



RESOURCE AND PATIENT MANAGEMENT SYSTEM

Practice Management Application Suite

(BMW)

Ensemble Version 2012 Installation Guide and Release Notes

Version 2.0
February 2014

Office of Information Technology
Division of Information Technology
Albuquerque, New Mexico

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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 Summary of Changes

BMW v2.0 includes the addition of the Admission/Transfer/Discharge (ADT) module. Following the same GUI and module-based architecture currently employed throughout the BMW suite, this module provides a streamlined and familiar method for BMW users to track and manage patient admissions, discharges, and transfers.

The ADT module includes:

- A&D Dashboard. Shows current statistics about patient admissions and discharges for a facility.
- Ward Workspace Manage bed occupancy, admission details, and bed status on a per-ward basis.
- List View. See a list view of all actively admitted patients.
- Incomplete Charts View. Add or edit incomplete charts.
- Admit Patient
- Transfer Patient
- Discharge Patient
- ADT Reports:
 - Operator's Inpatient List
 - Current Inpatients by Ward/Room Report
 - Discharges by Date Report
 - Inpatient Coding Status Report
 - Incomplete Charts by Provider Report
 - Monthly Report of Inpatient Services
 - Range of Dates for Inpatient Services Report
 - Admission & Discharge Report
 - A-Sheet Report

1.2 Bug Fixes

This release includes the following corrections to address issues reported to the RPMS Helpdesk as well as those found with in-house testing:

- HEAT#119260 – Health Record Number search issues have been corrected.

- HEAT#119260 – Appointments can now be moved from one clinic to another (same patient and time).
- HEAT#122731 – Corrections have been made to prevent new appointment information from being incorrectly added to the records of patients with similar names.
- HEAT#122731 – Clinic codes are now correctly assigned to the proper clinic.
- HEAT#125169 – Corrections have been made to prevent duplicate visits from being erroneously displayed in EHR upon check-in.
- HEAT#122771 – EDR now updates correctly with BMW Patient record edits.
- HEAT#127692 – A message has been added to inform the user of the 30-character limit to an Access Type name.
- HEAT#130501 – General database errors that had occurred when saving an Insurance Policy Number have been corrected.
- HEAT#132660 – A problem has been corrected that was causing appointments to not be displayed in the Day view under some circumstances.
- HEAT# 131520 – The option to cancel an "undo" is now available for other BMW users.
- HEAT#132777 – A problem that was preventing patient check-ins under some circumstances has been corrected.
- HEAT#129347 – The Insurance Enrollment Report now displays the correct footer.
- HEAT#132903 – The Insurer pointer field is now populated correctly in cases where a patient is Medicaid eligible.
- HEAT#132903 – Changes have been made to allow the addition of a second Medicaid account to a patient file.
- HEAT#133639 – The Search Insurer field now provides a full list of search options.
- HEAT# 133639 – Slashes (/) are now properly supported in the majority of the search fields.
- HEAT#135951 – The correct Insurer address is now displayed.
- HEAT #138835 – The Face Sheet is now reflecting the correct patient age.
- HEAT #139093 – Changes have been made to prevent an incorrect error message from being displayed when patient phone numbers were edited.
- HEAT#133454 – Special characters in the OTHER INFO field no longer cause an error message to be displayed.

- HEAT#133454 – Lock issues in scheduling have been corrected.
- NOHEAT – Hover-over text (Tool Tips) have been added to the header icons.
- NOHEAT – The Clinic code field is now labeled as required.
- NOHEAT – Changes were made to correct a general database error when multiple Medicaid accounts are added to a patient record.
- NOHEAT – The Search Boxes now support apostrophes.
- NOHEAT – Private insurance policy holder information is now displayed correctly.
- NOHEAT – Policy holders who are not also patients can now be added.
- NOHEAT – The Provider field is now mandatory if it is marked as required in the Scheduling configuration.
- NOHEAT – Changes have been made to limit the Household Income value to a number between 1 and 9999999, with zero decimal digits.
- NOHEAT – The font size for Patient Letters has been increased.
- NOHEAT – Table Maintenance access is now limited to Supervisors only.
- NOHEAT – Updates were made to the Release Notes.

2.0 Installation Notes

Prefix: BMW

Current Version: 2.0

2.1 Contents of Distribution

File	Description
bmw_0200.msi	BMW Application Installer
bmw_0200db_win_2012.7z	CACHE.DAT Cache database file for Windows systems running Ensemble version 2012.2. x
bmw_0200db_aix_2012.tar.gz	CACHE.DAT Cache database file for AIX systems running Ensemble version 2012.2. x
bmw_020i_Ensemble2012.pdf	Installation Guide and Release Notes for sites running Ensemble version 2012
bmw_020u_overview.pdf	User Manual – Overview
bmw_020u_registration.pdf	User Manual – Patient Registration Module
bmw_020u_scheduling.pdf	User Manual – Scheduling Module
bmw_020u_adt.pdf	User Manual – ADT Module
bmw_020t.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 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 2010.2.3 and 2012.2.x.

Note: This manual specifically describes the steps for installing BMW on Ensemble version 2012.2.x. Refer to the *BMW Installation Guide and Release Notes for Ensemble Versions 2010* for instructions on installing BMW on Ensemble 2010.2.3.

The examples in this Installation Manual reflect Ensemble 2012.2.x. If running a different version, some of the screens 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 2012.2.x, 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 26
- 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

Version 2.0 of BMW includes two files:

- The CACHE.DAT file specific to the Ensemble version (contained in a zipped file named **bmw_0200db_[OS version]_[Ensemble version].xx**).
- The **bmw_0200.msi** application installation file.

Save the zipped **bmw_0200db_[OS version]_[Ensemble version].xx** file to a folder that is accessible to your database server. Similarly, save the **bmw_0200.msi** file to a folder that is accessible to your application server.

Note: If installing BMW for the first time at the site, refer to Sections 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 Section 9.0 in this manual for instructions.

4.0 Installation Instructions: First-Time Install

Follow the instructions shown in Sections 4.0 through 8.0 of this manual to install BMW for the first time at the site.

BMW contains components that run on both the RPMS server and the client workstation. 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 Sections 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 the site is not on a secure domain, it will be necessary to acquire an SSL certificate. If the site is on a secure domain, an SSL certificate is not necessary; 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, 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 the site is on the IHS domain, follow these steps to acquire an SSL certificate:

1. Click **Start**.
2. Select **Administrative Tools**, and then **Internet Information Services (IIS) Manager**. The **Internet Information Services (IIS) Manager** window Figure 4-1 displays.

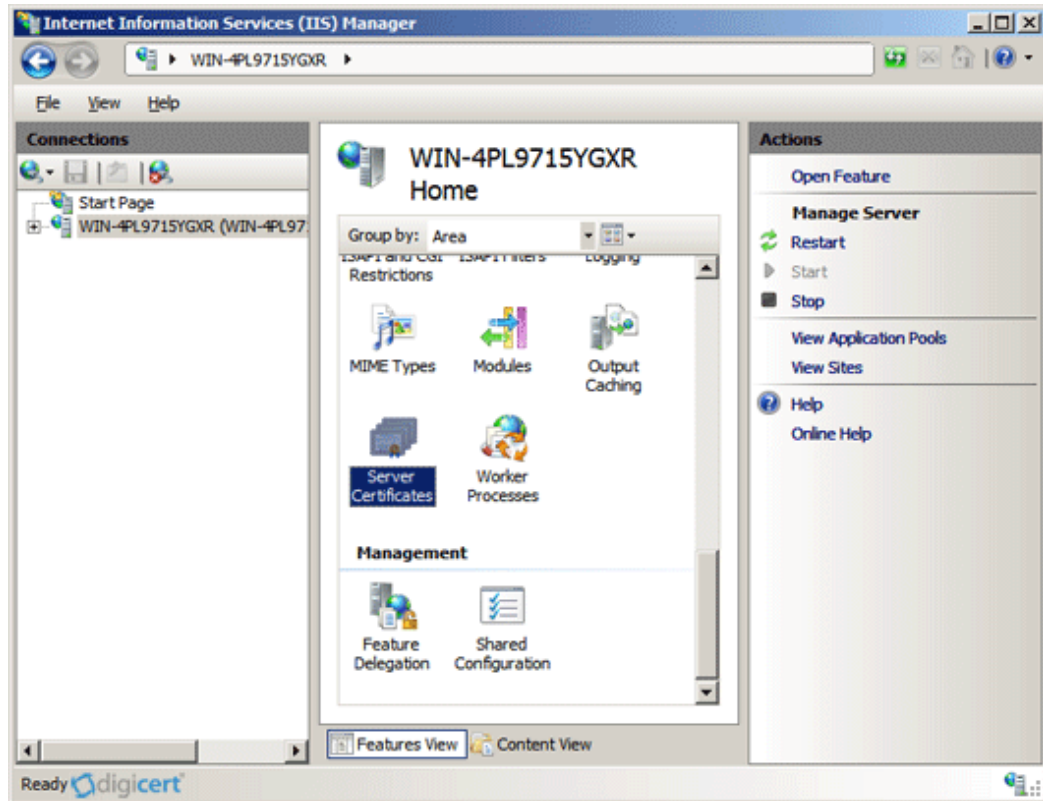


Figure 4-1: Internet Information Services (IIS) Manager

3. Click the server name in the **Connections** panel.
4. In the center panel, double-click **Server Certificates** in the **Security** section (near the bottom of the panel). The contents of the **Actions** panel change.

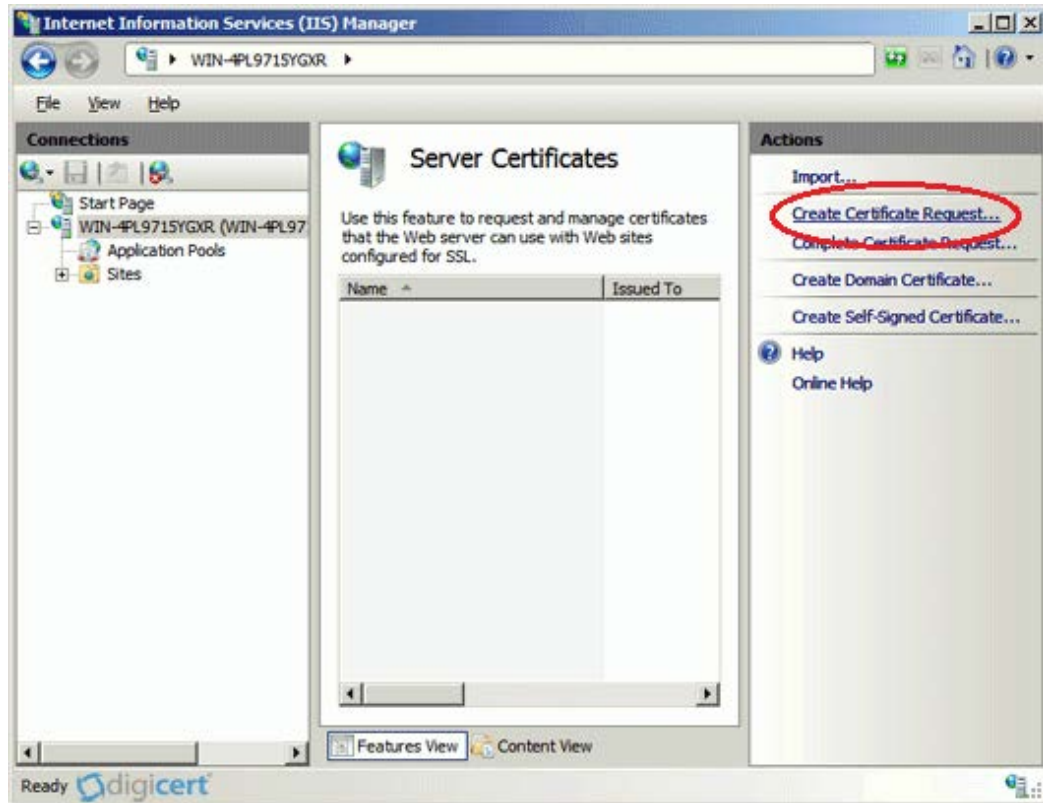


Figure 4-2: Internet Information Services (IIS) manager - Server Certificates

5. In the **Actions** panel (on the right), click **Create Certificate Request** to open the **Request Certificate Wizard** (Figure 4-3).

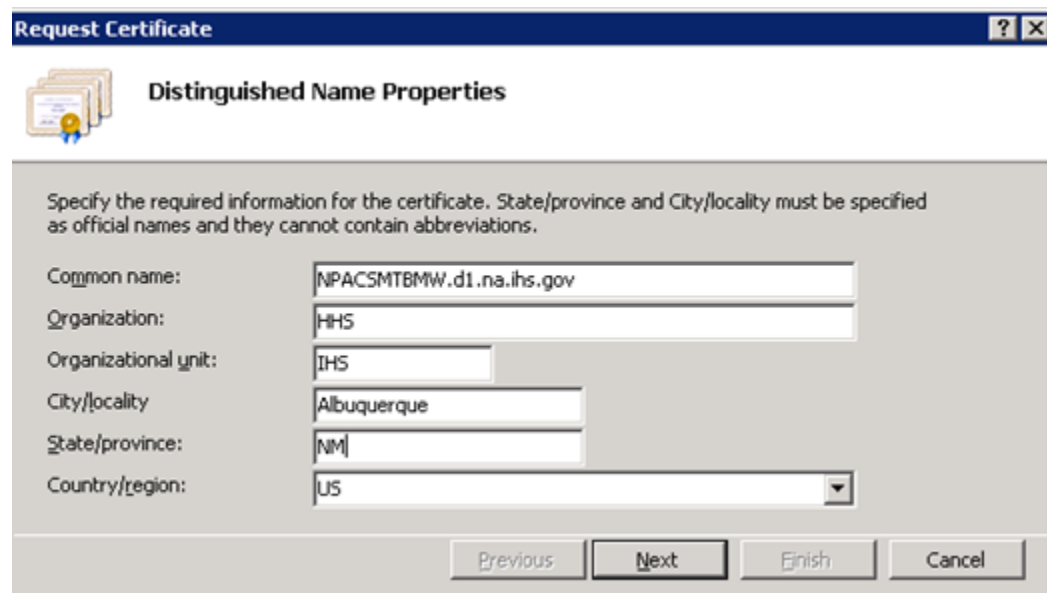


Figure 4-3: Request Certificate Wizard - Distinguished Name Properties dialog

6. Enter the following information:
 - **Common Name.** The name through which the certificate will be accessed (usually the fully-qualified domain name, e.g., “NPACSMTBMW.d1.na.ihg.gov”).
 - **Organization.** The legally registered name of the organization/company.
 - **Organizational unit.** The name of the department within the organization (e.g., “IHS”).
 - **City/locality.** The city in which the organization is located.
 - **State/province.** The state in which the organization is located.
 - **Country/region.** The two-character Country code.
7. Click **Next** to display the **Cryptographic Service Provider Properties** dialog (Figure 4-4).

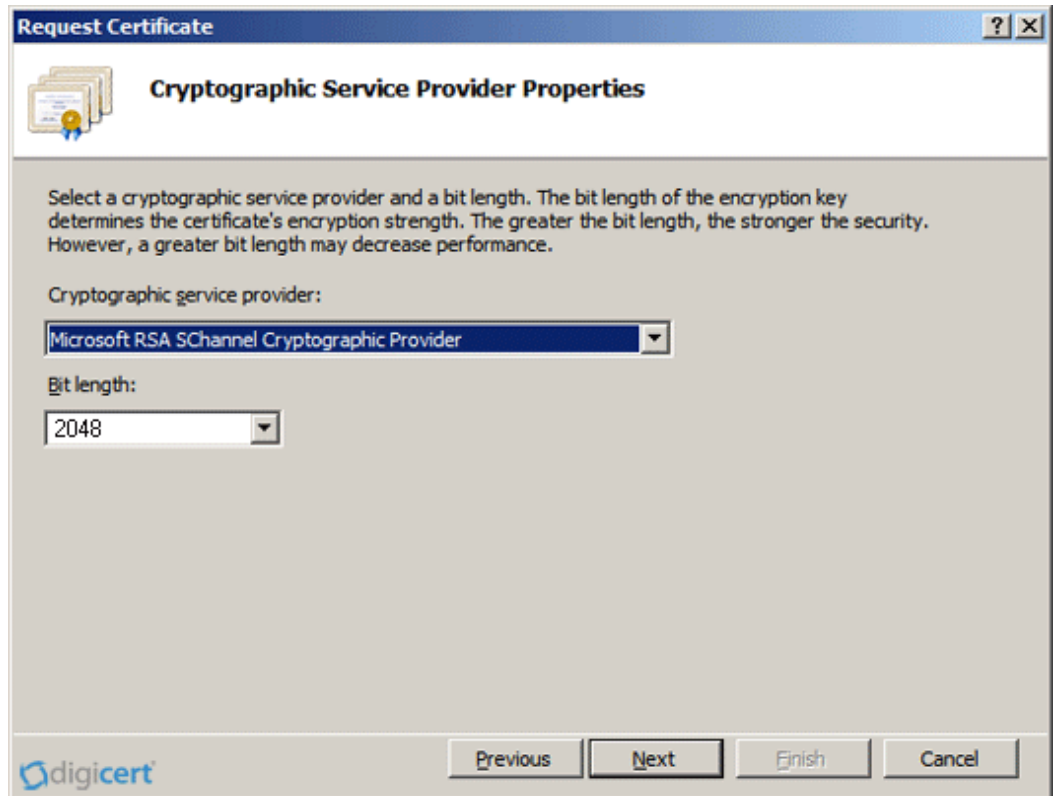


Figure 4-4: **Request Certificate Wizard - Cryptographic Service Provider Properties** dialog

8. Leave both settings at their defaults (Microsoft RSA SChannel and 2048) and click **Next** to display the **File Name** dialog (Figure 4-5).

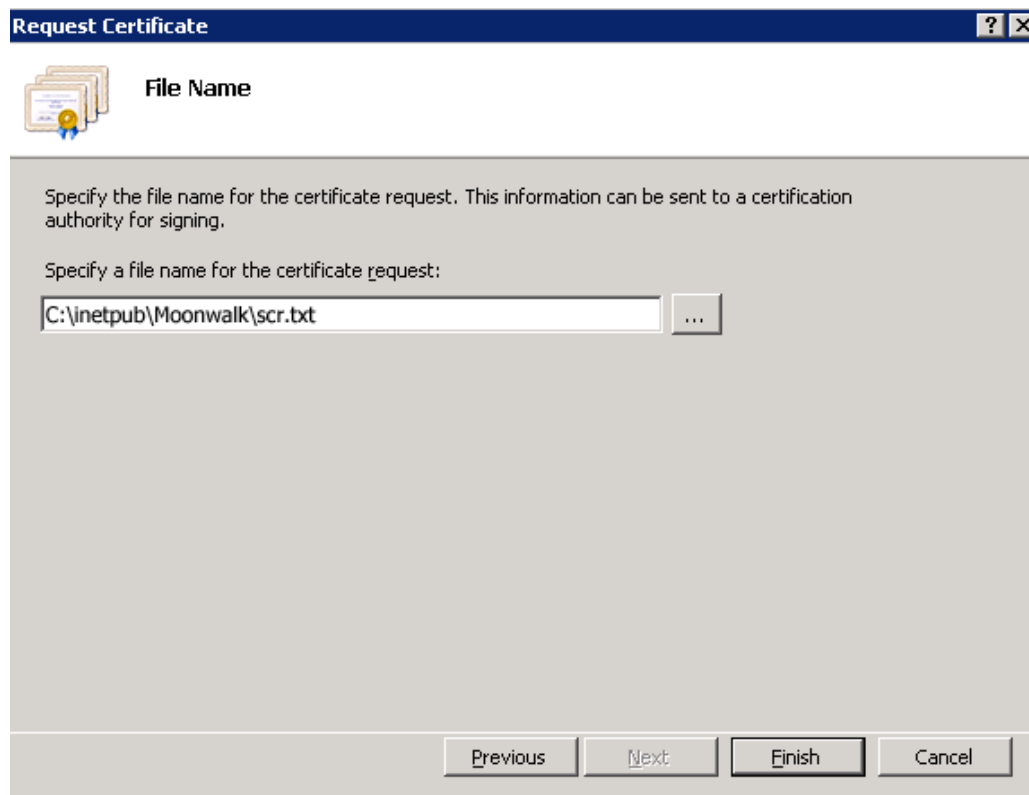


Figure 4-5: **Request Certificate - File Name** dialog

9. Type a path and file name for the certificate request file.
 - a. Make note of the filename chosen and the location to which it was saved.
 - b. 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.
10. Click **Finish** to save the SSL certificate request file.
11. 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 the certificate is received, proceed with the BMW installation as described in Sections 5.0 through 9.0.

