



RESOURCE AND PATIENT MANAGEMENT SYSTEM

IHS Laboratory Reporting System

(LR)

Installation Guide and Release Notes AUR

Version 5.2 Patch 1055
June 2024

Office of Information Technology
Division of Information Technology

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Revision History

Version	Date	Author	Section	Page Number	Summary of Change
1.0	December 2023	Skip Squires	All	All	Initial version
1.01	February 2024	Team	All	All	Updates for KIDS and Ensemble installation samples, etc.
1.02	March 2024	Team	All	All	Updates for alpha
1.03	April 2024	Team	All	All	Updates for beta
1.04	May 2024	Skip Squires	All	All	SQA feedback and beta feedback

1.0 Release Notes

The Lab Reporting System v5.2 p1055 is designed to identify and report on resulted microbiology lab tests and antibiotic medication administered and recorded in the Indian Health Service (IHS) Resource and Patient Management System (RPMS) and exported to files on a monthly schedule. Once these results are identified and summarized, the application will generate files consisting of a series of Health Level Seven (HL7) messages in a format that can be submitted to the National Health and Safety Network (NHSN) per the AUR Antimicrobial Reporting specifications.

A second component of the application is an Ensemble production that will generate ARO microbiology lab detail reports, ARO summary reports and AUP summary reports into an export directory for these HL7/XML files. The sites can then upload them to NHSN.

This document consists of installation instructions for the LR v5.2 p1055 national release.

Important: Read this entire document prior to attempting any installation.

2.0 Installation Notes

Prefix: LR
Current Version: 5.2
Current Patch: 1055

2.1 Contents of Distribution

Table 2-1: Distributed files and descriptions

File	Description
lr__0520.55k	RPMS KIDS Build
BLRAMinstall.xml	Ensemble Production Installation File
lr__0520.55i.pdf	Installation Guide
lr__0520.55u.pdf	User Manual
lr__0520.55t.pdf	Technical Manual

2.2 Required Resources

- Kernel (XU) v8.0 p 1020 or higher
- FileMan (DI) v22 p 1020 or higher
- LR v5.2 through p 1054
- ATX v5.1 p 51
- APSP v7.0 p 1034
- Caché v2017.2 or later with Ensemble

2.3 Before You Begin: Installation Issues

Make a copy of this distribution for off-line storage. Print all notes/readme files.

It is recommended that the terminal output during the installation be captured using an auxport printer attached to the terminal at which you are performing the software installation. This will ensure a printed audit trail if any problems should arise.

A backup of the RPMS database is not required.

3.0 Installation Instructions

3.1 Pre-Installation Instructions

3.1.1 RPMS Configuration Settings

Prior to the installation, you will need to obtain the following settings needed to configure the RPMS BLRAM Configuration. All these values will be entered in Section 4.0 except for NHSN Site OID which will be generated by the BLRAM application. It may be helpful to track this NHSN Site OID, but you do not need to enter it.

Table 3-1: BLRAM Site Configuration Attributes

Attribute	Value
NHSN Assigned Facility OID	1.111.222.333.580

Note: This is the Pre-Production OID from NHSN assigned to IHS for testing purposes. Please use your site's NHSN Assigned Facility OID in the Site Parameters when officially submitting to NHSN.

3.2 KIDS Installation

3.2.1 Steps for LR Version 5.2 Patch 1055 KIDS Build

1. Enter the RPMS namespace.
2. Load and install the distribution into KIDS using **Option 1** on the **KIDS Installation Menu**.
3. Verify the load using **Option 2** on the **KIDS Installation Menu**.

Note: Consider using **Options 3** and **4** on the **KIDS Installation Menu** to print and compare the transport.

4. Install the **distribution** using **Option 6** on the **KIDS Installation Menu**.
5. For results, use the **KIDS Install File Print** option to view/print the **LAB REPORTING v5.2 Patch 1055** entry.

4.0 RPMS Configuration

Following the KIDS installation, you will need to configure the application for your site based on the following sections for the ARO microbiology tests performed at your site. Please consult with your Lab Informaticist, if necessary. Specific Lab configuration details can be provided during the install and onboarding process.

4.1 Assign Security Keys

BLRZ F6 AM/AU MENU : This key unlocks the main Antimicrobial Use and Resistance Reporting (F6) menu and should be assigned to an any personnel who will be tasked with performing or monitoring the Antimicrobial Resistance Reporting System or Antimicrobial Use Reporting System exports.

BLRAMZMENU: This key unlocks the Antimicrobial Resistance Reporting System ... [BLRAMMENU]. This key should be given to any personnel who will be tasked with supporting the Antimicrobial Resistance Reporting System exports.

BLRAUZMENU: This key unlocks the Antimicrobial Use Reporting System ... [BLRAUMENU]. This key should be given to any personnel who will be tasked with supporting the Antimicrobial Use Reporting System exports.

BLRZ AUAM SITE PARAMETER: This key unlocks the Site Parameter Setup ... [BLRAU SITE PARAMETER MENU]. This key should be given to any personnel who will be tasked with supporting the Antimicrobial Use and Resistance Reporting functionality.

BLRZ F6 ALERTS MG EDIT: This key unlocks the option to update the Mail Group with users who should receive alerts for this application.

BLRZAURTEST: This key unlocks the Antimicrobial Use Reporting System and Antimicrobial Resistance Reporting System option Date Range Option for Internal Testing [TEST]. This key should be given to any personnel who will be tasked with supporting the internal testing of the Antimicrobial Use and Resistance Reporting System exports.

4.2 Assign Menu Options

BLR F6 AM/AU MENU: This is the main AR/AU menu and should be assigned to any personnel who will be tasked with performing or monitoring the Antimicrobial Resistance Reporting System or Antimicrobial Use Reporting System exports. This option is locked with security key BLRZ F6 AM/AU MENU. This menu option has 4 sub-menus/options:

BLRAMMENU: This is the main Antimicrobial Resistance (AR) menu. It is locked with security key BLRAMZMENU and should be assigned to any personnel who will be tasked with performing or monitoring the Antimicrobial Resistance Reporting System exports.

BLRAUMENU: This is the main Antimicrobial Use (AU) menu. It is locked with security key BLRAUZMENU and should be assigned to any personnel who will be tasked with performing or monitoring the Antimicrobial Use Reporting System exports.

BLRAU SITE PARAMETER MENU: This is the menu option used to update the site parameters for both the AR and AU reporting and should be assigned to any personnel who will be tasked with updating the Antimicrobial Use and Resistance Reporting System configuration settings.

MGE F6 ALERTS MAIL GROUP EDIT: This option is used to update the Mail Group with users who should receive alerts for this application. This option is locked with security key BLRZ F6 ALERTS MG EDIT.

4.3 Site Parameter Setup [SP]

Use the **SP** option on the **Antimicrobial Use and Resistance Reporting menu** to access the Site Parameter Setup sub menu. The sub menu provides options to allow users to review the existing site parameters, as well as, assign NHSN codes to their site wards and medication routes, in use at the site.

4.3.1 Site Parameter and Ward Setup (NHSN Codes) [WS]

Use the **WS** option on the **Site Parameter Setup menu** to review existing Wards defined for the site and assign NHSN Location codes to Wards which will be reported to NHSN via the AUR functionality. Additionally, users can create a new entry for the site and save the NHSN assigned Facility OID in the site parameters. Enter the data similar to those values as shown in Figure Figure 4-1.

```
Select Site Parameter Setup Option: WS Site Parameter and Ward Setup (NHSN Codes)
```

```
This option is used to map WARDS, the ER and Observation Units to NHSN Location Codes and enter your site ID. Each Ward, the ER and Observation units must be assigned an appropriate NHSN location code. The site parameters will be pre-populated with all Wards defined in the RPMS Ward Location file. If a Ward is not active you can leave the NHSN code blank. Only Wards that are assigned an NHSN location code will be reported.
```

```
Do you wish to continue? Y// ES
```

```

Enter the ANTIMICROBIAL USE SITE: 2021 DEMO HOSPITAL (INST)
HEADQUARTERS
WEST ALBUQUERQUE 01 HOSPITAL 8993
...OK? Yes// <return> (Yes)

EMERGENCY ROOM NHSN CODE: Emergency Department//
OBSERVATION NHSN CODE: 24-Hour Observation Area//
NHSN ASSIGNED FACILITY OID: 1.111.222.333.580//

The next screen will present all Wards and associated NHSN codes.
    
```

Figure 4-1: Sample Interaction to Update Site Parameters for Antimicrobial Use and Resistance Reporting (F6)

Select the reporting site and enter **EMERGENCY ROOM NHSN CODE (1108-0)**, **OBSERVATION NHSN CODE (1162-7)** and the **NHSN ASSIGNED FACILITY OID (1.111.222.333.580)**, then press **Y(ES)** to continue and assign appropriate NHSN codes to all other Wards to be reported as shown in Figure 4-2.

```

Update Ward NHSN Codes           Mar 25, 2024 10:42:45           Page: 1 of 1
WARD                               NHSN CODE

1) ICU WARD f6                    1027-2    Medical Critical Care
2) SWING BED
3) CHH INPATIENT
4) MEDICAL WARD f6                1060-3    Medical Ward
5) MULTI SERVICE
6) EAST GENMED
7) WEST
8) SOUTH OBGYN
9) INPATIENT FLOOR
10) NEWBORN ICU
11) GENERAL MEDICINE
12) PEDIATRIC WARD f6             1076-9    Pediatric Medical Ward
13) MEDICAL WEST
14) CZ CHH WARD
15) POST SURGERY

Enter ?? for more actions
S   Select Ward                    Q   Quit
    
```

