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Synthesis Enterprise Portal Implementation Guide

This document provides instructions to implement a Synthesis Enterprise Portal (SEP) website for your organization.

1.1 SEP System Architecture

The SEP is a web-based system that serves the needs of engineering teams of any size. The system is based on the .NET Framework and is designed to be n-tier, scalable, distributable, robust and able to be deployed across multiple servers or on a single computer.

Server Requirements

If you plan to host the database and website on the same server, you will need:

- Windows 2008 R2 or newer
- .NET 4.0
- IIS with support for serving ASP.NET
- SQL Server 2008 or newer OR Oracle 10g or newer (32-bit and 64-bit versions of all, full version only)

Client Requirements

Once the website has been implemented, users can access it with any web browser that supports the following doctype.

```
<!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0 Transitional//EN" "http://www.w3.org/TR/xhtml1/DTD/xhtml1-transitional.dtd">
```

This includes Internet Explorer, Chrome, Firefox or Safari residing on a Windows operating system, a Mac operating system or a tablet (such as iOS, Android, etc.).

1. If the site is private (e.g., http://InternalServer/SEP), the system administrator may need to provide users with instructions for how to access the website on the internal network from their mobile devices (e.g., via VPN or some other method).
These are the same requirements as ReliaSoft’s XFRACAS failure reporting, analysis and corrective action system. Both systems can be deployed together for the most comprehensive enterprise reliability solution available.

1.2 Prepare the Database Server - SQL Server or Oracle

ReliaSoft’s Synthesis desktop applications, XFRACAS and the Synthesis Enterprise Portal (SEP) are all designed to connect with the same data repository on either SQL Server or Oracle.

If you need to establish a new Synthesis repository, the following considerations apply for preparing the database server.

Later, you will use the admin utility to either create the database or connect the website to an existing database. (See Section 1.6 and Section 1.7.)

If you are setting up for SQL Server:

- Make sure you have the latest version of SQL Server running. To do this, run the following query in Query Analyzer: “Select @@version”. This should return a value like “Microsoft SQL Server 2005 - 9.00.3042 (Intel X86)” or “Microsoft SQL Server 2008 R2 - 10.50.1617 (X64),” depending upon which SQL Server service pack you have installed.

- Make sure you know the SQL Server Name. This is a local server name or IP address so the IIS machine with the .NET application can connect to the database. These instructions assume that you will use a default instance of SQL Server to host the Synthesis repository (e.g., SERVERNAME). If not, you will need to specify the instance when you enter the server name (e.g., SERVERNAME\INSTANCENAME).

If you are setting up for Oracle:

- For easier support, we recommend to have installed the SQL Worksheet (available with the Enterprise edition) or Oracle SQL Developer (free to download from the Oracle website).

1.3 Prepare the Web Server - IIS

To prepare the web server prior to installing the SEP application, you will need to make sure the IIS role and services are installed, and also prepare for SSL protection if applicable.
Web Server (IIS) Role and Role Services

Install the Web Server (IIS) role (if it is not already installed) and make sure it has the following role services installed. (Instructions are provided below the table for Windows 2016, 2012 and 2008.)

<table>
<thead>
<tr>
<th>Windows 2016 or 2012</th>
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<tr>
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<td>- IIS Management Console</td>
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<tr>
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<td>-</td>
</tr>
</tbody>
</table>
On Windows Server 2012 or 2016:
Note that if you do not already have .NET Framework 3.5 installed with Windows, you will need to have the source installation media available when you install the Web Server (IIS role). The required file is in the sources/sxs folder.

1. Open the Server Manager.
2. Click the Manage menu and choose Add Roles and Features.
3. In the wizard, proceed to the Server Roles page and select Web Server (IIS).
   a. If the role is already installed, you can expand the node, review the services that are already installed and select additional services if applicable.
   b. If the role is not already installed, accept any prompts to install required features and proceed to the Web Server (IIS) > Role Services page of the wizard. Select the services you wish to install.
4. Proceed to the end of the wizard and click Install.

On Windows Server 2008:
1. Open the Server Manager.
2. If the Web Server (IIS) role is not installed, view the Roles page and, under Roles Summary, click Add Roles. Follow the wizard to install the role and services.
3. If the Web Server (IIS) role is already installed, view the Roles > Web Server (IIS) page. Under Role Services, review the services that are already installed. If you need to add service(s), click Add Role Services and follow the wizard.

