



RESOURCE AND PATIENT MANAGEMENT SYSTEM

Practice Management Application Suite

(BMW)

Installation Guide and Release Notes for Ensemble Versions 2009/2010

Version 1.0 Patch 1
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Table of Contents

1.0	Release Notes	1
1.1	Enhancements.....	1
1.2	Bug Fixes.....	1
2.0	Installation Notes.....	3
2.1	Contents of Distribution	3
2.2	Required Resources.....	3
2.2.1	Application Server Resources	3
2.2.2	Database Server Resources	4
2.2.3	Workstation Resources	4
2.3	Before You Begin: Installation Issues	4
2.4	Prerequisites.....	4
2.4.1	Ensemble Prerequisites.....	4
2.4.2	BMW Prerequisites.....	5
2.4.3	Other Prerequisites.....	5
2.4.4	Deployment Strategy	5
3.0	Installation Overview.....	7
4.0	Installation Instructions: First-Time Install	8
4.1	Acquire the SSL Certificate.....	8
4.1.1	SSL Certificate Acquisition – IHS Domain	8
4.1.2	SSL Certificate Acquisition – Non-IHS Domain	13
5.0	BMW Application Server Installation & Configuration	14
5.1	.NET Framework Verification	14
5.2	Microsoft .NET Framework 4.0 Installation	14
5.3	Internet Information Services (IIS) 7.0 Installation	16
5.4	Windows Communication Foundation (WCF) Activation	22
5.5	Adding MIME Types	26
5.6	HTTP Compression Configuration.....	29
5.7	Moonwalk Web Site Setup.....	31
5.7.1	Add the Application Pool	31
5.7.2	Create a Moonwalk Folder	33
5.7.3	Add the New Site	33
5.8	Install the SSL Certificate	34
5.9	Configure the SSL Certificate	36
6.0	BMW Database Server Installation & Configuration.....	38
6.1	Introduction.....	38
6.1.1	Assumptions.....	38
6.2	Setup	38
6.2.1	Create the /BMW Folder.....	38

6.2.2	Unzip the BMW zip file	39
6.2.3	Move CACHE.DAT to the Database Server	39
6.2.4	Set File and Folder Permissions	39
6.2.5	Set Up the BMW Database	40
6.2.6	Mount the BMW Database	43
6.2.7	Create the New Namespace.....	44
6.2.8	Set up Package Mapping	45
6.2.9	Package Mapping Verification	48
6.2.10	Ensemble Version / Cache Classes Compatibility Verification ..	49
6.3	Cache User Creation	51
6.3.1	Create the Moonwalk User	51
6.3.2	Assign User Roles	52
7.0	Application Deployment to the Web Server	55
7.1	Deploy the BMW Application	55
7.2	Adding a Database After the Installation.....	60
7.3	Menu and Security Keys.....	64
7.4	Open the BMW Application.....	65
8.0	Installing BMW in Out of Browser Mode.....	68
9.0	Installing BMW Patches and Updates.....	71
9.1	Stop the BMW Web Site on the Application Server	71
9.2	Uninstall the BMW Application.....	72
9.3	Install the BMW Application	73
9.4	Dismount the BMW Database on the Database Server	75
9.5	Unzip the BMW zip file.....	75
9.6	Move the new CACHE.DAT File	76
9.7	Mount the BMW Database.....	76
9.8	Purge the Previous SQL Queries	77
9.9	Start the BMW Web Site on the Application Server	78
	Contact Information	82

Preface

This manual describes the installation of the Practice Management Application Suite (BMW) and any additional support software needed.

BMW is a browser-enabled graphical user interface (GUI) for the Indian Health Service (IHS) Resource and Patient Management System (RPMS) applications. It provides improved access to existing RPMS data, and streamlines the input of new patient data. In some aspects of its operation and configuration, this suite is also referred to by its development name, *Moonwalk*.

The BMW application suite consumes Cache classes, generated by Fm2Class utility, which maps onto FileMan files. Create, read, update, and delete (CRUD) operations can then be performed over the generated Cache classes (SQL tables) via the ADO.NET provider for Intersystems Ensemble/Cache.

1.0 Release Notes

1.1 Enhancements

BMW 1.0 Patch 1 includes the following enhancements:

- A "Mini Registration" form is now displayed in the Scheduling module when a user attempts to schedule an appointment for a patient who is not currently registered.
- Multiple Clinic Stop codes can now be entered when the appropriate RPMS parameter is set to allow them via the Settings module.
- The login screen now displays a "Select a Database" option when a user opens BMW. Subsequent logins default to the previously-selected database, although the user is given the option to change databases before logging in.
- Patient Record Warnings are now displayed as a list when a patient record is opened. This list also shows whether the patient is registered at the current facility.
- These revisions have been made to the clinic availability functions:
 - Schedule copying
 - Option for schedule changes to only affect the current week
 - Option to block availability on the Calendar view of the Scheduling module is available, but only to Scheduling Supervisors.
- These revisions have been made to the Tools option:
 - Users can now change their verify code
 - An "About" screen has been added, displaying current user information and BMW version information. (This is primarily for Help Desk use.)
 - Release Notes can now be displayed
- The login page now prompts users to update their verify code if it has expired.
- User preferences are saved as cached data, based on the database the user is logged into.
- The patient record flag now only shows active flags.

1.2 Bug Fixes

The following corrections have been made to address issues reported to the RPMS Helpdesk:

- HEAT#87554 Session timeout too short – The application timeout has been increased to meet IHS security standards.
- HEAT#87985 Remove application update error display – Changes have been made to correct an application update error message displayed when running BMW in out of browser mode.
- HEAT#87985 Clinic name displayed incorrectly in Settings Module – The clinic name is now displayed correctly in the Settings module when a user changes divisions.
- HEAT#87985 Division ID Changed to String – The Division ID field now accepts alphanumeric characters.
- Cancelled Appt Shows on EHR Application – When an appointment is canceled, the appointment is now correctly displayed in the EHR application.
- Patient Record Flag date now displays correctly.
- Clinic Creation: Meeting Location – When creating a clinic, the "Clinic meets at this location" option is now correctly saved.
- Clinic Availability Configuration Screen: Copy – The "Copy" option is now correctly disabled when configuring a new clinic schedule.
- Inactive Clinic – Inactive clinics no longer allow appointment creations or show up when searching for a resource in the Scheduling module.
- Scheduling clerk can edit schedule – The Scheduling Clerk role is no longer able to edit a clinic availability schedule unless the Modify Schedule permissions have been set for that role.
- The Clinic Workload Report no longer truncates figures in the Date column.

2.0 Installation Notes

Prefix: BMW

Current Version: 1.0 Patch 1

2.1 Contents of Distribution

File	Description
bmw_0100.01.msi	BMW Application Installer
bmw_0100.01db_win_2009.7z	CACHE.DAT Cache database file for Windows systems running Ensemble version 2009.1.6
bmw_0100.01db_win_2010.7z	CACHE.DAT Cache database file for Windows systems running Ensemble version 2010.2.3
bmw_0100.01db_aix_2009.tar.gz	CACHE.DAT Cache database file for AIX systems running Ensemble version 2009.1.6
bmw_0100.01db_aix_2010.tar.gz	CACHE.DAT Cache database file for AIX systems running Ensemble version 2010.2.3
bmw_0100.01i.pdf	Patch 1 Installation Guide and Release Notes for sites running Ensemble versions 2009 and 2010
bmw_0100.01u_overview.pdf	User Manual – Overview
bmw_0100.01u_registration.pdf	User Manual – Patient Registration Module
bmw_0100.01u_scheduling.pdf	User Manual – Scheduling Module
bmw_0100.01t.pdf	Technical Manual

2.2 Required Resources

2.2.1 Application Server Resources

The following resources are required on the application server:

- Microsoft® Windows® 2008 Server x64 bit
- Microsoft IIS® 7.0 (available with Windows 2008 server by default)
- Microsoft .NET Framework 4
- 4 processor cores running at 2.0 GHz or faster (for site)
- 8 processor cores running at 2.4 GHz or faster (for area office)

- 4 GB RAM running at 1333 MHz (for site)
- 12 GB RAM running at 1333 MHz (for area office)
- 5 GB minimum free disk space (disk drives should be 10K RPM or faster)

See Appendix A of this manual for a listing of specifications for a typical BMW application server.

2.2.2 Database Server Resources

Database servers running the BMW application require a minimum 5 GB of free disk space.

2.2.3 Workstation Resources

The following resources are recommended for any workstations accessing the BMW application:

- Dual-core processor running at 1.8 GHz or faster
- 4 GB of RAM
- 20 GB free disk space
- Screen resolution of 1024 x 768 or higher
- Windows 7 (highly recommended) or Windows XP
- Internet Explorer® 9 (highly recommended) or Internet Explorer 8
- Microsoft Silverlight® 5.0 plugin for Internet Explorer (required)

The Silverlight plugin can be rolled out on an enterprise basis using Group Policies or another enterprise deployment tool, or it can be installed individually on the workstation. Silverlight is available from Microsoft at this location:

<http://www.microsoft.com/getsilverlight/get-started/install/default.aspx>

2.3 Before You Begin: Installation Issues

Internet connectivity on the application server is necessary to download the required installation items.

2.4 Prerequisites

2.4.1 Ensemble Prerequisites

BMW currently supports only Ensemble versions 2009.1.6, 2010.2.3, and 2012.2.0 with support for later versions planned in the future.

Note: This manual specifically describes the steps for installing BMW on Ensemble versions 2009 and 2010. Refer to the *BMW Installation Guide and Release Notes for Ensemble Version 2012* for instructions on installing BMW on Ensemble 2012.2.0.

The examples in this Installation Manual reflect Ensemble 2010.2.3. If you are running a different version, some of the screens you see may vary slightly from those shown here.

A BMW-specific CACHE.DAT file is delivered as part of the installation package and must be loaded into the Ensemble server BMW namespace.

Note: If you are running a version of Ensemble other than 2009.1.6 or 2010.2.3, contact the OIT Help Desk for a CACHE.DAT file specific to your Ensemble version.

2.4.2 BMW Prerequisites

The following KIDS must be installed:

- BSDX V3.0
- PIMS V5.3 patch 1015
- AG V7.1 patch 10
- AUT V98.1 patch 24
- XU V8.0

2.4.3 Other Prerequisites

You will need 7-Zip software to extract the installation files from the BMW installation package. 7-Zip is available at <http://www.7-zip.org>.

2.4.4 Deployment Strategy

To minimize changes to the RPMS database, BMW adopts a strategy where a separate database is mounted or attached on a current Ensemble/Cache server. This mounted database contains already generated Cache classes against FileMan files.

The classes in the BMW database are generated in a specific package called BMW. The BMW package can be mapped onto the RPMS database, thus enabling the RPMS database to consume the mapped classes. The Cache-generated Classes will reside in the BMW database, yet remain available to the RPMS database, thus achieving the goal of minimizing steps for the BMW database setup when it is scaled onto several sites.

3.0 Installation Overview

Patch 1 of the Practice Management Application Suite (BMW) is comprised of two files: The CACHE.DAT file specific to the Ensemble version (contained in a zipped file named **bmw_0100.01db_[OS version]_[Ensemble version].xx**) and the **bmw_0100.01.msi** application installation file.

Save the zipped **bmw_0100.01db_[OS version]_[Ensemble version].xx** file to a folder that is accessible to your database server. Similarly, save the **bmw_0100.01.msi** file to a folder that is accessible to your application server.

Note: If you are installing BMW for the first time at your site, refer to Chapters 4.0 through 8.0 of this manual for full installation instructions. If you have already installed BMW at your site and are now installing a patch or updated version, see Chapter 9.0 in this manual for instructions.

4.0 Installation Instructions: First-Time Install

Follow the instructions shown in Chapters 4.0 through 8.0 of this manual if you are installing BMW for the first time at your site.

BMW contains components that run on both the RPMS server and the client personal computer (PC). As a result, the installation instructions are separated into these actions:

- Application Server Installation
- Database Server Installation
- Application Installation

These actions are described in detail in Chapters 5.0 through 7.0 of this manual.

The application operates in a web-based environment; there is no separate installation necessary on workstations above and beyond the items listed in Section 2.2.3.

4.1 Acquire the SSL Certificate

BMW utilizes the Secure Sockets Layer (SSL) protocol to ensure secure communications between its components. If your site is not on a secure domain, you must acquire an SSL certificate. If your site is on a secure domain, an SSL certificate is not necessary and you can skip the steps shown in this section and in Sections 5.8 and 5.9.

Note: Since the SSL certificate acquisition may take up to 24 hours, it is recommended that you acquire the SSL certificate before beginning the BMW installation.

The process for acquiring this certificate for sites on the IHS domain is different than that used by sites that are not on the IHS domain.

4.1.1 SSL Certificate Acquisition – IHS Domain

If your site is on the IHS domain, follow these steps to acquire your SSL certificate:

1. Click **Start**, then **Administrative Tools**, and then **Internet Information Services (IIS) Manager**.
2. Click on the server name.
3. In the center panel, double-click **Server Certificates** in the **Security** section (near the bottom of the panel), shows an example of the **Internet Information Services (IIS) Manager** window.

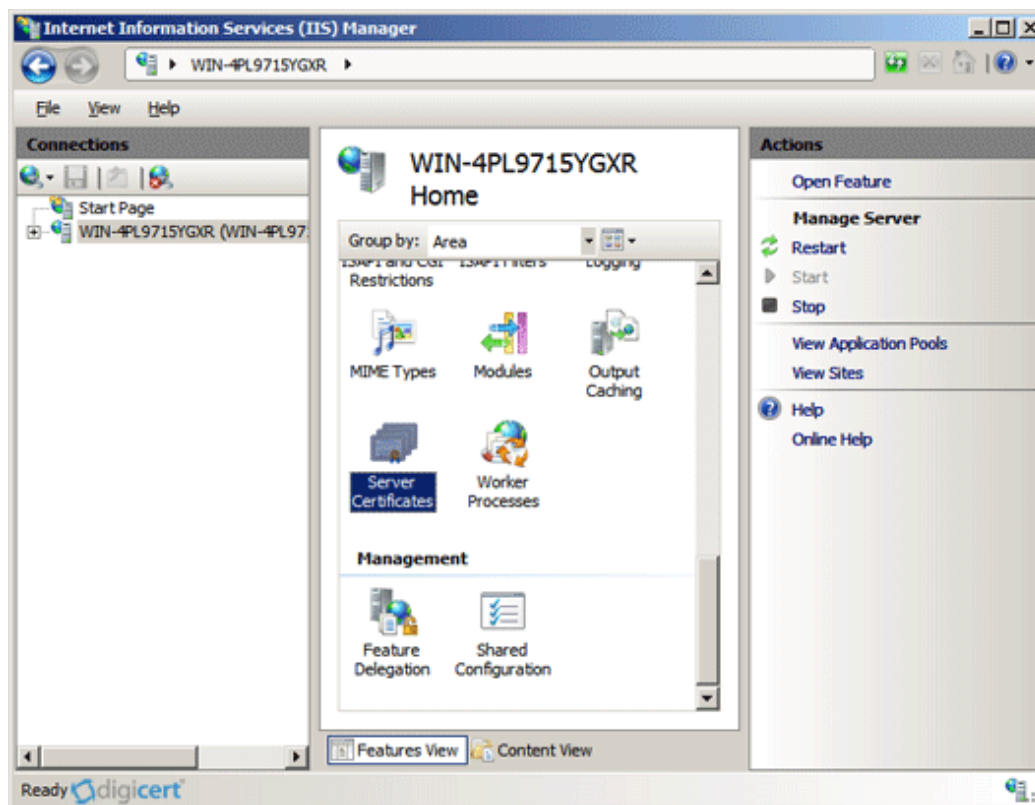


Figure 4-1: Internet Information Services (IIS) Manager

4. Next, in the **Actions** panel (on the right), click **Create Certificate Request** as shown in Figure 4-2.

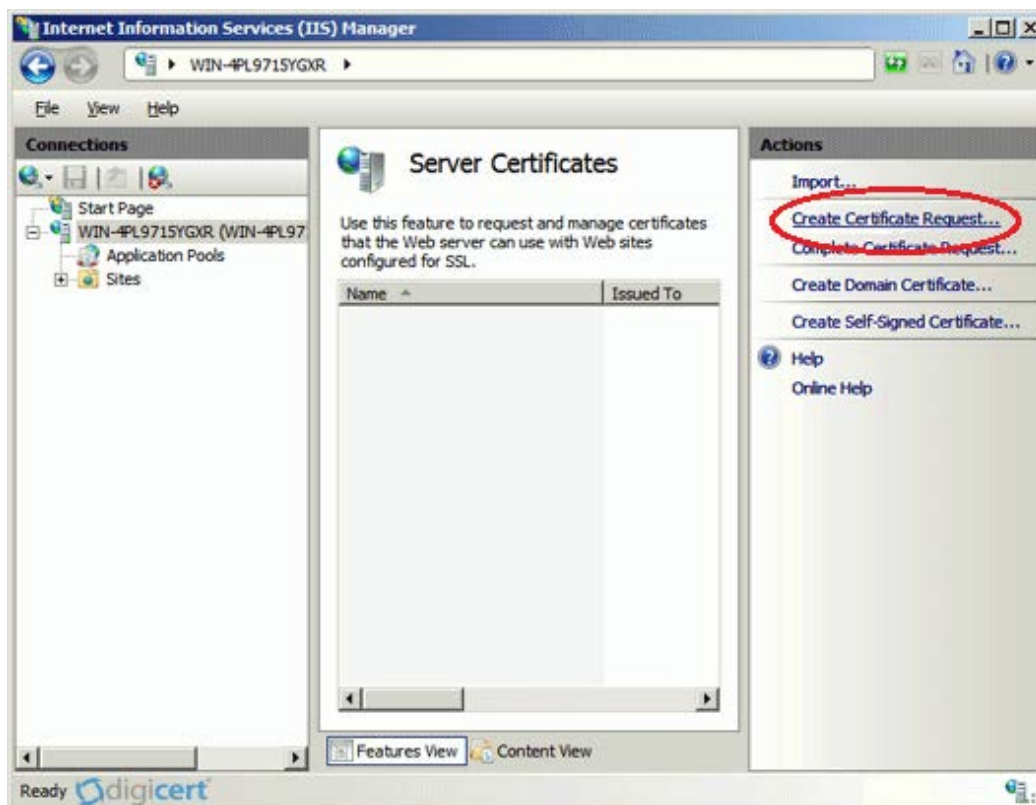
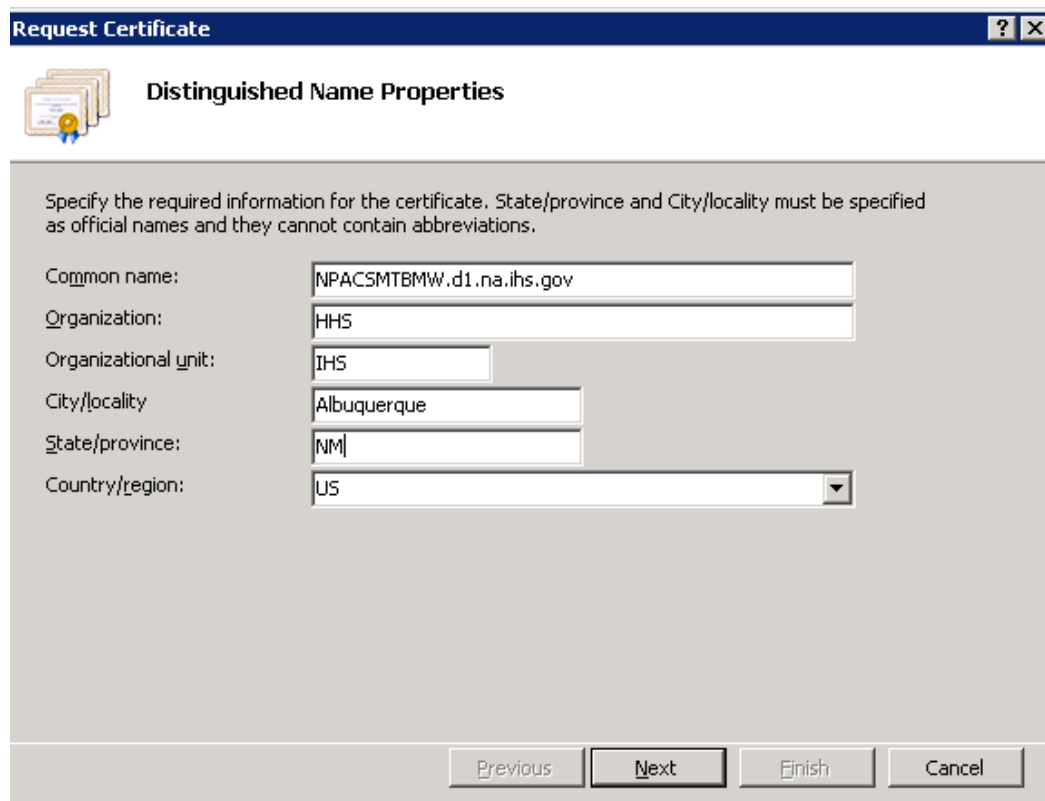


Figure 4-2: Internet Information Services (IIS) manager - Server Certificates

5. This opens the **Request Certificate Wizard** shown in Figure 4-3. In the **Distinguished Name Properties** dialog, enter the information as follows:
- **Common Name** - The name through which the certificate will be accessed (usually the fully-qualified domain name, e.g., "NPACSMTBMW.d1.na.ihs.gov").
 - **Organization** - The legally registered name of your organization/company.
 - **Organizational unit** - The name of your department within the organization (e.g., "IHS").
 - **City/locality** - The city in which your organization is located.
 - **State/province** - The state in which your organization is located.
 - **Country/region** – The two-character Country code.



The image shows a Windows-style dialog box titled "Request Certificate". Inside, there is a sub-header "Distinguished Name Properties" with an icon of a certificate. Below this, a text instruction reads: "Specify the required information for the certificate. State/province and City/locality must be specified as official names and they cannot contain abbreviations." There are six input fields: "Common name:" with the value "NPACSMTBW.d1.na.ihs.gov"; "Organization:" with the value "HHS"; "Organizational unit:" with the value "IHS"; "City/locality" with the value "Albuquerque"; "State/province:" with the value "NM"; and "Country/region:" with a dropdown menu showing "US". At the bottom, there are four buttons: "Previous", "Next", "Finish", and "Cancel".

Figure 4-3: Request Certificate Wizard - Distinguished Name Properties

6. Click **Next**. This opens the **Cryptographic Service Provider Properties** dialog (Figure 4-4).

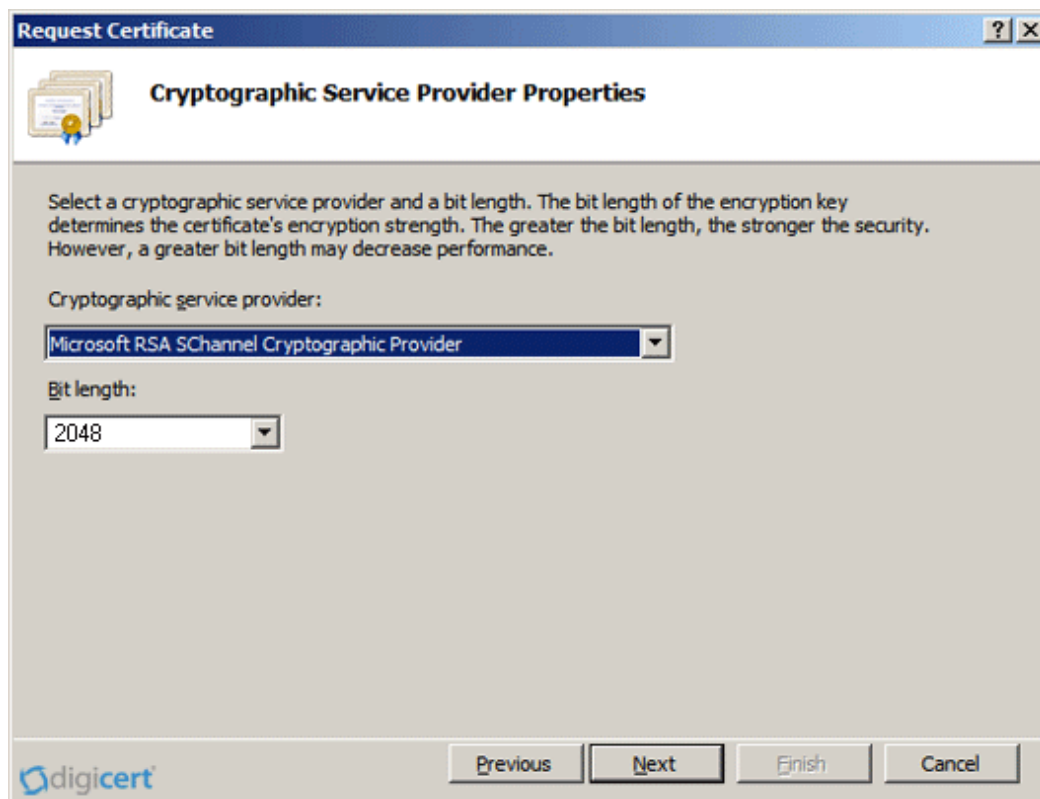


Figure 4-4: **Request Certificate Wizard - Cryptographic Service Provider Properties**

7. Leave both settings at their defaults (Microsoft RSA SChannel and 2048) and then click **Next**.
8. In the dialog displayed (Figure 4-5), type a path and file name for your certificate request file. Make note of the filename you choose and the location to which you save it. You will need to open this file as a text file and copy the entire body of it (including the Begin Certificate Request and End Certificate Request tags) into the online order process when prompted.

