPI extensions** on the right of the window and click the **Allow** button on the left.

2.2.1.2.1 Configuring for DataWindow Data Cache for IIS 6

Under the installation directory of Apeon Server Web Component (for example, **C:\Inetpub\wwwroot\apeon**), there is an **IISSupport** folder.

1. Copy the **apeoncache.conf** file from the **IISSupport\conf** folder and the **AppDataBuf.dll** file from the **IISSupport\modules** folder to the same folder, for example, **C:\Inetpub\scripts**.
2. If necessary, adjust the cache size in the **apeoncache.conf** file (The unit is MB).
3. Open **Control Panel** | **Administrative Tools** | **Internet Information Services Manager**.
4. Right click the **Default Web Site** and select **Properties** from the popup menu.
5. On the **ISAPI Filters** tab, click **Add**, and install **AppDataBuf.dll** as an ISAPI filter. Click **OK**.
For example,
Filter name: apeon_cache
Executable: C:\Inetpub\scripts\AppDataBuf.dll
6. On the **Service** tab, select the **Run WWW service in IIS 5.0 isolation mode** option.
7. Restart IIS for the new configuration to take effect.

2.2.2 Configuring IIS with JEUS

The **Default Web Site** of the IIS server is used as examples in this section. You can choose another existing Web site, or create a new Web site.

2.2.2.1 Installing Apeon Server Web Component to the IIS Web root

Run the Apeon setup program and install **Apeon Server Web Component** to the Web root of the IIS Web site, for example, the Web root for the **Default Web site** is **C:\Inetpub\wwwroot**.

If you have installed **Apeon Server Web Component** to another location, then you should copy the entire "**apeon**" folder from the installation directory of Apeon Server Web Component to the IIS Web root.

2.2.2.2 IIS 6: Installing the redirector plug-in

1. Download the redirector plug-in (for example, **isapi_redirect-1.2.10.exe**) from the Apache Website (<http://archive.apache.org/dist/jakarta/tomcat-connectors/jk/binaries/win32>). Install the redirector plug-in to the default installation directory (for example, **C:\Program Files\Apache Software Foundation\Jakarta Isapi Redirector**).
2. Open **Control Panel | Administrative Tools | Internet Service Manager**.
3. Right click **Default Web Site** and select **Properties** from the popup menu.
4. On the **Home Directory** tab, select **Scripts only** from the **Execute Permissions** dropdown list box.
5. On the **ISAPI Filters** tab, click **Add**, and install the redirector plug-in as an ISAPI filter. Filters are invoked in the order they are listed. Apeon recommends that the redirector plug-in be installed first in the list. Click **OK**.

For example,

Filter Name: jakarta

Executable: C:\Program Files\Apache Software Foundation\Jakarta Isapi Redirector\bin**RedirectorPlug-in**. **RedirectorPlug-in** indicates the name of the redirector plug-in, for example, **isapi_redirect.dll**.

6. Restart IIS for the new configuration to take effect. Go to the **ISAPI Filters** tab and verify that the redirector plug-in is loaded successfully (indicated by a green arrow pointing upward while a red arrow pointing downward indicates that the DLL file was not successfully loaded).

2.2.2.3 IIS 6: modifying the configuration files

1. Modify the **uriworker.properties** file in the "**conf**" folder under the default installation directory of the redirector plug-in (e.g. **C:\Program Files\Apache Software Foundation\Jakarta Isapi Redirector\conf**):

For single Apeon Server:

```
# uriworker.properties -
#
# This file provides sample mappings for example
# ajp13w worker defined in workermap.properties.minimal

/AEM=ajp13w
/AEM/*=ajp13w
/servlet=ajp13w
/servlet/*=ajp13w

# Now filter out all .jpeg files inside that context
# For no mapping the url has to start with exclamation (!)

!/servlets-examples/*.jpeg=ajp13w
```

For multiple Apeon Servers implementing load balancing:

```
# uriworkermap.properties - IIS
#
# This file provides sample mappings for example wlb
# worker defined in workermap.properties.minimal
# The general syntax for this file is:
# [URL]=[Worker name]
/AEM=cluster
/AEM/*=cluster
/servlet =cluster
/servlet/*=cluster
```

2. Modify the **workers.properties.minimal** file in the "**conf**" folder under the default installation directory of the redirector plug-in:

```
# workers.properties.minimal -
#
# This file provides minimal jk configuration properties needed to
# connect to Tomcat.
#
# The workers that jk should create and work with
#
worker.list=ajp13w
#
# Defining a worker named ajp13w and of type ajp13
# Note that the name and the type do not have to match.
#
worker.ajp13w.type=ajp13
worker.ajp13w.host=192.0.2.217 #for configuring the IP address of JEUS.
worker.ajp13w.port=8009 #for configuring the AJP port. The default is 8009.
worker.ajp13w.cachesize=200
```

For multiple Apeon Servers implementing load balancing:

The following script example shows that there are two JEUS application servers participating in load balancing, and their node names are jiangzepeng and zhangjungang respectively. You can replace them with the real node names of JEUS application servers and add similar scripts to involve other JEUS application servers.

```
# workers.properties.minimal -  
#  
worker.list=jiangzeping_servlet_engine1,zhangjungang_servlet_engine1,cluster  
  
worker.cluster.type=lb  
worker.cluster.balance_workers=jiangzeping_servlet_engine1,zhangjungang_servlet_engine1  
  
worker.jiangzeping_servlet_engine1.port=8009  
worker.jiangzeping_servlet_engine1.host=192.168.168.35  
worker.jiangzeping_servlet_engine1.type=ajp13  
worker.jiangzeping_servlet_engine1.lbfactor=1  
worker.jiangzeping_servlet_engine1.cachesize=200  
  
worker.zhangjungang_servlet_engine1.port=8009  
worker.zhangjungang_servlet_engine1.host=192.168.168.217  
worker.zhangjungang_servlet_engine1.type=ajp13  
worker.zhangjungang_servlet_engine1.lbfactor=1  
worker.zhangjungang_servlet_engine1.cachesize=200
```

For detailed information on how to configure the directives in `workers.properties.minimal`, visit <http://tomcat.apache.org/connectors-doc/reference/workers.html>.

2.2.2.4 Additional configuration for IIS 6

1. Activate ISAPI:

- Open the **IIS manager**.
- Click **Web Service Extensions** on the left side of IIS manager.
- Select **All Unknown ISAPI extensions** on the right of the window and click the **Allow** button on the left.

2. Add a MIME type for loading the files with no extensions or MIME type definition:

- Right click **Default Web Site** and select **Properties** from the popup menu.
- Select the **HTTP Header** tab and click the **MIME Types** button.
- Click the **New** button to add a MIME type.

For example:

Extension: *

MIME type: application/octet-stream

2.2.2.5 Restarting IIS and JEUS

Restart IIS and JEUS for the new settings to take effect.

2.2.3 Configuring IIS with WebLogic

The **Default Web Site** of the IIS server is used as examples in this section. You can choose another existing Web site, or create a new Web site.

2.2.3.1 Installing Apeon Server Web Component to the IIS Web root

Run the Apeon setup program and install **Apeon Server Web Component** to the Web root of the IIS Web site, for example, the Web root for the **Default Web site** is **C:\inetpub\wwwroot**.

If you have installed **Apeon Server Web Component** to another location, then you should copy the entire "**apeon**" folder from the installation directory of Apeon Server Web Component to the IIS Web root.

2.2.3.2 IIS 6: installing redirector plug-in

Since IIS works only on the Windows platform, you must get redirector plug-ins from WebLogic running on Windows (not UNIX or Linux). For example, if you plan to use IIS as the Web server while Apeon Server is installed to WebLogic on Sun Solaris, you must copy the redirector plug-in from WebLogic on Windows to the IIS Web server.

1. Copy the **iisproxy.dll** and **iisforward.dll** files from the **%WL_HOME%\server\bin** \ folder to any location of the IIS Web server. If IIS and WebLogic reside on the same machine, you do not need to copy them.
2. Open **Control Panel | Administrative Tools | Internet Services Manager**.
3. Right click **Default Web Site** and select **Properties** from the popup menu.
4. On the **Home Directory** tab, select **Scripts only** from the **Execute Permissions** dropdown listbox.
5. Click the **Configuration** button in the **Application Settings**.
6. Click the **Add** button to add the **iisproxy.dll** file. Input **.wlforward** in the **Extension** field. Click **OK** to return to the **Web Site Properties** window.
7. On the **ISAPI Filters** tab, click **Add**, and install **iisforward.dll** as an ISAPI filter. Click **OK**.
8. Restart IIS for the new configuration to take effect. Go to the **ISAPI Filters** tab and verify that **iisforward.dll** has been successfully loaded (indicated by a green arrow pointing upward, while a red arrow pointing downward indicates that the DLL file was not successfully loaded).

2.2.3.3 IIS 6: creating and modifying the configuration file

Create the configuration file "**iisproxy.ini**" in the directory where the **iisproxy.dll** file is located.

If Apeon Server is installed to a WebLogic cluster, add the following script:

```
WebLogicCluster=192.0.3.140:7001,192.0.3.141:7001
WlForwardPath=/AEM,/servlet
ConnectTimeoutSecs=20
ConnectRetrySecs=2
```

If Apeon Server is installed to a single WebLogic server, add the following script:

```
WebLogicHost=192.0.3.141
WebLogicPort=7001
WlForwardPath=/AEM,/servlet
ConnectTimeoutSecs=20
ConnectRetrySecs=2
```

2.2.3.4 Additional configuration for IIS 6.0

1. Activate ISAPI:

- Open the **IIS manager**.
- Click **Web Service Extensions** on the left side of IIS manager.
- Select **All Unknown ISAPI extensions** on the right of the window and click the **Allow** button on the left.

2. Add a MIME type for loading the DataWindow files:

- Right click **Default Web Site** and select **Properties** from the popup menu.
- Select the **HTTP Header** tab and click the **MIME Types** button.
- Click the **New** button to add a MIME type.

For example:

Extension: *

MIME type: application/octet-stream

- Restart IIS for the new settings to take effect.

2.2.3.5 Configuring for DataWindow Data Cache for IIS 6

Under the installation directory of Appeon Server Web Component (for example, **C:\Inetpub\wwwroot\appeon**), there is an **IISSupport** folder.

1. Copy the **appeoncache.conf** file from the **IISSupport\conf** folder and the **AppDataBuf.dll** file from the **IISSupport\modules** folder to the same folder, for example, **C:\Inetpub\scripts**.
2. If necessary, adjust the cache size in the **appeoncache.conf** file (The unit is MB).
3. Open **Control Panel | Administrative Tools | Internet Information Services Manager**.
4. Right click **Default Web Site** and select **Properties** from the pop-up menu.
5. On the **ISAPI Filters** tab, click **Add**, and install **AppDataBuf.dll** as an ISAPI filter. Click **OK**.

For example,

Filter name: **appeon_cache**

Executable: **C:\Inetpub\scripts\AppDataBuf.dll**

6. On the **Service** tab, select the **Run WWW service in IIS 5.0 isolation mode** option.
7. Restart IIS for the new configuration to take effect.

2.2.4 Configuring IIS with WebSphere

The **Default Web Site** of the IIS server is used as examples in this section. You can choose another existing Web site, or create a new Web site.

2.2.4.1 Installing Apeon Server Web Component to the IIS Web root

Run the Apeon setup program and install **Apeon Server Web Component** to the Web root of the IIS Web site, for example, the Web root for the **Default Web site** is **C:\Inetpub\wwwroot**.

If you have installed **Apeon Server Web Component** to another location, then you should copy the entire "**apeon**" folder from the installation directory of Apeon Server Web Component to the IIS Web root.

2.2.4.2 IIS 6: Installing the redirector plug-in

Since IIS works on the Windows platform only, you must get redirector plug-ins from WebSphere running on Windows (not UNIX or Linux). For example, if you plan to use IIS as the Web server while Apeon Server is installed to WebSphere on Sun Solaris, you must copy the redirector plug-in from WebSphere on Windows to the IIS Web server.

1. Copy the **iisWASPlugin_http.dll** file from the **%WAS_HOME%\bin** folder to any location of the IIS Web server, for example, **C:\Inetpub\wwwroot\ApeonWeb**. If IIS and WebSphere reside on the same machine, you do not need to copy the file.
2. Open **Control Panel | Administrative Tools | Internet Service Manager**.
3. Right click the **Default Web Site** and select **New | Virtual Directory** from the popup menu.
4. Create a virtual directory using the name "**sePlugins**" and set the virtual directory to the folder where the **iisWASPlugin_http.dll** file is located.

For example,

Alias: **sePlugins**

Directory: **C:\Inetpub\wwwroot\ApeonWeb**

5. Enable **Read**, **Run script**, and **Execute** permissions on the virtual directory.
6. Right click **Default Web Site** and select **Properties** from the popup menu.
7. On the **ISAPI Filters** tab, click **Add**, and install **iisWASPlugin_http.dll** as an ISAPI filter. Filters are invoked in the listed order. Apeon recommends that you install **iisWASPlugin_http.dll** first in the list. Click **OK**.

For example,

Filter Name: **apeon_filter**

Executable: **C:\Inetpub\wwwroot\ApeonWeb\iisWASPlugin_http.dll**

- Restart IIS for the new configuration to take effect. Go to the **ISAPI Filters** tab and verify that **iisWASPlugin_http.dll** has been loaded successfully (indicated by a green arrow pointing upward while a red arrow pointing downward indicates that the DLL file was not successfully loaded).

2.2.4.3 Adding virtual host in WebSphere console

- Click **Environment > Virtual Host** in the navigation tree of the **WebSphere Administrative Console**.
- Click the **New** button in the page that displays.
- Input the IP address of the Web server in the **Host Name** field and port number in the **Port** field.
- Click **Environment > Update Web Server Plug-in** in the console navigation tree.
- Click **OK** to update the Web server plug-in.
- Save the new configuration and restart the WebSphere server.

2.2.4.4 IIS 6: Configuring the plugin-cfg.xml file

Copy the **plugin-cfg.xml** file from the **%WAS_HOME%\config\cells** folder to the virtual directory and modify the following directives according to the **Apeon Server\WebSphere** environment:

Configure the log file location. For example:

```
<Log LogLevel="Error" Name="C:/Inetpub/wwwroot/_vti_log/http_plugin.log"/>
```

Configure the IP address and port number of the Apeon Server\WebSphere. For example:

```
<Transport Hostname="192.0.0.39" Port="9080" Protocol="http"/>
<Transport Hostname="192.0.0.39" Port="9443" Protocol="https">
  <Property name="keyring" value="C:/Websphere/AppServer/etc/plugin-key.kdb"/>
  <Property name="stashfile" value="C:/Websphere/AppServer/etc/plugin-key.sth"/>
</Transport>
```

Configure the context path. For example:

```
<UriGroup Name="server1_Cluster_URIs">
  <Uri Name="/servlet/*"/>
  <Uri Name="/AEM/*"/>
</UriGroup>
```

2.2.4.5 IIS 6: Creating the registry key

In the registry of the IIS Web server, locate the **"HKEY_LOCAL_MACHINE \SOFTWARE\IBM\WebSphere Application Server\5.1.0.0"** key (if any of these are missing, create them), add the **"Plugin Config"** string and set the value to the directory of the **plugin-cfg.xml** file.

2.2.4.6 Additional configuration for IIS 6

- Activate ISAPI:
 - Open the IIS manager.