SSL Certificate
If you want the website to use HTTPS for secure communication (SSL/TLS), you must have a digital certificate. Later, you will use this certificate to create the binding for the website. (See Section 1.8 on page 6.)

If you don’t purchase a third-party certificate, you can create your own certificate via another method, such as generating a self-signed certificate via IIS Manager or using the Active Directory Certificate Services role installed on the server.

1.4 Establish a Service Account for the Application (if applicable)
If the Synthesis repository is on SQL Server, we recommend to establish a service account (e.g., “SynUser”) that the SEP website will use to connect to the Synthesis repository as well as any other external databases that may be used to create “custom connection” dashboards in the Synthesis Data Warehouse (SDW).

- Active Directory account
- Password does not expire (recommended)
- A user in SQL Server assigned to a public server role, with at least the db_datareader and db_datawriter roles for the Synthesis repository (if the repository does not yet exist, you will need to add the roles via SQL Server after you create the database in Section 1.6)
- At least db_datareader role for any other SQL Server databases that will be used by SDW custom connections

1.5 Install the Website and Activate the License
After you have prepared the database and web server(s), you can log in to the web server as an administrator and perform the following steps in the order specified. User Account Control (UAC) can either be left on or turned off for this installation.

1. Run the Synthesis Enterprise Portal setup (e.g., SEP11.exe) and follow the steps in the wizard to create the website and install the activation and admin tools.
2. From **Start**, search for “SEP 11 Activation” then run the product activation tool and follow the steps to activate your license.
The license will be registered to a specific e-mail address, which will receive the notification required to activate the license. This will be the same address for all stages of license usage from development/staging to production. Choose an address that someone who changes the hardware on the server will have access to. If the hardware changes for any reason, the license will need to be reactivated in order to get SEP back up and running.

If you already have a Synthesis repository that the website will use, skip ahead to Section 1.7.

### 1.6 Create the Synthesis Repository (if Applicable)

If applicable, you can use the admin utility on the web server to create or upgrade the database that your SEP website will use.

#### Log in to Windows with an Appropriate Account

Before creating a new Synthesis repository, make sure that you are logged in to Windows with an account that is appropriate for your implementation. This will depend on the database platform and which Synthesis applications will connect to the database, now and in the future. The following considerations apply:

- For SQL Server implementations, the account logged in to Windows will create the database and must be able to create objects under the **default dbo schema**. (For Oracle, you will be prompted to specify the schema and admin login.)
- For Synthesis desktop applications and the SEP website, the user who creates the repository will receive the first Synthesis Platform user account with full admin permissions for those applications. You can later use this account to create as many other admin accounts as needed and they will all have the same permissions in desktop applications and SEP.
- For XFRACAS, the user who creates the repository will receive a special IT/admin-only account within the website that:
  - does not count against the number of users allowed by your XFRACAS license
  - by default, has full permissions within the site’s Admin interfaces
  - will not be visible as a regular user in the site’s User interfaces (i.e., incidents, actions, etc.)

The special account will need to be used on an ongoing basis for some specific IT/admin activities for the XFRACAS website, such as updating database tables, rolling out new permissions to other admin users, bulk data imports (so imported records are not assigned to a particular user), etc.

If you cannot identify a single person who will be available to perform these tasks on an ongoing basis, we recommend to use a shared service account for this purpose.

#### Create or Upgrade the Repository

From **Start**, search for “SEP 11 Admin” and open the admin utility.

1. Click either **New Version 11 Enterprise Repository** or **Upgrade Version 9/10 Repository** and enter the details required to create or upgrade the database.
2. If you want to create additional Synthesis Platform user accounts at this time (for access to the Synthesis desktop applications or the SEP website), click **Manage Synthesis Users**. XFRACAS user accounts can only be created from within the website.
Assign Roles in SQL Server for Application Service Account (if Applicable)

Finally, if you created a new database on SQL Server, you must make sure the application service account (i.e., the account that the website will use to connect to the database) has the required roles assigned in SQL Server. For requirements, Section 1.4 on page 4.

1.7 Update the SEP Configuration File

After you have installed the website, activated the license and established a Synthesis repository, the next step is to update the configuration file on the web server.

From Start, search for “SEP 11 Admin” and open the admin utility. Then click Update SEP Configuration File.

