RESOURCE AND PATIENT MANAGEMENT SYSTEM

Practice Management Application Suite

(BPRM)

Installation Guide and Release Notes

Version 4.0 Patch 6
November 2025

Office of Information Technology
Division of Information Technology

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Preface

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

BPRM 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, BPRM. It should also be noted that prior to v3.0, the previous namespace for the Practice Management Application Suite was **BMW**. The **BMW** namespace now refers only to the **IRIS.DAT** file used by BPRM and other IHS applications.

The BPRM application suite consumes classes/tables, provided by BMW, which maps onto **FileMan** files. **Create**, **Read**, **Update**, and **Delete (CRUD)** operations can then be performed over the generated classes (SQL tables) via the **ADO.NET** provider for **InterSystems IRIS**.

1.0 Release Notes

The following describes the changes made in BPRM v4.0.6:

REGISTRATION

- FID: 61957–Capture data of birth with Private Insurance policy member data
- FID: 62329–Increase Tribal Enrollment number from 12 to 16 characters
- FID: 97259–Increase Group Number from 12 to 25 characters
- FID: 101920–Add Legal Guardian (Parent/Guardian), Relationship and Patient Occupation/Industry data screens
- FID: 101922–HIE Consent/Patient Requested Restriction [170.31(d)(14)]
- FID: 103004–Increase City field 15 to 28 characters and incorporate City/Zip file lookup
- FID: 106982–US@ Project certification (Phase2) updates
- FID: 119222–Auto populate sex in Medicare Eligible file
- FID: 120075–BPRM - SCH (O&M)–Allow appt checkIn for clinics with alph-numeric clinic stop codes.

2.0 Installation Notes

Prefix: **BPRM**
Current version: **4.6**

2.1 Contents of Distribution

Table 2-1: Distributed Files with Descriptions

File	Description
bprm0400.06.msi	BPRM Application Installer
bprm0400.06.xml	BPRM Data Description File
bprm0400.06i.pdf	Installation Guide and Release Notes
bprm0400.06t.pdf	Technical manual
bprm0400.06u_Registration.pdf	Registration User Manual
bprm0400.06u_Scheduling.pdf	Scheduling User Manual
bprm0400.06u_ADT.pdf	ADT User Manual
bprm0400.06u_Overview.pdf	Overview User Manual

2.2 Required Resources

This section lists the computer resources required for each deployment strategy.

2.2.1 Standalone Application Server Resources

The following resources are required for a standalone application server:

- Microsoft® Windows® Server 2016 x64 bit (or later)
- Microsoft IIS® 10 (WebSocket protocol required)
- Microsoft .NET Framework 4.8 (or later)
- Microsoft .Net Core 8.0.17 (or later)
- 8+ processor cores running at 2.0 GHz or faster (for site)
- 12+ processor cores running at 2.4 GHz or faster (for area office)
- 8+ GB RAM running at 1333 MHz (for site)
- 16+ GB RAM running at 1333 MHz (for area office)
- 20 GB minimum free disk space

2.2.2 BPRM Server Disk Resources

Servers running the BPRM application require a minimum of 5 GB of free disk space.

2.2.3 Workstation Resources

The following resources are recommended for any workstations (user machines) accessing the BPRM 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 10 or above
- Microsoft Edge / Google Chrome

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 IRIS Prerequisites

BPRM v4.0 p6 support only IRIS 2022.1.x. Be aware that the examples in this installation manual reflect IRIS 2022.1.3. If running a different version, some of the screens may differ slightly from those shown here.

2.4.2 BPRM Prerequisites

The following builds must be installed:

- BMW v 2025.3 or above
- PIMS v5.3 p1019
- AG v7.1 p17
- AUM v25 p3
- AUT v98.1 p34
- XU v8.0 p1018 or later
- DI v22 p1018 or later

- BJPC v2.0 p30
- AVA v93.2 p29
- AUPN v99.1 p31
- BSDX v3.0

2.4.3 RPMS 'HFS' Device Prerequisite

A fully functional BPRM v4.0.x requires the RPMS HFS device to be properly configured. BPRM reports may not work when RPMS HFS device is not properly configured.

BPRM 4.x connecting to an RPMS system would need the RPMS system to:

1. Have a device named 'HFS' in device file
2. Have the HFS device $I value point to a valid directory/folder with or w/o filename. Either of the below are valid $I values
   a. C:\temp\hfs.txt
   b. C:\temp\

To make appropriate changes to the HFS device use RPMS menu:

'Device Management' -> 'Device Edit' -> 'Host File Server Device Edit'

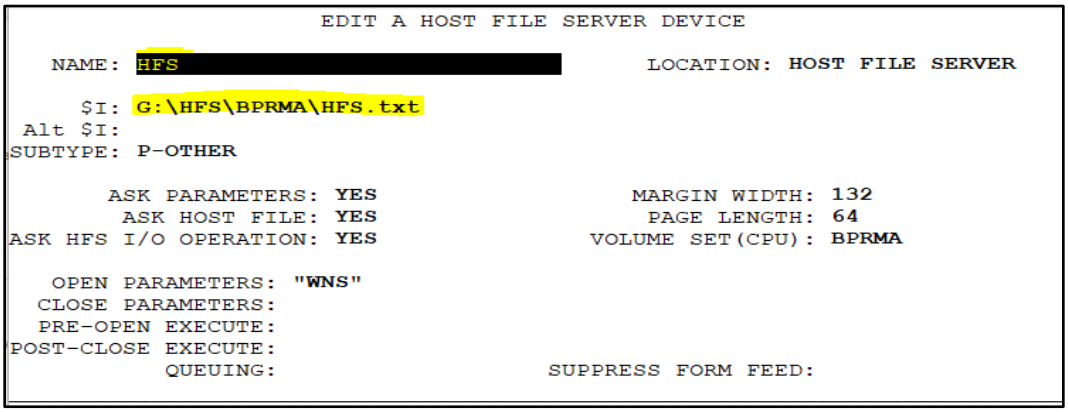

Figure 2-1: Edit a Host File Service Device in RPMS Menu

3.0 Installation Overview

The BPRM v4.0.0 p6 installation requires two files. The bprm0400.06.xml data description file and the bprm0400.06.msi application installation file are specific to the BPRM suite. These two files are included in the BPRM distribution package.

Save the bprm0400.06.xml file to a folder that is accessible to your database server. Similarly, save the bprm0400.06.msi file to a folder that is accessible to your application server(s).

3.1 Upgrading from BPRM 3.x or a First-Time Install

BPRM v4.0.6 can be installed on the same server as BPRM 3.x, but it is recommended to create a new website and application pool for v4.0 p6.

BPRM 3.x can be uninstalled once v4.0 p6 is installed successfully. Site should only use a single version of BPRM at a time. Having users use both 3.x and 4.x version at the same time creates data inconsistency issues.

Follow the instructions in Section 4.0 through Section 7.0 to install BPRM v4.0.6 for the first time at your site. Go through all the steps even if the site already has/had a BPRM v3.x server setup. There are updates to the installation steps and additional components need to be installed for IIS.

3.2 Upgrading from BPRM 4.x

Any BPRM v4.0.x installation must be uninstalled before proceeding to install this version.

Site may choose to make a copy of ‘appsettings.json’ file (resides typically at C:\Inetpub\BPRM\) and place it someplace else on the application server; if the site plans on importing database connection settings from it–during the install process of this build/patch.

Follow the instructions in Section 6.0 and onward.

4.0 Installation Instructions: First-Time Install

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

- Application Server Installation (Section 5.0)
- Database Server Installation (Section 6.0)
- Application Installation (Section 7.0)

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

4.1 Acquire the SSL Certificate

BPRM utilizes the **Secure Sockets Layer (SSL)** protocol to ensure secure communications between its components. If your site is not on a secure domain, you must acquire an SSL certificate. If your site is on a secure domain, an SSL certificate is not necessary, and you can skip all of this section (Acquire the SSL Certificate).

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

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

4.1.1 SSL Certificate Acquisition–IHS Domain

If your site is on the IHS domain, use the following steps to acquire your SSL certificate:

1. Click **Start > Administrative Tools > Internet Information Services (IIS) Manager** (Figure 4-1).

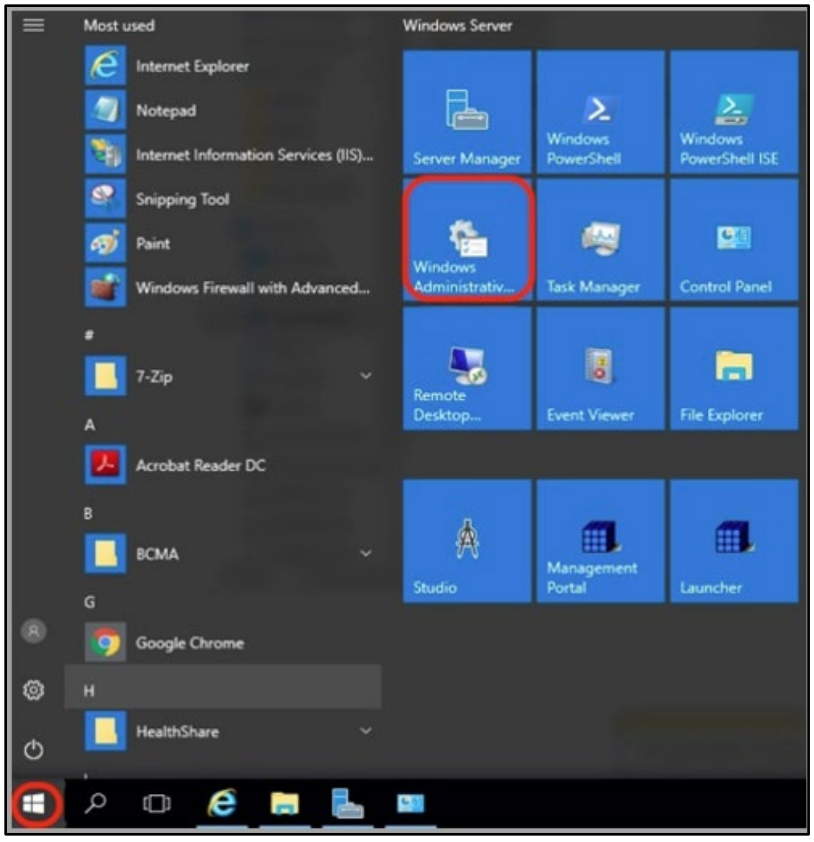

Figure 4-1: Windows Start menu, Administrative Tools option

2. Click the server name. The **IIS Manager** dialog (Figure 4-2) displays.

Figure 4-2: Internet Information Services (IIS) Manager

3. In the center panel (Figure 4-3), double-click **Server Certificates** in the **Security** section (near the bottom of the panel).

Figure 4-3: Internet Information Services (IIS) manager–Server Certificates

4. In the **Actions** panel (on the right), click **Create Certificate Request**. The **Request Certificate Wizard** (Figure 4-4) displays.

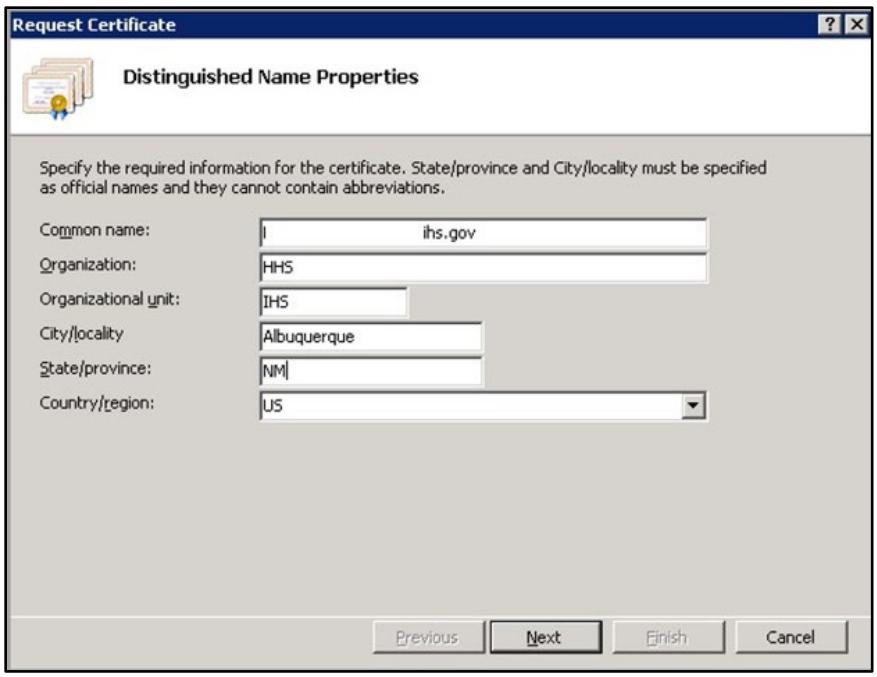

Figure 4-4: Request Certificate Wizard–Distinguished Name Properties

5. In the **Distinguished Name Properties** dialog (Figure 4-5), enter the information as follows:

   - Common Name: The name through which the certificate will be accessed (usually the fully qualified domain name of the machine).
   - Organization: The legally registered name of your organization or company.
   - Organizational unit: The name of your department within the organization (e.g., IHS).
   - City/locality: The city in which your organization is located.
   - State/province: The state in which your organization is located.
   - Country/region: The two-character country code.

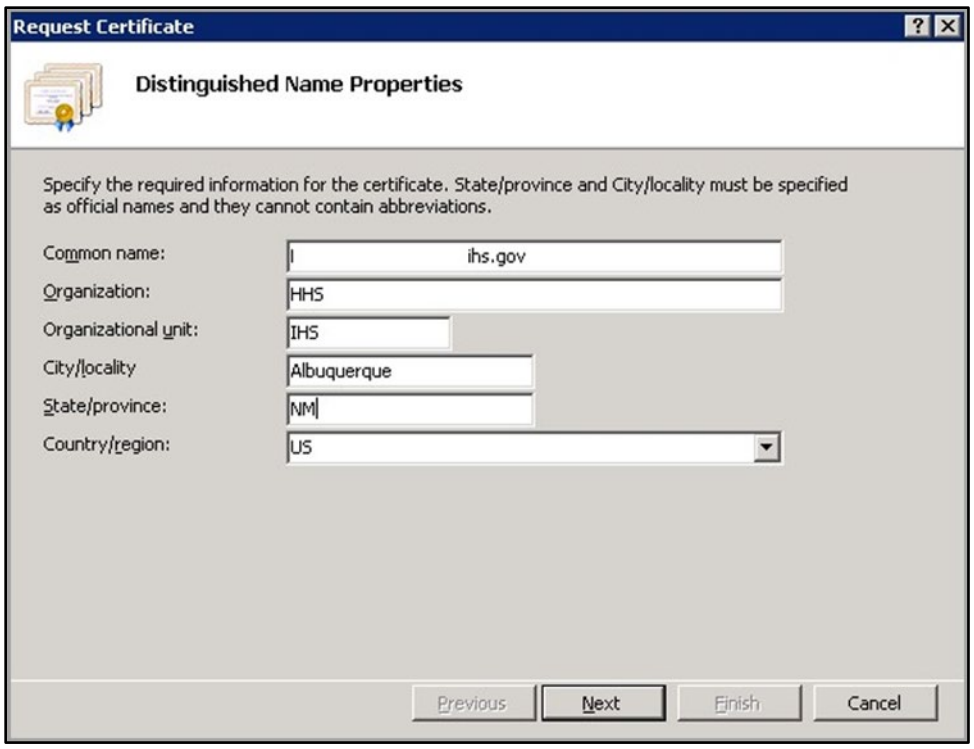

Figure 4-5: Request Certificate Wizard–Distinguished Name Properties

6. Click **Next**. The **Cryptographic Service Provider Properties** dialog (Figure 4-6) displays.

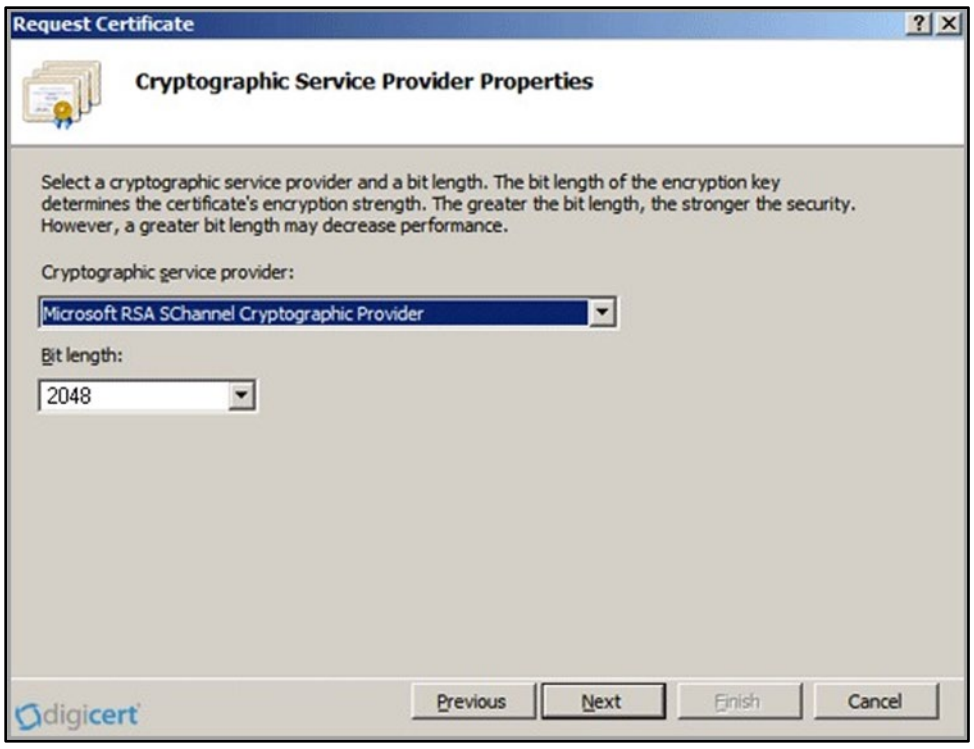

Figure 4-6: Request Certificate Wizard–Cryptographic Service Provider Properties

7. Leave both settings at their defaults:
   - Cryptographic service provider: Microsoft RSA SChannel Cryptographic Provider.
   - Bit length: 2048.
8. Click **Next**. The **File Name** dialog (Figure 4-7) displays.

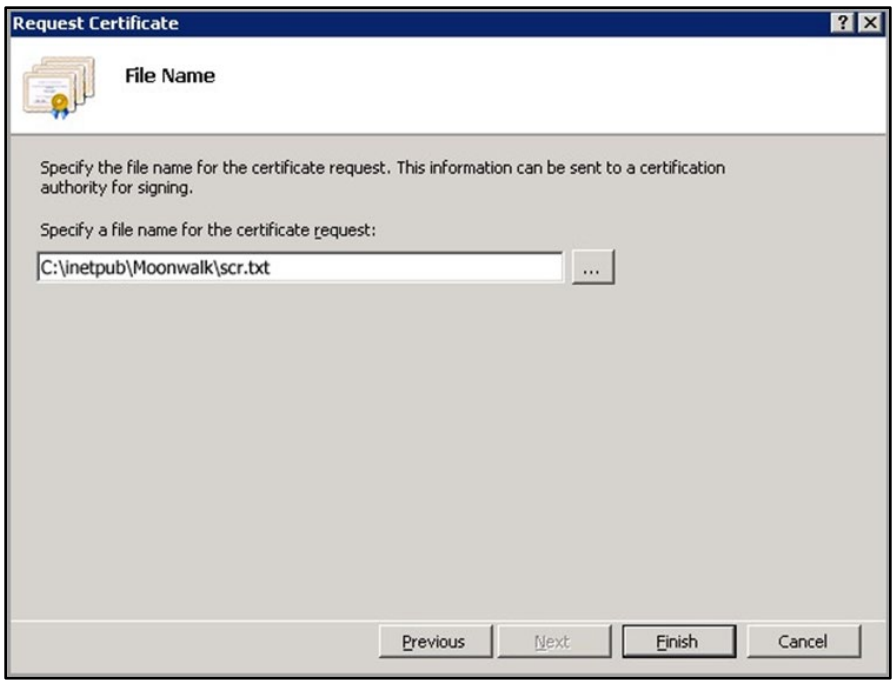

Figure 4-7: Request Certificate–File Name dialog

9. Type a path and file name for the certificate request file.
10. Make note of the chosen filename and the save location. You must 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.
11. Click **Finish** to save the **SSL certificate request** file.
12. E-mail the **file** to **itsupport@ihs.gov**.
13. Request the **SSL Certificate** in CER format for the BPRM application. A certificate is issued within 24 hours and emailed to the originator of the request.
14. Once the certificate is received, proceed with the BPRM installation as described in Section 5.0 through Section 7.0.