- Click **Web Service Extensions** on the left side of IIS manager.
 - Select **All Unknown ISAPI extensions** on the right of the window and click the **Allow** button on the left.
2. Add a MIME type for loading the DataWindow files:
- Right click **Default Web Site** and select **Properties** from the popup menu.
 - Select the **HTTP Header** tab and click the **MIME Types** button.
 - Click the **New** button to add a MIME type.
For example:
Extension: *
MIME type: application/octet-stream
 - Restart IIS for the new settings to take effect.

2.2.4.7 Configuring for DataWindow Data Cache for IIS 6

Under the installation directory of Appeon Server Web Component (for example, **C:\Inetpub\wwwroot\appeon**), there is an **IISSupport** folder.

1. Copy the **appeoncache.conf** file from the **IISSupport\conf** folder and the **AppDataBuf.dll** file from the **IISSupport\modules** folder to the same folder, for example, **C:\Inetpub\scripts**.
2. If necessary, adjust the cache size in the **appeoncache.conf** file (The unit is MB).
3. Open **Control Panel | Administrative Tools | Internet Information Services Manager**.
4. Right click **Default Web Site** and select **Properties** from the popup menu.
5. On the **ISAPI Filters** tab, click **Add**, and install **AppDataBuf.dll** as an ISAPI filter. Click **OK**.
For example,
Filter name: **appeon_cache**
Executable: **C:\Inetpub\scripts\AppDataBuf.dll**
6. On the **Service** tab, select the **Run WWW service in IIS 5.0 isolation mode** option.
7. Restart IIS for the new configuration to take effect.

2.2.5 Configuring IIS with EAServer

2.2.5.1 Configuring IIS 7.x with Windows/UNIX/LINUX EAServer 6.x

The **Default Web Site** of the IIS server is used as examples in this section. You can choose another existing Web site, or create a new Web site.

Since IIS works only on the Windows platform, you must get redirector plug-ins from EAServer running on Windows (not UNIX or Linux). For example, if you plan to use IIS 7.x as the Web server while Apeon Server is installed to EAServer on Sun Solaris, you must copy the redirector plug-in from EAServer on Windows to the IIS Web server.

2.2.5.1.1 Installing Apeon Server Web Component to the IIS Web root

Run the Apeon setup program and install **Apeon Server Web Component** to the Web root of the IIS Web site, for example, the Web root for the **Default Web site** is **C:\inetpub\wwwroot**.

If you have installed **Apeon Server Web Component** to another location, then you should copy the entire "**apeon**" folder from the installation directory of Apeon Server Web Component to the IIS Web root.

Under the installation directory of Apeon Server Web Component (for example, **C:\inetpub\wwwroot\apeon**), there is an **IISsupport** folder which contains three sub-folders: **modules**, **conf** and **Apeon Cluster plugin**. Each contains files or components, provided by Apeon, that help IIS run with Apeon Server.

- files in the **conf** folder:
 - **apeoncache.conf** -- The configuration file for the DataWindow Data Cache feature.
 - **ApbCluster.cfg** -- The configuration file for the Apeon Cluster feature.
- components in the **modules** folder:
 - **AppDataBuf.dll** -- The component for the DataWindow Data Cache feature.
 - **ApbCluster.dll** -- The 32-bit component for Apeon Cluster feature.
 - **ApbCluster64.dll** -- The 64-bit component for Apeon Cluster feature.
- files in the **Apeon Cluster plugin** folder are for installing and configuring the Apeon Server cluster only. You will not need to use them in this section.

2.2.5.1.2 Creating a virtual directory

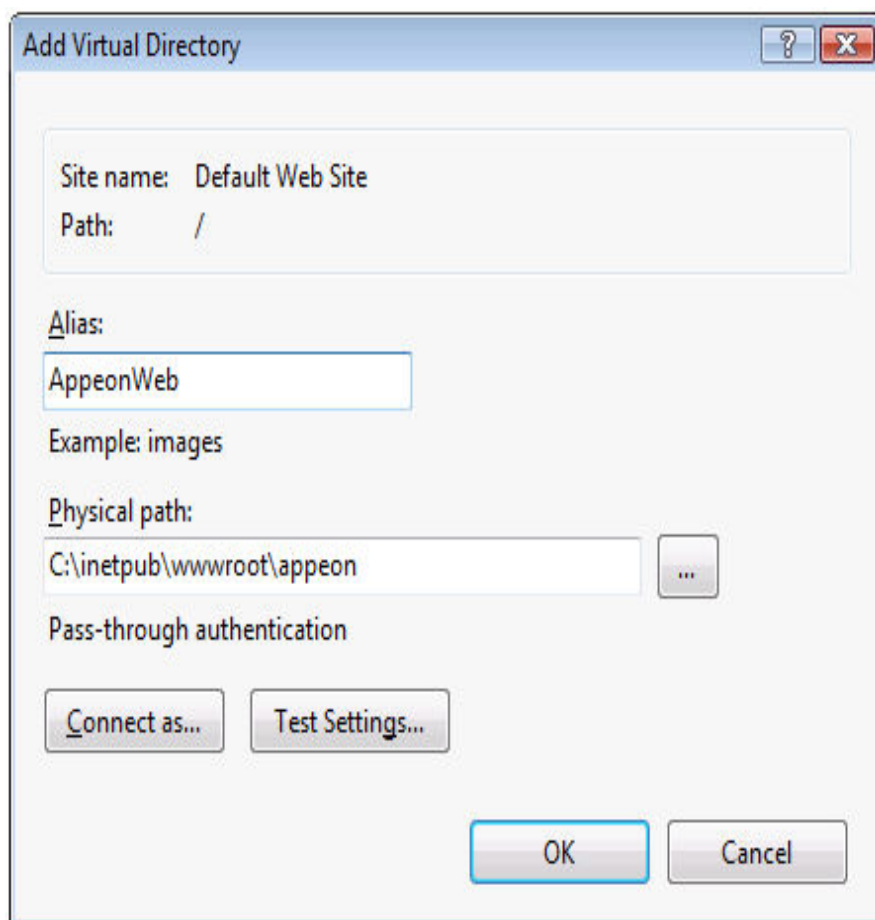
Step 1: Open **Control Panel | Administrative Tools | Internet Information Service (IIS) Manager**.

Step 2: Right click the **Default Web Site** and select **Add Virtual Directory**.

Step 3: Input the alias name, for example, **ApeonWeb**.

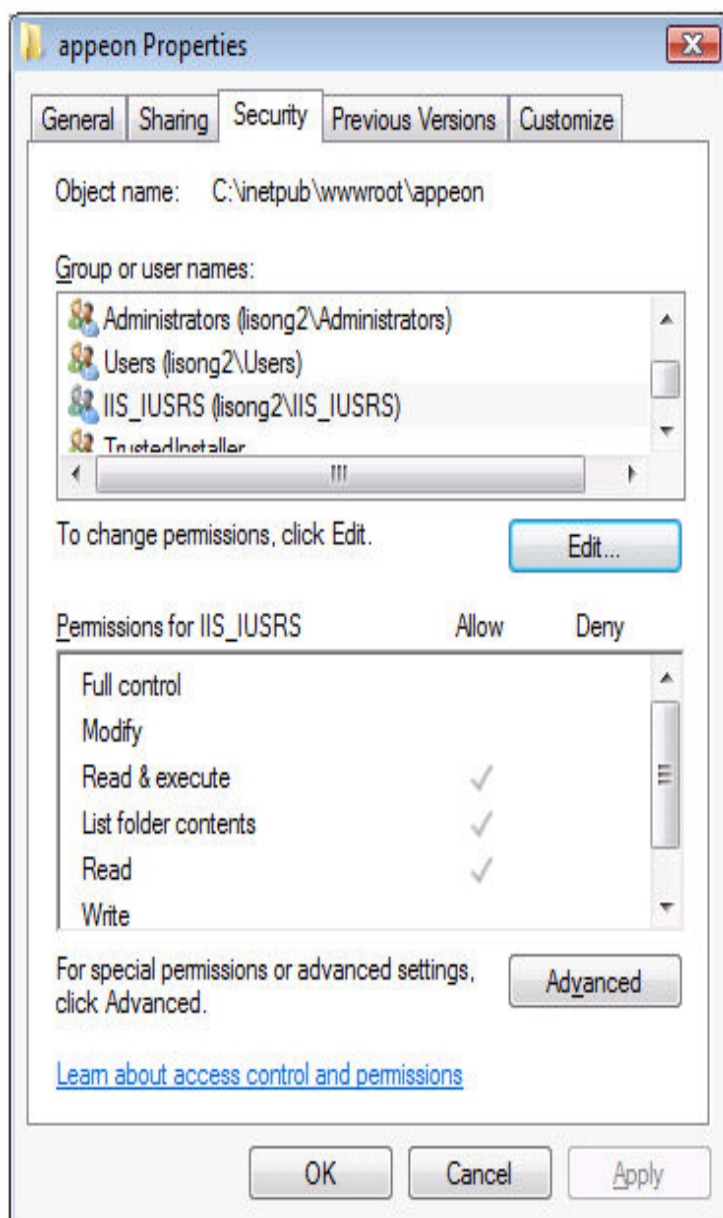
Step 4: Choose a local path in the **Physical path** box, for example, "**C:\inetpub\wwwroot\apeon**".

Step 5: Click **OK**.

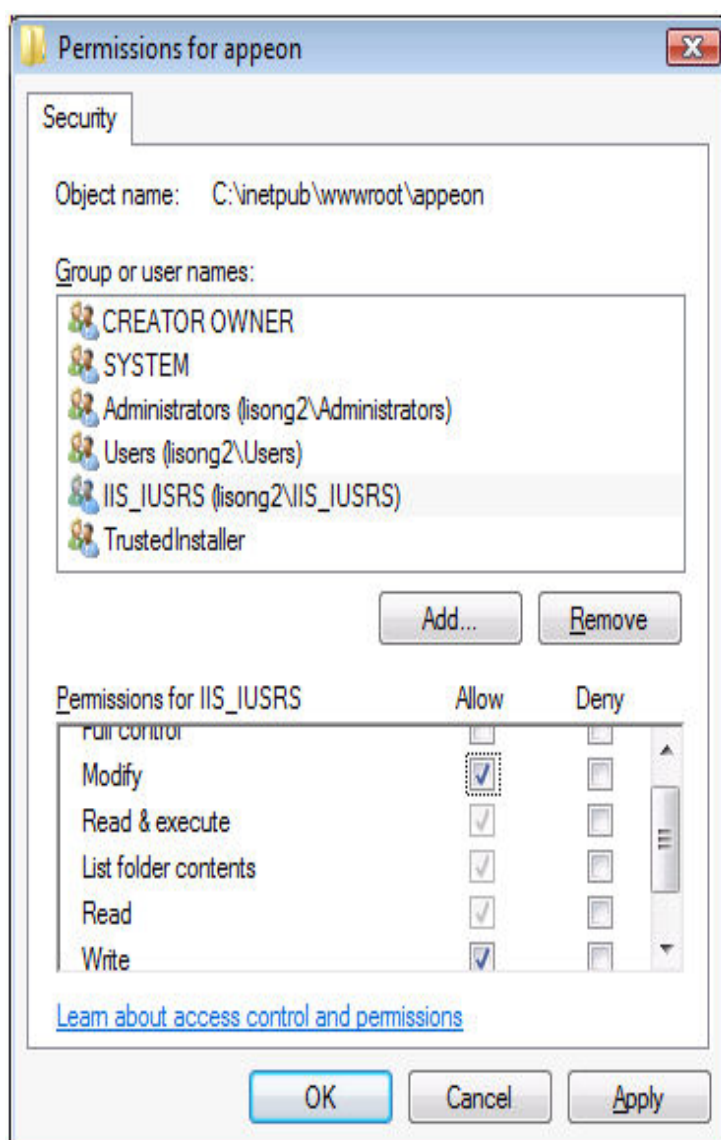
Figure 2.8: Add virtual directory

Step 6: Right click the **AppeonWeb** virtual directory and select **Edit Permissions**.

Step 7: Choose the **Security** tab, select **IIS_IUSRS (WIN-TDTR6ISYCD\IIS_IUSRS)** in the **Group or user names** list box, and then click the **Edit** button.

Figure 2.9: Apeon properties

Step 8: Select **IIS_IUSRS (WIN-TDTR6ISIIYCD\IIS_IUSRS)** in the **Group or user names** list box, and then select **Modify** and **Write** in the **Allow** column of the **Permissions for IIS_IUSRS** list box.

Figure 2.10: Permissions for Apeon

Step 9: Click **OK** to go back to the IIS window.

2.2.5.1.3 Copying plug-in (isapi_redirect.dll)

Step 1: Get the zipped IIS redirector file along with the **redirector-common-files.jar** files from **%EASERVER%\WebRedirectors**.

Step 2: Unzip the redirector-specific JAR file and common redirector file to the newly created virtual directory: **C:\inetpub\wwwroot\apeon** in this section.

Step 3: Add the **C:\inetpub\wwwroot\apeon** directory to the **PATH** system environment variable.

2.2.5.1.4 Installing plug-in as ISAPI Filters

The unzipped IIS Redirector file includes a **libjeas_iis.dll** file that implements the IIS Web Server plug-in. To install it:

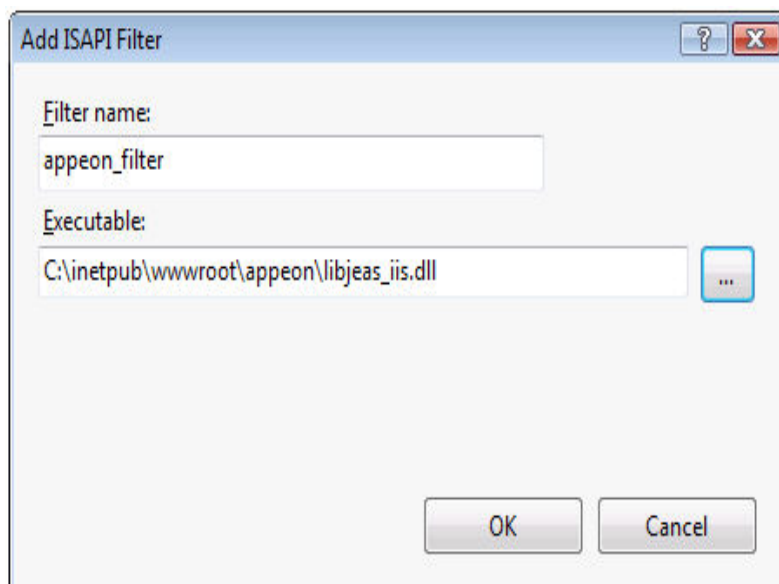
Step 1: Open **Control Panel | Administrative Tools | Internet Information Service (IIS) Manager**.

Step 2: Click the **Default Web Site** and then double-click **ISAPI Filters** on the right side.

Step 3: Right-click the blank area on the **ISAPI Filters** page, and click **Add**.

Step 4: Input "**apeon_filter**" in the **Filter name** box and select **libjeas_iis.dll** as the ISAPI filter in the **Executable** box (**C:\inetpub\wwwroot\apeon\libjeas_iis.dll**). Click **OK**.