4.1.2 SSL Certificate Acquisition – Non-IHS Domain

If the site is not on the IHS domain, the steps for acquiring an 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 the chosen SSL certificate vendor to acquire the SSL certificate, and proceed to the BMW installation instructions in Sections 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 the BMW application server. To determine if it is already installed:

1. From the Windows **Start** menu, select **Control Panel**.
2. Click **Programs and Features**. A list similar to that shown in Figure 5-1 displays.

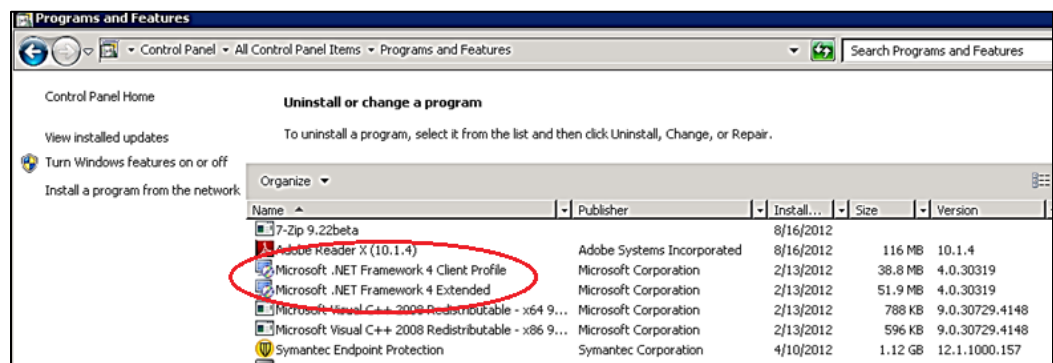


Figure 5-1: Programs and Features list

3. Review the list, 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: There can be more than one version of the .NET Framework on the server at the same time.

5.2 Microsoft .NET Framework 4.0 Installation

If not already installed on the 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) displays:

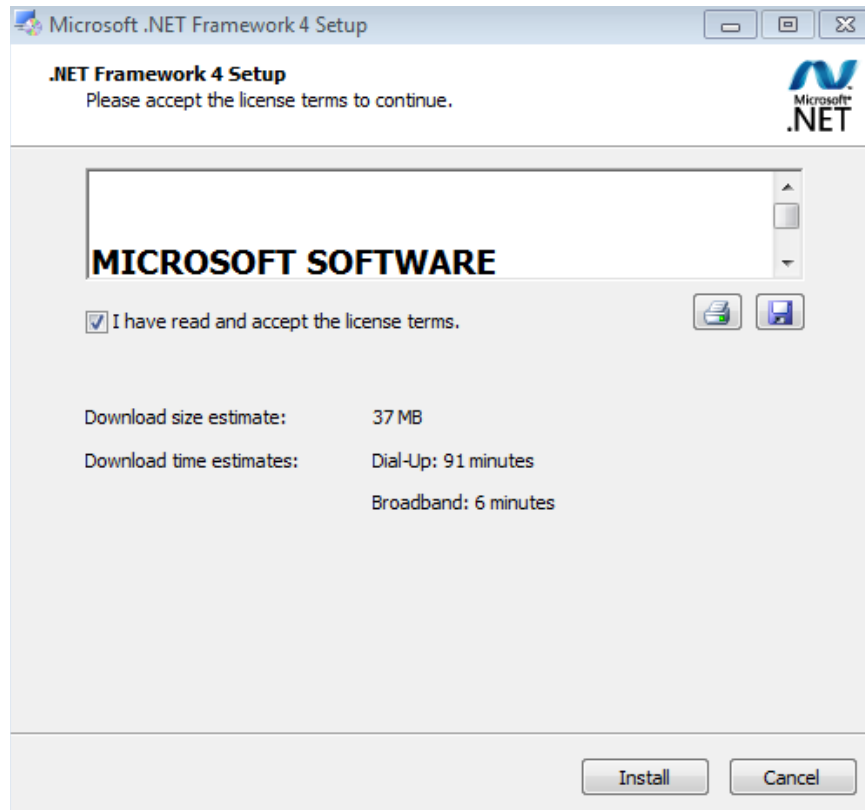


Figure 5-2: .NET Framework **License Terms** dialog

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:

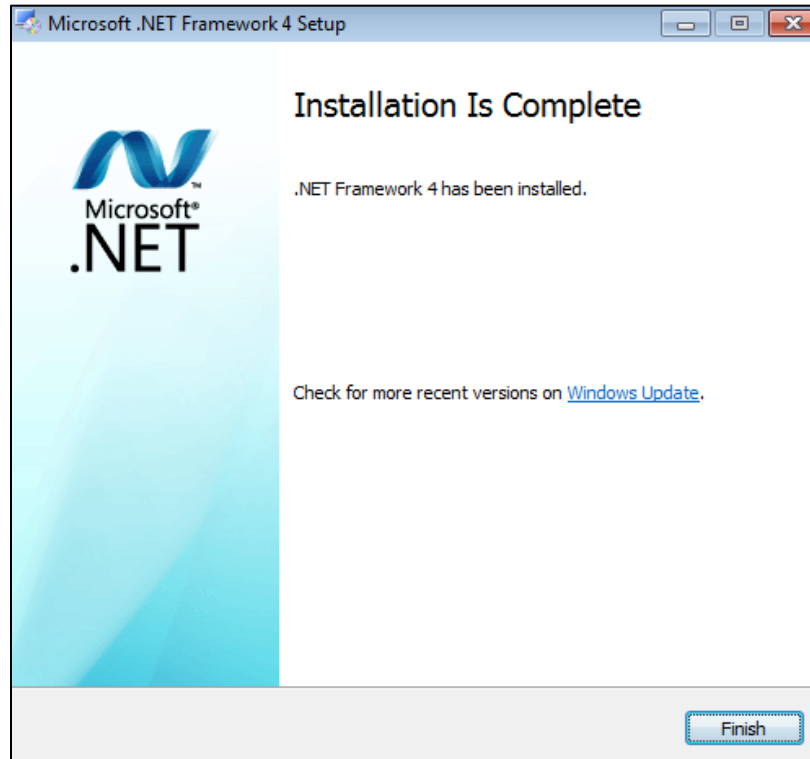


Figure 5-3: .NET Framework **Installation is Complete** dialog

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 BWM operation.

5.3 Internet Information Services 7.0 Installation

If not already installed on the server, follow these steps to install the Microsoft IIS:

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

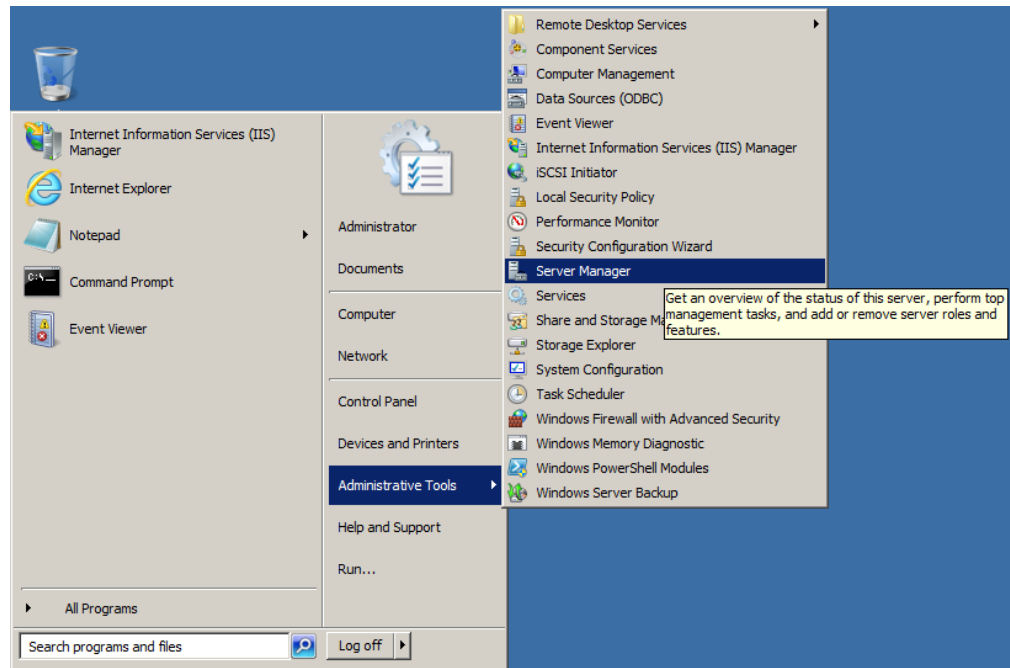


Figure 5-4: Open **Server Manager** applet

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

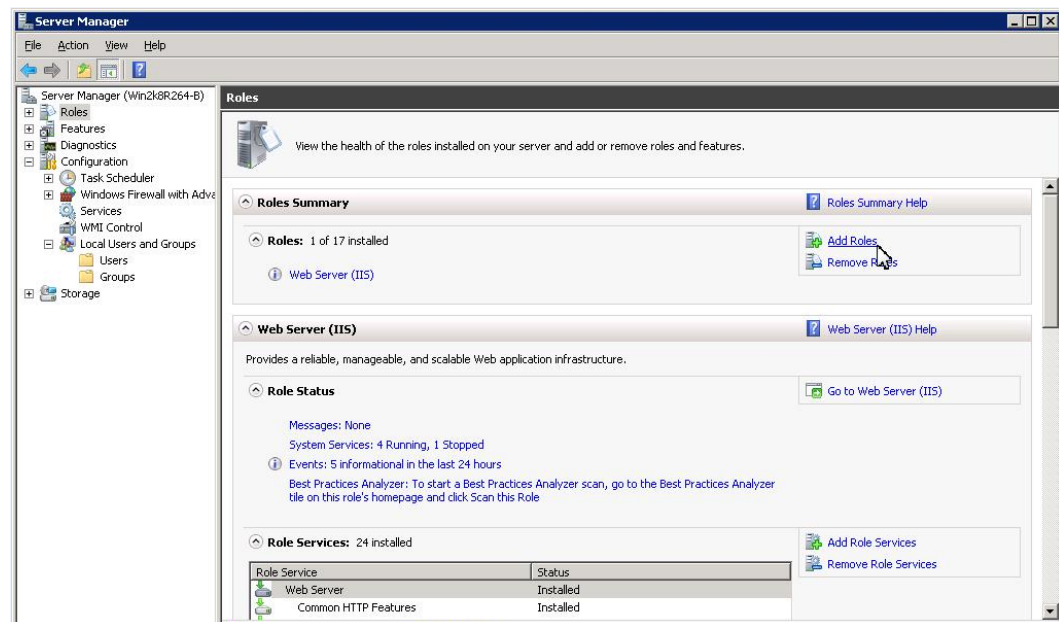


Figure 5-5: **Add Roles**

3. If a web server is already set up, click **Select Roles** and skip to Step 5.
4. If a web server is not yet set up, 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) displays:

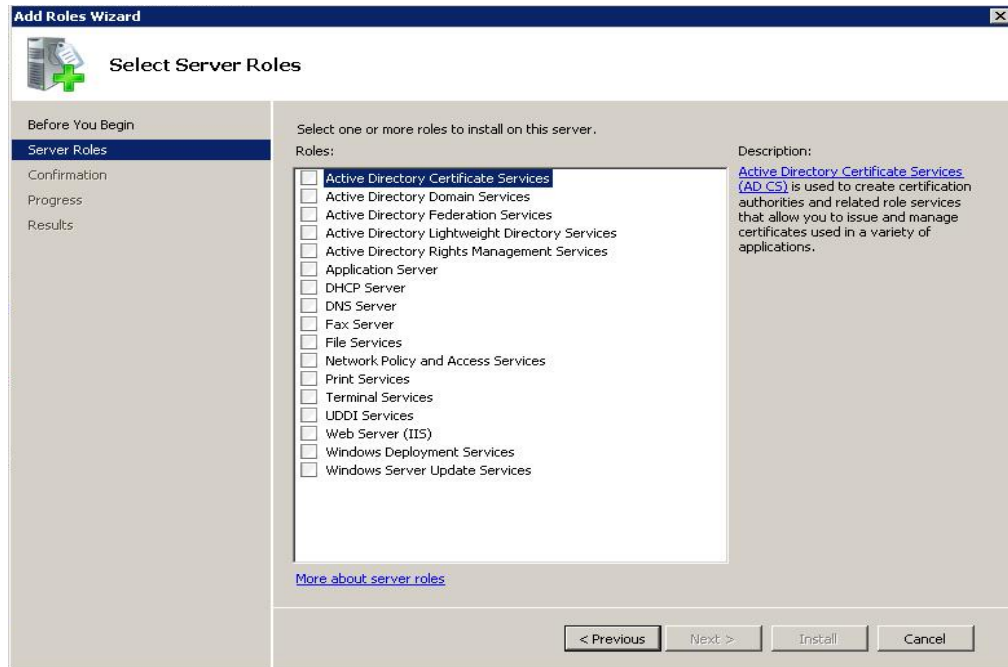


Figure 5-6: **Select Server Roles** dialog

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

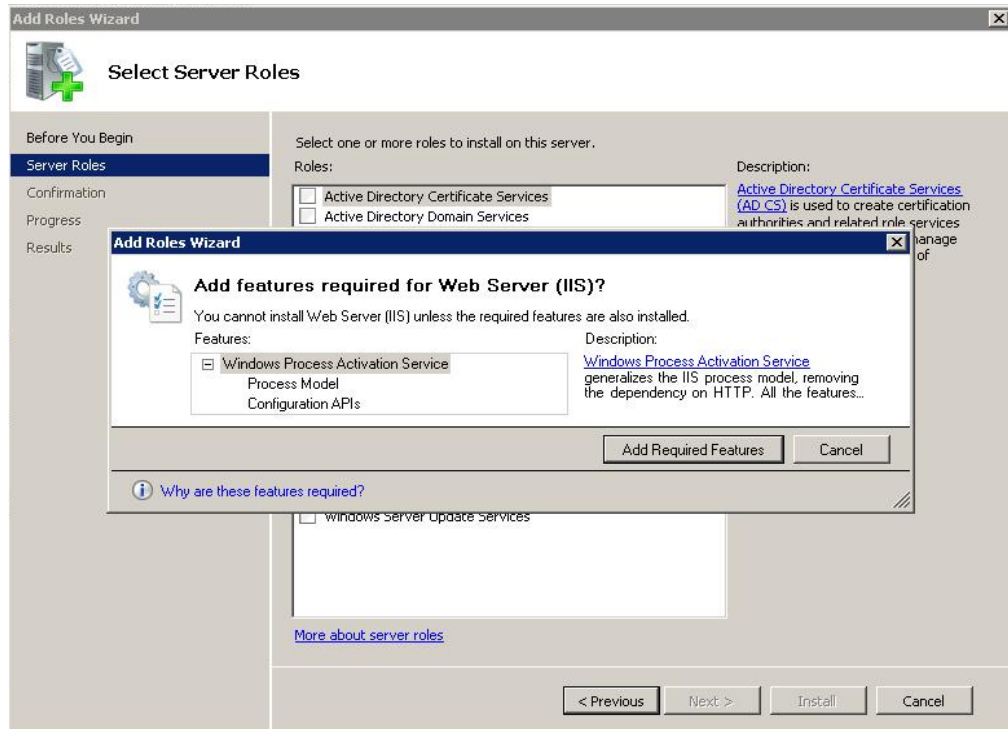


Figure 5-7: **Add Roles Wizard**

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

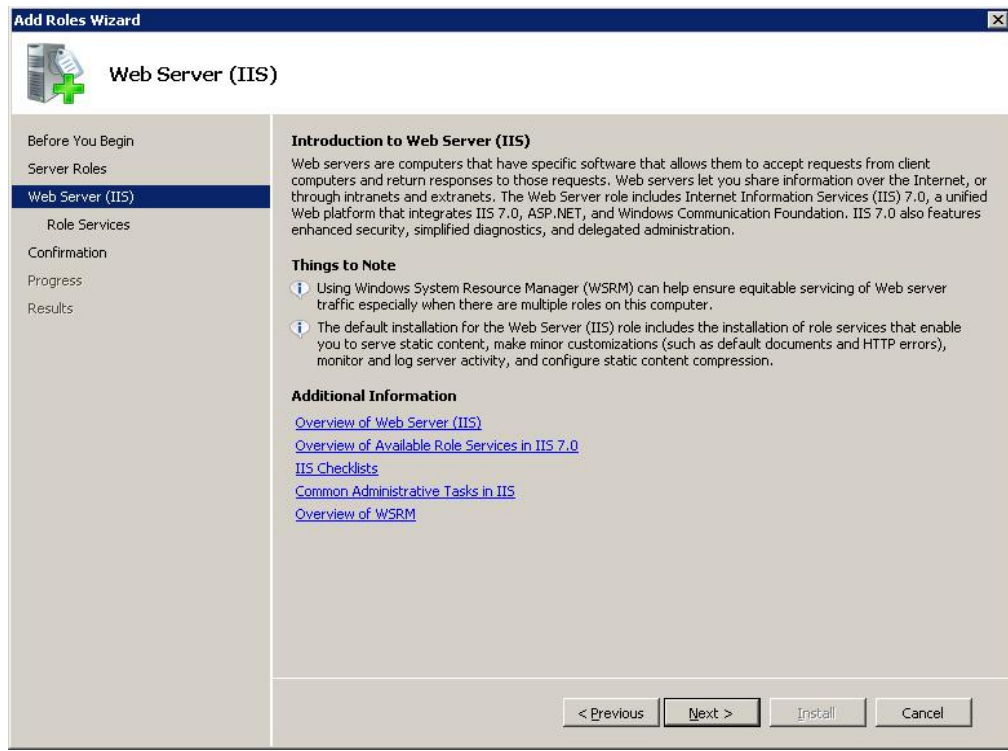


Figure 5-8: **Add Roles Wizard Web Server (IIS)** dialog

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

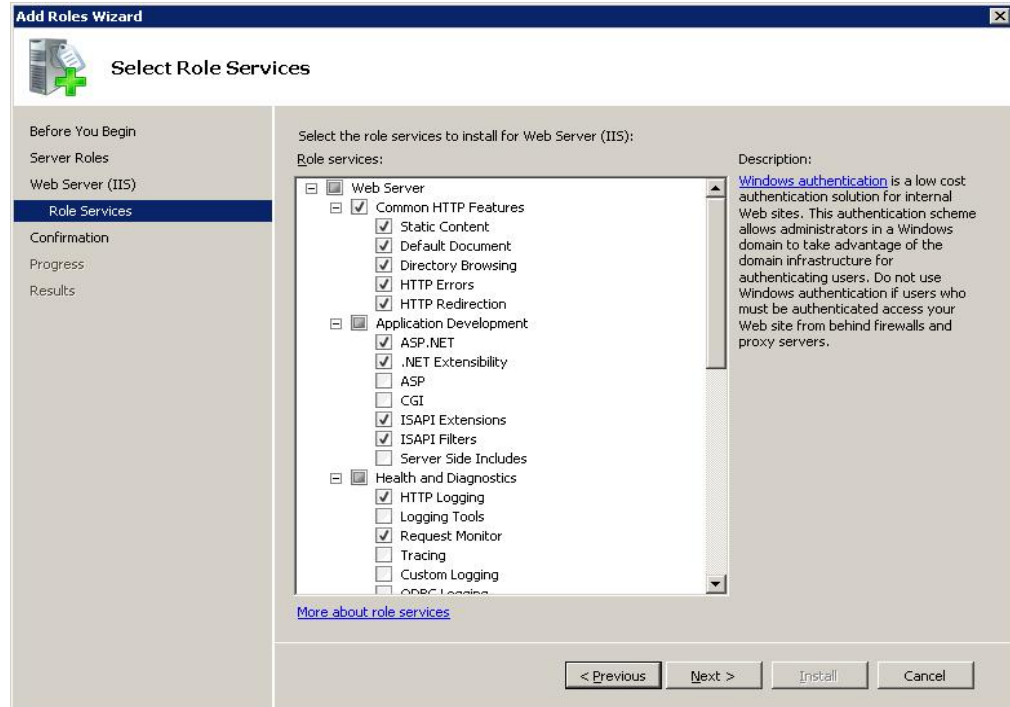


Figure 5-9: Add Roles Wizard Select Role Services dialog

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**.