1. On the Connection tab:
   - **Connection Info** - Enter the required details for the Synthesis repository that the website will connect to. If you used the admin utility to create the repository, this will be entered automatically.
     - Select **Encrypt Connection String** if you want to hide the connection string information within the web configuration file.
   - **User Impersonation (SQL Server)** - If the Synthesis repository is on SQL Server, enter the credentials that the SEP website will use to connect to the database. For requirements, see Section 1.4.
     - Select **Encrypt Impersonation Identity** if you want to hide the credentials within the web configuration file.

2. On the Settings tab:
   - **Request Timeout** sets how long IIS waits for a request to the application to finish processing. Typically, this will not need to be changed for an SEP implementation.
   - If a Secure Socket Layer (SSL) certificate has been implemented for the SEP website, select **Yes** for **HTTP Cookies Require SSL** if you also want the browser cookies to require SSL (an additional level of security).

1.8 Post-Installation Steps on the Web Server

After installation, there are additional settings that you may need to configure on the web server to fit your particular implementation.

If you need to make changes to address OWASP security concerns, see Section 1.16.

1.8.1 HTTPS for Secure Communication

If you want to use HTTPS for secure communication (SSL/TLS) and you already have a certificate for the website (as discussed in Section 1.3 on page 2), do the following:

1. In the Connections pane of the IIS Manager, open the **Sites** node under the server name. Click the **Default Web Site**.
2. In the **Actions** area on the right side of the window, click the **Bindings** link and then click the **Add** button in the Site Bindings window that appears.
3. Add a site binding of type https and specify your digital certificate. Close the Site Bindings window.
4. Return to the Connections pane and click the **SEP** site.
5. Under IIS, double-click the **SSL Settings** icon. Select **Require SSL** and **Ignore**, then click **Apply**.

*If you need to use this with the TLS 1.2 protocol, also see Section 1.8.5 on page 8.*
1.8.2 IIS Application Pool Identity (if applicable for SDW Dashboards)

If you need to prepare the SEP website to display Synthesis Data Warehouse (SDW) dashboards based on custom
connections to external Access databases (or to external SQL Server databases if the Synthesis repository is in
Oracle), you may wish to set a service account (e.g., “SynUser”) as the IIS application pool identity (see Section 1.4).
This is not recommended if your website is public.

1. In the Connections pane of the IIS Manager, click Application Pools.
2. Right-click the website’s application pool and choose Advanced Settings on the shortcut menu.
3. For the Identity property, click the ... button to open the Application Pool Identity window. Select the Custom
account option and click Set to open the Set Credentials window. Enter the account credentials
(domain/username) for the service account and click OK.

Note that for Access databases with the *.accdb file type, the dashboard can only be displayed if the database was
created with the same version of Microsoft Office (32-bit or 64-bit) that is installed on the web server (for SEP) or on
the individual user's computer (for Synthesis desktop applications).

To ensure that the dashboard will display regardless of which version of Microsoft Office is installed, use the *.mdb
file type instead.

1.8.3 Release and Recycle Memory

For large systems or systems with a high transactional load, an “Out of Memory” error can occur when the request for
pages exceeds the system’s capability to release and recycle the memory with the default IIS settings. The settings
provided below will force IIS to recycle the memory usage and handle the memory usage better so that the “Out of
Memory” error does not occur. Note that being too aggressive with regard to how memory is recycled can slow down
the response of the system. Typically, memory is recycled when the application pool and the server are not busy.
Forcing memory recycling to happen more often can take up processor cycle time when the application is still busy,
thus slowing down system performance. The following settings have been tested to prevent the error occurring while
making the minimum possible impact on performance.

1. In the Connections pane of the IIS Manager, click Application Pools.
2. Right-click the system’s application pool and choose Recycling on the shortcut menu.
3. In the Application Pool Recycling Settings window that appears, specify the following settings:
   a. In the Fixed Intervals area, select Regular time intervals and enter 1740.
   b. In the Memory Based Maximums area, select Private memory usage and enter 1,024,000.
   c. Click Next.
   d. Select to log the following events and click Finish:
      - Regular time intervals
      - Private memory usage
      - Unhealthy ISAPI

1.8.4 Limits for Uploads, Buffering and Requests

You will need to specify some limits for uploads, buffering and requests to suit your needs for the website (e.g., if you
are running very large reports and find that they do not respond, if you are unable to upload large files, etc.).