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 SSL certificate vendor to acquire the certificate and proceed to the BPRM installation instructions in Section 5.0 through Section 7.0.

5.0 BPRM Application Server Installation and Configuration

5.1 Microsoft .NET Framework 4.8 (or later) Installation

To install the .NET Framework:

1. Download .Net Framework 4.8 from the Microsoft download center at:

   https://go.microsoft.com/fwlink/?linkid=2088631

2. Double-click the downloaded file to run the **.Net Framework 4.8 setup**. The **License Terms** dialog (Figure 5-1) displays:

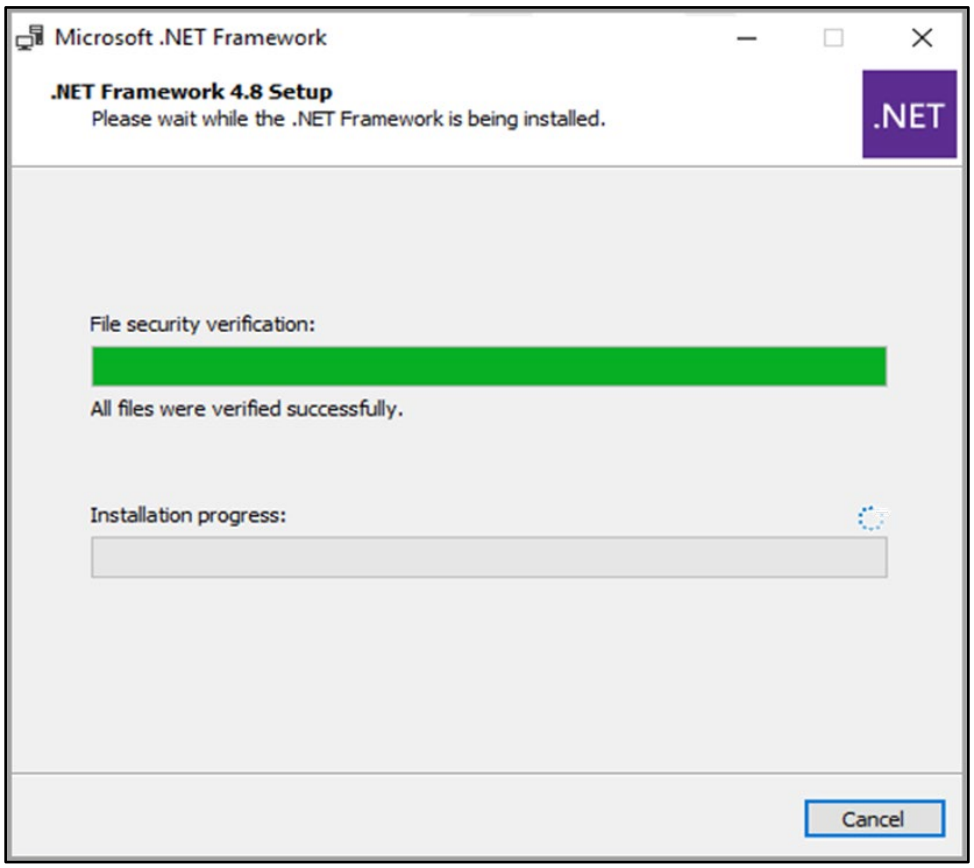

Figure 5-1: .NET Framework Installation dialog

3. Select the **I have read and accept the license terms** check box to accept the license agreement.

4. Click **Install**.

5. Respond to any prompts presented as the installation proceeds. When completed, the **Installation Is Complete** dialog (Figure 5-2) displays.

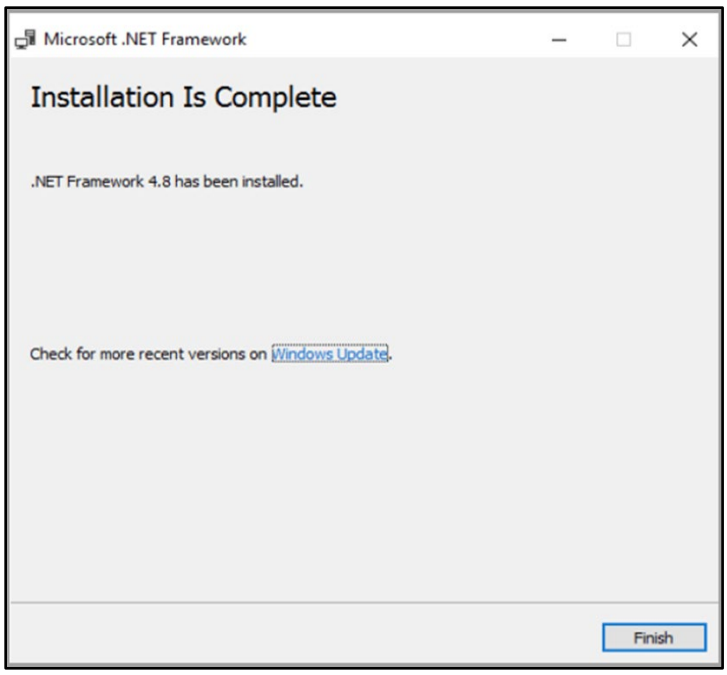

Figure 5-2: .NET Framework Installation Is Complete dialog

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

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

5.2 Internet Information Services 10 Installation (Windows Server 2016 Operating System)

To install the Microsoft IIS:

1. From the **Windows Start** menu (Figure 5-3), select **Server Manager**.

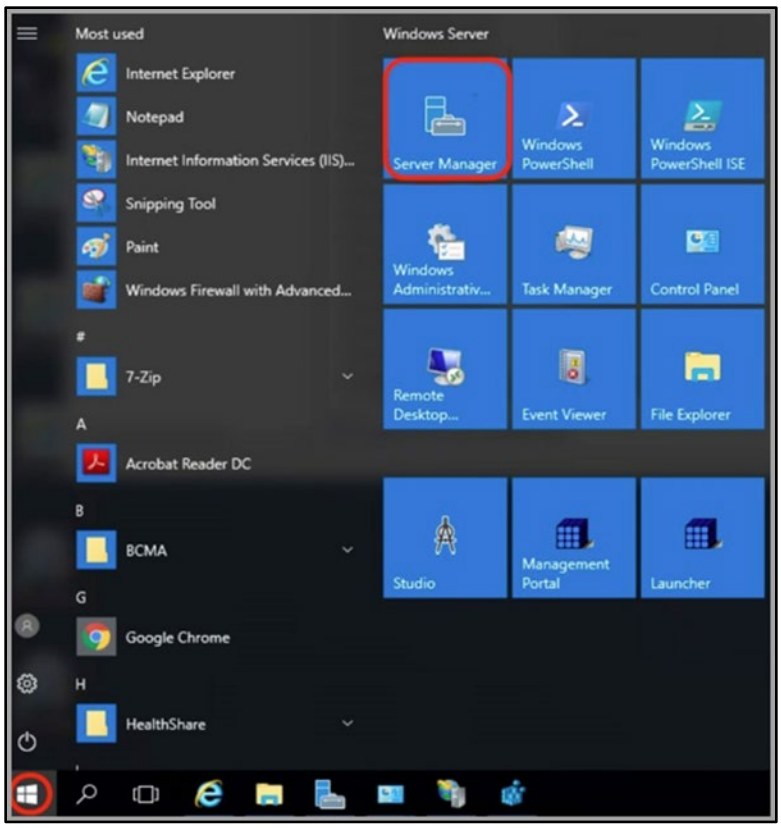

Figure 5-3: Start menu for Windows Server 2016 OS

The **Server Manager** window (Figure 5-4) displays.

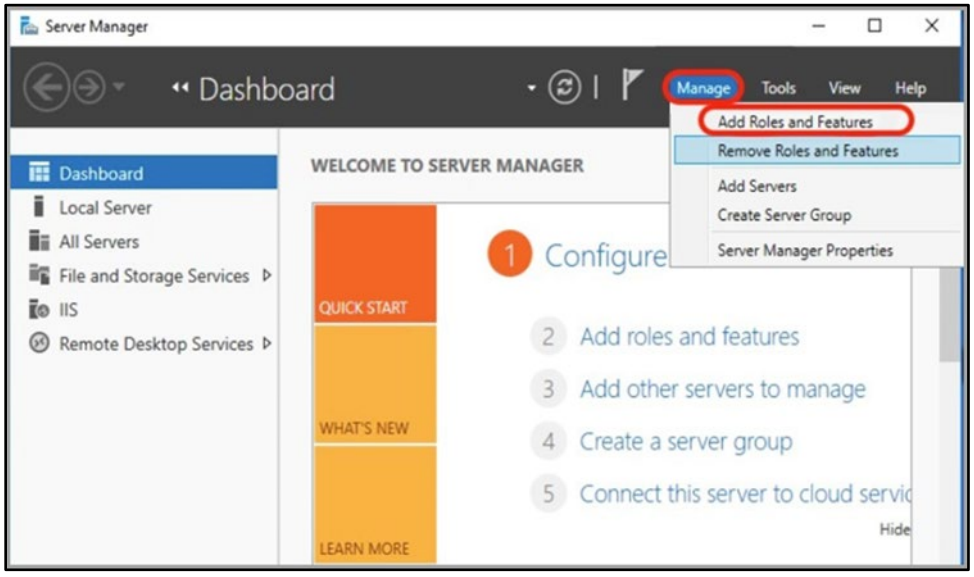

Figure 5-4: Server Manager window

2. Click **Manage > Add Roles and Features**.

3. Review the **Before You Begin** dialog, then click **Next**. The **Add Roles and Features Wizard** dialog displays.

4. Select the **Role-based** or **feature-based installation option** button (Figure 5-5), then click **Next**.

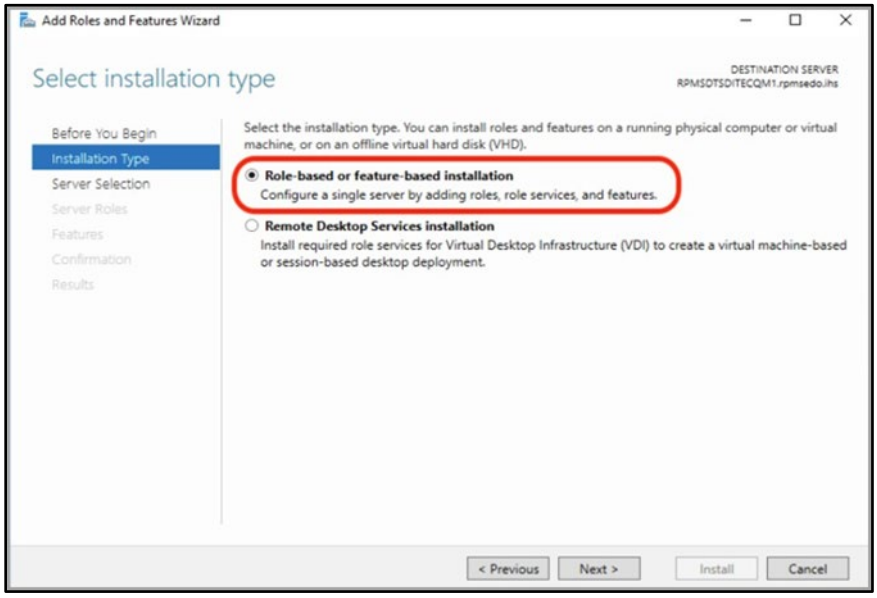

Figure 5-5: Add Roles and Features Wizard dialog

5. Select appropriate server.

6. Select **Web Server (IIS)** on the **Server Selection** window. The **Select Server Roles** window (Figure 5-6) displays.

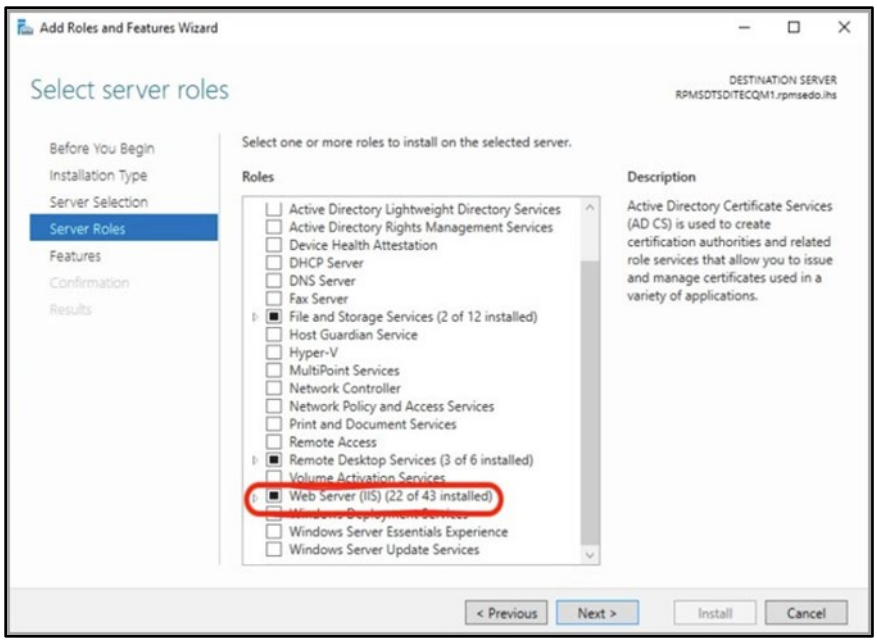

Figure 5-6: Select Server Roles window

7. Expand the **Web Server (IIS) role** and make the following selections. Figure 5-7 displays a portion of the selection.

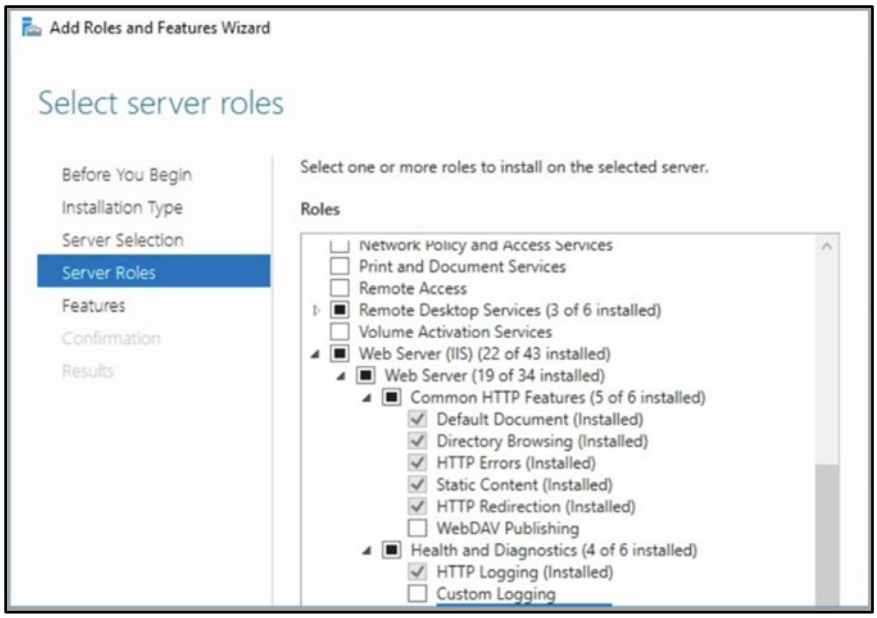

Figure 5-7: Select Web Server components

8. Enable the following **Web Server role services**:

   - Common HTTP Features:
     - Static Content

  - Default Document
  - Directory Browsing
  - HTTP Errors
  - HTTP Redirection
- Application Development: (Figure 5-8)
  - ASP.NET (latest version)
  - .NET Extensibility (latest version)
  - ISAPI Extensions
  - ISAPI Filters
  - WebSocket Protocol

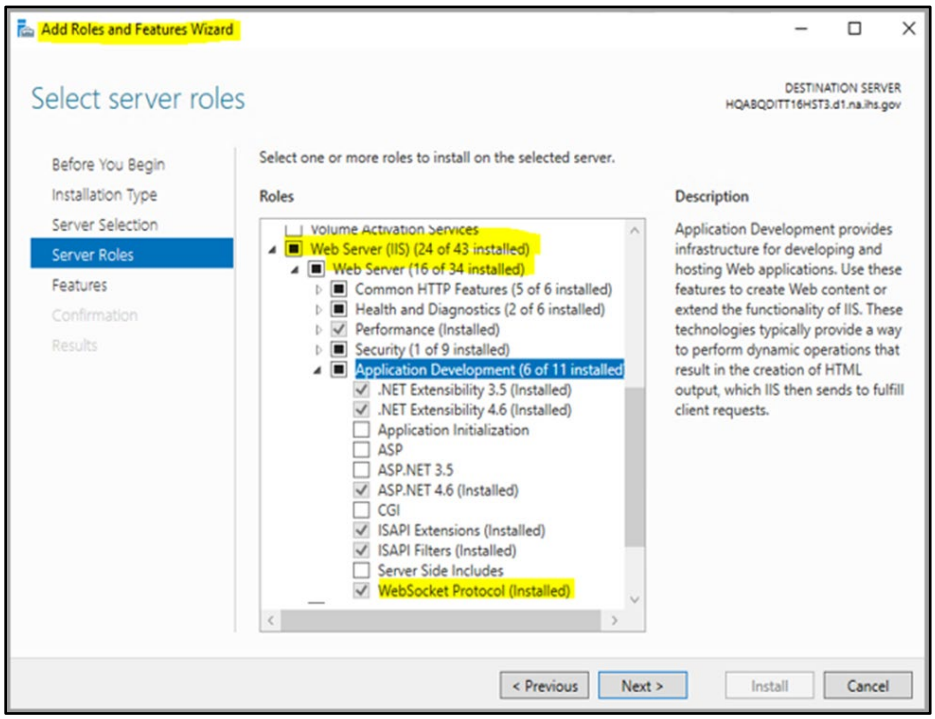

Figure 5-8: Select Web Server – Application Development components

- 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 Management Compatibility–IIS 6 Metabase Compatibility

9. Click **Next** to go to the **Features** tab.

10. In the **Features** area, make the following selections: (Figure 5-9)

- .NET Framework 3.5 Features
  - .Net Framework 3.5
  - HTTP Activation
  - Non-HTTP Activation
- .NET Framework 4.6 + Features
  - .Net Framework 4.6 +
  - ASP.NET 4.6 +
  - WCF Services
    - HTTP Activation
    - Named Pipe Activation
    - TCP Activation
    - TCP Port Sharing

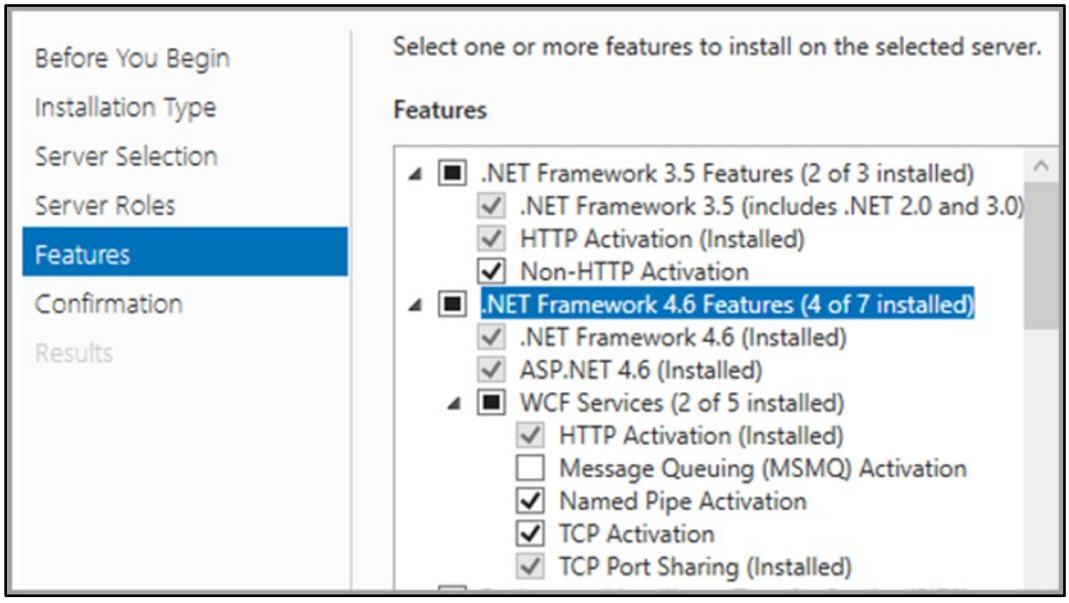

Figure 5-9: Select .NET Framework Features

11. Click **Next** to display the **Confirmation** dialog.

12. Click **Install** (Figure 5-10).

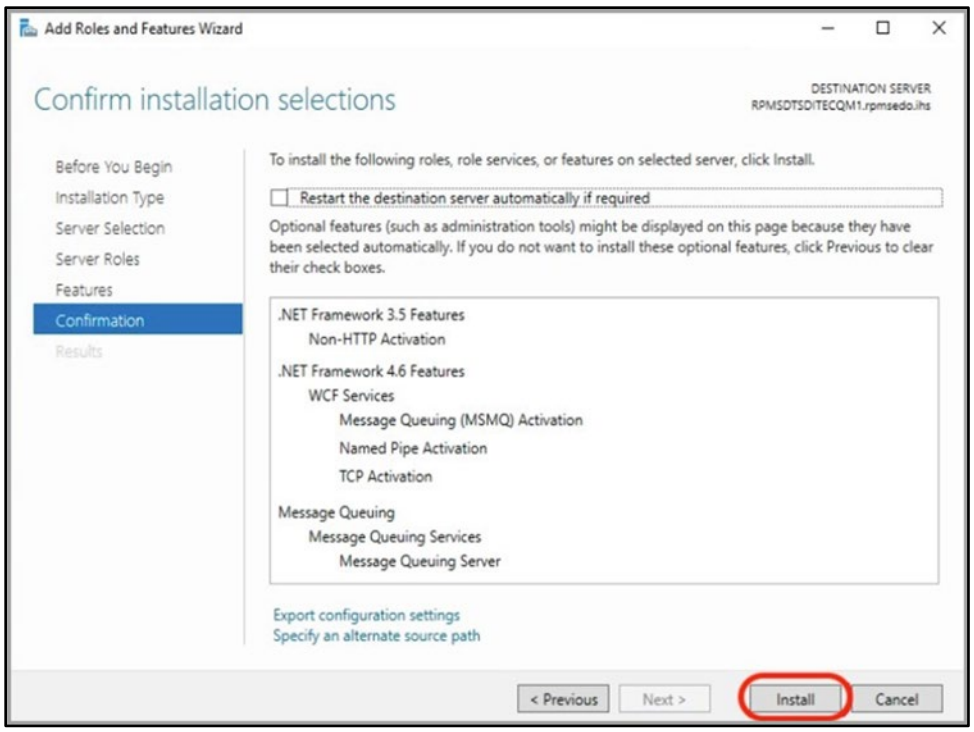

Figure 5-10: Confirm installation selections

13. Click **Close** after the installation is complete.

Note:	Review the additional steps for disabling the IIS Manager Logging feature in Appendix B.