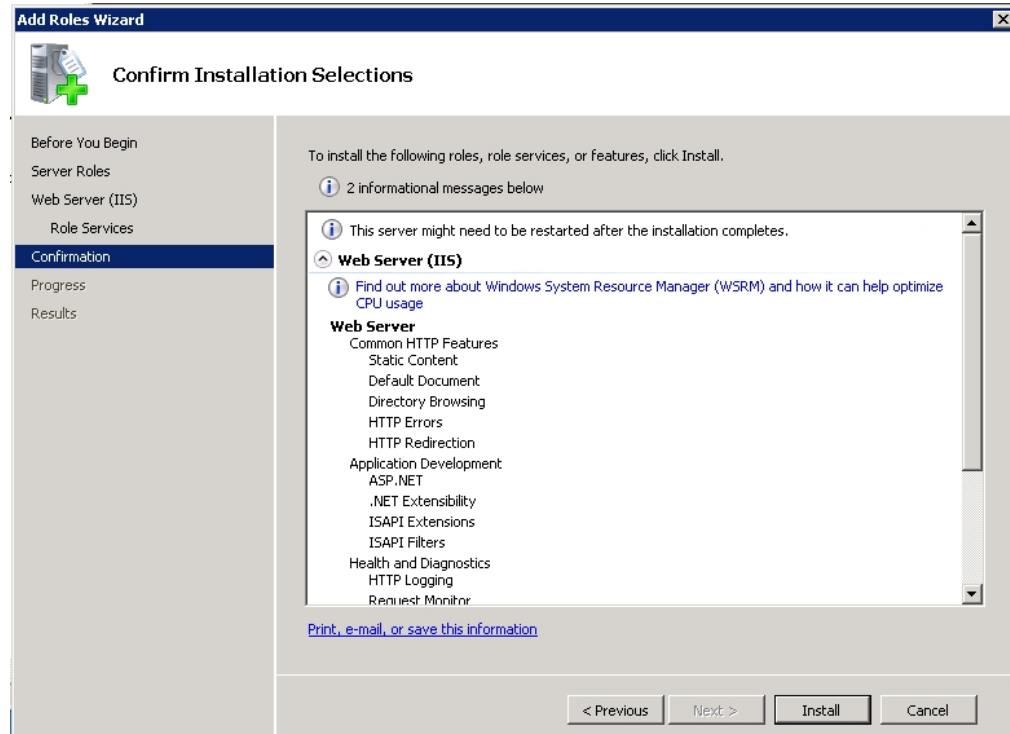


Figure 5-10: Add Roles Wizard Confirm Installation Selections dialog

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

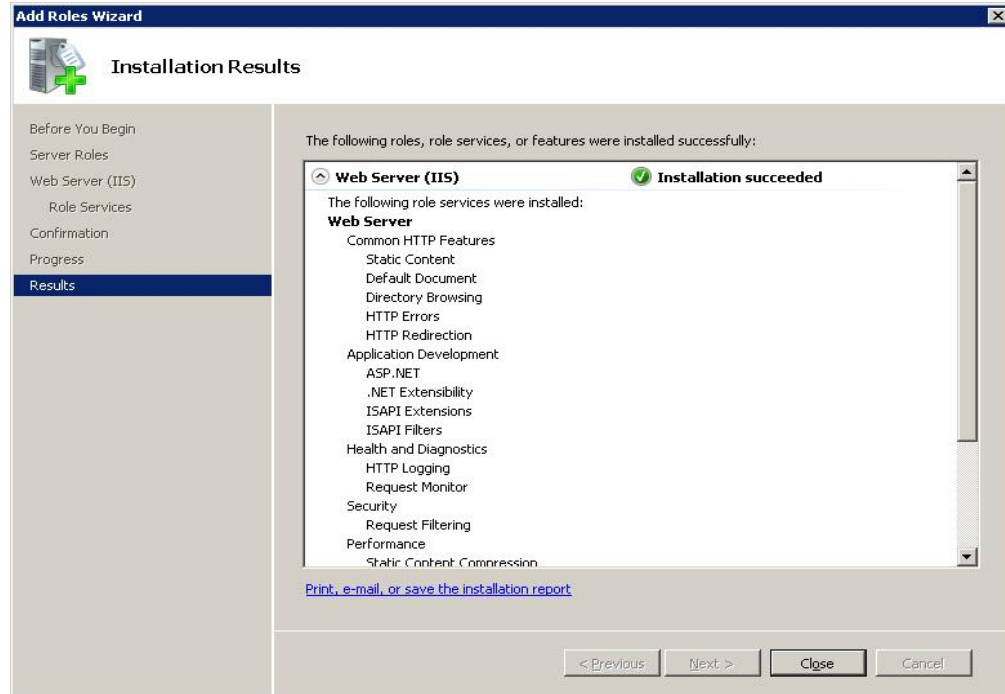


Figure 5-11: Add Roles Wizard Installation Results dialog

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

5.4 Windows Communication Foundation Activation

To activate the Windows Communication Foundation (WCF):

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:

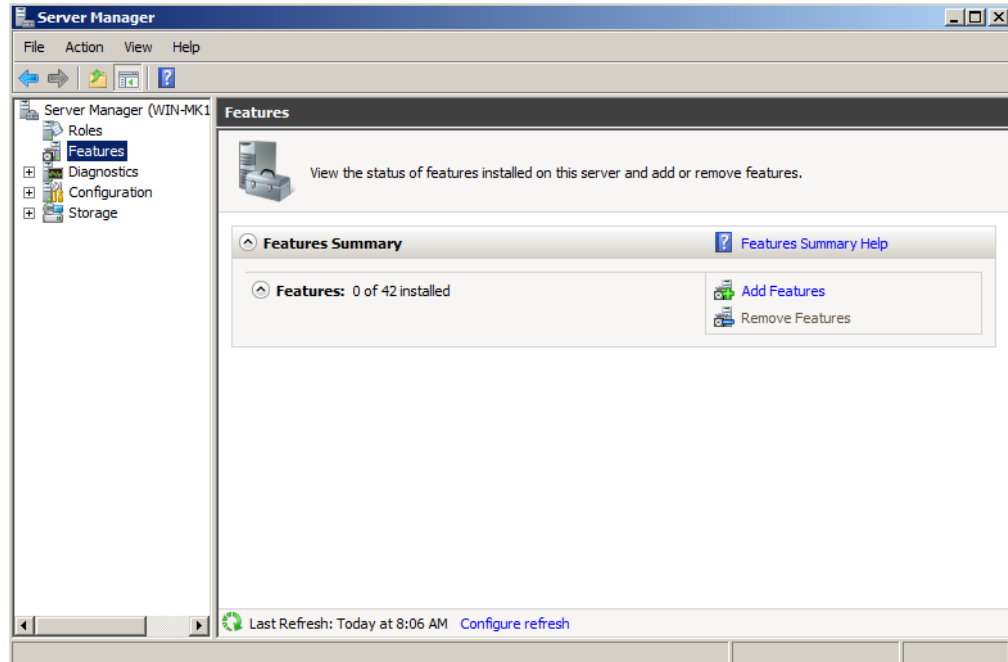


Figure 5-12: **Server Manager Features** applet selected

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 the server.

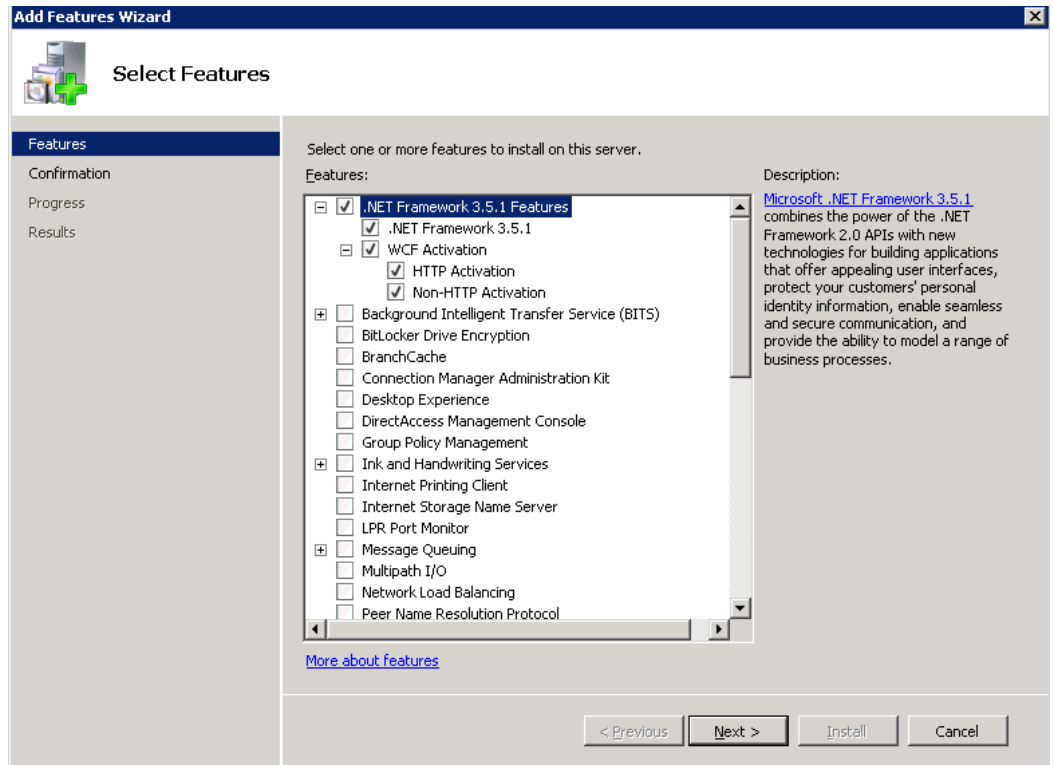


Figure 5-13: Add Features Wizard - Select Features dialog

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

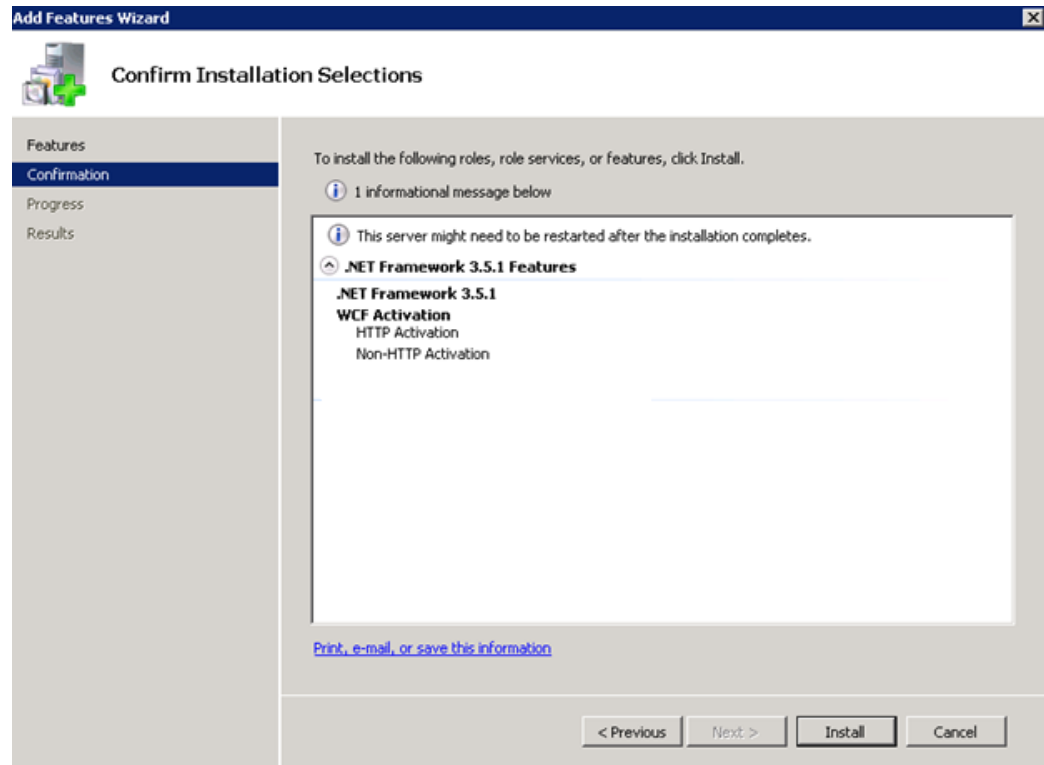


Figure 5-14: Add Features Wizard - Confirm Installation Selections dialog

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

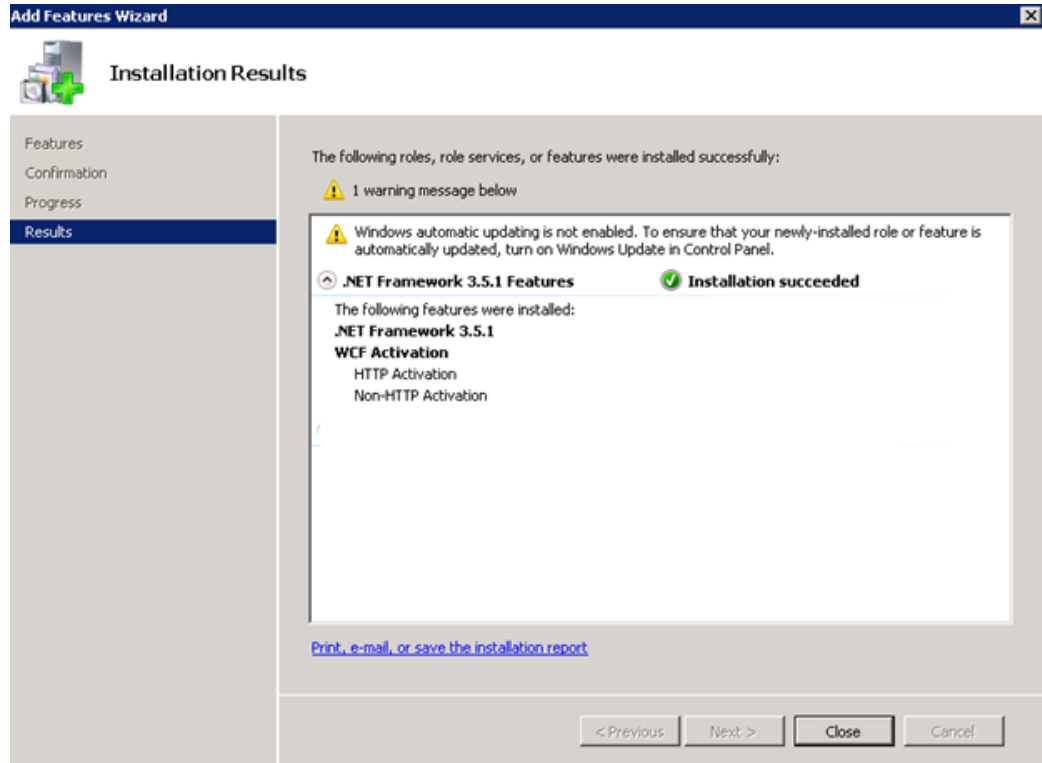


Figure 5-15: Add Features Wizard - WCF Installation results

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

5.5 Adding MIME Types

To add MIME types:

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

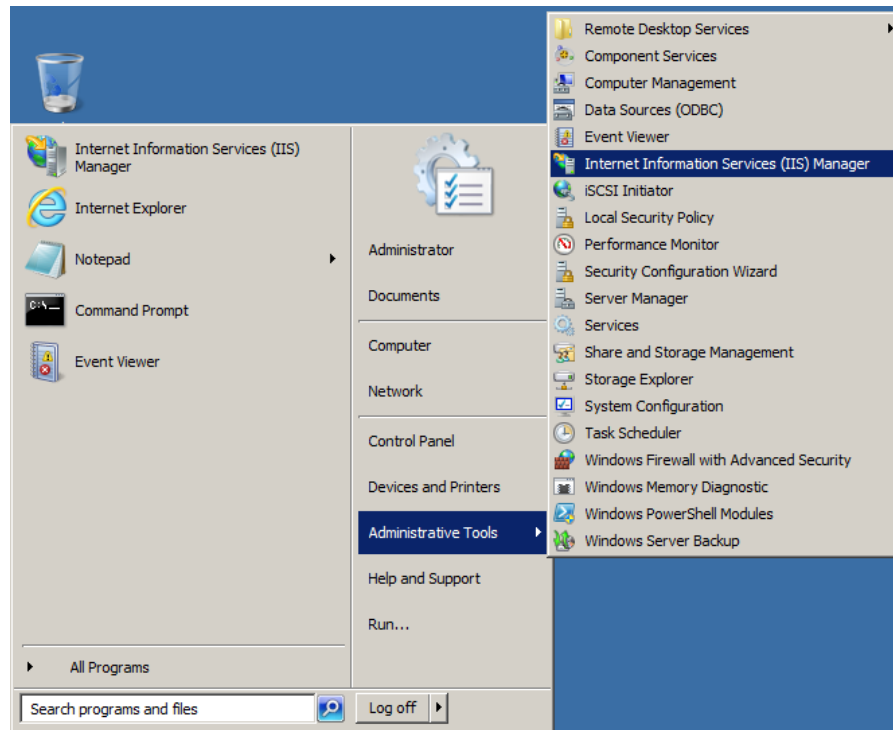


Figure 5-16: Opening **Internet Information Services (IIS) Manager**

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

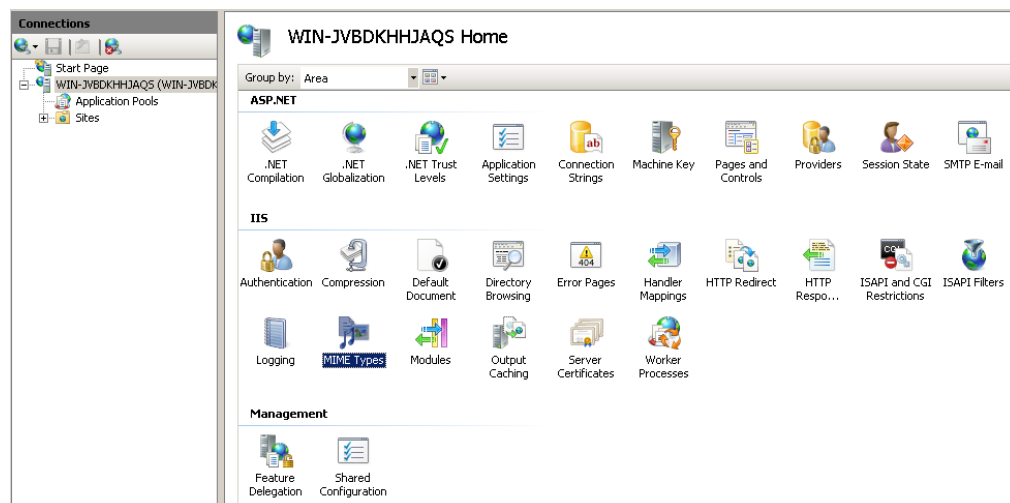


Figure 5-17: **IIS Management Console**

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

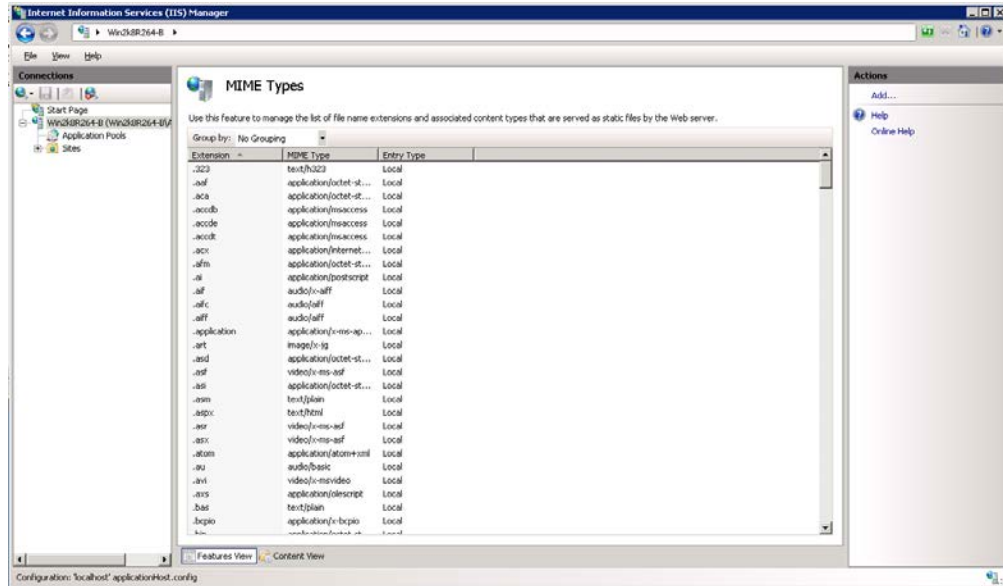
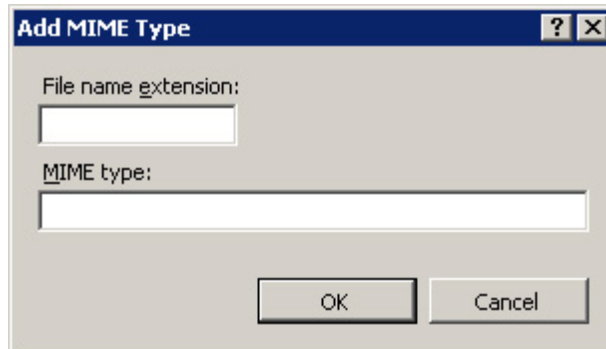


Figure 5-18: MIME Types window

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**.