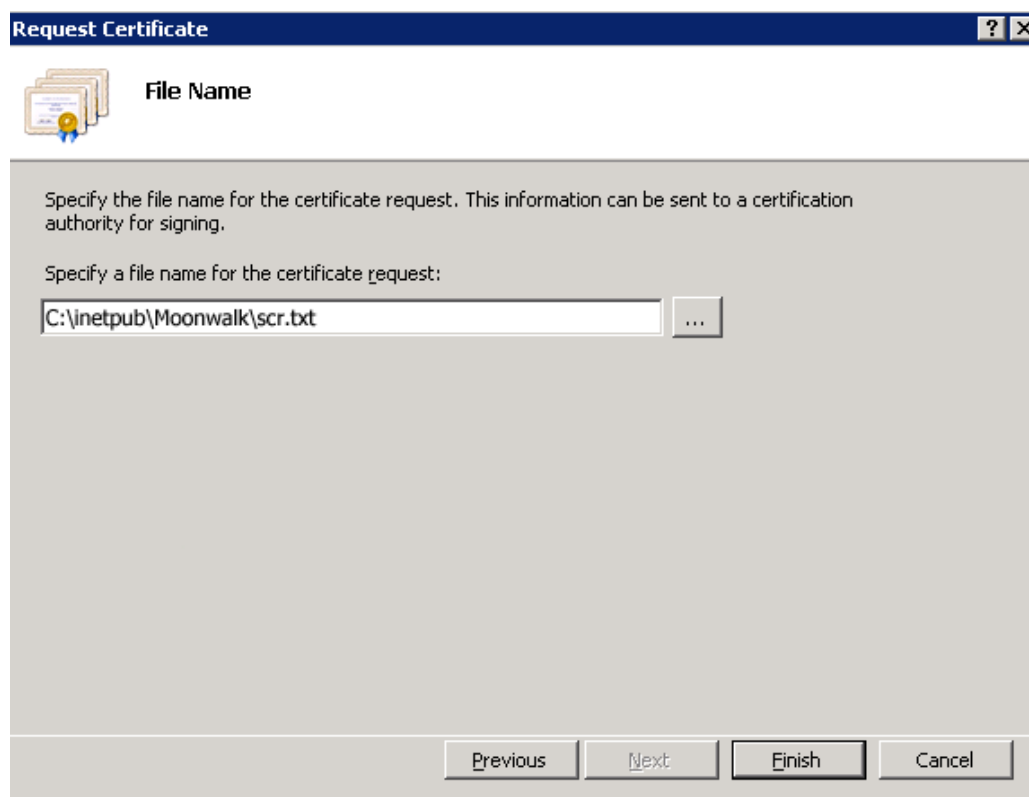


Figure 4-5: **Request Certificate - File Name** dialog

9. Click **Finish** to save the SSL certificate request file.
10. After you have created the certificate request and saved the file, e-mail the file to IHSServerCertificateRequest@ihs.gov. Request the SSL Certificate in PFX format for the BMW Application. A certificate will be issued within 24 hours and e-mailed to the originator of the request. Once you are in receipt of the certificate, proceed with the BMW installation as described in Chapters 5.0 through 9.0.

4.1.2 SSL Certificate Acquisition – Non-IHS Domain

If your site is not on the IHS domain, the steps for acquiring your SSL certificate will vary, depending on the certificate provider. Several vendors (e.g., GoDaddy, Thawte, and Verisign) provide SSL certificates, and the process for acquiring the certificate is different for each.

Follow the steps provided by your SSL certificate vendor to acquire your SSL certificate, and then proceed to the BMW installation instructions in Chapters 5.0 through 9.0.

5.0 BMW Application Server Installation & Configuration

5.1 .NET Framework Verification

As mentioned in Section 2.2.1, Microsoft .NET Framework 4 is required on your BMW application server. Follow these steps to determine if it is already installed on your application server:

1. From the **Start** menu, select **Control Panel**.
2. Click **Programs and Features**. A listing similar to that shown in Figure 5-1 will be displayed.

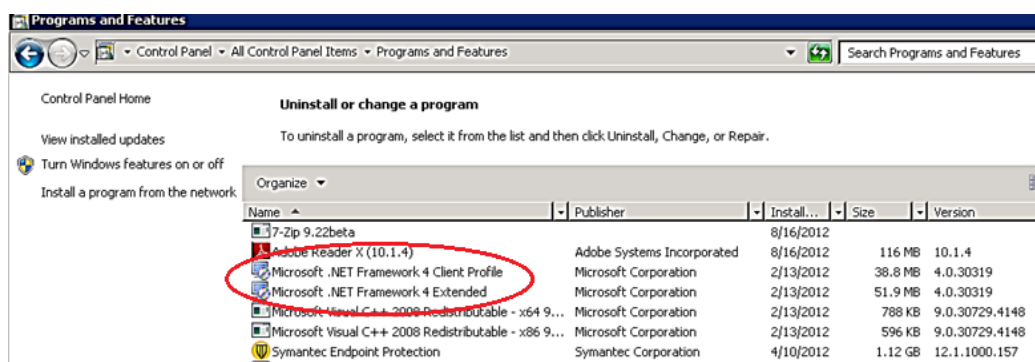


Figure 5-1: Programs and Features listing

3. Review the listing displayed, looking for any **Microsoft .NET Framework 4** entries. If none are found, install the .NET Framework 4 by following the instructions in Section 5.2. If Microsoft .NET Framework 4 is listed, skip to Section 5.3.

Note: You can have more than one version of the .NET Framework on your server at the same time.

5.2 Microsoft .NET Framework 4.0 Installation

If not already installed on your server, follow these steps to install the .NET Framework:

1. Download .Net Framework 4 from the Microsoft download center at: <http://www.microsoft.com/download/en/details.aspx?id=17851>
2. Double-click the downloaded file to run the **.Net Framework 4 setup**. The **License Terms** dialog (Figure 5-2) is displayed:

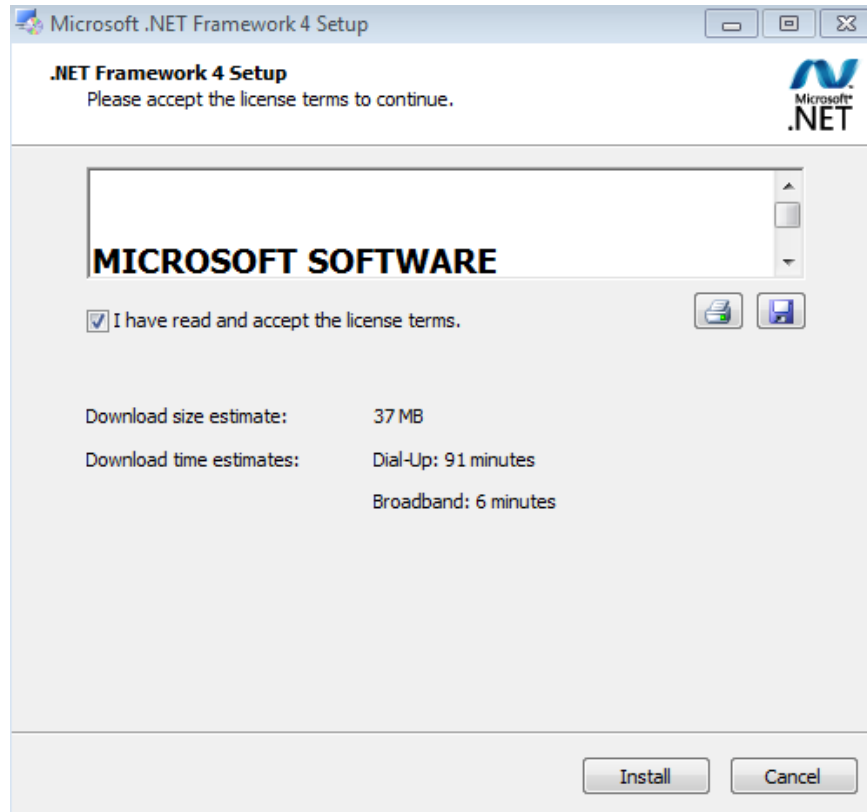


Figure 5-2: .NET Framework **License Terms** dialog

3. Select **I have read and accept the license terms** to accept the license agreement.
4. Click **Install**. Respond to any prompts presented as the installation proceeds. When completed, the **Installation is Complete** dialog (Figure 5-3) displays:

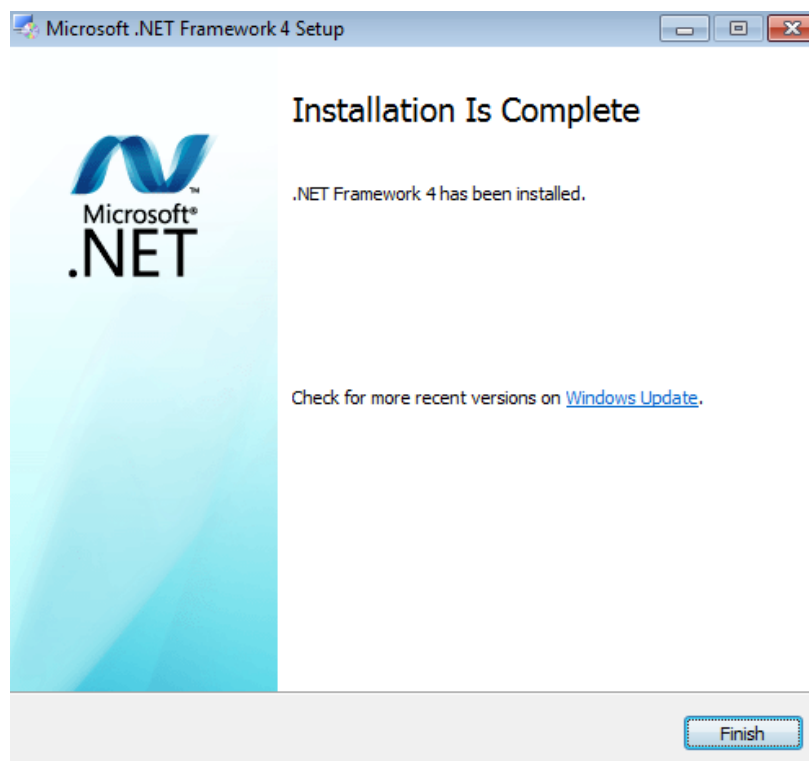


Figure 5-3: .NET Framework **Installation is Complete** dialog

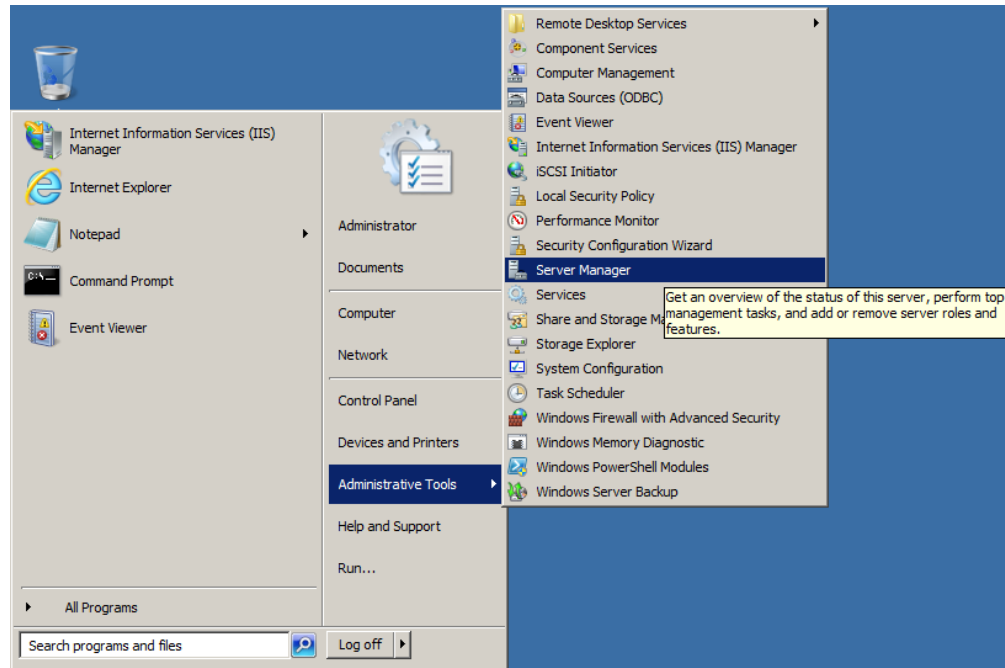
5. Click **Finish** to complete the installation. If necessary, restart the server.
6. As a final step, run the Windows Updates utility to check for and install any .NET Framework updates if available.

Note: It is very important to check for and install any .NET Framework updates. These updates can be critical to the stability and security of BMW operation.

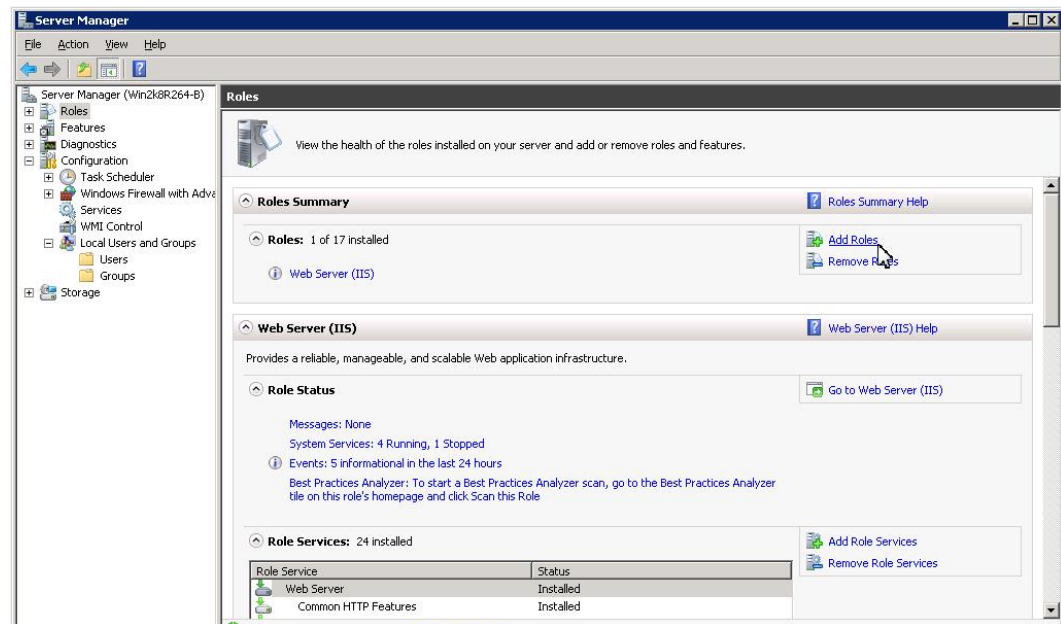
5.3 Internet Information Services (IIS) 7.0 Installation

If not already installed on your server, follow these steps to install the Microsoft Internet Information Services:

1. Select **Server Manager** from the **Administrative Tools** menu as shown in Figure 5-4:

Figure 5-4: Open **Server Manager** applet

2. Click **Roles** in the left pane (Figure 5-5).

Figure 5-5: **Add Roles**

3. If you already set up a web server, click **Select Roles** and skip to Step 5.
4. If you have not yet set up a web server, click **Add Roles** on the right pane. Review the **Before You Begin** dialog, and then click **Next**.

5. The **Select Server Roles** dialog (Figure 5-6) is displayed:

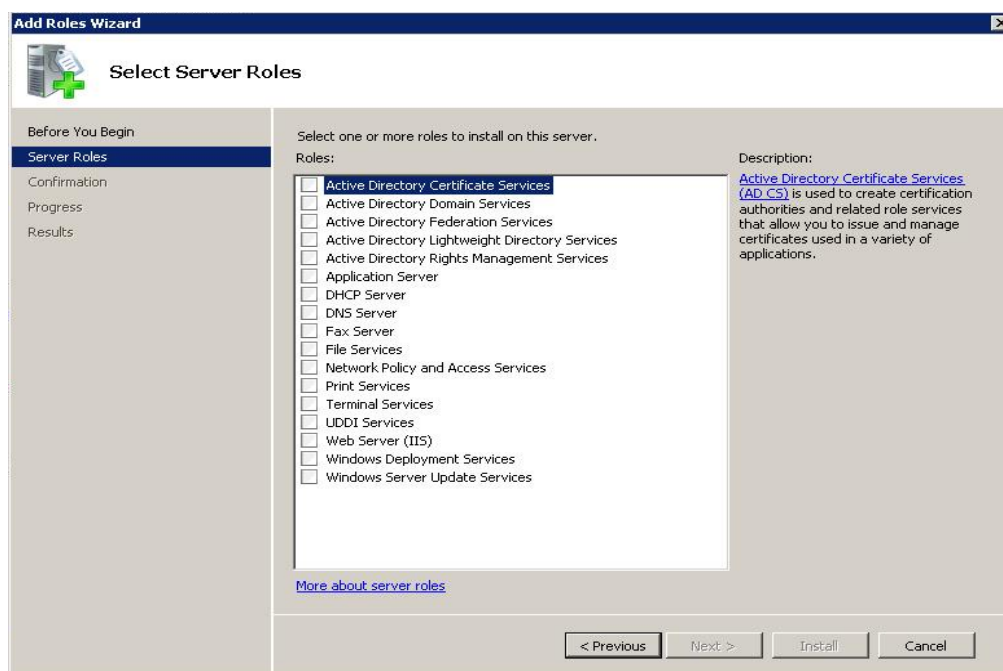


Figure 5-6: **Select Server Roles** dialog

6. Select **Web Server (IIS)**. The **Add Roles Wizard** (Figure 5-7) is displayed:

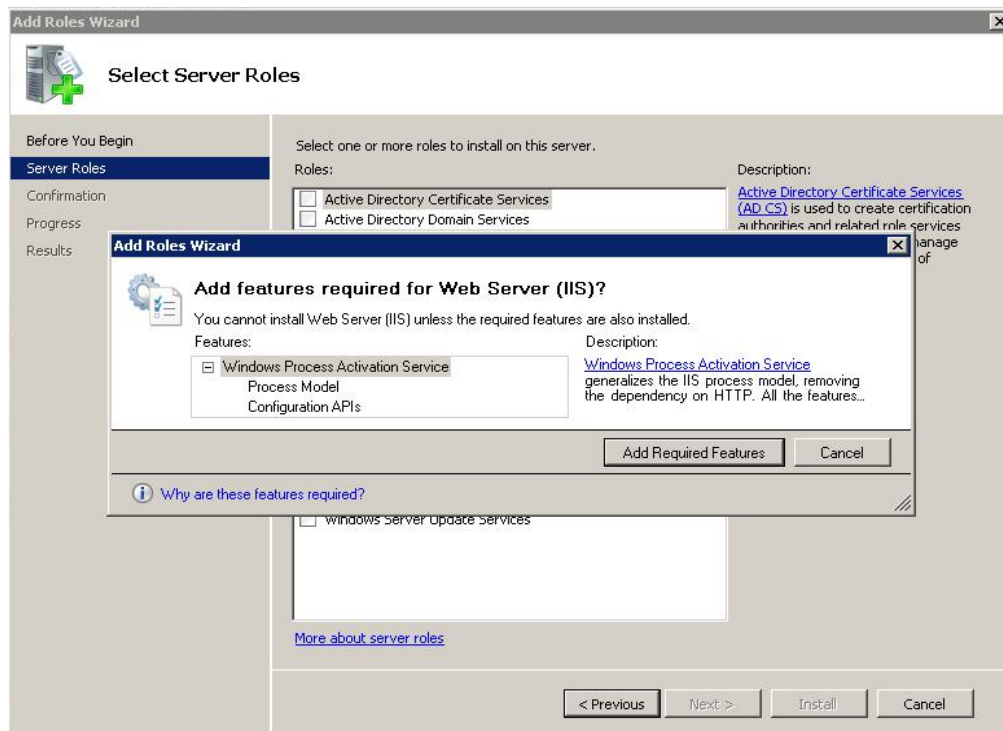


Figure 5-7: **Add Roles Wizard**

- Click **Add Required Features**. The **Web Server (IIS)** dialog (Figure 5-8) is displayed:

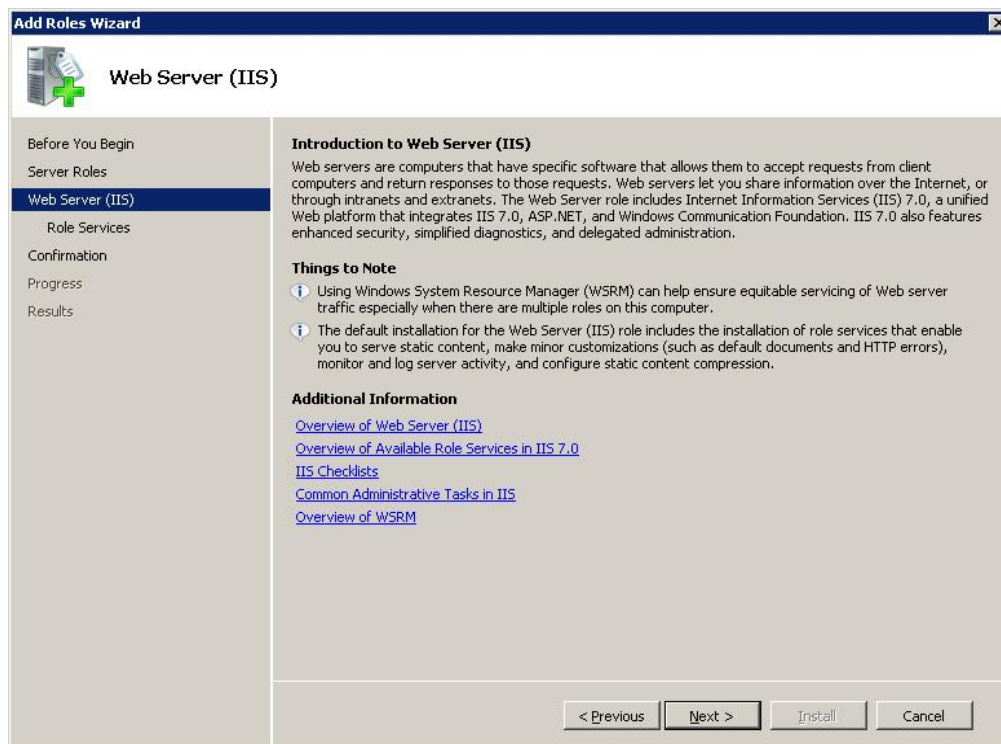


Figure 5-8: **Add Roles Wizard Web Server (IIS)** dialog

- Click **Next**. The **Select Role Services** dialog (Figure 5-9) displays:

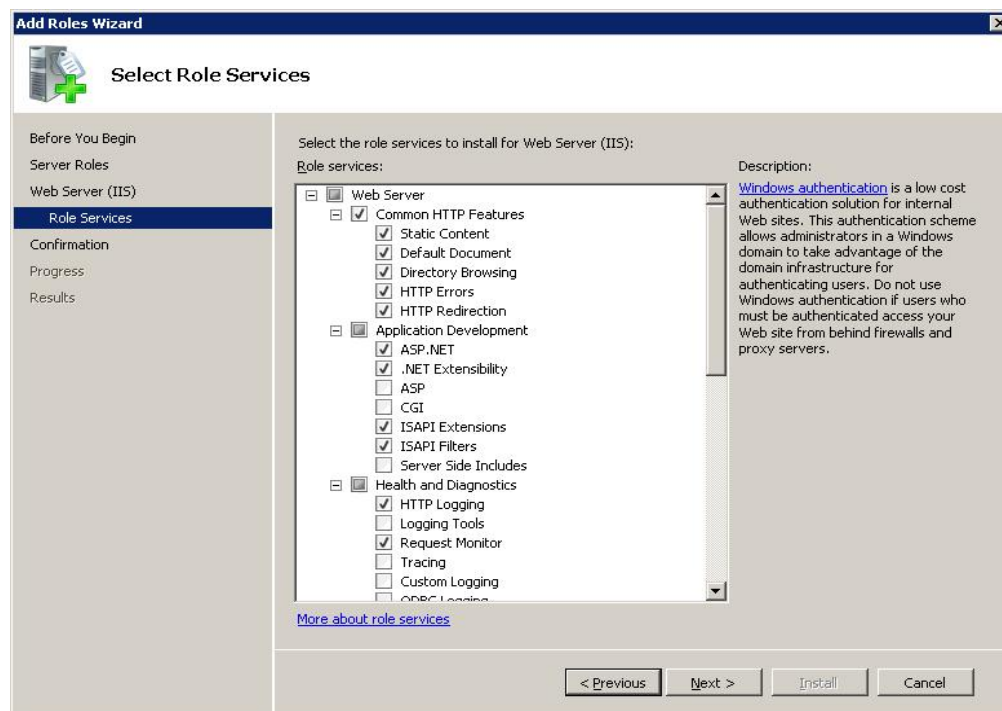


Figure 5-9: Add Roles Wizard Select Role Services dialog

9. Clear any checked boxes and enable the following role services:

- **Common HTTP Features**
 - Static Content
 - Default Document
 - Directory Browsing
 - HTTP Errors
 - HTTP Redirection
- **Application Development**
 - ASP.NET
 - .NET Extensibility
 - ISAPI Extensions
 - ISAPI Filters
- **Health and Diagnostics (optional)**
 - HTTP Logging
 - Request Monitor
- **Security**
 - Request Filtering

- **Performance**
 - Static Content Compression
 - Dynamic Content Compression
 - **Management Tools**
 - IIS Management Console
 - IIS 6 Metabase Compatibility
10. Click **Next** to display the **Confirm Installation Selections** dialog shown in Figure 5-10. Click **Install**.

