

RESOURCE AND PATIENT MANAGEMENT SYSTEM

Practice Management Application Suite

(BPRM)

Installation Guide and Release Notes

Version 4.0 Patch 5 December 2024

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 v4.5:

ADT

- FID: 111943–Admission and Discharge Sheet report: Auto-run 'recalculate census data' option when recalc has not been performed
- FID: 107161–display comments on hover on bed/admission tile with an indicator when more comments text exists in admission detail
- FID: 110311–Utilize Facility Treating Specialty Table only (instead of SPECIALTY)

REGISTRATION

- FID: 108355–Added new report : Insurance Enrollment Report
- FID: 107196–Internet Access modify button moved closer
- FID: 110926–Real time appointments data updates on Appts tab in Patient Profile

SCHEDULING

- FID: 103439–display Check-In time on appt tile hover + On parallel appts display order of appts as Check-In first then schedule then checkout/no-show/cancel
- FID: 111745–Scheduling Calendar: When on lowest horizontal zoom setting for a long clinic name; remove the white space by scheduler display
- FID: 101707–Fix for: Appt that is checked out is placed in Scheduled status after ADT admit where the admission time is before the said appt time

BPRM

- FID: 96035–Provide ability to export lists screens (ADT/REG/SCH) as csv/excel files
- FID: 112228–Rearrange Reports so that Scheduling reports list shows above ADT reports list
- FID: 97503–Use RPMS timeout of user's profile (NEW PERSON) to idle timeout/logout a user in BPRM application + Do not auto-login user when user closes browser and successively re-opens the same browser accessing BPRM application

2.0 Installation Notes

Prefix:	BPRM
Current Version :	4.5

2.1 Contents of Distribution

Table 2-1: Distributed Files with Descriptions

File	Description
bprm0400.05.msi	BPRM Application Installer
bprm0400.05.xml	BPRM Data Description File
bprm0400.05i.pdf	Installation Guide and Release Notes
bprm0400.05t.pdf	Technical manual
bprm0400.05u_Registration.pdf	Registration User Manual
bprm0400.05u_Scheduling.pdf	Scheduling User Manual
bprm0400.05u_ADT.pdf	ADT User Manual
bprm0400.05u_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)
- 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 v4.5 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 Version 2023.4 or above
- PIMS v5.3 p1019
- AG v7.1 p17
- AUM v20 p4
- AUT v98.1 p28
- AUT v98.1 p29
- AUT v98.1 p30
- XU v8.0 p1018 or later
- DI v22 p1018 or later
- BJPC v2.0 p10

- AVA v93.2 p25
- AVA v93.2 p26
- AUPN v99.1 p28
- BSDX v3.0

2.4.3 RPMS 'HFS' Device Prerequisite

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

	EDIT A HOST	FILE SERVER DEVICE
NAME: HIS		LOCATION: HOST FILE SERVER
\$I: G:\HFS\BPRMA	HFS.txt	
Alt SI:		
SUBTYPE: P-OTHER		
ASK PARAMETERS	YES	MARGIN WIDTH: 132
ASK HOST FILE	: YES	PAGE LENGTH: 64
ASK HFS I/O OPERATION	YES	VOLUME SET (CPU) : BPRMA
OPEN PARAMETERS: "	MNS"	
CLOSE PARAMETERS:		
PRE-OPEN EXECUTE:		
POST-CLOSE EXECUTE:		
OUEUING:		SUPPRESS FORM FEED:
202011101		

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

3.0 Installation Overview

The BPRM v4.5 installation requires three files. The **bprm0400.05.xml** data description file and the **bprm0400.05.msi** application installation file are specific to the BPRM suite. These two files are included in the BPRM distribution package.

Save the **bprm0400.05.xml** file to a folder that is accessible to your database server. Similarly, save the **bprm0400.05.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 v4.5 can be installed on the same server as **BPRM 3.x**, but it is recommended to create a new website and application pool for v4.5.

BPRM 3.x can be uninstalled once v4.5 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 v4.5** 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.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).

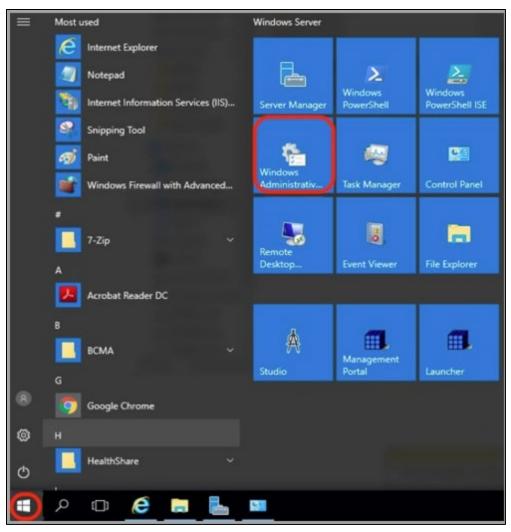


Figure 4-1: Windows Start menu, Administrative Tools option

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

	•	· · · · · · · · · · · · · · · · · · ·
Ele Vew Help		
Connections	Home Group by: Area Dever an ar COXT - ISHART HARDS CONFORM Restrictions MIME Types Modules Couput Caching Worker Processes Hanagement Feature Delegation Configuration	Actions Open Feature Manage Server Restart Start Stop View Application Pools View Sites Help Online Help

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).

GO 4.	t •		🗰 🗠 🔂 1 🕲 •
Ele View Help			
Connections 	Server Cert Use this feature to request that the Web server can us configured for SSL.	and manage certificates	Actions Import Create Certificate Request Complete Certificate Desposit
🕀 💽 Sites	Name -	Issued To	Create Domain Certificate
			Create Self-Signed Certificate
			Help Online Help
	Features View Contr	nt View	

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

Installation Instructions: First-Time Install

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

Request Certificate		? ×
Distinguish	ed Name Properties	
	nation for the certificate. State/province and City/locality must be specified cannot contain abbreviations.	
Common name:	l ihs.gov	
Organization:	HHS	
Organizational unit:	IHS	
City/Įocality	Albuquerque	
State/province:	NM	
Country/region:	US 💌	
	Previous Next Finish Can	cel (

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.