Figure 4-2: Listing of Wards Mapped to NHSN Location Codes

4.3.2 Find Medication Routes [FMR]

The **FMR** option can be used to identify the medications routes used at the site. This list can be used with the **MR** option to map those medication routes that need to be reported to NHSN. Queuing the process is recommended to allow the search complete without the user waiting for an undetermined amount of time.

```

This option is used to scan the BCMA, IV Med and Unit Dose medication files
    
```

```
to find all Medication Routes used with Antimicrobial drugs (VA DRUG CLASS
AM*). Those that are found will be put into the Medication Route site
parameter so they can be assigned an NHSN code.
```

```
This process could take up to an hour depending on how large those files
are so it is recommended that you queue to run in the background.
```

```
BLRAU ANTIMICROB USE SITE: 2021 DEMO HOSPITAL (INST) HEADQUARTERS
WEST
ALBUQUERQUE 01 HOSPITAL 8993
...OK? Yes// (Yes)
```

```
Won't you queue this ? Y// NO
<CR> to continue:
```

Figure 4-3: Sample Interaction to Find Medication Routes Used at the Site to be Mapped

4.3.3 Medication Route Setup [MR]

The **MR** option can be used to map the medication routes identified in the **Find Medication Routes in Use** option to the four values that NHSN wants the site to report on. The user will be asked to select the site for reporting and then in the ListMan, the user will select a medication route from the list and if it can be categorized as *Digestive tract*, *Intramuscular*, *Intravascular*, or *Respiratory tract*,

```
Select Site Parameter Setup Option: MR Medication Route Setup

This option is used to map Medication Routes to NHSN Codes.
The site parameters have been pre-populated with common Medication Routes
used in BCMA, the IV Pharmacy System and Unit Dose for drugs with a
VA Drug Class indicating it is an Antimicrobial drug.

This list must be mapped to the codes below. You can add additional
Medication Routes to the list.

The 4 codes are:
- Digestive tract route 2522-1
- Intramuscular route (IM) 78421000
- Intravascular route (IV) 47625008
- Respiratory tract route 2523-9

Do you wish to continue? Y// ES

BLRAU ANTIMICROB USE SITE: 2021 DEMO HOSPITAL (INST) HEADQUARTERS
WEST
ALBUQUERQUE 01 HOSPITAL 8993
...OK? Yes// (Yes)

Update Med Route NHSN Codes Mar 25, 2024 10:43:03 Page: 1 of 1
MED ROUTE NHSN CODE DESCRIPTION

1) ORAL 2522-1 Digestive tract
2) J TUBE 2522-1 Digestive tract
```

3)	G TUBE	2522-1	Digestive tract
4)	RECTAL	2522-1	Digestive tract
5)	INTRAVENOUS	47625008	Intravascular
6)	INTRAMUSCULAR	78421000	Intramuscular
7)	TOPICAL		
8)	INHALATION	2523-9	Respiratory tract
9)	IV PIGGYBACK	47625008	Intravascular
10)	IV PUSH	47625008	Intravascular
11)	ORAL PO	2522-1	Digestive tract
Enter ?? for more actions			
U	Update NHSN Code	AD	Add Medication Route Q Quit

Figure 4-4: Display of Medication Routes with NHSN Codes Assigned

4.3.4 Display AU Site Parameters [SPD]

This menu option allows the user to review the existing site parameters saved for the AUR reporting functionality. Select the Site to display the site parameters for reporting to NHSN including the NHSN Assigned Facility OID. Enter the site at the prompt as indicated in **bold** in Figure 4-5.

```
Select Antimicrobial Use and Resistance Reporting (F6) <TEST ACCOUNT>
Option: SP
Site Parameter Setup

SPD   Display AU Site Parameters
WS    Site Parameter and Ward Setup (NHSN Codes)
MR    Medication Route Setup
FMR   Find Medication Routes Used

Select Site Parameter Setup <TEST ACCOUNT> Option: SPD Display AU Site
Parameters

Display ANTIMICROBIAL USE SITE PARAMETERS

Select BLRAU ANTIMICROB USE SITE PARAMETERS: ?
Answer with BLRAU ANTIMICROB USE SITE PARAMETERS:
2021 DEMO HOSPITAL (INST)

Select BLRAU ANTIMICROB USE SITE PARAMETERS: ??
2021 DEMO HOSPITAL (INST)

Select BLRAU ANTIMICROB USE SITE PARAMETERS: 2021 DEMO HOSPITAL (INST)
HEA

OUTPUT BROWSER                               Jan 19, 2024 13:20:04           Page: 1 of 2
Antimicrobial Use Site Parameter Display

ANTIMICROBIAL USE REPORT SITE PARAMETERS

Site: 2021 DEMO HOSPITAL (INST)
```

```

NHSN ASSIGNED FACILITY OID:  1.111.222.333.580

EMERGENCY DEPARTMENT NHSN CODE:  1108-0  Emergency Department

OBSERVATION NHSN CODE:  1162-7  24-Hour Observation Area

  WARDS
  GEN WARD                1060-3        Medical Ward
  ICU WARD                1027-2        Medical Critical Care
  PEDS WARD              1076-9        Pediatric Medical Ward

  MEDICATION ROUTES
  ORAL                   2522-1        Digestive tract
  G TUBE                 47625008      Intravascular
  RECTAL                 2522-1        Digestive tract
  INTRAVENOUS           47625008      Intravascular
  INTRAMUSCULAR        78421000      Intramuscular
  RIGHT EYE
  BOTH EARS             78421000      Intramuscular
  INHALATION            2523-9        Respiratory tract
  IV PIGGYBACK          47625008      Intravascular
  INTRAVASCULAR         47625008      Intravascular
  ORAL PO                2522-1        Digestive tract
  INHALATION NEBULIZER  2523-9        Respiratory tract

      Enter ?? for more actions
+  NEXT SCREEN          -  PREVIOUS SCREEN      Q  QUIT          >>>
    
```