1. In the Connections pane of the IIS Manager, click the SEP site. Under Management, double-click Configuration
Editor.
2. In the Section drop-down list, choose system.webServer/asp.
   - Under limits:
     - The **maxRequestEntityAllowed** value sets the maximum file size that can be uploaded to the server. This is set during installation to 4,194,304 bytes (or ~4 MB).
     - The **bufferingLimit** value sets the size of the buffer that holds the response sent back to the client. This is set during installation to 4,194,304 bytes (or ~4 MB).

3. In the Section drop-down list, choose system.webServer/caching.
   - The **maxResponseSize** value sets the maximum file size that can be returned to the client. This is set during installation to 262,144 bytes (or ~262 KB).

4. In the Section drop-down list, choose system.web/httpRuntime.
   - The **maxRequestLength** value specifies the limit for the input stream buffering threshold, in kilobytes. This is set to 4096 KB by default.

5. Return to the Connections pane, click the SEP site. Under IIS, double-click Request Filtering.
6. In the Actions panel, click the Edit Feature Settings link.
   - The **Maximum allowed content length** value specifies the maximum length of content in a request, in bytes. This is set to 30000000 bytes (or ~30 MB) by default.

### 1.8.5 Enable TLS 1.2 Protocol for HTTPS

If you are using HTTPS for secure communication and you wish to enable TLS 1.2, the same protocol must be enabled for the database server, the web server and .NET on the web server. *(Also note that if you are using a digital certificate, it must be SHA-256 or higher.)*

1. For the web server and database server, add the following registry keys:
   ```plaintext
   Windows Registry Editor Version 5.00
   [HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Control\SecurityProviders\SCHANNEL\Protocols\]
   [HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Control\SecurityProviders\SCHANNEL\Protocols\SSL 2.0\]
   [HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Control\SecurityProviders\SCHANNEL\Protocols\SSL 2.0\Client]
   "DisabledByDefault"=dword:00000001
   [HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Control\SecurityProviders\SCHANNEL\Protocols\TLS 1.0\]
   [HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Control\SecurityProviders\SCHANNEL\Protocols\TLS 1.0\Client]
   "Enabled"=dword:00000000
   [HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Control\SecurityProviders\SCHANNEL\Protocols\TLS 1.0\Server]
   "Enabled"=dword:00000000
   [HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Control\SecurityProviders\SCHANNEL\Protocols\TLS 1.1\]
   [HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Control\SecurityProviders\SCHANNEL\Protocols\TLS 1.1\Client]
   "DisabledByDefault"=dword:00000000
   ```
2. For .NET on the web server, add the following registry keys:

   Windows Registry Editor Version 5.00

   [HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\.NETFramework\v4.0.30319]
   "SchUseStrongCrypto"=dword:00000001

   [HKEY_LOCAL_MACHINE\SOFTWARE\Wow6432Node\Microsoft\.NETFramework\v4.0.30319]
   "SchUseStrongCrypto"=dword:00000001

1.9 Set up Synthesis Platform User Accounts and Permissions

After the Synthesis repository has been created, you can use any of the desktop applications or the Synthesis Admin utility to create Synthesis Platform user accounts and set access permissions. You must create an account for anyone who will be able to edit or view data in the Synthesis desktop applications or SEP website. (User accounts for the XFRACAS website are managed separately.)

- In the Synthesis Admin tool on the web server, click the Manage Synthesis Users button.
- In the Synthesis desktop applications (e.g., Weibull++, Xfmea, etc.), first open the repository and then choose File > Manage Repository > Users and Security.

If your organization uses Microsoft Active Directory, you can save time by importing user information from the directory to create the user accounts.

For more information, please consult the “Security Options” topics in the desktop application help files (e.g., http://help.SynthesisPlatform.net/weibull_alta11/security_options.htm).

1.10 Assign SEP Access to Users

After the Synthesis Platform user accounts have been created, you can use the SEP website to specify which users will have access to the web portal.

Click the SEP Admin link in the top-right corner of the website and then use the Select SEP Users section to specify which user accounts will have website access.
The counters above the user table identify how many more SEP users are allowed under your current license.

1.11 Enable Publish to Synthesis Enterprise Portal

Some SEP-related features in Synthesis desktop applications (e.g., the ability to publish analysis summaries, workbooks, reports, etc.) will be visible only if the Enable publish to Synthesis Enterprise Portal option is set to “Yes” for the database.