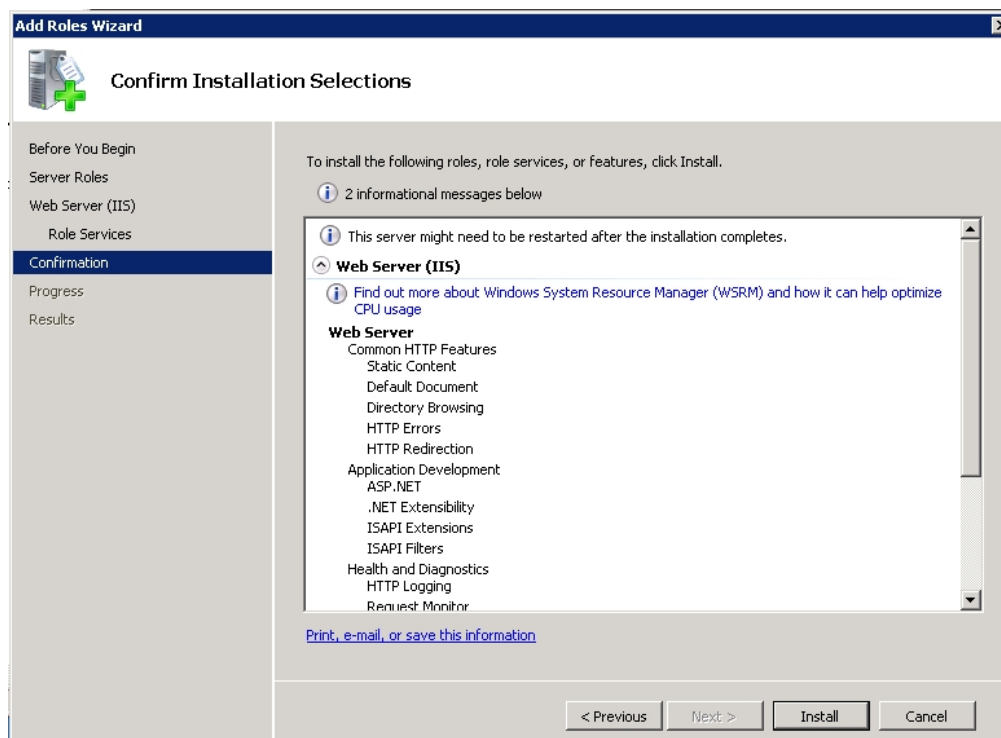


Figure 5-10: Add Roles Wizard Confirm Installation Selections dialog

11. The **Installation Results** dialog displays as shown in (Figure 5-11):

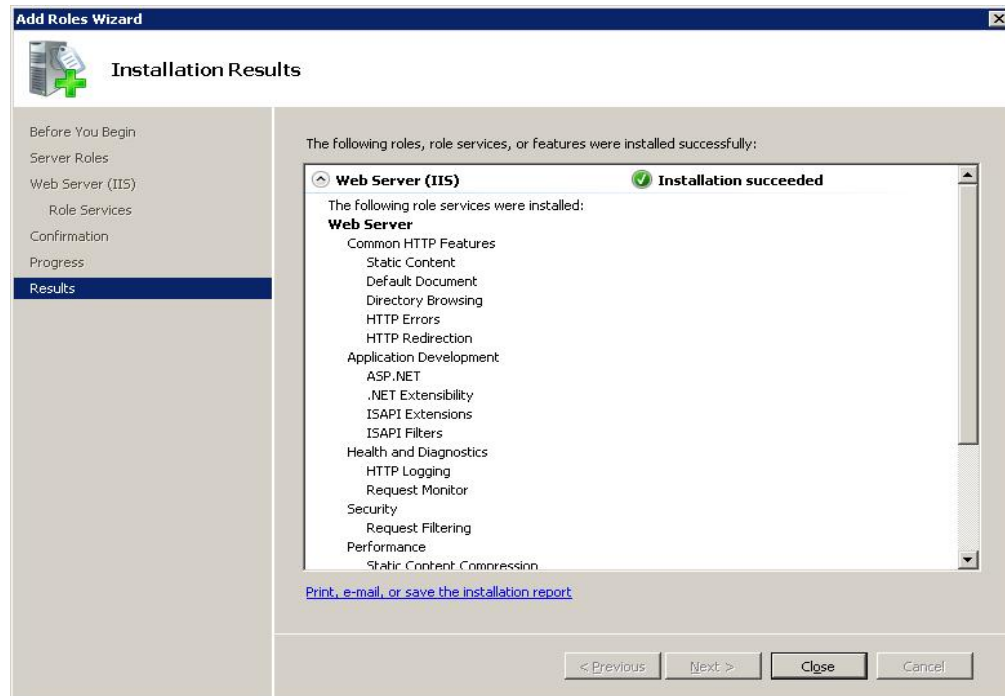


Figure 5-11: Add Roles Wizard Installation Results dialog

12. Click **Close** to complete the installation and end the process.

5.4 Windows Communication Foundation (WCF) Activation

Follow these steps to activate the Windows Communication Foundation:

1. Select **Server Manager** from the **Administrative Tools** menu as described in Section 5.3.
2. Select **Features** in the left pane to display the **Features** pane.
3. Select **Add Features** as shown in Figure 5-12:

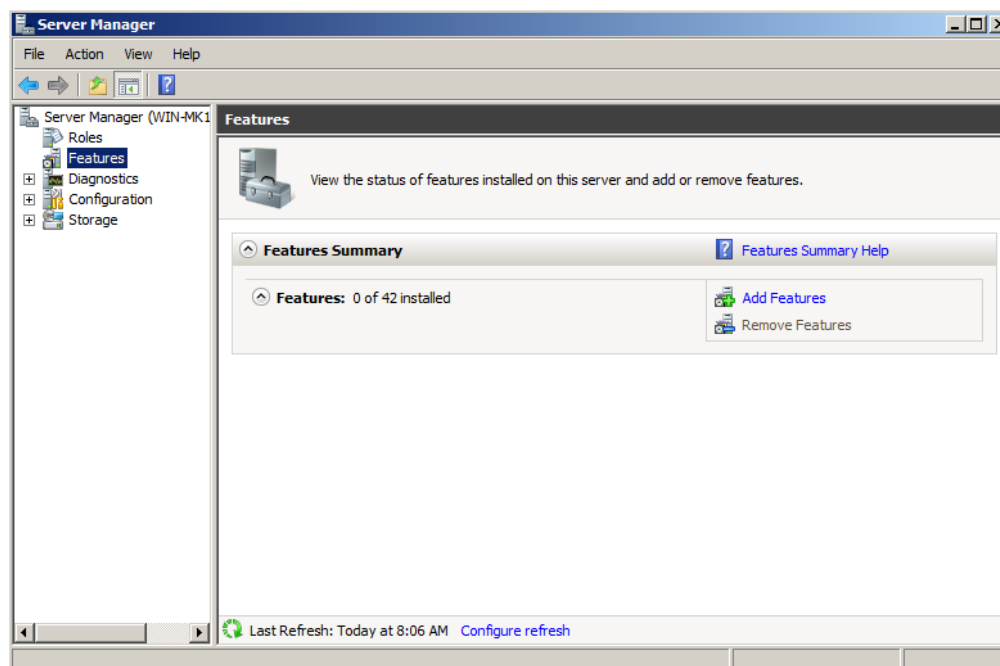


Figure 5-12: **Server Manager Features** applet selected

4. Select the **.NET Framework 3.x Features** as shown in Figure 5-13, including the WFC Activation options:

Note: The example in Figure 5-13 shows .NET Framework 3.0. You may see a different .NET Framework version (i.e., 3.0) on your server.

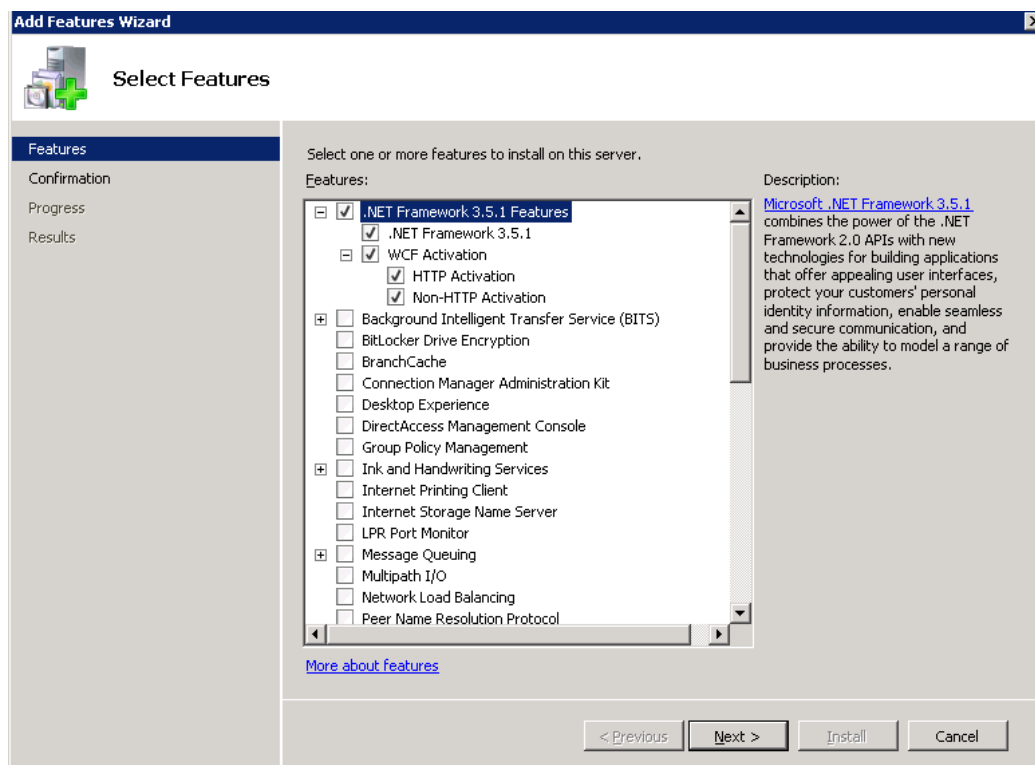


Figure 5-13: Add Features Wizard - Select Features dialog

5. Click **Next** to view the **Confirm Installation Selections** dialog (Figure 5-14). Click **Install** to complete the process.

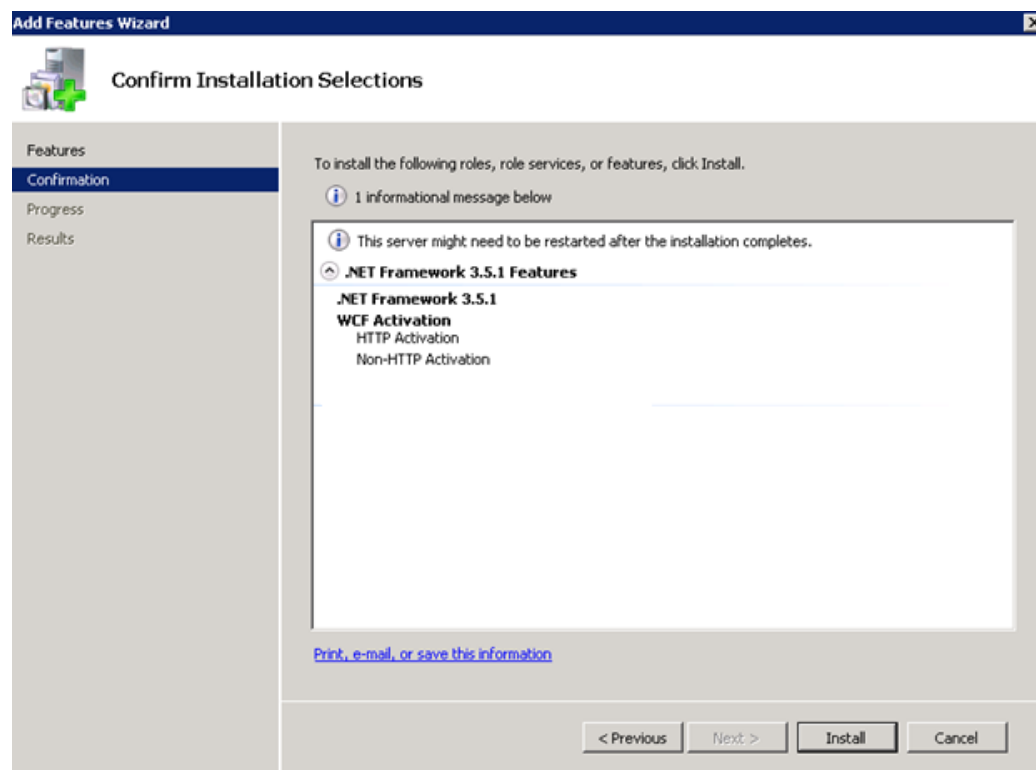


Figure 5-14: Add Features Wizard - Confirm Installation Selections dialog

6. Click **Next** to view the **Installation Results** (Figure 5-15).

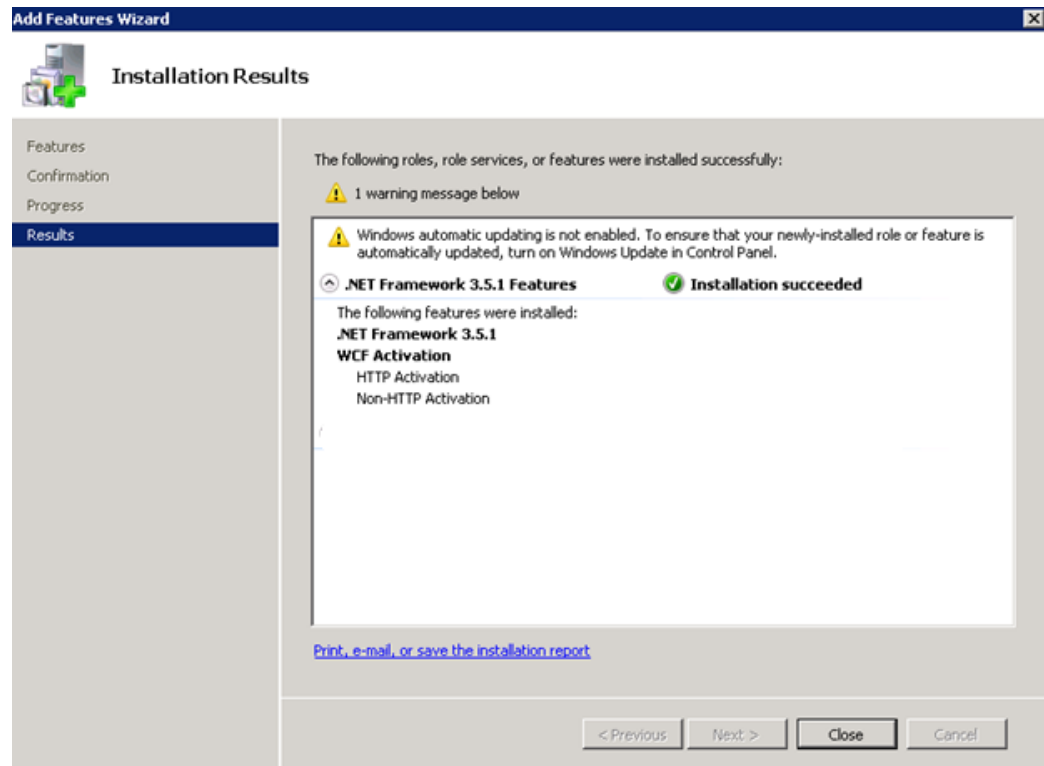


Figure 5-15: Add Features Wizard - WCF Installation results

7. Click **Close** to complete the **WCF installation**.

5.5 Adding MIME Types

Follow these steps to add MIME types:

1. Select **Internet Information Services (IIS) Manager** from the **Administrative Tools** menu as shown in Figure 5-16:

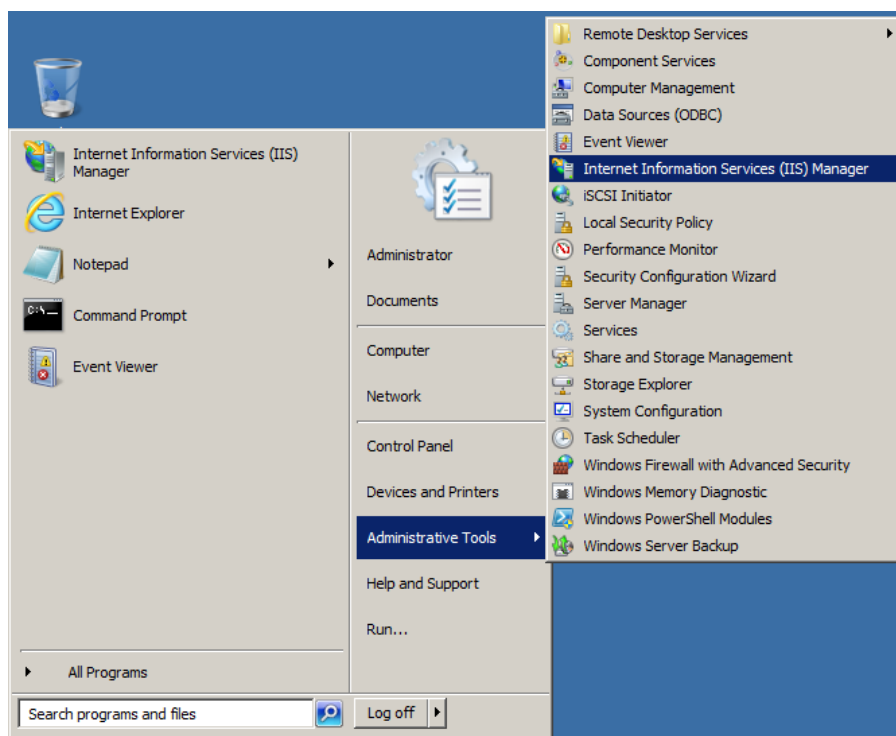


Figure 5-16: Opening **Internet Information Services (IIS) Manager**

2. Select the application server in the left pane as shown in Figure 5-17:

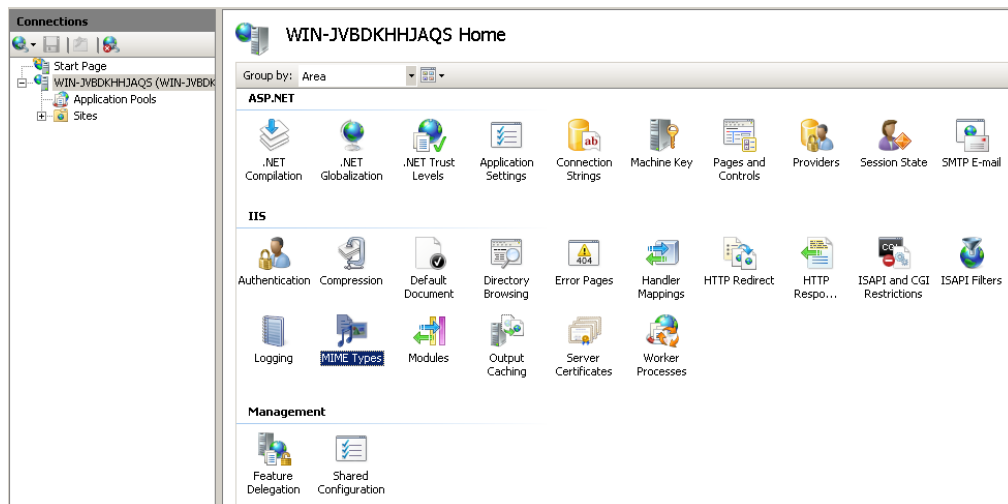


Figure 5-17: **IIS Management Console**

3. Double-click **MIME Types** to display the **MIME Types** window as shown in Figure 5-18:

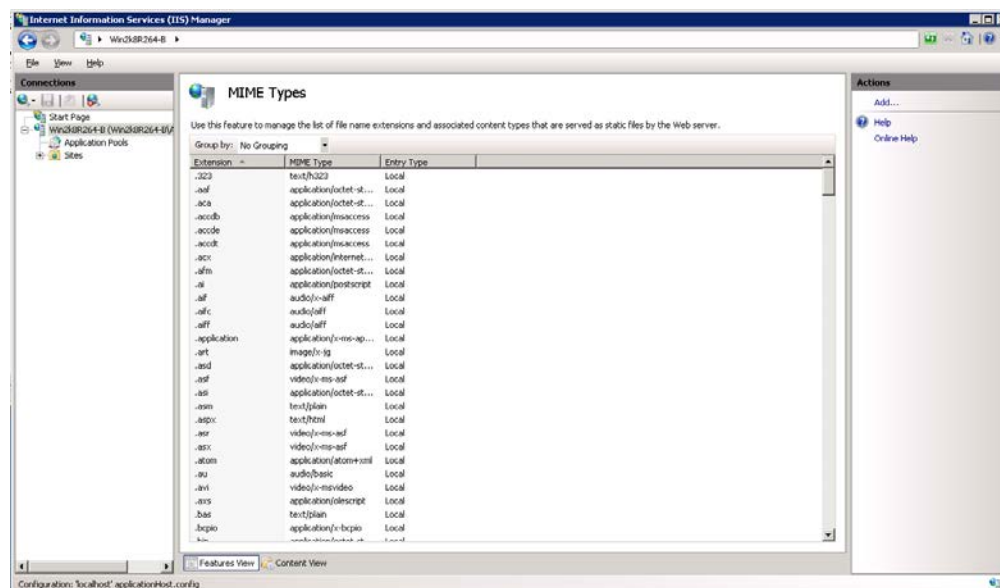


Figure 5-18: MIME Types window

4. Click **Add** in the **Actions** pane. The **Add MIME Type** dialog (Figure 5-19) displays:

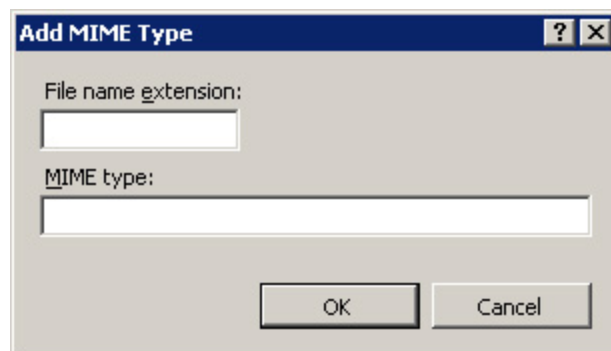


Figure 5-19: Blank Add MIME Type dialog

5. Type the **.aspx** text in the **File name extension** field. Type the **text/html** text in the **MIME type** field as shown in Figure 5-20. Click **OK**.

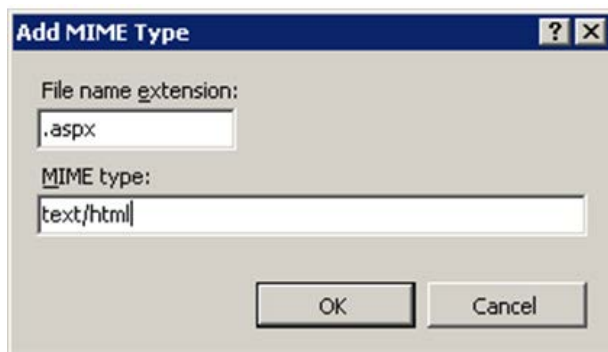


Figure 5-20: Add MIME Type .aspx Extension

6. In the **MIME Types** dialog (Figure 5-18), click **Add** in the **Actions** pane on the right of the screen.
7. Type the **.svc** text in the **File name extension** field. Type the **application/soap+msbin1** text in the **MIME type** field as shown in Figure 5-21. Click **OK**.