Figure 4-5: Display site parameters

5.0 BLRAM Ensemble Production Installation

5.1 BLRAM<RPMS> Namespace Creation

1. Log on to the **System Management Portal**.

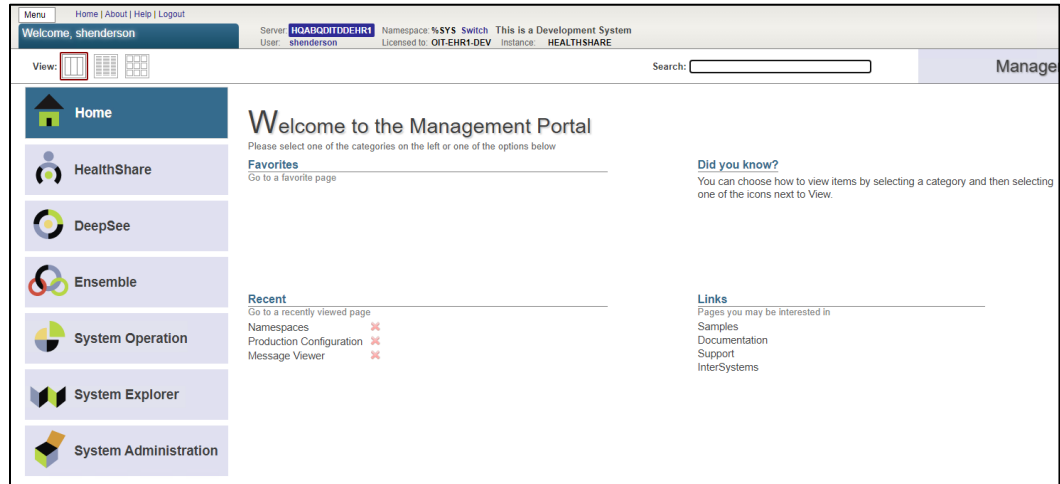


Figure 5-1: System Management Portal window

2. Click **System Administration > Configuration > System Configuration > Namespaces**.

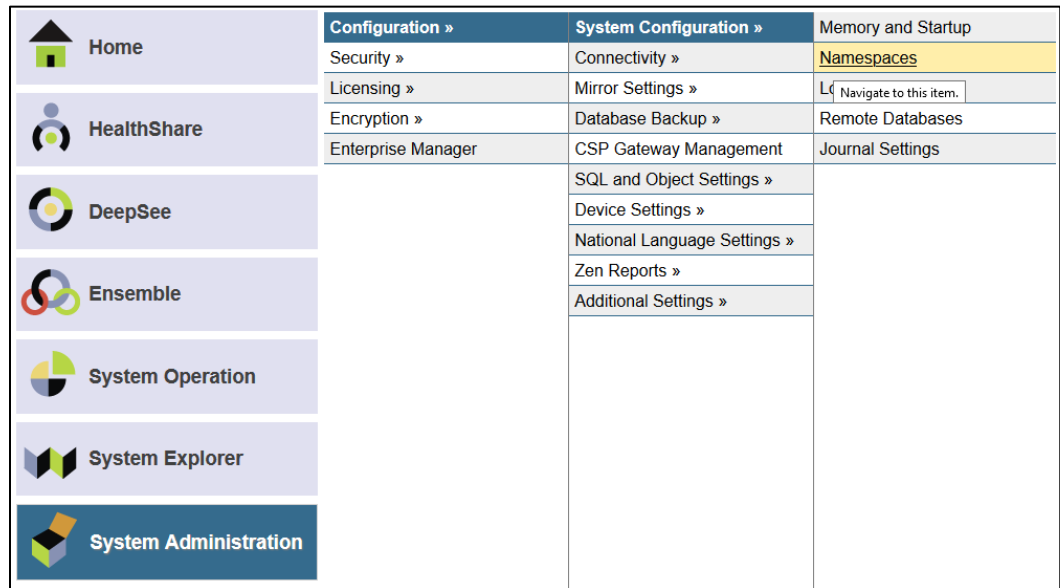


Figure 5-2: System Management Configure Namespaces selection

3. The **Namespace** dialog displays.

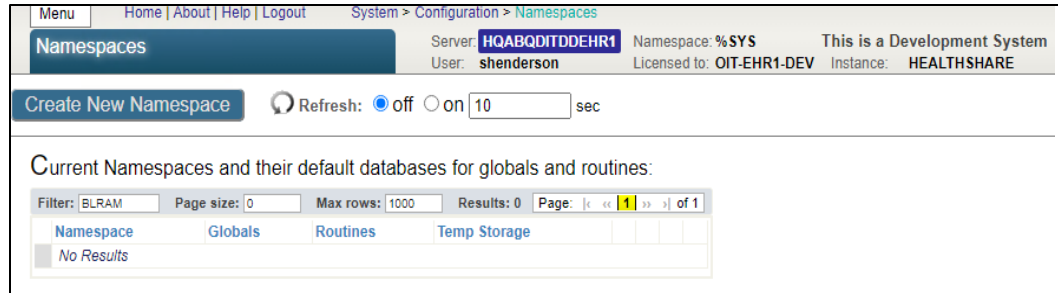


Figure 5-3: Namespace dialog

4. Click **Create New Namespace**.



Figure 5-4: Create New Namespace button

5. The **Create New Namespace Form** displays.

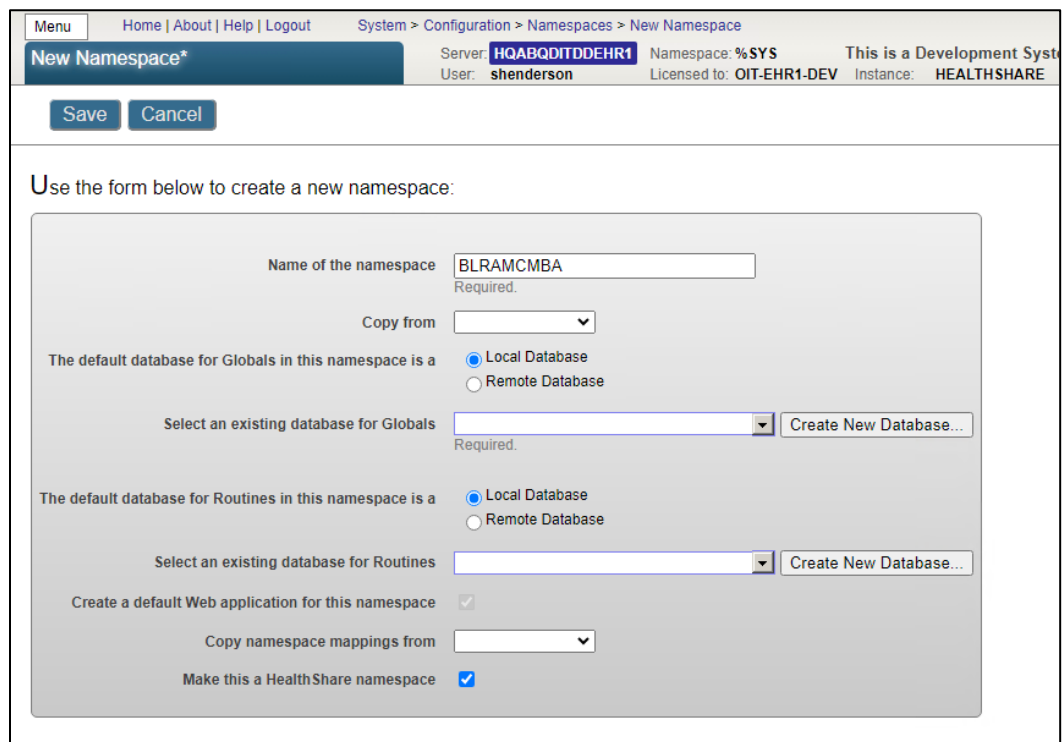


Figure 5-5: Create New Namespace Form dialog

6. Type the name of the **BLRAM namespace** to be created. Typically, this will be “BLRMA” + the namespace acronym of the production RPMS namespace. In the example, **CMBA** is the production RPMS namespace.
7. Make sure that the **Local Database** option is selected for the **Globals** database.

- Click **Create New Database**. The **Database Wizard** opens.

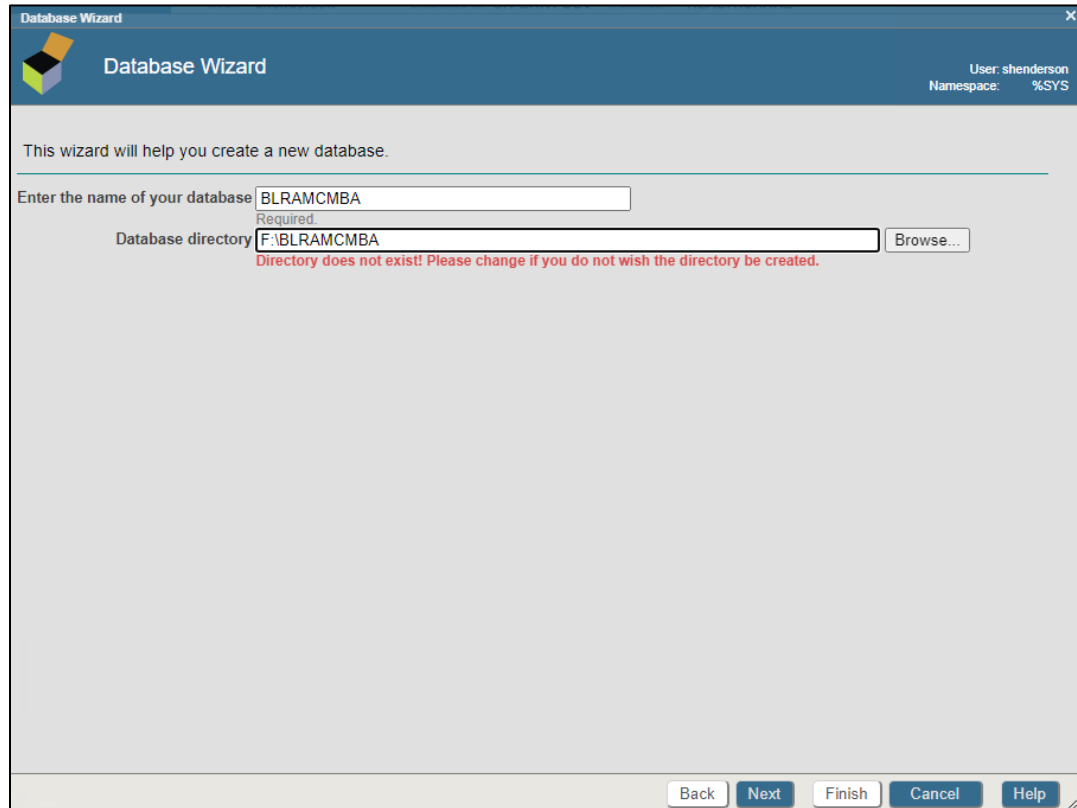


Figure 5-6: Database Wizard window

- Enter the name of the **BLRAM database** to be created.
- Enter the **directory location** for the BLRAM database to be created.

Note: You can also click **Browse** to locate the database directory name.

- Click **Next**. The **Database Wizard Details** dialog displays. If encryption is available on your system, check the **Encrypt Database** check box, otherwise simply accept the default setting.