5.3 Install the SSL Certificate

To install the SSL server certificate:

1. From the **Windows Start menu**, select **Administrative Tools**.
2. Select **Internet Information Services (IIS) Manager** (Figure 5-11).

Figure 5-11: Internet Information Services (IIS) Manager

3. Click the server name in the left panel (Figure 5-12).

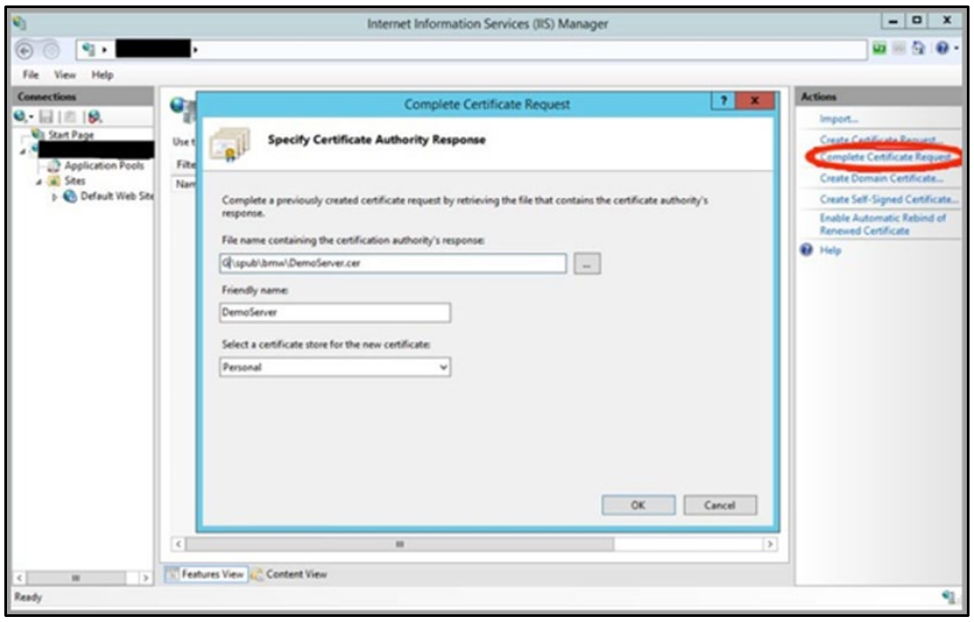

Figure 5-12: Complete Certificate Request dialog

4. Double-click **Server Certificates** in the **Security section** (near the bottom of the panel).

5. In the **Actions** panel (on the right), click **Complete Certificate Request**. The **Complete Certificate Request** dialog displays.

> **Note:** The **Complete Certificate Request** must be completed on the same system where the Certificate Signing Request was generated (Section 4.1.1) to ensure the private key is correctly associated with the new certificate.

6. Click the **Ellipses** button () to browse to the location where the server certificate file acquired in Section 4.1 is saved.
7. In the **Friendly** name field, type the friendly name for the certificate. This name is intended for use for management of certificate stores on the server.
8. In the **Select a Certificate** store for the **Certificate** field, verify **Personal Store** is selected.
9. Click **OK** to complete the procedure.

5.4 .Net Core 8.0.X Hosting Bundle

The BPRM application requires .Net Core 8.0.17 (or higher) hosting bundle. To install:

1. Download the **.Net Core Runtime** installer from Microsoft.com Download .Net Core Runtime Installer
2. Run the installer (preferably in administrator mode).
3. Click **Install**.

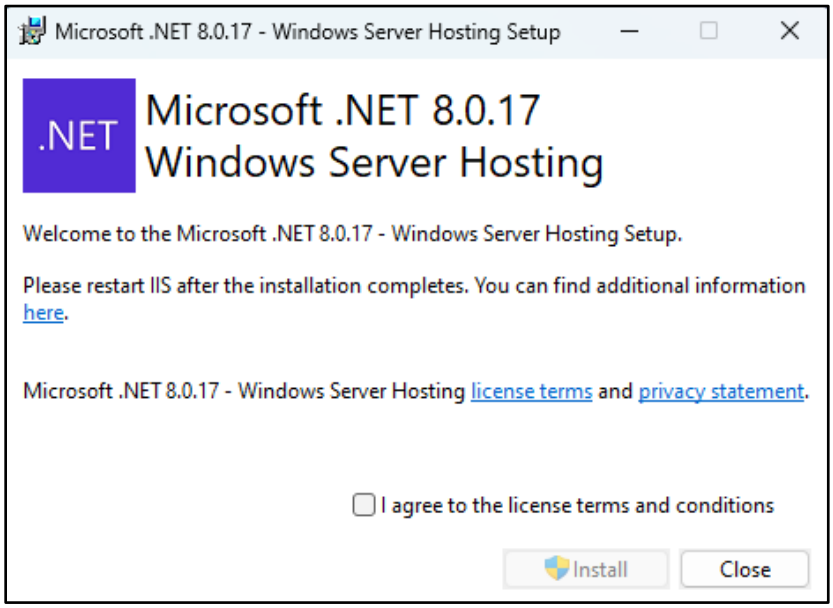

Figure 5-13: Microsoft .NET Core 8.0.x–Windows Server Hosting Setup

4. Click **Close** after installation is successfully completed.

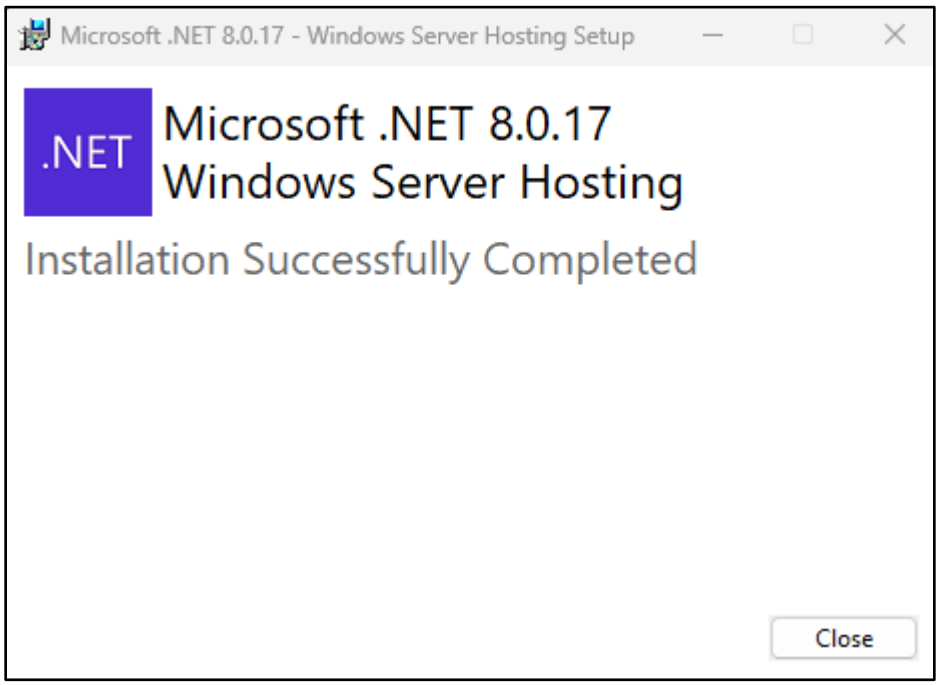

Figure 5-14: Successful Installation

5. After successful installation, restart the **WWW** and **WPA** services as described in the following steps.

6. To open the Command Prompt CMD in Administrator mode, right-click the **Command Prompt** and select **Run as administrator**.

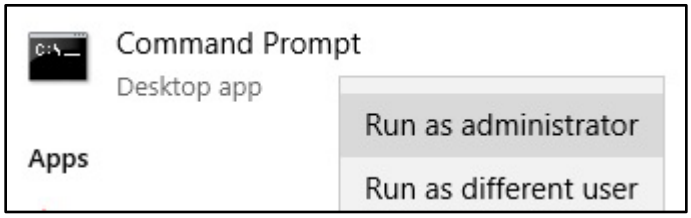

Figure 5-15: Run as administrator

7. Run the following commands in CMD:

   - **net stop was /y**–This will *stop* the WWW and Windows Process Activation service.
   - **net start w3svc**–This will *start* the WWW service.

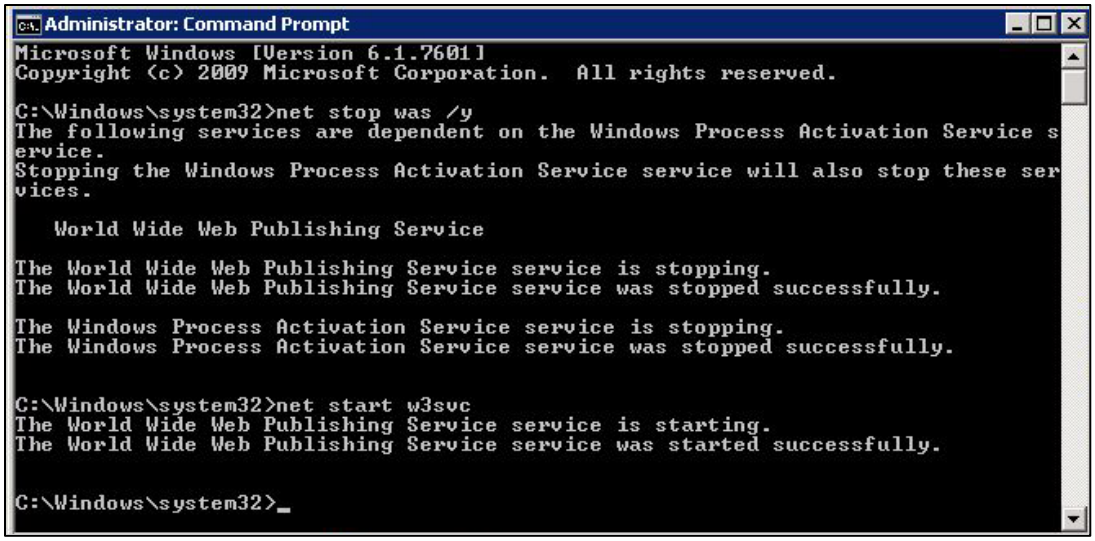

Figure 5-16: Administrator Command prompt screen

5.5 BPRM Website Setup

This section can skipped if this is an upgrade from BPRM 4.x setup and BPRM website and application pool already exists on the application server.

5.5.1 Add the Application Pool

To add the Application Pool:

1. Return to the **IIS Manager** opened in Section 4.1.1 and browse to **Application Pools** in the tree structure below your IIS node as shown in Figure 5-17.

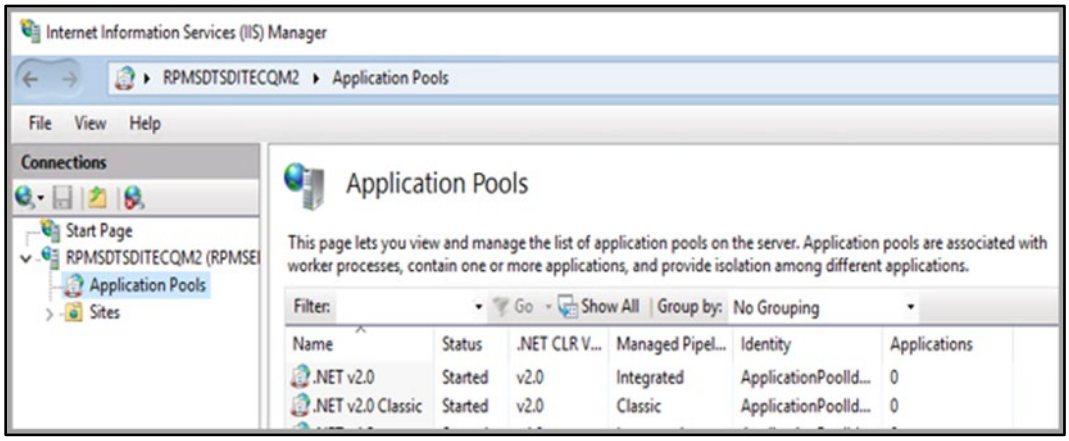

Figure 5-17: IIS Manager browsed to Application pools

2. Right-click **Application Pools** and select Add Application Pool. The **Add Application Pool** dialog (Figure 5-18) displays.

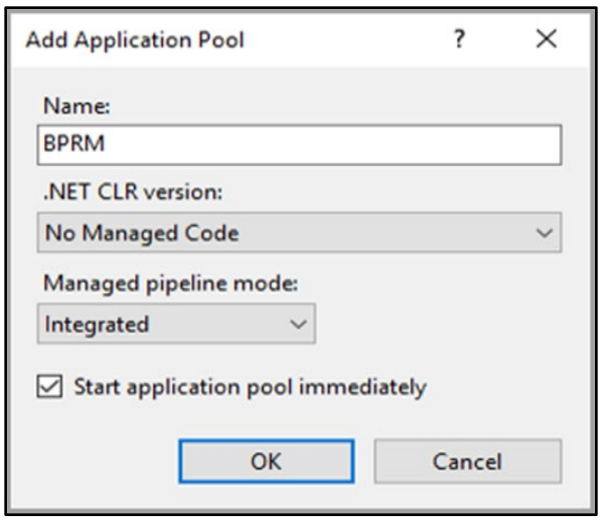

Figure 5-18: Add application pool dialog

3. In the **Name** field, type the name of the application pool (BPRM).
4. In the **.NET Framework version:** field, select **No Managed Code**.
5. Click **OK**.
6. Right-click the newly created application pool in IIS Manager and click **Advanced Settings**. A dialog like Figure 5-19 displays:

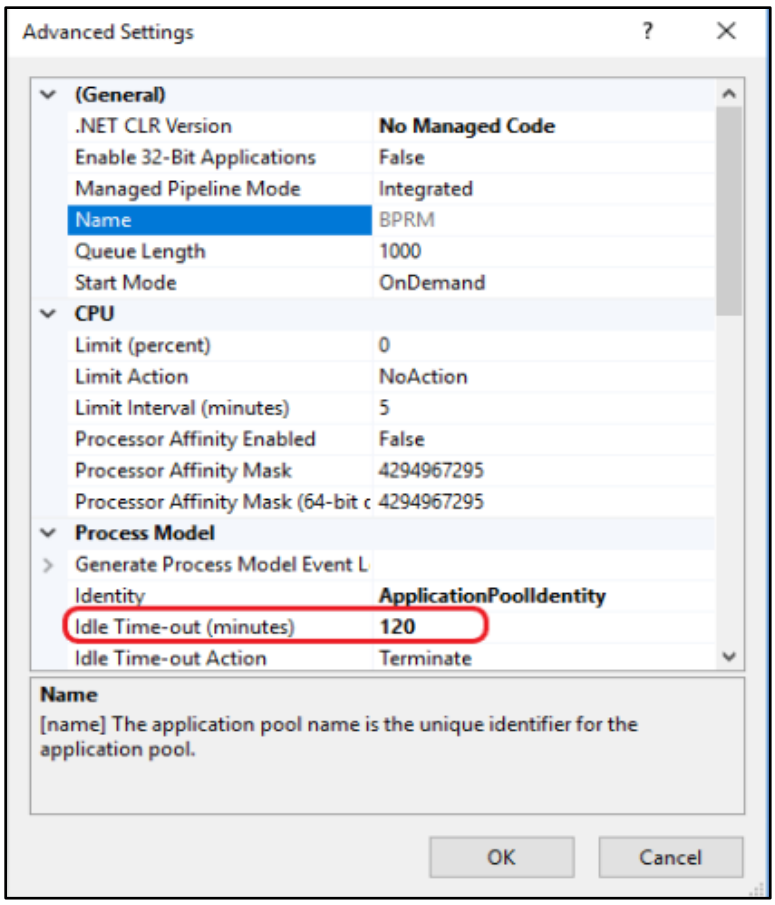

Figure 5-19: Application Pool Advanced Settings

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

5.5.2 Create a BPRM Folder

1. To aid in setting up the **BPRM website**, create a **C:\inetpub\BPRM:**.
2. Using **Windows Explorer**, navigate to **C:\inetpub** on your Windows application server.
3. Click **Organize**, then select **New Folder**. (Alternatively, click **New Folder** in the **Windows Explorer** toolbar if it is present.)
4. Type **BPRM** and press **Enter** to create the **C:\inetpub\BPRM folder**.

5.5.3 Add the New Site

To add the new website:

1. Right-click **Sites** in the **Connections pane** of the **IIS Manager** and select **Add Web Site**. The **Add Web Site** dialog (Figure 5-20) displays.

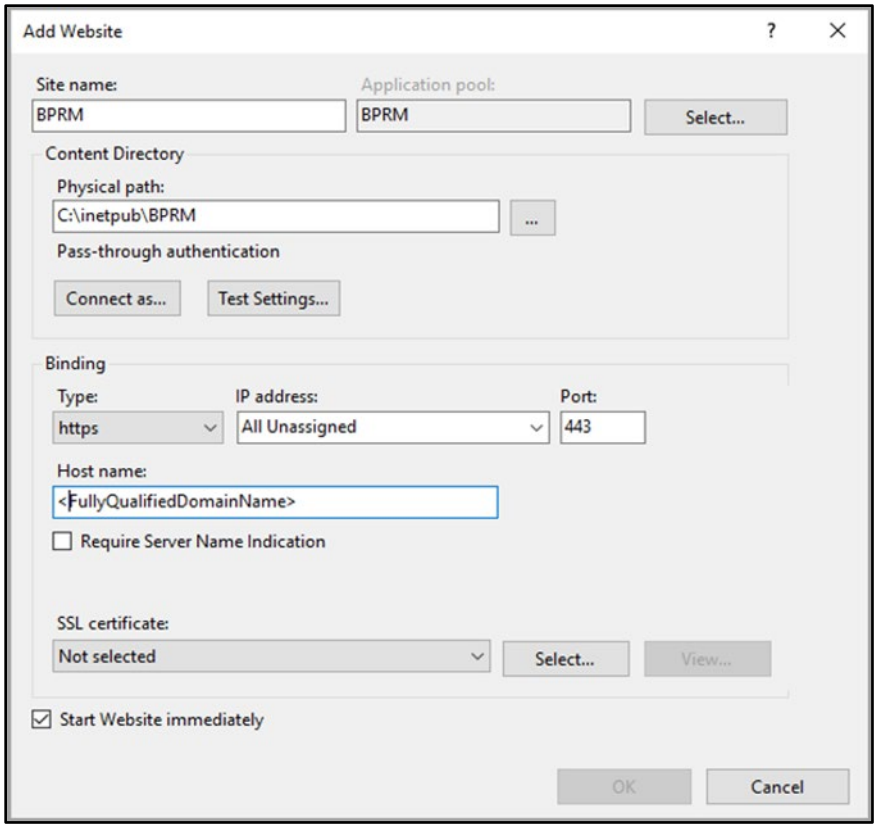

Figure 5-20: Add Web Site dialog

2. In the **Site name** field, type **BPRM**.
3. Click **Select** and select the **BPRM application pool** created in the previous steps.
4. In the **Physical Path** field, browse to the **C:\inetpub\BPRM folder** created in Section 5.4.2.