Figure 2.11: Add ISAPI filter



2.2.5.1.5 Setting ISAPI and CGI Restrictions

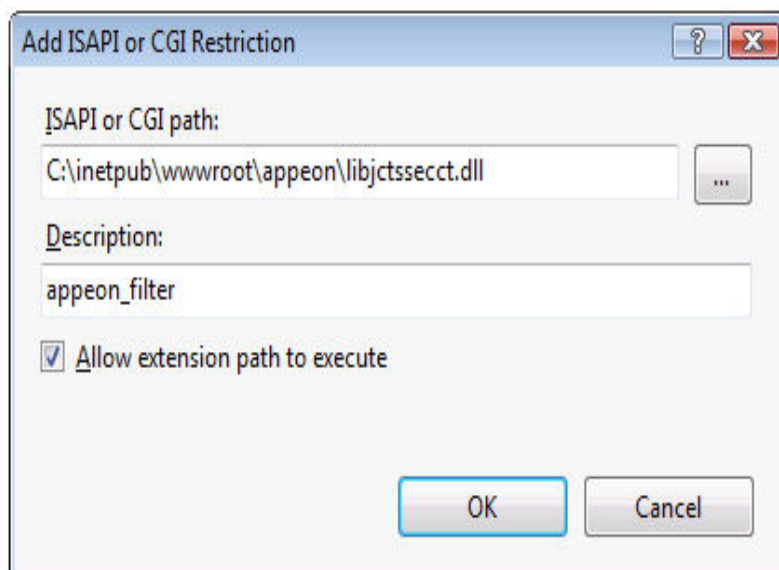
Step 1: Open **Control Panel | Administrative Tools | Internet Information Services (IIS) Manager**.

Step 2: Right-click the local machine, and then double-click **ISAPI and CGI Restrictions** on the right side.

Step 3: Right-click the blank area of the **ISAPI and CGI Restrictions** page and click **Add**.

Step 4: Specify the local path of **libjeas_iis.dll** in the **ISAPI or CGI path** box and input **apeon_filter** in the **Description** box, and then select **Allow extension path to execute**.

Step 5: Click **OK**.

Figure 2.12: Add ISAPI or CGI restriction

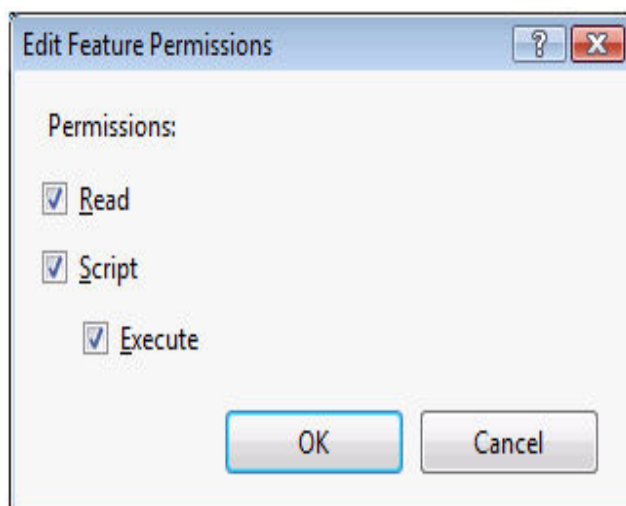
2.2.5.1.6 Enabling ISAPI-dll

Step 1: Open **Control Panel | Administrative Tools | Internet Information Services (IIS) Manager**.

Step 2: Expand the **Default Web Site**, click **ApeonWeb**, and then double-click **Handler Mappings** on the right side.

Step 3: Right-click **ISAPI-dll**, and select **Edit Feature Permissions**.

Step 4: Select **Read, Script, Execute**, and click **OK**.

Figure 2.13: Edit Feature Permissions

2.2.5.1.7 Adding MIME type

Add a MIME type for loading the files with no extensions or MIME type definition.

Step 1: Click the **Default Web Site** and then double-click **MIME Types** on the right of the page.

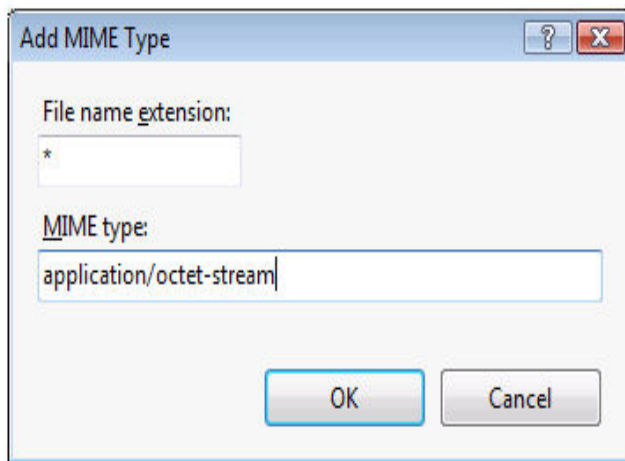
Step 2: Right-click the blank area of the **MIME Types** page, and click **Add**.

Step 3: Specify the following settings:

- Extension: *
- MIME Type: application/octet-stream

Step 4: Click **OK**.

Figure 2.14: Add MIME type



2.2.5.1.8 Editing the redirector configuration file

Create a redirector configuration file (for example, **iis_redirector.cfg**) in any location of the IIS server, for example, **C:\Inetpub\wwwroot\appeon**. Then, edit the file and configure these directives:

Note: Do not leave trailing space at the end of each directive.

Table 2.1: Configuration files

WebApp Directive	Description
Connector.IIS.Extension_URI	<p>Identifies the virtual directory path to the plug-in DLL on the IIS. If the path is incorrect, requests fail with an HTTP server error. Use this syntax to specify the virtual directory path (This is required for Appeon Server):</p> <pre>Connector.IIS.Extension_URI/ virtual-directory/libjeas_iis.dll</pre> <p>For example:</p> <pre>Connector.IIS.Extension_URI/ AppeonWeb/libjeas_iis.dll</pre>
Connector.IIS.URLS	<p>Identifies one or more context paths that the redirector handles. If the URL of an incoming request matches any of the path prefixes, the redirector handles the request. If you set the value to "/*", the redirector handles all the requests sent to the Web Server. If this directive does not exist in the configuration file, the redirector does not handle any requests. Use this syntax to specify the context path:</p>

WebApp Directive	Description
	<p>Connector.IIS.URLS /context-path [, /context-path, ...]</p> <p>The following is required for Appeon Server:</p> <p>Connector.IIS.URLS /servlet, /dwfile, /reportfile, /imagefile, /AEM, /ajsdownload</p>
Connector.IIS.LogFile	<p>Specifies the full path of the redirector log file. A separate log file is required because IIS-based logging is limited to 80 bytes per request. This is not sufficient for debugging. The default log file name is redirector.log that is created in the IIS current working directory. To specify another file name, use this syntax:</p> <p>Connector.IIS.LogFile drive:\directory-name\file-name</p> <p>For example:</p> <p>Connector.IIS.LogFile C:\temp\redirector.log</p>
Connector.LogLevel	<p>Determines how much information is written to the Web Server log file. To specify the logging level, use this syntax:</p> <p>Connector.LogLevel logging-level</p> <p>For example:</p> <p>Connector.LogLevel error</p> <p>Note: "Verbose" can be used only with the EAServer debug libraries.</p>
Connector.WebApp	<p>Maps Web Server requests to EAServer listeners. The syntax is:</p> <p>Connector.WebApp contextpath1 [, contextpath2, and so on] =http://host:port [, http://host:port, and so on]</p> <p>The following is required for Appeon Server:</p> <p>Connector.WebApp /servlet, /dwfile, /reportfile, /imagefile, /AEM, /ajsdownload = http://EAServer1:port1, http://EAServer2:port2, http://EAServer3:port3)</p> <p>EAServer1 (EAServer2, EAServer3) stands for the IP address or the name of the EAServer machine that participates in load balancing.</p> <p>Port1 (port2, port3) stands for the port number of the EAServer.</p> <p>Verify that you have configured the corresponding IP address or machine name and port number.</p>

Notice that, in the "**Connector.WebApp**" directive, the target URL extends only to the target host name and (optionally) the target port number. Redirection is NOT mapping

from context_path_1 on the Web Server to context_path_2 on EAServer. For example, the following is a working redirector configuration file:

```
Connector.IIS.Extension_URI/AppeonWeb/libjeas_iis.dll
Connector.IIS.URLS /servlet, /dwfile,
/reportfile, /imagefile, /AEM
Connector.WebApp /servlet, /dwfile,
/reportfile, /imagefile, /AEM = http://192.0.0.67:8080,
http://192.0.0.68:8080, http://192.0.0.69:8080
Connector.IIS.LogFile C:\temp\redirector.log
Connector.LogLevel error
Connector.RetryAfter = 20
```

With the above redirector configuration file, the request mapping will be as follows:

From: http://webserver/dwfile/subdir1/subdirn/target.html

To: http://eashostname:8080/dwfile/subdir1/subdirn/target.html

-or- http://eas2hostname:8080/dwfile/subdir1/subdirn/target.html

-or- http://eas3hostname:8080/dwfile/subdir1/subdirn/target.html

But the redirection will NOT map:

From: http://webserver/dwfile/subdir1/subdirn/target.html

To: http://eashostname:8080/reportfile/subdir1/subdirn/target.html

2.2.5.1.9 Creating the WSPLUGIN_CONFIG_FILE system environment variable

The **WSPLUGIN_CONFIG_FILE** system environment variable identifies the redirector configuration file required by the Web server to run the plug-in. Using the **System Properties** dialog box, create the system variable "**WSPLUGIN_CONFIG_FILE**" and set it to the full path of the configuration file. For example, if the configuration file is **iis_redirector.cfg** and it is in the C:\Inetpub\wwwroot\appeon directory, set the variable value of **WSPLUGIN_CONFIG_FILE** to **C:\Inetpub\wwwroot\appeon\iis_redirector.cfg**.

2.2.5.1.10 Restarting IIS

Restart IIS to make the new settings effective.

2.2.5.1.11 Configuring for DataWindow Data Cache

The DataWindow data cache feature is not available in IIS 7.x.

2.2.5.2 Configuring IIS 6.0 with Windows EAServer 6.x

The **Default Web Site** of the IIS server is used as examples in this section. You can choose another existing Web site, or create a new Web site.

2.2.5.2.1 Installing Appeon Server Web Component to the IIS Web root

Run the Appeon setup program and install **Appeon Server Web Component** to the Web root of the IIS Web site, for example, the Web root for the **Default Web site** is **C:\Inetpub\wwwroot**.

If you have installed **Apeon Server Web Component** to another location, then you should copy the entire "**apeon**" folder from the installation directory of Apeon Server Web Component to the IIS Web root.

Under the installation directory of Apeon Server Web Component (for example, **C:\inetpub\wwwroot\apeon**), there is an **IISSupport** folder which contains three sub-folders: **modules**, **conf** and **Apeon Cluster plugin**. Each contains files or components, provided by Apeon, that help IIS 6.0 run with Apeon Server.

- files in the **conf** folder:
 - **apeoncache.conf** -- The configuration file for the DataWindow Data Cache feature.
 - **ApbCluster.cfg** -- The configuration file for the Apeon Cluster feature.
- components in the **modules** folder:
 - **AppDataBuf.dll** -- The component for the DataWindow Data Cache feature.
 - **ApbCluster.dll** -- The 32-bit component for Apeon Cluster feature.
 - **ApbCluster64.dll** -- The 64-bit component for Apeon Cluster feature.
- files in the **Apeon Cluster plugin** folder are for installing and configuring the Apeon Server cluster only. You will not need to use them in this section.

2.2.5.2.2 Copying IIS plug-in from EAServer to the Web Server

Step 1: Copy the zipped IIS redirector file along with the **redirector-common-files.jar** files from the **%EASERVER%\WebRedirectors** to the Web Server machine.

Note: **%EASERVER%** indicates the installation directory of EAServer.

Step 2: Unzip the redirector-specific JAR file and common redirector file to the newly created "**apeon**" folder under the IIS Web root, for example, **C:\inetpub\wwwroot\apeon** in this section.

Step 3: Add the **C:\inetpub\wwwroot\apeon** directory to the **PATH** system environment variable.

2.2.5.2.3 Installing the IIS plug-in

The unzipped IIS Redirector file includes a **libjeas_iis.dll** file that implements the IIS Web Server plug-in. To install it:

1. Create a virtual directory that corresponds to the location of the **libjeas_iis.dll** directory:
 - Open **Control Panel | Administrative Tools | Internet Service Manager**.
 - Right click **Default Web Site** where you want to install **libjeas_iis.dll** and select **New | Virtual Directory** from the popup menu.
 - Create a virtual directory. The name of the virtual directory will be used in the **Connector.IIS.Extension_URI** directive in the redirector configuration file - see the next section [Editing the redirector configuration file](#) .

For example,

Alias: ApeonWeb

Directory: it should be the directory of the **libjeas_iis.dll** file, for example, **C:\Inetpub\wwwroot\apeon**.

- Enable **Read**, **Run script**, and **Execute** on the virtual directory.

Note: Do not deploy applications containing DLLs to this alias, since this virtual directory with this alias is being granted with read, run and execution permission. With this permission, the DLL in the deployed application will be run and executed on the server as a result error occurs when you access the application.

2. Install the plug-in:

- Right click **Default Web Site** and select **Properties** from the popup menu.
- On the **ISAPI Filters** tab, click **Add**, and install **libjeas_iis.dll** as an ISAPI filter. Filters are invoked in the order they are listed. Apeon recommends that **libjeas_iis.dll** be installed first in the list. Click **OK**.

For example,

Filter Name: apeon_filter

Executable: C:\Inetpub\wwwroot\apeon\libjeas_iis.dll

3. Specify index.html as the default startup document

- Right click **Default Web Site** and select **Properties** from the popup menu.
- On the **Documents** tab, specify the **index.html** file (startup HTML page for Apeon deployed applications) as one of the default startup documents in IIS.

4. Set the server to run in IIS 5.0 isolation mode:

- Right click **Default Web Site** and select **Properties** from the popup menu.
- On the **Service** tab, select the **Run WWW service in IIS 5.0 isolation mode** option.

5. Add a Web Service Extension for **libjeas_iis.dll**:

- On the left side of IIS manager, click on the **Web Service Extensions**.
- On the right side of IIS manager, click on the link **Add a new Web service extension...** A new window will display.
- Enter the extension name, for example "**Sybase**" (which should be the same as the **ISAPI Filter** name of "**libjeas_iis.dll**"). Then click the **Add** button and browse for "**libjeas_iis.dll**". Besides, select the option **Set extension status to Allowed**.

6. Verify that the anonymous access user (typically, **IUSER_ComputerName**) has full control access to:

- The virtual directory where **libjeas_iis.dll** is located
- The login directory used by the EAServer redirector plug-in in the configuration directory
- The redirector log directory that is specified in **redirector.cfg**

To verify access to the above locations:

- Right click **Default Web Site** and select **Properties** from the popup menu.
- On the **Directory Security** tab, click **Edit**.
- Select **Enable Anonymous Access**, and enter the **User Name** and **Password** for the **IUSER_ComputerName**.

7. Add a MIME type for loading the DataWindow files:

- Right click **Default Web Site** and select **Properties** from the popup menu.
- On the **HTTP Header** tab, click the **MIME Types** button.
- Click the **New** button to add a MIME type.

For example:

Extension: *

MIME type: application/octet-stream

2.2.5.2.4 Editing the redirector configuration file

Create a redirector configuration file (for example, **iis_redirector.cfg**) in any location of the IIS server, for example, **C:\inetpub\wwwroot**. Then, edit the file and configure these directives:

Note: Do not leave trailing space at the end of each directive.

