RESOURCE AND PATIENT MANAGEMENT SYSTEM

RPMS/Ensemble Cache Classes Database File

(BMW)

BMW CACHE.DAT Installation Guide

Version 2019.1
October 2019

Office of Information Technology
Division of Information Technology

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Preface

This manual describes the installation of the BMW CACHE.DAT file used by the BPRM Practice Management Application Suite, BQRE, CCDA as well as other Meaningful Use 2-compliant Indian Health Service (IHS) applications. The versioning information indicates the calendar year and quarter in which the BMW CACHE.DAT file is generated.

1.0 Release Notes

This release of the stand-alone BMW CACHE.DAT file is to support changes related to a BPRM patch release and other BMW dependent applications. Previously, this file was integrated into the BPRM Practice Management Application Suite. However, since this CACHE.DAT file is now used by other applications, it is provided to sites as a stand-alone package from this point forward.

2.0 Installation Notes

Prefix: BMW

Current Version: 2019.1

2.1 Contents of Distribution

File	Description
bmw_2019.1_win_HS17.zip	CACHE.DAT Cache database file for Windows systems
bmw_2019.1_aix_HS17.tar.gz	CACHE.DAT Cache database file for AIX systems
bmw_2019.1_HS17i.pdf	BMW CACHE.DAT Installation Guide

2.2 Required Database Server Resources

The BMW CACHE.DAT file requires a minimum 10 GB of free disk space on the database server.

2.3 HealthShare Prerequisites

This BMW CACHE.DAT file is currently supported on HealthShare version 2017.2.*x* and shall ***not*** be setup on Ensemble 2012.

This BMW version (2019.1) accumulates all changes and functionality released in previous patches, including BMW 2018.4.

Any application requiring BMW 2018.4 version (on Ensemble 2012) shall work the same with BMW 2019.1 (on HealthShare 2017).

The examples in this Installation Manual reflect HealthShare 2017.2.2HS.9686.0. If the site is running a different version, some of the screens may vary slightly from those shown here.

3.0 Installation Overview

The BMW CACHE.DAT file is a required component of several IHS RPMS applications. It must be present in order for these applications to run.

As a strategy to minimize changes to the Resource and Patient Management System (RPMS) database, the BMW CACHE.DAT file is mounted as a separate database on a HealthShare server. This 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 take advantage of 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.

Follow the instructions shown in Section 4.0 if you are installing the BMW CACHE.DAT file for the first time at your site. Refer to Section 5.0 if an earlier version of the BMW CACHE.DAT file is installed at your site.

4.0 Installation and Configuration

4.1 Assumptions

This section assumes the following:

- The HealthShare server (running one of the supported versions) has already been set up.
- An RPMS database is already set up on the HealthShare server.
- The user performing the installation and configuration has the appropriate rights to mount databases.

In this manual, "MSDB" is the name of the RPMS database used. The name may be different on the site's system. The steps shown in the following sections will guide you through setting up the BMW database for the IHS RPMS environment.

4.2 Installation

4.2.1 Download BMW file

Download the desired version of the BMW file from IHS FTP. Alternatively, find the RPMS/Ensemble Cache Classes Database File (BMW) at https://www.ihs.gov/rpms/applications/infrastructure/.

4.2.2 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, follow these steps (substituting the appropriate drive letter and folder names):

1. Using Windows Explorer, navigate to **D:\EnsembleData** on your database server.
2. Click **Organize**, and then select **New Folder**.
3. Type **BMW**, and press Enter to create the **D:\EnsembleData\BMW** folder.