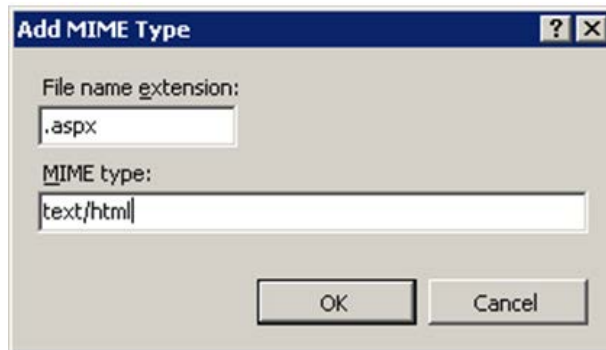


Figure 5-20: Add MIME Type .aspx Extension

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**.

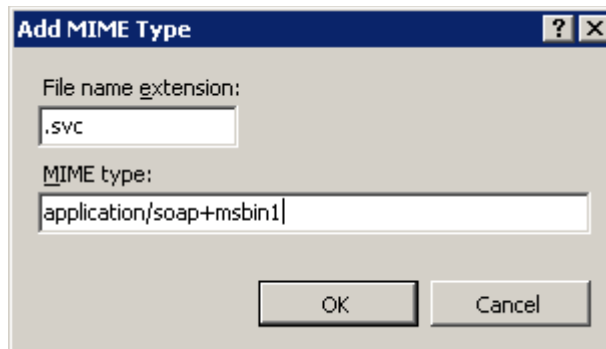


Figure 5-21: Add MIME Type .svc Extension

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

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; it may be necessary to manually type the folder path in the Windows Explorer address bar.

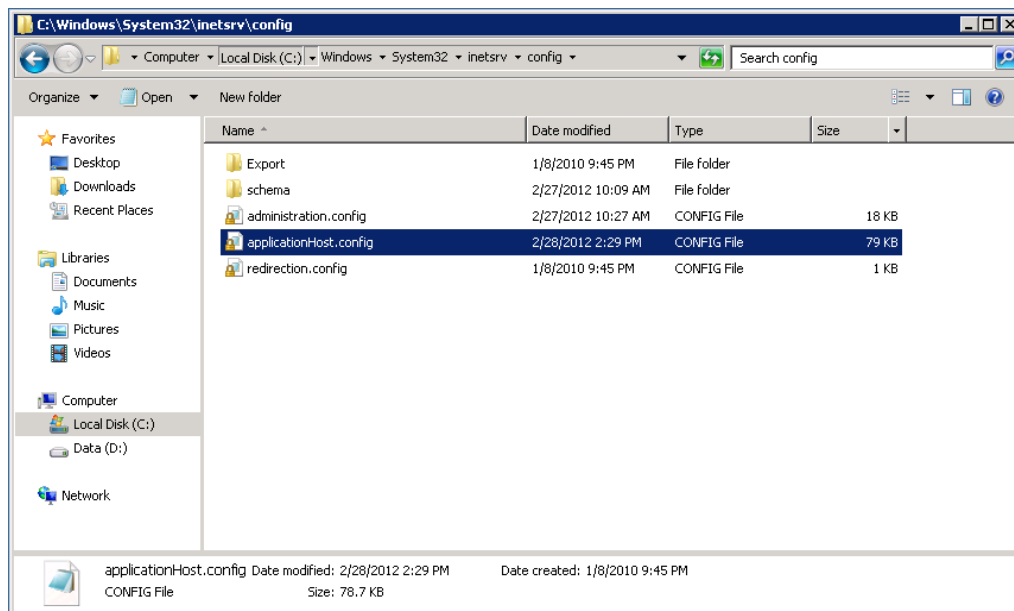


Figure 5-22: Location of **applicationHost.config** file

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\inet_srv\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 the 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

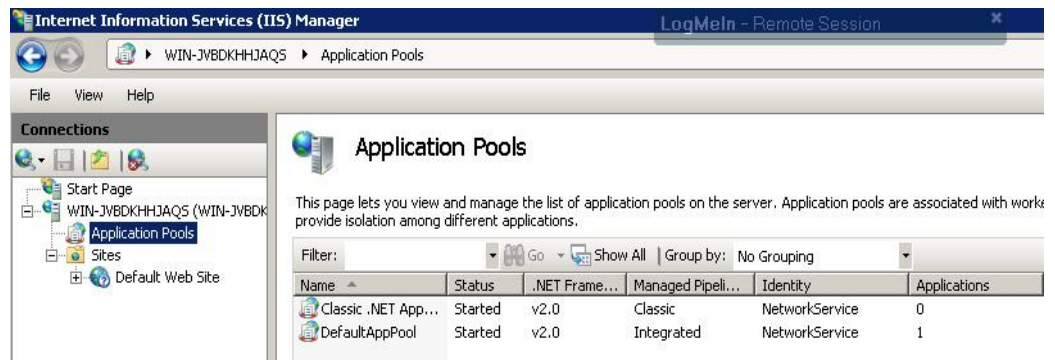
- When finished editing the applicationHost.config file, save it and exit from the text editor.

5.7 Moonwalk Web Site Setup

5.7.1 Add the Application Pool

To add the Application Pool:

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

Figure 5-25: IIS Manager browsed to **Application Pools**

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

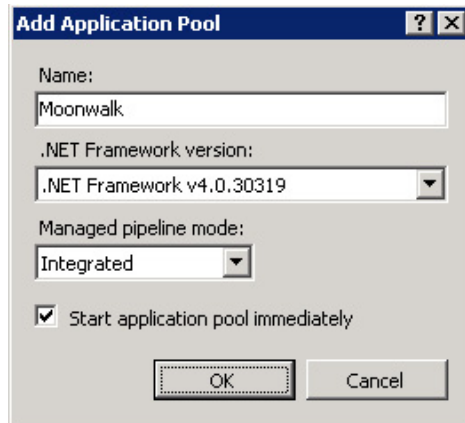
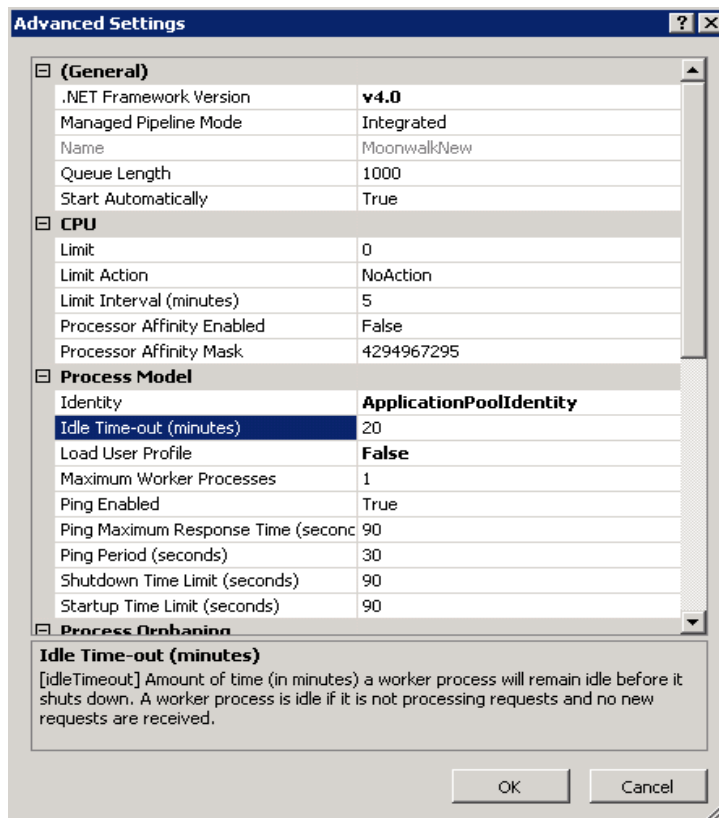


Figure 5-26: Add Application Pool dialog

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 the 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

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 created in the previous steps.
 - c. In the **Physical Path** field, browse to the C:\inetpub\Moonwalk folder created in Section 5.7.2. Be aware that the location will be different if the folder was created on a different drive.

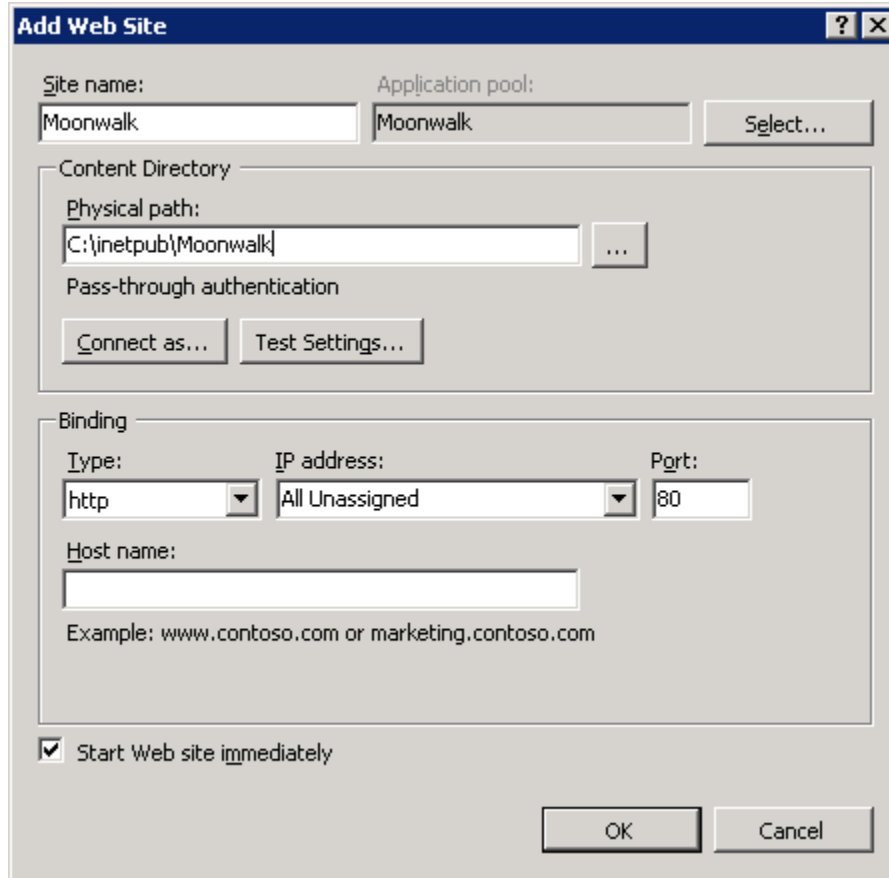


Figure 5-28: **Add Web Site** dialog

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

5.8 Install the SSL Certificate

Note: If installing the SSL server certificate after deploying the BMW application, uninstall then re-install the BMW application as described in Section 9.0.

To install the SSL server certificate 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.

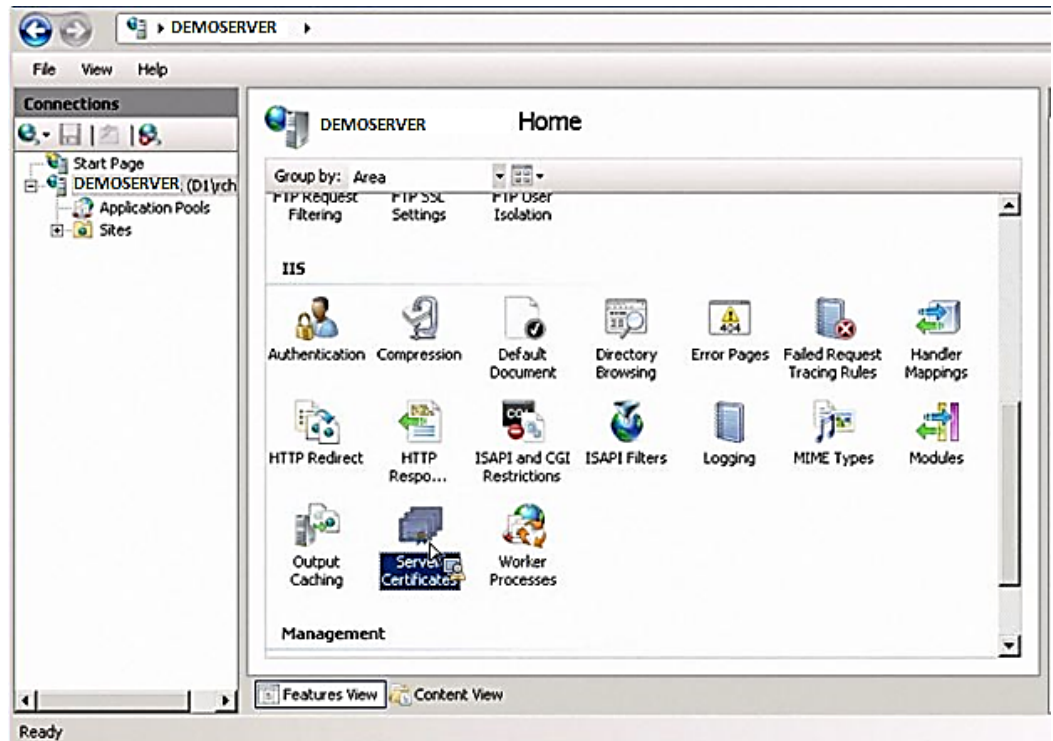


Figure 5-29: Internet Information Services (IIS) Manager

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



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 the server certificate file acquired in Section 4.1 was saved.
6. In the **Password** field, type the password provided by the IHS Server Certificate Request team (or in the case of non-tribal sites, by the issuing authority from which the server certificate was acquired).

Note: If the server certificate was acquired from another issuing authority, a password might not have been included. If this is the case, leave the **Password** field blank.

7. Click **OK** to complete the import procedure.

5.9 Configure the SSL Certificate

To configure the SSL certificate:

1. In the **Internet Information Services Manager** window, select the name of the server on which the certificate was installed.
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: Before installing SSL with https (port 443), remove the previous site bindings for http (typically port 80). The **Site Bindings** dialog shown in Figure 5-31 indicates whether any http site bindings exist and, if present, allows their removal.

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

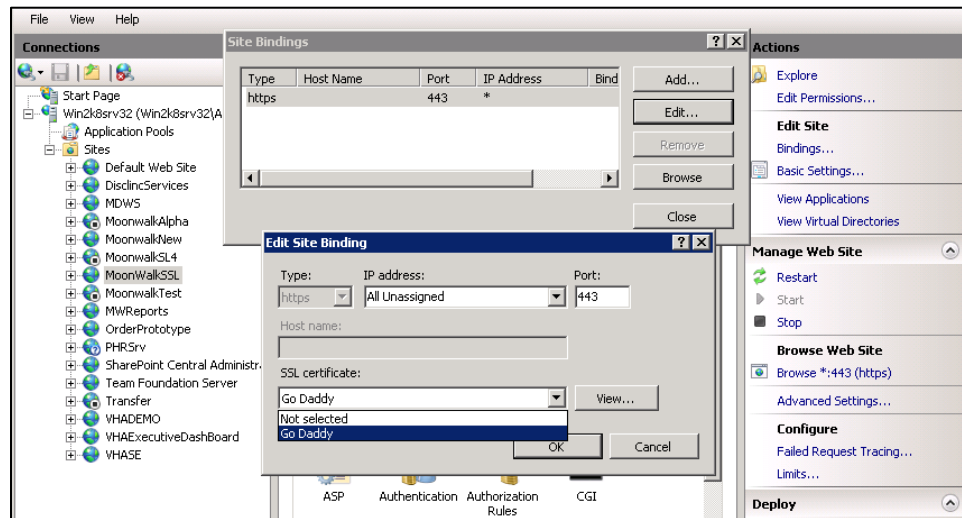


Figure 5-31: **Edit Site Binding** dialog

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

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

6.1 Assumptions

This section 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 user 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. This section describes 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 the 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_0200db_win_nnnn.7z` file (or `bmw_0200db_aix_nnnn.tar.gz` if applicable). The `bmw_0200db_win_nnnn` 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 the 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 created in Section 6.2.1. If installing on a Windows database server, this file move can be done directly through the network or via Remote Desktop Connection, depending on site requirements. On an AIX database server, it might be necessary 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. 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

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.