Table 2.2: Configuration files

WebApp Directive	Description
Connector.IIS.Extension_URI	<p>Identifies the virtual directory path to the plug-in DLL on the IIS. If the path is incorrect, requests fail with an HTTP server error. Use this syntax to specify the virtual directory path (This is required for Appeon Server):</p> <pre>Connector.IIS.Extension_URI/virtual-directory /libjeas_iis.dll</pre> <p>For example:</p> <pre>Connector.IIS.Extension_URI/AppeonWeb/libjeas_iis.dll</pre>
Connector.IIS.URLS	<p>Identifies one or more context paths that the redirector handles. If the URL of an incoming request matches any of the path prefixes, the redirector handles the request. If you</p>

WebApp Directive	Description
	<p>set the value to "/*", the redirector handles all the requests sent to the Web Server. If this directive does not exist in the configuration file, the redirector does not handle any requests. Use this syntax to specify the context path:</p> <pre>Connector.IIS.URLS /context-path [, /context-path, ...]</pre> <p>The following is required for Apeon Server:</p> <pre>Connector.IIS.URLS /servlet, /dwfile, /reportfile, /imagefile, /AEM, /ajsdownload</pre>
Connector.IIS.LogFile	<p>Specifies the full path of the redirector log file. A separate log file is required because IIS-based logging is limited to 80 bytes per request. This is not sufficient for debugging. The default log file name is redirector.log that is created in the IIS current working directory. To specify another file name, use this syntax:</p> <pre>Connector.IIS.LogFile drive:\directory-name\file-name</pre> <p>For example:</p> <pre>Connector.IIS.LogFile C:\temp\redirector.log</pre>
Connector.LogLevel	<p>Determines how much information is written to the Web Server log file. To specify the logging level, use this syntax:</p> <pre>Connector.LogLevel logging-level</pre> <p>For example:</p> <pre>Connector.LogLevel error</pre> <p>Note: "Verbose" can be used only with the EAServer debug libraries.</p>
Connector.WebApp	<p>Maps Web Server requests to EAServer listeners. The syntax is:</p> <pre>Connector.WebApp contextpath1 [, contextpath2, and so on] =http://host:port [, http://host:port, and so on]</pre> <p>The following is required for Apeon Server:</p> <pre>Connector.WebApp /servlet, /dwfile, /reportfile, /imagefile, /AEM, /ajsdownload = http://EAServer1:port1, http://EAServer2:port2, http://EAServer3:port3)</pre> <p>EAServer1 (EAServer2, EAServer3) stands for the IP address or the name of the EAServer machine that participates in load balancing.</p> <p>Port1 (port2, port3) stands for the port number of the EAServer.</p>

WebApp Directive	Description
	Verify that you have configured the corresponding IP address or machine name and port number.

Notice that, in the "**Connector.WebApp**" directive, the target URL extends only to the target hostname and (optionally) the target port number. Redirection is NOT mapping from context_path_1 on the Web Server to context_path_2 on EAServer. For example, the following is a working redirector configuration file:

```
Connector.IIS.Extension_URI/ApeonWeb/libjeas_iis.dll
Connector.IIS.URLS /servlet, /dwfile, /reportfile, /imagefile, /AEM
Connector.WebApp /servlet, /dwfile, /reportfile, /imagefile, /AEM
= http://192.0.0.67:8080, http://192.0.0.68:8080, http://192.0.0.69:8080
Connector.IIS.LogFile C:\temp\redirector.log
Connector.LogLevel error
Connector.RetryAfter = 20
```

With the above redirector configuration file, the request mapping will be as follows:

From: http://webserver/dwfile/subdir1/subdirn/target.html

To: http://eashostname:8080/dwfile/subdir1/subdirn/target.html

-or- http://eas2hostname:8080/dwfile/subdir1/subdirn/target.html

-or- http://eas3hostname:8080/dwfile/subdir1/subdirn/target.html

But the redirection will NOT map:

From: http://webserver/dwfile/subdir1/subdirn/target.html

To: http://eashostname:8080/reportfile/subdir1/subdirn/target.html

2.2.5.2.5 Creating the WSPLUGIN_CONFIG_FILE system environment variable

The **WSPLUGIN_CONFIG_FILE** system environment variable identifies the redirector configuration file required by the Web Server to run the plug-in. Using the **System Properties** dialog box, create the system variable "**WSPLUGIN_CONFIG_FILE**" and set it to the full path of the configuration file. For example, if the configuration file is **iis_redirector.cfg** and it is in the **C:\Inetpub\wwwroot** directory, set the variable value of **WSPLUGIN_CONFIG_FILE** to **C:\Inetpub\wwwroot\iis_redirector.cfg**.

2.2.5.2.6 Restarting the machine

Restart the machine for the above changes to take effect. Open the IIS manager, go to the **ISAPI Filters** tab and verify that **libjeas_iis.dll** is successfully loaded. A green arrow pointing up indicates that the DLL file is successfully loaded, while a red arrow pointing down indicates that the DLL file has not been loaded.

2.2.5.2.7 Configuring for DataWindow Data Cache

Under the installation directory of Apeon Server Web Component (for example, **C:\Inetpub\wwwroot\apeon**), there is an **IISsupport** folder.

1. Copy the **apeoncache.conf** file from the **IISsupport\conf** folder and the **AppDataBuf.dll** file from the **IISsupport\modules** folder to the same folder, for example, **C:\Inetpub\scripts**.

2. If necessary, adjust the cache size in the **appeoncache.conf** file (the unit is MB).
3. Create a "**Filter DLLs**" string value under the following key in the registry:
HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\W3SVC\Parameters, and set the value to the path of the **AppDataBuf.dll** file. For example, **C:\Inetpub\scripts\AppDataBuf.dll**.

If the "**Filter DLLs**" string value already exists, you can append the path of the **AppDataBuf.dll** file.
4. Restart IIS for the configuration to take effect.

2.2.5.3 Configuring IIS 6.0 with UNIX/LINUX EA Server 6.x

The **Default Web Site** of the IIS server is used as examples in this section. You can choose another existing Web site, or create a new Web site.

Since IIS 6.0 works only on the Windows platform, you must get redirector plug-ins from EA Server running on Windows (not UNIX or Linux). For example, if you plan to use IIS 6.0 as the Web server while Appeon Server is installed to EA Server on Sun Solaris, you must copy the redirector plug-in from EA Server on Windows to the IIS Web server.

2.2.5.3.1 Installing Appeon Server Web Component to the IIS Web root

Run the Appeon setup program and install **Appeon Server Web Component** to the Web root of the IIS Web site, for example, the Web root for the **Default Web site** is **C:\Inetpub\wwwroot**.

If you have installed **Appeon Server Web Component** to another location, then you should copy the entire "**appeon**" folder from the installation directory of Appeon Server Web Component to the IIS Web root.

Under the installation directory of Appeon Server Web Component (for example, **C:\Inetpub\wwwroot\appeon**), there is an **IISupport** folder which contains three sub-folders: **modules**, **conf** and **Appeon Cluster plugin**. Each contains files or components, provided by Appeon, that help IIS run with Appeon Server.

- files in the **conf** folder:
 - **appeoncache.conf** -- The configuration file for the DataWindow Data Cache feature.
 - **ApbCluster.cfg** -- The configuration file for the Appeon Cluster feature.
- components in the **modules** folder:
 - **AppDataBuf.dll** -- The component for the DataWindow Data Cache feature.
 - **ApbCluster.dll** -- The 32-bit component for Appeon Cluster feature.
 - **ApbCluster64.dll** -- The 64-bit component for Appeon Cluster feature.
- files in the **Appeon Cluster plugin** folder are for installing and configuring the Appeon Server cluster only. You will not need to use them in this section.

2.2.5.3.2 Copying libraries from EAServer to the Web Server

Step 1: Copy the zipped IIS redirector file along with the redirector-common-files.jar files from the %EASERVER%\WebRedirectors to the Web Server machine.

Note: %EASERVER% indicates the installation directory of EAServer.

Step 2: Unzip the redirector-specific JAR file and common redirector file to the newly created "**appeon**" folder under the IIS Web root, for example, **C:\inetpub\wwwroot\appeon** in this section.

Step 3: Add the **C:\inetpub\wwwroot\appeon** directory to the **PATH** system environment variable.

2.2.5.3.3 Installing the IIS plug-in

The unzipped IIS Redirector file includes a **libjeas_iis.dll** file that implements the IIS Web Server plug-in. To install it:

1. Create a virtual directory that corresponds to the location of the **libjeas_iis.dll** directory:

- Open **Control Panel | Administrative Tools | Internet Service Manager**.
- Right click **Default Web Site** and select **New | Virtual Directory** from the popup menu.
- Create a virtual directory. The name of the virtual directory will be used in the **Connector.IIS.Extension_URI** directive in the redirector configuration file - see the next section [Editing the redirector configuration file](#).

For example,

Alias: **AppeonWeb**

Directory: it should be the directory of the **libjeas_iis.dll** file, for example, **C:\Inetpub\wwwroot\appeon**.

- Enable **Read, Run script, and Execute** on the virtual directory.

2. Install the plug-in:

- Right click **Default Web Site** and select **Properties** from the popup menu.
- On the **ISAPI Filters** tab, click **Add**, and install **libjeas_iis.dll** as an ISAPI filter. Filters are invoked in the order they are listed. Appeon recommends that **libjeas_iis.dll** be installed first in the list. Click **OK**.

For example,

Filter Name: **appeon_filter**

Executable: **C:\Inetpub\wwwroot\appeon\libjeas_iis.dll**

3. Specify **index.html** as the default startup document

- Right click **Default Web Site** and select **Properties** from the popup menu.

- On the **Documents** tab, specify the **index.html** file (startup HTML page for Apeon deployed applications) as one of the default startup documents in IIS.
4. Set the server to run in IIS 5.0 isolation mode:
 - Right click **Default Web Site** and select **Properties** from the popup menu.
 - On the **Service** tab, select the **Run WWW service in IIS 5.0 isolation mode** option.
 5. Add a Web Service Extension for libjeas_iis.dll:
 - On the left side of IIS manager, click on the **Web Service Extensions**.
 - On the right side of IIS manager, click on the link "**Add a new Web service extension...**". A new window will display.
 - Enter the extension name, for example "**Sybase**" (which should be the same as the **ISAPI Filter name** of "**libjeas_iis.dll**"). Then click the **Add** button and browse for "**libjeas_iis.dll**". Besides, select the option **Set extension status to Allowed**.
 6. Verify that the anonymous access user (typically, **IUSER_ComputerName**) has full control access to:
 - The virtual directory where **libjeas_iis.dll** is located.
 - The login directory used by the EAServer redirector plug-in in the configuration directory.
 - The redirector log directory that is specified in **redirector.cfg**.To verify access to the above locations:
 - Right click **Default Web Site** and select **Properties** from the popup menu.
 - On the **Directory Security** tab, click **Edit**.
 - Select **Enable Anonymous Access**, and enter the **User Name** and **Password** for the **IUSER_ComputerName**.
 7. Add a MIME type for loading the DataWindow files:
 - Right click **Default Web Site** and select **Properties** from the popup menu.
 - On the **HTTP Header** tab, click the **MIME Types** button.
 - Click the **New** button to add a MIME type.
For example:
Extension: *
MIME type: application/octet-stream

2.2.5.3.4 Editing the redirector configuration file

Create a redirector configuration file (for example, **iis_redirector.cfg**) in any location of the IIS server, for example, **C:\Inetpub\wwwroot**. Then, edit the file and configure these directives:

Note: Do not leave trailing space at the end of each directive.

Table 2.3: Configuration files

WebApp Directive	Description
Connector.IIS.Extension_URI	<p>Identifies the virtual directory path to the plug-in DLL on the IIS. If the path is incorrect, requests fail with an HTTP server error. Use this syntax to specify the virtual directory path (This is required for Apeon Server):</p> <pre>Connector.IIS.Extension_URI /virtual-directory /libjeas_iis.dll</pre> <p>For example:</p> <pre>Connector.IIS.Extension_URI/ApeonWeb /libjeas_iis.dll</pre>
Connector.IIS.URLS	<p>Identifies one or more context paths that the redirector handles. If the URL of an incoming request matches any of the path prefixes, the redirector handles the request. If you set the value to "/*", the redirector handles all the requests sent to the Web Server. If this directive does not exist in the configuration file, the redirector does not handle any requests. Use this syntax to specify the context path:</p> <pre>Connector.IIS.URLS /context-path [, /context- path, ...]</pre> <p>The following is required for Apeon Server:</p> <pre>Connector.IIS.URLS /servlet, /dwfile, /reportfile, /imagefile, /AEM, /ajsdownload</pre>
Connector.IIS.LogFile	<p>Specifies the full path of the redirector log file. A separate log file is required because IIS-based logging is limited to 80 bytes per request. This is not sufficient for debugging. The default log file name is <code>redirector.log</code> that is created in the IIS current working directory. To specify another file name, use this syntax:</p> <pre>Connector.IIS.LogFile drive:\directory-name\file-name</pre> <p>For example:</p> <pre>Connector.IIS.LogFile C:\temp\redirector.log</pre>
Connector.LogLevel	<p>Determines how much information is written to the Web Server log file. To specify the logging level, use this syntax:</p> <pre>Connector.LogLevel logging-level</pre> <p>For example:</p>

WebApp Directive	Description
	<p>Connector.LogLevel error</p> <p>Note: "Verbose" can be used only with the EAServer debug libraries.</p>
Connector.WebApp	<p>Maps Web Server requests to EAServer listeners. The syntax is:</p> <pre>Connector.WebApp contextpath1 [, contextpath2, and so on] =http://host:port [, http://host:port, and so on]</pre> <p>The following is required for Apeon Server:</p> <pre>Connector.WebApp /servlet, /dwfile, /reportfile, /imagefile, /AEM, /ajsdownload = http://EAServer1:port1, http://EAServer2:port2, http://EAServer3:port3)</pre> <p>EAServer1 (EAServer2, EAServer3) stands for the IP address or the name of the EAServer machine that participates in load balancing.</p> <p>Port1 (port2, port3) stands for the port number of the EAServer.</p> <p>Verify that you have configured the corresponding IP address or machine name and port number.</p>

Notice that, in the "**Connector.WebApp**" directive, the target URL extends only to the target hostname and (optionally) the target port number. Redirection is NOT mapping from **context_path_1** on the Web Server to **context_path_2** on EAServer. For example, the following is a working redirector configuration file:

```
Connector.IIS.Extension_URI/ApeonWeb/libjeas_iis.dll
Connector.IIS.URLS /servlet, /dwfile, /reportfile, /imagefile, /AEM
Connector.WebApp /servlet, /dwfile, /reportfile, /imagefile, /AEM =
http://192.0.0.67:8080, http://192.0.0.68:8080, http://192.0.0.69:8080
Connector.IIS.LogFile C:\temp\redirector.log
Connector.LogLevel error
Connector.RetryAfter = 20
```

With the above redirector configuration file, the request mapping will be as follows:

From: http://webservers/dwfile/subdir1/subdirn/target.html

To: http://eashostname:8080/dwfile/subdir1/subdirn/target.html

-or- http://eas2hostname:8080/dwfile/subdir1/subdirn/target.html

-or- http://eas3hostname:8080/dwfile/subdir1/subdirn/target.html

But the redirection will NOT map:

From: http://webservers/dwfile/subdir1/subdirn/target.html

To: http://eashostname:8080/reportfile/subdir1/subdirn/target.html

2.2.5.3.5 Creating the WSPLUGIN_CONFIG_FILE system environment variable

The **WSPLUGIN_CONFIG_FILE** system environment variable identifies the redirector configuration file required by the Web Server to run the plug-in. Using the **System Properties** dialog box, create the system variable "**WSPLUGIN_CONFIG_FILE**" and set it to the full path of the configuration file. For example, if the configuration file is **iis_redirector.cfg** and it is in the **C:\Inetpub\wwwroot** directory, set the variable value of **WSPLUGIN_CONFIG_FILE** to **C:\Inetpub\wwwroot\iis_redirector.cfg**.