This can be set from the SEP Admin page in the website or from the Repository Settings window in any of the desktop applications:

Enable publish to Synthesis Enterprise Portal:
(this option can also be set by admin users in the desktop applications)

☐ YES
☐ NO

1.12 Configure Custom Content for Home

The optional “Custom Content” area in the SEP home page enables your organization to integrate a banner or other custom content into the site, if desired. This can be configured from the SEP Admin page in the website.

The SEPDefault.htm file is installed in the CustomContent folder under the root directory for the SEP website. You can choose to edit this file on the web server or replace it with a URL to another web page.

Configure ‘Custom Content’ for the home page:

Possible: ✔
Height in pixels: 100
Caption: Title of the Panel in the Home Page

☐ Use SEPDefault.htm on the application web server
☐ Use a page from another website (HTTP only)
http://www.mysite.com/banner_page.htm

NOTE: If the content of the page is taller than the specified height in pixels, users with IOS devices will not be able to scroll.
1.13 Configure URLs for Links to Actions in SEP

When an SEP website is implemented for a Synthesis repository, the action alert e-mails and portal messages generated by any of the Synthesis applications can include links to view the action details in SEP. The applications build the links based on the settings specified on the SEP Admin page in the website. If an administrator has not specified an IIS prefix, the action alerts will not include links to SEP.

- **SEP Server - IIS Prefix** - enter the server name and folder for the website that you see in the browser's Address bar (e.g., servername/SEP).
- **Website Uses SSL (https for URLs)** - select Yes if the web server has been configured with a Secure Socket Layer (SSL) certificate for the SEP website and the URLs need to start with https rather than http.

If these settings do not match your website configuration, the links attached to the action alerts will give an error message when users attempt to open the page in a web browser (e.g., “File or directory not found,” “Access forbidden” or “This page can't be displayed”).

1.14 Configure Links Between XFRACAS and SEP

If your organization implements both the SEP and XFRACAS websites for the same enterprise repository, you can use the Admin Preferences page in XFRACAS (Admin > Configure > Preferences) to enable links between the two websites.

- **SEP to XFRACAS:**
  - Specify the XFRACAS Server - IIS Prefix (e.g., servername/XFRACAS)
- **XFRACAS to SEP:**
  - Specify the Synthesis Enterprise Portal Server - IIS Prefix (e.g., servername/SEP)
  - Set Synthesis - Display Synthesis Enterprise Portal (SEP) Command to True

1.15 Distribute SEP Website Link to All Users

Once the web portal has been implemented, users can access the site with any web browser that supports the following doctype. If the site is private (e.g., http://InternalServer/SEP), the system administrator may need to provide users with instructions for how to access the website on the internal network from their mobile devices (e.g., via VPN or some other method).

```
<!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0 Transitional//EN" "http://www.w3.org/TR/xhtml1/DTD/xhtml1-transitional.dtd">
```

1.16 Additional IIS Configuration Changes for Enhanced Security

This section provides recommendations to address issues that may be identified if you choose to scan your web server for Open Web Application Security Project (OWASP) security concerns.

For some of the issues listed here, you will need to install the URL Rewrite tool, available at http://www.iis.net/downloads/microsoft/url-rewrite.

The tasks performed in the IIS Manager should be done at the default web site level (i.e., in the Connections pane, open the Sites node under the server name and click Default Web Site). Alternatively, the model web.config code provided in Section 1.16.1 on page 13 summarizes the changes made in the IIS Manager. If you make these changes directly in the web.config file in the root folder for your website, you can skip the steps shown here in italics.
Web Server Default Welcome Page
1. From the wwwroot directory, remove iisstart.htm, welcome.png and the asp_client folder.

Clickjacking: X-Frame-Options Header Missing
1. In the IIS Manager Home page, double-click **HTTP Response Headers**.
2. In the **Actions** area, click **Add**. Enter **X-Frame-Options** as the name, and **SAMEORIGIN** as the value.

OPTIONS Method Is Enabled
1. In the IIS Manager Home page, double-click **Request Filtering**.
2. On the **HTTP Verbs** tab, click **Allow Verb** in the **Actions** area and enter **Options** in the Deny Verb window.