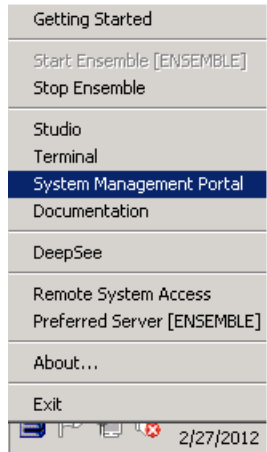


Figure 6-1: Opening the **Ensemble System Management Portal**

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

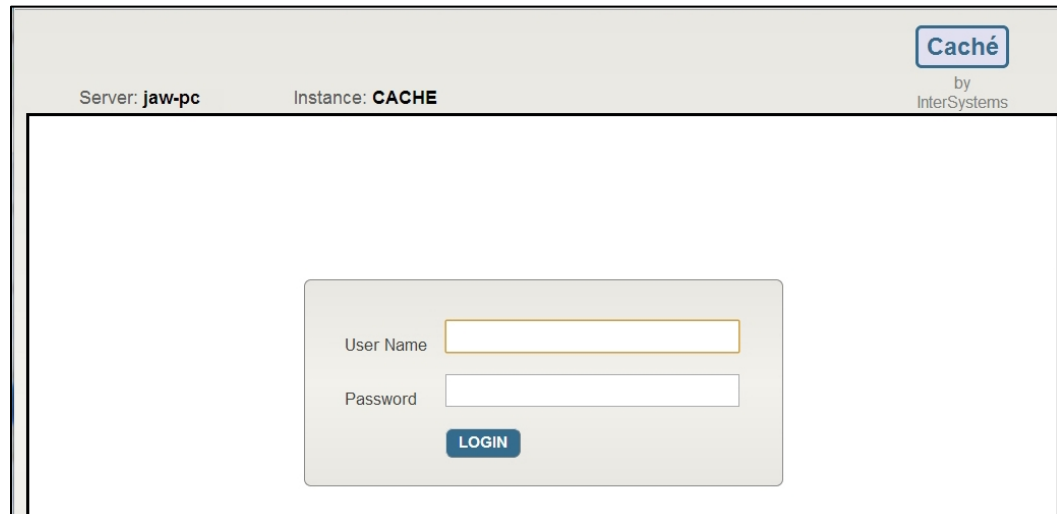


Figure 6-2: **Ensemble/Cache** Login dialog

2. From the Ensemble/Cache **System Management Portal Home** window click **[System Administration] > [Configuration] > [System Configuration] > [Local Databases]** as shown in Figure 6-3:

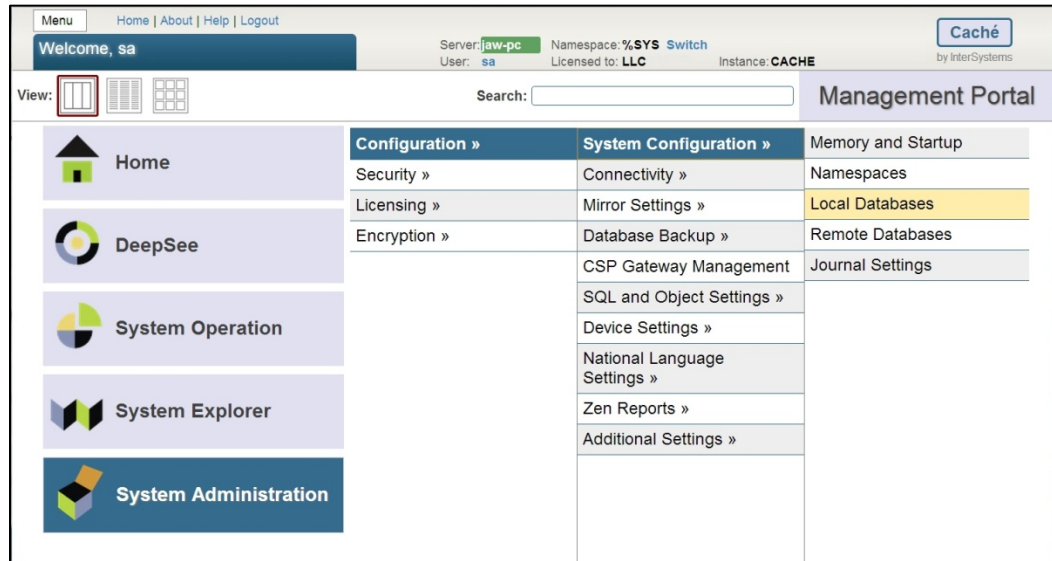


Figure 6-3: System Management Portal – Local Databases selected

3. The Local Databases window displays as shown in Figure 6-4:

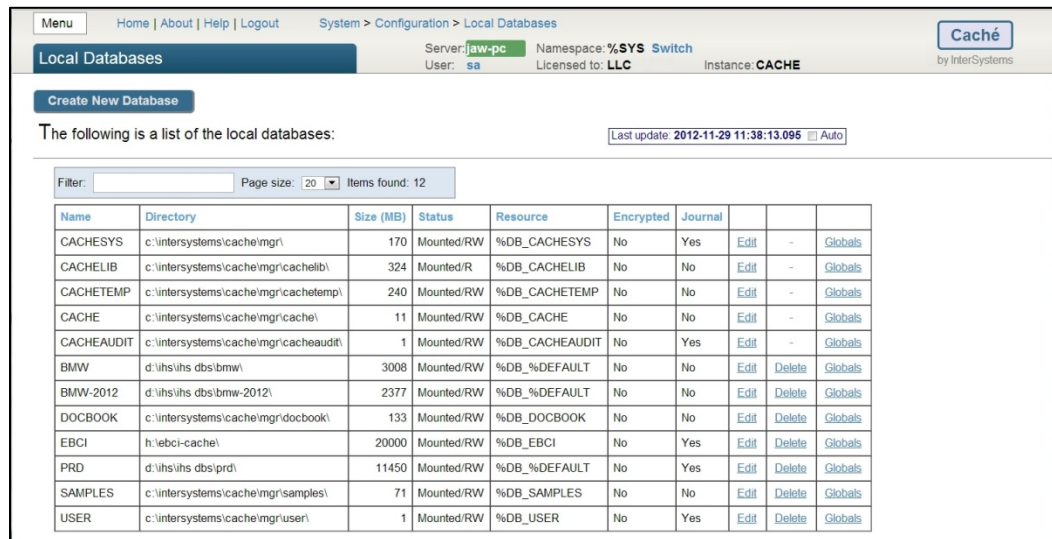


Figure 6-4: Local Databases window

4. Select **Create New Database** in the upper left of the **Local Databases** window. The **Database Wizard** (Figure 6-5) window displays.
5. In the **Enter the name of your database** field, type **BMW**.
6. 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).

Figure 6-5: **Database Wizard Create New Database**

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

Figure 6-6: **Database Wizard**

6.2.6 Mount the BMW Database

To mount the BMW database:

1. From the Ensemble/Cache **System Management Portal Home** window, click **[System Operation] > [Databases]** to display the **Databases** window shown in Figure 6-7.

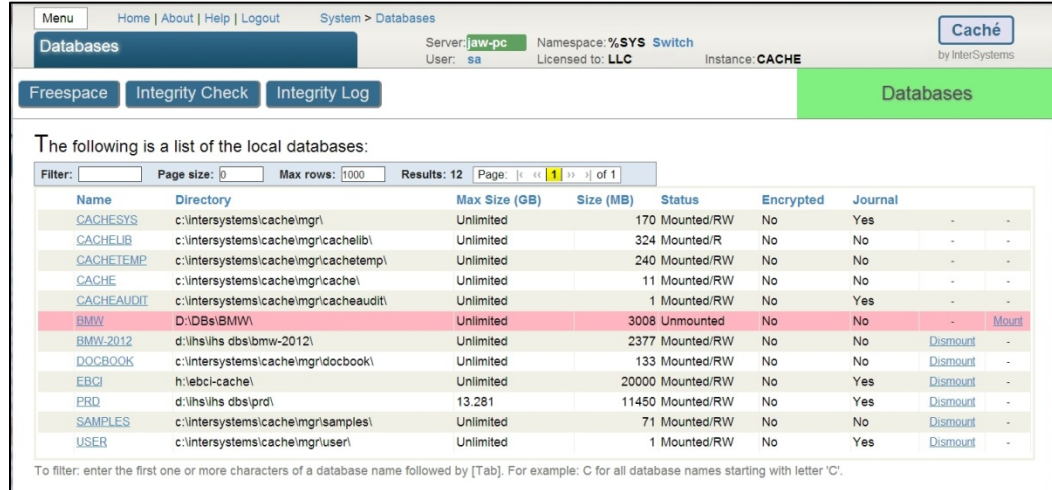


Figure 6-7: System Management Portal Databases window

1. If the **Status** column for the BMW database shows it to be unmounted, click **Mount**. The confirmation dialog shown in Figure 6-8 displays.
2. Click **Read Only**, and click **OK**.

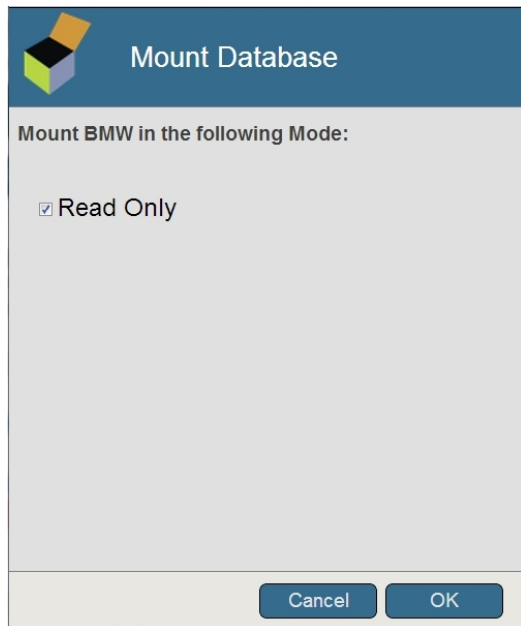


Figure 6-8: Mount Database dialog

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

6.2.7 Create the New Namespace

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] > [System Administration] > [Configuration] > [System Configuration] > [Namespaces]

Click **Create New Namespace** at the top of the screen displayed. This causes the **New Namespace** window shown in Figure 6-9 to be displayed.

2. Create a new namespace as shown in Figure 6-9, specifying **BMW** as the name of the namespace, and selecting **BMW** from the list of existing databases.

Figure 6-9: Add a New Namespace

3. Click **Save**.

6.2.8 Set up Package Mapping

To set up the package mapping:

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

[Home] > [System Administration] > [Configuration] > [System Configuration] > [Namespaces]

2. A **Namespaces** window similar to Figure 6-10 displays. Click **Package Mappings** in the row corresponding to the RPMS production database. This example shows the ECBI database. Your database will have a different name. To reiterate, this will be the RPMS production database, not the BMW database created in Section 6.2.5.

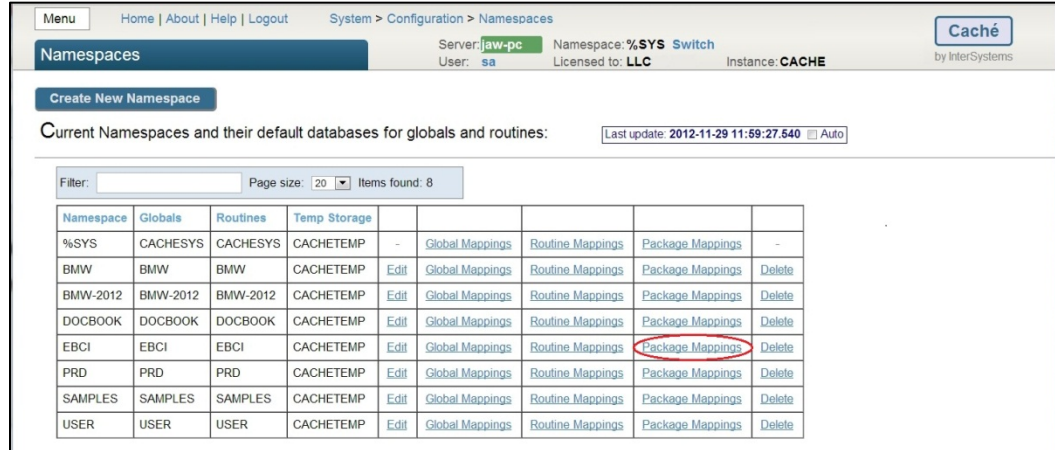


Figure 6-10: Namespaces window with Package Mappings

3. In the **Package Mappings** window shown (Figure 6-11), click **New Package Mapping** to display the **Package Mapping** dialog.

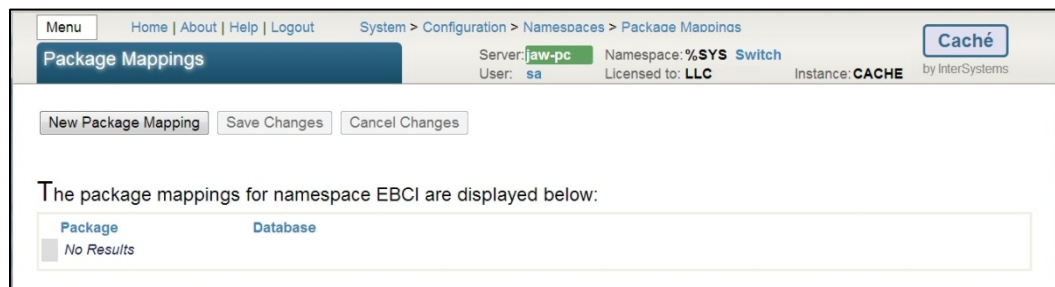


Figure 6-11: Package Mappings window

4. In the **Package Mapping** dialog (Figure 6-12), type **BMW** as the **Package database location** and **BMW** as the **Package name**.

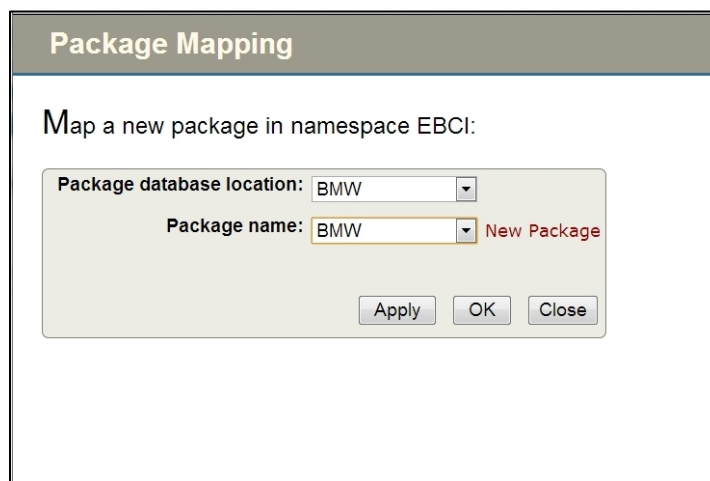


Figure 6-12: Package Mapping dialog

- Once done, click **OK**, and then click **Save Changes** in the confirmation window displayed (Figure 6-13).

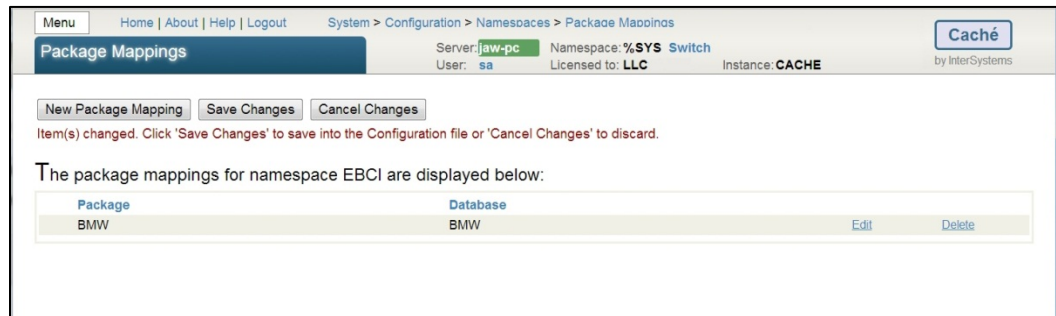


Figure 6-13: **Package Mappings** confirmation window

6.2.9 Package Mapping Verification

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

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

[Home] > [System Explorer] > [SQL] > [Execute SQL Statements]

- 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 6-14:

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

Figure 6-14: Query

- Click **Execute Query**. If the package mapping is successful, a listing similar to Figure 6-15 displays:

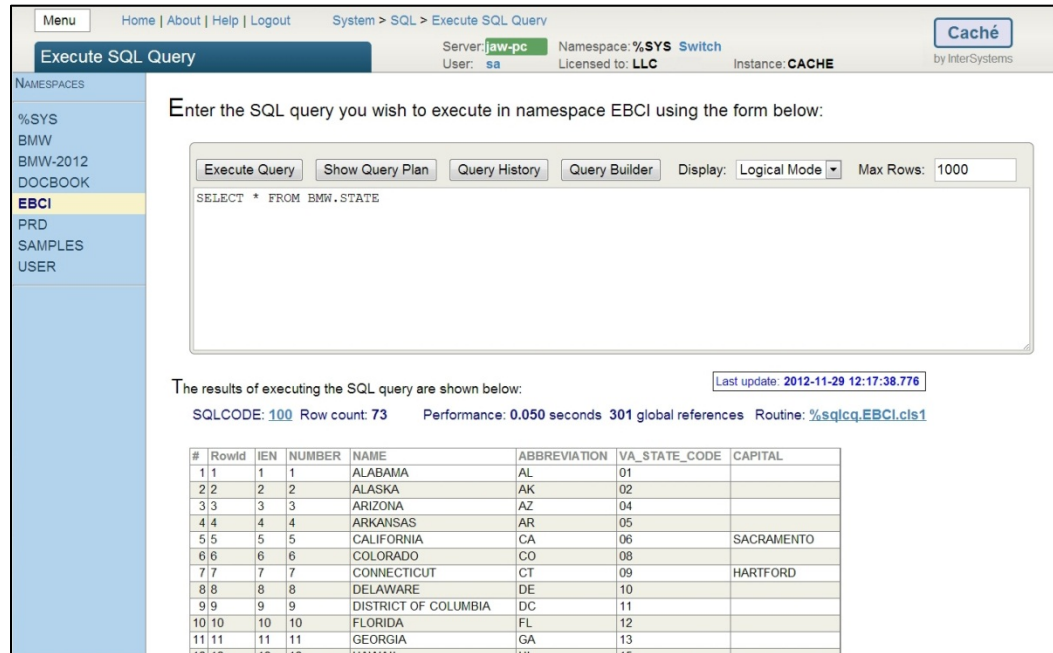


Figure 6-15: Example of a Test Query

This completes the package mapping and verification steps.

6.2.10 Ensemble Version / Cache Classes Compatibility Verification

To verify the Ensemble version 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] > [System Explorer] > [SQL] > [Browse SQL Schemas]

2. Select the site-specific namespace (**EBCI** in the example shown in Figure 6-16) from the column on the left, and click **Procedures** in the BMW row.

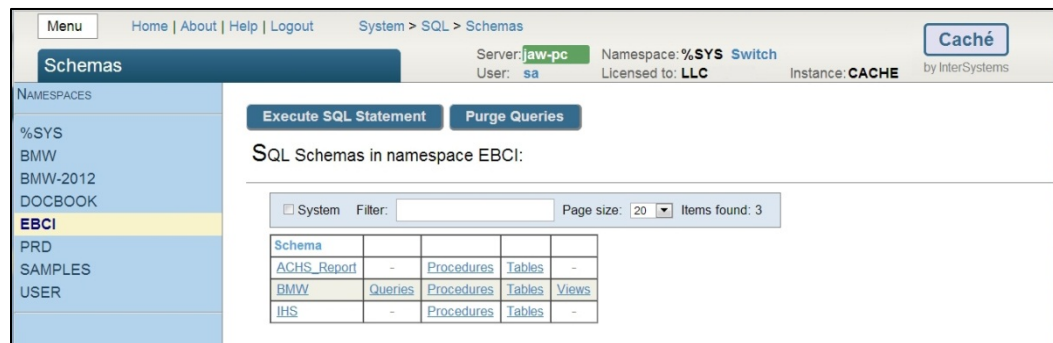


Figure 6-16: Schemas window with Procedures

- In the Stored Procedures window that displays, type **bmw_core** in the Filter field as shown in Figure 6-17, and then click **Run** on the row containing the **BMW_CORE_SP_AuthenticateUserQ** name.