> **Note:** Be aware that the location will be different if the folder was created on a different drive.

5. Under **Binding**, select **Type** as **https**.

> **Note:** It is highly recommended that BPRM application be hosted over HTTPS protocol.

6. For **IP address**, select **All Unassigned**.

7. For **Port**, specify a port number ranging from 440 through 443.
8. Select the **SSL certificate** installed in Section 5.4.
9. For **Hostname**, can be left blank OR put in the fully qualified name of the machine or SSL certificate Issued to value.
10. Select **View** to display the **SSL certificate details** (Figure 5-21 and Figure 5-22).

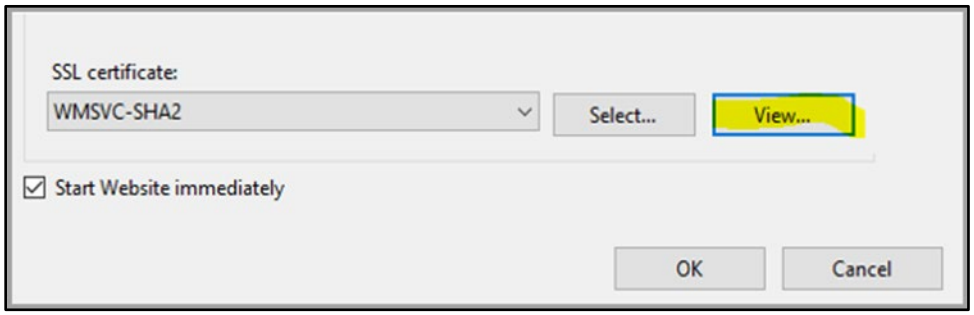

Figure 5-21: View SSL certificate

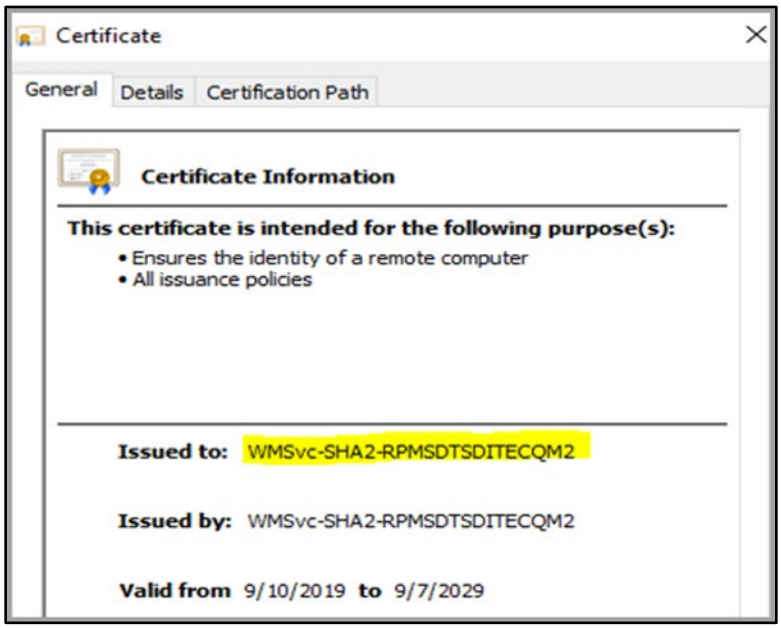

Figure 5-22: SSL certificate details

11. Click **OK** to save the changes and close the **Add Web Site** dialog.

6.0 BPRM Database Server Installation and Configuration

This section outlines the steps essential for setting up and configuring an IHS RPMS database server for the BPRM application to be executed against the RPMS database. It also provides steps to set up such an environment.

6.1 Assumptions

This section assumes the following:

- IRIS 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 **IRIS 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**.
- The **BMW IRIS.DAT** file acquired from the **IHS FTP** or **RPMS website**, as described in the *BMW Installation Guide*, is installed.

6.2 Importing a New BPRM XML File

A separate XML file is included with the release. Follow the steps in Section 6.2.1 through Section 6.2.2 to import a new BPRM XML file.

6.2.1 Disable Read Only

To import the bprm0400.06.xml file, user must set the BMW database to allow write access. If the database is set to Read Only, do the following:

1. Browse to the Local Databases window of the IRIS Management Portal following this path:

   Home > System Administration > Configuration > System Configuration > Local Databases.

2. Click **BMW** to open the edit database settings/configuration page.

3. In the window displayed, clear the **Mount Read-Only** check box.

Note:	Once the patch is installed, you can re-enable **Read Only** mode by repeating these steps and selecting the **Mount Read-Only** check box.

6.2.2 Import the BPRM XML File

To import the bprm0400.06.xml file:

1. From the **IRIS System Management Portal Home** window, click **System Explorer**, then **Classes**. The **Classes** dialog (Figure 6-1) displays.

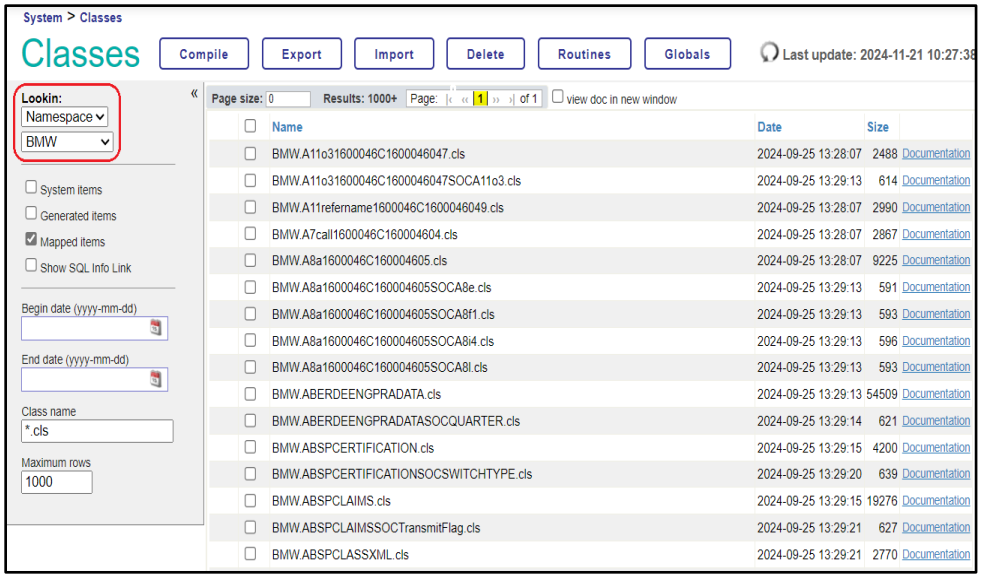

Figure 6-1: Classes dialog

2. Select the **RPMS** or **BMW namespace** in the **LookIn:** pane on the left side of the dialog.

3. Click **Import**. The **Import Classes** dialog (Figure 6-2) displays.

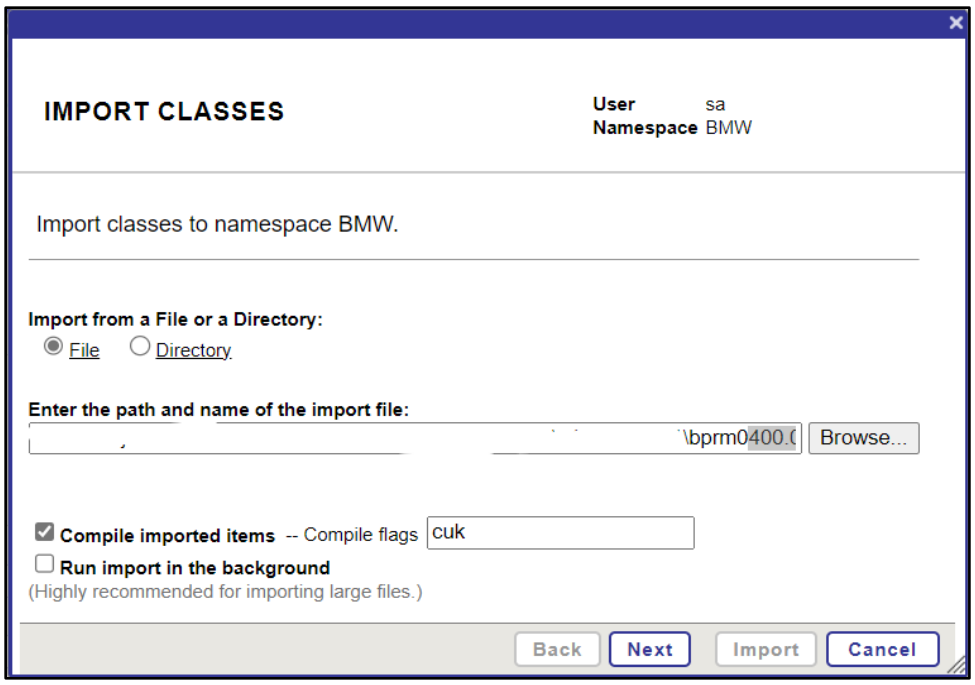

Figure 6-2: Import Classes dialog

4. Click **Browse** and navigate to the **bprm0400.06.xml** file in the folder where it is saved as described in Section 3.0.

5. Select the **bprm0400.06.xml** file and click **Next**.

A listing (Figure 6-3) displays, showing the contents of the **XML** file.

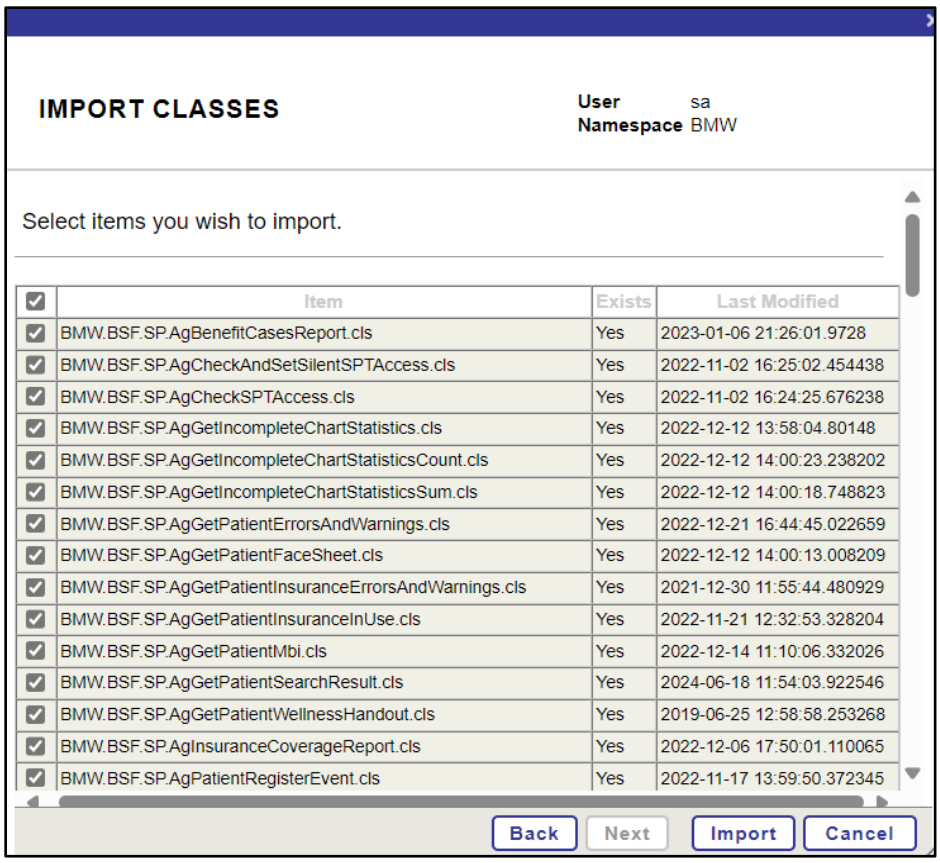

Figure 6-3: Import Classes window – content listing

6. Click **Import**. After a few moments of processing, a listing of the imported classes (Figure 6-4) displays.

7. Scroll to the bottom of the listing to confirm the **Load finished successfully** message displays (Figure 6-4).

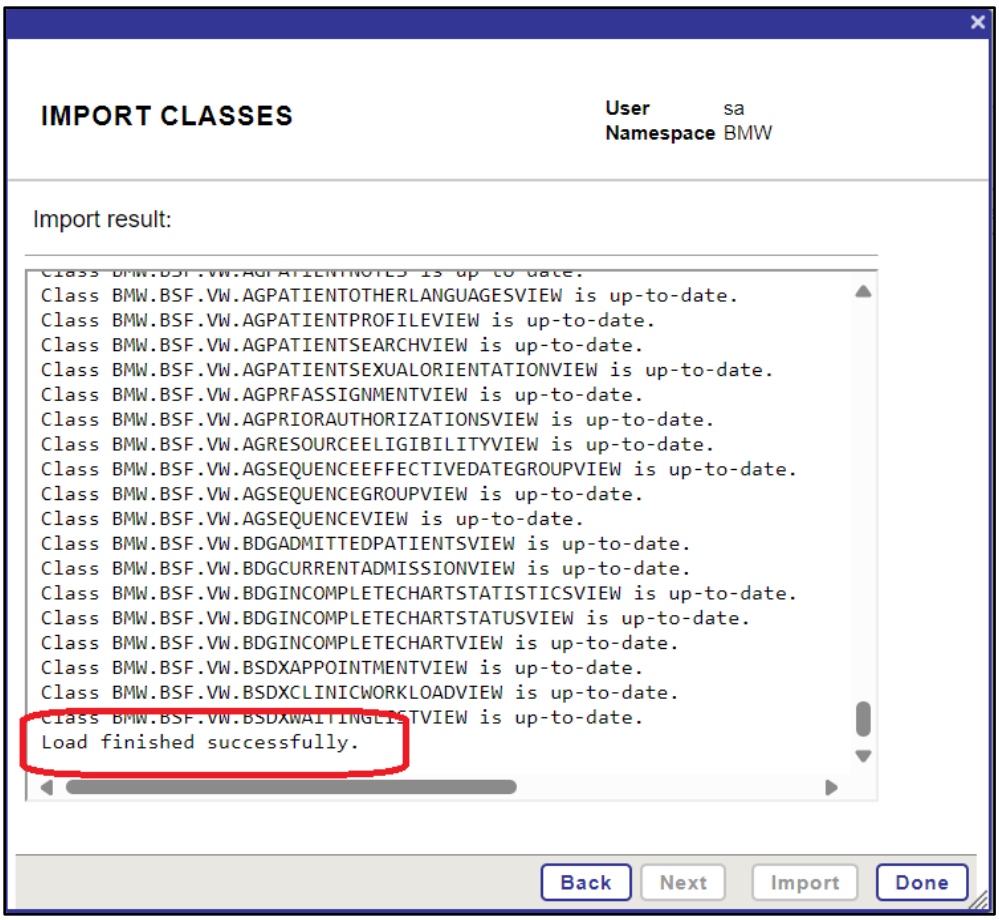

Figure 6-4: Import Classes window – Load finished successfully

At this point, the **BPRM XML installation** is complete.

6.3 IRIS User Creation

BPRM performs CRUD operations over the RPMS DB using the BMW tables that were mapped over the RPMS database.

BPRM requires an IRIS 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 BPRM User and Assign Roles

This step may be skipped if the site has **Moonwalk_user** already created for BPRM application. **Moonwalk_user** can be used for BPRM v4.0.x as well.

To create a new **BPRM user**:

1. Navigate to the user's window of the **IRIS System Management Portal** following this path:

   Home > System Administration > Security > Users.

2. Click **Create New User** to display the **Edit User** window (Figure 6-5).

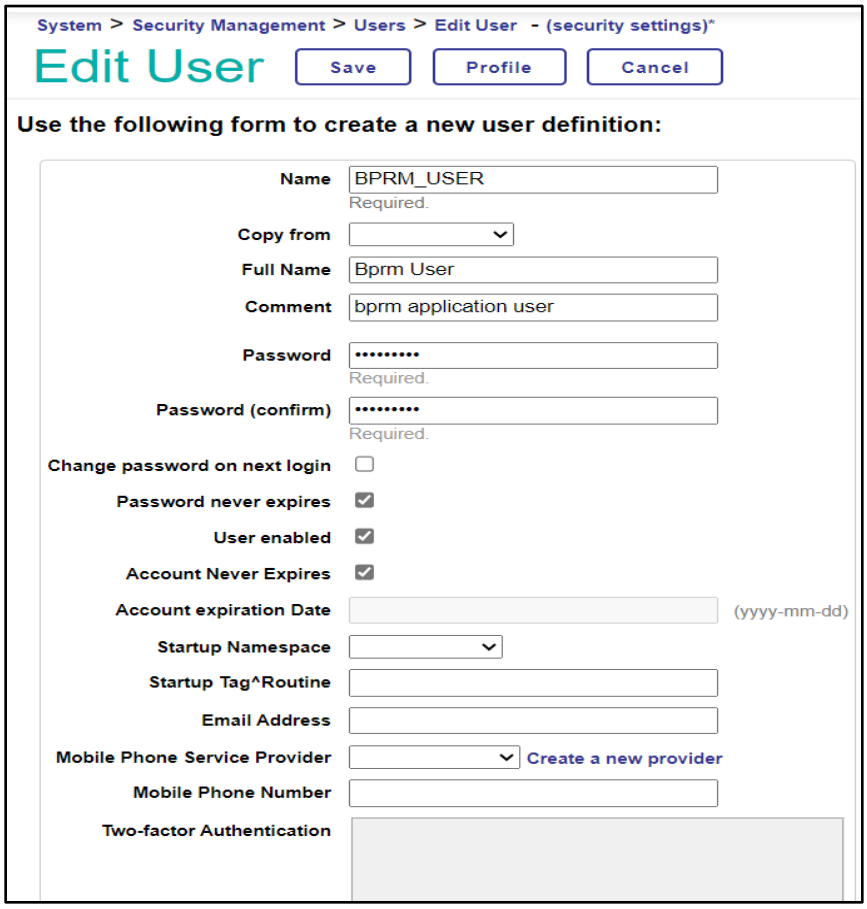

Figure 6-5: Edit User window

3. Type **BPRM_USER** in the **Name** field.

4. Type a **password** that complies with your site-specific password rules in the **Password** and **Password Confirmation** fields.

5. Click **Save** to save the new user.
6. Click the **Roles Tab** as shown in Figure 6-6.

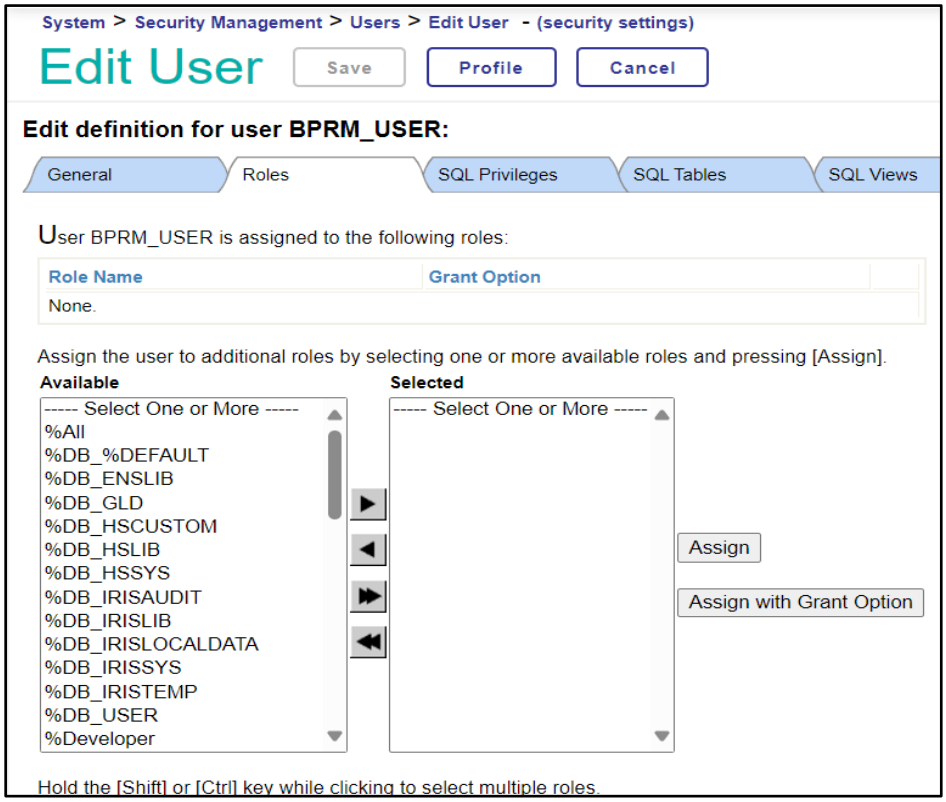

Figure 6-6: Create New User window

7. Select **%ALL** from the **Available** column and move it to the **Selected** column by clicking the **Right arrow**.
8. Click **Assign** to assign the **%ALL** role to the **BPRM_USER** account.