Microsoft IIS Version Disclosure
1. In the following Registry key, create a dWORD entry called DisableServerHeader and set the value to 1:
   ```
   HKLM\SYSTEM\CurrentControlSet\Services\HTTP\Parameters
   ```
2. In the IIS Manager Home page, double-click **URL Rewrite**.
3. In the **Actions** area, click **View Server Variables**, then click **Add** and enter **RESPONSE_SERVER** in the text box.
4. Add an outbound rule to rewrite the **RESPONSE_SERVER** server variable as blank.
   a. In the **Actions** area, click **Back to Rules** and then click **Add Rule(s)**.
   b. In the Add Rule(s) window, click **Blank rule** in the **Outbound rules** category and click **OK**.
   c. Create the outbound rule using the following settings:
      - **Name**: Response Server
      - **Precondition**: None
      - **Matching scope**: Server Variable
      - **Variable name**: RESPONSE_SERVER
      - **Variable value**: Matches the Pattern
      - **Using**: Regular Expressions
      - **Pattern**: .+
      - **Action type**: Rewrite
      - **Action Properties**:
        - **Value**: <leave this field empty>
        - **Replace existing server variable value**: Selected

ASP .NET Version Disclosure
1. In the IIS Manager Home page, double-click **URL Rewrite**.
2. In the **Actions** area, click **View Server Variables**, then click **Add** and enter **RESPONSE_X-ASPNET-VERSION** in the text box.
3. Add an outbound rule to rewrite the **RESPONSE_X-ASPNET-VERSION** server variable as blank.
   a. In the **Actions** area, click **Back to Rules** and then click **Add Rule(s)**.
   b. In the Add Rule(s) window, click **Blank rule** in the **Outbound rules** category and click **OK**.
   c. Create the outbound rule using the following settings:
      - **Name**: x-ASPNet
      - **Precondition**: None
1.16 Additional IIS Configuration Changes for Enhanced Security

- Matching scope: Server Variable
- Variable name: RESPONSE_X-ASPNET-VERSION
- Variable value: Matches the Pattern
- Using: Regular Expressions
- Pattern: .+
- Action type: Rewrite
- Action Properties:
  - Value: <leave this field empty>
  - Replace existing server variable value: Selected

**X-Powered-By Header**

1. In the IIS Manager Home page, double-click HTTP Response Headers.
2. Select the X-Powered-By header and click Remove.
3. In the IIS Manager Home page, double-click URL Rewrite.
4. In the Actions area, click View Server Variables, then click Add and enter RESPONSE_X-POWERED-BY in the text box.
5. Add an outbound rule to rewrite the RESPONSE_X-POWERED-BY server variable as blank.
   a. In the Actions area, click Back to Rules and then click Add Rule(s).
   b. In the Add Rule(s) window, click Blank rule in the Outbound rules category and click OK.
   c. Create the outbound rule using the following settings:
      - Name: X-Powered
      - Precondition: None
      - Matching scope: Server Variable
      - Variable name: RESPONSE_X-POWERED-BY
      - Variable value: Matches the Pattern
      - Using: Regular Expressions
      - Pattern: .+
      - Action type: Rewrite
      - Action Properties:
        - Value: <leave this field empty>
        - Replace existing server variable value: Selected

**Custom Errors**

1. In the IIS Manager, open the Configuration Editor.
2. In the Section drop-down list, choose system.web/customErrors.

1.16.1 Default Website Root web.config Changes

```xml
<?xml version="1.0" encoding="UTF-8"?>
<configuration>
  <system.web>
    <customErrors mode="RemoteOnly"/>
  </system.web>
</configuration>
```
1.17 Other FAQs

1.17.1 Can we implement replication for a Synthesis Platform database?

Synthesis applications (including XFRACAS, SEP and the Synthesis desktop applications) cannot be deployed with bi-directional database replication (peer-to-peer replication or merge replication). The applications are designed for use with a single back-end database; they do not handle conflict detection and resolution.

It may be possible to use a Synthesis database with uni-directional replication (transactional replication or snapshot replication). However, this is likely to affect the performance of the application(s) and you must test on your own to evaluate the impact in your particular situation. This type of use is not recommended or supported by ReliaSoft.

For the purpose of disaster recovery, we recommend to establish a regular schedule for database backups and transaction log backups. These backups can be stored in a location that is protected from potential failure of the application's database server. If an issue occurs, you can restore the most recent database backup (e.g., nightly) and then restore subsequent transaction logs up to the point right before the failure.