2.2.5.3.6 Configuring the EAServer EASERVER_http.props file

Locate **%EASERVER%\Repository\Listener**, and open the **EASERVER_http.props** file. Find the following script in this file:

```
com.sybase.EASERVER.listener.http.connector_events=false
```

And change it to:

```
com.sybase.EASERVER.listener.http.connector_events=true
```

%EASERVER% denotes the installation directory of EAServer.

2.2.5.3.7 Restarting the machine

Restart the machine for the above changes to take effect. Open the **IIS manager**, go to the **ISAPI Filters** tab and verify that **libjeas_iis.dll** is successfully loaded. A green arrow pointing up indicates that the DLL file is successfully loaded, while a red arrow pointing down indicates that the DLL file has not been loaded.

2.2.5.3.8 Configuring for DataWindow Data Cache

Under the installation directory of Appeon Server Web Component (for example, **C:\Inetpub\wwwroot\appeon**), there is an **IISSupport** folder.

1. Copy the **appeoncache.conf** file from the **IISSupport\conf** folder and the **AppDataBuf.dll** file from the **IISSupport\modules** folder to the same folder, for example, **C:\Inetpub\scripts**.
2. If necessary, adjust the cache size in the **appeoncache.conf** file (the unit is MB).
3. Create a "**Filter DLLs**" string value under the following key in the registry:
HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\W3SVC\Parameters,
and set the value to the path of the **AppDataBuf.dll** file. For example, **C:\Inetpub\scripts\AppDataBuf.dll**.
If the "**Filter DLLs**" string value already exists, you can append the path of the **AppDataBuf.dll** file.
4. Restart IIS for the configuration to take effect.

3 Configuring Apache

This section provides instructions of

- [Configuring for Appeon Server cluster](#)

Detailed instructions are provided in Chapter 6, *Tutorial 5: Configure Appeon Server Cluster* in *Appeon Mobile Tutorials*.

- [Configuring for single Appeon Server](#)

Each sub-section will try to cover the following aspects:

- Redirector plug-in configuration, which enables Web server to redirect requests to an Appeon Server.
- Load balancing configuration. Load balancing can be implemented using the Web server redirector plug-in or the Appeon plug-in. This section will only describe how to implement load balancing with multiple Appeon Servers (not Appeon Server cluster) using the Web server redirector plug-in. Description of implementing load balancing (and failover) with Appeon Server cluster using the Appeon plug-in will be described in the [Configuring for Appeon Server cluster](#) section.
- DataWindow data cache configuration. The Web server must be configured properly to support the DataWindow data cache feature.

3.1 Configuring for Appeon Server Cluster

Appeon Server cluster is a feature provided by Appeon for implementing load balancing and failover with the Appeon plug-in. It will not interfere with the existing application server cluster, such as EAServer, WebLogic, WebSphere, JBoss, or JEUS cluster.

For detailed instructions on configuring Apache with the Appeon Server cluster, please refer to Chapter 6, *Tutorial 5: Configure Appeon Server Cluster* in *Appeon Mobile Tutorials*.

3.2 Configuring for single Appeon Server

This section provides configuration for Apache with single Appeon Server. Each sub-section will try to cover the following aspects:

- Redirector plug-in configuration, which enables Web server to redirect requests to an Appeon Server.
- Load balancing configuration. Load balancing can be implemented using the Web server redirector plug-in or the Appeon plug-in. This section will only describe how to implement load balancing with multiple Appeon Servers (not Appeon Server cluster) using the Web server redirector plug-in. Description of implementing load balancing (and failover) with Appeon Server cluster using the Appeon plug-in will be described in the [Configuring for Appeon Server cluster](#) section.
- DataWindow data cache configuration. The Web server must be configured properly to support the DataWindow data cache feature.

3.2.1 Configuring Apache with JBoss

The following configuration steps apply to Windows/Linux/UNIX platforms.

Step 1: Run the Apeon setup program and install **Apeon Server Web Component** to the Web root of the Apache HTTP Server, for example, %Apache%\htdocs\.

If you have installed **Apeon Server Web Component** to another location, then you should copy the entire "**apeon**" folder from the installation directory of Apeon Server Web Component to the Apache Web root.

Step 2: Download the required plug-ins from <http://archive.apache.org/dist/jakarta/tomcat-connectors/jk/binaries>.

Step 3: Copy the downloaded plug-ins to the <APACHE>\modules folder and rename it to **mod_jk.so**.

Step 4: Go to the <APACHE>\conf folder, open the **httpd.conf** file with a text editor, and add the following script to the end of this file.

```
#####  
#                               JBOSS Plug-In  
#####  
# Include mod_jk configuration file  
Include conf/mod_jk.conf
```

Step 5: In the <APACHE>\conf folder, create the **workers.properties** file and add the following scripts to it.

```
# Define Node1  
worker.list=node1  
# ajp13 port of JBoss server  
worker.node1.port=8009  
# IP of JBoss server  
worker.node1.host=192.0.2.217  
worker.node1.type=ajp13  
worker.node1.lbfactor=1  
#worker.node1.local_worker=1 (1)  
worker.node1.cachesize=10
```

Step 6: In the <APACHE>\conf folder, create the redirector file **mod_jk.conf** and add the following scripts to it.

```
#####
#                               JBOSS Plug-In
#####
# Load mod_jk module
# Specify the filename of the mod_jk lib
LoadModule jk_module modules/mod_jk.so
# Where to find workers.properties
JkWorkersFile conf/workers.properties
# Where to put jk logs
JkLogFile logs/mod_jk.log
# Set the jk log level [debug/error/info]
JkLogLevel info
# Select the log format
JkLogStampFormat "[%a %b %d %H:%M:%S %Y]"
# JkOptions indicates to send SSK KEY SIZE
JkOptions +ForwardKeySize +ForwardURICompat -ForwardDirectories
# JkRequestLogFormat
JkRequestLogFormat "%w %V %T"
#redirect
JkMount /AEM node1
JkMount /AEM/* node1
JkMount /servlet/* node1
JkMount /servlet node1
JkMount /reportfile/* node1
JkMount /reportfile node1
JkMount /imagefile/* node1
JkMount /imagefile node1
JkMount /dwfile/* node1
JkMount /dwfile node1
JkMount /ajsdown/* node1
JkMount /ajsdown node1
```

Step 7: Go to <JBossHome>\server\<instancename>\deploy\jbossweb.sar\ (for example, C:\jboss-5.1.0.GA\server\default\deploy\jbossweb.sar\), open the server.xml file with a text editor, find the following line in the file:

```
<Engine name="jboss.web" defaultHost="localhost">
```

Modify the above line to:

```
<Engine name="jboss.web" defaultHost="localhost" jvmroot="node1">
```

Step 8: Save the file and restart JBoss server.

Step 9: Add the following scripts into the httpd.conf file in <Apache>\conf folder:

```
#Apeon Configuration:for 10X Web file compression#
<LocationMatch /gzip/*>
Header append Content-Encoding gzip
</LocationMatch>
#end of Apeon Configuration for 10X Web file compression#
```

In addition, remove the character "#" in front of the following script in the httpd.conf file:

```
LoadModule headers_module modules/mod_headers.so
```

3.2.1.1 Configuring DataWindow Data Cache (supports Windows platform only)

Under the installation directory of Apeon Server Web Component (for example, C:\Inetpub\wwwroot\apeon), there are Apache20Support and Apache22Support folders.

1. Copy the **appeoncache.conf** file from **Apache20Support\conf** or **Apache22Support\conf** to the **%Apache%\conf** folder. And make the appropriate configuration under the instructions provided in the file.
2. Copy the **modcache2.dll** or **modcache22.dll** file from **Apache20Support\modules** or **Apache22Support\modules** folder to **%Apache%\modules** folder.
3. Add the following script into the **httpd.conf** file in **%Apache%\conf** folder to load **appeoncache.conf** and **modcache2.dll** or **modcache22.dll**:

```
# Cache Module Apeon Data Cache function, AX only
#-----mod_cache for web cache configuration-----#
LoadModule data_cache_module modules/modcache2.dll
<IfModule mod_cache.c>
include conf/appeoncache.conf
</IfModule>
#-----End configuration-----#
```

3.2.2 Configuring Apache with JEUS

3.2.2.1 Configuring Windows Apache 2.0/2.2 with Windows JEUS

3.2.2.1.1 Installing Apeon Server Web Component to the Apache Web root

Run the Apeon setup program and install **Apeon Server Web Component** to the Web root of the Apache HTTP Server, for example, **%Apache%\htdocs**.

If you have installed **Apeon Server Web Component** to another location, then you should copy the entire "**apeon**" folder from the installation directory of Apeon Server Web Component to the Apache Web root.

3.2.2.1.2 Configuring Ajp13 Listener in JEUS Web Manager

1. Start JEUS and log into **JEUS Web Manager**. Select **Nodename | Engine Containers | Node name_container1 | Engines | Servlet Engine | MyGroup** in the left treeview. **Nodename** indicates the node name of JEUS.
2. Click **Web Listener** on the right page of **JEUS Web Manager**.
3. On the **Web Listener** page, click **Creating a new Web Listener**.
4. On the **Listener Type** page, select **Ajp13** and click **Next**.
5. On the **General** page, specify **Listener ID** and **Port**, for example, Listener ID: ajp13, Port: 8009, and click **Next**.
6. On the **Thread Pool** page, specify **Min**, for example, Min: 2, and click **Next**.
7. Click **Create** to create the listener. A message box will pop up and indicate whether the listener has been successfully created.

3.2.2.1.3 Modifying WEBMain.xml (for load balancing)

1. Locate the **WEBMain.xml** file in the **%JEUS_HOME%\config\nodename\nodename_servlet_engine1**. **nodename** indicates the node name of JEUS.

2. Change the following script in the **WEBMain.xml** file.

Original script:

```
<session-cluster>
<session-routing>>false</session-routing>
</session-cluster>
```

Change to:

```
<session-cluster>
<session-routing>>true</session-routing>
</session-cluster>
```

3.2.2.1.4 Installing the redirector plug-in

1. Download the plug-in file from the Apache Website (<http://archive.apache.org/dist/jakarta/tomcat-connectors/jk/binaries>). For example, the plug-in file for Apache 2.0.54 is **mod_jk-1.2.10-apache-2.0.53.so**.
2. Place the plug-in file in the **%APACHE%\modules** folder and rename it **mod_jk.so**.

3.2.2.1.5 Configuring the httpd.conf file

1. Open the **httpd.conf** file in the **%Apache%\conf** directory.
2. Add the following script to the **httpd.conf** file.

For single Apeon Server:

```
#####
# JEUS Plug-In
#####
# Load mod_jk module
# Specify the filename of the mod_jk lib
LoadModule jk_module modules/mod_jk.so

# Where to find workers.properties
JkWorkersFile conf/workers.properties

# Where to put jk logs
JkLogFile logs/mod_jk.log

# Set the jk log level [debug/error/info]
JkLogLevel info

# Select the log format
JkLogStampFormat "[%a %b %d %H:%M:%S %Y]"

# JkOptions indicates to send SSK KEY SIZE
JkOptions +ForwardKeySize +ForwardURICompat -ForwardDirectories

# JkRequestLogFormat
JkRequestLogFormat "%w %V %T"

#redirect
JkMount /AEM node1
JkMount /AEM/* node1
JkMount /servlet node1
JkMount /servlet/* node1
```

For multiple Apeon Servers implementing load balancing:

```
#####
#                               JEUS Plug-In
#####
# Load mod_jk module
# Specify the filename of the mod_jk lib
LoadModule jk_module modules/mod_jk.so

# Where to find workers.properties
JkWorkersFile conf/workers.properties

# Where to put jk logs
JkLogFile logs/mod_jk.log

# Set the jk log level [debug/error/info]
JkLogLevel info

# Select the log format
JkLogStampFormat "[%a %b %d %H:%M:%S %Y]"

# JkOptions indicates to send SSK KEY SIZE
JkOptions +ForwardKeySize +ForwardURICompat -ForwardDirectories

# JkRequestLogFormat
JkRequestLogFormat "%w %V %T"

#redirect
JkMount /AEM cluster
JkMount /AEM/* cluster
JkMount /servlet cluster
JkMount /servlet/* cluster
```

3.2.2.1.6 Creating the workers.properties file

1. Create the **workers.properties** file in the **%APACHE%\conf** folder.
2. Add the following scripts to it.

For single Apeon Server:

```
# Define Node1
worker.list=node1
worker.node1.port=8009
worker.node1.host=192.0.2.217
worker.node1.type=ajp13
worker.node1.lbfactor=1
#worker.node1.local_worker=1 (1)
worker.node1.cachesize=200
```

For multiple Apeon Servers implementing load balancing:

The following script example shows that there are two JEUS application servers participating in load balancing, and their node names are jiangzepeng and zhangjungang respectively. You can replace them with the real node names of JEUS application servers and add similar scripts to involve other JEUS application servers.

```
worker.list=jiangzeping_servlet_engine1,zhangjungang_servlet_engine1,cluster
worker.cluster.type=lb
worker.cluster.balance_workers=jiangzeping_servlet_engine1,zhangjungang_servlet_engine1
worker.jiangzeping_servlet_engine1.port=8009
worker.jiangzeping_servlet_engine1.host=192.168.168.35
worker.jiangzeping_servlet_engine1.type=ajp13
worker.jiangzeping_servlet_engine1.lbfactor=1
worker.jiangzeping_servlet_engine1.cachesize=200
worker.zhangjungang_servlet_engine1.port=8009
worker.zhangjungang_servlet_engine1.host=192.168.168.217
worker.zhangjungang_servlet_engine1.type=ajp13
worker.zhangjungang_servlet_engine1.lbfactor=1
worker.zhangjungang_servlet_engine1.cachesize=200
```

For detailed information on how to configure the directives in **workers.properties**, visit <http://tomcat.apache.org/connectors-doc/reference/workers.html>.

3.2.2.1.7 Creating the easerverinit.conf file (for load balancing)

Create the **easerverinit.conf** file in the **%Apache%\conf** directory and add the following scripts:

```
# The redirector log file level.
#
# This directive determines the amount of redirector logging that is sent
# to the Web server log file
# You must also set the logging level for the Apache Web server in the httpd.conf
# file to either "info" or "error" for the redirector to produce any logging.
# The syntax is:
#
# LogLevel [ debug | info | notice | warn | error | crit ]
#
Connector.LogLevel inform
```

3.2.2.1.8 Restarting Apache and JEUS

Restart Apache and JEUS to make the settings effective.

3.2.2.2 Configuring Windows Apache 1.3 with Windows JEUS

3.2.2.2.1 Installing Apeon Server Web Component to the Apache Web root

Run the Apeon setup program and install **Apeon Server Web Component** to the Web root of the Apache HTTP Server, for example, **%Apache%\htdocs**.

If you have installed **Apeon Server Web Component** to another location, then you should copy the entire "**apeon**" folder from the installation directory of Apeon Server Web Component to the Apache Web root.

3.2.2.2.2 Configuring Ajp13 Listener in JEUS Web Manager

1. Start JEUS and log into **JEUS Web Manager**. Select **Nodename | Engine Containers | Node name_container1 | Engines | Servlet Engine | MyGroup** in the left treeview. **Nodename** indicates the node name of JEUS.
2. Click **Web Listener** on the right page of **JEUS Web Manager**.