Request Certificate		? ×
Distinguishe	ed Name Properties	
	ation for the certificate. State/province and City/locality must be specified cannot contain abbreviations.	
Common name:	l ihs.gov	
Organization:	HHS	
Organizational unit:	IHS	
City/Įocality	Albuquerque	
State/province:	MM	
Country/region:	US 🔻	
	_	
	Previous Next Einish Cano	el

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

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

Request Ce	ertificate			?	X
I	Cryptographic Service	Provider Proper	ties		
determine However,	cryptographic service provider ar es the certificate's encryption str , a greater bit length may decrea aphic service provider:	ength. The greater the			
	t RSA SChannel Cryptographic Pr	ovider	T		
Bit length		0100			
12040					
Ødigice	rť	Previous	Next	Einish Cancel]

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.

Request Certificate			? ×
File Name			
Specify the file name for the certificate reque authority for signing.	est. This information ca	in be sent to a certificati	on
Specify a file name for the certificate request	t:		
C:\inetpub\Moonwalk\scr.txt			
	Previous	Next Einish	Cancel

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:

Microsoft .NET Framework	_		×
.NET Framework 4.8 Setup Please wait while the .NET Framework is being installed.			.NET
File security verification:			
All files were verified successfully.			
Installation progress:		(5
		Ca	ncel

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.

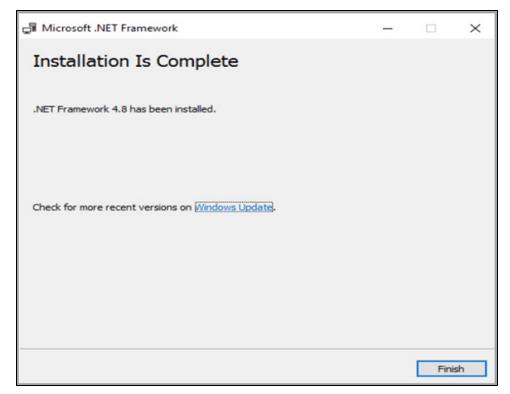


Figure 5-2: .NET Framework Installation Is Complete dialog

- 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.

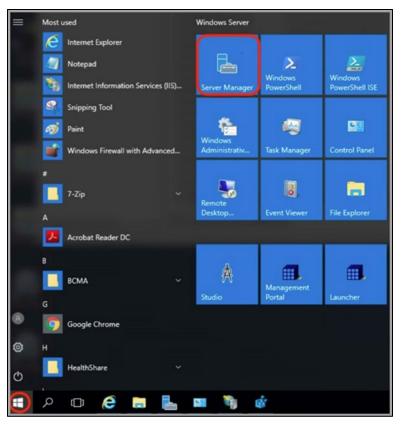
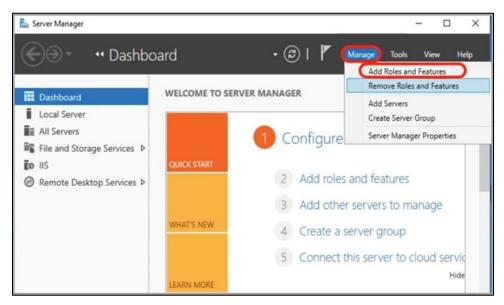


Figure 5-3: Start menu for Windows Server 2016 OS



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**.

🚵 Add Roles and Features Wizard		-		×
Select installation	type	DESTIN/ RPMSDTSDITECQM	ATION SER 11.rpmsedo	
Before You Begin Installation Type	Select the installation type. You can install roles and features on a running machine, or on an offline virtual hard disk (VHD).	physical comput	er or virt	Jal
Server Selection	Role-based or feature-based installation Configure a single server by adding roles, role services, and features.)		
Features Confirmation Results	Remote Desktop Services installation Install required role services for Virtual Desktop Infrastructure (VDI) to c or session-based desktop deployment.	reate a virtual m	achine-b	esed
	< Previous Next >	Install	Cance	4

Figure 5-5: Add Roles and Features Wizard dialog

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

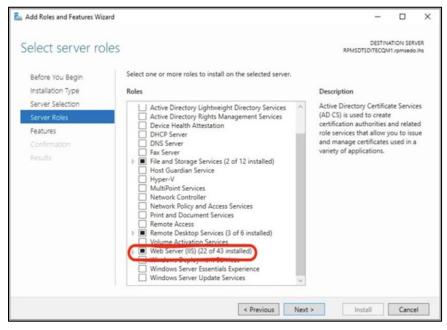


Figure 5-6: Select Server Roles window

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

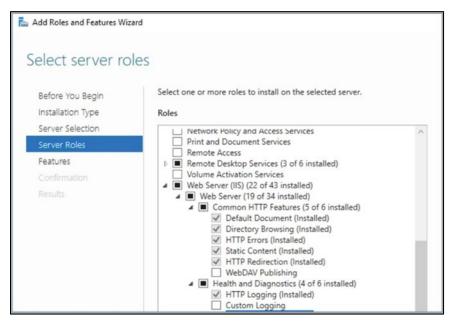


Figure 5-7: Select Web Server components

- 7. 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

Add Roles and Features Wizard		- 🗆 X
Select server roles		DESTINATION SERVER HQABQDITT16HST3.d1.na.ihs.gov
Before You Begin Installation Type Server Selection Server Roles Features Confirmation Results	Select one or more roles to install on the selected server. Roles Volume Activation Services Web Server (IIS) (24 of 43 installed) Web Server (16 of 34 installed) B Common HTTP Features (5 of 6 installed) B Common HTTP Features (5 of 6 installed) B Performance (Installed) B Security (1 of 9 installed) B Security (1 of 9 installed) M NET Extensibility 3.5 (Installed) M NET Extensibility 3.5 (Installed) M NET Extensibility 4.6 (Installed) M SP.NET 3.5 ASP.NET 3.5 ASP.NET 3.5 M SP.NET 4.6 (Installed) G GI M ISAPI Filters (Installed) G WebSocket Protocol (Installed) M WebSocket Protocol (Installed)	Description Application Development provides infrastructure for developing and hosting Web applications. Use these features to create Web content or extend the functionality of IIS. These technologies typically provide a way to perform dynamic operations thus use the technologies typically provide a use in the creation of HTML output, which IIS then sends to fulfill client requests.
	< Previous N	Next > Install Cancel