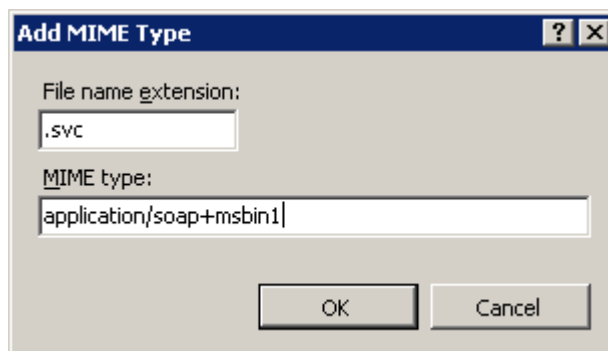


Figure 5-21: Add MIME Type .svc Extension

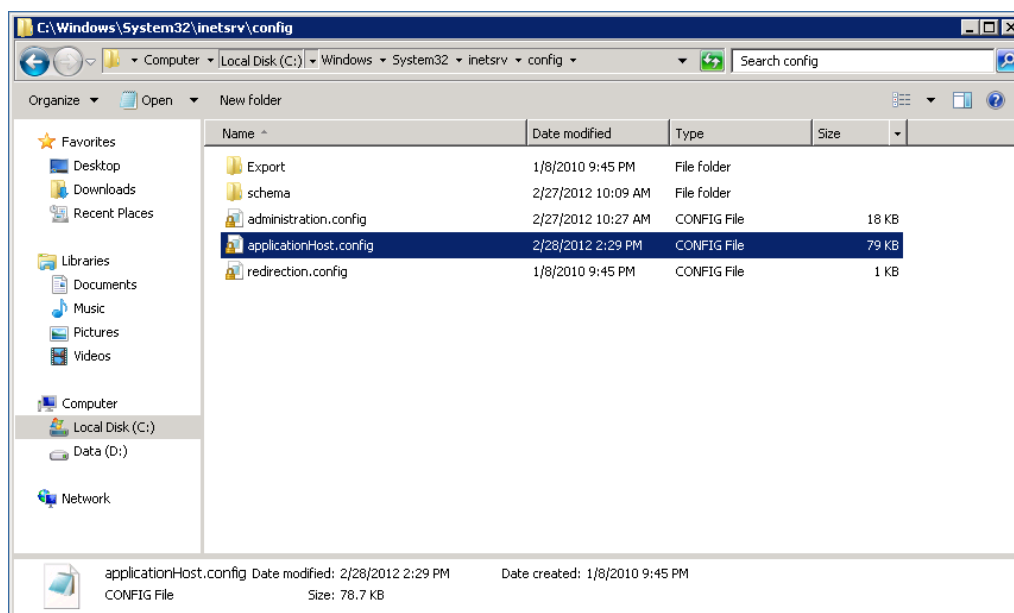
8. Click the back arrow in the upper left corner of the IIS Manager window (Figure 5-18) to return to the **IIS Manager Start** window.

5.6 HTTP Compression Configuration

Follow these steps to configure HTTP compression:

1. Using **Windows Explorer**, browse to **C:\Windows\System32\inetsrv\config** as shown in Figure 5-22.

Note: This folder is typically hidden; you may need to manually type the folder path in the Windows Explorer address bar.

Figure 5-22: Location of **applicationHost.config** file

2. Open the **applicationHost.config** file with a text editor such as Notepad and find the **httpCompression** tag. Figure 5-23 shows a typical applicationHost.config file after scrolling down to the **httpCompression** tag.

Note: The statements following the tag in the file on the system might not match those in this example.

```
<httpCompression directory="%SystemDrive%\inetpub\temp\IIS Temporary Compressed Files">
<scheme name="gzip" dll="%Windir%\system32\inetsrv\gzip.dll" />
  <dynamicTypes>
    <add mimeType="text/*" enabled="true" />
    <add mimeType="message/*" enabled="true" />
    <add mimeType="application/x-javascript" enabled="true" />
    <add mimeType="*/*" enabled="false" />
  </dynamicTypes>
  <staticTypes>
    <add mimeType="text/*" enabled="true" />
    <add mimeType="message/*" enabled="true" />
    <add mimeType="application/javascript" enabled="true" />
    <add mimeType="*/*" enabled="false" />
  </staticTypes>
</httpCompression>
```

Figure 5-23: Section of a typical applicationHost.config file

3. If not already present in your applicationHost.config file, ensure the dynamic compression level and dynamic type statements are added to the file as shown in Figure 5-24:

```
<httpCompression directory="%SystemDrive%\inetpub\temp\IIS Temporary Compressed Files">
<scheme name="gzip" dll="%Windir%\system32\inetsrv\gzip.dll" dynamicCompressionLevel="5" />
  <dynamicTypes>
    <add mimeType="text/*" enabled="true" />
    <add mimeType="message/*" enabled="true" />
    <add mimeType="application/x-javascript" enabled="true" />
    <add mimeType="application/soap+msbin1" enabled="true" />
    <add mimeType="*/*" enabled="false" />
  </dynamicTypes>
  <staticTypes>
    <add mimeType="text/*" enabled="true" />
    <add mimeType="message/*" enabled="true" />
    <add mimeType="application/javascript" enabled="true" />
    <add mimeType="*/*" enabled="false" />
  </staticTypes>
</httpCompression>
```

Figure 5-24: Typical applicationHost.config file after changes

4. When finished editing the applicationHost.config file, save it and exit from the text editor.

5.7 Moonwalk Web Site Setup

5.7.1 Add the Application Pool

Follow these steps to add the Application Pool:

1. Return to the **IIS Manager** opened in Section 5.5 and browse to **Application Pools** in the tree structure below your IIS node as shown in Figure 5-25.

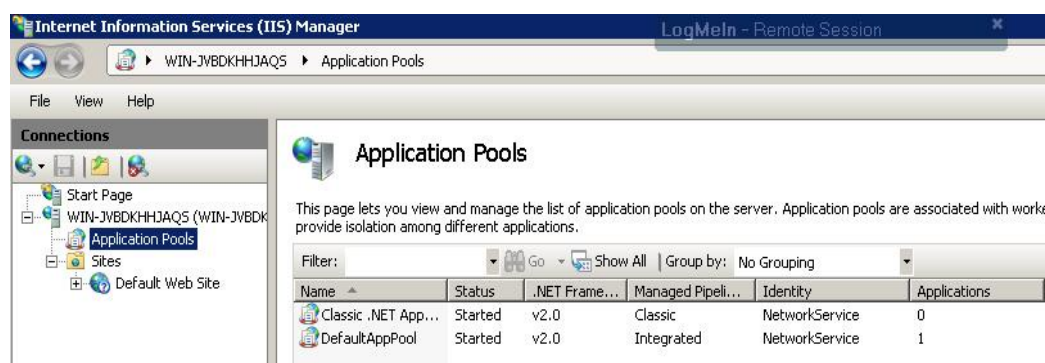


Figure 5-25: IIS Manager browsed to Application Pools

2. Right-click **Application Pools** and select **Add Application Pool**.
3. In the dialog displayed, type the name of the application pool (Moonwalk), and then select version 4.x of the .NET Framework.
4. Click **OK**. Figure 5-26 shows an example of the dialog after typing the required information.

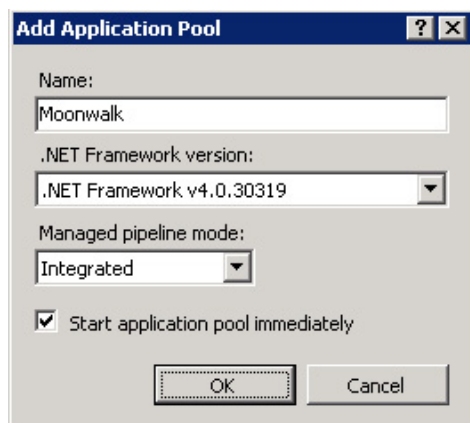


Figure 5-26: Add Application Pool dialog

5. Right-click the newly application pool in **IIS Manager** and click **Advanced Settings**. A dialog similar to Figure 5-27 displays:

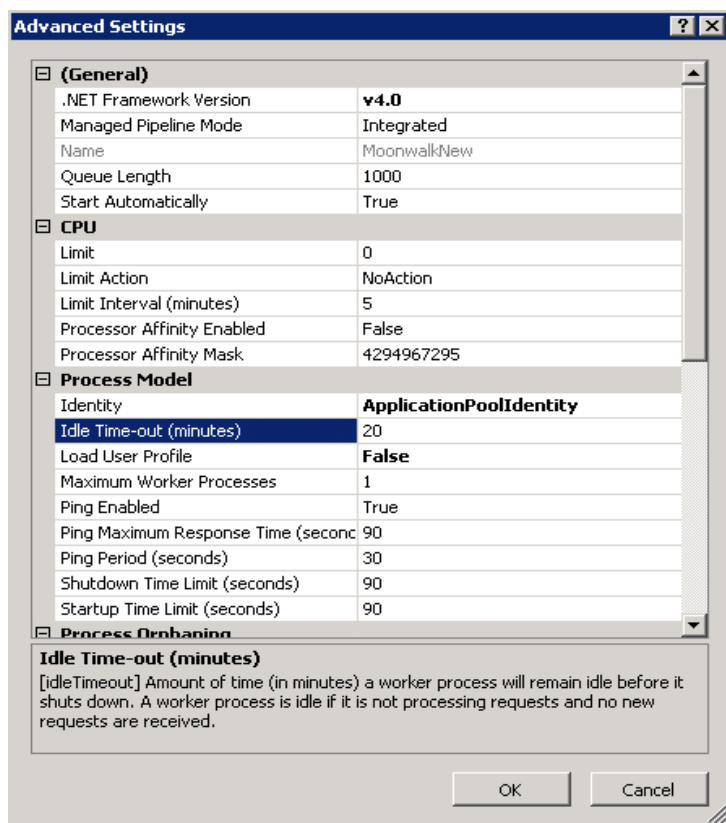


Figure 5-27: Application Pool Advanced Settings

6. Update the **Idle Time-out** value to **120** minutes.
7. Click **OK** to save the changes and close the dialog.

5.7.2 Create a Moonwalk Folder

To aid in setting up the Moonwalk web site, create a C:\inetpub\Moonwalk folder by following these steps:

1. Using **Windows Explorer**, navigate to **C:\inetpub** on your Windows application server.
2. Click **Organize**, and then select **New Folder**.
3. Type **Moonwalk**, and then press **Enter** to create the C:\inetpub\Moonwalk folder.

5.7.3 Add the New Site

Follow these steps to add the new web site:

1. Right-click **Sites** in the **Connections** pane of the IIS Manager and select **Add Web Site**. In the dialog displayed (Figure 5-28), type the following:
 - a. In the **Site name** field, enter **Moonwalk**.
 - b. Click **Select** and select the Moonwalk application pool you created in the previous steps.
 - c. In the **Physical Path** field, browse to the C:\inetpub\Moonwalk folder you created in Section 5.7.2. Be aware that your location will be different if the folder was created on a different drive.

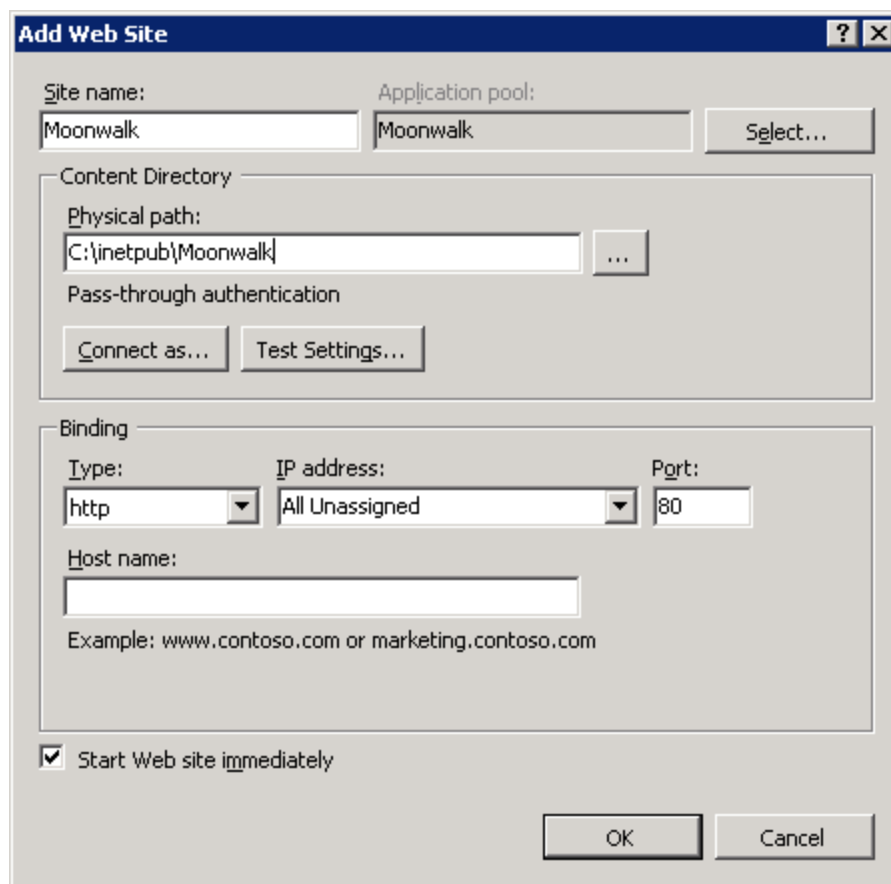


Figure 5-28: **Add Web Site** dialog

2. Accept the default settings in the **Binding** section of the dialog unless you have a specific reason not to do so. If you use a port other than the default Port 80, ensure that port is open on your firewall.
3. Click **OK** to save the changes and close the **Add Web Site** dialog.

5.8 Install the SSL Certificate

Follow these steps to install the SSL server certificate you acquired in Section 4.1:

1. Click **Start**, then **Administrative Tools**, and then **Internet Information Services (IIS) Manager**.
2. Click on the server name in the left panel.
3. Double-click **Server Certificates** in the **Security** section (near the bottom of the panel), Figure 5-29 shows an example of the **Internet Information Services (IIS) Manager** window.

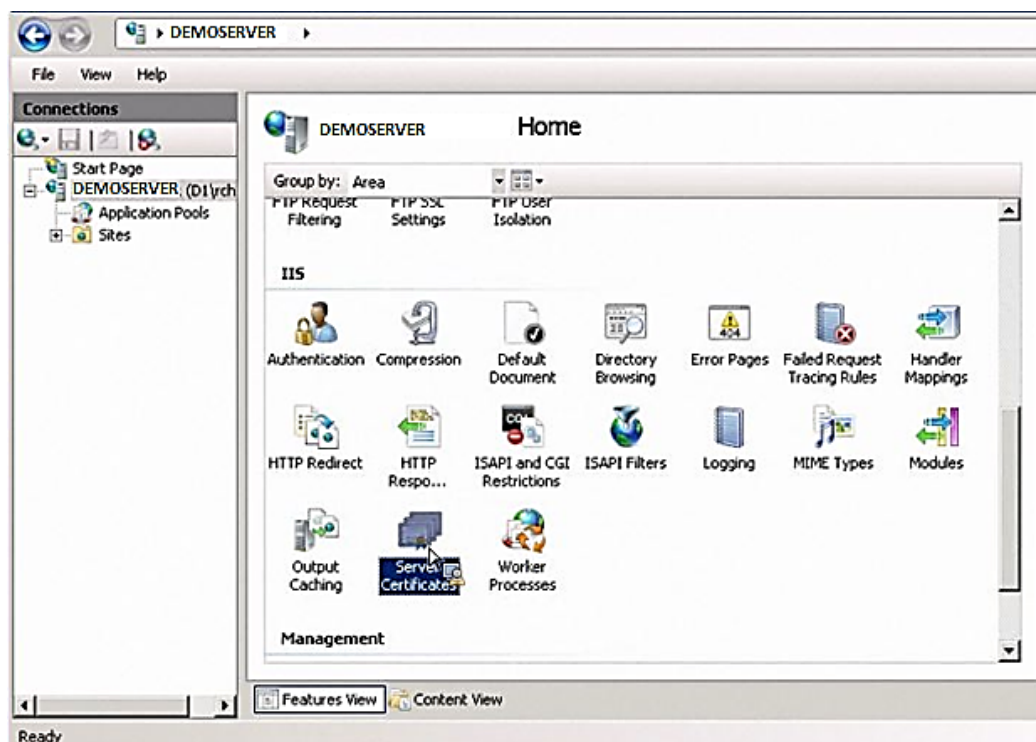


Figure 5-29: Internet Information Services (IIS) Manager

4. Next, in the **Actions** panel (on the right), click **Import** as shown in Figure 5-30. The **Import Certificate** dialog is displayed.



Figure 5-30: Import Server Certificate dialog

5. In the **Import Certificate** dialog shown in Figure 5-30, click [...] to browse to the location where you saved the server certificate file you acquired in Section 4.1.
6. In the **Password** field, type the password provided to you by the IHS Server Certificate Request team (or in the case of non-tribal sites, by the issuing authority from which you acquired your server certificate). If your server certificate was acquired from another issuing authority, you may or may not have received a password. Enter the password if applicable; otherwise leave this field blank.
7. Click **OK** to complete the import procedure.

5.9 Configure the SSL Certificate

Follow these steps to configure the SSL certificate:

1. In the **Internet Information Services Manager** window, select the name of the server where you installed the certificate.
2. Under **Sites**, select the site to be secured with the SSL certificate.
3. In the **Actions** pane, click **Bindings**.
4. Click **Add**.
5. In **Add Site Binding**:
 - a. For **Type**, select **https**.
 - b. For **IP address**, select **All Unassigned**, or the IP address of the site.
 - c. For **Port**, type **443**.

Note: When installing SSL with https (port 443), you must first remove the previous site bindings for http (typically port 80). The **Site Bindings** dialog shown in Figure 5-31 will indicate whether you have any http site bindings and allow you to remove them if they are present.

- d. Select the **SSL certificate** just installed. Click **OK**.

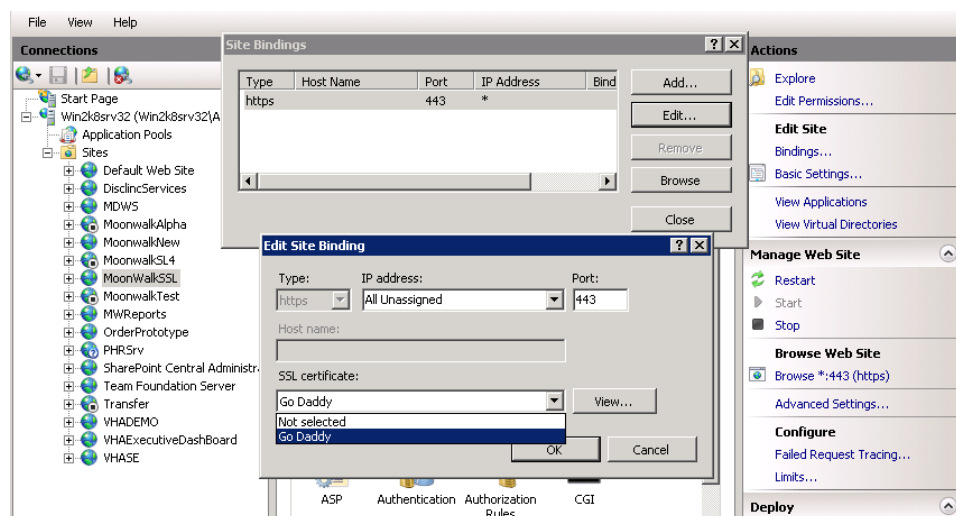


Figure 5-31: **Edit Site Binding** dialog

6. Click **Close**.
7. Close **Internet Information Services (IIS) Manager**.

The SSL Certificate is now configured. Visit the website via an HTTPS connection – using the domain name, not the IP address – to verify the installation.

6.0 BMW Database Server Installation & Configuration

6.1 Introduction

This chapter outlines the artifacts essential for setting up and configuring an IHS RPMS database server in order for the BMW application to be executed against the RPMS database. It also provides steps to set up such an environment.

6.1.1 Assumptions

This chapter assumes the following:

- Ensemble/Cache server (running one of the supported versions as described in Section 2.4.1) has already been set up.
- An RPMS database is already set up on the Ensemble/Cache server.
- The person performing the installation and configuration has the appropriate rights to mount databases, create a namespace, and edit namespace settings for the RPMS database.

6.2 Setup

In this manual, “EBCI” is the name of the RPMS database used. The name may be different on your system. The steps shown in the following sections will guide you through setting up the BMW database for the IHS RPMS environment.

6.2.1 Create the /BMW Folder

Create a /BMW folder under the default database folder on your database server. This is the folder where the BMW CACHE.DAT file will reside.

For Windows systems, use Windows Explorer as described in section 5.7.2 (substituting the appropriate drive letter and folder names).

For AIX systems, issue the following command at the command prompt. (Note that this example is using *usr3* as the default database directory. Your default directory will likely be different.):

```
$mkdir /usr3/cachedata/bmw/
```

6.2.2 Unzip the BMW zip file

Using the 7-Zip software referenced in Section 2.4.3, unzip the `bmw_0100db_win_nnnn.7z` file (or `bmw_0100db_aix_nnnn.7z` if applicable). The `bmw_0100db_win_nnnn.7z` file contains the BMW database, named `CACHE.DAT`, which will be mounted onto the Ensemble/Cache server in the steps shown in Section 6.2.6.

Unzip this file on a workstation or other local machine, not on your database server itself. After it is unzipped, it will be moved to the database server as described in Section 6.2.3

6.2.3 Move CACHE.DAT to the Database Server

After unzipping the compressed file, move the `CACHE.DAT` file contained within it to the `/BMW` folder you created in Section 6.2.1. If you are installing on a Windows database server, this file move can be done directly through your network or via Remote Desktop Connection, depending on your site requirements. On an AIX database server, you will likely need to use FTP or another similar file transfer program to move the file.

6.2.4 Set File and Folder Permissions

BMW needs specific access permissions (also known as access rights on AIX systems) to access the `CACHE.DAT` file and the folder in which it is stored. On Windows servers, the necessary permissions are typically set up by default.

On AIX servers, the necessary rights are not established by default. Follow these steps to set the access rights on an AIX server:

1. Type this command at the AIX command prompt to navigate to the folder where `CACHE.DAT` is stored. (Note that this example is using `usr3` as the default database directory. Your default directory will likely be different.):

```
$cd /usr3/cachedata/
```

2. Type this command to set the permissions for the `/bmw` directory:

```
$chmod 770 /usr3/cachedata/bmw
```

3. Type this command to set the permissions for the `CACHE.DAT` file:

```
$chmod 775 /usr3/cachedata/bmw/CACHE.DAT
```

6.2.5 Set Up the BMW Database

Follow these steps to set up the BMW database for mounting:

1. Mount the unzipped BMW database using the **Ensemble System Management Portal**. The System Management portal is a component of Ensemble/Cache and it is launched by right-clicking the **Ensemble** icon () in the **Windows Notification Area** and clicking **System Management Portal** as shown in Figure 6-1.