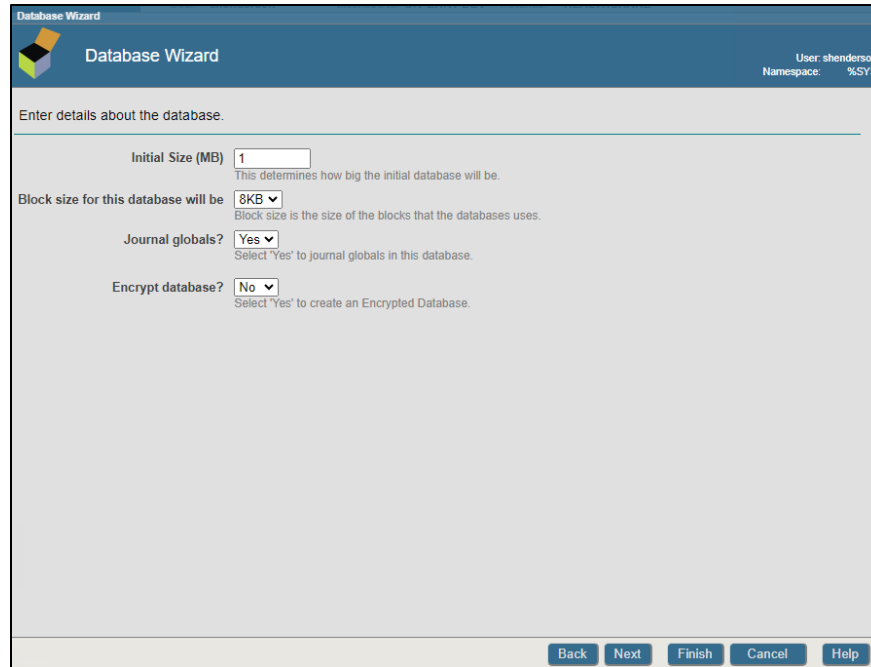


Figure 5-7: Database Details dialog

12. Click **Next** to accept all default values. The **Database Resource** dialog displays.

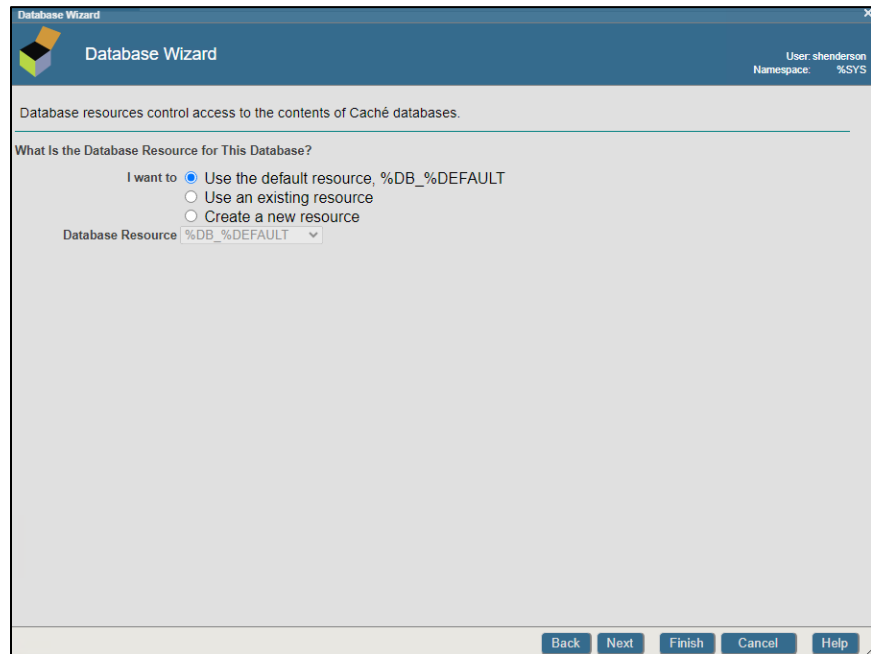


Figure 5-8: Database Resource dialog

13. Select the appropriate resource or click **Next** to accept the default resource. The **Database Wizard Completion** dialog displays.

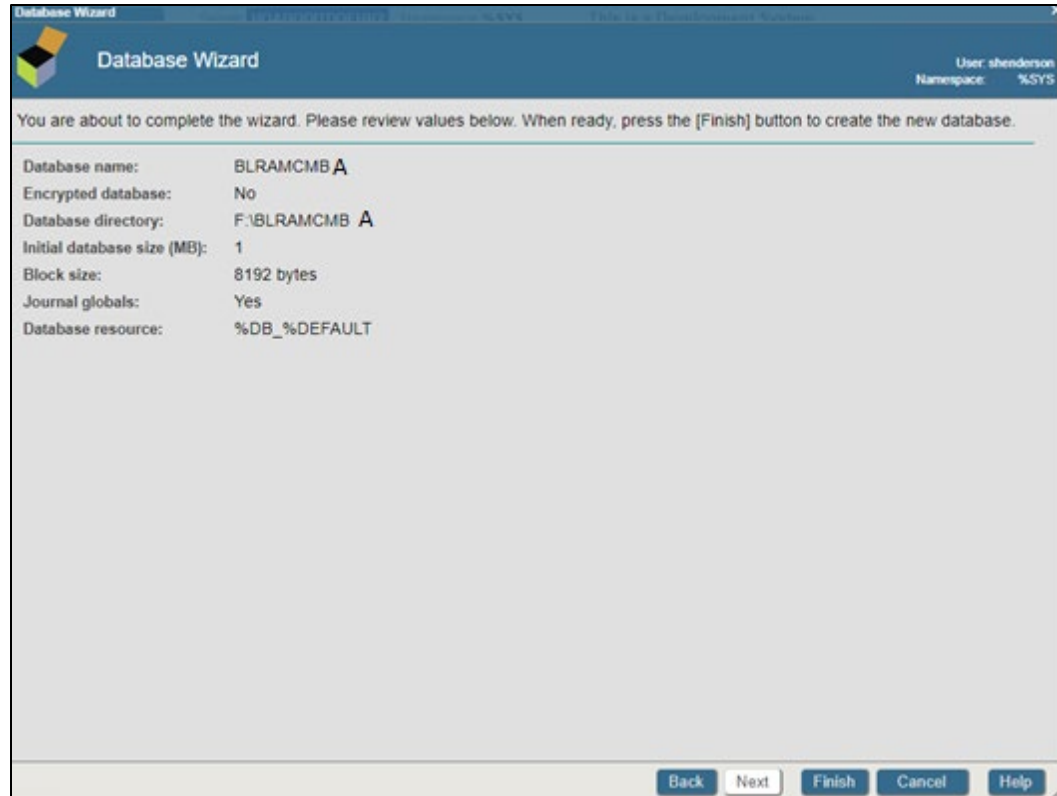


Figure 5-9: Database Wizard Completion dialog

14. Click **Finish** to create the new database. You return to the Namespace Form.

Note: You do not need to copy any namespace mappings on this dialog.

15. Ensure **Local Database** is selected for the **Routines** database.
16. Use the same database for **Routines** as was used for Globals.
17. Ensure the **Make this a Health Share namespace** check box is selected.

New Namespace* Server: **HQABQDITDDEHR1** Namespace: %SYS This is a Development System
 User: **shenderson** Licensed to: OIT-EHR1-DEV Instance: HEALTHSHARE

Save Cancel

Use the form below to create a new namespace:

Name of the namespace
 Required.

Copy from

The default database for Globals in this namespace is a Local Database
 Remote Database

Select an existing database for Globals
 Required.

The default database for Routines in this namespace is a Local Database
 Remote Database

Select an existing database for Routines

Create a default Web application for this namespace

Copy namespace mappings from

Make this a HealthShare namespace

Figure 5-10: Completed Namespace form dialog

18. Click **Save**. The namespace is created once the window displaying all default mappings displays with no errors.

```

Imported 1 item.
Encountered 0 errors during import.

Compiling routine Ens.DeepSee.ActivityVolumeAndDurationDashboard.1
Compilation finished successfully in 0.259s.

* Setting new namespace flags
- Enabling SyncCommit for Business Services
Update Complete.
Done

End at 2020-07-09 15:53:04

Close

```

Figure 5-11: Display Default Mappings without errors window

19. Click **Close**. The **Current Namespaces** window displays.

5.2 Create Business Partner Entry

1. Starting from the **Home System Management Portal** select **Ensemble**, then the **BLRAM namespace** you just created from the list of namespaces.