3. On the **Web Listener** page, click **Creating a new Web Listener**.
4. On the **Listener Type** page, select **Ajp13** and click **Next**.
5. On the **General** page, specify **Listener ID** and **Port**, for example, Listener ID: ajp13, Port: 8009, and click **Next**.
6. On the **Thread Pool** page, specify **Min**, for example, Min: 2, and click **Next**.
7. Click **Create** to create the listener. A message box will pop up and indicate whether the listener has been successfully created.

3.2.2.2.3 Modifying WEBMain.xml (for load balancing)

1. Locate the **WEBMain.xml** file in the **%JEUS_HOME%\config\nodename\nodename_servlet_engine1**. **nodename** indicates the node name of JEUS.
2. Change the following script in the **WEBMain.xml** file.

Original script:

```
<session-cluster>  
<session-routing>>false</session-routing>  
</session-cluster>
```

Change to:

```
<session-cluster>  
<session-routing>>true</session-routing>  
</session-cluster>
```

3.2.2.2.4 Installing the redirector plug-in

1. Download the plug-in file from the Apache Website (<http://archive.apache.org/dist/jakarta/tomcat-connectors/jk/binaries>). For example, the plug-in file for Apache 1.3.33 is **mod_jk-1.2.10-apache-1.3.33.so**.
2. Place the plug-in file in the **%APACHE%\modules** folder and rename it **mod_jk.so**.

3.2.2.2.5 Configuring the httpd.conf file

1. Open the **httpd.conf** file in the **%Apache%\conf** directory.
2. Add the following script to the **httpd.conf** file.

For single Appeon Server:

```
#####
# JEUS Plug-In
#####
# Load mod_jk module
# Specify the filename of the mod_jk lib
LoadModule jk_module modules/mod_jk.so

# Where to find workers.properties
JkWorkersFile conf/workers.properties

# Where to put jk logs
JkLogFile logs/mod_jk.log

# Set the jk log level [debug/error/info]
JkLogLevel info

# Select the log format
JkLogStampFormat "[%a %b %d %H:%M:%S %Y]"

# JkOptions indicates to send SSK KEY SIZE
JkOptions +ForwardKeySize +ForwardURICompat -ForwardDirectories

# JkRequestLogFormat
JkRequestLogFormat "%w %V %T"

#redirect
JkMount /AEM nodel
JkMount /AEM/* nodel
JkMount /servlet nodel
JkMount /servlet/* nodel
```

For multiple Apeon Servers implementing load balancing:

```
#####
# JEUS Plug-In
#####
# Load mod_jk module
# Specify the filename of the mod_jk lib
LoadModule jk_module modules/mod_jk.so

# Where to find workers.properties
JkWorkersFile conf/workers.properties

# Where to put jk logs
JkLogFile logs/mod_jk.log

# Set the jk log level [debug/error/info]
JkLogLevel info

# Select the log format
JkLogStampFormat "[%a %b %d %H:%M:%S %Y]"

# JkOptions indicates to send SSK KEY SIZE
JkOptions +ForwardKeySize +ForwardURICompat -ForwardDirectories

# JkRequestLogFormat
JkRequestLogFormat "%w %V %T"

#redirect
JkMount /AEM cluster
JkMount /AEM/* cluster
JkMount /servlet cluster
JkMount /servlet/* cluster
```

3.2.2.2.6 Creating the workers.properties file

1. Create the **workers.properties** file in the **%APACHE%\conf** folder.
2. Add the following scripts to it.

For single Apeon Server:

```
# Define Node1
worker.list=node1
worker.node1.port=8009
worker.node1.host=192.0.2.217
worker.node1.type=ajp13
worker.node1.lbfactor=1
#worker.node1.local_worker=1 (1)
worker.node1.cachesize=200
```

For multiple Apeon Servers implementing load balancing:

The following script example shows that there are two JEUS application servers participating in load balancing, and their node names are jiangzeping and zhangjungang respectively. You can replace them with the real node names of JEUS application servers and add similar scripts to involve other JEUS application servers.

```
worker.list=jiangzeping_servlet_engine1,zhangjungang_servlet_engine1,cluster
worker.cluster.type=lb
worker.cluster.balance_workers=jiangzeping_servlet_engine1,zhangjungang_servlet_engine1
worker.jiangzeping_servlet_engine1.port=8009
worker.jiangzeping_servlet_engine1.host=192.168.168.35
worker.jiangzeping_servlet_engine1.type=ajp13
worker.jiangzeping_servlet_engine1.lbfactor=1
worker.jiangzeping_servlet_engine1.cachesize=200
worker.zhangjungang_servlet_engine1.port=8009
worker.zhangjungang_servlet_engine1.host=192.168.168.217
worker.zhangjungang_servlet_engine1.type=ajp13
worker.zhangjungang_servlet_engine1.lbfactor=1
worker.zhangjungang_servlet_engine1.cachesize=200
```

For detailed information on how to configure the directives in **workers.properties**, visit <http://tomcat.apache.org/connectors-doc/reference/workers.html>.

3.2.2.2.7 Creating the easerverinit.conf file (for load balancing)

Create the **easerverinit.conf** file in the **%Apache%\conf** directory and add the following scripts:

```
# The redirector log file level.
#
# This directive determines the amount of redirector logging that is sent
# to the Web server log file
# You must also set the logging level for the Apache Web server in the httpd.conf
# file to either "info" or "error" for the redirector to produce any logging.
# The syntax is:
#
# LogLevel [ debug | info | notice | warn | error | crit ]
#
Connector.LogLevel inform
```

3.2.2.2.8 Restarting Apache and JEUS

Restart Apache and JEUS to make the settings effective.

3.2.3 Configuring Apache with WebLogic

3.2.3.1 Configuring Windows Apache 2.0/2.2 with Windows WebLogic

3.2.3.1.1 Installing Apeon Server Web Component to the Apache Web root

Run the Apeon setup program and install **Apeon Server Web Component** to the Web root of the Apache HTTP Server, for example, %Apache%\htdocs\.

If you have installed **Apeon Server Web Component** to another location, then you should copy the entire "**apeon**" folder from the installation directory of Apeon Server Web Component to the Apache Web root.

3.2.3.1.2 Installing the redirector plug-in

Copy the **mod_wl_20.so** or **mod_wl_22.so** file from the %WebLogic%\server\bin\ to the %APACHE%\modules folder.

3.2.3.1.3 Configuring the httpd.conf file

1. Add the following scripts to the **httpd.conf** file (located in the %APACHE%\conf folder):

If Apeon Server is installed to a WebLogic cluster, add the following scripts:

```
#Load the Apache HTTP Server Plug-In
LoadModule weblogic_module      modules/mod_wl_20.so

#Configuring the Apache HTTP Server Plug-In
##### WebLogic Cluster settings#####
<IfModule mod_weblogic.c>
    MatchExpression /AEM
    MatchExpression /servlet
    WebLogicCluster 192.0.3.140:7001,192.0.3.141:7001
</IfModule>
```

If Apeon Server is installed to a single WebLogic, add the following scripts:

```
#Load the Apache HTTP Server Plug-In
LoadModule weblogic_module      modules/mod_wl_20.so

#Configuring the Apache HTTP Server Plug-In<![endif]>
##### Single WebLogic settings #####
<IfModule mod_weblogic.c>
    MatchExpression /AEM
    MatchExpression /servlet
    WebLogicHost 192.0.3.141
    WebLogicPort 7001
</IfModule>
```

2. Specify an appropriate timeout period in the "**Timeout**" script in the **httpd.conf** file. The default value is 300 seconds.

3.2.3.1.4 Configuring for Apeon DataWindow Data Cache

Under the installation directory of Apeon Server Web Component (for example, C:\Inetpub\wwwroot\apeon), there are **Apache20Support** and **Apache22Support** folders.

1. Copy the **apeoncache.conf** file from the **\Apache20Support\conf** or **\Apache22Support\conf** folder to the **%APACHE%\conf** folder.

- The **cachesize** property is 100MB by default (and minimum). 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.
- The **cache_temp_dir** property is "C:\tmp" by default. Make sure "C:\tmp" exists on your computer, or change the default value to the physical path of an existing directory.
- The encoding formats for the cached data include UTF-8 and UTF-16LE. If you use the plug-in from the application server, DataWindow Data Cache will fail to cache data in UTF-8 and UTF-16LE at the same time, and requires you to set the encoding format. If the Apeon cluster plug-in is used, you must comment out the setting as shown in the code example below, so that DataWindow Data Cache can cache data in UTF-8 and UTF-16LE at the same time.

```
#cache capacity, unit is M Bytes, must larger than 100
cachesize 100
#the switcher for print log info or not, on for use log, off close log;
log on
## Working directory for temporary files and the compression cache
## if not specified, the following default values are used:
## [Win32=c:\tmp], [UNIX=/tmp], the directory must exist
## this item just for apache
cache_temp_dir /tmp
## encoding type , it can be utf-8 or utf-16le, the default value is utf-8;
## if you use Apeon's cluster plug-in, you should comment the setting
encoding utf-8
```

2. Copy the **modcache2.dll** or **modcache22.dll** file from the **\Apache20Support\modules** or **\Apache22Support\modules** folder to the **%APACHE%\modules** folder.
3. Add the following script to the **httpd.conf** file in the **%APACHE%\conf** folder:

```
# Cache Module Apeon Data Cache function, AX only
#-----mod_cache for web cache configuration-----#
LoadModule data_cache_module modules/modcache2.dll
<IfModule mod_cache.c>
include conf/apeoncache.conf
</IfModule>
#-----End configuration-----#
```

The scripts load the **modcache2.dll** or **modcache22.dll** file and include the **apeoncache.conf** file.

3.2.3.2 Configuring UNIX Apache 2.0/2.2 with UNIX WebLogic

3.2.3.2.1 Installing Apeon Server Web Component to the Apache Web root

Install **Apeon Server Web Component** to the Web root of the Apache HTTP Server, for example, **\$APACHE/htdocs/**, by following the instructions in the **Apeon Installation Guide**.

If you have installed **Apeon Server Web Component** to another location, then you should copy the entire "**apeon**" folder from the installation directory of Apeon Server Web Component to the Apache Web root.

3.2.3.2.2 Installing redirector plug-in

Go to the **\$WebLogic/server/lib/** folder and select the folder indicating the operating system of the Apeon Server/WebLogic in use. For example, if Apeon Server runs on WebLogic on Sun Solaris, click the "**solaris**" folder under the **\$WebLogic/server/lib/** folder and copy the **mod_wl_20.so** or **mod_wl_22.so** file to the **\$APACHE/modules/** folder.

3.2.3.2.3 Configuring httpd.conf file

1. Add the following scripts to the **httpd.conf** file (located in the **\$APACHE/conf/** folder):

If Apeon Server is installed to a WebLogic cluster, add the following scripts (take **mod_wl_20.so** as an example):

```
#Load the Apache HTTP Server Plug-In
LoadModule weblogic_module      modules/mod_wl_20.so

#Configuring the Apache HTTP Server Plug-In
##### WebLogic Cluster settings #####
<IfModule mod_weblogic.c>
    MatchExpression /AEM
    MatchExpression /servlet
    WebLogicCluster 192.0.3.140:7001,192.0.3.141:7001
</IfModule>
```

If Apeon Server is installed to a single WebLogic, add the following scripts (take **mod_wl_20.so** as an example):

```
#Load the Apache HTTP Server Plug-In
LoadModule weblogic_module      modules/mod_wl_20.so

#Configuring the Apache HTTP Server Plug-In
##### Single WebLogic settings #####
<IfModule mod_weblogic.c>
    MatchExpression /AEM
    MatchExpression /servlet
    WebLogicHost 192.0.3.141
    WebLogicPort 7001
</IfModule>
```

2. Specify an appropriate timeout period in the "**Timeout**" script in the **httpd.conf** file. The default value is 300 seconds.

3.2.3.2.4 Configuring for DataWindow Data Cache

The DataWindow data cache feature is not available in UNIX and Linux.

3.2.3.3 Configuring Windows Apache 1.3 with Windows WebLogic

Note that if Apeon Server is installed to WebLogic 8.1.6 on Windows, Apache 1.3 on Windows cannot be used as the Web server because WebLogic 8.1.6 on Windows does not provide appropriate redirector plug-ins for it, instead, use Apache 1.3 on UNIX or Apache 2.0.

3.2.3.4 Configuring UNIX Apache 1.3 with UNIX/LINUX WebLogic

3.2.3.4.1 Installing Appeon Server Web Component to the Apache Web root

Install **Appeon Server Web Component** to the Web root of the Apache HTTP Server, for example, `$APACHE/htdocs/`, by following the instructions in the **Appeon Installation Guide**.

If you have installed **Appeon Server Web Component** to another location, then you should copy the entire "**appeon**" folder from the installation directory of Appeon Server Web Component to the Apache Web root.

3.2.3.4.2 Installing redirector plug-in

Go to the `$WebLogic/server/lib/` folder and select the folder indicating the operating system of the Appeon Server/WebLogic in use. For example, if Appeon Server runs on WebLogic for Sun Solaris, click the "**solaris**" folder under the `$WebLogic/server/lib/` directory and copy the **mod_wl.so** file to the `$APACHE/modules` folder.

3.2.3.4.3 Configuring httpd.conf file

1. Add the following scripts to the **httpd.conf** file (located in the `$APACHE/conf` folder):

If Appeon Server is installed to a WebLogic cluster, add the following script:

```
#Load the Apache HTTP Server Plug-In
LoadModule weblogic_module      modules/mod_wl.so

#Configuring the Apache HTTP Server Plug-In
##### WebLogic Cluster settings#####
<IfModule mod_weblogic.c>
  MatchExpression /AEM
  MatchExpression /servlet
  WebLogicCluster 192.0.3.140:7001,192.0.3.141:7001
</IfModule>
```

If Appeon Server is installed to a single WebLogic, add the following script:

```
#Load the Apache HTTP Server Plug-In
LoadModule weblogic_module      modules/mod_wl.so

#Configuring the Apache HTTP Server Plug-In
##### Single WebLogic settings #####
<IfModule mod_weblogic.c>
  MatchExpression /AEM
  MatchExpression /servlet
  WebLogicHost 192.0.3.141
  WebLogicPort 7001
</IfModule>
```

2. Specify an appropriate timeout period in the "**Timeout**" script in the **httpd.conf** file. The default value is 300 seconds.

3.2.3.4.4 Configuring for DataWindow Data Cache

The DataWindow data cache feature is not available in UNIX and Linux.

3.2.4 Configuring Apache with WebSphere

3.2.4.1 Configuring Windows Apache 2.0/2.2 with Windows WebSphere

3.2.4.1.1 Installing Apeon Server Web Component to the Apache Web root

Run the Apeon setup program and install **Apeon Server Web Component** to the Web root of the Apache HTTP Server, for example, %Apache%\htdocs\.

If you have installed **Apeon Server Web Component** to another location, then you should copy the entire "**apeon**" folder from the installation directory of Apeon Server Web Component to the Apache Web root.

3.2.4.1.2 Installing the Redirector Plug-in

In WebSphere 5.1: Copy the **mod_was_ap20_http.dll** or **mod_was_ap22_http.dll** file from the %WAS_HOME%\bin\ folder to the %APACHE%\modules\ folder.

In WebSphere 6.0: Download the installation program and set up for Apache 2.0 or 2.2. For detailed information, refer to WebSphere user document.