When complete, the **Edit User** window will look similar to that shown in Figure 6-7.

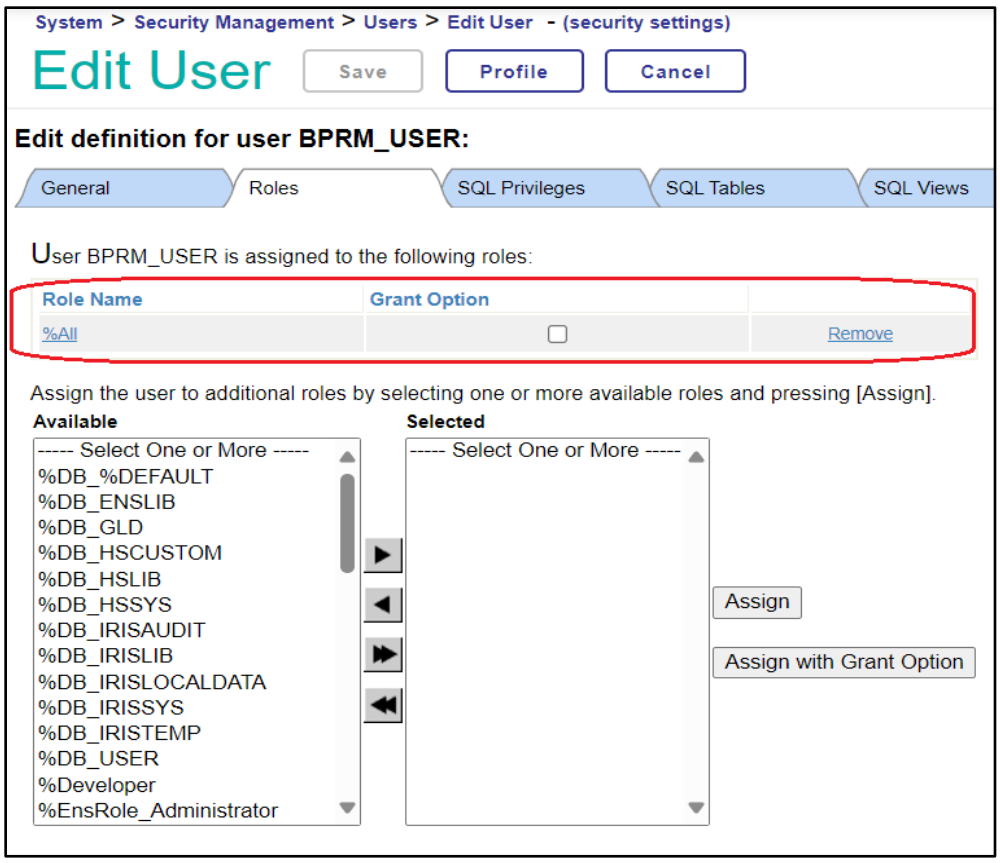

Figure 6-7: Roles tab in Edit User window–after changes

6.3.2 Verify XML Import and Installation

To verify the **XML** file has been imported and is readily available:

1. From the **IRIS System Management Portal Home** window, click **System Explorer > SQL** (you may need to click SQL twice).

2. Switch to the RPMS namespace. In the example shown in Figure 6-8, GLD is selected. Your site's RPMS database/namespace will likely have a different name.

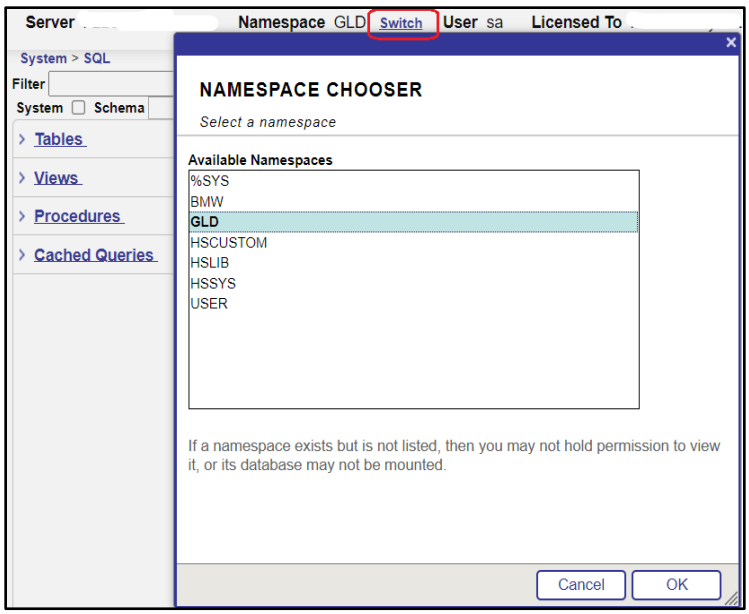

Figure 6-8: Namespace Chooser window

3. Open the **Schema** drop-down menu and select **BMW_BSF_SP**, as shown in Figure 6-9.

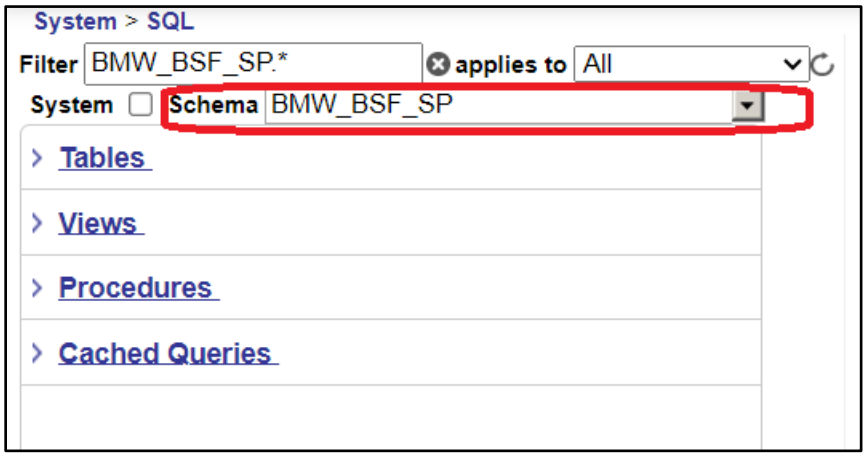

Figure 6-9: Expand the Schema menu and select schema

4. Expand/Click **Procedures** as shown in Figure 6-10.

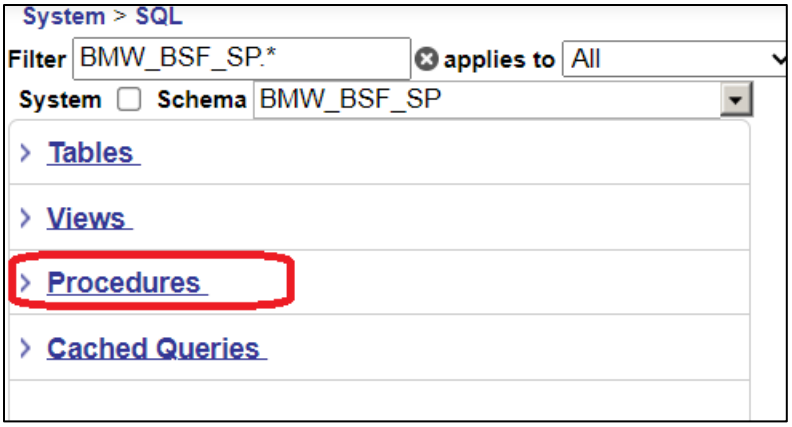

Figure 6-10: Expand Procedures

5. Scroll down to locate and select **BMW_BSF_SP.Core_AuthenticateUserV2Q**.

6. Click **Run Procedure** as shown in Figure 6-11.

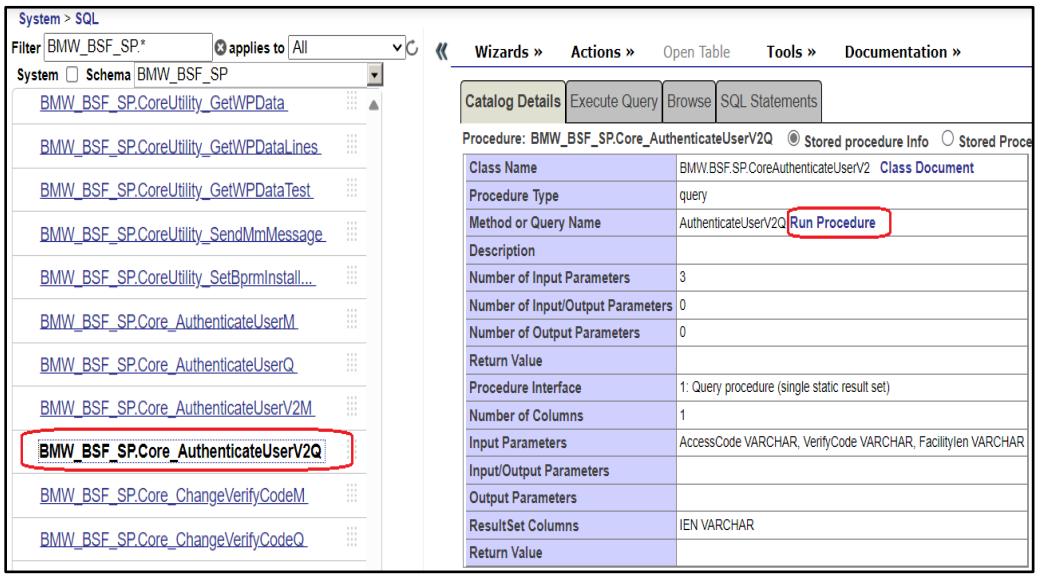

Figure 6-11: Run Procedure option

If the **IRIS** version is compatible with the newly installed **BMW classes**, the **Run Query** window (Figure 6-12) displays. The user does not need to put in any information (access/verify) here.

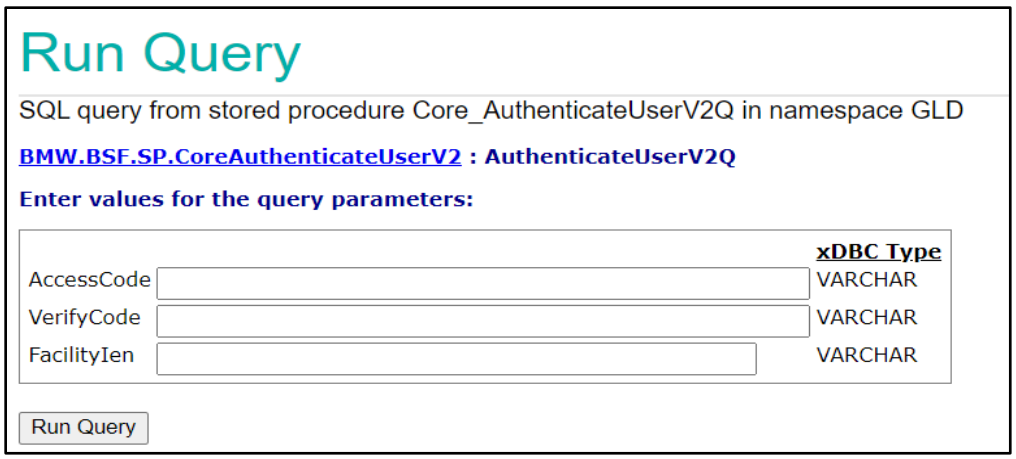

Figure 6-12: Run Query

If an error message displays, the **IRIS version** running is not compatible with the newly installed **BMW classes**.

7.0 Application Deployment to the Web Server

This section describes the steps for installing the BPRM application itself.

7.1 Deploy the BPRM Application

> **Note:** Before proceeding with BPRM msi install, make sure **BPRM XML** has been installed (see Section 6.2).

To deploy the BPRM application:

1. Log on to the application server and browse to the location where the BPRM Application Installer file (bprm0400.06.msi) is stored.
2. Double-click the bprm0400.06.msi file to run the BPRM application installer.

> **Note:** If an error message displays indicating that you do not have sufficient privileges to run the installer, refer to Appendix A for instructions on running the installer from the Administrator command prompt.

Once the installer is started, the **BPRM setup wizard** (Figure 7-1) displays.