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
- 8. Click Next to go to the Features tab.
- 9. 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

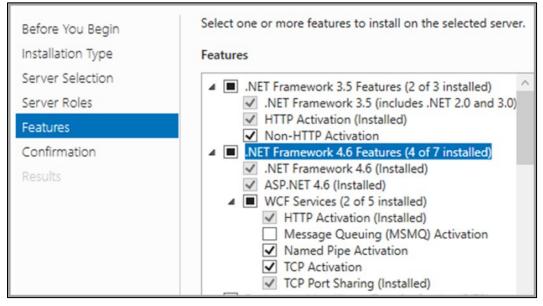


Figure 5-9: Select .NET Framework Features

- 10. Click Next to display the Confirmation dialog.
- 11. Click Install (Figure 5-10).

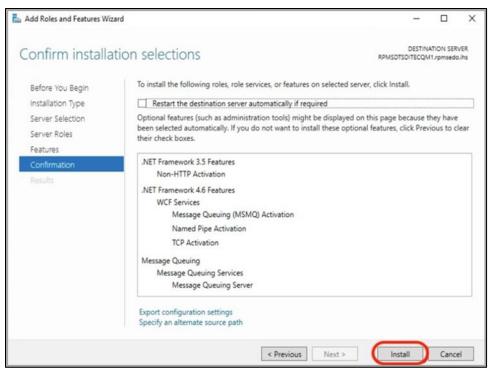


Figure 5-10: Confirm installation selections

12. 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).

• 🗟 🖄 😣		ERVER	Home					
Start Page Start Page DEMOSERVER (D1/rch Difference) Application Pools Stres	Group by: Are Fir Kequest Fitering	PTP 55% Settings	• II • Fib User Isolation					4
	Authentication	Compression	Default	Directory Browsing	Error Pages	Faled Request Tracing Rules	Handler Mappings	
	HTTP Redrect	HTTP Respo	ISAPI and CGI Restrictions	ISAPI Fitters	Logging	MIME Types	Modules	
	Output Caching	Serve Fo	Worker Processes					

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

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

Application Flori Fine Problem Complete a proviously created certificate request by retrieving the file that contains the certificate authority's response. Problem Reame containing the certification authority's response. Problem Prior Prior Sets Prior Friendly name. DemoServer Sets a certificate store for the new certificate. Personal V	 Image: A start of the start of		Internet Information Services (IIS) Manager	= 0 X
Connection 2 X Q - (0) Specify Certificate Authority Response Provide a provide certificate Authority Response P - Application Peels Specify Certificate Authority Response Complete a provide certificate authority's P - Complete a provide certificate request by retrieving the file that contains the certificate authority's Create Set Signed Certificate Certificate P - Default Web Set (0) Specify Certificate store for the new certificate P - Set or officate store for the new certificate (0) Set a certificate store for the new certificate (0) P - Set a certificate store for the new certificate P - (0) (0) C - (0) <td< th=""><th>• • • • • • • • • • • • • • • • •</th><th>÷</th><th></th><th>🖬 🗏 🔂 100 -</th></td<>	• • • • • • • • • • • • • • • • •	÷		🖬 🗏 🔂 100 -
Origination Pools Specify Certificate Authority Response P Application Pools Specify Certificate Authority Response P D Default Web Set File P D Default Web Set Complete a perviously created certificate nequest by retrieving the file that contains the certificate authority's response P specification Pools Pile name containing the certification authority's response P specification Pools Pile name containing the certificate nequest by retrieving the file that contains the certificate authority's P specification Pools Pile name containing the certification authority's response P specificate store for the new certificate Personal Personal OK Cancel				1000
Set Page Up and page Specify Certificate Authority Response Complete a previously created certificate nequest by retrieving the file that contains the certificate authority's Complete a previously created certificate nequest by retrieving the file that contains the certificate authority's Complete a previously created certificate nequest by retrieving the file that contains the certificate authority's Court Certificate file Name Complete a previously created certificate nequest by retrieving the file that contains the certificate authority's Court Set Signed Certificate Other Automatic File name Court Set Signed Certificate Certificate Demoiserver Image Image Certificate Certificate Demoiserver Set 1 certificate store for the new certificate V Telep Telep K Cencel K Cencel K<	the second se	6	Complete Certificate Request 7 X	
P Default Web Set Fair Complete a proviously created certificate request by retrieving the file that contains the certificate authority's response. Create Set-Signed Certificate P iso Default Web Set Pit name certaining the certification authority's response. Inable Automatic Reline, Reli	Application Pools	Use t Filte	Specify Certificate Authority Response	Create Catilicate Request
respinor. File name containing the certification authority's response ↓ (g) spublikem/DemoServer.ce Friendly name. DemoServer Select a certificate store for the new certificate Personal V CK Cancel		Consolide a new locals constant confilence convert has extring in a the Electric contains the confilence as the she's		
			response.	Enable Automatic Rebind of
			@tspublishmul/DemoServer.cer u Friendly name.	Ө нар
C III > The features View Content View				
Kady Salaria (Salaria)	the second se	-		91

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 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.

5.4.1 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 5-13.