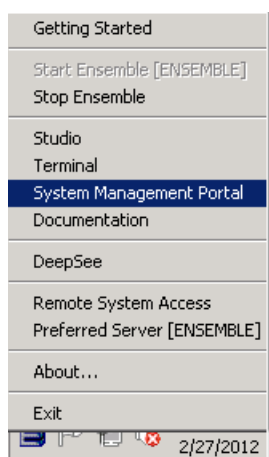


Figure 6-1: Opening the **Ensemble System Management Portal**

2. Type your Ensemble/Cache user name and password in the window displayed (Figure 6-2), and then click **Login**.

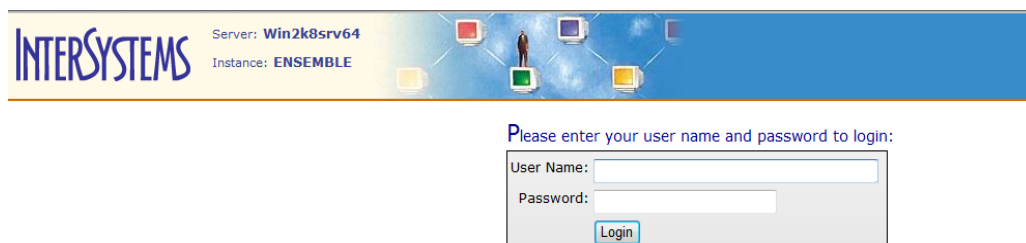


Figure 6-2: Ensemble/Cache **Login** dialog

3. Select **Configuration** in the **System Administration** column of the **System Management Portal** window as shown in Figure 6-3:

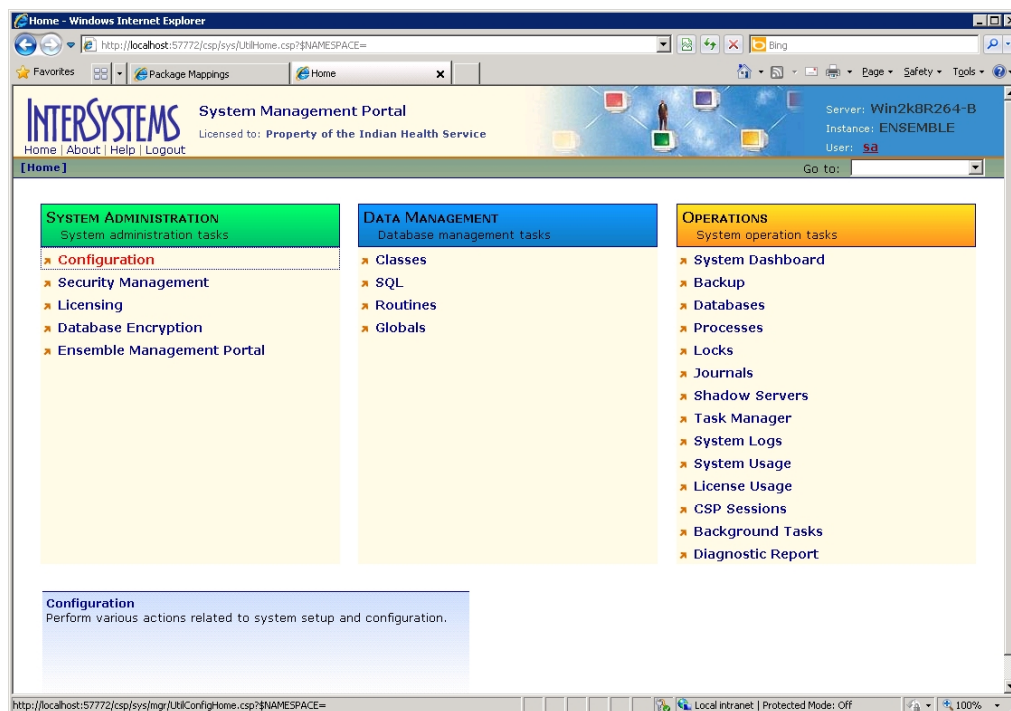


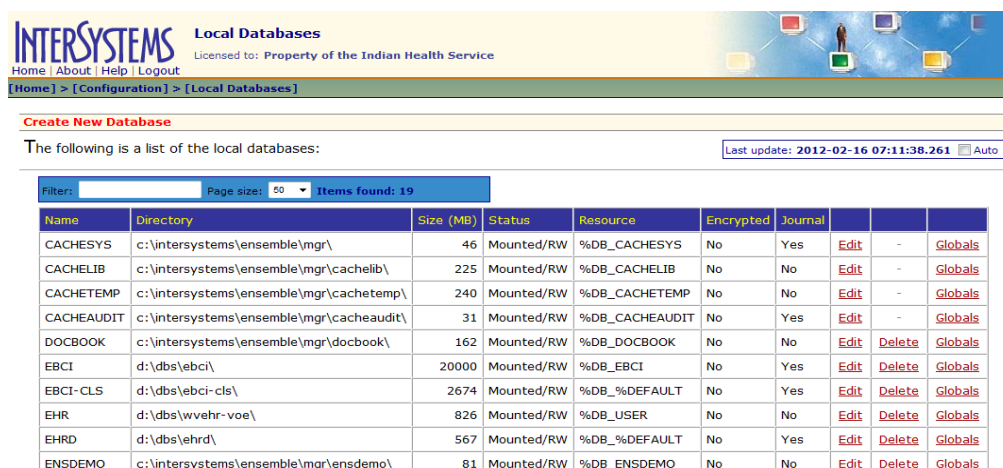
Figure 6-3: System Management Portal – configuration selected

4. Select **Local Databases** in the **System Configuration** column of the **System Management Portal** window displayed as shown in Figure 6-4:



Figure 6-4: System Management Portal – Local Databases selected

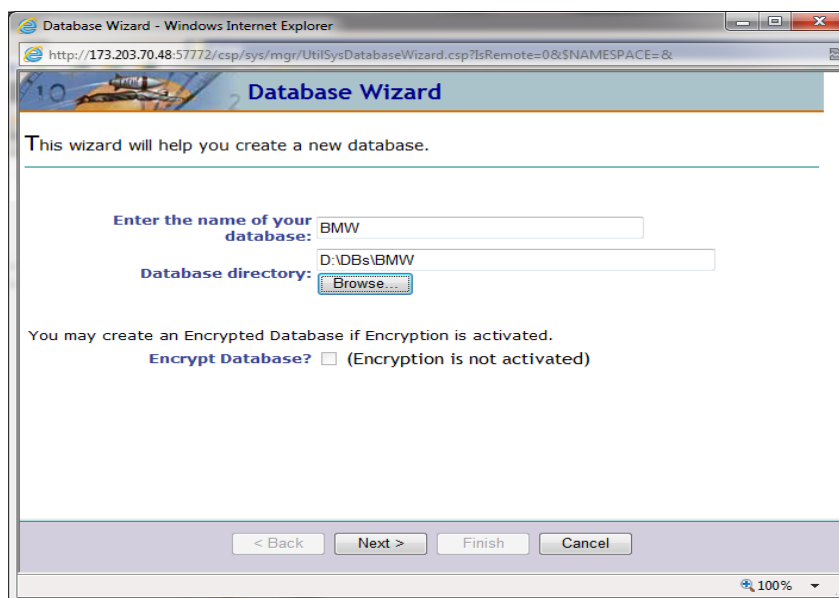
5. The **Local Databases** window displays as shown in (Figure 6-5):



Name	Directory	Size (MB)	Status	Resource	Encrypted	Journal			
CACHESYS	c:\intersystems\ensemble\mgr\	46	Mounted/RW	%DB_CACHESYS	No	Yes	Edit	-	Globals
CACHELIB	c:\intersystems\ensemble\mgr\cachelib\	225	Mounted/RW	%DB_CACHELIB	No	No	Edit	-	Globals
CACHETEMP	c:\intersystems\ensemble\mgr\cachetemp\	240	Mounted/RW	%DB_CACHETEMP	No	No	Edit	-	Globals
CACHEAUDIT	c:\intersystems\ensemble\mgr\cacheaudit\	31	Mounted/RW	%DB_CACHEAUDIT	No	Yes	Edit	-	Globals
DOCBOOK	c:\intersystems\ensemble\mgr\docbook\	162	Mounted/RW	%DB_DOCBOOK	No	No	Edit	Delete	Globals
EBCI	d:\dbs\ebci\	20000	Mounted/RW	%DB_EBCI	No	Yes	Edit	Delete	Globals
EBCI-CLS	d:\dbs\ebci-cls\	2674	Mounted/RW	%DB_%DEFAULT	No	Yes	Edit	Delete	Globals
EHR	d:\dbs\wvehr-voe\	826	Mounted/RW	%DB_USER	No	No	Edit	Delete	Globals
EHRD	d:\dbs\ehrd\	567	Mounted/RW	%DB_%DEFAULT	No	Yes	Edit	Delete	Globals
ENSDEMO	c:\intersystems\ensemble\mgr\ensdemo\	81	Mounted/RW	%DB_ENSDEMO	No	No	Edit	Delete	Globals

Figure 6-5: **Local Databases** window

6. Select **Create New Database** in the **Local Databases** window. The **Database Wizard** (Figure 6-6) window is displayed.
7. In the **Enter the name of your database** field, type **BMW**.
8. Click **Browse** and browse to the folder where the **BMW** database is located as described in Section 6.2.2. (The correct folder is labeled \BMW and contains the Cache.dat file).



Database Wizard - Windows Internet Explorer

http://173.203.70.48:57772/csp/sys/mgr/UtilSysDatabaseWizard.csp?IsRemote=0&NAMESPACE=&

Database Wizard

This wizard will help you create a new database.

Enter the name of your database:

Database directory:

You may create an Encrypted Database if Encryption is activated.

Encrypt Database? ☐ (Encryption is not activated)

< Back Next > Finish Cancel

Figure 6-6: **Database Wizard Create New Database**

- Click **Next** to display the next window of the Database Wizard (Figure 6-7). A message displays stating the CACHE.DAT database file already exists. Click **Finish** to close the **Database Wizard**.

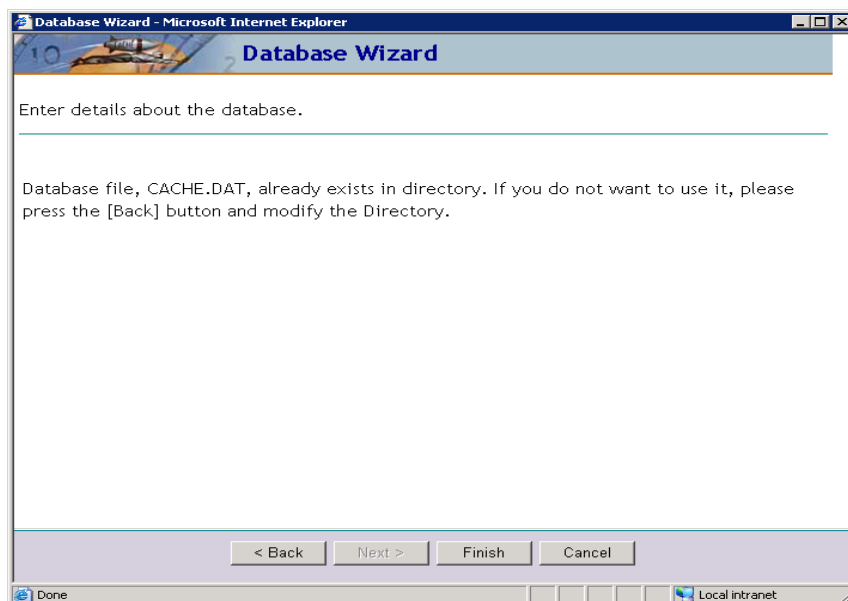


Figure 6-7: Database Wizard

6.2.6 Mount the BMW Database

Follow these steps to mount the BMW database:

- From the Ensemble/Cache **System Management Portal Home** window, click **Databases** in the **Operations** column to display the **Databases** window shown in Figure 6-8.

Name	Directory	Max Size (GB)	Size (MB)	Status	Encrypted	Journal		
CACHESYS	c:\intersystems\ensemble\mgr\	Unlimited	46	Mounted/RW	No	Yes	-	-
CACHELIB	c:\intersystems\ensemble\mgr\cachelib\	Unlimited	225	Mounted/RW	No	No	-	-
CACHETEMP	c:\intersystems\ensemble\mgr\cachetemp\	Unlimited	240	Mounted/RW	No	No	-	-
CACHEAUDIT	c:\intersystems\ensemble\mgr\cacheaudit\	Unlimited	31	Mounted/RW	No	Yes	-	-
BMW	D:\DBs\BMW\	Unlimited	2674	Unmounted	No	Yes	-	Mount
DOCBOOK	c:\intersystems\ensemble\mgr\docbook\	Unlimited	162	Mounted/RW	No	No	Dismount	-
EBCI	d:\dbs\ebci\	Unlimited	20000	Mounted/RW	No	Yes	Dismount	-

Figure 6-8: System Management Portal Databases window

2. If the **Status** column for the BMW database shows it to be unmounted, click **Mount**. The confirmation dialog shown in Figure 6-9 displays.
3. Click **Read Only**, and click **Perform Action Now**.

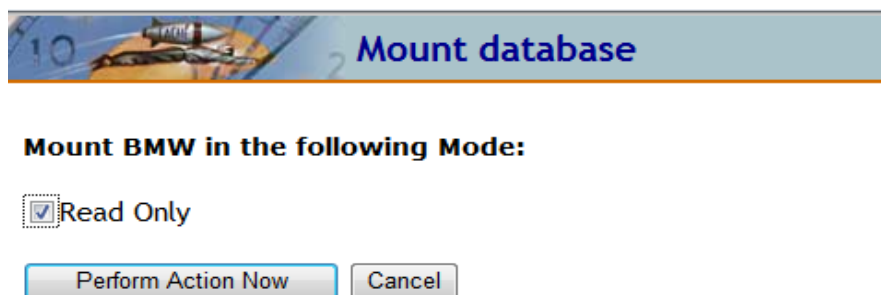


Figure 6-9: **Mount Database** dialog

Note: When installing BMW patches, it is necessary to mount the database with Read Only mode disabled. Once the patch is installed, you can re-enable Read Only mode.

6.2.7 Create the New Namespace

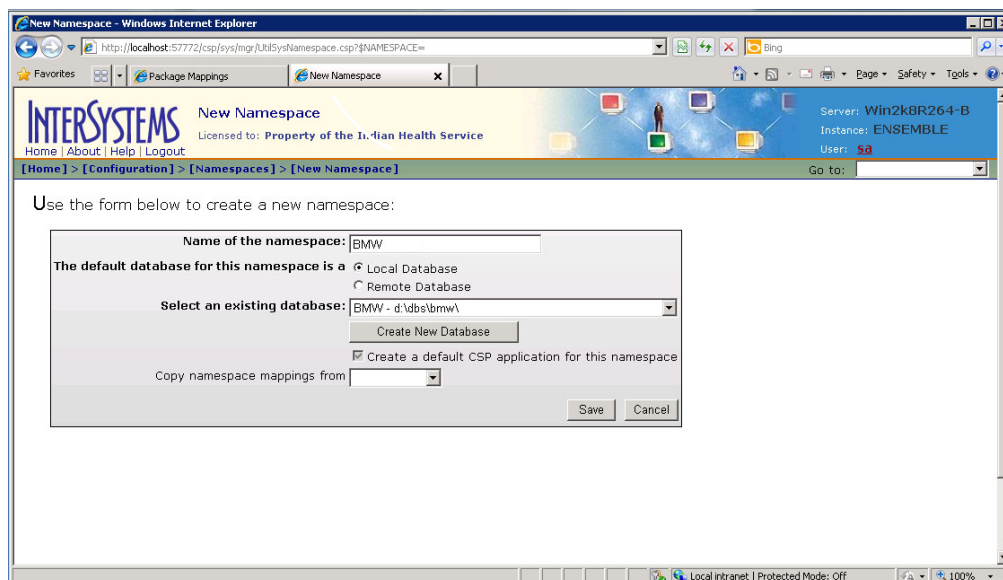
Follow these steps to create a new namespace for the BMW database:

1. Browse to the **New Namespace** window of the **Ensemble Management Portal** following this path:

[**Home**] > [**Configuration**] > [**Namespaces**] > [**Create New Namespace**]

Click **Create New Namespace** at the top of the screen displayed. This causes the **New Namespace** window shown in Figure 6-10 to be displayed.

2. Create a new namespace as shown in Figure 6-10, specifying **BMW** as the name of the namespace, and selecting **BMW** from the list of existing databases.

Figure 6-10: Add a **New Namespace**

3. Click **Save**.

6.2.8 Set up Package Mapping

Follow these steps to set up the package mapping:

1. Browse to the **Namespaces** window of the **Ensemble Management Portal** following this path:
[Home] > [Configuration] > [Namespaces]
2. A **Namespaces** window similar to Figure 6-11 displays. Click **Package Mappings** in the row corresponding to your RPMS production database. This example shows the ECBI database. Your database will have a different name. To reiterate, this will be your RPMS production database, not the BMW database you created in section 6.2.5.

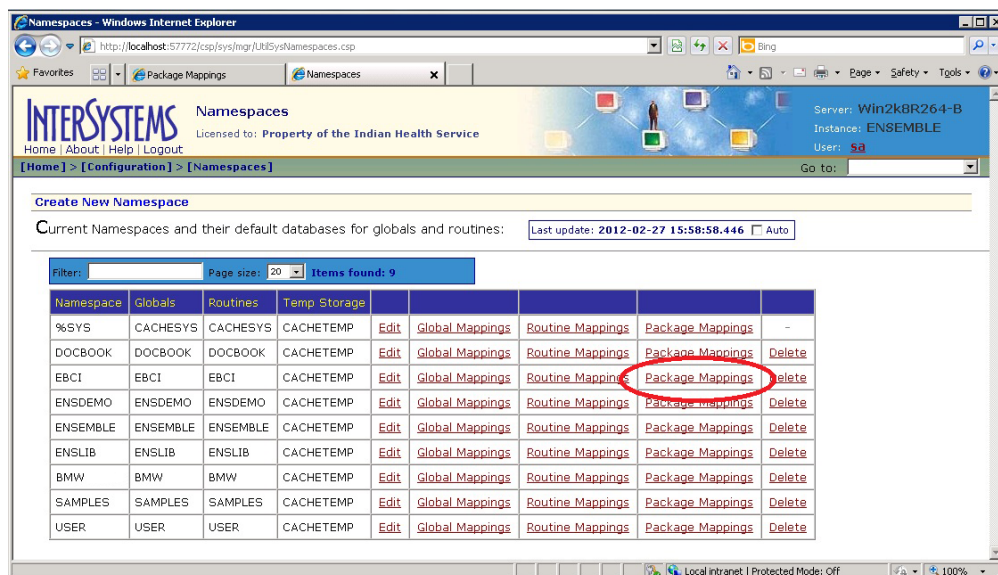


Figure 6-11: Namespaces window with Package Mappings

3. In the **Package Mappings** window shown (Figure 6-12), click **New Package Mapping** to display the Package Mapping dialog.

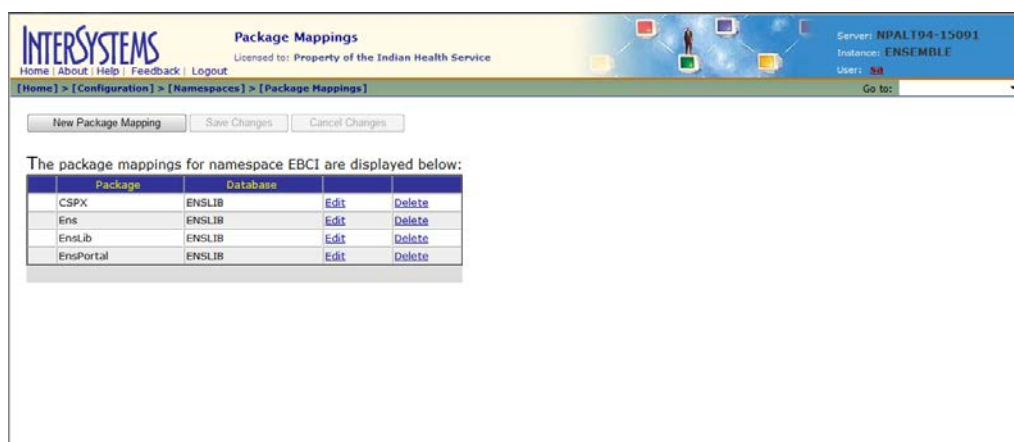
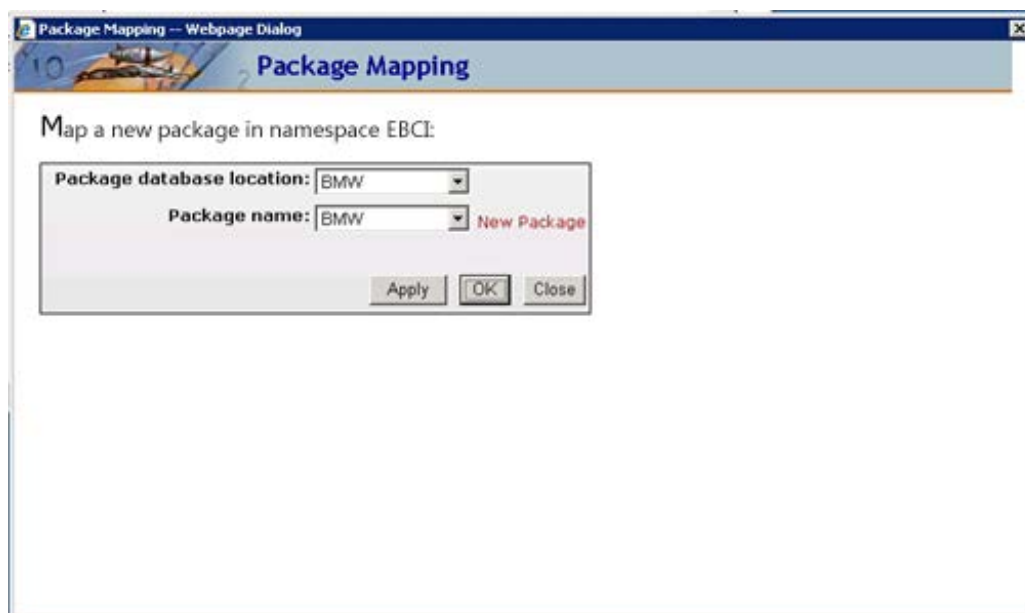
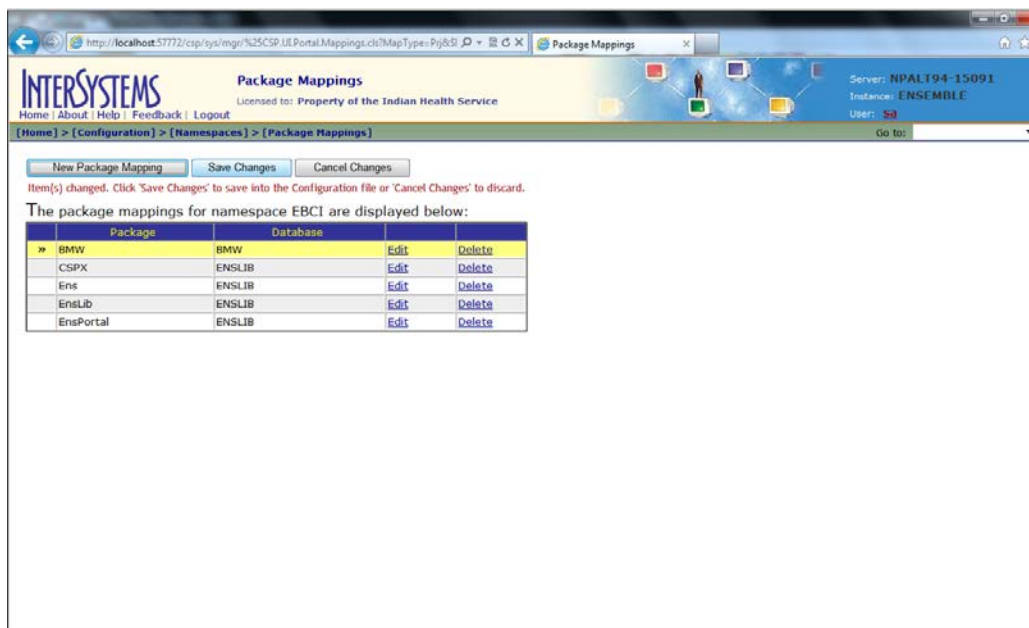


Figure 6-12: Package Mappings window

4. In the **Package Mapping** dialog (Figure 6-13), type **BMW** as the **Package database location** and **BMW** as the **Package name**.

Figure 6-13: **Package Mapping** dialog

- Once done, click **OK**, and then click **Save Changes** in the confirmation window displayed (Figure 6-14).

Figure 6-14: **Package Mappings** confirmation window

6.2.9 Package Mapping Verification

Follow these steps to verify that the package mapping was successful and Cache classes (tables) can accurately fetch data from FileMan files:

1. Browse to the **Execute SQL Query** window of the Ensemble System Management Portal following this path:

[Home] > [SQL] > [Execute SQL Statement]

2. Select the site-specific namespace (**EBCI** in this example) from the column on the left, and type the following query in the edit box as shown in Figure 6-15:

```
SELECT * FROM BMW.STATE
```

Figure 6-15: Query

3. Click **Execute Query**. If the package mapping is successful, a listing similar to Figure 6-16 displays:

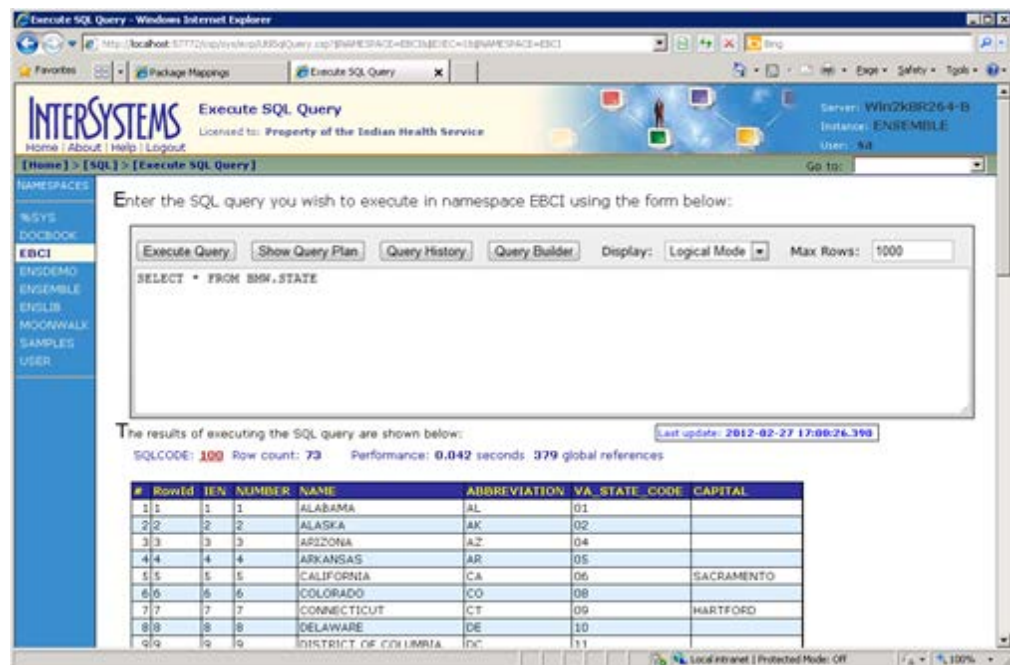


Figure 6-16: Example of a Test Query

This completes the package mapping and verification steps.