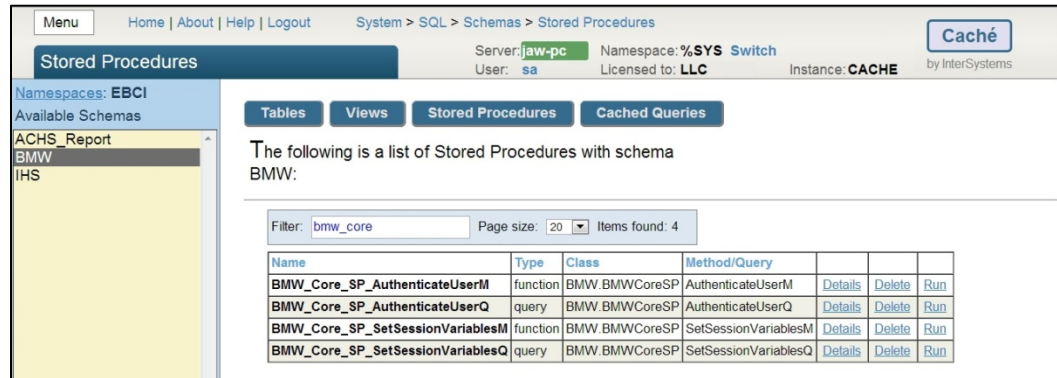


Figure 6-17: **Stored Procedures** window

- If the Ensemble version running is compatible with the newly-installed BMW Cache classes, the Run Query window shown in Figure 6-18 displays:

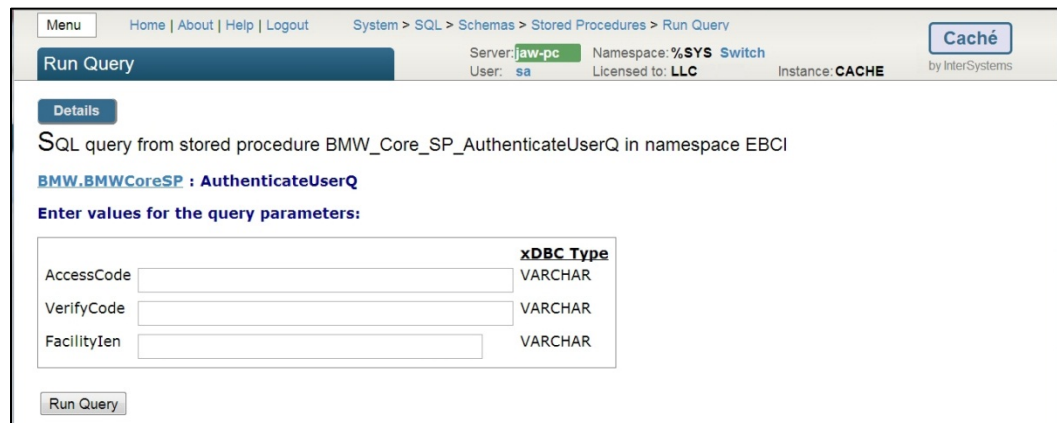


Figure 6-18: **Run Query** window

- If an error message displays, the Ensemble version running is not compatible with the newly-installed BMW Cache classes.

6.3 Cache User Creation

BMW performs 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

To create a new Moonwalk user:

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

[Home] > [System Administration] > [Security] > [Users]

1. Click **Create New User** to display the **Edit User** window (Figure 6-19). Type **MOONWALK_USER** in the **Name** field, and type a password that complies with site-specific password rules in the **Password** and **Password Confirmation** fields.
2. When finished, the Create User Definition window will look similar to the example shown in Figure 6-19.

Figure 6-19: **Edit User** window

3. Click **Save** to save the new user
4. Click **Close** to exit the **Edit User** window.

6.3.2 Assign User Roles

To assign user roles for the required tables:

1. After creating a new user, navigate to the **Users** window (Figure 6-20) in the **Ensemble System Management Portal** following this path:

[Home] > [System Administration] > [Security] > [Users]

The screenshot shows the 'Users' window in the Ensemble System Management Portal. The breadcrumb navigation is 'System > Security Management > Users'. The page includes a 'Menu' button, a 'Home | About | Help | Logout' link, and a 'Cached' button. The server information is 'Server: law-pc', 'User: sa', 'Namespace: %SYS Switch', 'Licensed to: LLC', and 'Instance: CACHE'. A 'Create New User' button is visible. Below the header, it states 'The following is a list of user definitions:' and shows a 'Last update: 2012-11-29 14:01:57.307' timestamp. A filter and page size (20) are shown, along with 'Items found: 9'. The table below lists the users:

User	Full Name	Enabled	Namespace	Routine	Type			
_PUBLIC	(Internal use - not for login)	No			Cache password user	Edit	-	Profile
_SYSTEM	SQL System Manager	Yes			Cache password user	Edit	-	Profile
Admin	System Administrator	Yes			Cache password user	Edit	Delete	Profile
CSPSystem	CSP Gateway user	Yes			Cache password user	Edit	Delete	Profile
Jawad	User who installed system	Yes			Cache password user	Edit	Delete	Profile
MOONWALK_USER		Yes			Cache password user	Edit	Delete	Profile
sa		Yes			Cache password user	Edit	Delete	Profile
SuperUser	System Super user	Yes			Cache password user	Edit	Delete	Profile
UnknownUser	Unauthenticated user	Yes			Cache password user	Edit	-	Profile

Figure 6-20: **Users** window

2. As shown in Figure 6-20, click **Edit** in the row corresponding to the new MOONWALK_USER user created in Section 6.3.1.
3. Click the **Roles** tab in the **Edit User** window displayed.
4. Select **%ALL** from the **Available** column and move it to the **Selected** column by clicking the right-hand arrow.

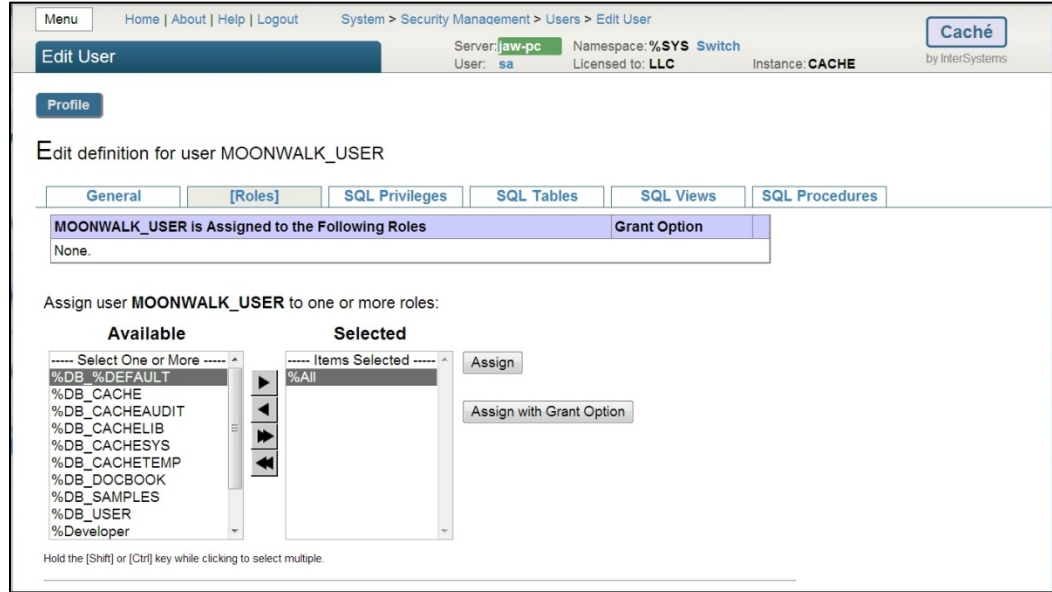


Figure 6-21: Roles tab in Edit User window – before changes

5. 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 6-22.

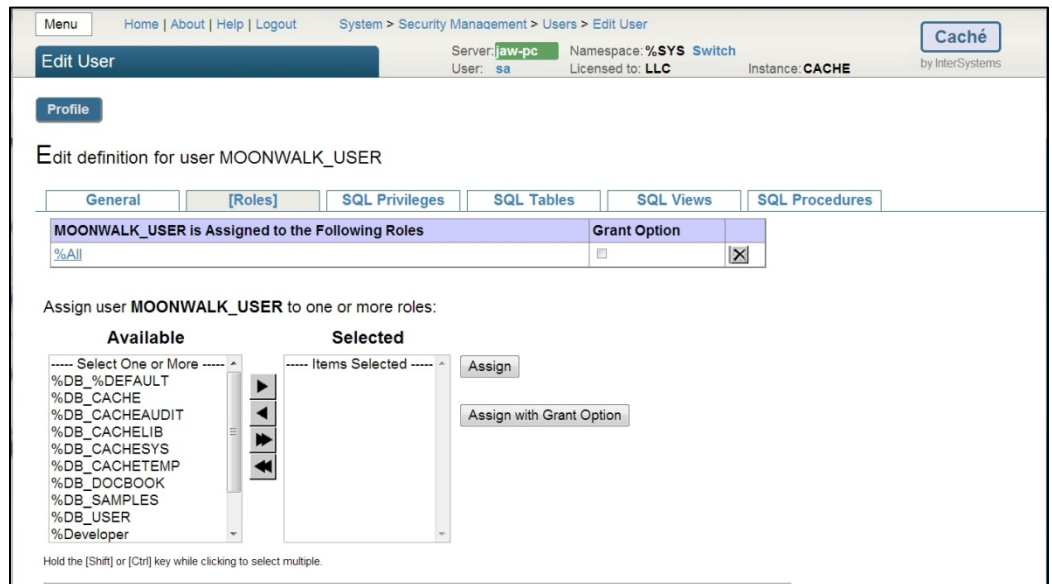


Figure 6-22: Roles tab in Edit User window – after changes

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 section describes the steps for installing the BMW application itself.

Note: Prior to installing an update or patch to an existing BMW installation, uninstall the previous version. See Section 9.0 for instructions.

7.1 Deploy the BMW Application

To deploy the BMW application:

1. Log on to the application server.
2. Browse to the location where the BMW Application Installer file (**bmw_0200.msi**) is stored.
3. Double-click the **bmw_0200.msi** file to run the BMW application installer. This opens the **BMW Setup Wizard** (Figure 7-1).

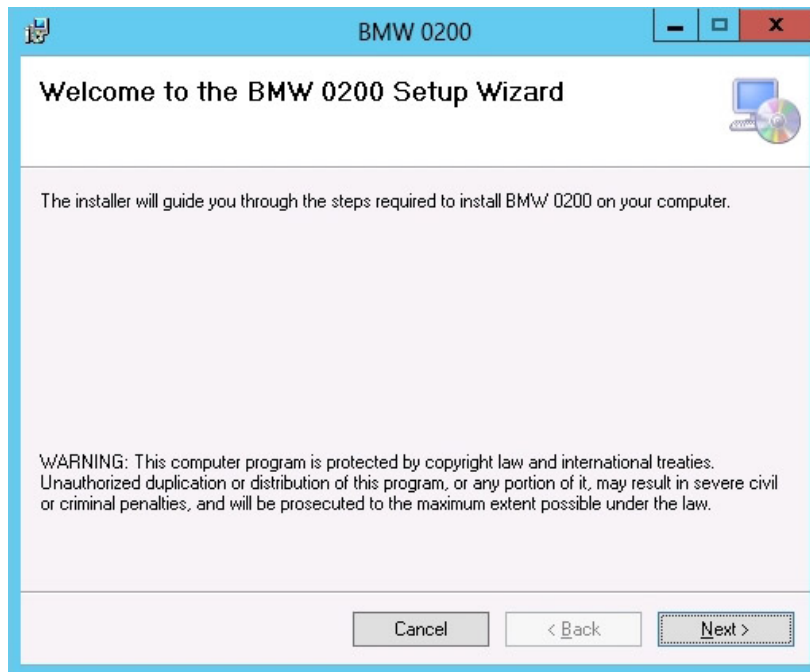


Figure 7-1: **BMW Setup Wizard** dialog

4. Click **Next**. The **Select Installation Address** dialog (Figure 7-2) displays.

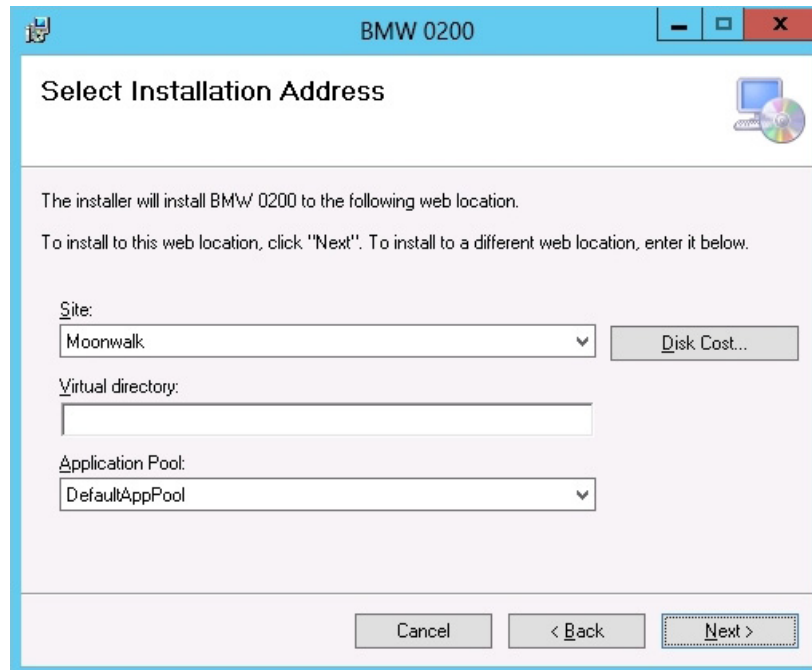


Figure 7-2: **Select Installation Address** dialog

5. Select **Moonwalk** from the **Site** list.
6. Type directory name in the **Virtual directory** field, if necessary.
7. Select **Moonwalk** from the **Application Pool** list.
8. Click **Next**. The **Confirm Installation** (Figure 7-3) dialog displays.

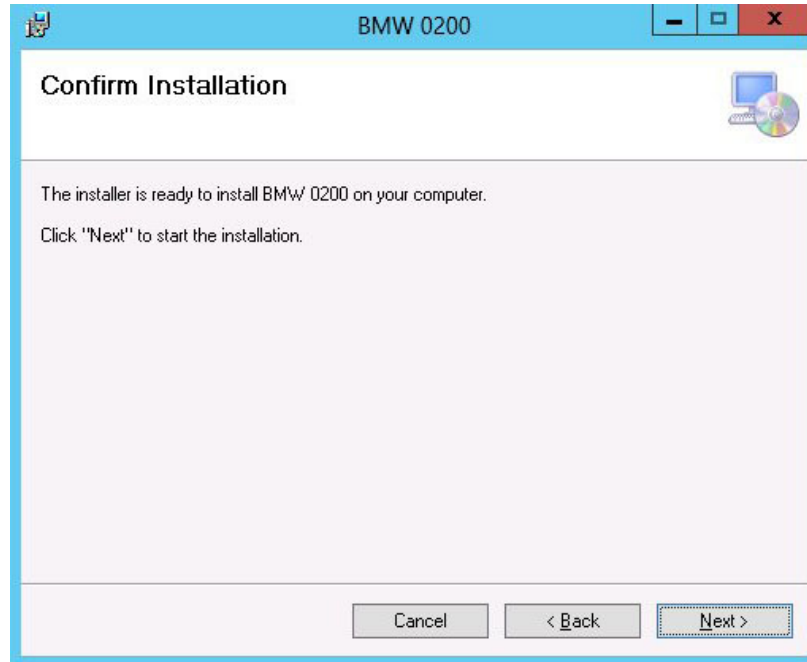


Figure 7-3: **Confirm Installation** dialog

9. Click **Next**. The **Installing BMW** dialog (Figure 7-4) displays and the installation progress is shown.

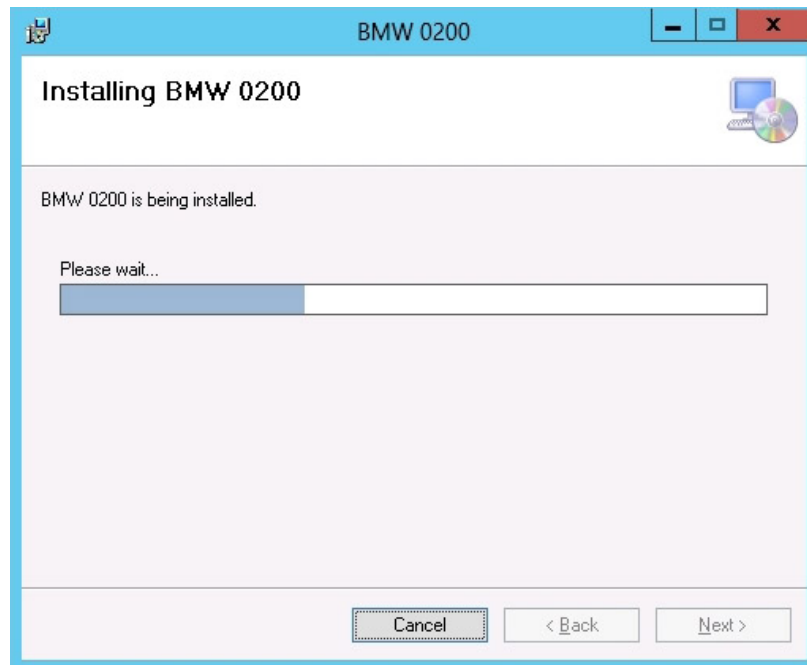


Figure 7-4: **Installing BMW** dialog

10. After a few moments of processing, the **Database Configuration** dialog (Figure 7-5) displays.

Figure 7-5: **Database Configuration** dialog

The BMW suite relies on specific information about each RPMS database to which it is connected. 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 the RPMS database. Note that this is the internal IP address, not an external address.
- **Namespace.** Use this field to enter the namespace of the RPMS database.
- **Port.** Use this field to enter the Cache Supeserver port used by the RPMS database. By default, this is port 1972, although it might be different on your system if you have changed this Cache setting.

Check the Supeserver port number from within the Ensemble Management Portal using the path:

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

The Supeserver port number displays at the bottom of the page.

- **DB User Name.** This field is automatically populated with the MOONWALK_USER user name.
- **Password.** Use this field to enter the password set for the MOONWALK_USER account in Section 6.3.1.
- **Institutions.** Use this list box to choose the institutions associated with the RPMS database. When the **Default** check box is selected, this list is limited to the institutions set as default per the INSTITUTION file. When the check box is cleared, the list will show all available institutions.

- **Short Name.** This field is automatically populated with the institution's short name if it exists in the INSTITUTION file. If it does not exist, type a short name by which to identify this institution in the future.
11. Type the **Database IP, Namespace, Port, DB User Name, and Password**, then click **Load Institutions**.
 12. Once the **Institutions** list is loaded select your institution from the list and provide a **Short Name** (if not already present).
 13. Click **Add** to add the information to the BMW database configuration file. If more than one database is associated with this installation of BMW:
 - a. Re-populate the form fields with the appropriate information and click **Add**.
 - b. Repeat this process for each database.
 - c. If necessary, use the **Remove** button to remove a set of configuration parameters from the list.
 - d. When done, click **Save and Exit** to continue the application installation.
 14. When the installation is complete, click **Next**. The **Installation Complete** dialog Figure 7-6 displays.