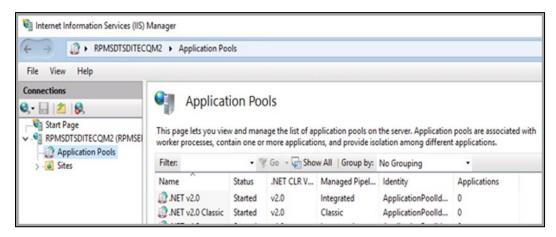


Figure 5-13: IIS Manager browsed to Application Pools

2. Right-click **Application Pools** and select Add Application Pool. The **Add Application Pool** dialog (Figure 5-14) displays.

Add Application Pool	?	×
Name:		
BPRM		
.NET CLR version:		
No Managed Code		\sim
Managed pipeline mode:		
Integrated \sim		
Start application pool immedia	tely Cancel	

Figure 5-14: 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 5-15 displays:

Ad	va	anced Settings		?	×
	,	(General)			^
		.NET CLR Version	No Managed Code		
		Enable 32-Bit Applications	False		
		Managed Pipeline Mode	Integrated		
		Name	BPRM		
		Queue Length	1000		
		Start Mode	OnDemand		
	1	CPU			
		Limit (percent)	0		
		Limit Action	NoAction		
		Limit Interval (minutes)	5		
		Processor Affinity Enabled	False		
		Processor Affinity Mask	4294967295		
		Processor Affinity Mask (64-bit o	4294967295		
1	/	Process Model			
1	×	Generate Process Model Event L			
		Identity	ApplicationPoolIdentity		
		Idle Time-out (minutes)	120		
		Idle Time-out Action	Terminate		~
1	na	me ame] The application pool name is plication pool.	s the unique identifier for the		
			ОК	Cancel	

Figure 5-15: 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.

5.4.2 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.

5.4.3 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 5-16) displays.

ld Website			?
ite name:	Applicatio	n pool:	
PRM	BPRM		Select
Content Directory			
Physical path: C:\inetpub\BPRM			
Pass-through authent	tication		
Connect as 1	fest Settings		
Binding			
Туре:	IP address:	Port:	
https ~	All Unassigned	~ 443	
Host name:			
<fullyqualifieddoma< td=""><td>inName></td><td></td><td></td></fullyqualifieddoma<>	inName>		
SSL certificate:	ne Indication		
Not selected		✓ Select	View
Start Website immed	iately		
		OK	Cancel

Figure 5-16: 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 5-17 and Figure 5-18).

SSL certificate:			
WMSVC-SHA2	~	Select	View
☑ Start Website immedia	tely	ОК	Cancel

Figure 5-17: View SSL certificate

🕵 Certi	ificate	×
General	Details Certification Path	
	Certificate Information	
This	 s certificate is intended for the following purpose(s): Ensures the identity of a remote computer All issuance policies 	
-	Issued to: WMSvc-SHA2-RPMSDTSDITECQM2	-
	Issued by: WMSvc-SHA2-RPMSDTSDITECQM2	
	Valid from 9/10/2019 to 9/7/2029	

Figure 5-18: 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 **bprm0400.05.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 bprm0400.05.xml file:

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

System > Classes		
Classes Com	mpile Export Import Delete Routines Globals	Q Last update: 2024-11-21 10:27:38
Lookin: «	Page size: 0 Results: 1000+ Page: c < 1 >>> of 1	
Namespace V	□ Name	Date Size
BMW	BMW.A11o31600046C1600046047.cls	2024-09-25 13:28:07 2488 Documentation
System items	BMW.A11o31600046C1600046047SOCA11o3.cls	2024-09-25 13:29:13 614 Documentation
Generated items	BMW.A11refername1600046C1600046049.cls	2024-09-25 13:28:07 2990 Documentation
Mapped items	BMW.A7call1600046C160004604.cls	2024-09-25 13:28:07 2867 Documentation
Show SQL Info Link	BMW.A8a1600046C160004605.cls	2024-09-25 13:28:07 9225 Documentation
	BMW.A8a1600046C160004605SOCA8e.cls	2024-09-25 13:29:13 591 Documentation
Begin date (yyyy-mm-dd)	BMW.A8a1600046C160004605SOCA8f1.cls	2024-09-25 13:29:13 593 Documentation
	BMW.A8a1600046C160004605SOCA8i4.cls	2024-09-25 13:29:13 596 Documentation
End date (yyyy-mm-dd)	BMW.A8a1600046C160004605SOCA8I.cls	2024-09-25 13:29:13 593 Documentation
	BMW.ABERDEENGPRADATA.cls	2024-09-25 13:29:13 54509 Documentation
Class name *.cls	BMW.ABERDEENGPRADATASOCQUARTER.cls	2024-09-25 13:29:14 621 Documentation
Maximum rows	BMW.ABSPCERTIFICATION.cls	2024-09-25 13:29:15 4200 Documentation
1000	BMW.ABSPCERTIFICATIONSOCSWITCHTYPE.cls	2024-09-25 13:29:20 639 Documentation
	BMW.ABSPCLAIMS.cls	2024-09-25 13:29:15 19276 Documentation
	BMW.ABSPCLAIMSSOCTransmitFlag.cls	2024-09-25 13:29:21 627 Documentation
	BMW.ABSPCLASSXML.cls	2024-09-25 13:29:21 2770 Documentation

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.

	×
IMPORT CLASSES	User sa Namespace BMW
Import classes to namespace BMW.	
Import from a File or a Directory: ● <u>File</u> <u>Directory</u> Enter the path and name of the import file:	
	\bprm0400.(Browse
Compile imported items Compile flags cuk Run import in the background (Highly recommended for importing large files.)	
	Back Next Import Cancel

Figure 6-2: Import Classes dialog

- 4. Click **Browse** and navigate to the **bprm0400.05.xml** file in the folder where it is saved as described in Section 3.0.
- 5. Select the **bprm0400.05.xml** file and click **Next**.