3.2.4.1.3 Adding virtual host in WebSphere console

1. Click **Environment > Virtual Host** in the navigation tree of the **WebSphere Administrative Console**.
2. Click the **New** button in the page that displays.
3. Input the IP address of the Web server in the **Host Name** field and port number in the **Port** field.
4. Click **Environment > Update Web Server Plug-in** in the console navigation tree.
5. Click **OK** to update the Web server plug-in.
6. Save the new configuration and restart WebSphere server.

3.2.4.1.4 Configuring the plugin-cfg.xml file

Copy the **plugin-cfg.xml** file from the %WAS_HOME%\config\cells\ folder to the %APACHE%\conf\ folder and modify the following directives according to the Apeon Server/WebSphere environment:

Configure the log file location. For example:

```
<Log LogLevel="Error" Name="%APACHE%/logs/http_plugin.log"/>
```

Configure the **IP address** and **port number** of the Apeon Server\WebSphere. For example:

```
<Transport Hostname="192.0.0.39" Port="9080" Protocol="http"/>
<Transport Hostname="192.0.0.39" Port="9443" Protocol="https">
  <Property name="keyring" value="C:/Websphere/AppServer/etc/plugin-key.kdb"/>
  <Property name="stashfile" value="C:/Websphere/AppServer/etc/plugin-key.sth"/>
</Transport>
```

Configure the context path. For example:

```
<UriGroup Name="server1_Cluster_URIs">
  <Uri Name="/servlet/*" />
  <Uri Name="/AEM/*" />
</UriGroup>
```

3.2.4.1.5 Configuring the httpd.conf file

1. Add the following scripts to the **httpd.conf** file (located in the **%APACHE%\conf** folder):

Take **was_ap20_module** as an example:

```
#Loading the plug-in file
LoadModule was_ap20_module    modules/mod_was_ap20_http.dll
WebSpherePluginConfig conf/plugin-cfg.xml
```

2. Specify an appropriate timeout period in the "**Timeout**" script in the httpd.conf file. The default value is 300 seconds.

3.2.4.1.6 Configuring for Apeon DataWindow Data Cache

Under the installation directory of Apeon Server Web Component (for example, **C:\Inetpub\wwwroot\apeon**), there are **Apache20Support** and **Apache22Support** folders.

1. Copy the **apeoncache.conf** file from the **Apache20Support\conf** or **Apache22Support\conf** folder to the **%APACHE%\conf** folder.
 - The **cachesize** property is 100MB by default (and minimum). 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.
 - The **cache_temp_dir** property is "C:\tmp" by default. Make sure "C:\tmp" exists on your computer, or change the default value to the physical path of an existing directory.
 - The encoding formats for the cached data include UTF-8 and UTF-16LE. If you use the plug-in from the application server, DataWindow Data Cache will fail to cache data in UTF-8 and UTF-16LE at the same time, and requires you to set the encoding format. If the Apeon cluster plug-in is used, you must comment out the setting as shown in the code example below, so that DataWindow Data Cache can cache data in UTF-8 and UTF-16LE at the same time.

```
#cache capacity, unit is M Bytes, must larger than 100
cachesize 100
#the switcher for print log info or not, on for use log, off close log;
log on
## Working directory for temporary files and the compression cache
## if not specified, the following default values are used:
## [Win32=c:\tmp], [UNIX=/tmp], the directory must exist
## this item just for apache
cache_temp_dir /tmp
## encoding type , it can be utf-8 or utf-16le, the default value is utf-8;
## if you use Apeon's cluster plug-in, you should comment the setting
encoding utf-8
```

2. Copy the **modcache2.dll** or **modcache22.dll** file from the **Apache20Support\modules** or **Apache22Support\modules** folder to the **%APACHE%\modules** folder.
3. Add the following script to the **httpd.conf** file in the **%APACHE%\conf** folder:

Take **modcache2.dll** as an example:

```
# Cache Module Appeon Data Cache function, AX only
#-----mod_cache for web cache configuration-----#
LoadModule data_cache_module modules/modcache2.dll
<IfModule mod_cache.c>
include conf/appeoncache.conf
</IfModule>
#-----End configuration-----#
```

The scripts load the **modcache2.dll** or **modcache22.dll** file and include the **appeoncache.conf** file.

3.2.4.2 Configuring UNIX Apache 2.0/2.2 with UNIX/LINUX WebSphere

3.2.4.2.1 Installing Appeon Server Web Component to the Apache Web root

Install **Appeon Server Web Component** to the Web root of the Apache HTTP Server, for example, **\$APACHE/htdocs/**, by following the instructions in the **Appeon Installation Guide**.

If you have installed **Appeon Server Web Component** to another location, then you should copy the entire "**appeon**" folder from the installation directory of Appeon Server Web Component to the Apache Web root.

3.2.4.2.2 Installing Redirector Plug-in

In WebSphere 5.1: Copy the **mod_was_ap20_http.so** or **mod_was_ap22_http.so** file from the **\$WAS_HOME/bin/** folder to the **\$APACHE/modules/** folder.

In WebSphere 6.0: Download the installation program and set up for Apache 2.0 or 2.2. For detailed information, refer to WebSphere user document.

In certain UNIX operating systems (such as Sun Solaris), the plug-in file requires **libgsk7*.so** to work. Download and install **GSKit7.x** from the IBM Website (<http://www.ibm.com/>).

3.2.4.2.3 Adding virtual host in WebSphere console

1. Click **Environment > Virtual Host** in the navigation tree of the **WebSphere Administrative Console**.
2. Click the **New** button in the page that displays.
3. Input the IP address of the Web server in the **Host Name** field and port number in the **Port** field.
4. Click **Environment > Update Web Server Plug-in** in the console navigation tree.
5. Click **OK** to update the Web server plug-in.
6. Save the new configuration and restart WebSphere server.

3.2.4.2.4 Configuring plugin-cfg.xml file

Copy the **plugin-cfg.xml** file from the **\$WAS_HOME/config/cells/** folder to the **\$APACHE/conf/** folder and modify the following directives according to the Apeon Server/WebSphere environment:

Configure the log file location. For example:

```
<Log LogLevel="Error" Name="$APACHE/logs/http_plugin.log"/>
```

Configure the **IP address** and **port number** of the Apeon Server\WebSphere. For example:

```
<Transport Hostname="192.0.0.39" Port="9080" Protocol="http"/>
<Transport Hostname="192.0.0.39" Port="9443" Protocol="https">
  <Property name="keyring" value="$WAS_HOME/etc/plugin-key.kdb"/>
  <Property name="stashfile" value="$WAS_HOME/etc/plugin-key.sth"/>
</Transport>
```

Configure the context path. For example:

```
<UriGroup Name="server1_Cluster_URIs">
  <Uri Name="/servlet/*" />
  <Uri Name="/AEM/*" />
</UriGroup>
```

3.2.4.2.5 Configuring httpd.conf file

1. Add the following scripts to the **httpd.conf** file (located in the **\$APACHE/conf** folder):

Take **mod_was_ap20_http.so** as an example:

```
#Loading the plug-in file
LoadModule was_ap20_module modules/mod_was_ap20_http.so
WebSpherePluginConfig conf/plugin-cfg.xml
```

2. Specify an appropriate timeout period in the "**Timeout**" script in the **httpd.conf** file. The default value is 300 seconds.

3.2.4.2.6 Configuring for DataWindow Data Cache

The DataWindow data cache feature is not available in UNIX and Linux.

3.2.4.3 Configuring Windows Apache 1.3 with Windows WebSphere

3.2.4.3.1 Installing Apeon Server Web Component to the Apache Web root

Run the Apeon setup program and install **Apeon Server Web Component** to the Web root of the Apache HTTP Server, for example, %Apache%\htdocs\.

If you have installed **Apeon Server Web Component** to another location, then you should copy the entire "**apeon**" folder from the installation directory of Apeon Server Web Component to the Apache Web root.

3.2.4.3.2 Installing redirector plug-in

Copy the **mod_app_server_http.dll** file from the **%WAS_HOME%\bin** to the **%APACHE%\modules** folder.

3.2.4.3.3 Adding virtual host in WebSphere console

1. Click **Environment** > **Virtual Host** in the navigation tree of the **WebSphere Administrative Console**.
2. Click the **New** button in the page that displays.
3. Input the IP address of the Web server in the **Host Name** field and port number in the **Port** field.
4. Click **Environment** > **Update Web Server Plug-in** in the console navigation tree.
5. Click **OK** to update the Web server plug-in.
6. Save the new configuration and restart WebSphere server.

3.2.4.3.4 Configuring the plugin-cfg.xml file

Copy the **plugin-cfg.xml** file from the **%WAS_HOME%\config\cells** folder to the **%APACHE%\conf** folder and modify the following directives according to the Apeon Server\WebSphere environment:

Configure the log file location. For example:

```
<Log LogLevel="Error" Name="%APACHE%/logs/http_plugin.log"/>
```

Configure the IP address and port number of the Apeon Server\WebSphere. For example:

```
<Transport Hostname="192.0.0.39" Port="9080" Protocol="http"/>
<Transport Hostname="192.0.0.39" Port="9443" Protocol="https">
  <Property name="keyring" value="C:/Websphere/AppServer/etc/plugin-key.kdb"/>
  <Property name="stashfile" value="C:/Websphere/AppServer/etc/plugin-key.sth"/>
</Transport>
```

Configure the context path. For example:

```
<UriGroup Name="server1_Cluster_URIs">
  <Uri Name="/servlet/*"/>
  <Uri Name="/AEM/*"/>
</UriGroup>
```

3.2.4.3.5 Configuring the httpd.conf file

1. Add the following script to the **httpd.conf** file (located at the **%APACHE%\conf** folder):

```
#Loading the plug-in file
LoadModule app_server_http_module modules/mod_app_server_http.dll
WebSpherePluginConfig conf/plugin-cfg.xml
```

2. Specify an appropriate timeout period in the **"Timeout"** script in the **httpd.conf** file. The default value is 300 seconds.

3.2.4.3.6 Configuring for Apeon DataWindow Data Cache

Under the installation directory of Apeon Server Web Component (for example, **C:\inetpub\wwwroot\apeon**), there is an **Apache13Support** folder.

1. Copy the **appeoncache.conf** file from the **Apache13Support\conf** folder to the **%APACHE%\conf** folder.
 - The **cachesize** property is 100MB by default (and minimum). 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.
 - The **cache_temp_dir** property is "C:\tmp" by default. Make sure "C:\tmp" exists on your computer, or change the default value to the physical path of an existing directory.

```
#cache capacity, unit is M Bytes, must larger than 100
cachesize 100
#the switcher for print log info or not, on for use log, off close log;
log on
## Working directory for temporary files and the compression cache
## if not specified, the following default values are used:
## [Win32=c:\tmp], [UNIX=/tmp], the directory must exist
## this item just for apache
cache_temp_dir /tmp
```

2. Copy the **modcache.dll** file from the **%APACHE%\htdocs\appeon\Apache13Support\modules** folder to the **%APACHE%\modules** folder.
3. Add the following script to the **httpd.conf** file in the **%APACHE%\conf** folder:

```
# Cache Module Apeon Data Cache function, AX only
#-----mod_cache for web cache configuration-----#
LoadModule data_cache_module modules/modcache.dll
<IfModule mod_cache.c>
include conf/appeoncache.conf
</IfModule>
#-----End configuration-----#
```

The scripts load the **modcache.dll** file and include the **appeoncache.conf** file.

3.2.4.4 Configuring UNIX Apache 1.3 with UNIX/LINUX WebSphere

3.2.4.4.1 Installing Apeon Server Web Component to the Apache Web root

Install **Apeon Server Web Component** to the Web root of the Apache HTTP Server, for example, **\$APACHE/htdocs/**, by following the instructions in the **Apeon Installation Guide**.

If you have installed **Apeon Server Web Component** to another location, then you should copy the entire "**appeon**" folder from the installation directory of Apeon Server Web Component to the Apache Web root.

3.2.4.4.2 Installing the redirector plug-in

Copy the **mod_app_server_http.so** file from the **\$WAS_HOME/bin/** folder to the **\$APACHE/modules** folder.

In certain UNIX operating systems (such as Sun Solaris), the plug-in file requires **libgsk7*.so** to work. Download and install **GSKit7.x** from the IBM Website (<http://www.ibm.com/>).

3.2.4.4.3 Adding virtual host in WebSphere console

1. Click **Environment** > **Virtual Host** in the navigation tree of the **WebSphere Administrative Console**.
2. Click the **New** button in the page that displays.
3. Input the IP address of the Web server in the **Host Name** field and port number in the **Port** field.
4. Click **Environment** > **Update Web Server Plug-in** in the console navigation tree.
5. Click **OK** to update the Web server plug-in.
6. Save the new configuration and restart WebSphere server.

3.2.4.4.4 Configuring the plugin-cfg.xml file

1. Copy the **plugin-cfg.xml** file from the **\$WAS_HOME/config/cells/** folder to the **\$APACHE/conf/** folder and modify the following directives according to your Apeon Server/WebSphere environments:

Configure the log file location. For example:

```
<Log LogLevel="Error" Name="$APACHE/logs/http_plugin.log"/>
```

Configure the **IP address** and **port number** of the Apeon Server\WebSphere. For example:

```
<Transport Hostname="192.0.0.39" Port="9080" Protocol="http"/>
<Transport Hostname="192.0.0.39" Port="9443" Protocol="https">
  <Property name="keyring" value="$WAS_HOME/etc/plugin-key.kdb"/>
  <Property name="stashfile" value="$WAS_HOME/etc/plugin-key.sth"/>
</Transport>
```

Configure the **context path**. For example:

```
<UriGroup Name="server1_Cluster_URIs">
  <Uri Name="/servlet/*"/>
  <Uri Name="/AEM/*"/>
</UriGroup>
```

2. Specify an appropriate timeout period in the **"Timeout"** script in the **httpd.conf** file. The default value is 300 seconds.

3.2.4.4.5 Configuring the httpd.conf file

Add the following script to the **httpd.conf** file (located in the **\$APACHE/conf** folder):

```
#Loading the plug-in file
LoadModule app_server_http_module modules/mod_app_server_http.so
WebSpherePluginConfig conf/plugin-cfg.xml
```

3.2.4.4.6 Configuring for DataWindow Data Cache

The DataWindow data cache feature is not available in UNIX and Linux.

3.2.5 Configuring Apache with EAServer

3.2.5.1 Configuring Windows Apache 2.0/2.2 with Windows EAServer 6.x

3.2.5.1.1 Installing Appeon Server Web Component to the Apache Web root

Run the Appeon setup program and install **Appeon Server Web Component** to the Web root of the Apache HTTP Server, for example, %Apache%\htdocs\.

If you have installed **Appeon Server Web Component** to another location, then you should copy the entire "**appeon**" folder from the installation directory of Appeon Server Web Component to the Apache Web root.

Under the installation directory of Appeon Server Web Component (for example, C:\Inetpub\wwwroot\appeon), there is an **IISSupport** folder which contains two sub-folders: **modules** and **conf**. Each contains files or components, provided by Appeon, which help Apache 2.0 or 2.2 work with Appeon Server.

- Files in the "**conf**" folder
 - appeoncache.conf -- The configuration file for the DataWindow Data Cache feature.
 - easinit.conf -- The configuration file for the redirector plug-in.
- Components in the "**modules**" folder
 - mod_cache2.dll** (or **modcache22.dll**) and **mod_cache2.so** (or **mod_appeon22.so**) -- These components are for the DataWindow Data Cache feature.