6.2.10 Ensemble Version / Cache Classes Compatibility Verification

Follow these steps to verify the Ensemble version you are running is compatible with the newly-installed BMW Cache classes:

1. Browse to the **Schemas** window of the Ensemble System Management Portal following this path:

[Home] > [SQL] > [Browse SQL Schemas]

2. Select the site-specific namespace (**EBCI** in the example shown in Figure 6-17) from the column on the left, and click **Procedures** in the BMW row.

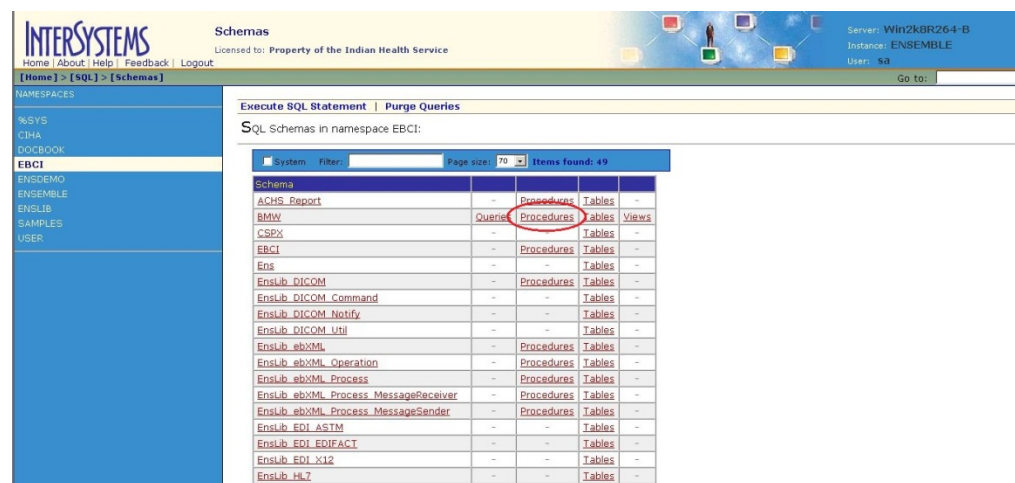


Figure 6-17: **Schemas** window with Procedures

3. In the Stored Procedures window that is displayed, type **bmw_core** in the Filter field as shown in Figure 6-18, and then click **Run** on the row containing the **BMW_CORE_SP_AuthenticateUserQ** name.

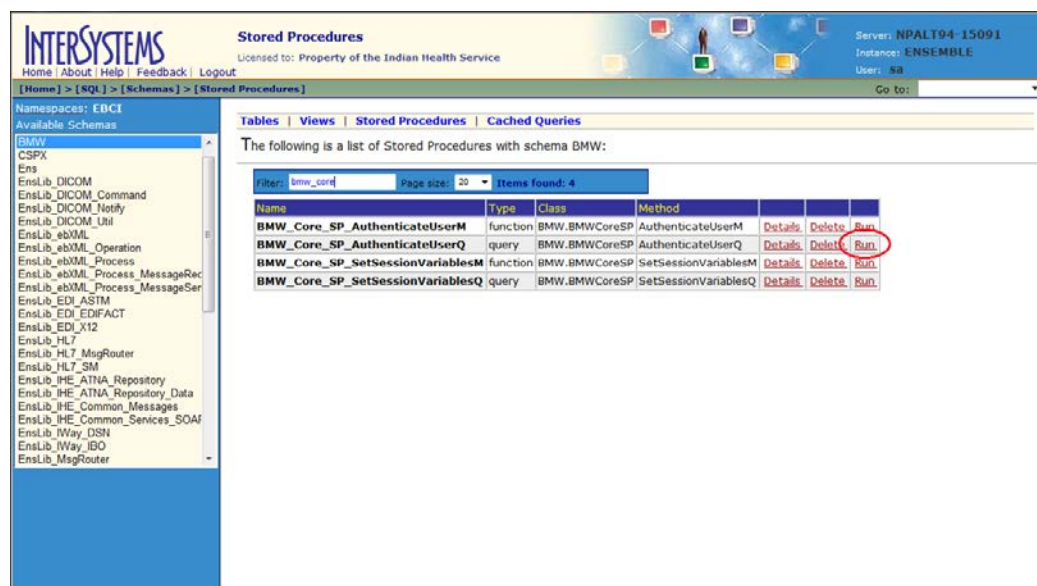


Figure 6-18: Stored Procedures window

- If the Ensemble version you are running is compatible with the newly-installed BMW Cache classes, the **Run Query** window shown in Figure 6-19 is displayed:

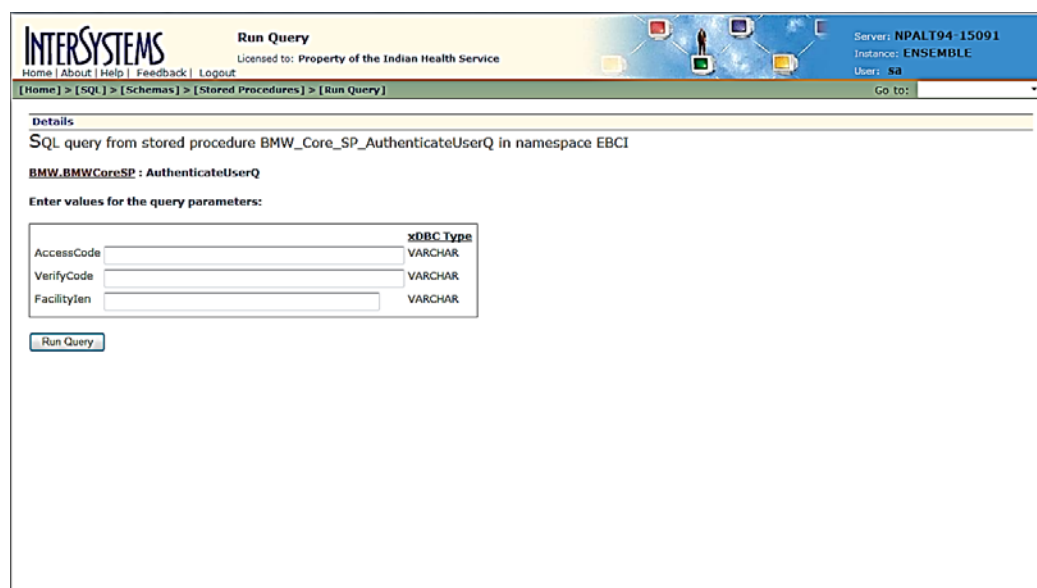


Figure 6-19: Run Query window

- If an error message similar to that shown in Figure 6-20 is displayed, the Ensemble version you are running is not compatible with the newly-installed BMW Cache classes.



Figure 6-20: CSP Error message

This completes Ensemble Version and Cache classes' compatibility verification steps.

6.3 Cache User Creation

BMW performs create, read, update, and delete (CRUD) operations over the RPMS DB using the 'BMW' tables that were mapped over the RPMS database, as described in Section 6.2.8.

BMW requires a Cache user privileged to execute CRUD on the RPMS database. Table 6-1 shows the privileges needed:

Table 6-1: User Permissions Needed

Item	Permissions Needed
SQL Tables	Update/Read/Delete privilege on all tables of the BMW package in the RPMS database
SQL Views	Read permission all views of the BMW package in the RPMS database
SQL Procedures	Execute permission on all procedures of the BMW package in the RPMS database

6.3.1 Create the Moonwalk User

Follow these steps to create a new Moonwalk user:

1. Navigate to the **Users** window of the Ensemble System Management Portal following this path:

[Home] > [Security Management] > [Users]

- Click **Create New User** to display the **Create User Definition** window. Type **MOONWALK_USER** in the **Name** field, and type a password that complies with your site-specific password rules in the **Password** and **Password Confirmation** fields.
- When finished, the **Create User Definition** window will look similar to the example shown in Figure 6-21.

Figure 6-21: **Create User Definition** window

- Click **Save** to save the new user
- Click **Close** to exit the **Create User Definition** window.

6.3.2 Assign User Roles

Follow these steps to assign user roles for the required tables:

- After creating a new user, navigate to the **Users** window (Figure 6-22) in the **Ensemble System Management Portal** following this path:

[Home] > [Security Management] > [Users]

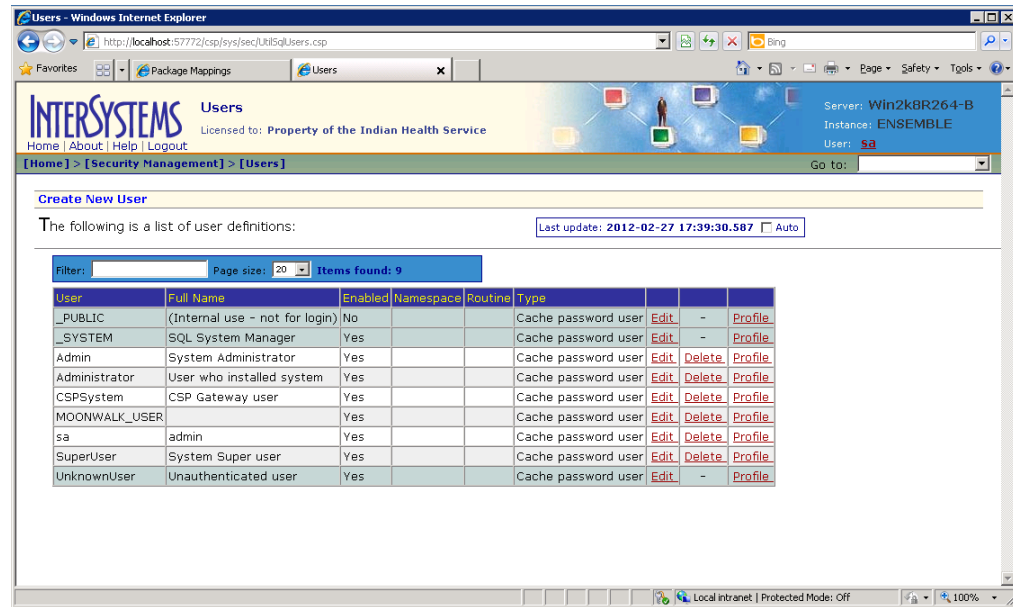


Figure 6-22: Users window

- Click **Edit** in the row corresponding to the new MOONWALK_USER user created in Section 6.3.1.
- Click the **Roles** tab in the **Edit User** window displayed.
- Select **%ALL** from the **Available** column and move it to the **Selected** column by clicking the right-hand arrow.

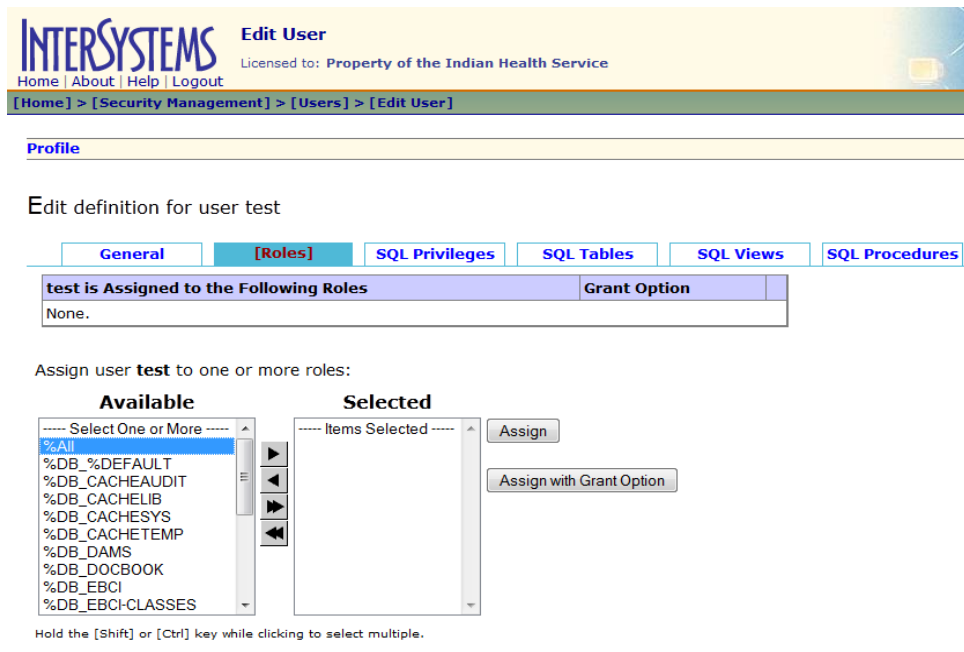


Figure 6-23: Roles tab in Edit User window – before changes

- Click **Assign** to assign the **%ALL** role to the MOONWALK_USER account. When done, the **Edit User** window will look similar to that shown in Figure 6-24.

INTERSYSTEMS Edit User
 Licensed to: Property of the Indian Health Service
 Home | About | Help | Logout
 [Home] > [Security Management] > [Users] > [Edit User]

Profile

Edit definition for user test

General [Roles] SQL Privileges SQL Tables SQL Views SQL Procedures

test is Assigned to the Following Roles	Grant Option
%All	☐ ☒

Assign user **test** to one or more roles:

Available

----- Select One or More -----

- %DB_%DEFAULT
- %DB_CACHEAUDIT
- %DB_CACHELIB
- %DB_CACHESYS
- %DB_CACHETEMP
- %DB_DAMS
- %DB_DOCBOOK
- %DB_EBCI
- %DB_EBCI-CLASSES
- %DB_EBCI-CLS

Selected

----- Items Selected -----

Assign

Assign with Grant Option

Hold the [Shift] or [Ctrl] key while clicking to select multiple.

Figure 6-24: **Roles** tab in **Edit User** window – after changes

At this point, the database configuration is complete.

7.0 Application Deployment to the Web Server

With the application and database server installations complete, this chapter describes the steps for installing the BMW application itself.

Note: If you are installing an update or patch to an existing BMW installation, you must first uninstall the previous version before continuing. See Chapter 9.0 for instructions.

7.1 Deploy the BMW Application

Note: The dialogs shown in this section reflect BMW version 1.0. The dialogs displayed when installing BMW Patch 1 will be the similar, although the version number displayed will be different.

Follow these steps to deploy the BMW application:

1. To deploy BMW, log onto the application server.
2. Browse to the location where the BMW Application Installer file (**bmw_0100.01.msi**) is stored.
3. Double-click the **bmw_0100.01.msi** file to run the BMW application installer. This opens the **BMW setup wizard** (Figure 7-1).

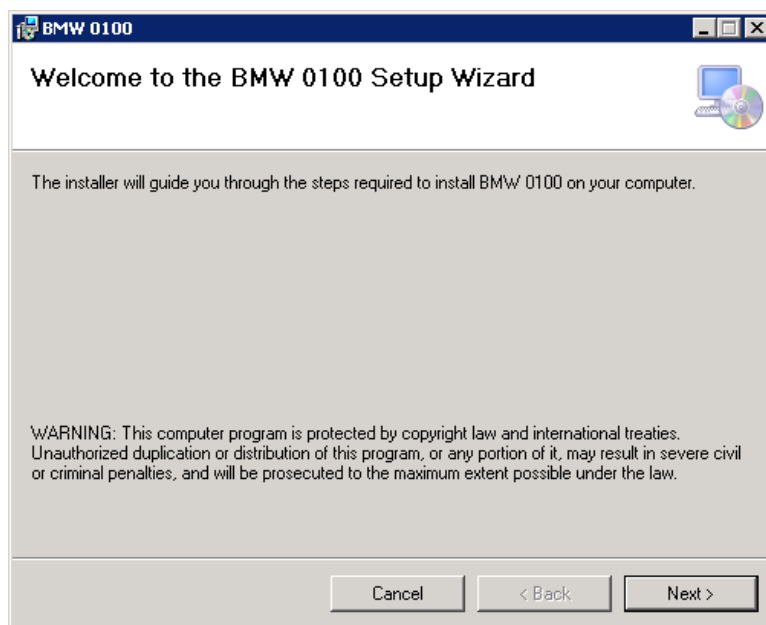


Figure 7-1: **BMW Setup Wizard** dialog

- Click **Next**. The **Select Installation Address** dialog (Figure 7-2) is displayed.

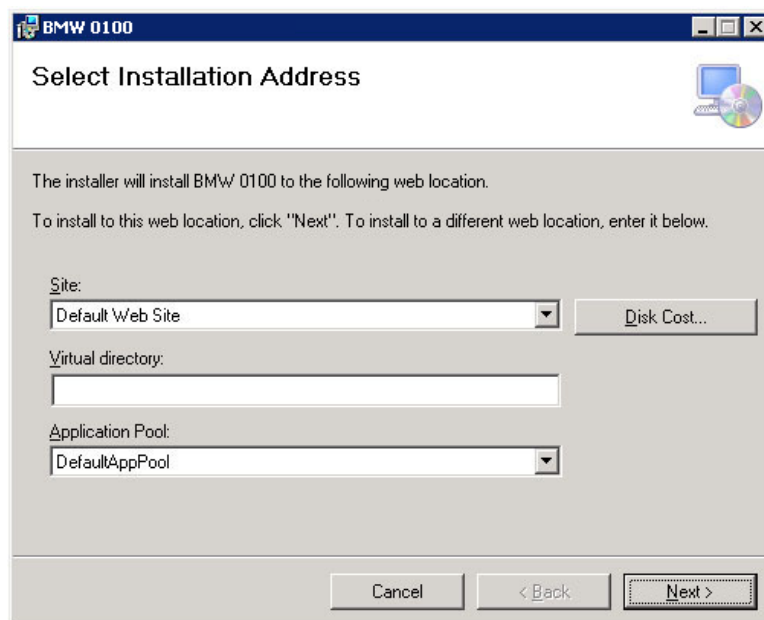


Figure 7-2: **Select Installation Address** dialog

- Select **Moonwalk** from the **Site** list.
- Type directory name in the **Virtual directory** field, if necessary.
- Select **Moonwalk** from the **Application Pool** list. Figure 7-3 shows the results:

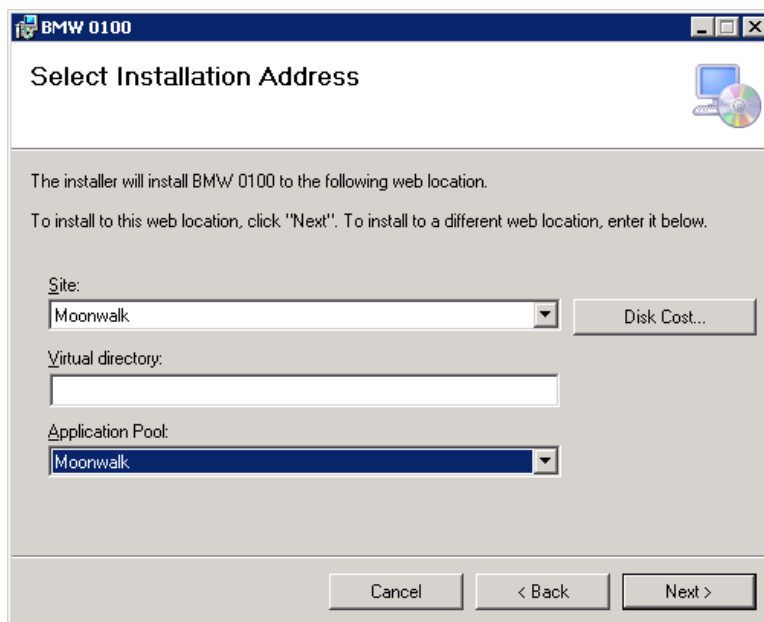


Figure 7-3: **Select Installation Location** dialog after selection

8. Click **Next**.
9. Click **Next** when the **Confirm Installation** (Figure 7-4) dialog is displayed.

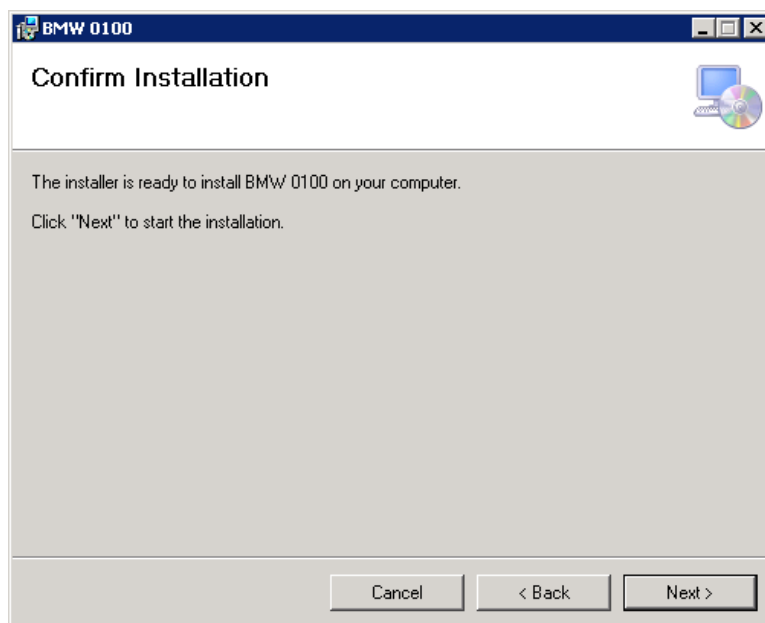


Figure 7-4: **Confirm Installation** dialog

10. The **Installing Moonwalk** dialog (Figure 7-5) displays and the installation progress is shown.

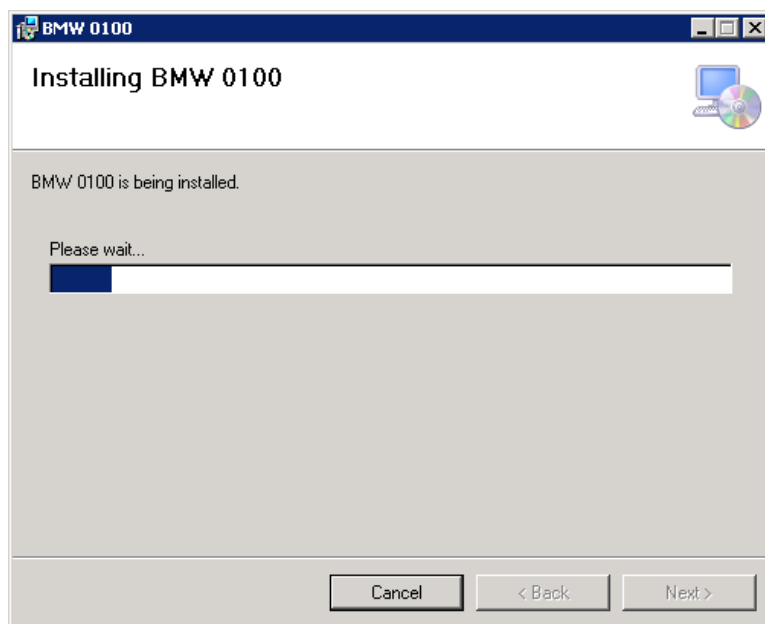


Figure 7-5: **Installing BMW** dialog

11. After a few moments of processing, the **Database Configuration** dialog (Figure 7-6) is displayed.

Figure 7-6: **Database Configuration** dialog

The BMW suite relies on specific information about each RPMS database to which it is connected. You must add this information for each database associated with this Moonwalk installation. The **Database Configuration** dialog contains the following fields:

- **Database IP**

Use this field to enter the IP address of your RPMS database. Note that this is the internal IP address, not an external address.

- **Namespace**

Use this field to enter the namespace of your RPMS database.

- **Port**

Use this field to enter the Cache Supeserver port used by your RPMS database. By default, this is port 1972, although it will be different on your system if you have changed this Cache setting.