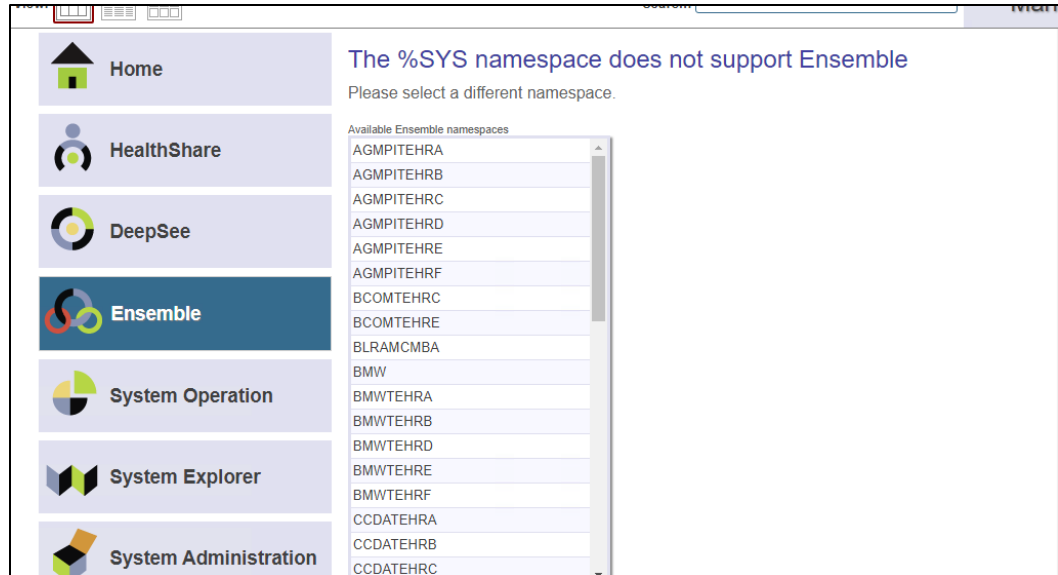


Figure 5-12: In this instance we select Ensemble then BLRCMBA Namespace window

2. Select **Ensemble | Configure | Business Partners**.

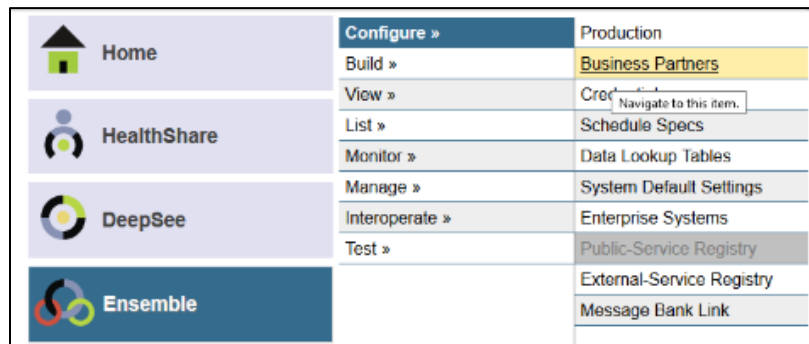


Figure 5-13: Business Partner selection window

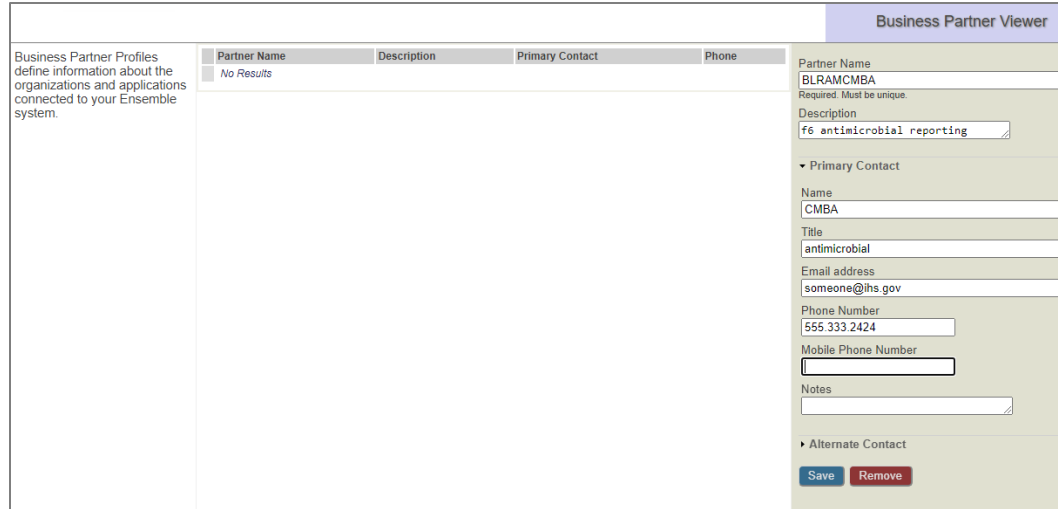


Figure 5-14: Business Partner data entry window

3. Enter the appropriate information as provided by the business partner into the **Partner** screen.
4. Click **Save**.

5.3 Import BLRAM Production

1. Return to the **Home** page and select **System Explorer | Classes**.

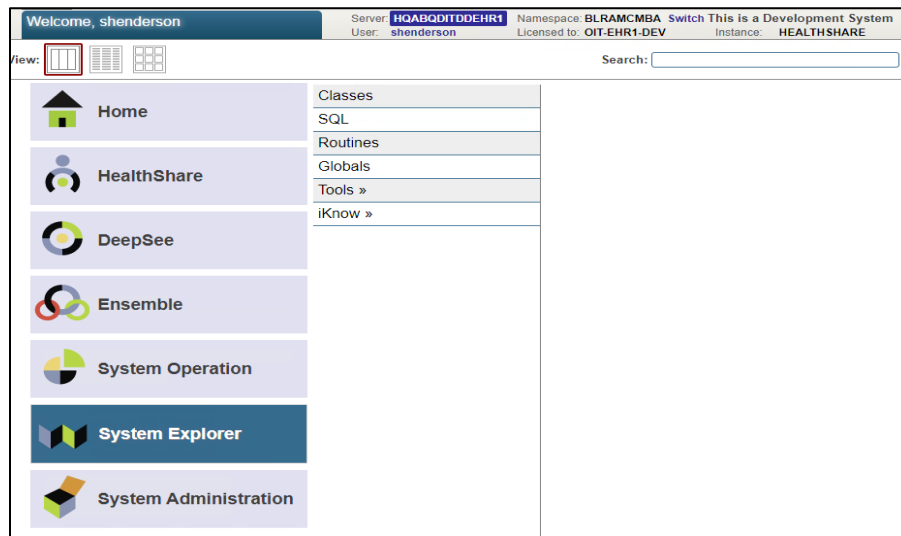


Figure 5-15: Classes selection window

2. Ensure you're in the newly created BLRAM namespace, that the namespace selected is the **BLRAMCMB**, select the **Import** button.