3.2.5.1.2 Installing the Apache plug-in

Copy the zipped Apache redirector file with the **redirector-common-files.jar** file from the %EASERVER%\WebRedirectors folder to any folder in the Apache machine and unzip it to the %Apache%\modules folder.

Note: %EASERVER% indicates the installation directory of EAServer. %Apache% indicates the installation path of Apache 2.0 or 2.2.

3.2.5.1.3 Configuring the easinit.conf file

1. Copy the **easinit.conf** file from **Apache2xSupport\conf** to the %Apache%\conf folder.
2. Edit the file and specify the name and port of Appeon Server to receive requests from Apache Web server.

The syntax is:

```
Connector.WebApp
  servlet,imagefile,reportfile,dwfile,AEM=http://EaserverName:Port
Connector.LogLevel inform
```

EAServerName stands for the IP address or the name of the EAServer hosting Appeon Server. **Port** stands for the HTTP port number of the EAServer.

Note: If you have selected the **Customized Location** option in AEM (**AEM Console > Application > Client Features > Client Storage Location (Web Only)**), once the default settings of the **Temporary Files Path** have been changed, you should add the directory of

the temporary files path to the **easinit.conf** file. For example, if the directory of temporary file path is changed to "/test", the syntax in **easinit.conf** should be changed accordingly to:

```
Connector.WebApp
test,servlet,imagefile,reportfile,dwfile,AEM=http://EaserverName:Port
```

3.2.5.1.4 Configuring the httpd.conf file

1. Open the **httpd.conf** file in the **%Apache%\conf** directory.
2. Verify that the "**DocumentRoot**" directive in the **httpd.conf** file is set to the Web root of the Apache Web server (for example, **%Apache%\htdocs**).
3. Specify an appropriate timeout period in the "**Timeout**" script in the **httpd.conf** file. The default value is 300 seconds.
4. Add the following scripts to the **httpd.conf** file:

```
LoadModule easredirector_module modules/libjeas2_mod.dll
EASConfigFile "%Apache%/conf/easinit.conf"
<LocationMatch /servlet/*/dwfile/*/reportfile/*/imagefile/*/AEM/*>
    SetHandler eas-handler
</LocationMatch>
# End of EAServer redirector configuration #
```

5. Add the full path of the **%Apache%\modules** folder to the **PATH** system environment variable.

3.2.5.1.5 Configuring for DataWindow Data Cache

Under the installation directory of Apeon Server Web Component (for example, **C:\inetpub\wwwroot\apeon**), there are **Apache20Support** and **Apache22Support** folders.

1. Copy the **apeoncache.conf** file from **Apache20Support\conf** or **Apache22Support\conf** to the **%Apache%\conf** folder.
 - The **cachesize** property is 100MB by default (and minimum). 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.
 - The **cache_temp_dir** property is "C:\tmp" by default. Make sure "C:\tmp" exists on your computer, or change the default value to the physical path of an existing directory.
 - The encoding formats for the cached data include UTF-8 and UTF-16LE. If you use the plug-in from the application server, DataWindow Data Cache will fail to cache data in UTF-8 and UTF-16LE at the same time, and requires you to set the encoding format. If the Apeon cluster plug-in is used, you must comment out the setting as shown in the code example below, so that DataWindow Data Cache can cache data in UTF-8 and UTF-16LE at the same time.
 - Data cannot be cached properly unless **Transfer Encoding** settings in **AEM** match with the encoding settings in this configuration file.

```
#cache capacity, unit is M Bytes, must larger than 100ca
chesize 100
#the switcher for print log info or not, on for use log, off close log;
log on
## Working directory for temporary files and the compression cache
## if not specified, the following default values are used:
## [Win32=c:\tmp], [UNIX=/tmp], the directory must exist
## this item just for apache
cache_temp_dir /tmp
## encoding type , it can be utf-8 or utf-16le, the default value is utf-8;
## if you use Appeon's cluster plug-in, you should comment the setting
encoding utf-8
```

2. Copy the **modcache2.dll** or **modcache22.dll** file from the **Apache2xSupport\modules** folder to the **%Apache%\modules** folder.
3. Add the following scripts to the **httpd.conf** file in the **%Apache%\conf** folder:

```
# Cache Module Appeon Data Cache function, AX only
#-----mod_cache for web cache configuration-----#
LoadModule data_cache_module modules/modcache2x.dll
<IfModule mod_cache.c>
include conf/appeoncache.conf
</IfModule>
#-----End configuration-----#
```

The scripts load the **modcache2.dll** or **modcache22.dll** file and include the **appeoncache.conf** file.

3.2.5.2 Configuring UNIX Apache 2.0/2.2 with UNIX/LINUX EAServer 6.x

3.2.5.2.1 Installing Appeon Server Web Component to the Apache Web root

Install **Appeon Server Web Component** to the Web root of the Apache HTTP Server, for example, **\$APACHE/htdocs/**, by following the instructions in the **Appeon Installation Guide**.

If you have installed **Appeon Server Web Component** to another location, then you should copy the entire "**appeon**" folder from the installation directory of Appeon Server Web Component to the Apache Web root.

3.2.5.2.2 Installing the redirector plug-in

Copy the zipped Apache redirector file (for example, **redirector-apache-2.0-61014-dce_sun_svr4.tar.gz** for Apache 2.0 in UNIX or **redirector-apache-2.0-61014-linux.tar.gz** for Apache 2.0 in LINUX)) with the **redirector-common-files.tar.gz** file from the **\$EASERVER/WebRedirectors** folder to any folder in the Apache machine and unzip it to the **\$APACHE/modules** folder.

Note: **\$EASERVER** indicates the installation directory of EAServer. **\$APACHE** indicates the installation path of Apache.

3.2.5.2.3 Creating the configuration file

1. Create the configuration file "**conn_config**" in the **\$APACHE/conf** directory.

2. Add the following script to the **conn_config** file. Modify the "**Connector.WebApp**" directive by replacing **EAServerName** with the IP address or the name of the EAServer hosting Apeon Server and **Port** with the HTTP port number of the EAServer.

The syntax is:

```
Connector.WebApp servlet, gzip, imagefile, reportfile, dwfile,
AEM=http://EAServerName:Port
Connector.LogLevel inform
Connector.RetryAfter 10
```

3.2.5.2.4 Configuring the httpd.conf file

1. Open the **httpd.conf** file in the **\$APACHE/conf** directory.
2. Set the "**DocumentRoot**" directive in the file to the Web root of the Apache Web server (for example, **\$APACHE/htdocs**).
3. Specify an appropriate timeout period in the "**Timeout**" script in the **httpd.conf** file. The default value is 300 seconds.
4. Add the following script to the **httpd.conf** file. Modify the "**ServerName**" directive by replacing **WebServerIPAddress** with the IP address of the Web server.

```
LoadModule easredirector_module modules/libjeas2_mod.so
EASConfigFile $APACHE2/conf/conn_config
ServerName WebServerIPAddress
<LocationMatch /servlet/*|/dwfile/*|/reportfile/*|/imagefile/*|/AEM/*>
SetHandler eas-handler
</LocationMatch>
```

3.2.5.2.5 Configuring environment variable

Edit the **apachectl** shell script in the **\$APACHE/bin** directory, and set the **LD_LIBRARY_PATH** environment variable to include **\$APACHE/modules**. For example:

```
LD_LIBRARY_PATH=$APACHE/modules
export LD_LIBRARY_PATH
```

3.2.5.2.6 Configuring for DataWindow Data Cache

The DataWindow data cache feature is not available in UNIX and Linux.

3.2.5.3 Configuring Windows Apache 1.3 with Windows EAServer 6.x

Note: EAServer 6.x provides no redirector plugin for Apache 1.3.

3.2.5.3.1 Installing Apeon Server Web Component to the Apache Web root

Run the Apeon setup program and install **Apeon Server Web Component** to the Web root of the Apache HTTP Server, for example, **%Apache%\htdocs**.

If you have installed **Apeon Server Web Component** to another location, then you should copy the entire "**apeon**" folder from the installation directory of Apeon Server Web Component to the Apache Web root.

Under the installation directory of Apeon Server Web Component (for example, **C:\Inetpub\wwwroot\apeon**), there is an **IISSupport** folder which contains three sub-folders:

modules, conf and **Appeon Cluster plugin**. Each contains files or components, provided by Appeon, that help Apache 1.3 run with Appeon Server.

- files in the **conf** folder:
 - `appeoncache.conf` -- The configuration file for the DataWindow Data Cache feature.
 - `ApbCluster.cfg` -- The configuration file for the Appeon Cluster feature.
- components in the **modules** folder:
 - `AppDataBuf.dll` -- The component for the DataWindow Data Cache feature.
 - `ApbCluster.dll` -- The 32-bit component for Appeon Cluster feature.
 - `ApbCluster64.dll` -- The 64-bit component for Appeon Cluster feature.
- files in the **Appeon Cluster plugin** folder are for installing and configuring the Appeon Server cluster only. You will not need to use them in this section.

3.2.5.3.2 Installing the redirector plug-in

Copy the following libraries from the `%EASERVER%\dll\` folder to the `%Apache%\modules\` folder:

```
libjcc.dll
libjcomn.dll
libjctssecct.dll
libjeasproxy_mod.dll
libjeas_mod.dll
libjintl.dll
libjspks.dll
libjsybscl.dll
libjtml.dll
libjutils.dll
nlwnsck.dll
nlwnsck64.dll
```

3.2.5.3.3 Configuring the `easinit.conf` file

1. Copy the `easinit.conf` file from `Apache13Support\conf` to the `%Apache%\conf` folder.
2. Edit the file. Specify the name and port of Appeon Server to receive requests from Apache Web Server. The syntax is:

```
Connector.WebApp
  servlet,imagefile,reportfile,dwfile,AEM=http://EaserverName:Port
Connector.LogLevel inform
```

EAServerName stands for the IP address or name of the EAServer hosting Apeon Server. **Port** stands for the HTTP port number of the EAServer.

Note: If you have selected the **Customized Location** option in AEM (**AEM Console > Application > Client Features > Client Storage Location (Web Only)**), once the default settings of the **Temporary Files Path** have been changed, you should add the directory of the temporary files path to the **easinit.conf** file. For example, if the directory of temporary file path is changed to `"/test"`, the syntax in **easinit.conf** should be changed accordingly to:

```
Connector.WebApp
test,servlet,imagefile,reportfile,dwfile,AEM=http://EAServerName:Port
```

3.2.5.3.4 Configuring the httpd.conf file

1. Open the **httpd.conf** file in the `%Apache%\conf` directory.
2. Verify that the **"DocumentRoot"** directive in the **httpd.conf** file is set to the Web root of the Apache Web server (for example, `%Apache%\htdocs`).
3. Specify an appropriate timeout period in the **"Timeout"** script in the **httpd.conf** file. The default value is 300 seconds.
4. Add the following script to the **httpd.conf** file:

```
# EAServer redirector configuration #
LoadModule easredirector_module modules/libjeas_mod.dll
EASConfigFile "%Apache%/conf/easinit.conf"
<LocationMatch /servlet/*/dwfile/*/reportfile/*/imagefile/*/AEM/*>
SetHandler eas-handler
</LocationMatch>
# End of EAServer redirector configuration #
```

5. Add the full path of the `%Apache%\modules` folder into the **PATH** system environment variable.

3.2.5.3.5 Configuring for DataWindow Data Cache

Under the installation directory of Apeon Server Web Component (for example, `C:\inetpub\wwwroot\apeon`), there is an **Apache13Support** folder.

1. Copy the **apeoncache.conf** file from **Apache13Support\conf** to the `%Apache%\conf` folder.
 - The **cachesize** property is 100MB by default (and minimum). 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.
 - The **cache_temp_dir** property is `"C:\tmp"` by default. Make sure `"C:\tmp"` exists on your computer, or change the default value to the physical path of an existing directory.
2. Copy the **modcache.dll** file from the **Apache13Support\modules** folder to the `%Apache%\modules` folder.

3. Add the following scripts to the **httpd.conf** file in the **%Apache%\conf** folder:

```
# Cache Module Apeon Data Cache function, AX only
#-----mod_cache for web cache configuration-----#
LoadModule data_cache_module modules/modcache.dll
<IfModule mod_cache.c>
include conf/appeoncache.conf
</IfModule>
#-----End configuration-----#
```

The scripts load the **modcache.dll** file and include the **appeoncache.conf** file.

3.2.5.4 Configuring UNIX Apache 1.3 with UNIX/LINUX EAServer 6.x

Note: EAServer 6.x provides no redirector plugin for Apache 1.3.

3.2.5.4.1 Installing Apeon Server Web Component to the Apache Web root

Install **Apeon Server Web Component** to the Web root of the Apache HTTP Server, for example, **\$APACHE/htdocs/**, by following the instructions in the **Apeon Installation Guide**.

If you have installed **Apeon Server Web Component** to another location, then you should copy the entire "**appeon**" folder from the installation directory of Apeon Server Web Component to the Apache Web root.

3.2.5.4.2 Installing the redirector plug-in

Copy the following libraries from the **\$EASERVER/lib_sol6x** directory (if using the Sun Solaris version 6.x compiler) or the **\$EASERVER/lib_sol4x** directory (if using the Sun Solaris version 4.x compiler) to the **\$APACHE/libexec** folder. **\$EASERVER** denotes the installation directory of EAServer for Sun Solaris. **\$APACHE** denotes the installation directory of the Apache 1.3 Web server in use.

- libjcc.so
- libjtssecct.so
- libjeas_mod.so
- libjinsck64_r.so
- libjintl_r.so
- ibjspks_r.so
- libjsybssl_r.so
- libjtli_r.so
- libjtml_r.so
- libjutils.so
- libjeasproxy_mod.so
- libjcomm_r.so

3.2.5.4.3 Configuring the httpd.conf file

1. Open the **httpd.conf** file in the **\$APACHE/conf** directory.

2. Set the "**DocumentRoot**" directive in the file to the Web root of the Apache Web server (for example, \$APACHE/htdocs).
3. Specify an appropriate timeout period in the "**Timeout**" script in the **httpd.conf** file. The default value is 300 seconds.
4. Add the following script to the **httpd.conf** file. Modify the "**ServerName**" directive by replacing **WebServerIPAddress** with the IP address of the Web server.

```
LoadModule easredirector_module libexec/libjeas_mod.so
EASConfigFile $APACHE/conf/conn_config
ServerName WebServerIPAddress
<LocationMatch /servlet/*/dwfile/*/reportfile/*/imagefile/*/AEM/*>
    SetHandler eas-handler
</LocationMatch>
```

3.2.5.4.4 Creating the configuration file

1. Create the configuration file "**conn_config**" in the \$APACHE/conf directory.
2. Add the following script to the **conn_config** file. Modify the "**Connector.WebApp**" directive by replacing **EAServerName** with the IP address or the name of the EAServer hosting Apeon Server and **Port** with the HTTP port number of the EAServer.

The syntax is:

```
Connector.WebApp servlet, gzip, imagefile, reportfile, dwfile, AEM=http://
EAServerName:port
Connector.LogLevel inform
Connector.RetryAfter 10
```

Edit the **apachectl** shell script in the \$APACHE/bin directory, and set the **LD_LIBRARY_PATH** environment variable to include \$APACHE/libexec. For example:

```
LD_LIBRARY_PATH=$APACHE/libexec
export LD_LIBRARY_PATH
```

3.2.5.4.5 Configuring for DataWindow Data Cache

The DataWindow data cache feature is not available in UNIX and LINUX.

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