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

 IPURI CLASSES	lser lamesp	sa ace BMW	Î
ltem	Exists	Last Modified	1
BMW.BSF.SP.AgBenefitCasesReport.cls	Yes	2023-01-06 21:26:01.9728	
BMW.BSF.SP.AgCheckAndSetSilentSPTAccess.cls	Yes	2022-11-02 16:25:02.454438	
BMW.BSF.SP.AgCheckSPTAccess.cls	Yes	2022-11-02 16:24:25.676238	
BMW.BSF.SP.AgGetIncompleteChartStatistics.cls	Yes	2022-12-12 13:58:04.80148	
BMW.BSF.SP.AgGetIncompleteChartStatisticsCount.cls	Yes	2022-12-12 14:00:23.238202	
BMW.BSF.SP.AgGetIncompleteChartStatisticsSum.cls	Yes	2022-12-12 14:00:18.748823	
BMW.BSF.SP.AgGetPatientErrorsAndWarnings.cls	Yes	2022-12-21 16:44:45.022659	
BMW.BSF.SP.AgGetPatientFaceSheet.cls	Yes	2022-12-12 14:00:13.008209	
BMW.BSF.SP.AgGetPatientInsuranceErrorsAndWarnings.cls	Yes	2021-12-30 11:55:44.480929	
BMW.BSF.SP.AgGetPatientInsuranceInUse.cls	Yes	2022-11-21 12:32:53.328204	
BMW.BSF.SP.AgGetPatientMbi.cls	Yes	2022-12-14 11:10:06.332026	
BMW.BSF.SP.AgGetPatientSearchResult.cls	Yes	2024-06-18 11:54:03.922546	
BMW.BSF.SP.AgGetPatientWellnessHandout.cls	Yes	2019-06-25 12:58:58.253268	
BMW.BSF.SP.AgInsuranceCoverageReport.cls	Yes	2022-12-06 17:50:01.110065	1
BMW.BSF.SP.AgPatientRegisterEvent.cls	Yes	2022-11-17 13:59:50.372345	•
			_
Back	Next	Import Cancel	Π

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).

mport result: Class DMW.DST.VW.AGRATIENTNOTES is up to date. Class BMW.BSF.VW.AGPATIENTOTHERLANGUAGESVIEW is up- Class BMW.BSF.VW.AGPATIENTPROFILEVIEW is up-to-date. Class BMW.BSF.VW.AGPATIENTSEARCHVIEW is up-to-date. Class BMW.BSF.VW.AGPATIENTSEXUALORIENTATIONVIEW is Class BMW.BSF.VW.AGPRIORAUTHORIZATIONSVIEW is up-to Class BMW.BSF.VW.AGRESOURCEELIGIBILITYVIEW is up-to Class BMW.BSF.VW.AGSEQUENCEEFFECTIVEDATEGROUPVIEW is Class BMW.BSF.VW.AGSEQUENCEGFFUTVEDATEGROUPVIEW is Class BMW.BSF.VW.AGSEQUENCEGFFUTVEW is up-to-date. Class BMW.BSF.VW.AGSEQUENCEVIEW is up-to-date. Class BMW.BSF.VW.BDGADMITTEDPATIENTSVIEW is up-to-condet. Class BMW.BSF.VW.BDGCURRENTADMISSIONVIEW IS UP-to-condet. CLASS BMW.BSF.VW.BSD.CONDET UPATIENTSUBMICA	up-to-date. -date. -date. s up-to-date.	_
Class BMW.BSF.VW.AGPATIENTOTHERLANGUAGESVIEW is up- Class BMW.BSF.VW.AGPATIENTPROFILEVIEW is up-to-date Class BMW.BSF.VW.AGPATIENTSEARCHVIEW is up-to-date Class BMW.BSF.VW.AGPATIENTSEXUALORIENTATIONVIEW is Class BMW.BSF.VW.AGPRFASSIGNMENTVIEW is up-to-date. Class BMW.BSF.VW.AGPRIORAUTHORIZATIONSVIEW is up-to- Class BMW.BSF.VW.AGRESOURCEELIGIBILITYVIEW is up-to- Class BMW.BSF.VW.AGSEQUENCEEFFECTIVEDATEGROUPVIEW is Class BMW.BSF.VW.AGSEQUENCEEFFECTIVEDATEGROUPVIEW is Class BMW.BSF.VW.AGSEQUENCEGROUPVIEW is up-to-date. Class BMW.BSF.VW.AGSEQUENCEVIEW is up-to-date. Class BMW.BSF.VW.AGSEQUENCEVIEW is up-to-date.	up-to-date. -date. -date. s up-to-date.	-
Class BMW.BSF.VW.AGPRFASSIGNMENTVIEW is up-to-date. Class BMW.BSF.VW.AGPRIORAUTHORIZATIONSVIEW is up-to Class BMW.BSF.VW.AGRESOURCEELIGIBILITYVIEW is up-to Class BMW.BSF.VW.AGSEQUENCEEFFECTIVEDATEGROUPVIEW is Class BMW.BSF.VW.AGSEQUENCEGROUPVIEW is up-to-date. Class BMW.BSF.VW.AGSEQUENCEVIEW is up-to-date. Class BMW.BSF.VW.BDGADMITTEDPATIENTSVIEW is up-to-date.	-date. -date. s up-to-date.	
Class BMW.BSF.VW.AGSEQUENCEGROUPVIEW is up-to-date. Class BMW.BSF.VW.AGSEQUENCEVIEW is up-to-date. Class BMW.BSF.VW.BDGADMITTEDPATIENTSVIEW is up-to-o		
Class BMW_BSE_VW_BDGCURRENTADMISSIONVIEW is up-to-c		
Class BMW.BSF.VW.BDGINCOMPLETECHARTSTATISTICSVIEW is Class BMW.BSF.VW.BDGINCOMPLETECHARTSTATUSVIEW is up Class BMW.BSF.VW.BDGINCOMPLETECHARTVIEW is up-to-da	s up-to-date. -to-date.	
Class BMW.BSF.VW.BSDXAPPOINTMENTVIEW is up-to-date. Class BMW.BSF.VW.BSDXCLINICWORKLOADVIEW is up-to-date.	te.	
Load finished successfully.	•	

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:

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

Table 6-1: User permissions needed

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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.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).