You can check your Supeserver port number from within the Ensemble Management Portal using this path:

[Home] > [Configuration] > [Memory and Startup]

The Supeserver port number is displayed at the bottom of the page displayed.

- **DB User Name**

This field is automatically populated with the MOONWALK_USER user name.

- **Password**

Use this field to enter the password you set for the MOONWALK_USER account in section 6.3.1.

- **Institutions**

Use this list box to choose the institution(s) associated with your RPMS database. When the **Default** check box is enabled, this list is limited to only the institutions set as your default per your INSTITUTION file. When the check box is cleared, the list will show all available institutions.

- **Short Name**

This field is automatically populated with your institution's short name if it exists in your INSTITUTION file. If it does not exist, type a short name of your choice by which you can identify this institution in the future.

When the Database Configuration dialog is displayed, enter the **Database IP**, **Namespace**, **Port**, **DB User Name**, and **Password**, then click **Load Institutions**. Once the **Institutions** list is loaded select your institution from the list and provide a **Short Name** (if not already present).

Once the fields are populated, click **Add** to add the information to the BMW database configuration file. If more than one database is associated with this installation of BMW, re-populate the form fields with the appropriate information and click **Add** again. Repeat this process for each database. If necessary, use the **Remove** button to remove a set of configuration parameters from the list. When done, click **Save and Exit** to continue the application installation.

12. When the installation is complete, click **Next**. The **Installation Complete** dialog Figure 7-7 is displayed. Click **Close** to exit the dialog.

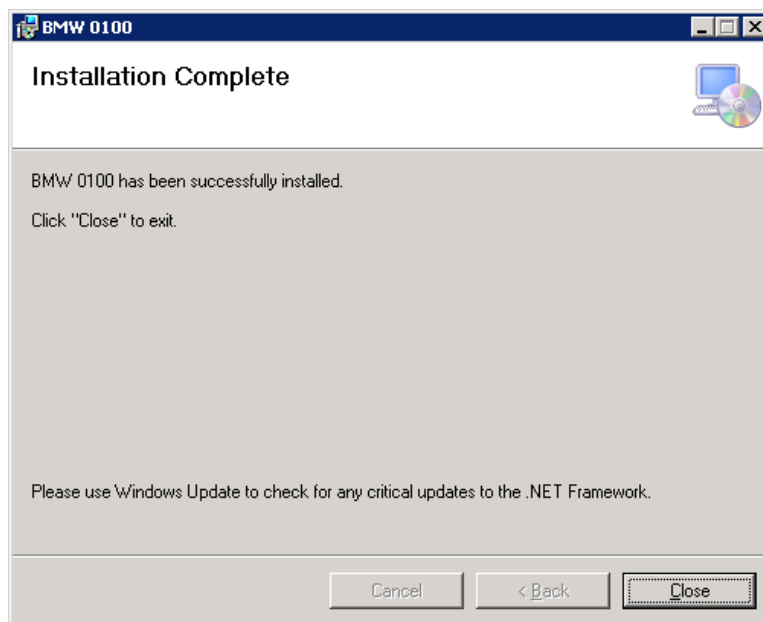


Figure 7-7: **Installation Complete** dialog

7.2 Adding a Database After the Installation

Note: The dialogs shown in this section reflect BMW version 1.0. The dialogs displayed by BMW Patch 1 will be the similar, although the version number displayed will be different.

In some cases and at some sites, it may be necessary or desirable to associate one or more additional databases to the BMW application suite. Follow these steps if you are adding a database after BMW has been installed:

1. Log onto the application server where BMW resides.
2. Browse to the location where the BMW Application Installer file (**bmw_0100.01.msi**) is stored.
3. Double-click the **bmw_0100.01.msi** file to run the BMW application installer. This opens the **BMW setup wizard** (Figure 7-8) in repair mode.



Figure 7-8: **BMW Setup Wizard** dialog – Repair

4. Select **Repair**, and then click **Finish**. The **Installing BMW** dialog (Figure 7-9) is then displayed.

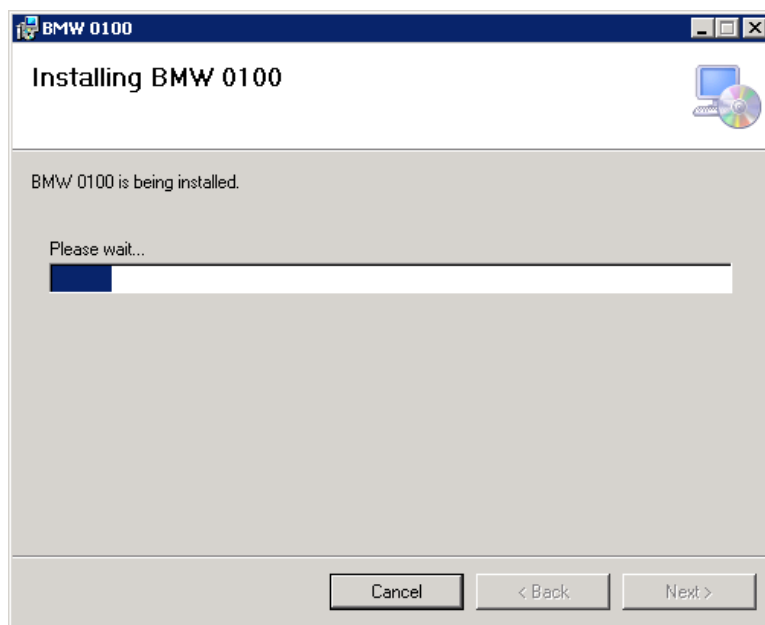
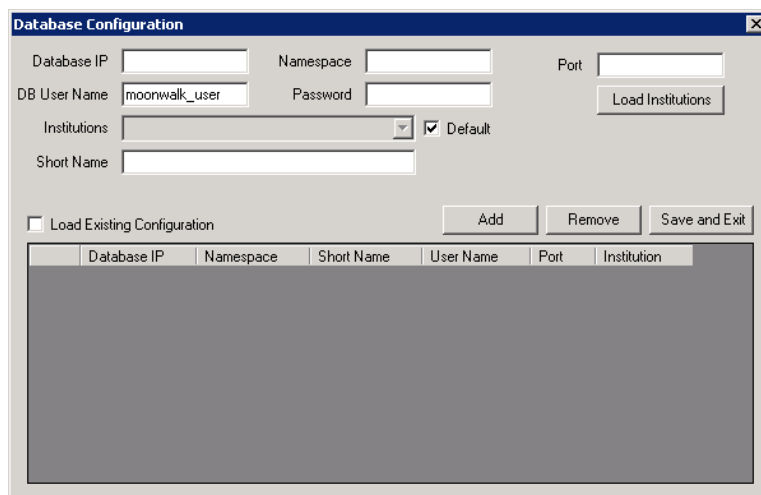
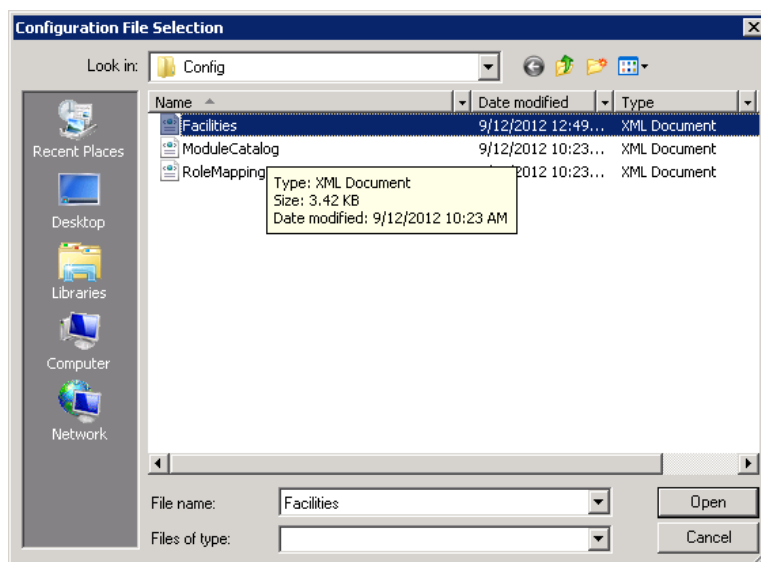


Figure 7-9: **Installing BMW** dialog

5. Click **Next** once the processing is complete. The **Database Configuration** dialog (Figure 7-10) is then displayed.

Figure 7-10: **Database Configuration** dialog

6. In the **Database Configuration** dialog, select the **Load Existing Configuration** check box. This causes the **Configuration File Selection** dialog (Figure 7-11) to be displayed. Select **Facilities**, and then click **Open**.

Figure 7-11: **Configuration File Selection** dialog

7. Next, the **Database Configuration** dialog is again displayed, with the existing configuration listed, similar to that shown in Figure 7-12.

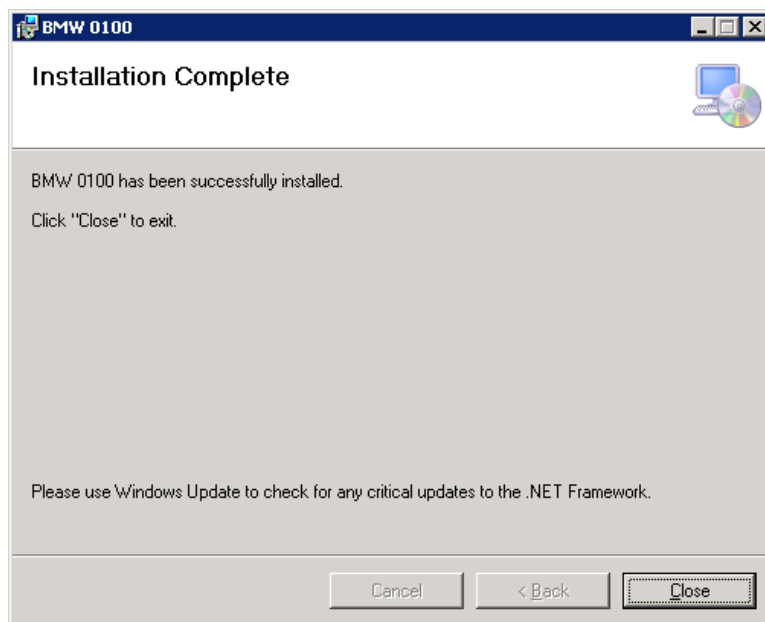
Database IP	Namespace	Short Name	User Name	Port	Institution
173.203.65.178	EBCI	EBCI	sa	1972	7247

Figure 7-12: **Database Configuration** dialog - Existing configurations listed

Enter the **Database IP**, **Namespace**, **Port**, **DB User Name**, and **Password** for the database you are adding, and then click **Load Institutions**. Once the **Institutions** list is loaded select your institution from the list and provide a **Short Name** (if not already present).

Once the fields are populated, click **Add** to add the information to the BMW database configuration file. If you are adding more than one database to this installation of BMW, re-populate the form fields with the appropriate information and click **Add** again. Repeat this process for each database you are adding. If necessary, use the **Remove** button to remove a set of configuration parameters from the list. When finished, click **Save and Exit**.

- When the installation is complete, click **Next**. The **Installation Complete** dialog Figure 7-13 is displayed. Click **Close** to exit the dialog.

Figure 7-13: **Installation Complete** dialog

7.3 Menu and Security Keys

There are no package-specific security keys associated with BMW. The BMW package operates on existing RPMS security keys.

BMW security is built on top of the RPMS Menus and Security keys. Table 7-1 defines the relationship between BMW Roles and the RPMS Menu and Security keys.

Note: If a user has AKMOCORE or XUCORE as their primary menu option, either of these menu options will override any of the Secondary Menu options shown in Table 7-1. They will, however, need the appropriate Security Keys as shown in the table.

Table 7-1: Security Keys

Role	Secondary Menu Option	Security Keys (Must include all)
Registration Clerk	AGPAT -or- AGMENU	AGZMENU
Registration Supervisor	AGMENU	AGZMENU AGZMGR AGZHOME AGZREPORTS AGZDELHRN

Role	Secondary Menu Option	Security Keys (Must include all)
Registration View Only	AGPAT -or- AGVIEWONLY	AGZVIEWONLY
Scheduling Clerk	BSDMENU	SDZMENU
Scheduling Supervisor	BSDMENU -or- BSD MENU SUPERVISOR	SDZMENU SDZSUP
SSN Viewer	AGSSNMENU	AGZVIEWSSN

In cases where there is more than one Secondary Menu Option listed in Table 7-1, only one is necessary per user. Conversely, where there is more than one Security Key listed for a specific role, you must include all of the keys shown. For example, a Scheduling Supervisor needs either the BSDMENU or BSD MENU SUPERVISOR added as a Secondary Menu Option, but needs both the SDZMENU and SDZSUM Security Keys.

7.4 Open the BMW Application

After the installation and configuration steps have been done, follow these steps to open BMW:

1. Open Internet Explorer.
2. In the Address bar, enter the IP address of your Windows application server using this form:

http://nnn.nnn.nnn.nnn
3. If Microsoft Silverlight is not already installed on the computer, a message will be displayed offering to download and install it. Follow the prompts to install Silverlight on the computer.
4. Once Silverlight is installed, the **BMW Log In** screen (Figure 7-14) is displayed.

For better user experience, please install the application and run it from the installed programs. **Install**

Log In

Access Code

Verify Code

Database

Login

THERE IS NO RIGHT OF PRIVACY IN USE OF THIS SYSTEM
You are accessing a U.S. Government information system, which includes (1) this computer, (2) this computer network, (3) all computers connected to this network, and (4) all devices and storage media attached to this network or to a computer on this network. This information system is provided for U.S. Government-authorized use only. Unauthorized or improper use of this system may result in disciplinary action, as well as civil and criminal penalties. By using this information system, you understand and

Figure 7-14: BMW **Log In** screen

5. Type your RPMS Access Code (user name) in the **Access Code** field
6. Type your RPMS Verify Code (password) in the **Verify Code** field.
7. Select your RPMS database from the **Database** list box.

Note: Users must have an RPMS division assigned to them before they can log into the RPMS database selected in this step.

8. Click **Login**. A screen similar to that shown in Figure 7-15 will be displayed, although different modules may be displayed at the bottom of the screen.

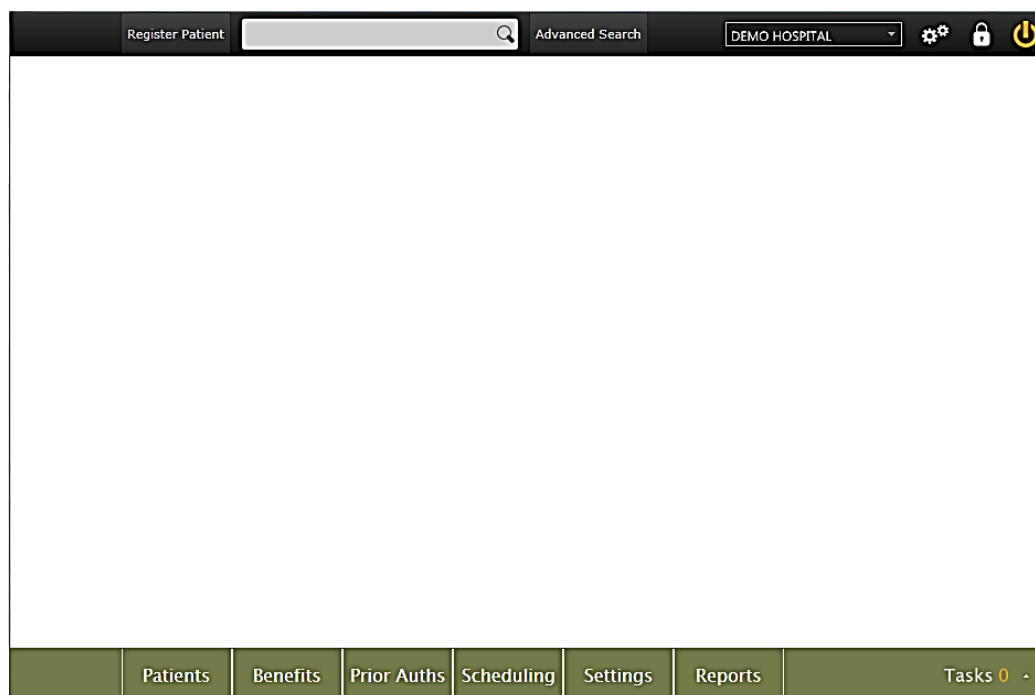


Figure 7-15: BMW Opening Screen

Note: If you specified a port other than the default in Section 5.7.3 and the opening screen is not displayed, verify that the port you specified is open on the BMW web server.

Refer to the separate BMW User Manuals for additional information about using the modules that make up the application suite.

8.0 Installing BMW in Out of Browser Mode

The BMW application can be operated in two separate ways: "browser" mode and "out of browser" mode.

Browser mode, as the name implies, runs BMW within a web browser such as Microsoft Internet Explorer or Mozilla Firefox. In browser mode, BMW is accessed by typing a specific URL (web address) into the address bar of the browser, or by clicking a bookmark or shortcut containing that address.

Out of browser mode runs BMW as an installed application, using a separate window that does not require a web browser. In out of browser mode, BMW is accessed through the Windows All Programs (or Program Files) listing, or by double-clicking the desktop shortcut that is installed with the application.

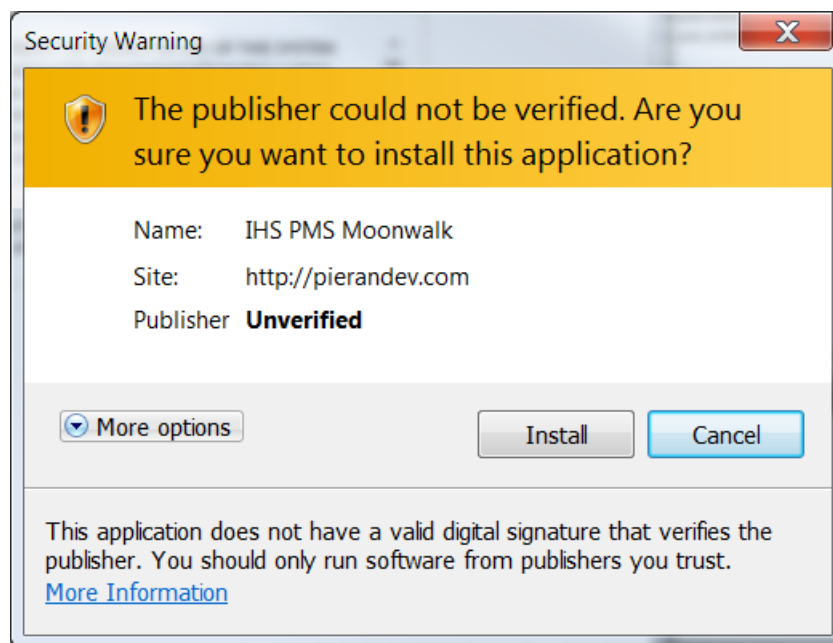
Follow these steps to install BMW in out of browser mode:

1. Start BMW in browser mode as described in Section 7.3.
2. Click **Install** in the upper right corner of the browser window as shown in Figure 8-1.

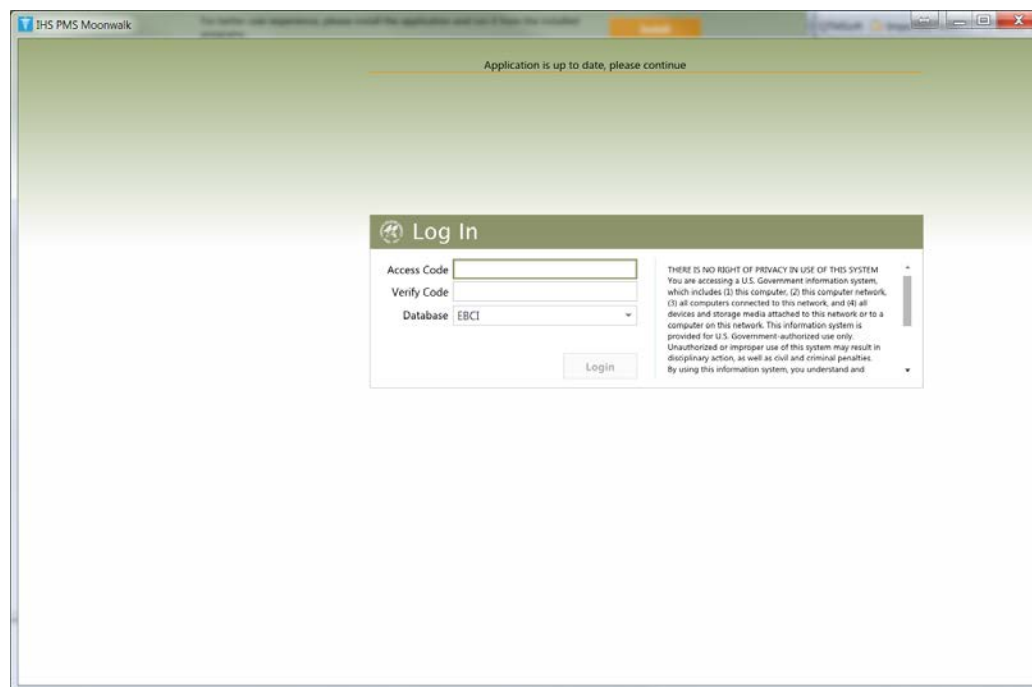


Figure 8-1: BMW Log In screen

3. Click **Install** in the **Security Warning** dialog (Figure 8-2) displayed.

Figure 8-2: **Security Warning** dialog

4. After a few moments of processing, the installation is complete and the "out of browser" **BMW log in** screen is displayed.

Figure 8-3: Out of browser **BMW Log In** screen

5. After the installation, BMW can be accessed from the user's desktop by double-clicking the **IHS Practice Management** icon (Figure 8-4) on the user's desktop.



Figure 8-4: **IHS Practice Management** desktop icon

9.0 Installing BMW Patches and Updates

BMW patches and updates are released on a periodic basis to address reported issues and to add enhancements. Follow the steps in Sections 9.1 through 9.9 to install an incremental patch or update.

9.1 Stop the BMW Web Site on the Application Server

Before installing a patch or update, it is necessary to stop the BMW (Moonwalk) web site. Follow these steps:

1. Select **Internet Information Services (IIS) Manager** from the Windows Server **Administrative Tools** menu as shown in Figure 9-1:

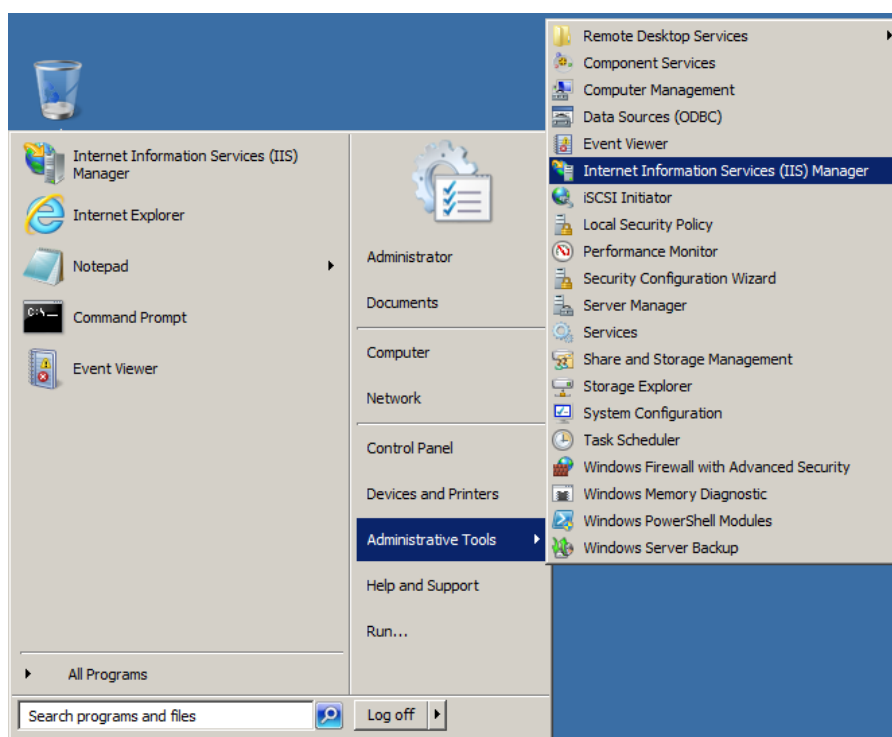


Figure 9-1: Opening **Internet Information Services (IIS) Manager**

2. Select the application server in the left pane (**Win2k8srv32** in the example shown in Figure 9-2), open the **Sites** folder, and select the **Moonwalk** site. Next, click **Stop** in the **Manage Web Site** section on the right side of the window, as shown in Figure 9-2.