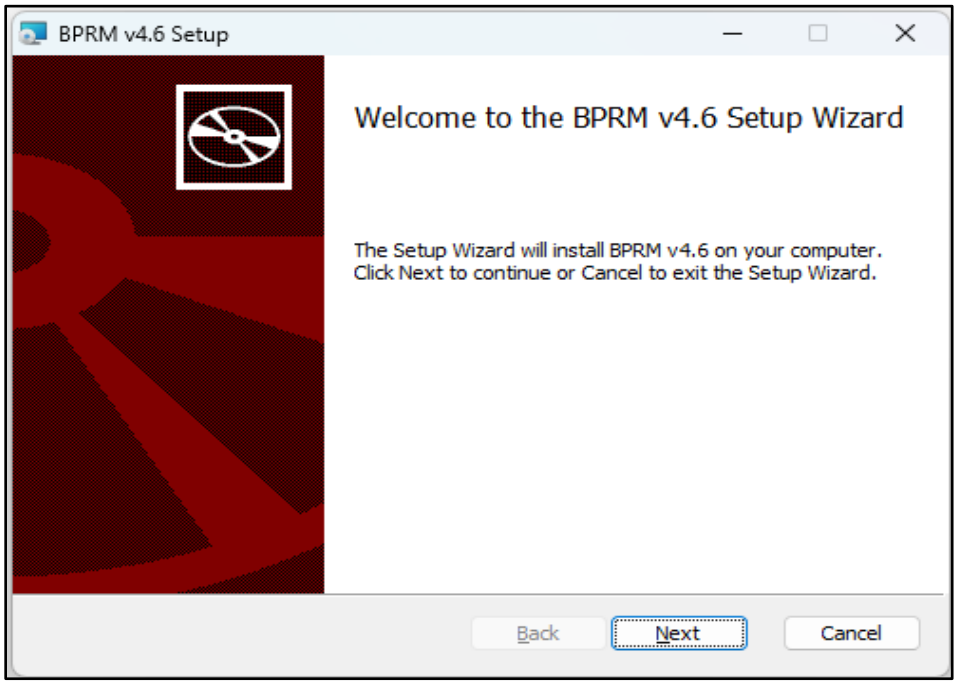

Figure 7-1: BPRM setup wizard dialog

3. Click **Next**. The **Destination Folder** dialog (Figure 7-2) displays.

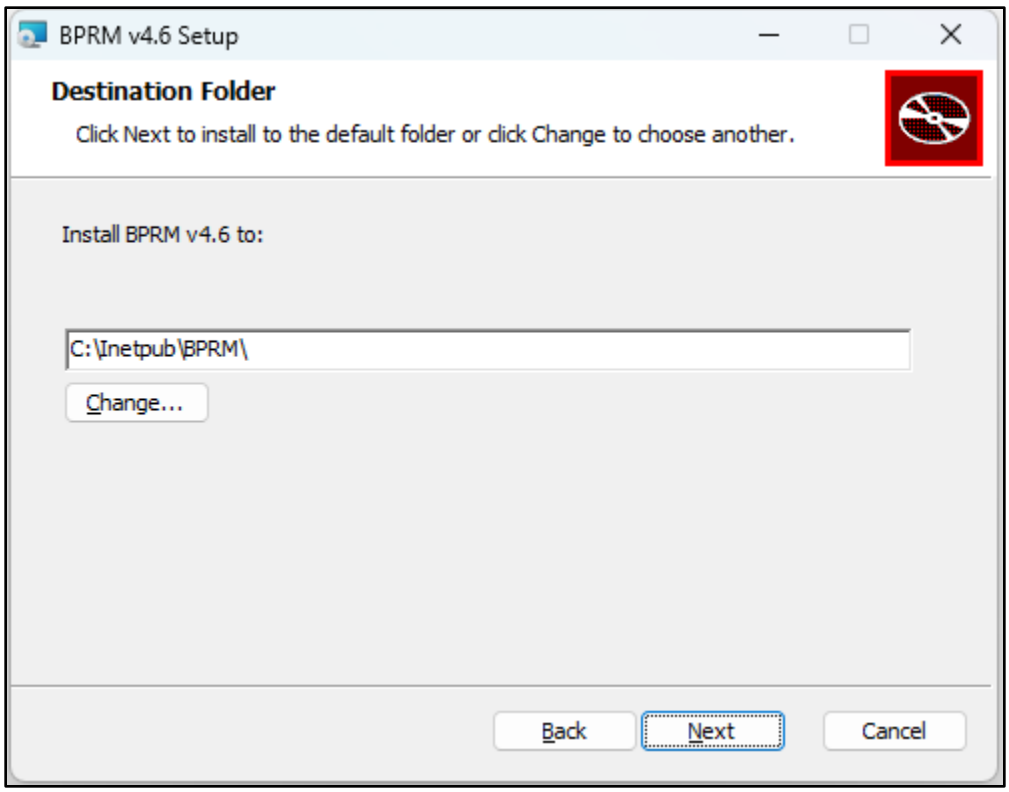

Figure 7-2: Destination Folder dialog

4. Click **Change** to choose the **BPRM website folder**, as created in Section 5.4.2, (Figure 7-3) and Select **OK**.

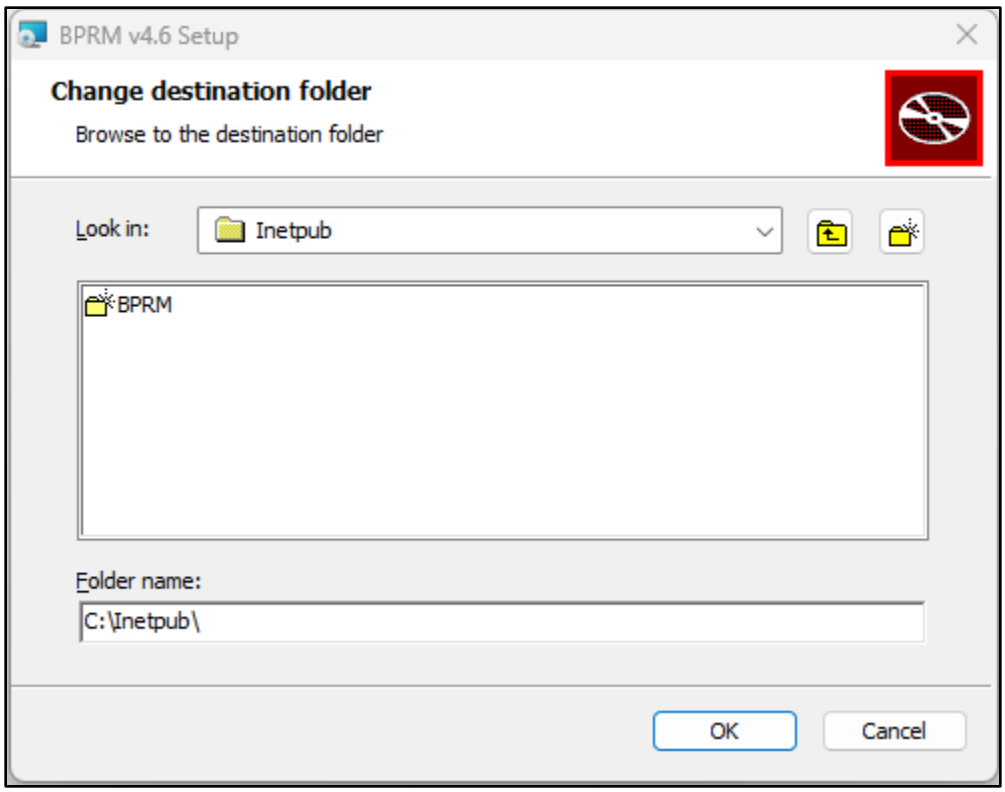

Figure 7-3: BPRM website folder

5. Click **Next** once the appropriate **Destination folder** (Figure 7-4) is selected.

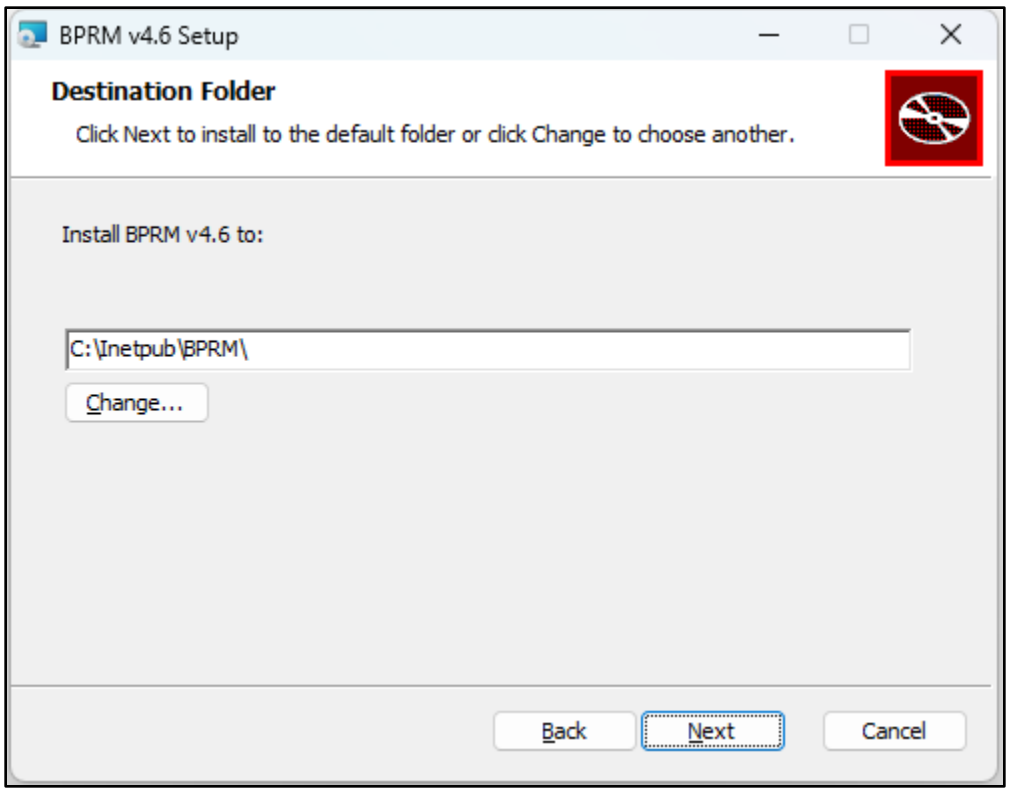

Figure 7-4: Destination Folder dialog

6. Click **Install**. The **Ready to install BPRM v4.0.6** dialog (Figure 7-5) displays.

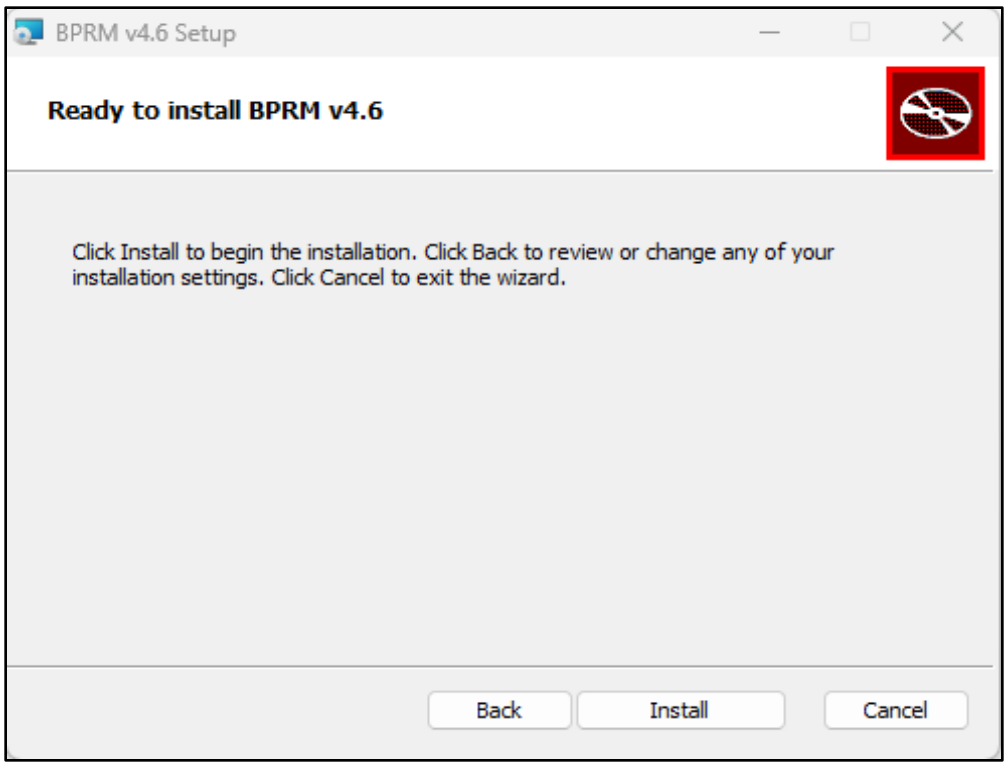

Figure 7-5: Ready to Install BPRM v4.0.6 dialog

7. If User Access Control window shows up; click **Yes**. The **User Account Control** dialog (Figure 7-6) displays.

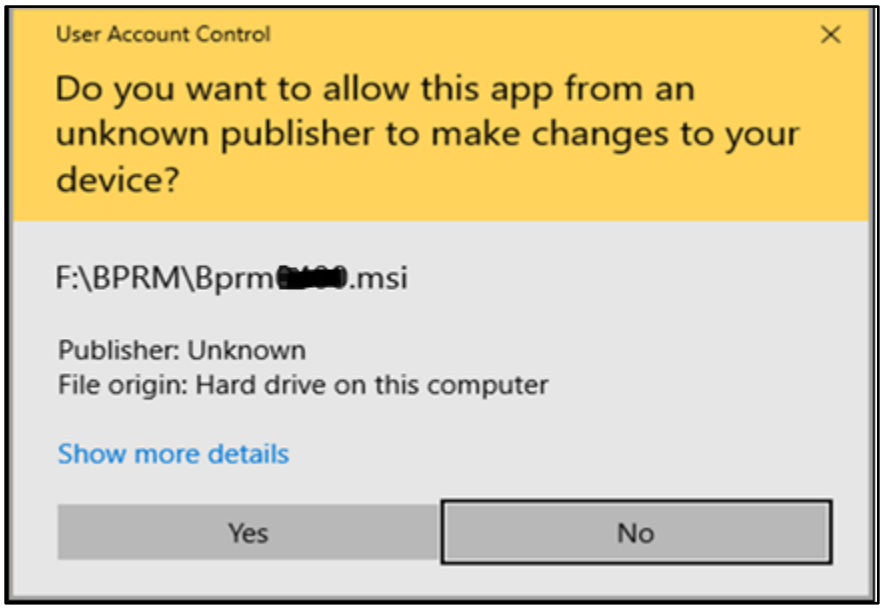

Figure 7-6: Installing BPRM dialog

After a short time of processing, the **Database Configuration** dialog (Figure 7-7) displays.

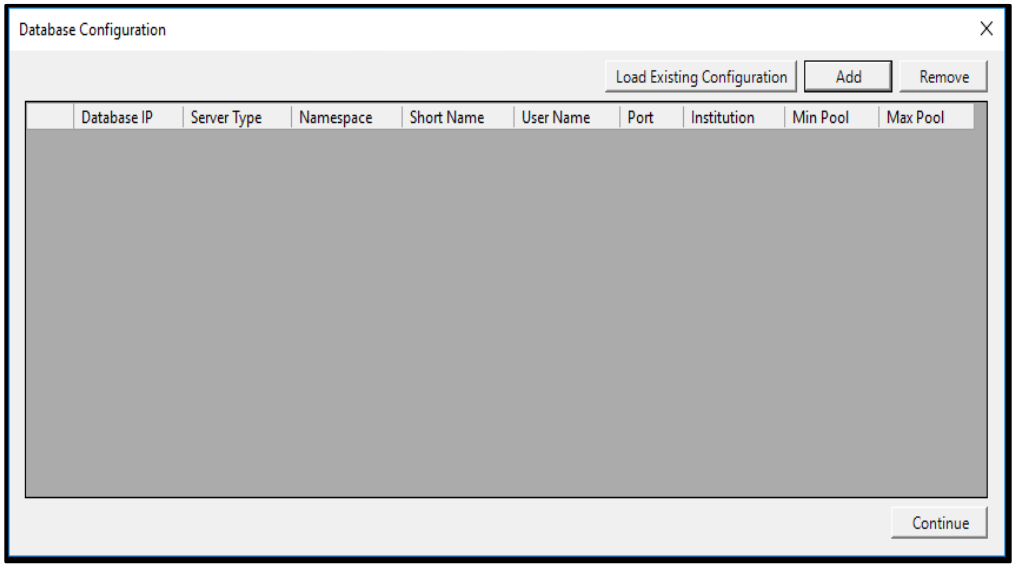

Figure 7-7: Database Configuration dialog

The **BPRM suite** relies on specific information about each **RPMS database** to which it is connected.

8. Click **Add** on the **Database Configuration** dialog to display the **Configuration** dialog (Figure 7-8) and add this information for each database associated with this installation.

Note:	**Load Existing Configuration** will not work when loading from a **BRPM V3.x configuration** file. Use **Add** instead.

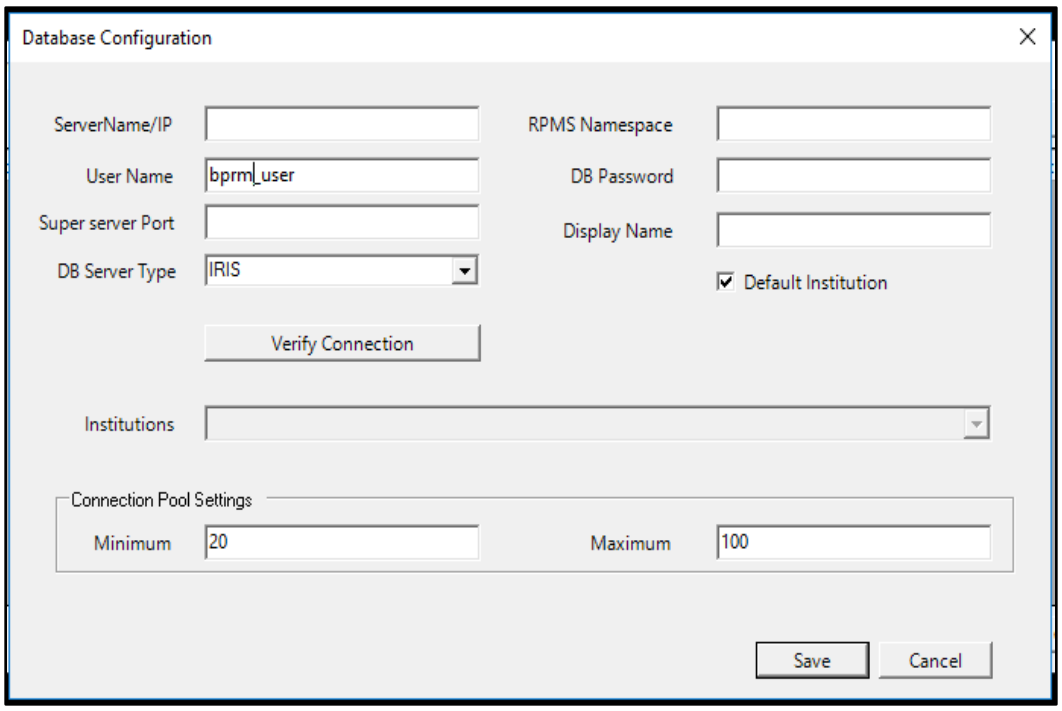

Figure 7-8: Configuration dialog

The **Configuration** dialog contains the following fields:

- ServerName/IP: Use this field to enter the **IP address** of your **RPMS database**.

Note: This is the **internal IP address**, not an **external address**.

- RPMS Namespace: Use this field to enter the **namespace** of your **RPMS database**.
- User Name (DB): This field is automatically populated with the **BPRM_USER user name**.
- Password (DB): Use this field to enter the **password** you set for the **BPRM_USER account** in Section 6.3.1.
- Super Server Port: Use this field to enter the **IRIS Superserver port** used by your **RPMS database**. By default, this is **port 1972**, although it will be different on your system if you have changed this **IRIS setting**.

The **Superserver port number** can be checked from within the **IRIS Management Portal** using this path:

Home > System Administration > Configuration > System Configuration > Memory and Startup

The **Superserver port number** displays at the bottom of the page.

- Display Name: Display/Short name shows up on the BPRM application login screen. This field is automatically populated with site's institution's **short name** if it exists in the **INSTITUTION** file. If it does not exist, type a **short/display name** of your choice to identify this institution in the future.
- DB Server Type: select 'IRIS' here if not already selected

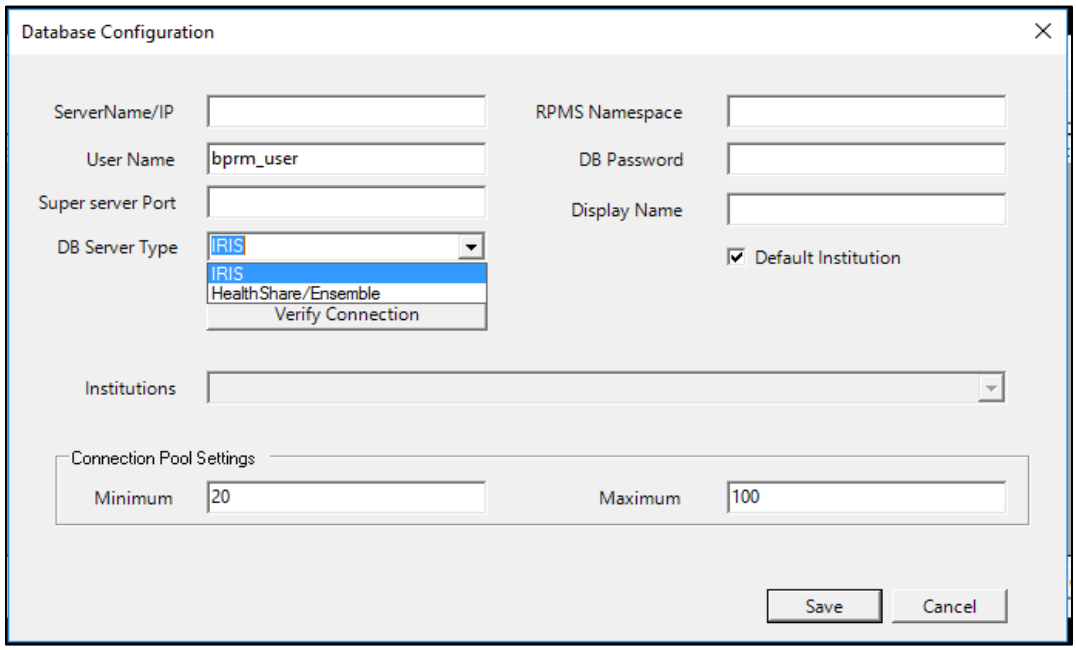

Figure 7-9: Database Configuration

- Default Institution: This checkbox indicates the site's RPMS default institution should be selected automatically when institutions are pulled from the RPMS system on this screen.
- Institutions: Use this list box to choose the institutions associated with your **RPMS database**. When the **Default** check box is enabled, this list is limited to only the institutions set as your default per your **INSTITUTION** file. When the check box is cleared, the list will show all available institutions.
- Connection Pool Settings: This section relates to connection settings for **BPRM application** when requesting connections from the **IRIS Database**. This setting has been introduced since, with **IRIS**, the number of **licensed connections** has decreased from **1,500** (in **Ensemble**) to **250–500** (in **IRIS**) and that has resulted in exhaustion of licenses. Sites can customize the number of minimum connections and maximum connections the **BPRM application** can request from the **IRIS application**. It is defaulted to **20–100**, but sites can modify according to the site's **IRIS license** and **BPRM usage**.

- Minimum: This number indicates the **minimum connections** the **BPRM application** shall create/request from **IRIS DB**, when the application is accessed for the first time. Minimum connections persist as long as the application is live.
- Maximum: This number indicates the **maximum connections** BPRM shall create/request from **IRISDB** at any given time (usually at the busiest time). Connections shall be destroyed when not in use until it reaches the minimum threshold.

9. When the **Configuration** dialog displays, enter the following:
   - Server Name/IP
   - RPMS Namespace
   - User Name
   - Password
   - Super Server Port
   - Display Name
   - DB Server Type
   - Default Institution (optional)
10. Click **Verify Connection**.
11. Once the **Institutions list** is loaded, select your **institution** from the list and provide a **Short Name** (if not already present).
12. Once the fields are populated, click **Save** to add the information to the **BPRM database configuration** file.

    For **Multi-tenant setup** (connecting this **BPRM application** to multiple **RPMS environments/databases**) repeat Steps 8 to 12 of this section.
13. When complete, click **Continue** to continue the **application installation**.

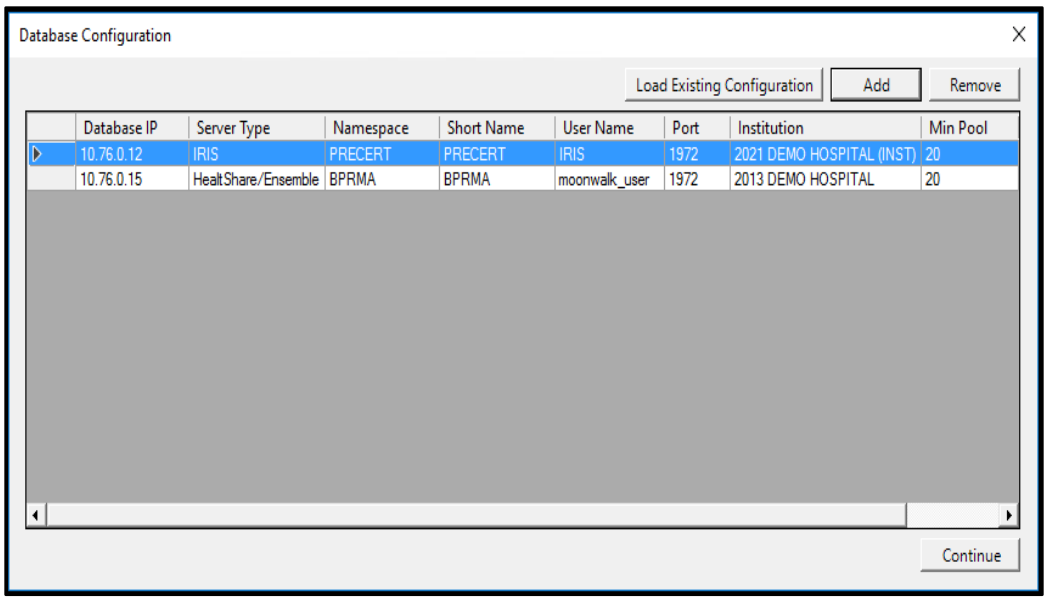

Figure 7-10: Database Configuration

If an **Access Denied** error displays (Figure 7-11), close the **installer** and run the **installer** again in **Administrator mode** (**Run as Administrator**), as shown in Appendix A.