	> Users > Edit User - (security settings)*	
Edit User 💵	ave Profile Cancel	
Use the following form to c	reate a new user definition:	
Name	BPRM_USER	
	Required.	
Copy from	~	
Full Name	Bprm User	
Comment	bprm application user	
Password	•••••	
	Required.	
Password (confirm)	•••••	
	Required.	
Change password on next login		
Password never expires		
User enabled	\checkmark	
Account Never Expires		
Account expiration Date		(yyyy-mm-dd)
Startup Namespace	~	
Startup Tag^Routine		
Email Address		
Mobile Phone Service Provider	Create a new provider	
Mobile Phone Number		
Two-factor Authentication		

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.

System > Security Managem	ent > Users > Edit User - (security settings)
Edit User	Save Profile Cancel
dit definition for user l	PRM_USER:
General Roles	SQL Privileges SQL Tables SQL Views
User BPRM_USER is assign	ed to the following roles:
Role Name	Grant Option
None.	
Available Select One or More %All	Selected Select One or More
Select One or More %All %DB_%DEFAULT %DB_ENSLIB %DB_GLD	
Select One or More %All %DB_%DEFAULT %DB_ENSLIB %DB_GLD %DB_HSCUSTOM %DB_HSLIB	
Select One or More %All %DB_%DEFAULT %DB_ENSLIB %DB_GLD %DB_HSCUSTOM %DB_HSLIB %DB_HSSYS %DB_IRISAUDIT %DB_IRISLIB	Select One or More
Select One or More %All %DB_%DEFAULT %DB_ENSLIB %DB_GLD %DB_HSCUSTOM %DB_HSLIB %DB_HSLIB %DB_IRISAUDIT %DB_IRISLIB %DB_IRISLOCALDATA %DB_IRISSYS	Assign
Select One or More %All %DB_%DEFAULT %DB_ENSLIB %DB_GLD %DB_HSCUSTOM %DB_HSLIB %DB_HSSYS %DB_IRISAUDIT %DB_IRISLIB %DB_IRISLOCALDATA	Assign

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.

System > Security Management >	Users > Edit User - (security settings)	
Edit User	ave Profile Cancel]
Edit definition for user BPR	M_USER:	
General Roles	SQL Privileges SQL Tab	les SQL Views
User BPRM_USER is assigned to	the following roles:	
Role Name	Grant Option	
<u>%All</u>		Remove
Assign the user to additional foles Available Select One or More %DB_%DEFAULT %DB_ENSLIB %DB_GLD %DB_HSCUSTOM %DB_HSLIB %DB_HSSYS %DB_IRISAUDIT %DB_IRISLOCALDATA %DB_IRISTEMP %DB_USER %Developer %EnsRole_Administrator		ssign with Grant Option

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.

Server	Namespace GLD Switch User sa Licensed To .
System > SQL Filter System Schema	× NAMESPACE CHOOSER Select a namespace
<u>Views</u> <u>Procedures</u>	Available Namespaces %SYS BMW GLD
> Cached Queries.	HSCUSTOM HSLIB HSSYS USER
	If a namespace exists but is not listed, then you may not hold permission to view it, or its database may not be mounted.

Figure 6-8: Namespace Chooser window

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

System > SQL		
Filter BMW_BSF_SP.*	⊗ applies to All	чĊ
System 🗌 Schema BMW_BSF_	SP 🗾	
> <u>Tables</u>		
> <u>Views</u>		
> Procedures		
> Cached Queries		

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

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

System > SQL		
Filter BMW_BSF_SP.*	😢 applies to	All 🗸
System 🗌 Schema BM	_BSF_SP	•
> <u>Tables</u>		
> <u>Views</u>		
Procedures		
> Cached Queries		

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.

System > SQL				
Filter BMW_BSF_SP.*	~ C	«	Wizards » Actions » 0	pen Table Tools » Documentation »
System Schema BMW_BSF_SP	•	-		
BMW_BSF_SP.CoreUtility_GetWPData			Catalog Details Execute Query E	Browse SQL Statements
BMW_BSF_SP.CoreUtility_GetWPDataLines			Procedure: BMW_BSF_SP.Core_Auth	nenticateUserV2Q
			Class Name	BMW.BSF.SP.CoreAuthenticateUserV2 Class Document
BMW_BSF_SP.CoreUtility_GetWPDataTest			Procedure Type	query
BMW BSF_SP.CoreUtility_SendMmMessage			Method or Query Name	AuthenticateUserV2QRun Procedure
			Description	
BMW_BSF_SP.CoreUtility_SetBprmInstall			Number of Input Parameters	3
PMM/ PCE_CDCare_Authenticatel loopM			Number of Input/Output Parameters	0
BMW_BSF_SP.Core_AuthenticateUserM_			Number of Output Parameters	0
BMW_BSF_SP.Core_AuthenticateUserQ			Return Value	
			Procedure Interface	1: Query procedure (single static result set)
BMW_BSF_SP.Core_AuthenticateUserV2M			Number of Columns	1
BMW BSF SP.Core AuthenticateUserV2Q			Input Parameters	AccessCode VARCHAR, VerifyCode VARCHAR, FacilityIen VARCHAR
			Input/Output Parameters	
BMW_BSF_SP.Core_ChangeVerifyCodeM			Output Parameters	
BMW BSF SP.Core ChangeVerifyCodeQ			ResultSet Columns	IEN VARCHAR
			Return Value	

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.

Run Query	
SQL query from stored procedure Core_Au	thenticateUserV2Q in namespace GLD
BMW.BSF.SP.CoreAuthenticateUserV2 : Au	thenticateUserV2Q
Enter values for the query parameters:	
	<u>xDBC Type</u>
AccessCode	VARCHAR
VerifyCode	VARCHAR
FacilityIen	VARCHAR
Run Query	

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 (**bprm0400.05.msi**) is stored.
- 2. Double-click the **bprm0400.05.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.