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/
```

4.2.3 Unzip the BMW ZIP File

Using the appropriate utility for the file format provided, unzip the BMW file into CACHE.DAT file, which will be mounted onto the HealthShare server in the steps shown in Section 4.2.7.

Unzip this file on a workstation or other local machine, not on your database server itself. After is it unzipped, it will be moved to the database server as described in Section 4.2.4

4.2.4 Move the BMW CACHE.DAT File to the Database Server

After unzipping the compressed file, move the CACHE.DAT file contained within it to the /BMW folder created in Section 4.2.1:

- 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 will may be required to use File Transfer Protocol (FTP) or another similar file transfer program to move the file.

4.2.5 Set File and Folder Permissions

The BMW CACHE.DAT file 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 the command at the AIX command prompt to navigate to the folder where CACHE.DAT is stored. (Note that this example uses **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 the following command to set the permissions for the CACHE.DAT file:

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

4.2.6 Set Up the BMW Database

Mount the unzipped BMW database using the HealthShare\ System Management Portal, a component of HealthShare:

1. Right-click the HealthShare icon ( ) in the Windows Notification Area. The menu in Figure 4-1 displays.

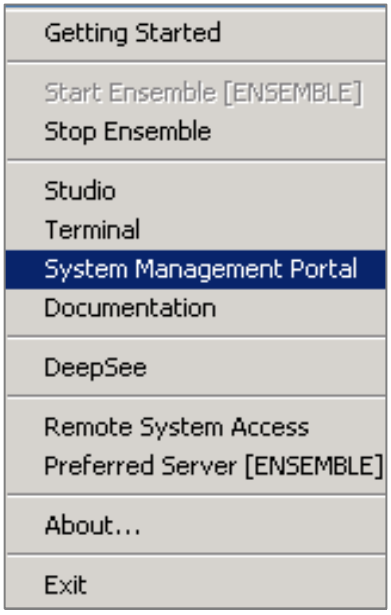


Figure 4-1: Opening the **HealthShare System Management Portal**

2. Select **System Management Portal**.

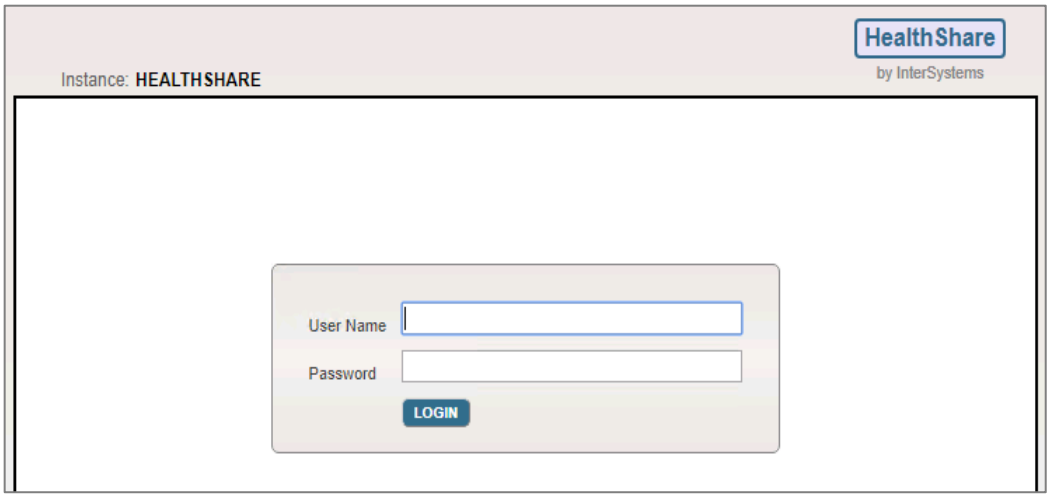


Figure 4-2: **HealthShare** login dialog

3. Type your Ensemble/Cache user name and password in the window displayed (Figure 4-2). Click **Login**.

4. From the Ensemble/Cache **System Management Portal Home** window, click **System Administration** > **Configuration** > **System Configuration** > **Local Databases** as shown in Figure 4-3.

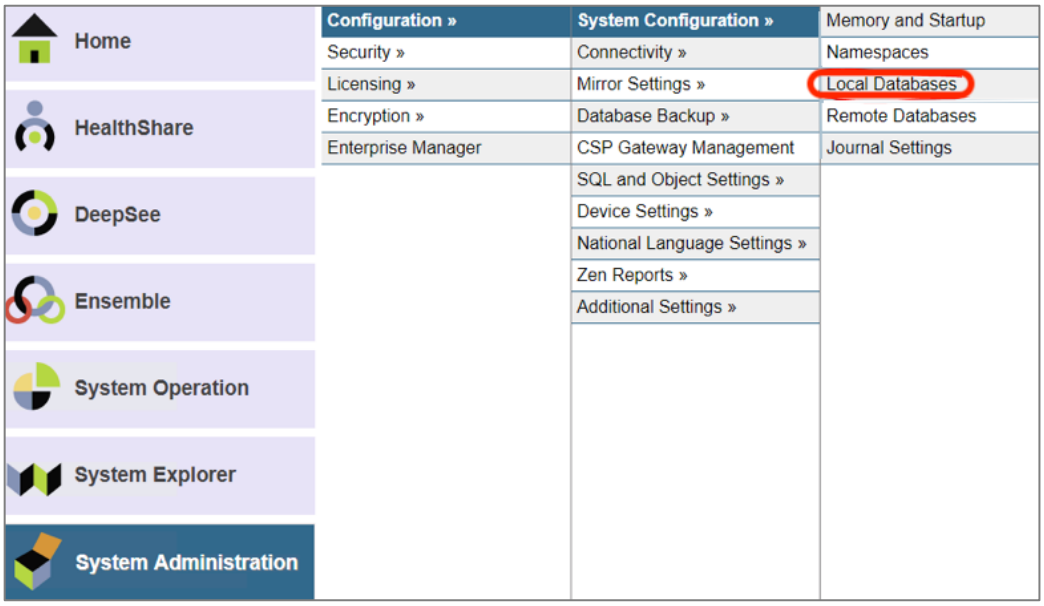


Figure 4-3: **System Management Portal – Local Databases**

5. The **Local Databases** window displays as shown in Figure 4-4.

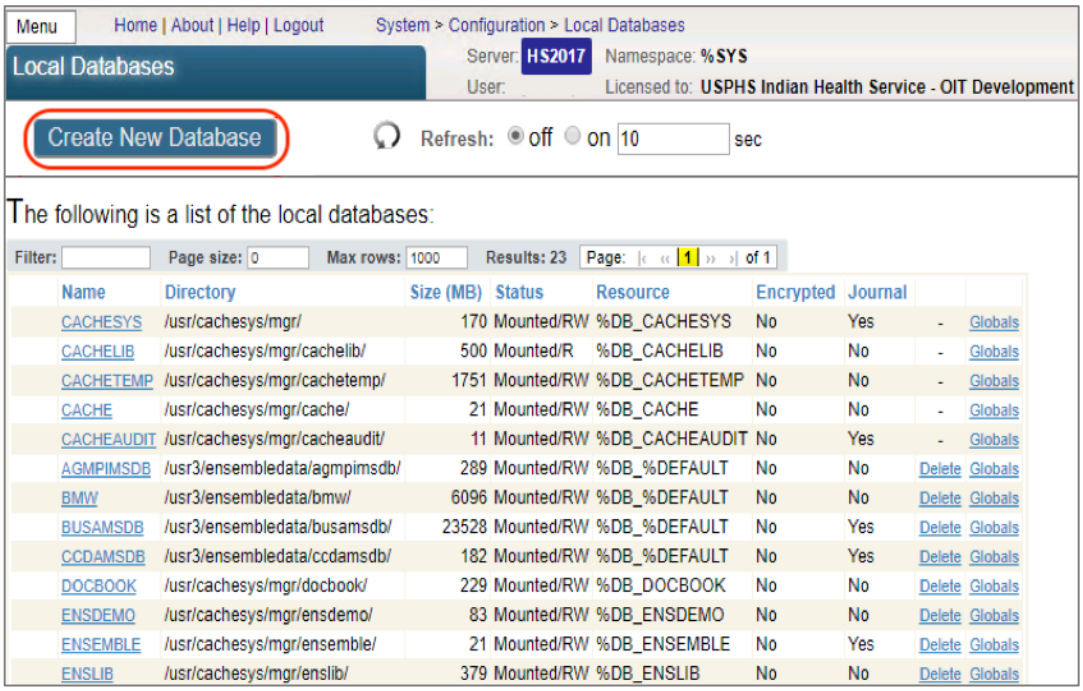


Figure 4-4: **Local Databases** window

6. Select **Create New Database** in the upper left of the **Local Databases** window. The **Database Wizard** (Figure 4-5) window displays.

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, on the HealthShare server, as described in Section 4.2.3. (The correct folder is labeled **\BMW** and contains the CACHE.DAT file).

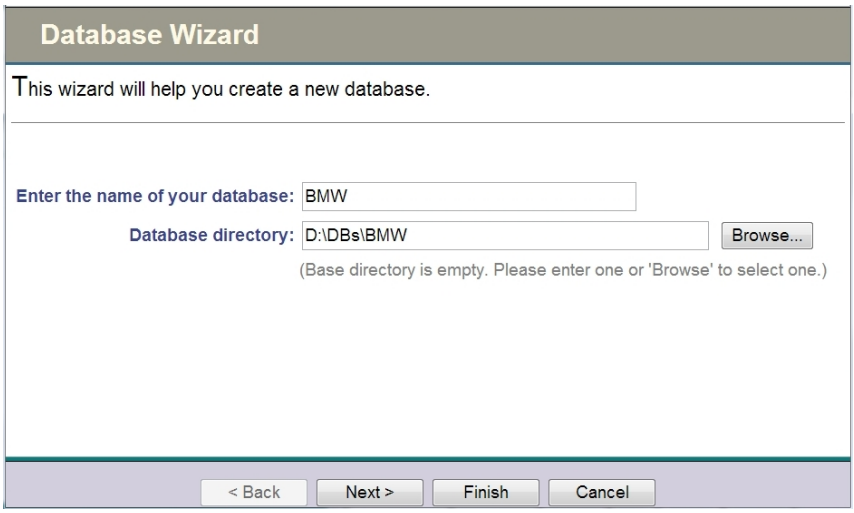


Figure 4-5: **Database Wizard Create New Database**

9. Click **Next** to display the next window of the Database Wizard (Figure 4-6). A message displays stating the CACHE.DAT database file already exists. Click **Finish** to close the **Database Wizard**.

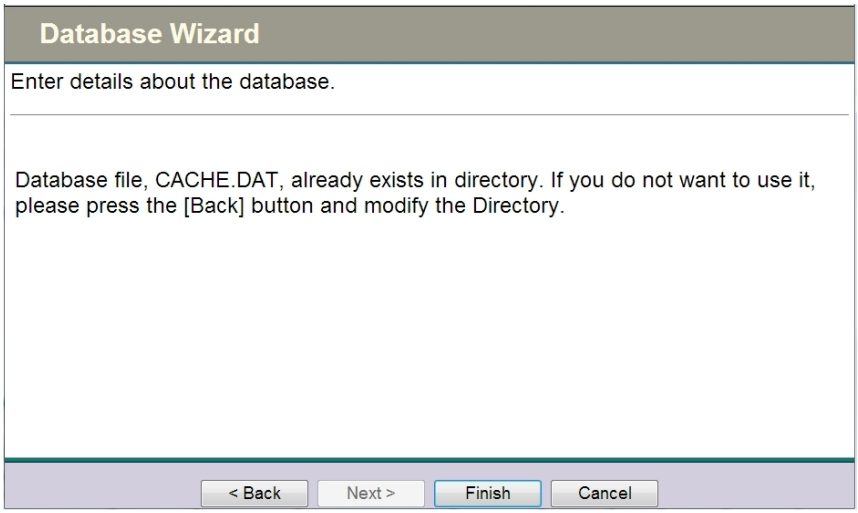


Figure 4-6: **Database Wizard**

4.2.7 Mount the BMW Database

Do the following to mount the BMW database:

1. From the **System Management Portal Home** window, click **System Operation** > **Databases** to display the **Databases** window shown in Figure 4-7.

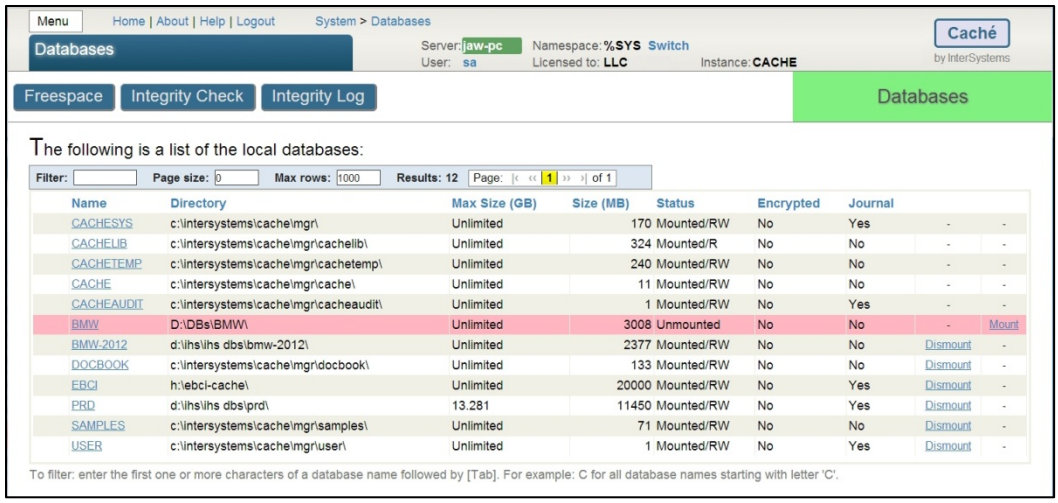


Figure 4-7: **System Management Portal Databases** window

2. If the **Status** column for the BMW database shows it to be unmounted, click **Mount**. The confirmation dialog shown in Figure 4-8 displays.

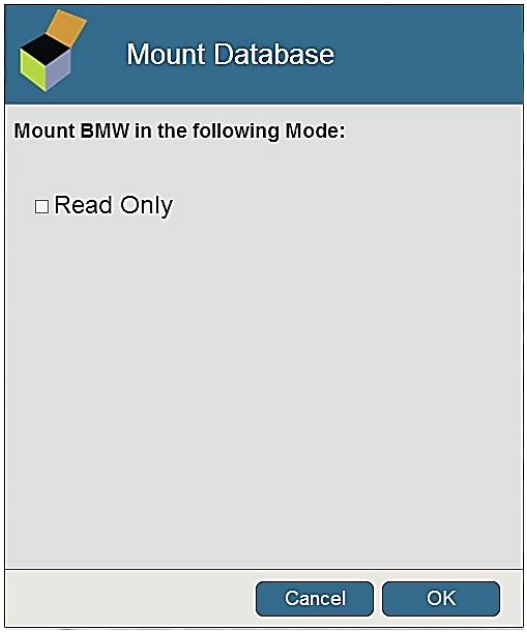


Figure 4-8: **Mount Database** dialog

4.2.8 Create the New Namespace

Do the following to create a new namespace for the BMW database:

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

   Home > **System Administration** > **Configuration** > **System Configuration** > **Namespaces**

2. Click **Create New Namespace** at the top of the screen displayed. This causes the **New Namespace** window shown in Figure 4-9 to display.

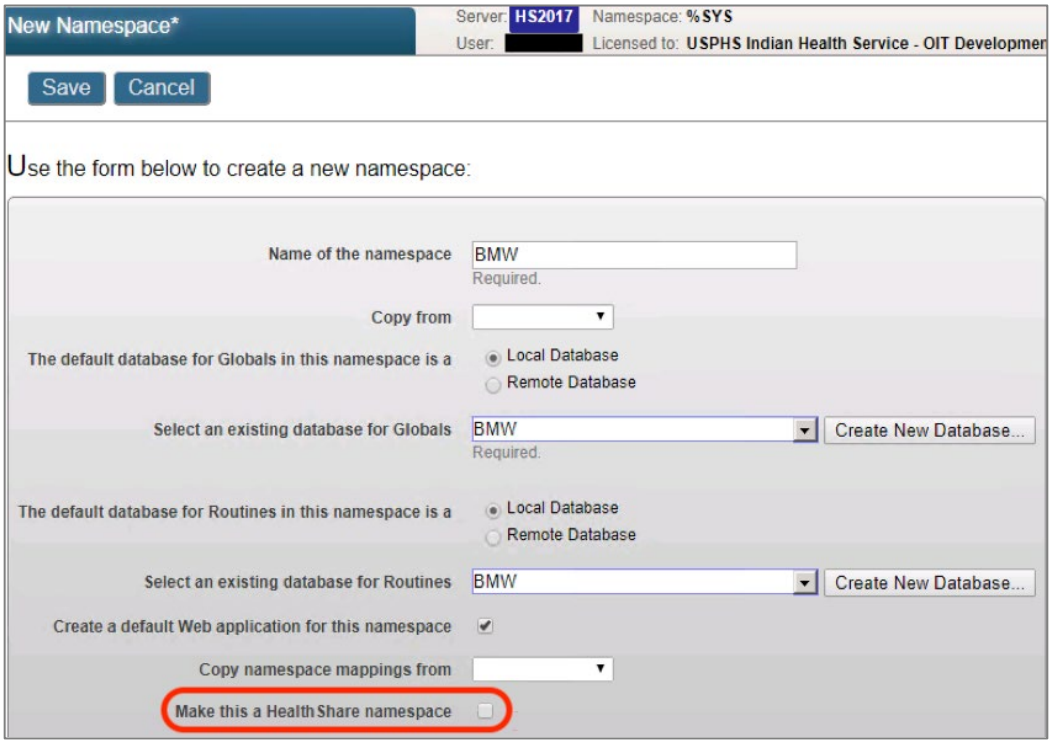


Figure 4-9: **New Namespace** window

3. Create a new namespace, specifying **BMW** as the name of the namespace, and selecting **BMW** from the list of existing databases for Globals and Routines.

4. Unselect the **Make this a HealthShare namespace** check box.

5. Click **Save**.

4.2.9 Check and Remove Mirror Bit

Use the instructions in this section to check for a mirror bit on BMW cache.dat and remove it as shown in Figure 4-10.

A mirror bit on BMW cache.dat can potentially present an issue with mounting the BMW database in Read/Write (RW) mode and when installing dependent applications such as BPRM and BQRE.

1. Open the HealthShare terminal in programmer prompt.
2. Switch to the %SYS namespace using command **zn "%SYS"**.
3. Run the command **D ^MIRROR** to open mirroring settings.
4. List all mirrored databases by choosing option **1**.
5. Check if the BMW database displays in the list.
6. If the BMW database displays, choose option **2** to remove the mirror bit from the BMW database.
7. Provide the database pathname (shown in ***bold, italic font*** in Figure 4-10) if you are prompted to provide a database name/path to remove the mirror bit.