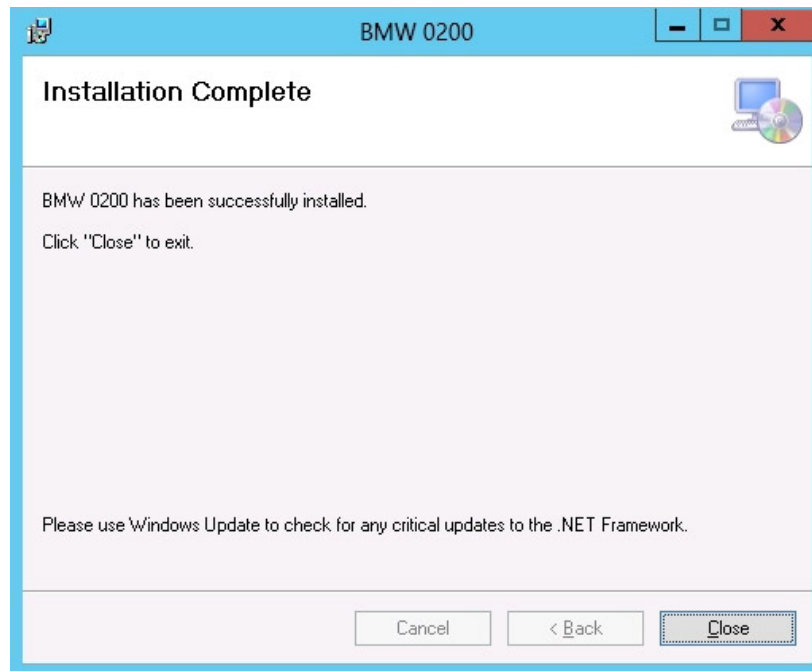


Figure 7-6: **Installation Complete** dialog

15. Click **Close** to exit the wizard.

7.2 Adding a Database after the Installation

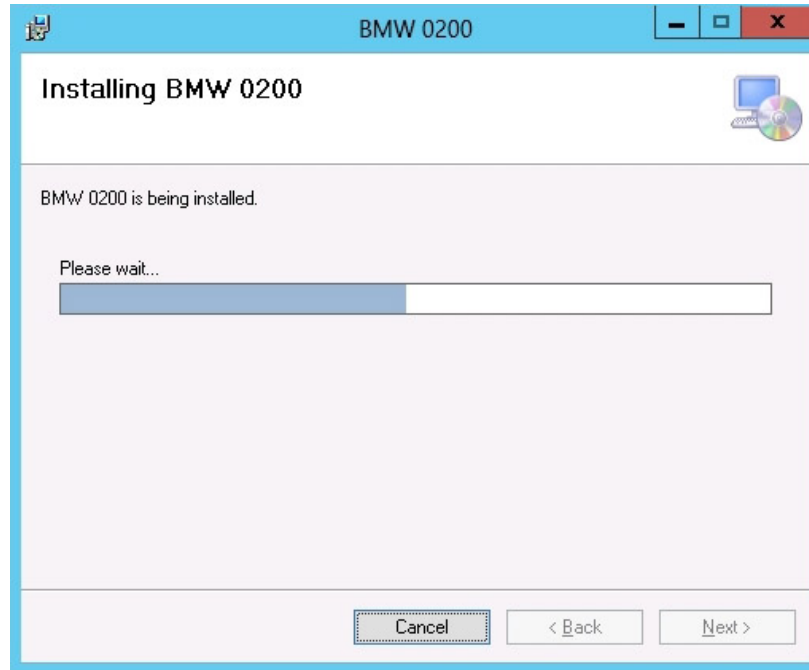
In some cases and at some sites, it may be necessary or desirable to associate one or more additional databases to the BMW application suite. Follow these steps if to add a database after BMW has been installed:

1. Log onto the application server where BMW resides.
2. Browse to the location where the BMW Application Installer file (**bmw_0200.msi**) is stored.
3. Double-click the **bmw_0200.msi** file to run the BMW application installer. This opens the **BMW setup wizard** (Figure 7-7) in repair mode.

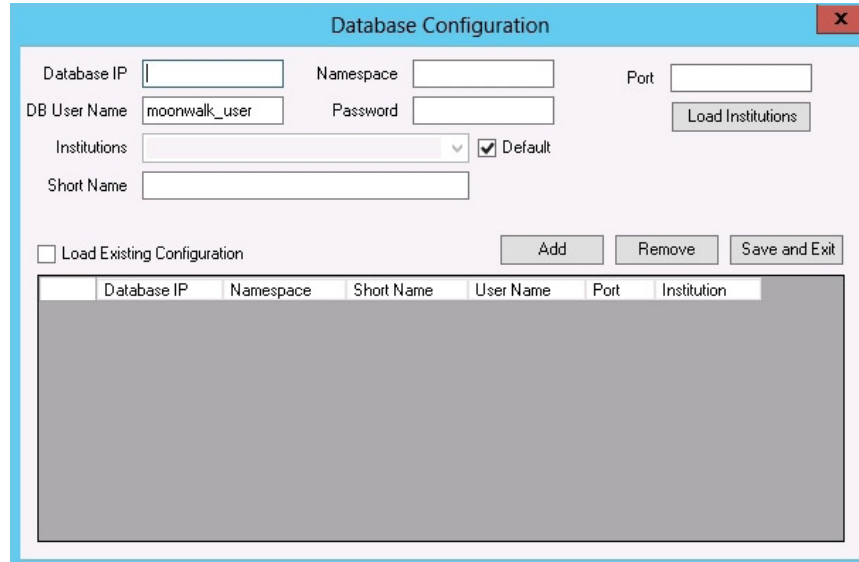


Figure 7-7: **BMW Setup Wizard** dialog – Repair

4. Select **Repair**, and then click **Finish**. The **Installing BMW** dialog (Figure 7-8) displays.

Figure 7-8: **Installing BMW** dialog

5. Click **Next** once the processing is complete. The **Database Configuration** dialog (Figure 7-9) displays.

Figure 7-9: **Database Configuration** dialog

6. Select the **Load Existing Configuration** check box to display the **Configuration File Selection** dialog (Figure 7-10).

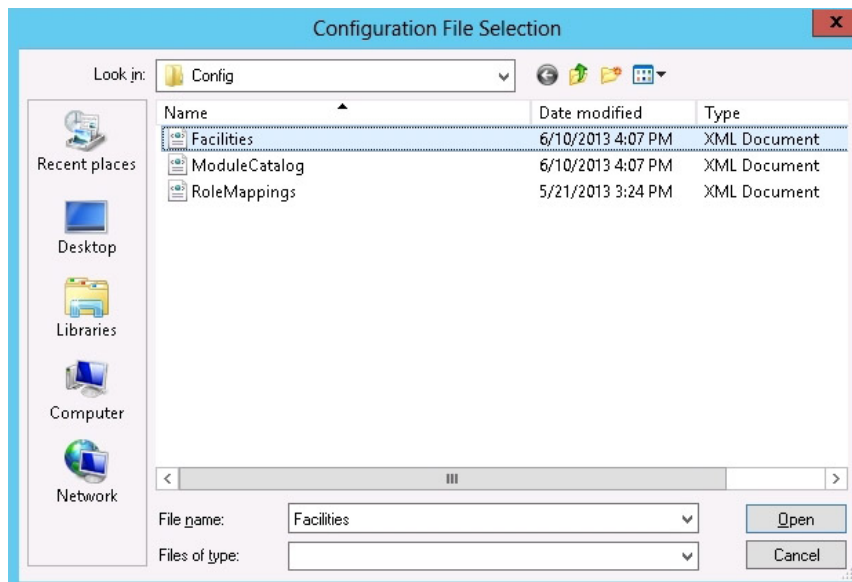


Figure 7-10: **Configuration File Selection** dialog

7. Select the **Facilities** XML file from the directory list (the large area in the center of the dialog), and click **Open**. The **Database Configuration** dialog redisplay with the existing configuration listed (Figure 7-11).

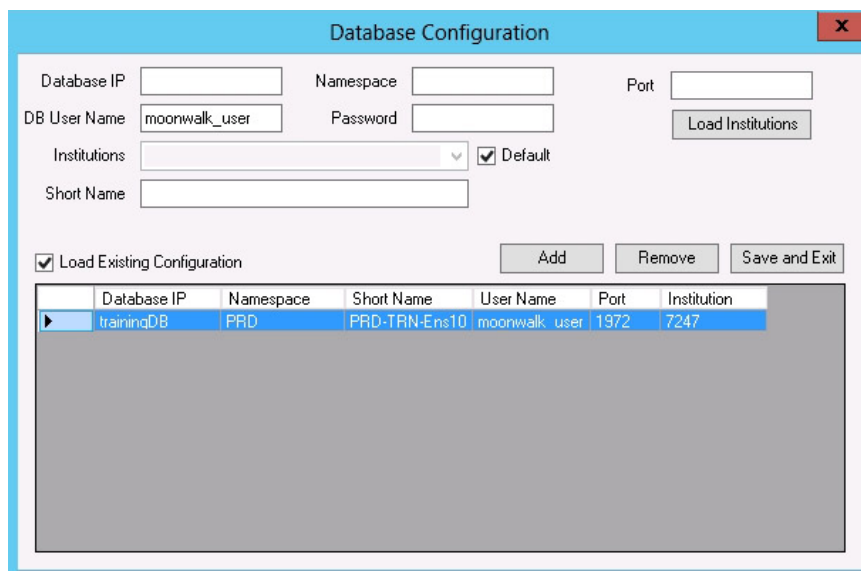


Figure 7-11: **Database Configuration** dialog - Existing configurations listed

8. Enter the **Database IP**, **Namespace**, **Port**, **DB User Name**, and **Password** for the database being added, and click **Load Institutions**.
9. Select your institution from the list and provide a **Short Name** (if not already present).

10. Once the fields are populated, click **Add** to add the information to the BMW database configuration file.
11. To add more than one database to this installation of BMW:
 - a. Re-populate the form fields with the appropriate information and click **Add**.
 - b. Repeat this process for each database being added.
 - c. If necessary, use the **Remove** button to remove a set of configuration parameters from the list.
12. When done, click **Save and Exit**.
13. When the installation is complete, click **Next**. The **Installation Complete** dialog Figure 7-12 displays.

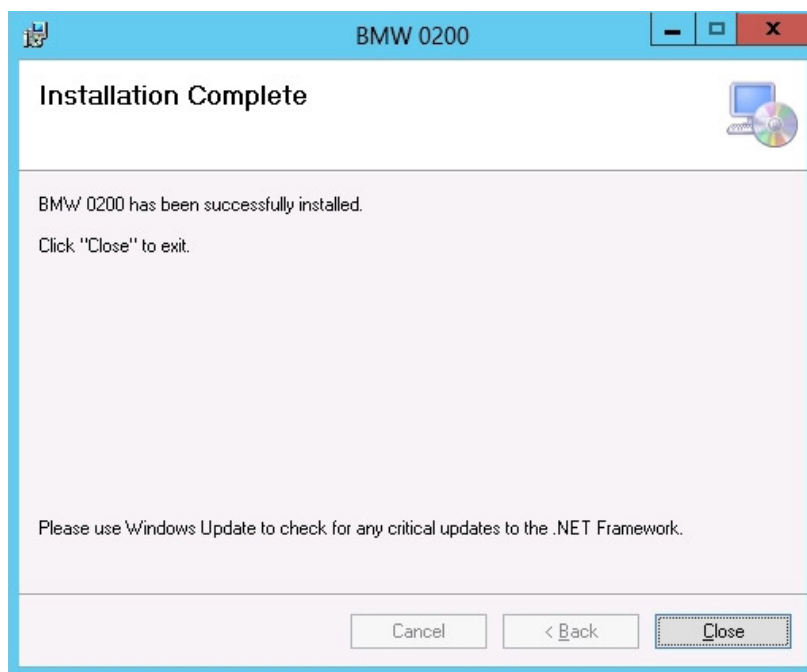


Figure 7-12: **Installation Complete** dialog

14. Click **Close** to exit the 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 AKMOEVE 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)
ADT Clerk	BDGMENU	DGZADT DGZNUR DGZMENU
ADT Coder	BDGMENU	DGZICE DGZMENU
ADT Supervisor	BDGMENU	DGZADT DGZICE DGZNUR DGZSUP DGZSYS DGZMENU
ADT Non-Clinical	BDGMENU	DGZNOCLN DGZMENU
FlagManager		DGPF MANAGER
FlagAssignment		DGPF ASSIGNMENT
FlagAccess		DGPF PRF ACCESS
Registration Clerk	AGPAT -or- AGMENU	AGZMENU
Registration Supervisor	AGMENU	AGZMENU AGZMGR AGZHOME AGZREPORTS AGZDELHRN
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 are more than one of the Secondary Menu Options listed in Table 7-1, only one is necessary per user. Conversely, where there are more than one Security Keys listed for a specific role, 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 are done, follow these steps to open BMW:

1. Open Internet Explorer.
2. In the Address bar, enter the IP address of the Windows application server using this form:
http://nnn.nnn.nnn.nnn
3. If Microsoft Silverlight is not already installed on the computer, a message displays 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 7-13) displays.

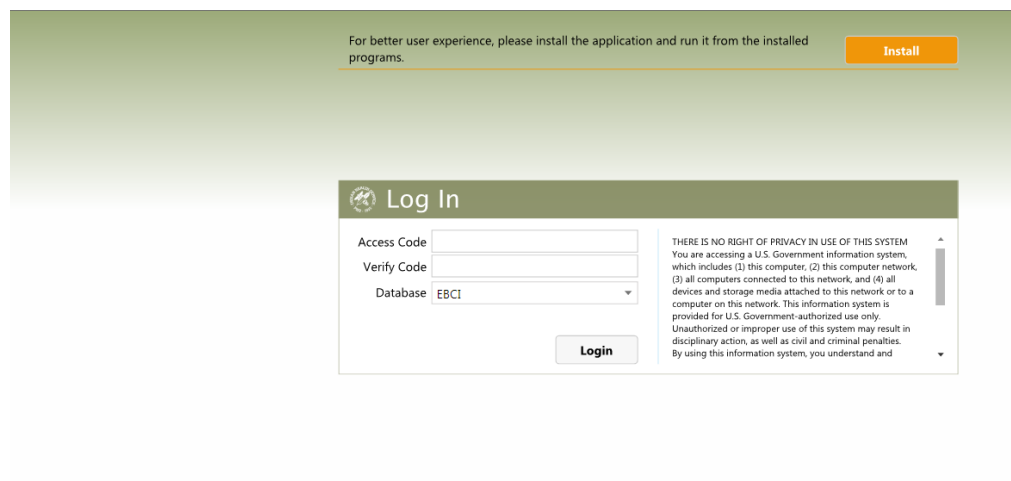


Figure 7-13: **BMW Log In** screen

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 7-14 displays, although different modules may be displayed at the bottom of the screen.

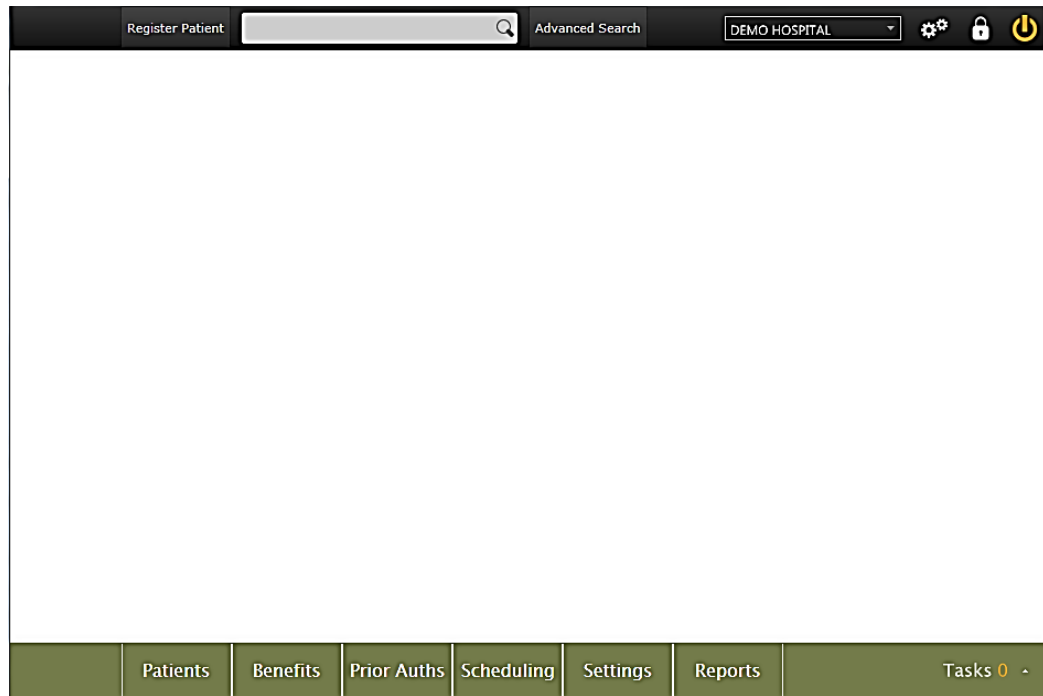


Figure 7-14: BMW Opening Screen

Note: If a port other than the default in Section 5.7.3 was specified and the opening screen is not displayed, verify that the port 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.

To install BMW in out of browser mode:

1. Start BMW in browser mode as described in Section 14.

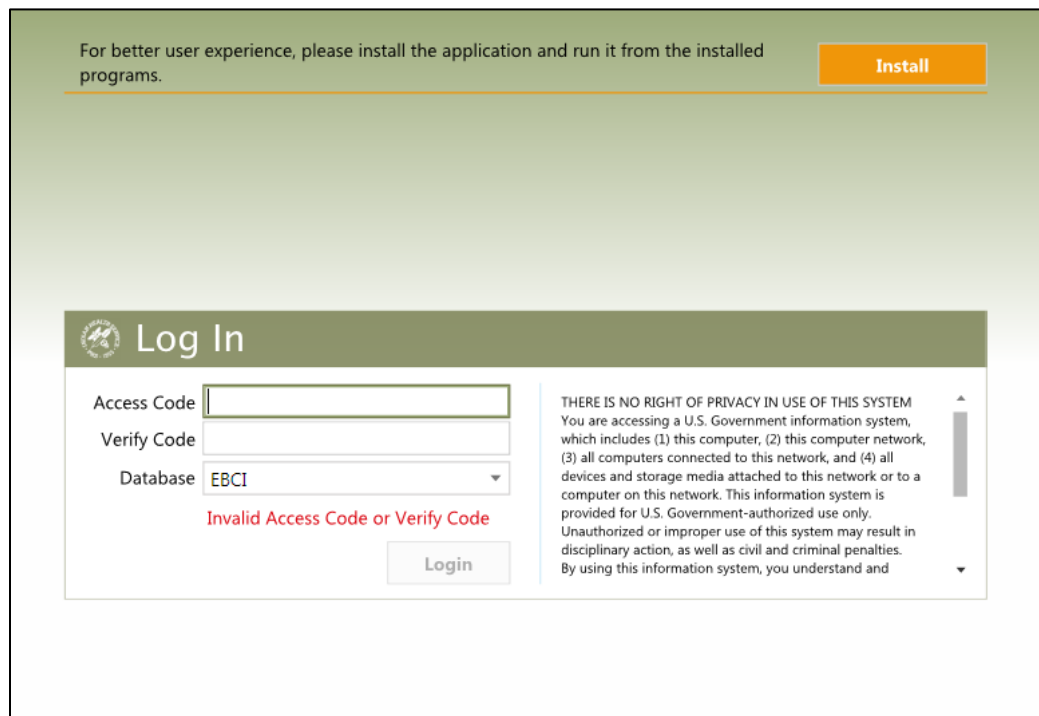


Figure 8-1: BMW Log In screen

2. Click **Install** in the upper right corner of the browser window as shown in Figure 8-1.

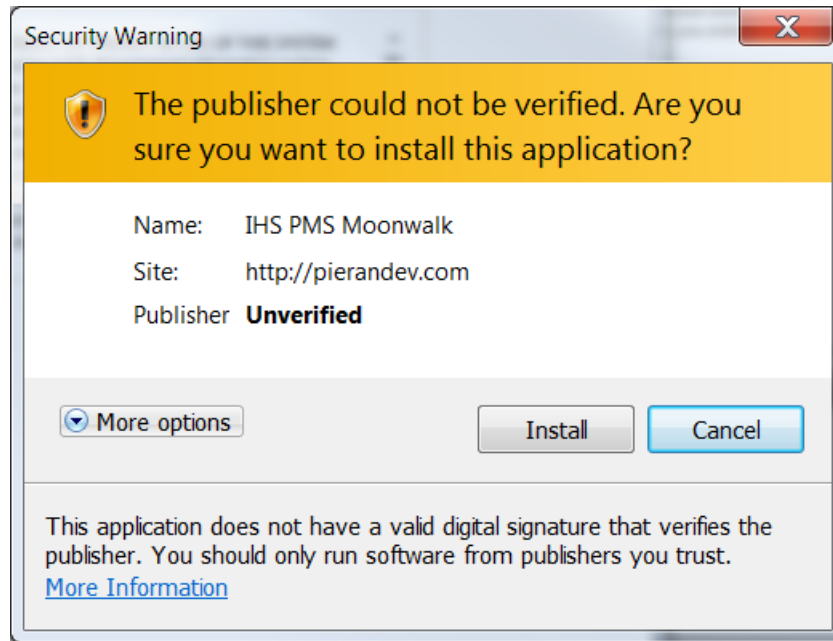


Figure 8-2: **Security Warning** dialog

3. Click **Install** in the Security Warning dialog (Figure 8-2). After a few moments of processing, the installation is complete and the "out of browser" **BMW log in** screen displays.