BPRM v4.5 Setup —	
Destination Folder Click Next to install to the default folder or click Change to choose another.	
Install BPRM v4.5 to:	
C:\Inetpub\BPRM\ Change	
Back Next	Cancel

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**.

🛃 BPRM v4.5 S	etup				×
	tination folder ne destination folder				Ð
<u>L</u> ook in:	BPRM		~	£	*
Authenti BlazorDe lib logs StaticAse www.roo	ebugProxy sets				
<u>F</u> older name C:\Inetpub\					
			ОК) (ancel

Figure 7-3: BPRM website folder

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

■ BPRM v4.5 Setup –		×
Destination Folder Click Next to install to the default folder or click Change to choose another.		Ð
Install BPRM v4.5 to:		
C:\Inetpub\BPRM\ Change		
Back Next	Car	ncel

Figure 7-4: Destination Folder dialog

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

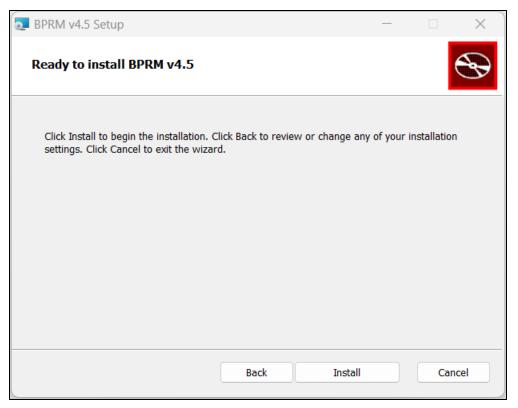
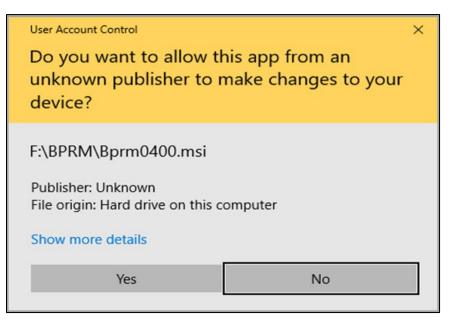
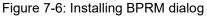


Figure 7-5: Ready to Install BPRM v4.5 dialog

7. Click Yes. The User Account Control dialog (Figure 7-6) displays.





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

Application Deployment to the Web Server

abase Configuration								
					Load Exis	ting Configuratio	on Add	Remove
Database IP	Server Type	Namespace	Short Name	User Name	Port	Institution	Min Pool	Max Pool
					_			Continue
								continue

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.

Database Configurati	on		×
ServerName/IP User Name Super server Port DB Server Type	bprm_user IRIS Verify Connection	RPMS Namespace DB Password Display Name	Default Institution
Institutions			*
Connection Pool Minimum	Settings	Maximum	100
			Save Cancel

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.

Not	e: This is the internal IP address, not an external address.	
•	RPMS Namespace: Use this field to enter the namespace of your I	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

Database Configuration	on		×
ServerName/IP User Name Super server Port DB Server Type	bprm_user IFIIS IFIIS IFIIS Verify Connection	RPMS Namespace DB Password Display Name	☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐
Institutions			<u>_</u>
Connection Pool Minimum	Settings 20	Maximum	100
			Save Cancel

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**.

ase Configuration							1
				Lo	ad Existin	g Configuration Add	Remove
Database IP	Server Type	Namespace	Short Name	User Name	Port	Institution	Min Pool
10.76.0.12	IRIS	PRECERT	PRECERT	IRIS	1972	2021 DEMO HOSPITAL (INST) 20
10.76.0.15	HealtShare/Ensemble	BPRMA	BPRMA	moonwalk_user	1972	2013 DEMO HOSPITAL	20

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.

Databa	ase Configuratior	ı							×
						Load Exist	ing Configuration	Add	Remove
	Database IP	Nam	espace	Short Name	User Name	Port	Institution	Min Pool	Max Pool
▶	10.7/00.00				moonwalk_use	r 1972		5	20
							×		
			Access	to the path 'C:\In	etpub\BPRM\app	settings.jso	on' is denied.		
						[ОК		
						ļ	UK		
									Continue

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 (**bprm0400.05.msi**) is stored.
- 3. Double-click the **bprm0400.05.msi** file to run the **BPRM application installer**. The **BPRM setup wizard** (Figure 7-13) displays.

New PRM v4.5 Setup — 🗆 🗙
Change, repair, or remove installation
Select the operation you wish to perform.
Change
BPRM v4.5 has no independently selectable features.
Repair
Repairs errors in the most recent installation by fixing missing and corrupt files, shortcuts, and registry entries.
Remove
Removes BPRM v4.5 from your computer.
Back Next Cancel

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

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

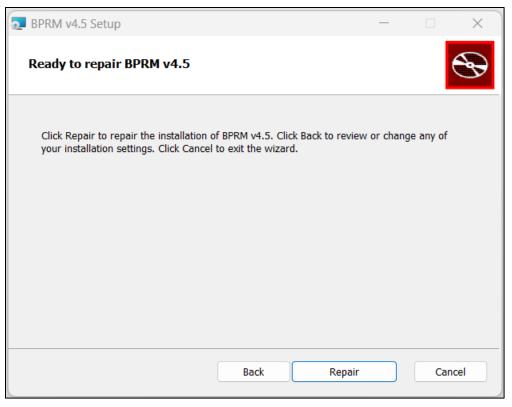


Figure 7-14: Installing BPRM dialog

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.

Database Configurati	on			Х
ServerName/IP User Name Super server Port DB Server Type	bprm_user IRIS IRIS HealthShare/Ensemble Verify Connection	RPMS Namespace DB Password Display Name	Default Institution	
Institutions			v	
Connection Pool	Settings			1
Minimum	20	Maximum	100	
			Save Cancel	

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.