```
USER>zn "%SYS"

%SYS>d ^MIRROR

This instance is not initialized as a mirror member

1) List mirrored databases
2) Remove one or more mirrored databases
3) Enable Mirror Service

Option? 1
No mirrored db's mounted
Databases with the activation required flag set
4    f:\databases\bmw\                          BMW
     133/1170064/133/1170548/0/HS2017S2016M2/d:\ensembledata\bmw\
     5AFC9AEF-E489-4ACC-86A0-91C3179A20B8
     E6F79B80-1493-4FE6-9FAC-35D9A5991188/B03E779F-FAEA-49AE-80D8-
51C01FAC3737
Press <enter> to return to the main menu...

1) List mirrored databases
2) Remove one or more mirrored databases
3) Enable Mirror Service

Option? 2
There is one mirrored database on this system
Remove it? Yes
Removing f:\databases\bmwdic\ from the mirror ...Done
Press <enter> to return to the main menu...
```

Figure 4-10: Check and remove mirror bit

4.3 Package Mapping

4.3.1 Set Up Package Mapping

Do the following to set up the package mapping:

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

   Home > **System Administration** > **Configuration** > **System Configuration** > **Namespaces**

   A **Namespaces** window similar to Figure 4-11 displays.

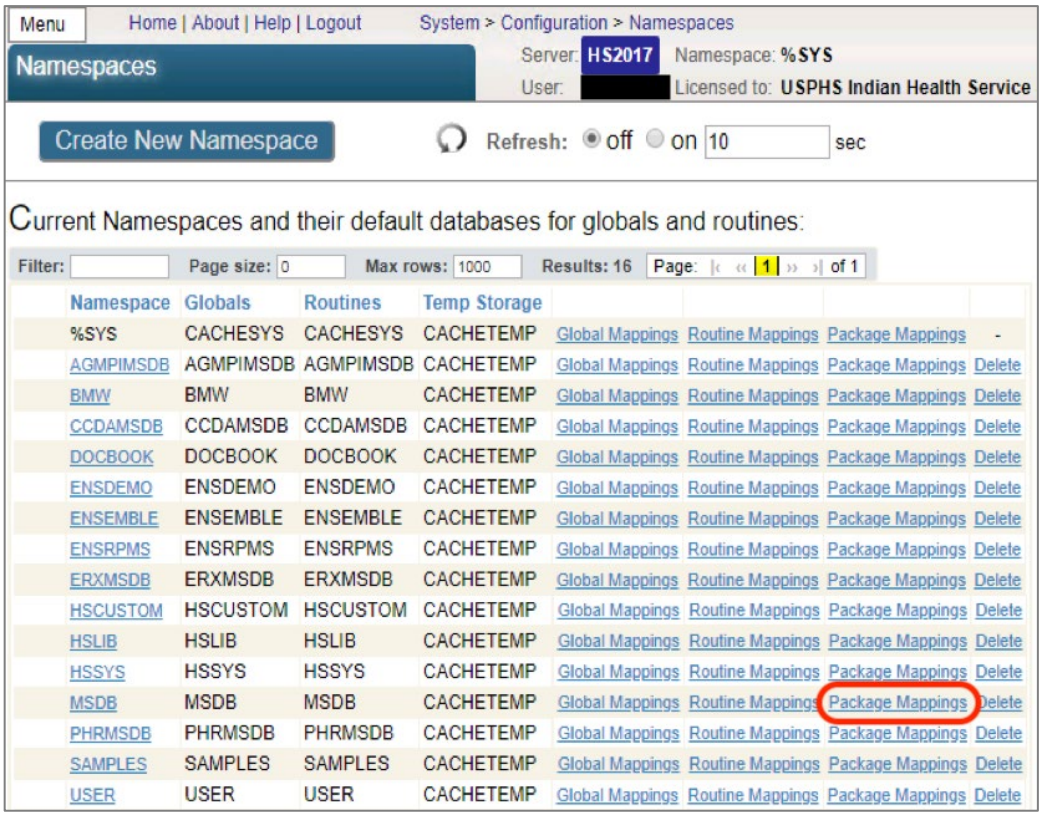


Figure 4-11: **Namespaces** window with **Package Mappings**

2. Click **Package Mappings** in the row corresponding to your ***RPMS production database***. This example shows the MSDB database. Your site's database may have a different name. The **Package Mappings** window (Figure 4-12) displays.

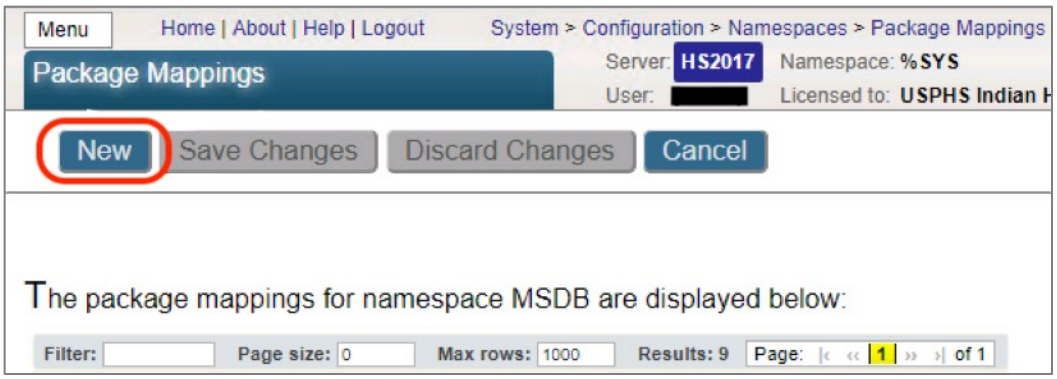


Figure 4-12: **Package Mappings** window

3. Click **New** on the **Package Mappings** window to display the **Package Mapping** (Figure 4-13) dialog.

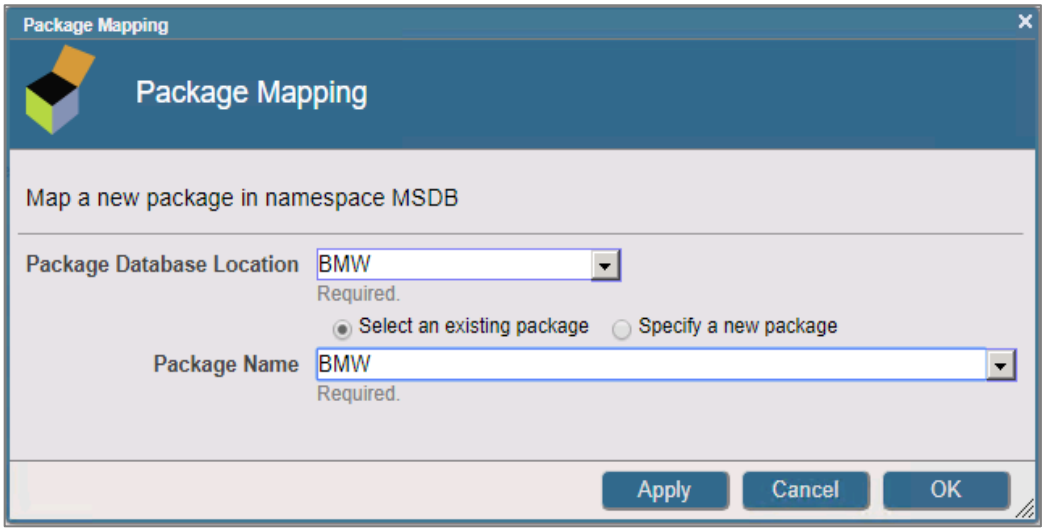


Figure 4-13: **Package Mapping** dialog

4. Type **BMW** in the **Package database location** field.
5. Type **BMW** in the **Package name** field.
6. Click **OK**; the **Package Mappings** dialog (Figure 4-14) redisplays.

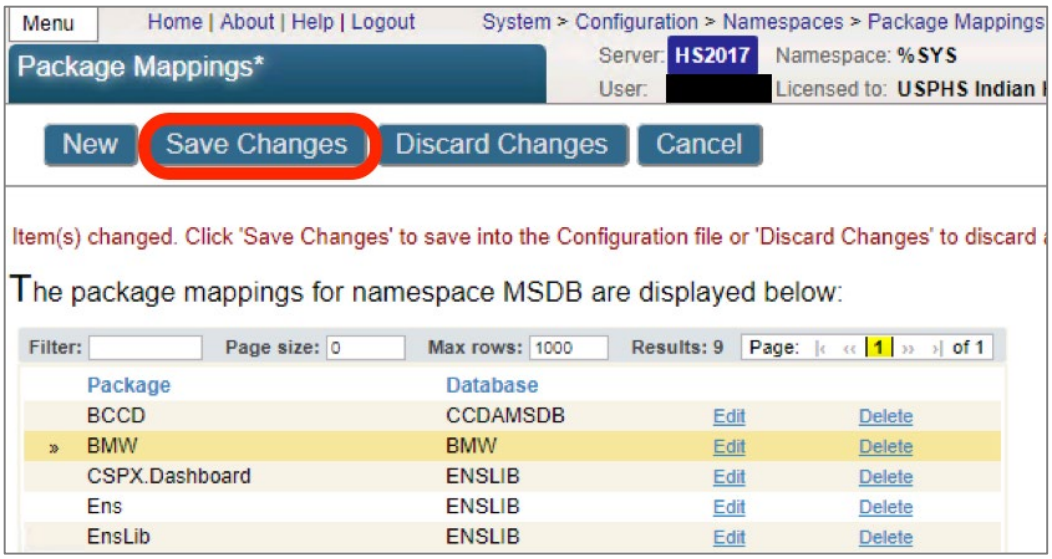


Figure 4-14: **Package Mappings** confirmation window

7. Click **Save Changes**.

4.3.2 Verify Package Mapping

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

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

   Home > **System Explorer** > **SQL** > **Execute SQL Statements**

   The **Execute SQL Query** page (Figure 4-15) displays:

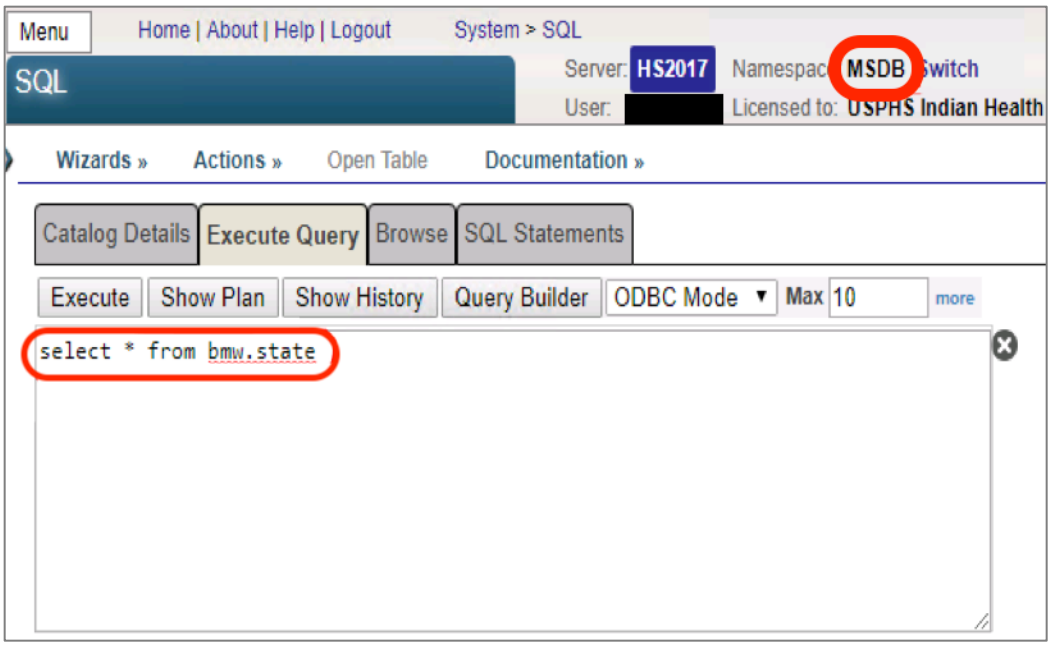
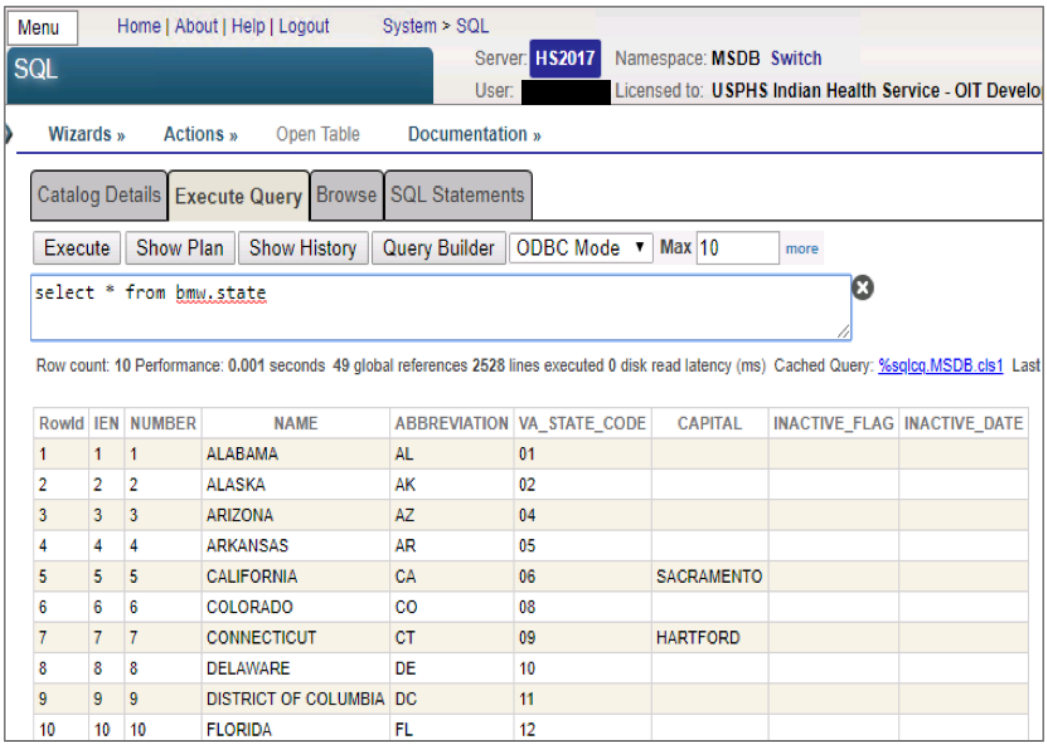


Figure 4-15: **Execute SQL Query** page

2. Select the site-specific namespace (**MSDB** in this example) from the column on the left.
3. Type **SELECT * FROM BMW.STATE** in the edit box.
4. Click **Execute Query**. If the package mapping is successful, a listing similar to Figure 4-16 displays.



RowId	IEN	NUMBER	NAME	ABBREVIATION	VA_STATE_CODE	CAPITAL	INACTIVE_FLAG	INACTIVE_DATE
1	1	1	ALABAMA	AL	01			
2	2	2	ALASKA	AK	02			
3	3	3	ARIZONA	AZ	04			
4	4	4	ARKANSAS	AR	05			
5	5	5	CALIFORNIA	CA	06	SACRAMENTO		
6	6	6	COLORADO	CO	08			
7	7	7	CONNECTICUT	CT	09	HARTFORD		
8	8	8	DELAWARE	DE	10			
9	9	9	DISTRICT OF COLUMBIA	DC	11			
10	10	10	FLORIDA	FL	12			

Figure 4-16: Example of a test query

4.4 Global Mappings

Global mapping must be established between the BMW database and RPMS database.

To perform global mapping:

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

   Home > **System Administration** > **Configuration** > **System Configuration** > **Namespaces**

   A **Namespaces** window similar to Figure 4-17 displays.

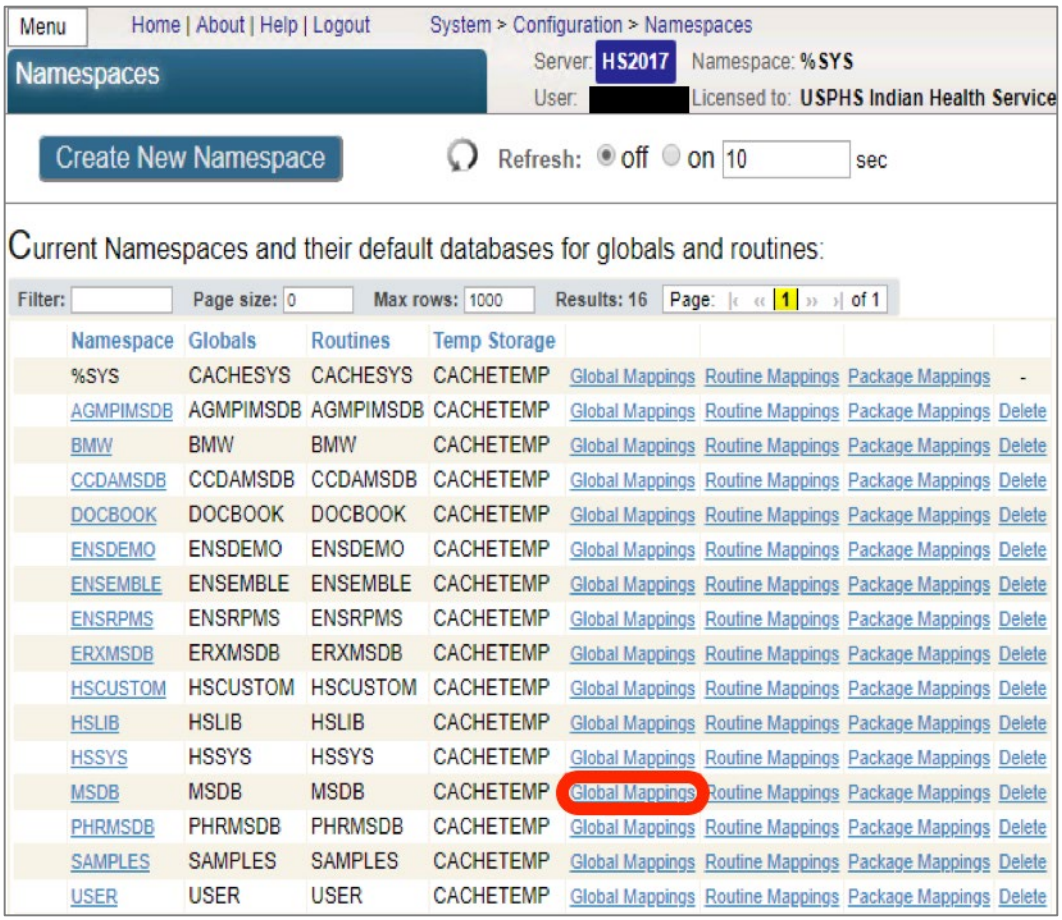


Figure 4-17: **Namespaces** window with **Global Mappings**

2. Click **Global Mappings** in the row corresponding to the RPMS *production* database. This example shows the MSDB database, an RPMS production database. Your site's database may have a different name. The **Global Mappings** window (Figure 4-18) displays.

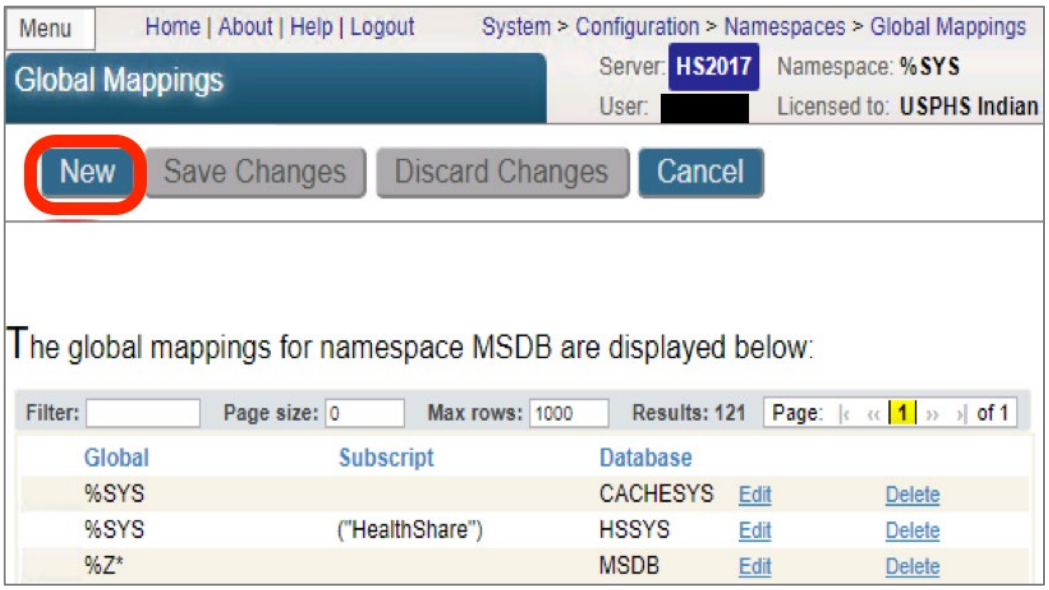


Figure 4-18: **Global Mappings** window

3. Click **New Global Mapping** to display the **Global Mappings** dialog (Figure 4-19).

Figure 4-19: **Global Mapping** dialog

4. Select **BMW** from the **Global Database Location** list.

5. Type **BMW** in the **Global Name** field.

6. Click **OK**. The **Global Mappings** window (Figure 4-20) redisplays.

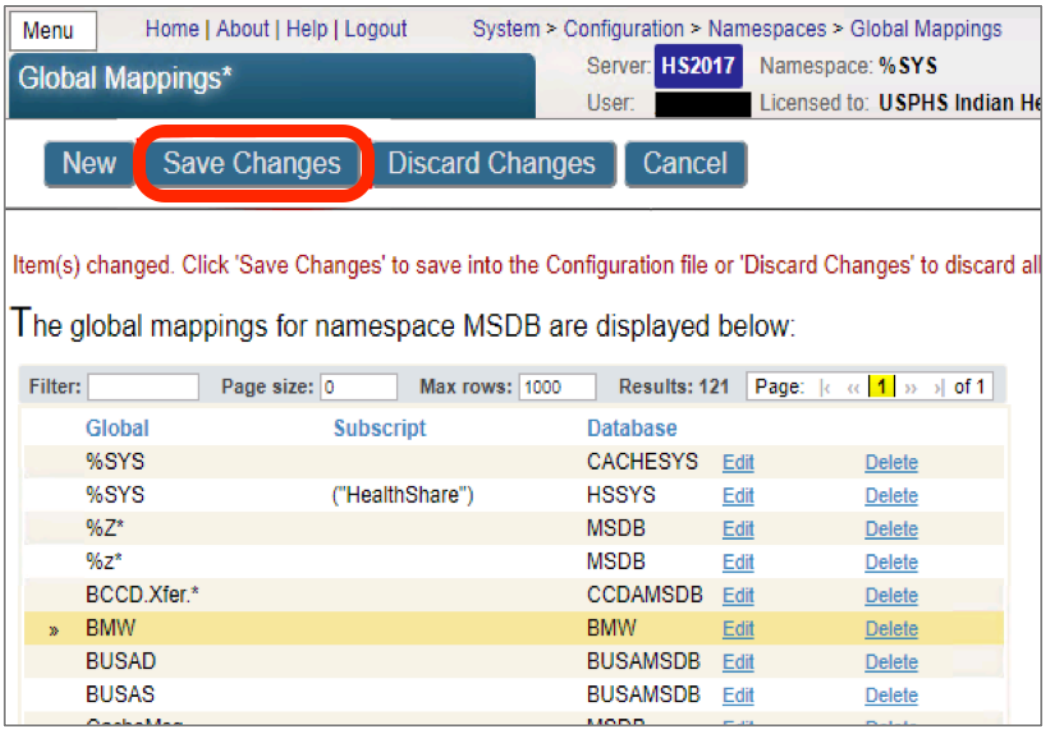


Figure 4-20: **Global Mappings** confirmation window

7. Click **Save Changes** to complete the global mapping operation.

4.5 Verify BMW Version Installed

Once installation is complete, confirm the version number of BMW that is currently installed.

1. Log into an RPMS session and go to the programmer prompt.
2. Type the following command: **ZW ^BMW**.
3. This will display the BMW generation date and version number (Figure 4-21) that is currently installed.