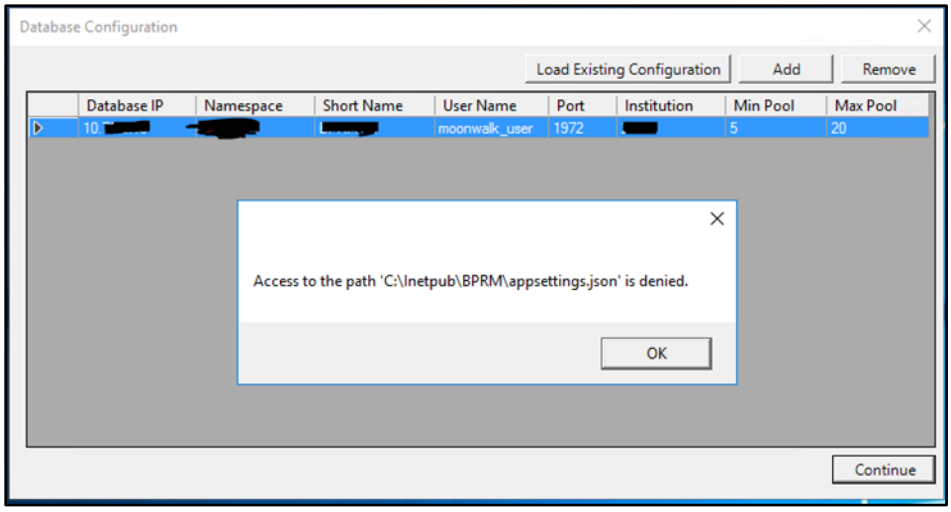

Figure 7-11: Access to Path Denied error

14. When the installation is complete, click **Next**. The **Installation Complete** dialog (Figure 7-12) displays.

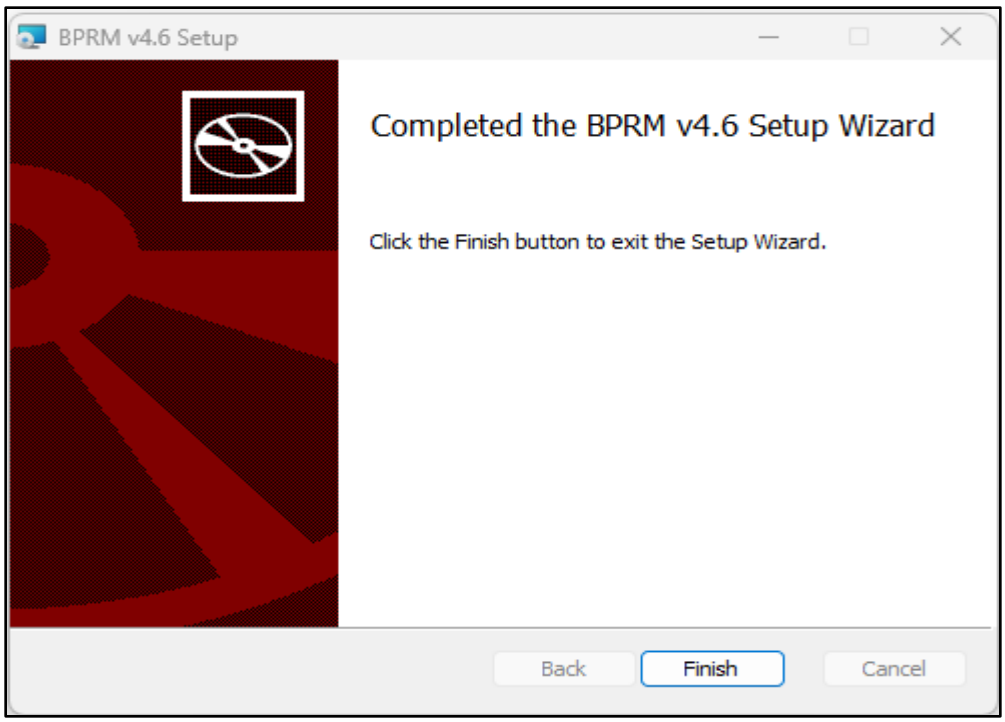

Figure 7-12: Installation Complete dialog

15. Click **Finish** to exit the dialog.

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 **BPRM application suite**. To add a database after BPRM has been installed:

1. Log on to the **application server** where **BPRM** resides.
2. Browse to the location where the **BPRM Application Installer** file (**bprm0400.06.msi**) is stored.
3. Double-click the **bprm0400.06.msi** file to run the **BPRM application installer**. The **BPRM setup wizard** (Figure 7-13) displays.

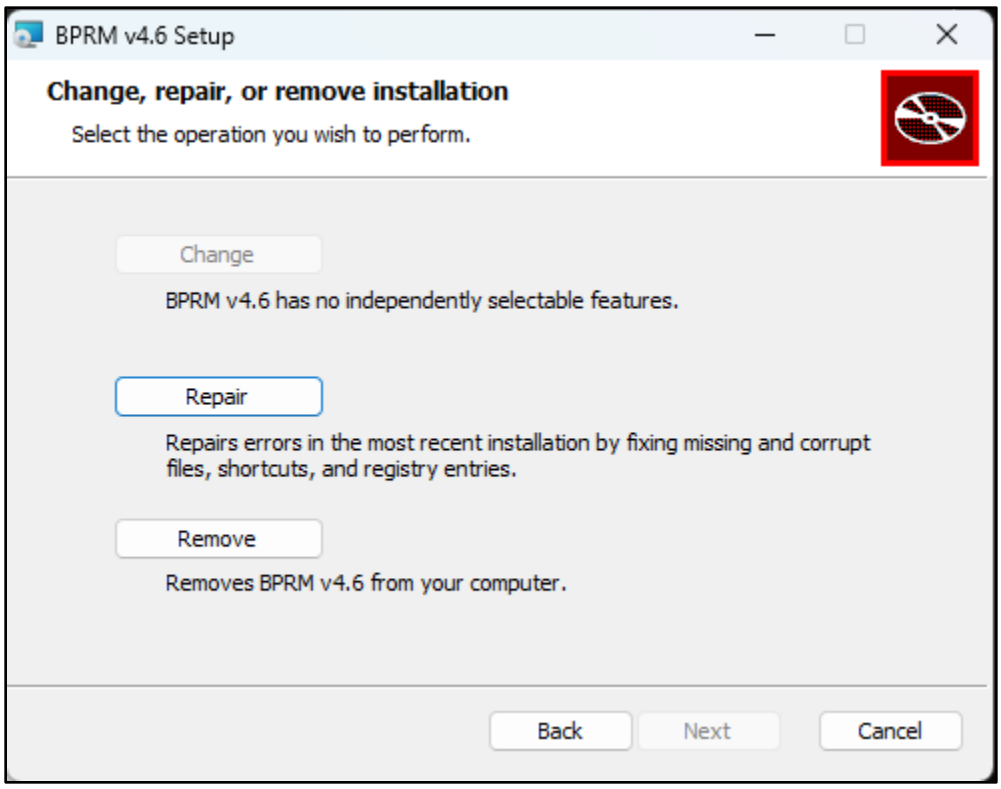

Figure 7-13: BPRM Setup Wizard dialog–Repair mode

4. Click **Repair**, and then click **Finish**. The **Installing BPRM** dialog (Figure 7-14) displays.

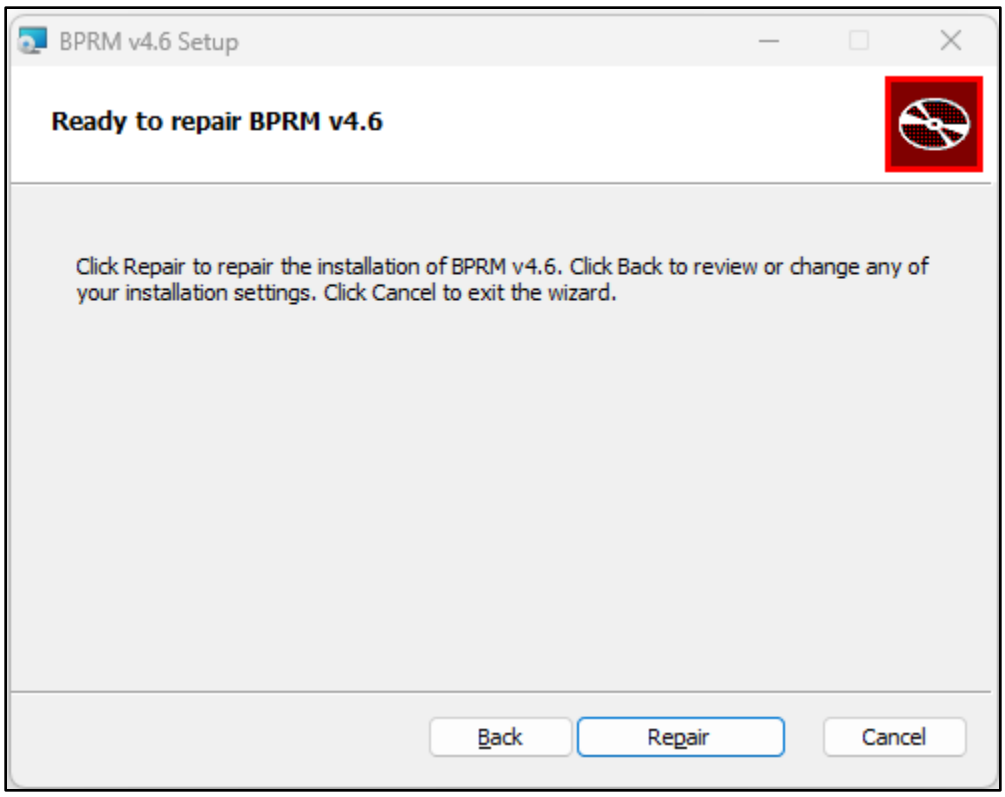

Figure 7-14: Installing BPRM dialog

5. Click **Next** once the processing is complete. The **Database Configuration** dialog (Figure 7-15) displays.

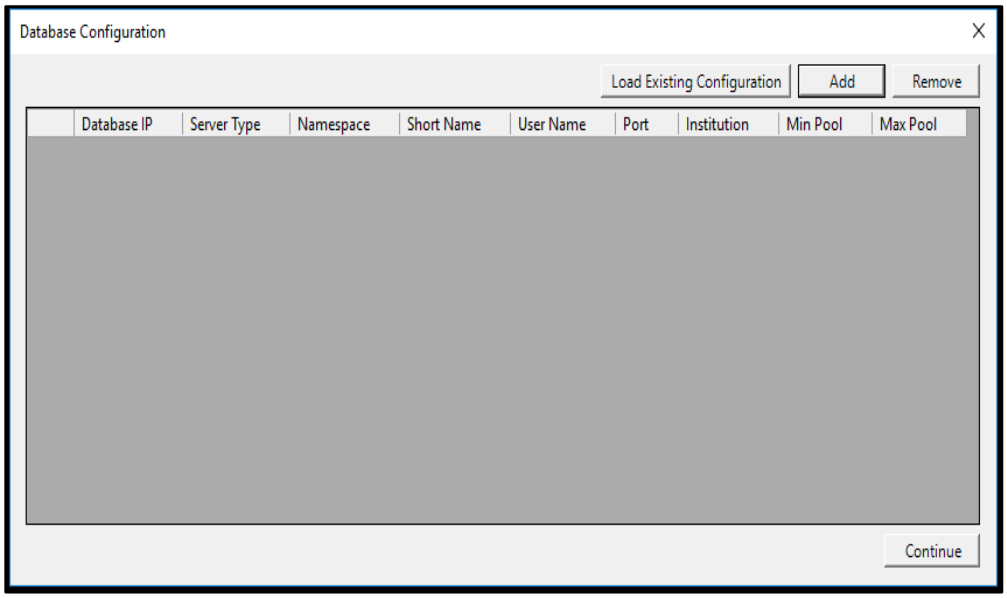

Figure 7-15: Database Configuration dialog

6. Click **Add** on the **Database Configuration** dialog to display the **Configuration** dialog (Figure 7-16) and add this information for each database associated with this installation.

Note: **Load Existing Configuration** will not work when loading from a **BRPM V3.x configuration** file. Use **Add** instead.

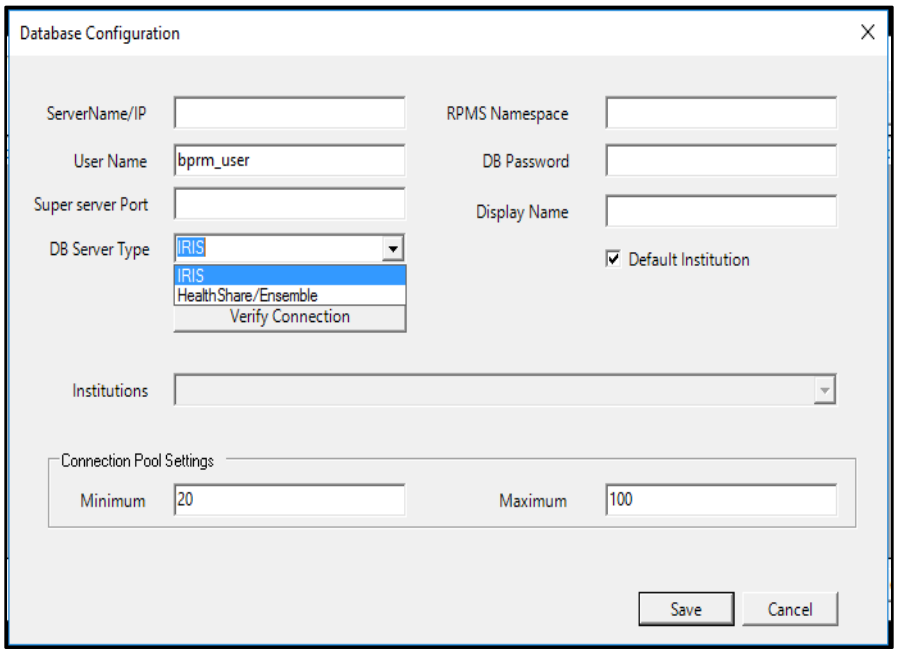

Figure 7-16: Configuration dialog

The **Configuration** dialog contains the following fields:

- ServerName/IP: Use this field to enter the **IP address** of your **RPMS database**.

Note: This is the **internal IP address**, not an **external address**.

- RPMS Namespace: Use this field to enter the **namespace** of your **RPMS database**.
- User Name (DB): This field is automatically populated with the **BPRM_USER user name**.
- Password (DB): Use this field to enter the **password** you set for the **BPRM_USER account** in Section 6.3.1.
- Super Server Port: Use this field to enter the **IRIS Superserver port** used by your **RPMS database**. By default, this is **port 1972**, although it will be different on your system if you have changed this **IRIS setting**.

The **Superserver port number** can be checked from within the **IRIS Management Portal** using this path:

Home > System Administration > Configuration > System Configuration > Memory and Startup

The **Superserver port number** displays at the bottom of the page:

- Display Name: Display/Short name shows up on the BPRM application login screen. This field is automatically populated with site's institution's short name if it exists in the **INSTITUTION** file. If it does not exist, type a short/display name of your choice to identify this institution in the future.
- DB Server Type: Select 'IRIS' if not already selected.

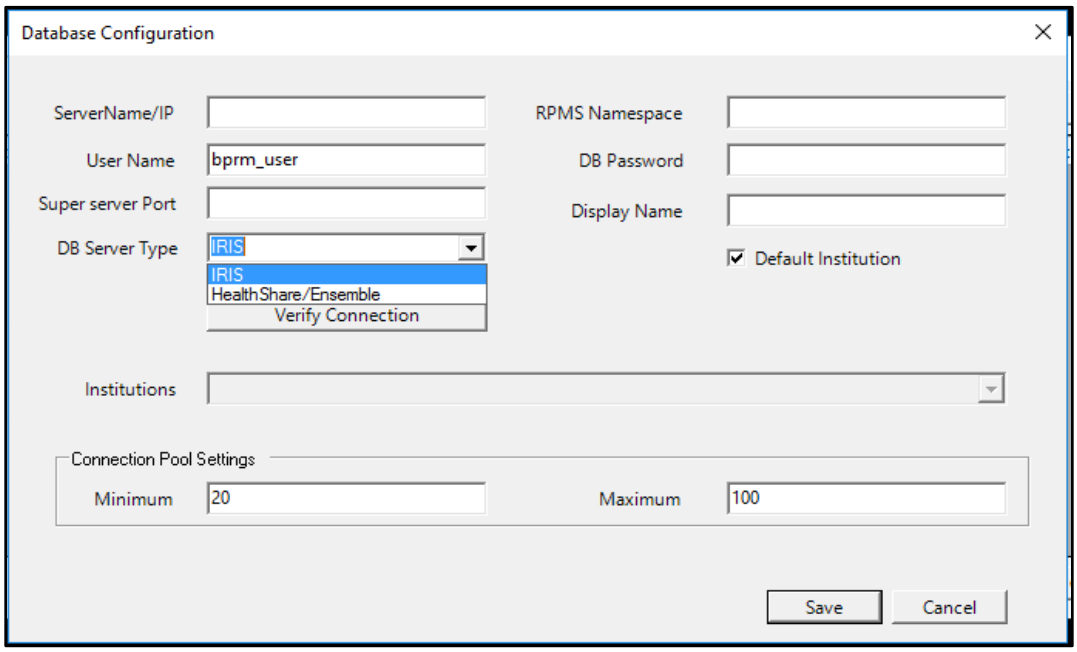

Figure 7-17: Database Configuration

- Default Institution: This checkbox indicates the site's RPMS default institution should be selected automatically when institutions are pulled from the RPMS system, on this screen.
- Institutions: Use this list box to choose the institutions associated with your **RPMS database**. When the **Default** check box is enabled, this list is limited to only the institutions set as your default per your **INSTITUTION** file. When the check box is cleared, the list will show all available institutions.

- Connection Pool Settings: This section relates to connection settings for **BPRM application** when requesting connections from the **IRIS Database**. This setting has been introduced since, with **IRIS**, the number of **licensed connections** has decreased from **1,500** (in **Ensemble**) to **250–500** (in **IRIS**) and that has resulted in exhaustion of licenses. Sites can customize the number of minimum connections and maximum connections the **BPRM application** can request from the **IRIS application**. It is defaulted to **20–100**, but sites can modify according to the site's **IRIS license** and **BPRM usage**.
- Minimum: This number indicates the minimum connections the **BPRM application** shall create/request from **IRIS DB**, when the application is accessed for the first time. Minimum connections persist as long as the application is live.
- Maximum: This number indicates the **maximum connections** BPRM shall create/request from **IRISDB** at any given time (usually at the busiest time). Connections shall be destroyed when not in use until it reaches the minimum threshold.

7. When the **Configuration** dialog displays, enter the following:
   - Server Name/IP
   - RPMS Namespace
   - User Name
   - Password
   - Super Server Port
   - Display Name
   - DB Server Type
   - Default Institution (optional)
8. Click **Verify Connection**.
9. Once the **Institutions** list is loaded, select your **institution** from the list and provide a **Short Name** (if not already present).
10. Once the fields are populated, click **Save** to add the information to the **BPRM database configuration** file.

    For **Multi-tenant** setup (connecting this **BPRM application** to multiple **RPMS environments/databases**) repeat Steps 6 to 10 of this section.

11. When complete, click **Continue** to continue the **application installation**.

12. If an **Access denied** error (Figure 7-18) displays, close the **installer** and run the **installer** again in **Administrator mode** (**Run as Administrator**), as shown in Appendix A.

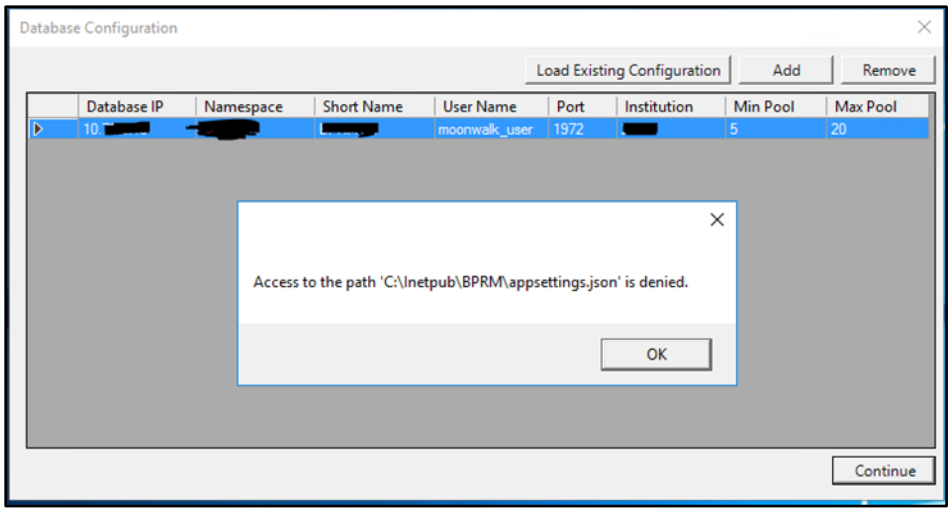

Figure 7-18: Access Denied error message

When the installation is complete, the **Installation Complete** dialog (Figure 7-19) displays.