Database Configurati	on		×
ServerName/IP User Name Super server Port DB Server Type	bprm_user IRIS IRIS IRIS HealthShare/Ensemble	RPMS Namespace DB Password Display Name	Default Institution
Institutions	Verify Connection		
Minimum	20	Maximum	100 Save Cancel

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.

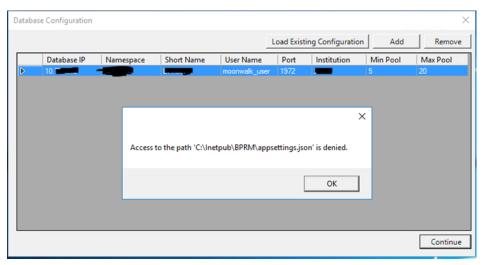


Figure 7-18: Access Denied error message

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
N/A	N/A	N/A

Role	Secondary Menu Option	Security Keys (Must include all)
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.

Login		BPRM v4.
Access Code		THERE IS NO RIGHT OF PRIVACY IN USE OF THIS SYSTEM You are accessing a U.S. Government information system, whic includes (1) this computer, (2) this computer network, (3) a computers connected to this network, and (4) all devices ar
Verify Code		storage media attached to this network or to a computer on th network. This information system is provided for U. Government-authorized use only. Unauthorized or improper use of this system may result disciplinary action, as well as civil and criminal penalties.
Database		By using this information system, you understand and consent t the following:
PRECERT-IRIS	~	You have no reasonable expectation of privacy regarding an communications or data transiting or stored on this informatic system. At any time, and for any lawful Government purpose, th
Log in		government may monitor, intercept, and search and seize an communication or data transiting or stored on this information

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.

Register Patient	Search	2013 DEMO HC	ospital V	Logout
			Change Verify Co	-
			About	Jue

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**.

User	Name	Current Division 2013 DEMO HOSPITAL	Divisions 2013 DEMO TRIBE 2013 DEMO HOSPITAL 2013 DEMO CLINIC 2013 DEMO TRIBAL HOSPITAL LONG
	Menus AKMOCORE, AGMENU	Keys XUPROG, XUPROGMODE, AGZREPORTS, AGZMENU, AGZHOME, AGZMGR, APCLZMENU, SDZSUP, DGZSUP, DGZADT, DGZPCC, DGZMENU, AGZDELHRN, DGZYS, SDZMENU, DGZNOCILN, DGZNUR, DGZICE, DGPF PRF ACCESS, SDZ ELIG REPORT, AGZVIEWSSN, AGZCREOPN, DGPF ASSIGNMENT, DGPF MANAGER	Authorized Modules Registration, ADT, Scheduling, Settings, Reports
	Lock Time 18000 sec		
Server	App Server Date/Time 10/25/2023 4:22:12 PM	Database Server Date/Time 10/25/2023 4:22:12 PM	
Browser	Version Chrome (118.0.0.0) Time Zone America/New_York	OS Windows 10 (amd64)	Screen Resolution 1920x1080
Close			

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.

```
C:\Windows\system32>D:'¶
'¶
D:\>`¶
D:\>cd·<u>EnsembleDatabases\bprm</u>·¶
'¶
D:\EnsembleDatabases\bprm>·¶
```

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

4. At the resulting prompt, type the name of the installation file (bprm0400.05.msi in this example) and press Enter:

D:\EnsembleDatabases\bprm>bprm0400.05.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

- Remote Desktop Services . Component Services Computer Management Data Sources (ODBC) 8 Event Viewer Internet Information Services (IIS) Internet Information Services (IIS) Manager Manager **iSCSI** Initiator Internet Explorer Local Security Policy Performance Monitor Administrator Notepad) Security Configuration Wizard Documents Server Manager Command Prompt Services Computer Share and Storage Management **Event Viewer** Storage Explorer Network System Configuration Task Scheduler Control Panel Windows Firewall with Advanced Security **Devices and Printers** Windows Memory Diagnostic $\mathbf{\Sigma}$ Windows PowerShell Modules Administrative Tools Windows Server Backup Help and Support Run... All Programs Search programs and files 9 Log off >
- 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.

Connections	0	
Q 🗟 🖄 😣		
Start Page	Filter: • 🐨 Go • 🕞 Show All Group by: Area • 🕎 •	
Application Pools	ASP.NET ASP.NET Authorizat Compilation Application Settings Application Application Application Application Application Settings Application Settings Application Settings Application Settings Application Settings Settings Application Settings Settings Application Settings Application Settings Settings Settings Application Settings Settings Application Settings Application Settings Application Settings Application Settings Settings Application Settings Application Settings Settings Application Settings Settings Application Settings Application Settings Application Settings Application Settings Application Settings Settings Application Settings Application Settings Settings Application Settings Settings Application Settings Application Settings Settings Settings Application Settings Setti	
	IIS Authentic Authorizat Compression Rules	~ ^
	HTTP HTTP IP Address ISAPI Filters Logging MIME Types Modules Output Redirect Respon and Doma Request SSL Settings Filtering	
	Management Configurat IIS Manager Editor Permissions	^

Figure B-2: IIS Management Console

- 3. Select the **BPRM website** in the left pane.
- 4. Double-click **Logging** to display the **Logging dialog**.

Connections	Actions
B: Image: Construction of the server. B: Default Web Size D: Default Web Size	Image: Concel Disable View Log Files Image: Concel Online Help

Figure B-3: Logging Window

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

Connections		Actions
ormerCtions Start Page	Logging Use this feature to configure how US logs requests on the Web server. One log file per: Ste Log File Format WPC Select Fields: Directionp/ Köystem Drivet/Ninetpub/log/Lig/Files Encoding: UTF-0 Log File Rollover Schedule: Dis/y Dis/y Minimum file size (in bytes):	Actions
	Do not create new log files Use local time for file naming and rollover Use Sectures View Wice Content View	

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: <u>https://www.ihs.gov/itsupport/</u>
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