```
^BMW("GenDate")="03/11/2019 10:54:09"
^BMW("Version")=2019.1
^BMW("fm2class","GenDate")="03/11/2019 10:54:09"
^BMW("fm2class","Version")=2.39
```

Figure 4-21: Example of BMW version from RPMS programmer prompt

5.0 Installing File Updates

BMW CACHE.DAT file updates are released on a periodic basis to address reported issues and to add enhancements. Follow the steps in Sections 5.1 through 5.5 to install a BMW CACHE.DAT update.

5.1 Updating the BMW CACHE.DAT File

Follow the steps in Sections 5.1.1 through 5.1.10 to import a new BMW CACHE.DAT file.

5.1.1 Acquire the Latest BMW CACHE.DAT File

Acquire the latest BMW CACHE.DAT file from IHS FTP.

5.1.2 Unzip the BMW CACHE.DAT ZIP File

Using the appropriate software, unzip the compressed file containing the BMW CACHE.DAT file. Unzip this file on a workstation or other local machine, not on the database server. After is it unzipped, move it to the database server. After moving the file, mount the BMW CACHE.DAT file onto the Ensemble/Cache server.

5.1.3 Stop the BPRM Web Site on the Application Server

If running the BPRM Practice Management Application Suite, it is necessary to stop the BPRM (Moonwalk) web site on the application server before installing a BMW CACHE.DAT file patch or update. Follow the steps below.

1. Select **Internet Information Services (IIS) Manager** from the **Windows Server Administrative Tools** menu (Figure 5-1).

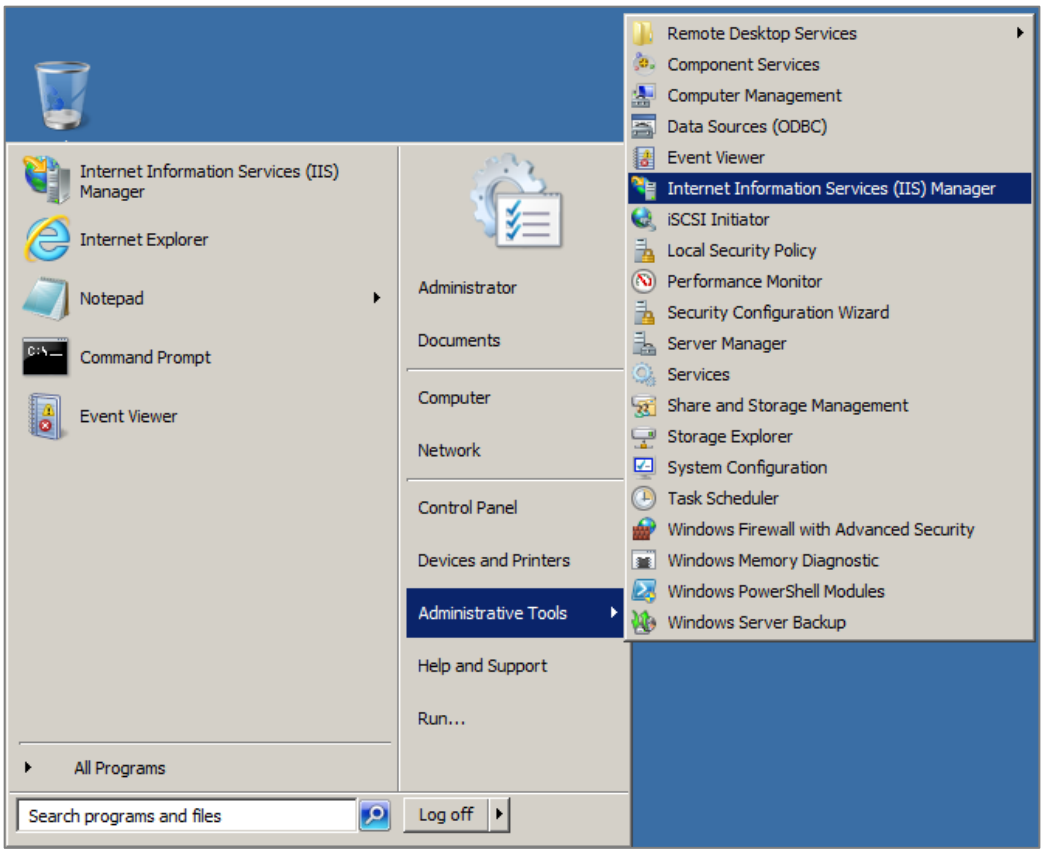


Figure 5-1: Opening **Internet Information Services (IIS) Manager**

2. The **Internet Information Services (IIS) Manager** window (Figure 5-2) displays.

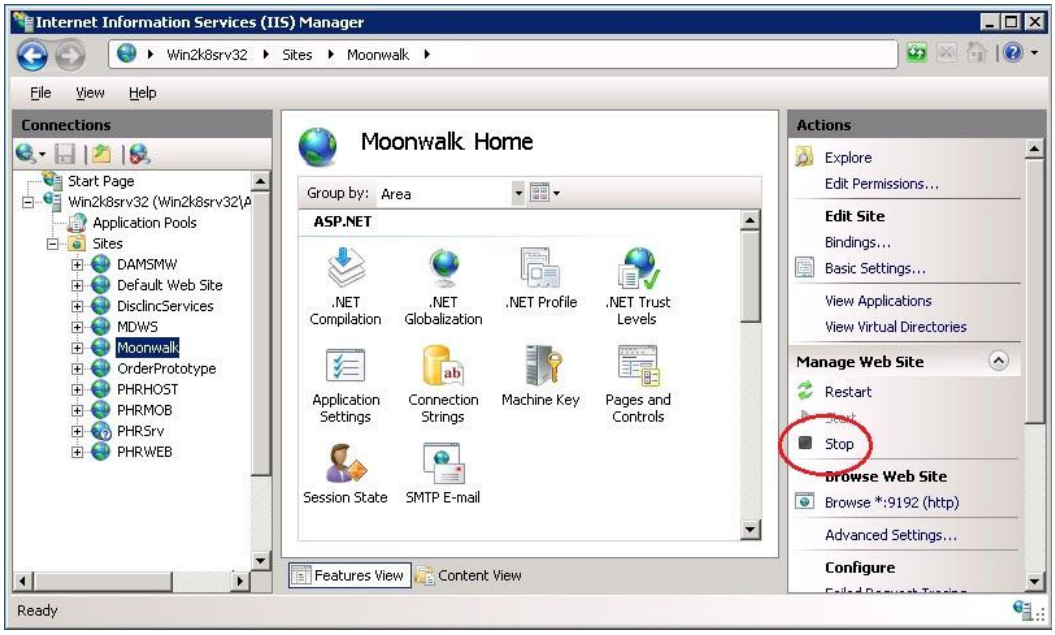


Figure 5-2: Internet Information Services (IIS) - Stopping the BMW (Moonwalk) web site

3. Select the application server in the left pane (**Win2k8srv32** in the example).
4. Expand the **Sites** folder, and select the **Moonwalk** site.
5. Click **Stop** in the **Manage Web Site** section in the **Actions** pane.

5.1.4 Stop CCDA Messaging

If CCDA is running, it must be stopped before updating the BMW CACHE.DAT file. CCDA Messaging can be stopped using the **Manage CCDA transmissions** option, available in the CCDA Menu (Figure 5-3). The CCDA Menu can be accessed from the regular "OPTION NAME" prompt in RPMS.