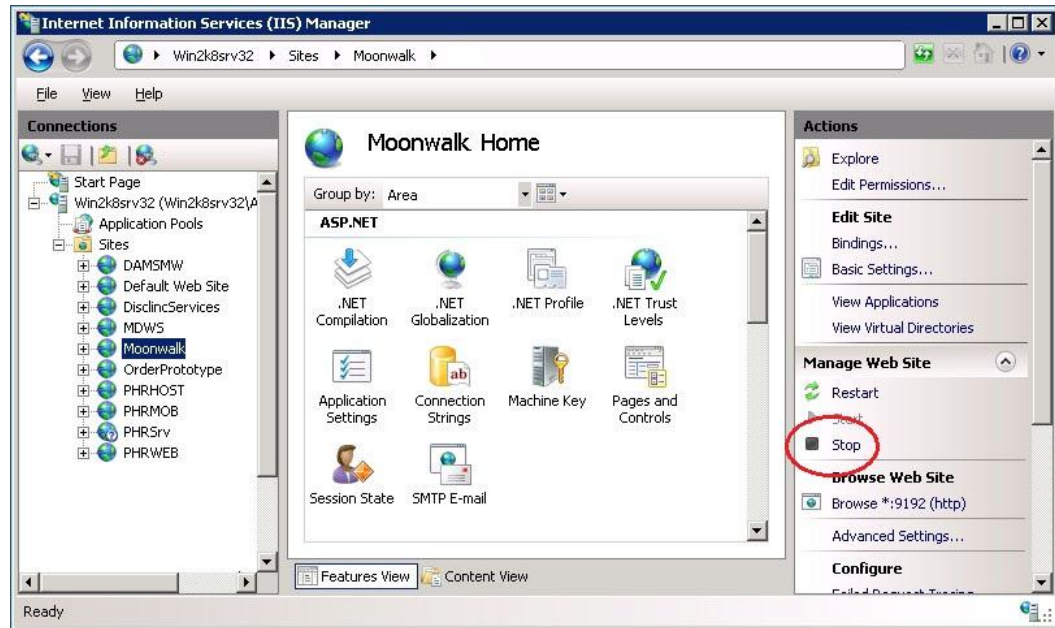


Figure 9-2: Internet Information Services (IIS) - Stopping the BMW (Moonwalk) web site

9.2 Uninstall the BMW Application

Use the **Programs and Features** applet in Windows Control Panel to uninstall the BMW application as shown in Figure 9-3.

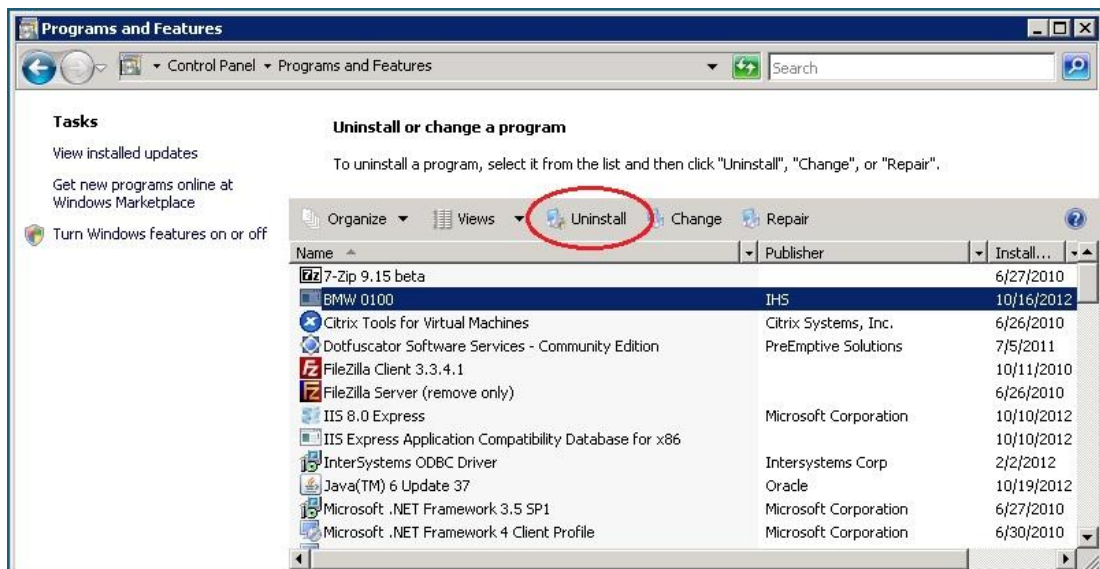


Figure 9-3: Uninstalling BMW

9.3 Install the BMW Application

Follow these steps to deploy the BMW application:

1. Log onto the BMW application server.
2. Browse to the location where the BMW Application Installer file (**bmw_0100.01.msi**) is stored.
3. Double-click the **bmw_0100.01.msi** file to run the BMW application installer. This opens the BMW setup wizard.
4. Click **Next**. The **Select Installation Address** dialog (Figure 9-4) is displayed.

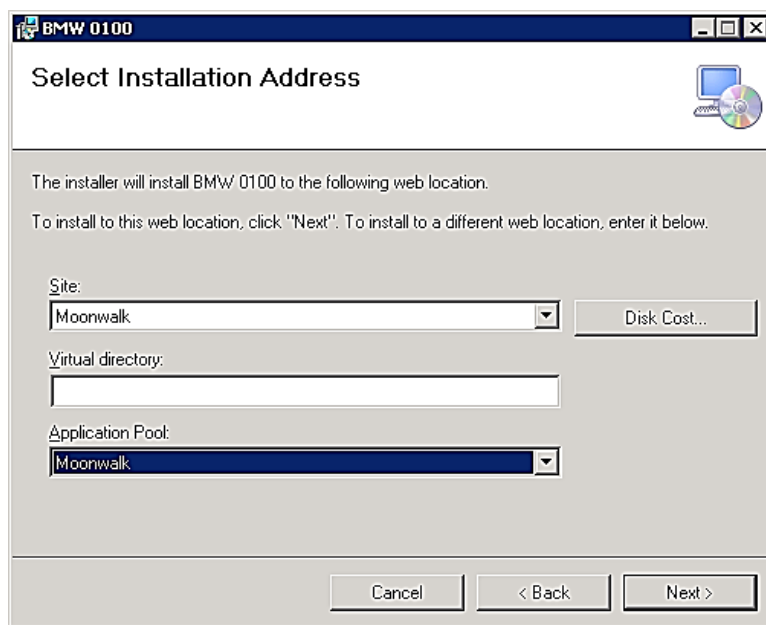
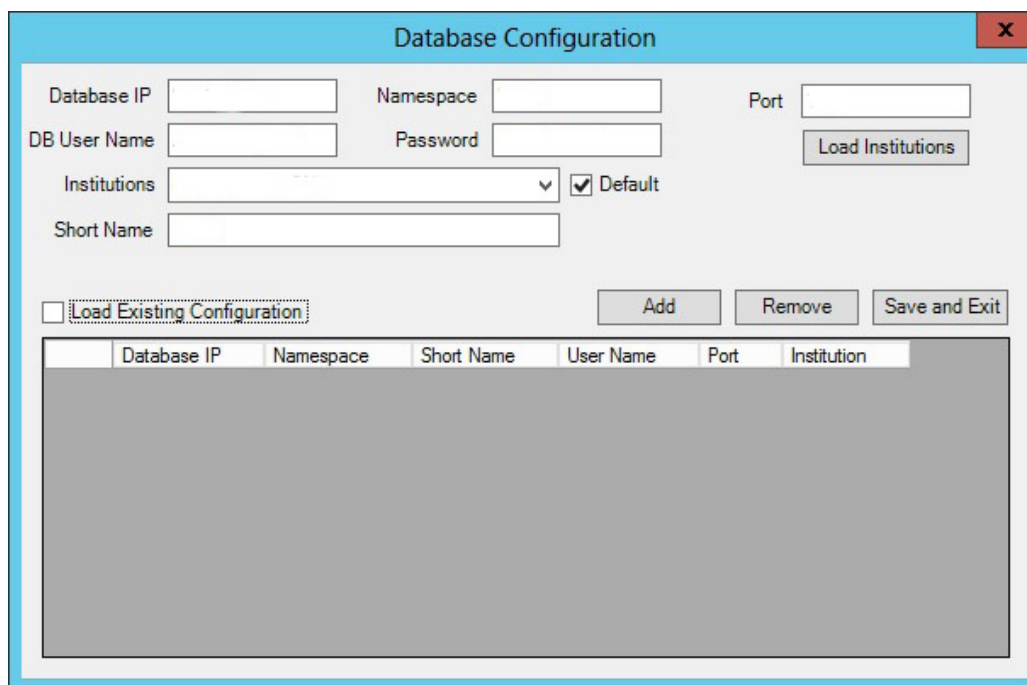


Figure 9-4: **Select Installation Address** dialog

5. Select **Moonwalk** from the **Site** list, type a directory name in the **Virtual directory** field (if necessary), select **Moonwalk** from the **Application Pool** list, and then click **Next**.
6. Click **Next** when the **Confirm Installation** dialog is displayed.
7. The **Installing Moonwalk** dialog displays and the installation progress is shown.
8. After a few moments of processing, the **Database Configuration** dialog (Figure 9-5) is displayed.



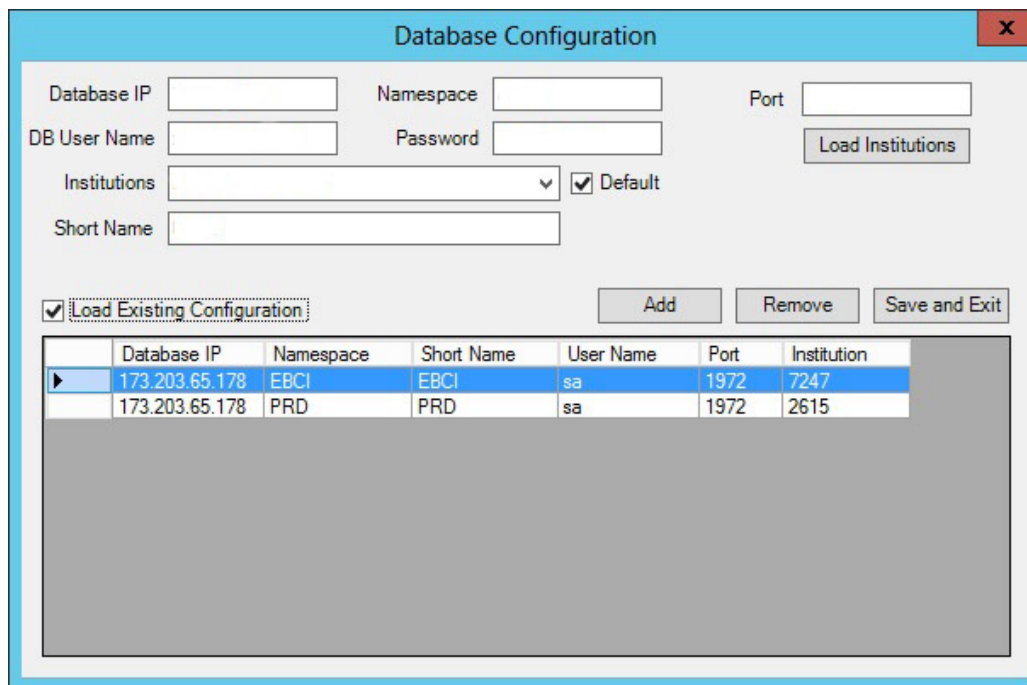
The dialog box is titled "Database Configuration" and contains the following fields and controls:

- Database IP:
- Namespace:
- Port:
- DB User Name:
- Password:
- Load Institutions:
- Institutions: ☒ Default
- Short Name:
- ☐ Load Existing Configuration
- Add:
- Remove:
- Save and Exit:

	Database IP	Namespace	Short Name	User Name	Port	Institution
--	-------------	-----------	------------	-----------	------	-------------

Figure 9-5: **Database Configuration** dialog

9. Select the **Load Existing Configurations** check box to load any previous BMW configurations. In the example shown in Figure 9-6, two existing configurations have been loaded.



The dialog box is titled "Database Configuration" and contains the following fields and controls:

- Database IP:
- Namespace:
- Port:
- DB User Name:
- Password:
- Load Institutions:
- Institutions: ☒ Default
- Short Name:
- ☒ Load Existing Configuration
- Add:
- Remove:
- Save and Exit:

	Database IP	Namespace	Short Name	User Name	Port	Institution
▶	173.203.65.178	EBCI	EBCI	sa	1972	7247
	173.203.65.178	PRD	PRD	sa	1972	2615

Figure 9-6: **Database Configuration** dialog - Configurations loaded

10. Click **Save and Exit** to save the configurations and continue with the installation.
11. When the installation is complete, click **Next**. The **Installation Complete** dialog is displayed. Click **Close** to exit the dialog.

9.4 Dismount the BMW Database on the Database Server

As the next step, you must dismount your BMW database. From the **Ensemble/Cache System Management Portal Home** window, click **[System Operation] > [Databases]** to display the Databases window shown in Figure 9-7. Click **Dismount** in the BMW row to dismount the database.

The screenshot shows the INTERSYSTEMS Databases window. The title bar indicates the server is Win2k8R264-B, instance is ENSEMBLE, and the user is sa. The breadcrumb navigation shows [Home] > [Databases]. Below the navigation bar, there are tabs for Freespace, Integrity Check, and Integrity Log. A message states: "The following is a list of the local databases: Last update: 2013-01-25 14:04:22.210 Auto". A filter bar shows "Filter: " and "Page size: 100 Items found: 16". The main table lists databases with columns: Name, Directory, Max Size (GB), Size (MB), Status, Encrypted, Journal, and two empty columns. The BMW database is highlighted, and the 'Dismount' link in the 'Journal' column is circled in red.

Name	Directory	Max Size (GB)	Size (MB)	Status	Encrypted	Journal		
CACHESYS	c:\intersystems\ensemble\mgr\	Unlimited	36	Mounted/RW	No	Yes	-	-
CACHELIB	c:\intersystems\ensemble\mgr\cachelib\	Unlimited	217	Mounted/RW	No	No	-	-
CACHETEMP	c:\intersystems\ensemble\mgr\cachetemp\	Unlimited	582	Mounted/RW	No	No	-	-
CACHE	c:\intersystems\ensemble\mgr\cache\	Unlimited	71	Mounted/RW	No	No	-	-
CACHEAUDIT	c:\intersystems\ensemble\mgr\cacheaudit\	Unlimited	11	Mounted/RW	No	Yes	-	-
BMW	d:\dbs\bmw\	Unlimited	2377	Mounted/RW	No	Yes	Dismount	-
CIHA	d:\dbs\ciha\	13.281	11150	Mounted/RW	No	No	Dismount	-
DOCBOOK	c:\intersystems\ensemble\mgr\docbook\	Unlimited	144	Mounted/RW	No	No	Dismount	-
EBCI	d:\dbs\ebci\	Unlimited	20000	Mounted/RW	No	No	Dismount	-
ENSDemo	c:\intersystems\ensemble\mgr\ensdemo\	Unlimited	31	Mounted/RW	No	No	Dismount	-
ENSEMBLE	c:\intersystems\ensemble\mgr\ensemble\	Unlimited	11	Mounted/RW	No	Yes	Dismount	-

Figure 9-7: Dismounting the BMW database

9.5 Unzip the BMW zip file

Using the 7-Zip software referenced in Section 2.4.3, unzip the **bmw_0100.01db_win_nnnn.7z** file (or **bmw_0100.01db_aix_nnnn.7z** if applicable). Either of these files contain the BMW database, named **CACHE.DAT**, which will be mounted onto the Ensemble/Cache server in the steps shown in Section 9.7.

Unzip this file on a workstation or other local machine, not on your database server itself. After it is unzipped, it will be moved to the database server as described in Section 9.6.

9.6 Move the new CACHE.DAT File

After unzipping the compressed file, move the CACHE.DAT file contained within it to the /BMW folder you created previously (as described in Section 6.2.1). If you are installing on a Windows database server, this file move can be done directly through your network or via Remote Desktop Connection, depending on your site requirements. On an AIX database server, you will likely need to use FTP or another similar file transfer program to move the file.

9.7 Mount the BMW Database

Follow these steps to mount the BMW database:

1. From the Ensemble/Cache **System Management Portal Home** window, click **Databases** in the **Operations** column to display the **Databases** window shown in Figure 9-8.

Name	Directory	Max Size (GB)	Size (MB)	Status	Encrypted	Journal		
CACHESYS	c:\intersystems\ensemble\mgr\	Unlimited	46	Mounted/RW	No	Yes	-	-
CACHELIB	c:\intersystems\ensemble\mgr\cachelib\	Unlimited	225	Mounted/RW	No	No	-	-
CACHETEMP	c:\intersystems\ensemble\mgr\cachetemp\	Unlimited	240	Mounted/RW	No	No	-	-
CACHEAUDIT	c:\intersystems\ensemble\mgr\cacheaudit\	Unlimited	31	Mounted/RW	No	Yes	-	-
BMW	D:\DBs\BMW\	Unlimited	2674	Unmounted	No	Yes	-	Mount
DOCBOOK	c:\intersystems\ensemble\mgr\docbook\	Unlimited	162	Mounted/RW	No	No	Dismount	-
EBCI	d:\dbs\ebci\	Unlimited	20000	Mounted/RW	No	Yes	Dismount	-

Figure 9-8: System Management Portal Databases window

2. If the **Status** column for the BMW database shows it to be unmounted, click **Mount**. The confirmation dialog shown in Figure 9-9 displays.
3. Click **Read Only**, and click **Perform Action Now**.

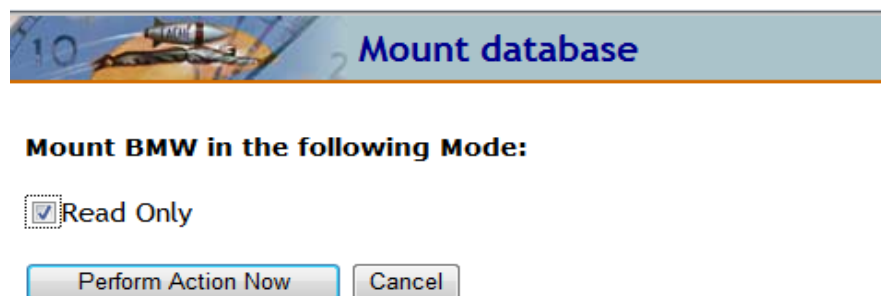


Figure 9-9: Mount Database dialog

Note: When installing BMW patches, it is necessary to mount the database with Read Only mode disabled. Once the patch is installed, you can re-enable Read Only mode.

9.8 Purge the Previous SQL Queries

As the next step, you must purge any previous SQL queries. Clear any previous SQL queries for your RPMS database by following these steps:

1. From the Ensemble/Cache **System Management Portal Home** window, in the **Data Management** column click **[SQL] > [Browse SQL Schemas]**.
2. On the left side of the window displayed select your RPMS database. In the example shown in Figure 9-10, **PRDS** is selected. Your database will likely have a different name.

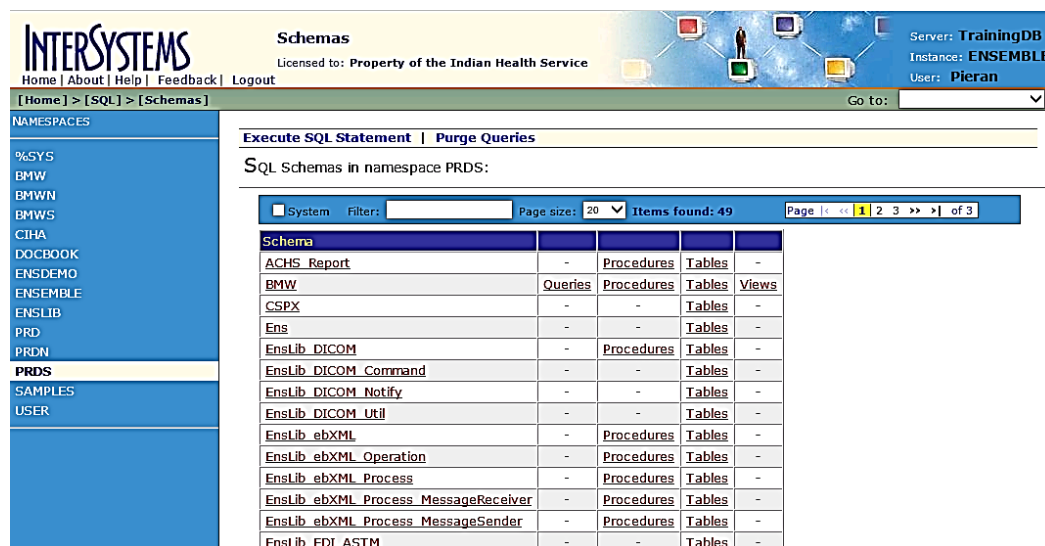


Figure 9-10: Purge Queries - Ensemble 2009/2010 systems

3. Click **Purge Queries**.

9.9 Start the BMW Web Site on the Application Server

As a final action, re-start the BMW web site. Follow the steps outlined in Section 9.1, but select the **Start** option in step number 2.

The installation of the BMW patch or update is now complete.

Appendix A: Application Server Specification Example

Table A-1 shows the specifications for a typical application server capable of running the BMW application suite. These specifications only represent an example and are not to be considered a stringent specification.

This example is from the Dell web site. At the time of publication of this manual, the total cost for this application server (including Windows Server 2008 software) was approximately \$3,800.00.

Table A-1: Typical Application Server Specification Example

Catalog Number/Description	Product Code	Qty	SKU	ID
PowerEdge M520: PowerEdge M520 Blade Server	M520G	1	[225-3012]	1
Operating System: Windows Server 2008 R2 SP1, Standard Edition,x64, Includes 5 CALs	WS8SE5C	1	[421-5433]	11
OS Media Kits: No Operating System Media Kit	NOSDOC	1	[420-1908]	26
Onboard NIC Type (Fabric A): On-Board Broadcom 5720 Quad Port 1GBE	OBNIC	1	[331-7322]	12
Shipping: Shipping Material, Individual Blade, PE M520	SHIPGRP	1	[331-7322]	1500
Chassis Configuration: Serial-Attach SCSI Backplane	SAS	1	[331-4358]	1530
Cooling: Fresh Air Cooling	FRESHA	1	[331-7256]	1531
Processor: Intel® Xeon® E5-2407 2.20GHz, 10M Cache, 6.4GT/s QPI, No Turbo, 4C, 80W, Max Mem 1066MHz	E52407	1	[319-0019] [331-7255]	1550
Additional Processor: Intel® Xeon® E5-2407 2.20GHz, 10M Cache, 6.4GT/s QPI, No Turbo, 4C, 80W	2E52407	1	[319-0028] [319-0084] [331-7255]	1551
Memory DIMM Type and Speed: 1333 MHz RDIMMs	1333RD	1	[331-4422]	1561

Catalog Number/Description	Product Code	Qty	SKU	ID
Memory Configuration Type: Performance Optimized	PEOPT	1	[331-4428]	1562
Memory Capacity: 4GB RDIMM, 1333 MT/s, Low Volt, Single Rank, x4 Data Width	4R3LSR	2	[317-9649]	1560
RAID Configuration: Hardware RAID 1	MSSR1	1	[331-7249]	1540
RAID Controller: H310 Controller	H310	1	[331-4365]	1541
Hard Drives: 146GB 15K RPM SAS 6Gbps 2.5in Hot-plug Hard Drive	146A15H	1	[342-3493]	1570
Embedded Systems Management: iDRAC7 Enterprise for Blades with Vflash, 8GB SD card	IDRENV8	1	[342-1413] [421-5357]	1515
System Documentation: No Systems Documentation, No OpenManage DVD Kit	NODOCS	1	[310-5171]	1590
Hardware Support Services: 3Yr Basic Hardware Warranty Repair: 5x10 HW-Only, 5x10 NBD Onsite	U3OS	1	[939-7067] [939-7187] [939-7307] [994-4019] [995-9091] [995-9911]	29
Installation Services: No Installation	NOINSTL	1	[900-9997]	32
Proactive Maintenance: Maintenance Declined	NOMAINT	1	[926-2979]	33

Appendix B: Running Multiple Instances of BMW

For testing purposes, it may be desirable to run multiple instances of BMW. Follow these steps to set up multiple instances of BMW:

1. Create a new application pool as described in Section 5.7.1, using a unique name for your test site (i.e., BetaMoonwalk or TestMoonwalk).
2. Create a new folder (also with a unique name for your test site) as described in Section 5.7.2.
3. Add a new website as described in Section 5.7.3, using the newly created application pool and folder. Also change the port number in order to avoid conflict with the original Moonwalk website.
4. Deploy the new instance of the BMW application by following the steps shown in Section 7.1, but select the test website and application pool during the installation process.

Contact Information

If you have any questions or comments regarding this distribution, please contact the OIT Help Desk (IHS).

Phone: (505) 248-4371 or (888) 830-7280 (toll free)

Fax: (505) 248-4363

Web: <http://www.ihs.gov/GeneralWeb/HelpCenter/Helpdesk/index.cfm>

Email: support@ihs.gov