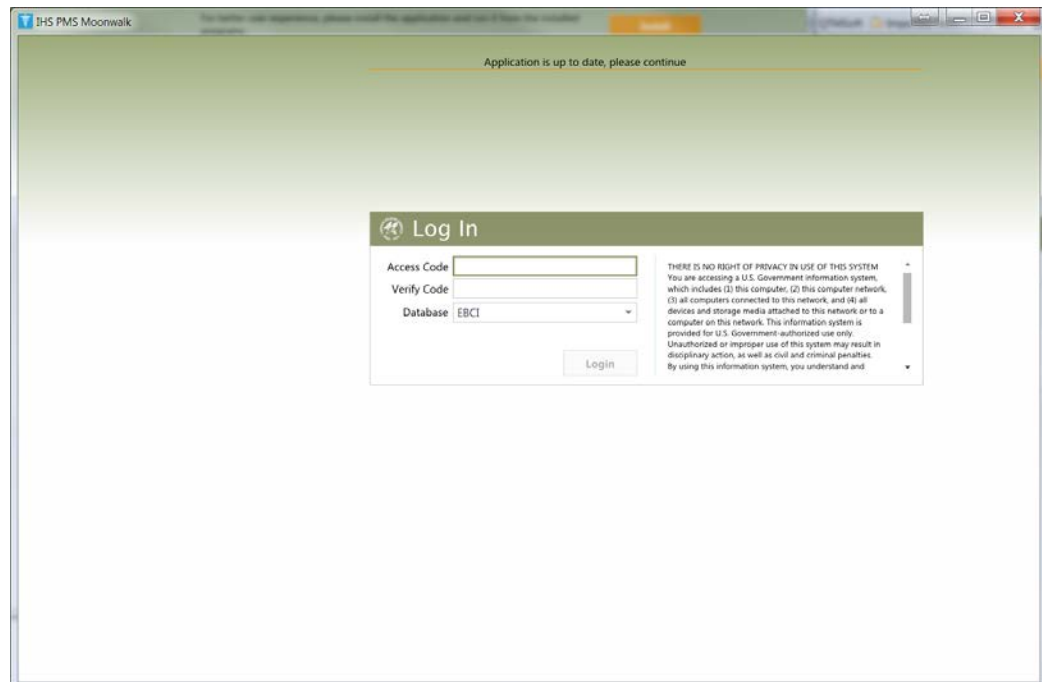


Figure 8-3: Out of browser **BMW Log In** screen

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 shortcut

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 this section 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:

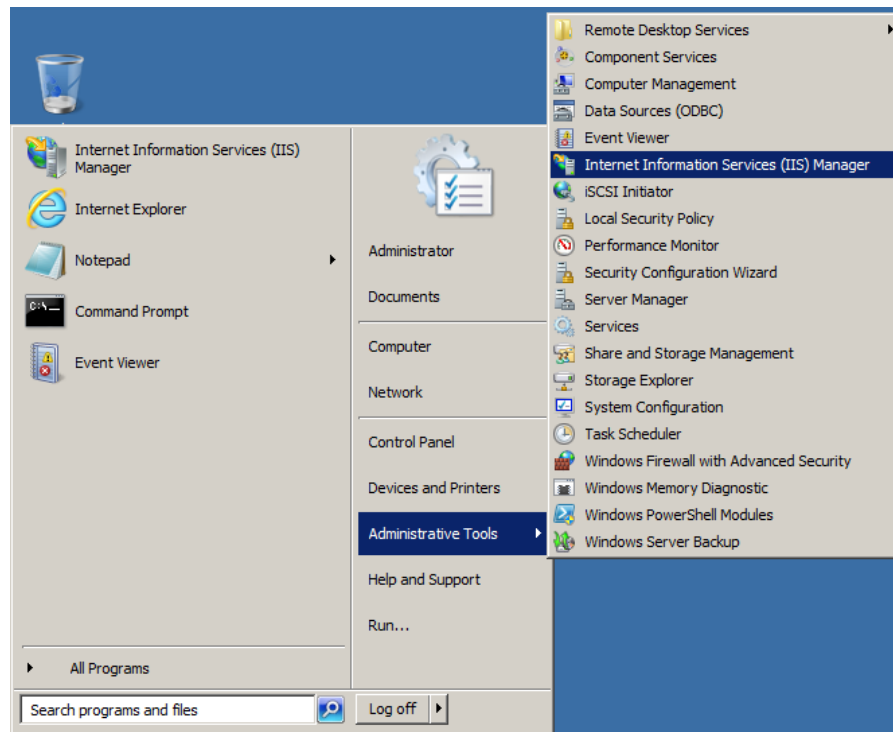


Figure 9-1: Opening **Internet Information Services (IIS) Manager**

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

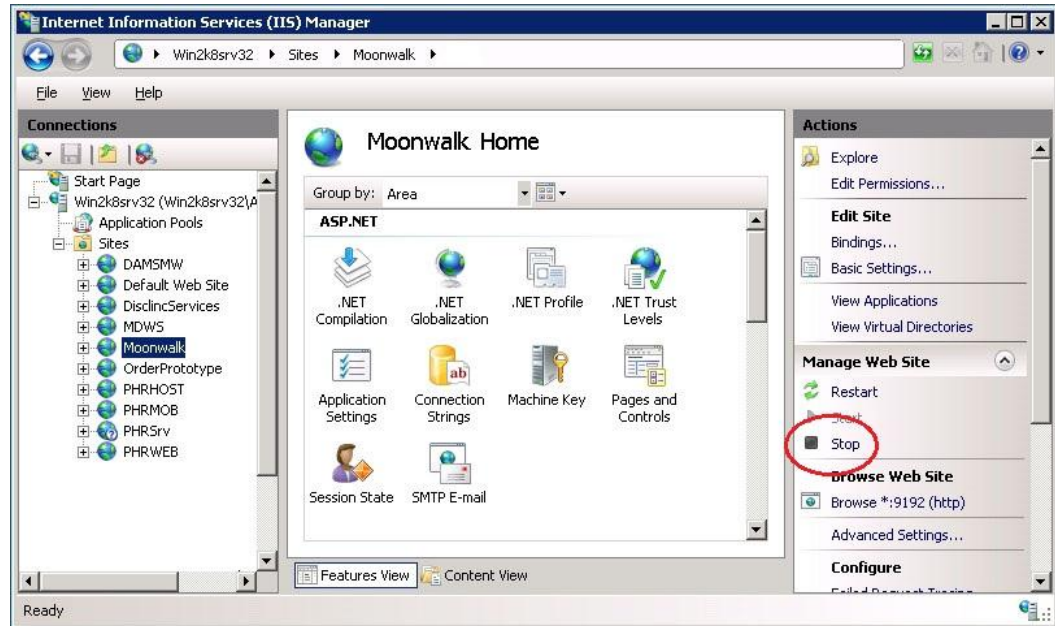


Figure 9-2: Internet Information Services (IIS) - Stopping the BMW (Moonwalk) web site

2. Expand the application server in the left pane (**Win2k8srv32**).
3. Open the **Sites** folder, and select the **Moonwalk** site.
4. Click **Stop** in the **Manage Web Site** section on the right side of the window, as shown in Figure 9-2.

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.

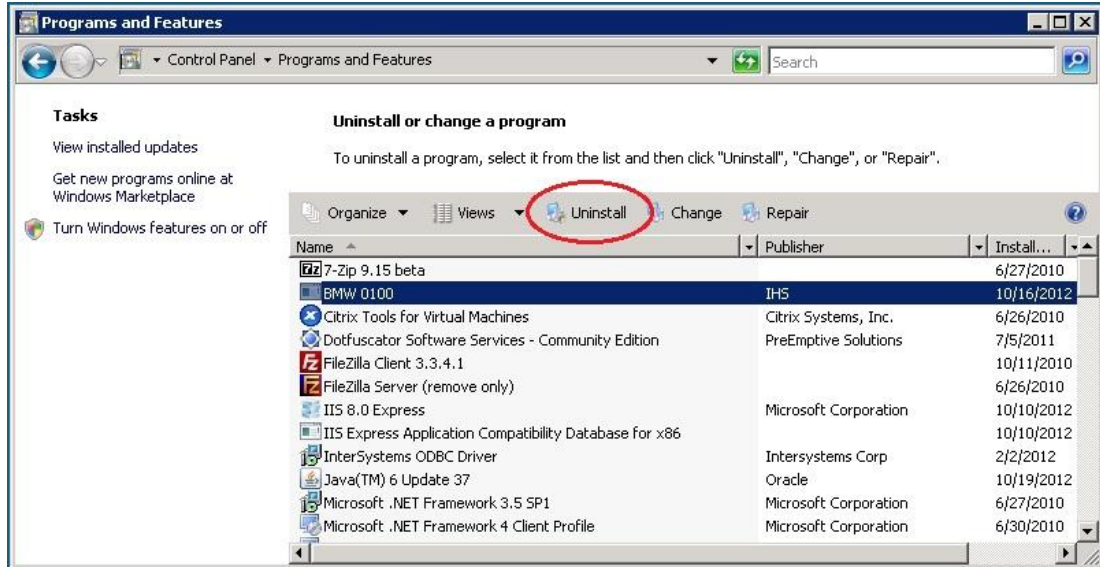


Figure 9-3: Uninstalling BMW

1. Select the program from the list.
2. Click **Uninstall**.

9.3 Install the BMW Application

To deploy the BMW application:

1. Log on to the BMW application server.
2. Browse to the location where the BMW Application Installer file (**bmw_0200.msi**) is stored.
3. Double-click the **bmw_0200.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) displays.

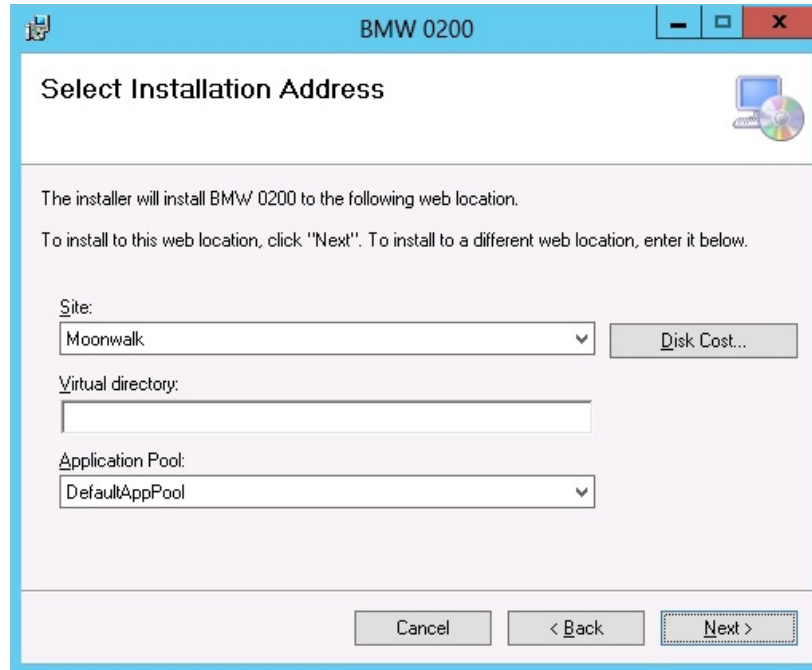


Figure 9-4: **Select Installation Address** dialog

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 displays.
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) displays.

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.

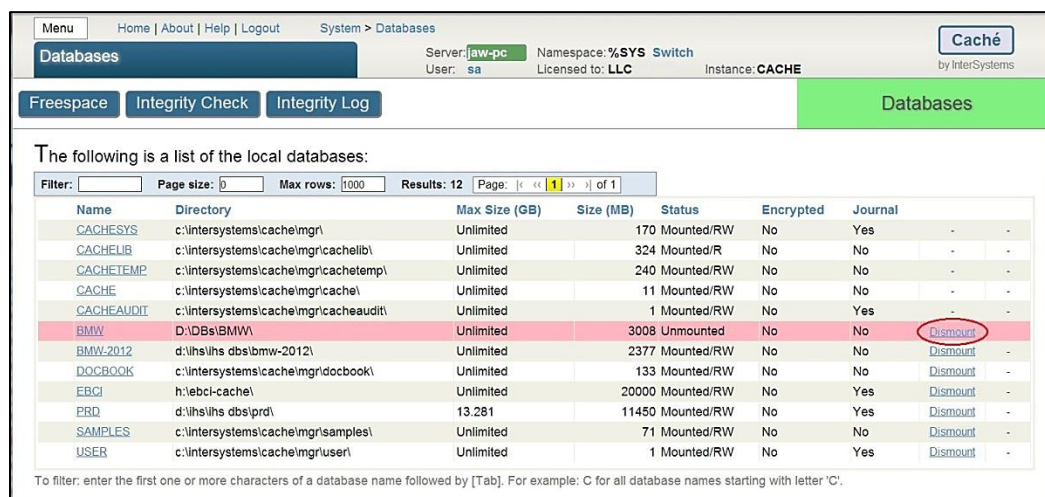
	Database IP	Namespace	Short Name	User Name	Port	Institution
▶	173.203.65.178	EBCI	EBCI	sa	1972	7247
	173.203.65.178	PRD	PRD	sa	1972	2615

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 displays. Click **Close** to exit the dialog.

9.4 Dismount the BMW Database on the Database Server

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 following is a list of the local databases:

Name	Directory	Max Size (GB)	Size (MB)	Status	Encrypted	Journal
CACHESYS	c:\intersystems\cache\mgr\	Unlimited	170	Mounted/RW	No	Yes - -
CACHELIB	c:\intersystems\cache\mgr\cachelib\	Unlimited	324	Mounted/R	No	- - -
CACHETEMP	c:\intersystems\cache\mgr\cachetemp\	Unlimited	240	Mounted/RW	No	No - -
CACHE	c:\intersystems\cache\mgr\cache\	Unlimited	11	Mounted/RW	No	No - -
CACHEAUDIT	c:\intersystems\cache\mgr\cacheaudit\	Unlimited	1	Mounted/RW	No	Yes - -
BMW	D:\DBs\BMW\	Unlimited	3008	Unmounted	No	No Dismount -
BMW-2012	d:\lms\lms_dbs\bmw-2012\	Unlimited	2377	Mounted/RW	No	No Dismount -
DOCBOOK	c:\intersystems\cache\mgr\docbook\	Unlimited	133	Mounted/RW	No	No Dismount -
EBCI	h:\ebci-cache\	Unlimited	20000	Mounted/RW	No	Yes Dismount -
PRD	d:\lms\lms_dbs\prd\	13.281	11450	Mounted/RW	No	Yes Dismount -
SAMPLES	c:\intersystems\cache\mgr\samples\	Unlimited	71	Mounted/RW	No	No Dismount -
USER	c:\intersystems\cache\mgr\user\	Unlimited	1	Mounted/RW	No	Yes Dismount -

To filter: enter the first one or more characters of a database name followed by [Tab]. For example: C for all database names starting with letter 'C'.

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 file `bmw_0200db_win_nnnn.7z` (or `bmw_0200db_aix_nnnn.tar.gz` if applicable). Either of these files contains 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 the 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 created previously (as described in Section 6.2.1):

- **Windows database server.** This file move can be done directly through the network or via Remote Desktop Connection, depending on site requirements.

- **AIX database server.** Use FTP or another similar file transfer program to move the file.

9.7 Mount the BMW Database

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 (Figure 9-8).

The following is a list of the local databases:

Name	Directory	Max Size (GB)	Size (MB)	Status	Encrypted	Journal
CACHESYS	c:\intersystems\cache\mgr\	Unlimited	170	Mounted/RW	No	Yes - -
CACHELIB	c:\intersystems\cache\mgr\cache\lib\	Unlimited	324	Mounted/R	No	- - -
CACHETEMP	c:\intersystems\cache\mgr\cachetemp\	Unlimited	240	Mounted/RW	No	No - -
CACHE	c:\intersystems\cache\mgr\cache\	Unlimited	11	Mounted/RW	No	No - -
CACHEAUDIT	c:\intersystems\cache\mgr\cache\audit\	Unlimited	1	Mounted/RW	No	Yes - -
BMW	D:\DBs\BMW\	Unlimited	3008	Unmounted	No	No - - Mount
BMW-2012	d:\hs\lms\dfs\bmw-2012\	Unlimited	2377	Mounted/RW	No	No Dismount -
DOCBOOK	c:\intersystems\cache\mgr\docbook\	Unlimited	133	Mounted/RW	No	No Dismount -
EBCI	h:\ebci-cache\	Unlimited	20000	Mounted/RW	No	Yes Dismount -
PRD	d:\lms\lms\dfs\prd\	13.281	11450	Mounted/RW	No	Yes Dismount -
SAMPLES	c:\intersystems\cache\mgr\samples\	Unlimited	71	Mounted/RW	No	No Dismount -
USER	c:\intersystems\cache\mgr\user\	Unlimited	1	Mounted/RW	No	Yes Dismount -

To filter: enter the first one or more characters of a database name followed by [Tab]. For example: C for all database names starting with letter 'C'.

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.

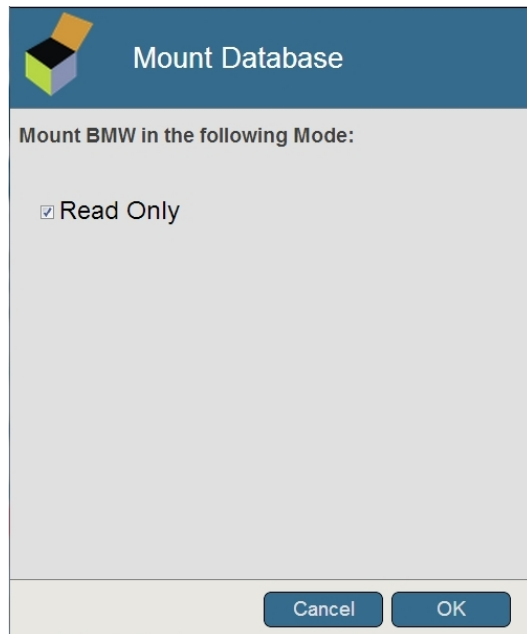


Figure 9-9: Mount Database dialog

3. Click **Read Only**, and click **Perform Action Now**.

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

9.8 Purge the Previous SQL Queries

Clear any previous SQL queries for RPMS database:

1. From the Ensemble/Cache **System Management Portal Home** window, click **[System Explorer] > [SQL] > [Browse SQL Schemas]**.

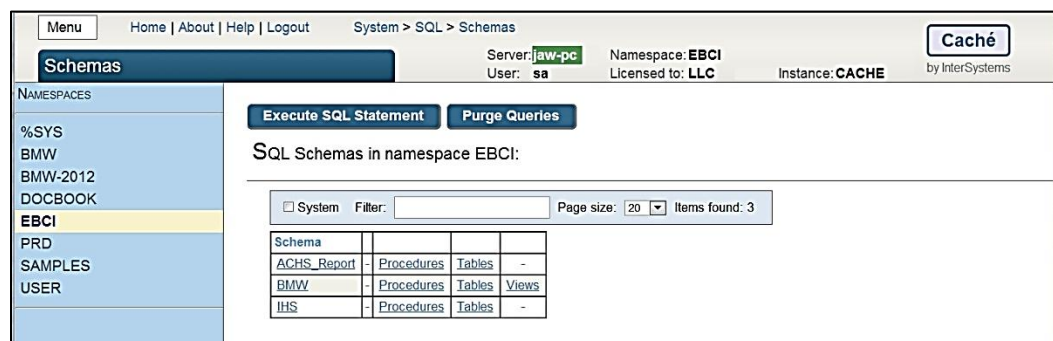


Figure 9-10: Purge Queries - Ensemble 2012 systems

2. On the left side of the window displayed select the RPMS database. In the example shown in Figure 9-10, **EBCI** is selected. Your database will likely have a different name.
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 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 original 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
Memory Configuration Type: Performance Optimized	PEOPT	1	[331-4428]	1562

Catalog Number/Description	Product Code	Qty	SKU	ID
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. 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.

Acronym List

ADT	Admission/Transfer/Discharge
CRUD	Create, read, update, and delete
GUI	Graphical User Interface
IHS	Indian Health Service
IIS	Internet Information Services
RPMS	Resource and Patient Management System
SSL	Secure Sockets Layer
WCF	Windows Communication Foundation

Contact Information

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

Phone: (888) 830-7280 (toll free)

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

Email: support@ihs.gov