```
Select CCDA Menu Option: MANG  Manage CCDA transmissions
C Messaging status:
No configuration problems found

CCDA processing task is running

Stop CCDA? No// Y (Yes)
Attempting to stop CCDA....CCDA stopped
```

Figure 5-3: Stopping CCDA Messaging

1. At the "Select CCDA Menu Option" prompt, type **MANG** (Manage CCDA transmissions) and press Enter.
2. If CCDA Messaging is running, type **YES** at the "Stop CCDA?" prompt.

5.1.5 Stop CCDA Production

To stop CCDA production, if it is currently running:

1. Sign on to Ensemble's **Management Portal** as an administrator. At the top center, the main page displays the server name, the current user, the current namespace, license and instance information, and a **Switch** link. See Figure 5-4.

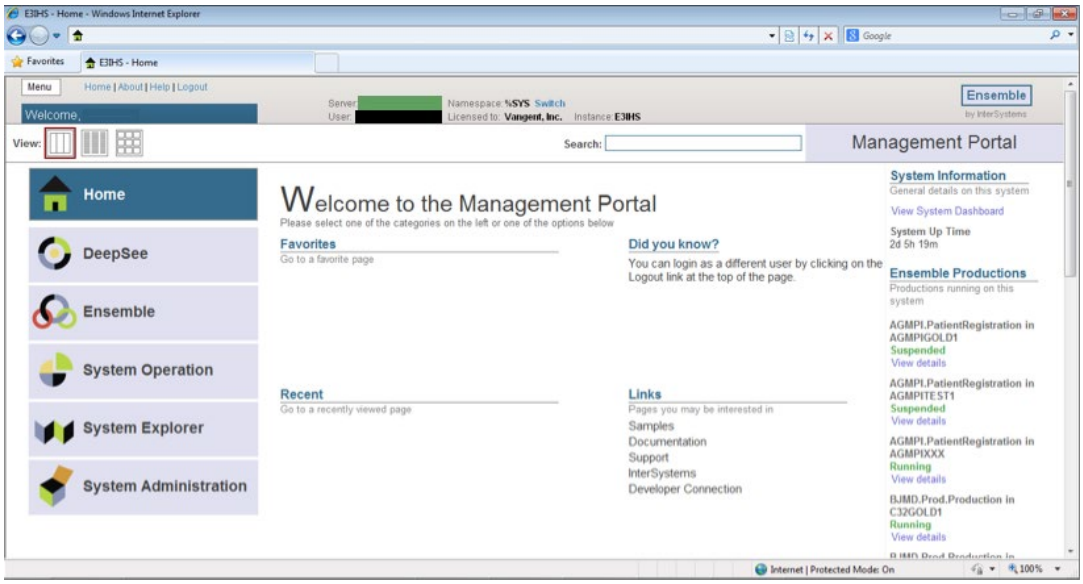


Figure 5-4: Ensemble Management Portal

2. Click the **Switch** link. The **Namespace Chooser** dialog (Figure 5-5) displays.

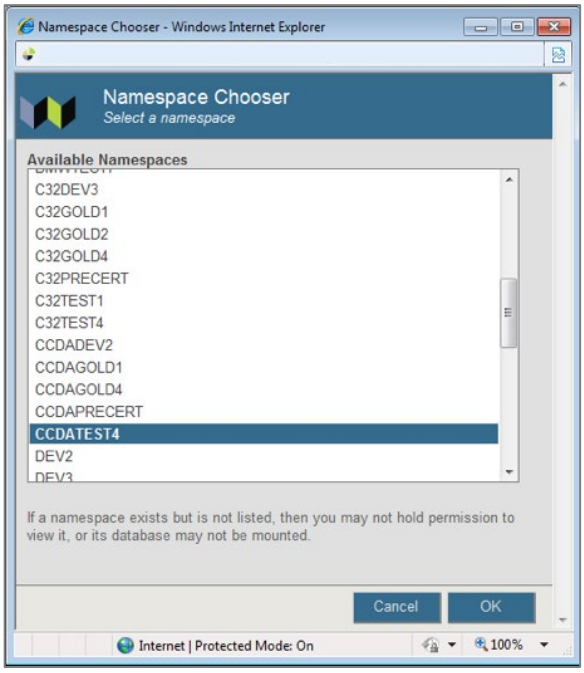


Figure 5-5: **Namespace Chooser** dialog

3. Select the appropriate CCDA namespace. The namespace consists of **CCDA** followed by the name of the RPMS namespace. In the example, the RPMS namespace is named **TEST4**, so the associated CCDA namespace is named **CCDATEST4**.

4. Click **OK** to select the namespace. The namespace displayed on the **Management Portal** page (Figure 5-6) is updated to reflect the selection.

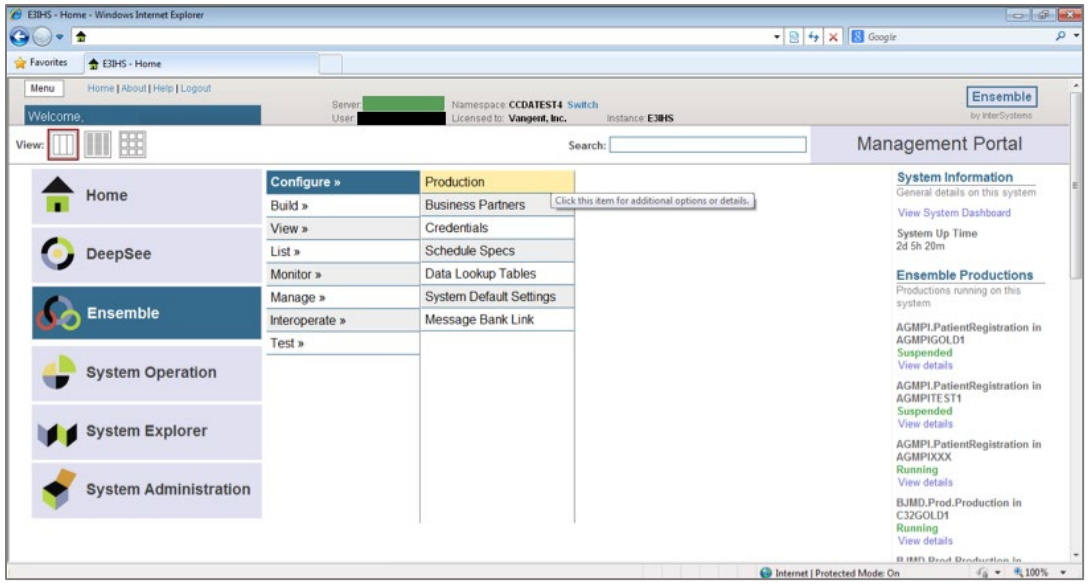


Figure 5-6: Production option in the Ensemble **Management Portal**

5. Select **Ensemble** in the left column.
6. Select **Configure**.
7. Select **Production**.
8. When the **View, Edit, Start, or Stop a Production** option appears, click **Go** to display the **Production Configuration** page (Figure 5-7).

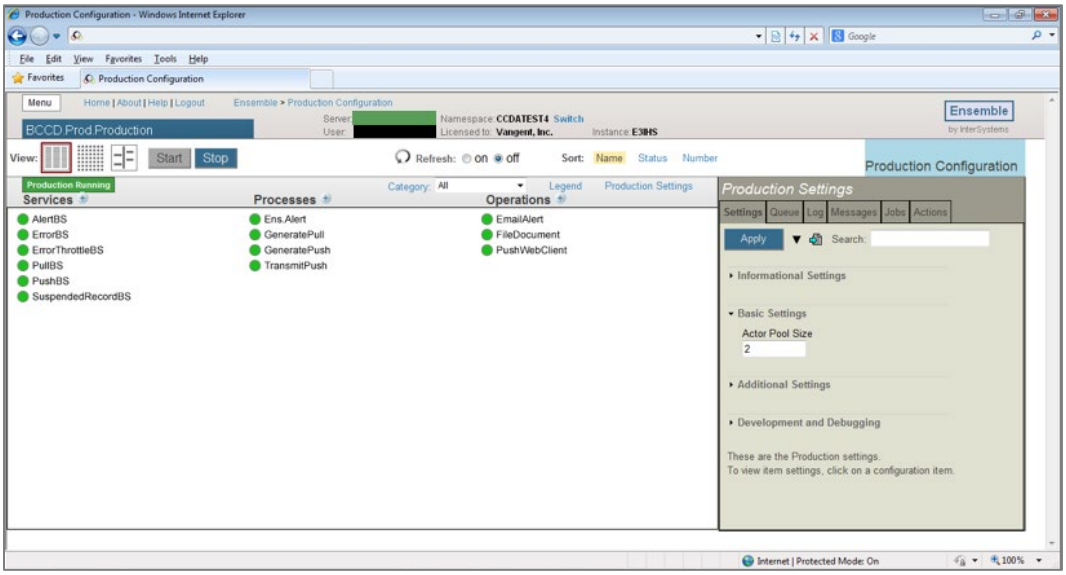


Figure 5-7: Production Configuration

9. Above the **Services** column on the left of the display, the words **Ensemble Running** will be displayed. If the words "Ensemble Stopped" display, then the production is already stopped. Otherwise, click **Stop**. The **Stop Production** dialog (Figure 5-8) displays.

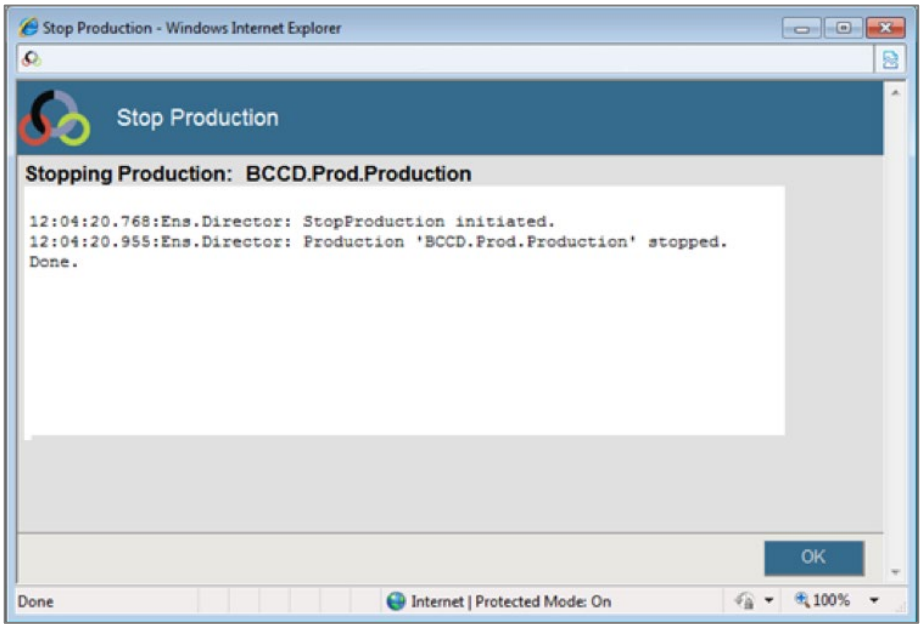


Figure 5-8: **Stop Production** dialog

It might take the production a few seconds to stop. When it stops, the message "Production 'BCCD.Prod.Production' stopped" displays, followed by the message "Done." There may be additional messages on this screen if it takes Ensemble more than a few seconds to stop all associated processes.