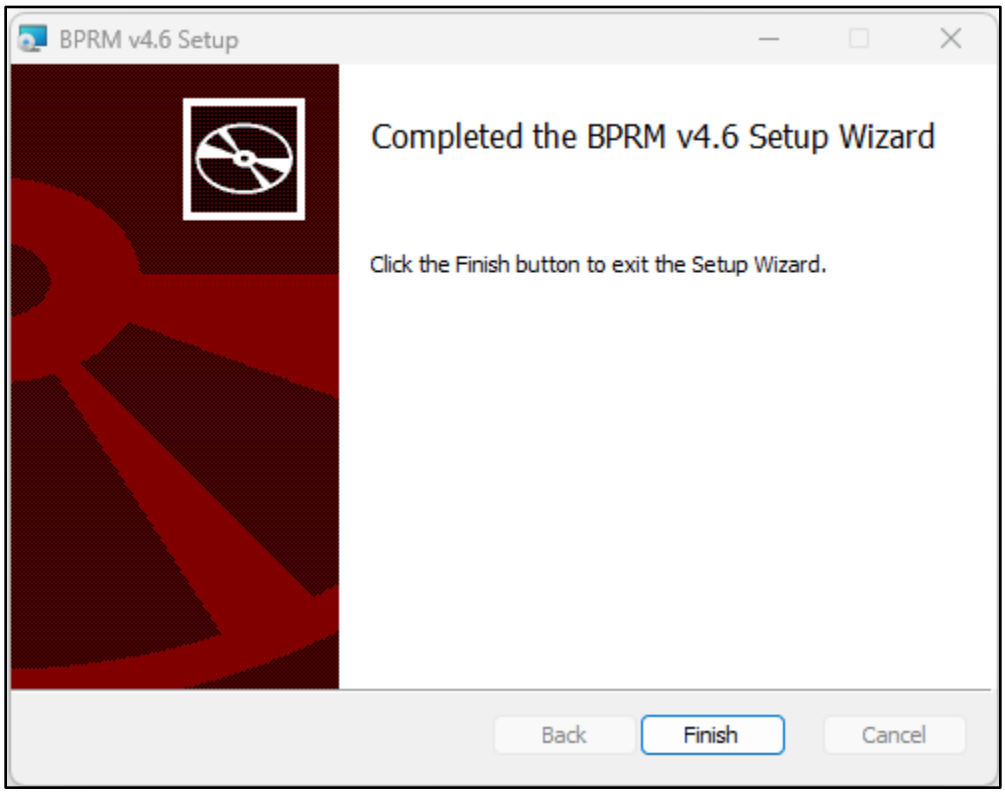

Figure 7-19: Installation Complete dialog

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

7.3 Menu and Security Keys

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

BPRM security is built upon the **RPMS Menus and Security keys**. Table 7-1 defines the relationship between **BPRM 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	DGZPCC DGZMENU
ADT Supervisor	BDGMENU	DGZADT DGZICE DGZNUR DGZSUP DGZSYS DGZMENU
Admin	N/A	XUPROG XUPROGMODE
Flag Manager	N/A	DGPF MANAGER
Flag Assignment	N/A	DGPF ASSIGNMENT
N/A	N/A	N/A
ReOpen Benefit Case	N/A	AGZCREOPN
Registration Appts tab access	AGPAT–or–AGMENU	SDZ ELIG REPORT

Role	Secondary Menu Option	Security Keys (Must include all)
N/A	N/A	N/A
Registration Clerk	AGPAT–or–AGMENU	AGZMENU
Registration Supervisor	AGMENU	AGZMENU AGZMGR AGZHOME
Registration View Only	AGPAT – or – AGVIEWONLY	AGZVIEWONLY
Mini Registration Access	N/A	SDZREGMENU
Scheduling Clerk	BSDMENU	SDZMENU
Scheduling Supervisor	BSDMENU–or–BSD MENU SUPERVISOR	SDZMENU SDZSUP
SSN Viewer	N/A	AGZVIEWSSN

In cases where there is more than one **Secondary Menu Option** listed in Table 7-1, only one is necessary per user. Conversely, where there is more than one security key listed for a specific role, all the keys shown must be included.

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 **SDZSUP** security keys.

7.4 Open the BPRM Application

After the **installation** and **configuration** steps have been completed to open **BPRM**:

1. Open **®Microsoft Edge**, **Google Chrome**, or **Mozilla Firefox**.
2. In the **Address bar**, enter the **IP address** of your **Windows application server** and the **port number** using this form, where **domain_name** represents the **IP address** of the application server and **k** represents the **port number** you previously assigned:

   - For sites using SSL: https://domain_name:kkk
   - For sites not using SSL: http:// ip_address:kk

   The **BPRM Log In** dialog (Figure 7-20) displays.

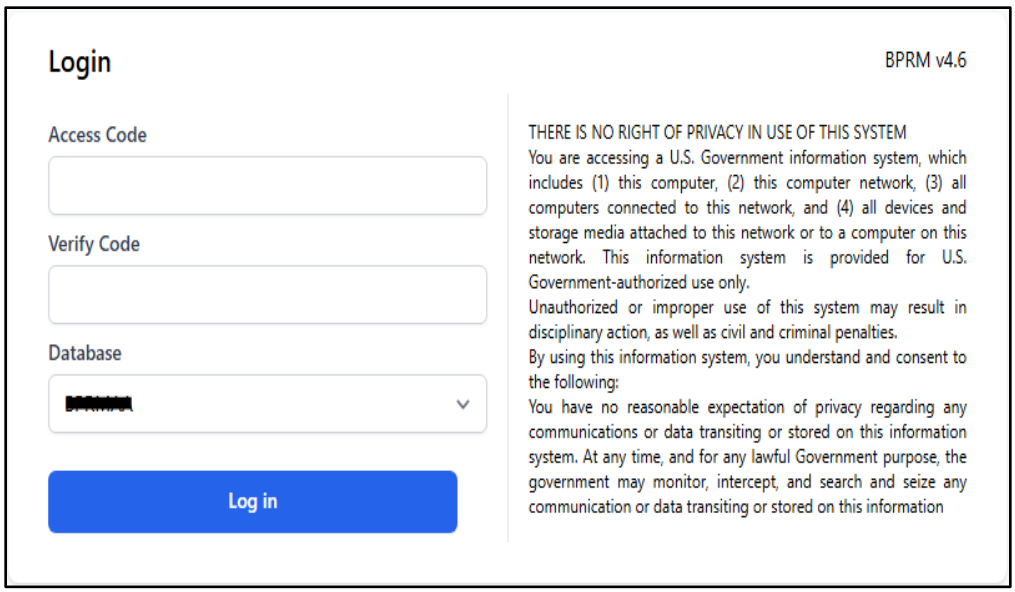

Figure 7-20: BPRM Log In dialog

3. Type your **RPMS Access Code** (**user name**) in the **Access Code** field.
4. Type your **RPMS Verify Code** (**password**) in the **Verify Code** field.
5. 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.

6. Click **Login**. A screen similar to that shown in Figure 7-21 displays, although different modules may display at the bottom of the screen.

Figure 7-21: BPRM opening screen

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

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

7.5 Verify Client/Server Machine Date Time

For BPRM to work correctly, the following environments must be on the same date/time (up to minutes):

- Database server (hosting RPMS)
- Application/IIS server (hosting BPRM application)
- User/Client machine (BPRM user's environment)

Once logged into the **BPRM application**, open the **About** page as follows:

1. Click the **Down** button next to **Logout** at top-right corner of BPRM.
2. Select **About** from the drop-down list, to open **About page**, as shown in Figure 7-22.

Figure 7-22: BPRM Logout drop-down list

3. Verify all three **date/times (up to minutes)** – **App server Date/Time**, **Database Server Date/Time**, and **User/Client Machine Date/Time** are the same (Figure 7-23).

   The **Client/User machine date time** is not displayed in the **About** page. Users may verify the machine's **system date time**.

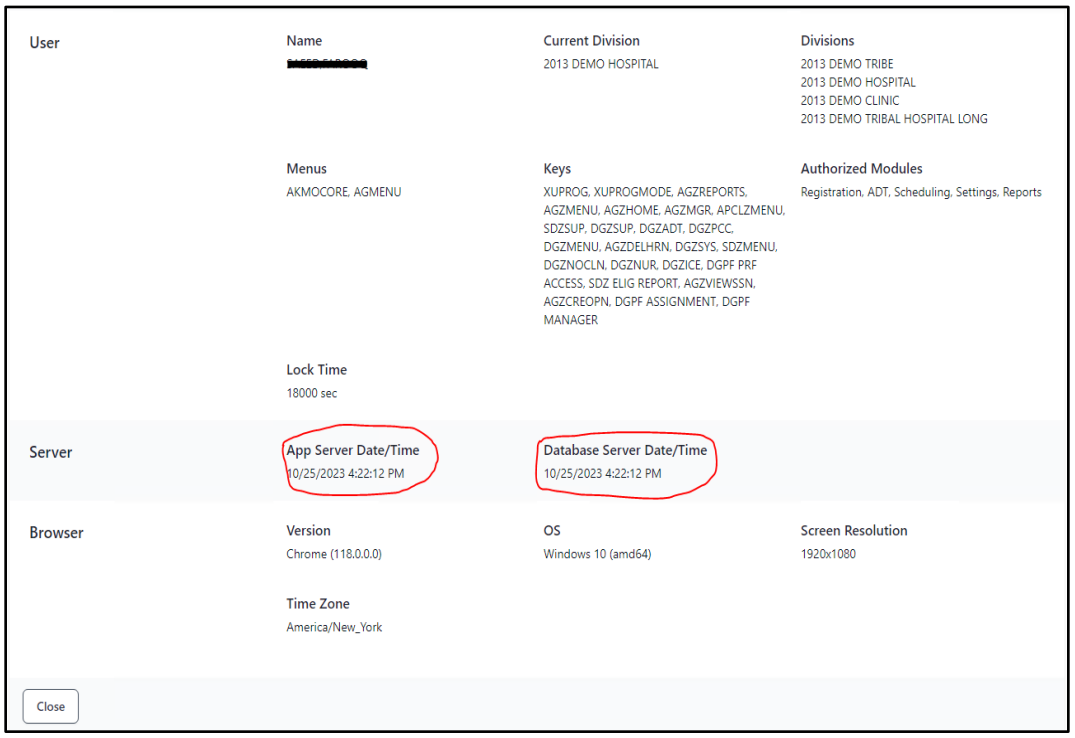

Figure 7-23: BPRM About page logout

Appendix A Run the Application Installer from the Command Prompt

In cases where you do not have sufficient privileges to install the BPRM application, an error message similar to the one shown in Figure A-1 displays.

Figure A-1: Insufficient privileges error message

If this happens, it will be necessary to install the application as an **Administrator**:

1. Navigate to **C:\Windows\system32** on your **application server**.
2. Locate the **cmd.exe** file, right-click, and select **Run as Administrator**.
3. In the **Command Prompt** window displayed, type this command to change to the disk and directory where the **BPRM application installer file** is located.

   In this example, the file is located on **Drive D:** in the **EnsembleDatabases\bprm** folder (Figure A-2).

   On your system, this location will likely be different.

   Figure A-2: Drive D: in the EnsembleDatabases/bprm folder

4. At the resulting prompt, type the name of the installation file (bprm0400.06.msi in this example) and press Enter:

   D:\EnsembleDatabases\bprm>bprm0400.06.msi

This will launch the **BPRM Setup Wizard** and at that point you can follow the steps described in Section 7.1.

Appendix B Disable Logging in IIS Manager

The **Internet Information Services (IIS) manager** is set up by default with a logging feature, which allows it to capture certain types of requests to log files in the **IIS installation** folder. We recommend disabling this logging feature for the BPRM websites as it may result in storage issues if the log file is not maintained or monitored.

The following steps show how to disable the **Logging feature** for each **BPRM website setup** at your site. This information can also be found on the **Microsoft website** at:

https://technet.microsoft.com/en-us/library/cc754631%28v=ws.10%29.aspx

1. From the **Windows Start menu**, select **Administrative Tools** (Figure B-1).

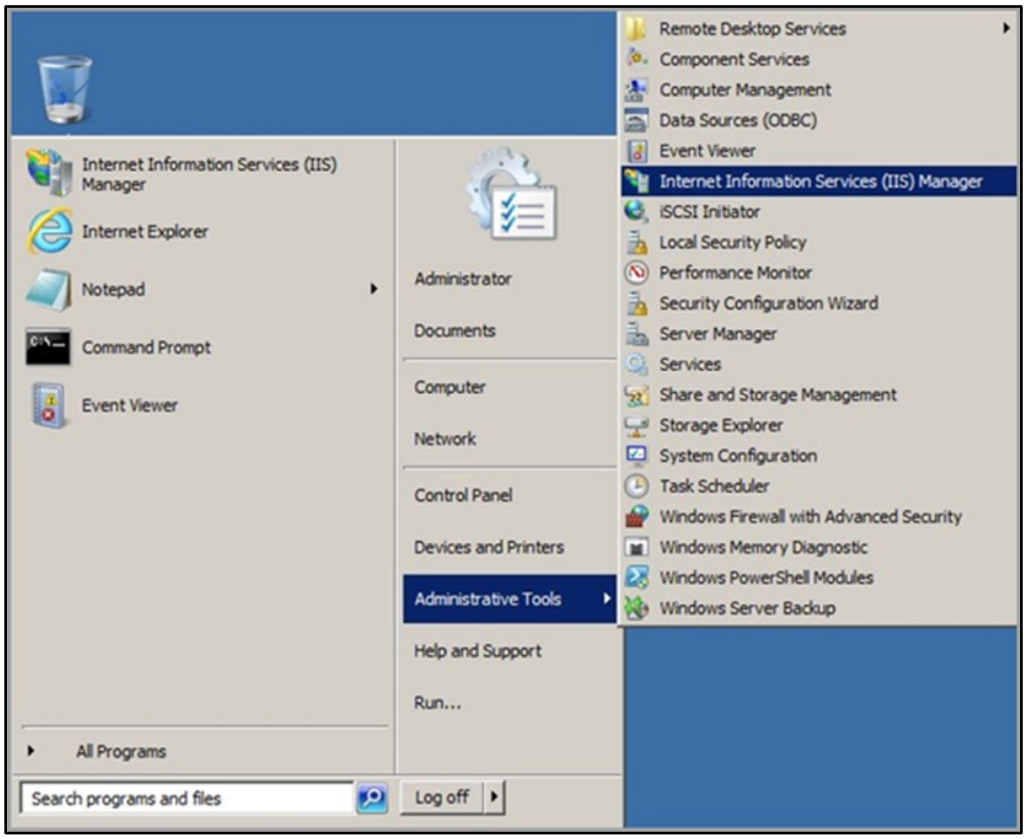

Figure B-1: Opening Internet Information Services (IIS) Manager

2. Select **Internet Information Services (IIS) Manager** to display the **IIS Management Console**.

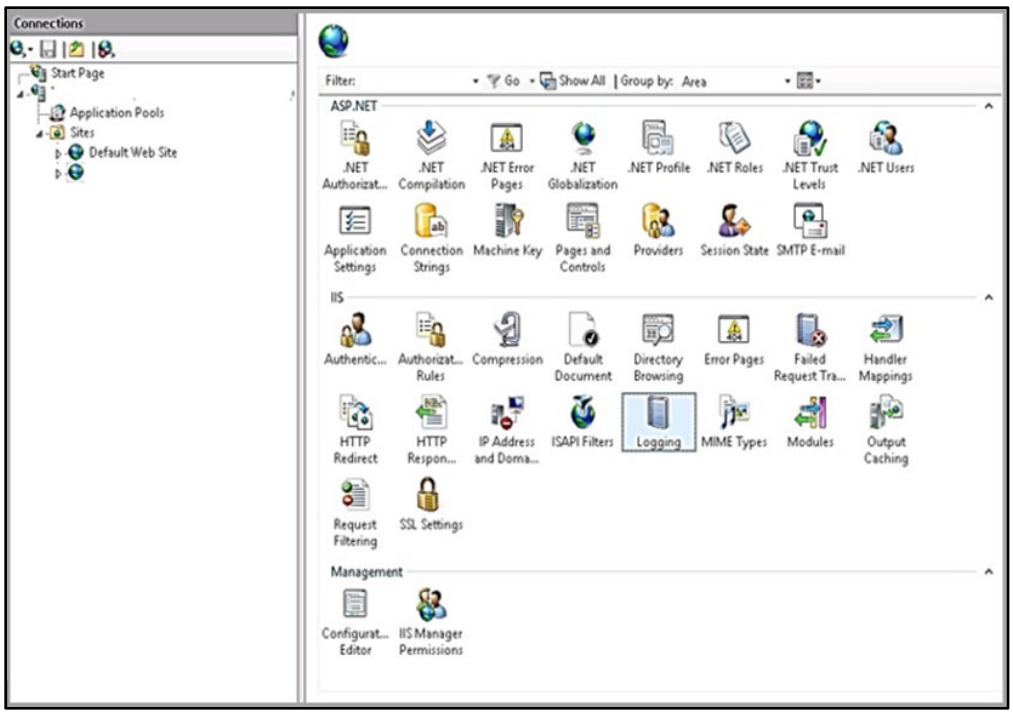

Figure B-2: IIS Management Console

3. Select the **BPRM website** in the left pane.

4. Double-click **Logging** to display the **Logging dialog**.

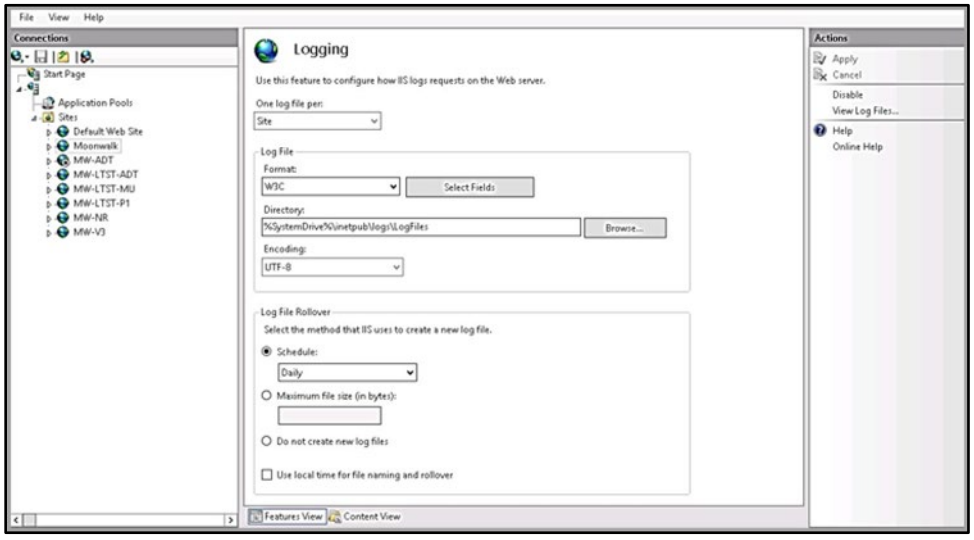

Figure B-3: Logging Window

5. Click **Disable** in the **Actions** pane.

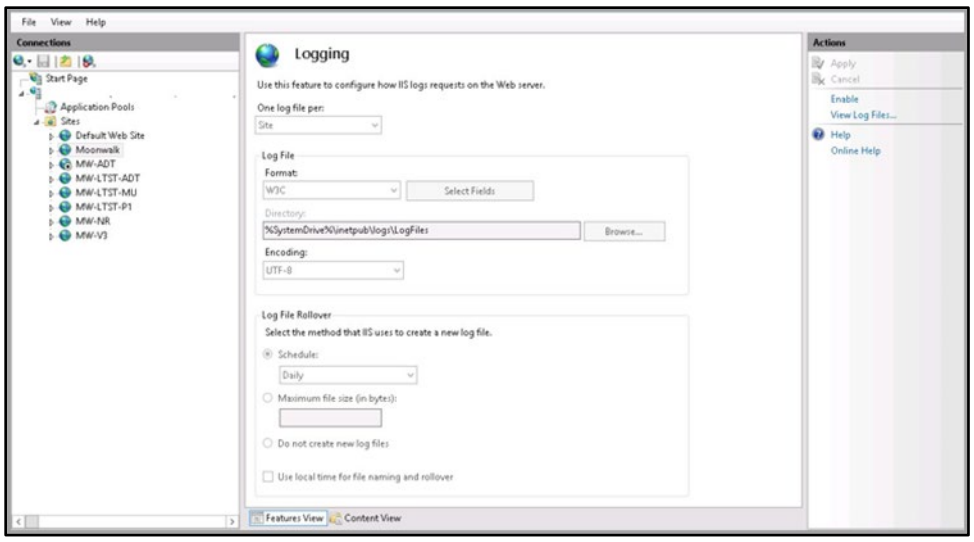

Figure B-4: Disabled Logging window

Appendix C Run Multiple BPRM Web Applications on a Single Server

BPRM is a multi-tenant application meaning a single BPRM application website can connect to multiple RPMS systems.

Setting up multiple BPRM applications on a single server/environment is not supported.

In cases where a single BPRM server needs to serve multiple RPMS environments; a single BPRM installation can be used to connect to multiple RPMS environments as described in Section 7.2.

Acronym List

Acronym	Meaning
CRUD	Create, Read, Update, and Delete
HTTP	Hypertext Transfer Protocol
HTTPS	Hypertext Transfer Protocol Secure
IHS	Indian Health Service
IIS	Internet Information Service
KIDS	Kernel Installation and Distribution System
PHR	Personal Health Record
RPMS	Resource and Patient Management System
SQL	Structured Query Language
SSL	Secure Sockets Layer
WCF	Windows Communication Foundation

Contact Information

If you have any questions or comments regarding this distribution, please contact the IHS IT Service Desk.

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

Web: https://www.ihs.gov/itsupport/

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