Figure 5-16: Select Import within the BLRAM* namespace

3. Enter the **path** and **filename** to the BLRAMinstall.xml production file.

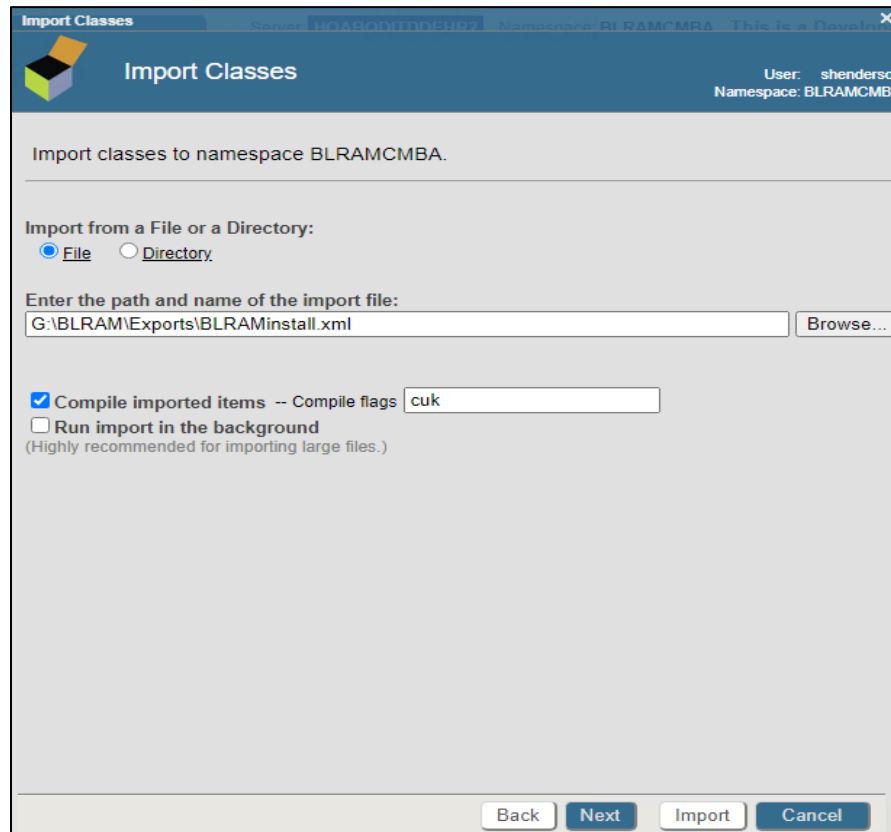


Figure 5-17: Import Classes dialog

4. Click **Next**. Ensure all the items are selected.

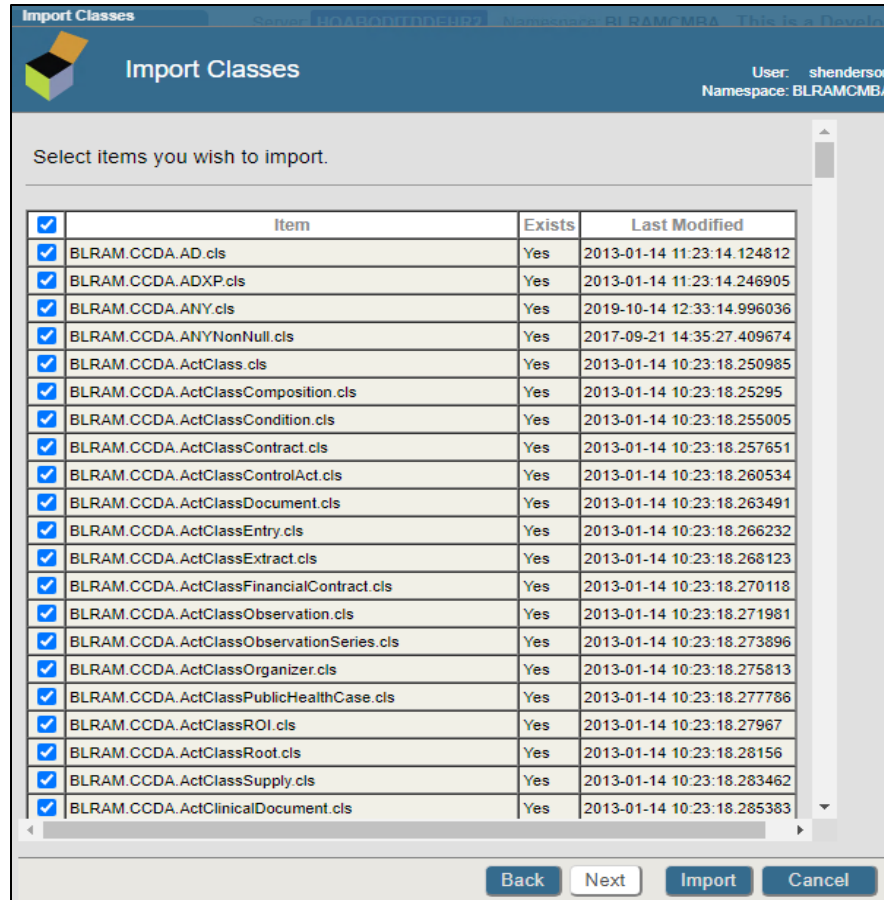


Figure 5-18: Import Classes select items dialog

5. Click **Import**.
6. Ensure that the load finished successfully and click **Done**.

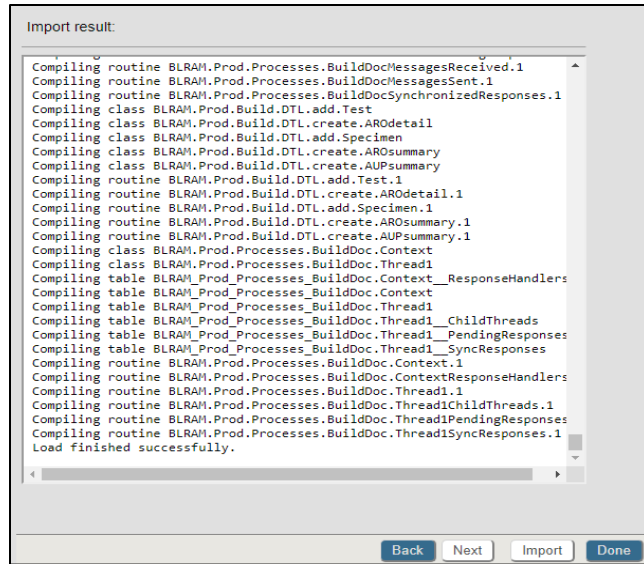


Figure 5-19: Import Classes–Done window

5.3.1 Auto Start Production

1. Return to the **Management Portal Home page**, ensure you’re in the newly created BLRAM namespace, select **Ensemble->Manage->Auto-Start Production**.

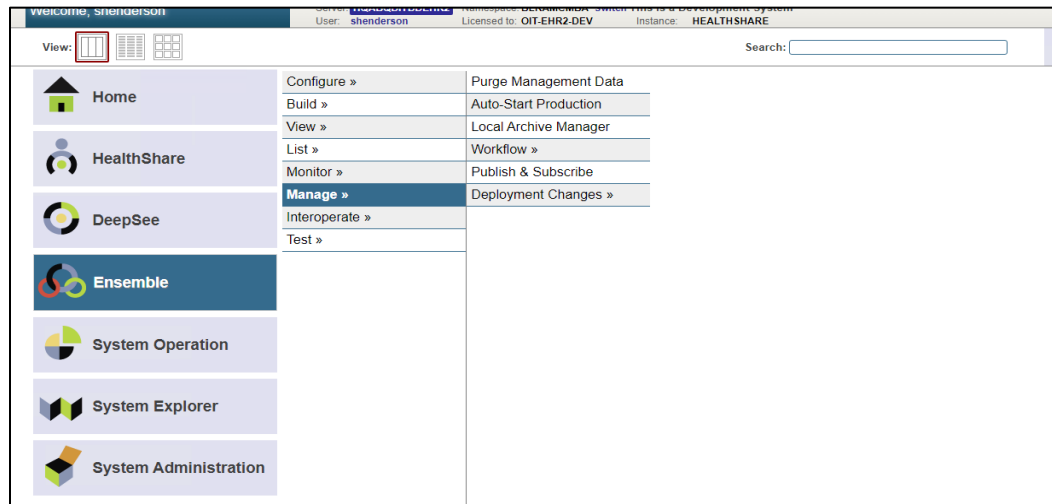


Figure 5-20: Ensemble > Manage > Auto-Start Production menu option

2. From the drop down list you should see BLRAM.Prod.Production, select this value and then the **Apply** button.

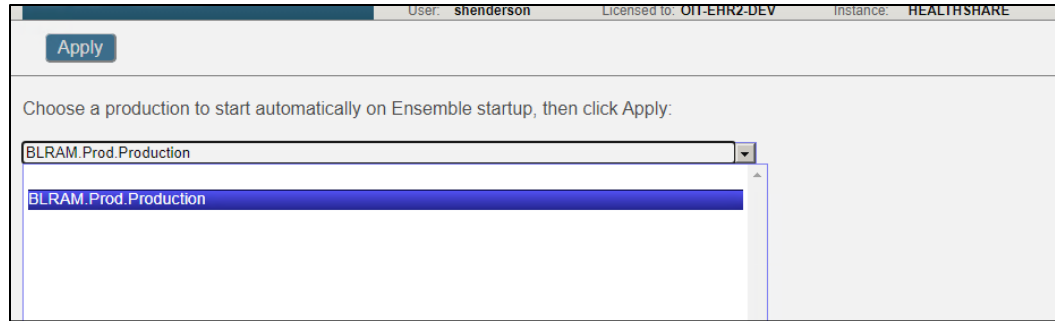


Figure 5-21: Ensemble > Manage > Auto-Start Production menu option

5.4 Namespace configuration

5.4.1 Global Mapping

1. Starting from **Home Management Portal**, select **System Administration->Configuration->System Configuration->Namespaces**.