10. Click **OK** to return to the **Production Configuration** screen.

5.1.6 Stop BQRE Extract

Make sure there is no BQRE extract in process during the BMW install/update.

5.1.7 BUSA Reports

BUSA reports may not display data during install/update of BMW. It does not, however, effect the auditing part of BUSA.

5.1.8 Dismount the BMW Database on the Database Server

1. From the Ensemble/Cache **System Management Portal Home** window, click **System Operation** > **Databases** to display the Databases window (Figure 5-9).

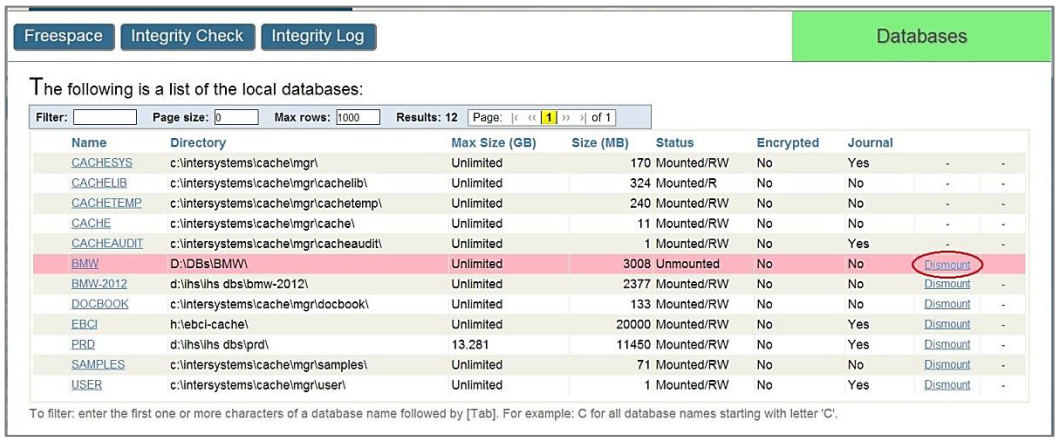


Figure 5-9: Dismounting the BMW database

2. Click **Dismount** in the BMW row to dismount the database.

5.1.9 Move the New CACHE.DAT File

After unzipping the compressed file as described in Section 5.1.2, move the CACHE.DAT file contained within it to the /BMW folder where earlier versions of the file have been stored. 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 may be necessary to use FTP or a similar file transfer program to move the file.

5.1.10 Mount the BMW Database

To mount the BMW database:

1. From the Ensemble/Cache **System Management Portal Home** window, click **System Operation** > **Databases**. A **Databases** window similar to Figure 5-10 displays.

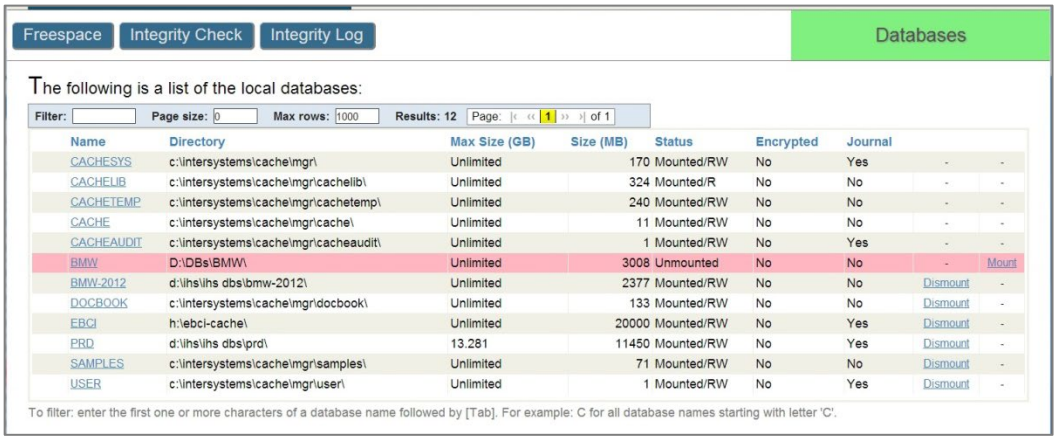


Figure 5-10: **System Management Portal Databases** window

2. If the **Status** column for the BMW database reads **unmounted**, click **Mount**. The confirmation dialog (Figure 5-11) displays.

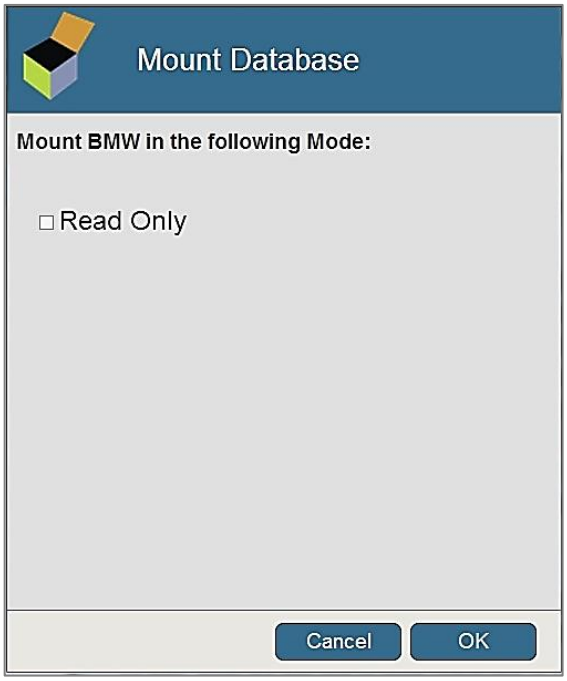


Figure 5-11: **Mount Database** dialog

5.2 Purge the Previous SQL Queries

To clear any previous SQL queries for your RPMS database:

1. From the Ensemble/Cache **System Management Portal Home** window, click **System Explorer** > **SQL**. The Schemas page (Figure 5-12) displays.

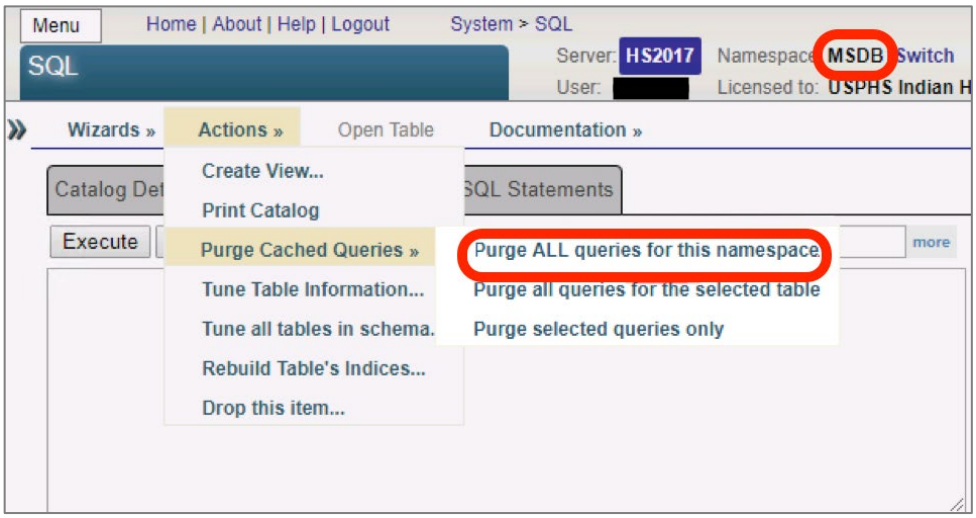


Figure 5-12: Purge Queries – Ensemble 2012 systems

2. Select the RPMS namespace. In the example shown, **MSDB** is selected. Your database will likely have a different name.
3. Click **Purge ALL Queries for this namespace**.

5.3 Start the BMW Web Site on the Application Server

If running the BPRM Practice Management Application Suite, restart the BMW web site. Follow the steps outlined in Section 5.1.3, but select the **Start** option in Step 3.

5.4 Start CCDA Messaging

If CCDA was previously running, restart it by following the steps outlined in Step 3 of Section 5.1.3 and typing **YES** at the "Start CCDA?" prompt as shown in Figure 5-13.

```
Select CCDA Menu Option: MANG  Manage CCDA transmissions
CCDA status:
No configuration problems found

CCDA processing task is not running

Start CCDA? No// YES  (Yes)
Attempting to start CCDA  (JUL 16, 2013@16:09:54)..CCDA started
```

Figure 5-13: Starting CCDA Messaging

5.5 Starting CCDA Production

When CCDA Messaging is started via the **Manage CCDA Transmissions** option, the CCDA production will start automatically within two minutes.

5.6 Verify BMW Version Installed

Once installation is complete, you confirm the version number of BMW that is currently installed.

1. Log into an RPMS session and go to the programmer prompt.
2. Type in the following command: **ZW ^BMW**.
3. This will display the BMW generation date and version number (Figure 5-14) that is currently installed

```
^BMW("GenDate")="03/11/2019 10:54:09"
^BMW("Version")=2019.1
^BMW("fm2class","GenDate")="03/11/2019 10:54:09"
^BMW("fm2class","Version")=2.39
```

Figure 5-14: Example of BMW version from RPMS programmer prompt

5.7 Enable/Start Dependent Applications

BQRE extracts can be resumed.

BUSA reports shall display data.

Acronym List

Acronym	Term Definition
CCDA	Consolidated Clinical Document Architecture
FTP	File Transfer Protocol
IHS	Indian Health Service
OIT	Office of Information Technology (IHS)
RPMS	Resource and Patient Management System
SQA	Software Quality Assurance (OIT)
SQL	Structured Query Language

Contact Information

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