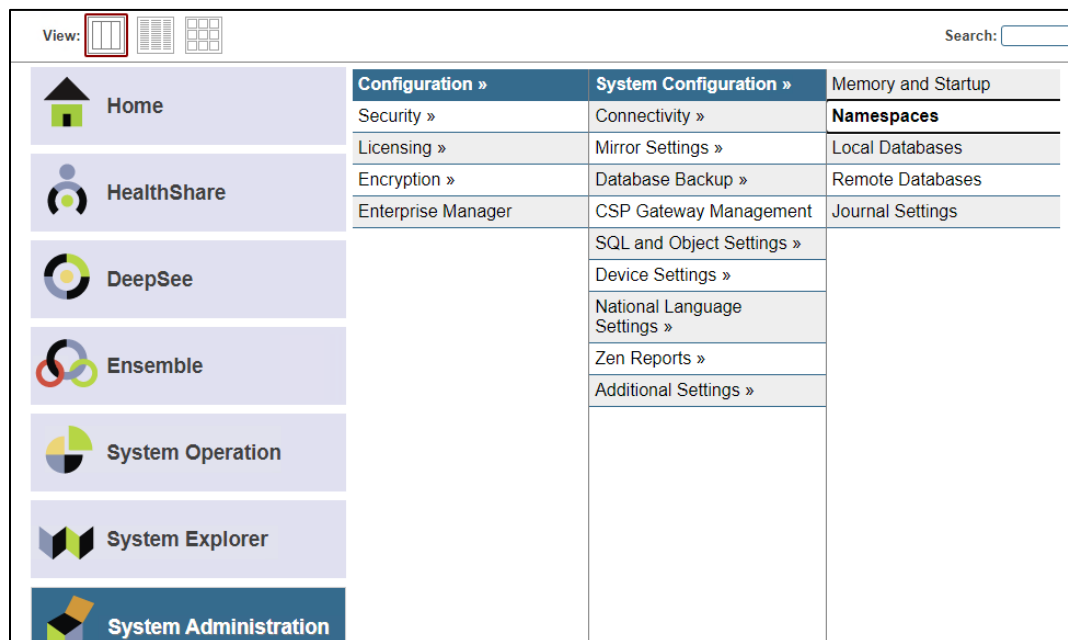


Figure 5-22: Namespace configuration selection window

2. Select the **Global Mappings** option from the BLRAM Namespace that you created earlier in the process.

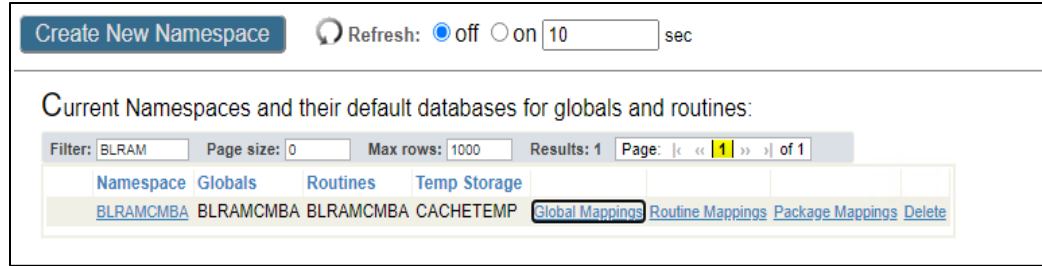


Figure 5-23: Global Mapping selection window

3. Select the **New** button.

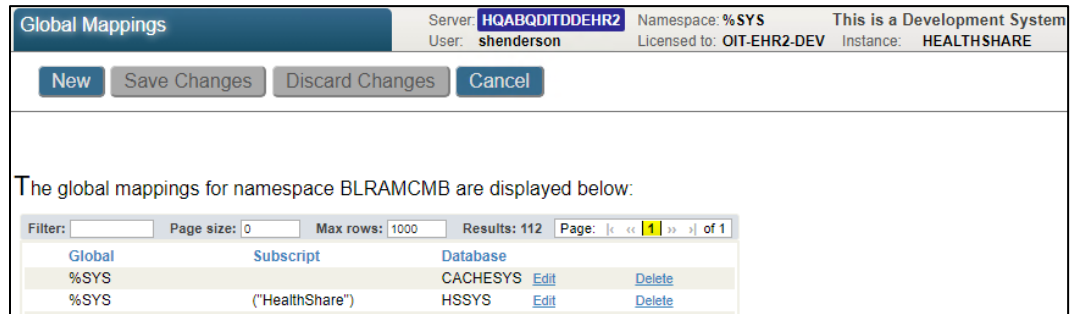


Figure 5-24: Select the New button for Global Mappings

4. Enter your **RPMS** namespace into the **Global Database Location** field, enter **BLRTMP** into the **Global Name** field. Then select **OK**.

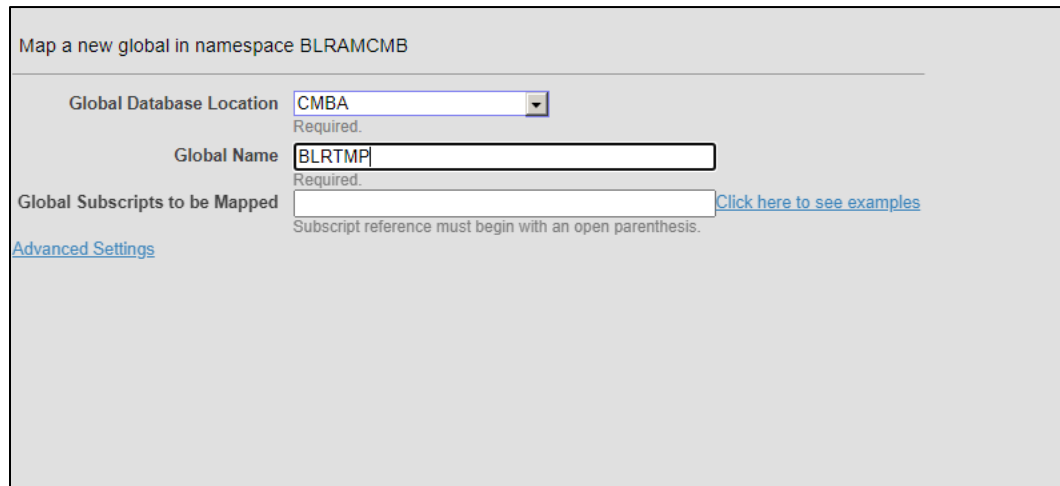


Figure 5-25: Map a new global in the namespace

5. Once complete, click **Save Changes**.
6. You should now see an entry for the BLRTMP global mapped to your RPMS namespace.

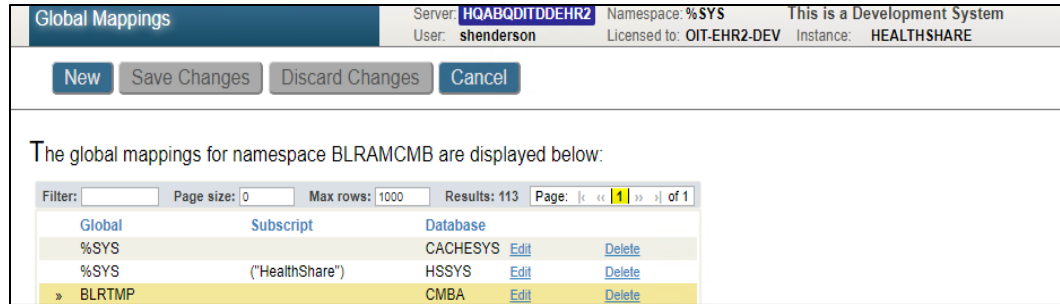


Figure 5-26: New entry within the **Global Mapping** list.

7. Select **Cancel**, you will be returned to the Namespaces screen.

5.4.2 Routine Mapping

1. Select the **Routine Mappings** option from the RPMS Namespace.

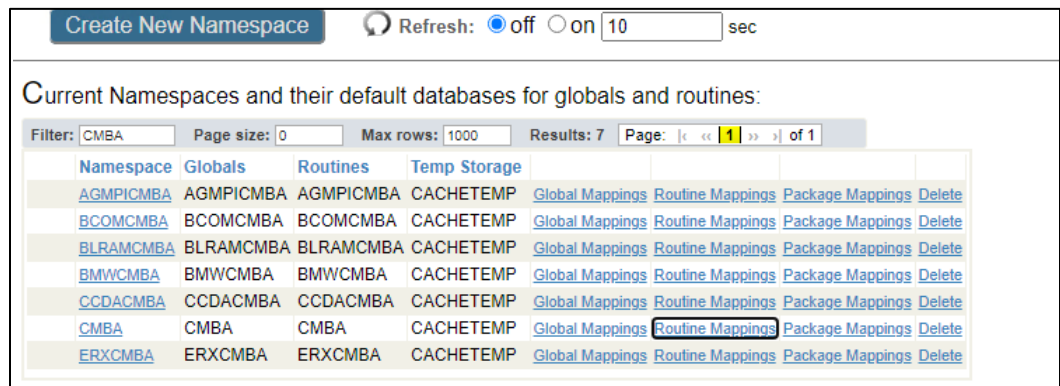


Figure 5-27: Routine Mappings link

2. Select the **New** button.

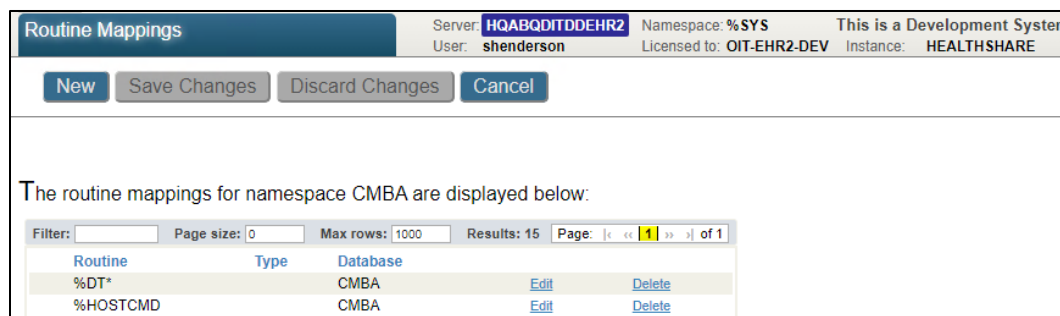


Figure 5-28: Routine Mappings new button

3. Enter the new BLRAM<RPMS> namespace into the **Routine Database Location** field, enter **BLRAMRTN** into the **Routine Name**. Then select **OK**.

Figure 5-29: Enter Routine Database Location and Routine window

- Once complete click Save Changes

Figure 5-30: Enter Routine Database Location and Routine window

5.4.3 Package Mapping

- Select **Cancel**, you will be returned to the Namespaces screen.
- Select the **Package Mappings** option from the RPMS Namespace.

Figure 5-31: Enter Routine Database Location and Routine window

- Select the **New** button.

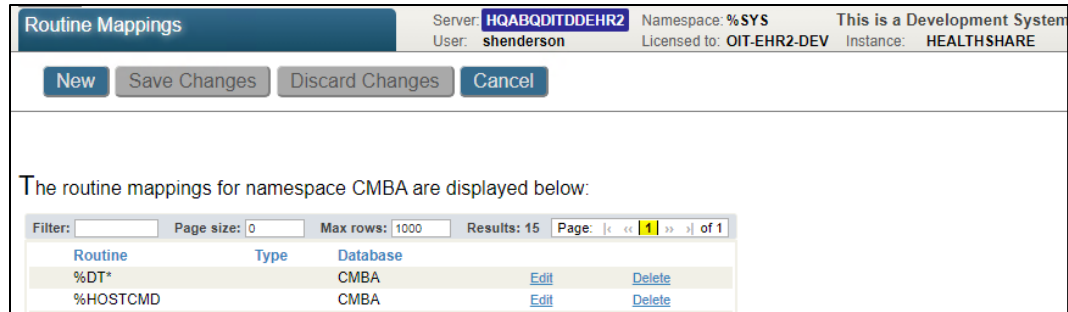


Figure 5-32: Enter Routine Database Location and Routine window

4. Enter the new BLRAM<RPMS> namespace into the **Routine Database Location** field, enter **BLRAM.Prod.Util** into the **Package Name**. Then select **OK**.

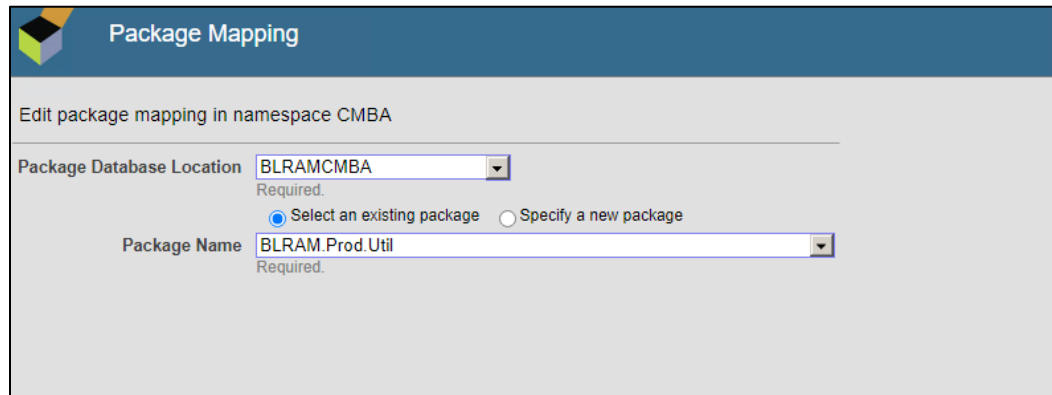


Figure 5-33: Enter Routine Database Location and Routine window

5. Once complete, click **Save Changes**.

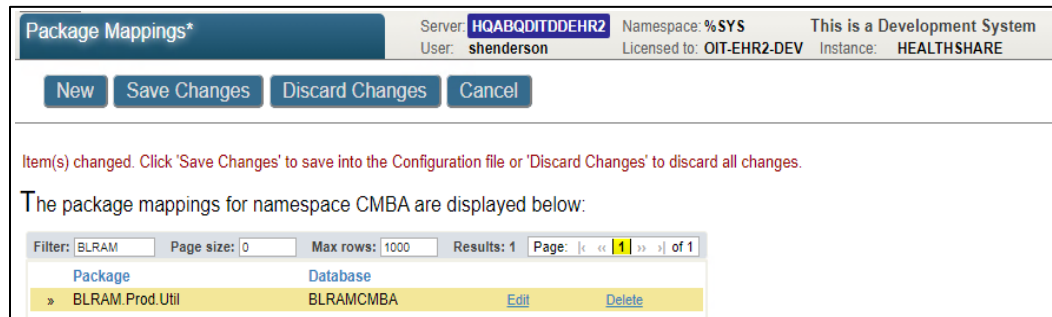


Figure 5-34: Enter Routine Database Location and Routine window

5.5 Configure the Production

1. Return to the **Home->Ensemble->Configure** page and select **Production**. Be sure the Namespace is **the BLRAM<RPMS> namespace** you just created and used during the XML Import.

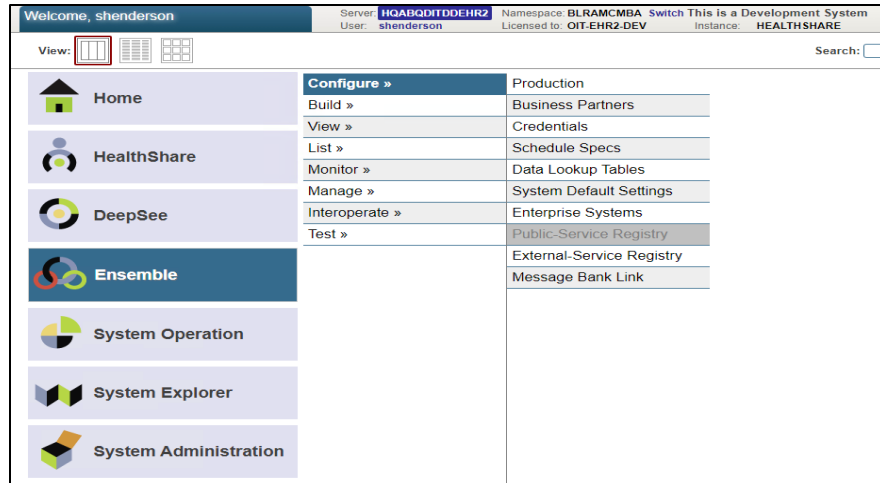


Figure 5-35: Configure the Production window

2. Select **OPEN**.

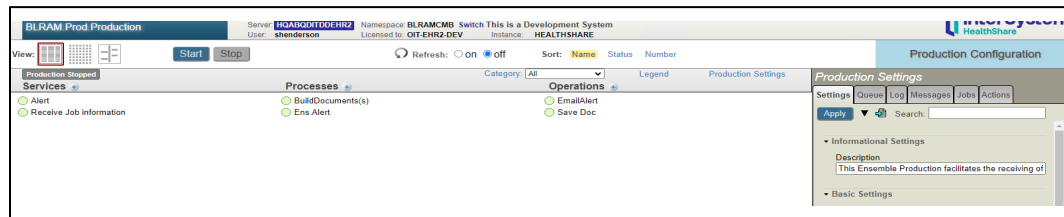


Figure 5-36: Enter Routine Database Location and Routine window

3. Select **BLRAM.Prod.Production**.

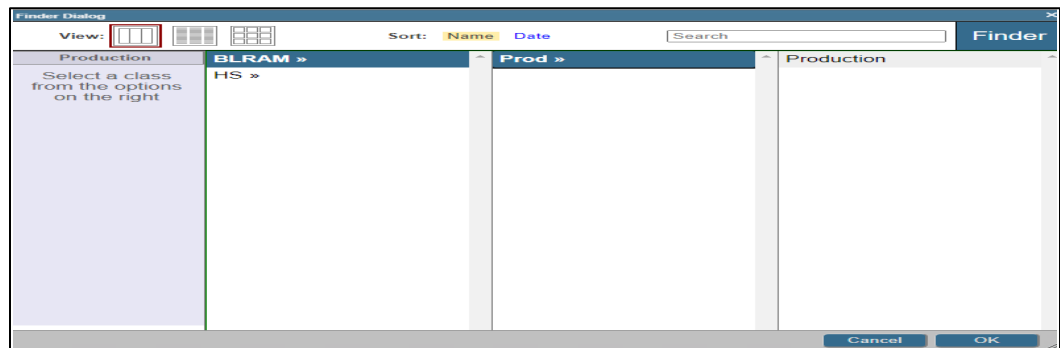


Figure 5-37: Select BLRAM production window

5.5.1 Business Operations

5.5.1.1 EmailAlert

1. Select the **EmailAlert** BO from the right side of the left pane and then the Settings tab, the first tab within the right-side pane.

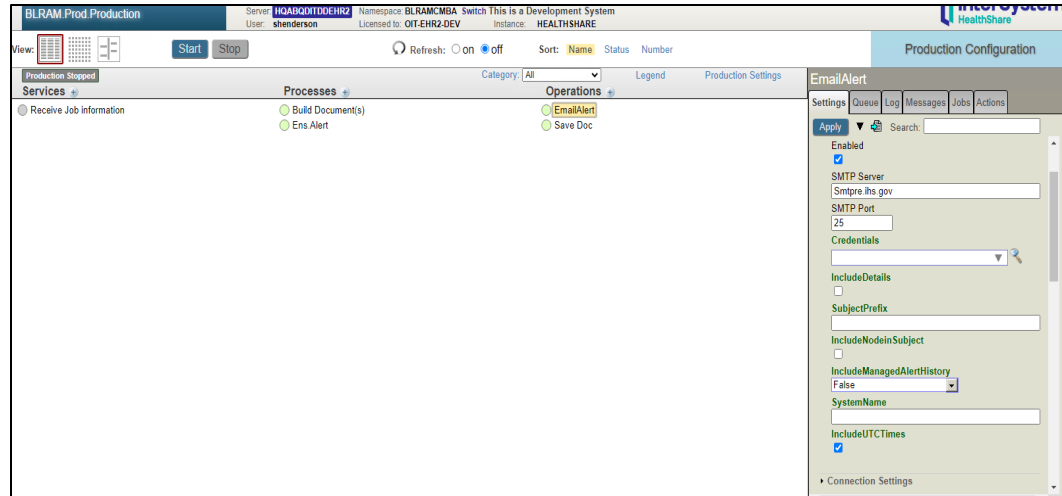


Figure 5-38: EmailAlert Operation Configuration window

2. If the value of the SMTP Server or Port field(s), within the Basic Settings group, are incorrect for your site, please update with the correct values.
3. Within the Additional Settings group, update the recipient/Cc/Bcc field(s) with the email addresses of individuals that need to be notified if an issue occurs within the BLRAM Production. Separate each address with a semicolon, for ease of maintenance the use of group email addresses are recommended.
4. Place a string value within the From field of the Additional Settings group, with the following format.

BLRAM-<facility ID>@donotreply.domain.org

(Example)

BLRAM-9999@donotreply.ihs.gov
5. Click **Apply** before moving to the next BO.

5.5.1.2 Save Doc

1. Select the **Save Doc** BO from the right side of the left pane and then the Settings tab, the first tab within the right-side pane.

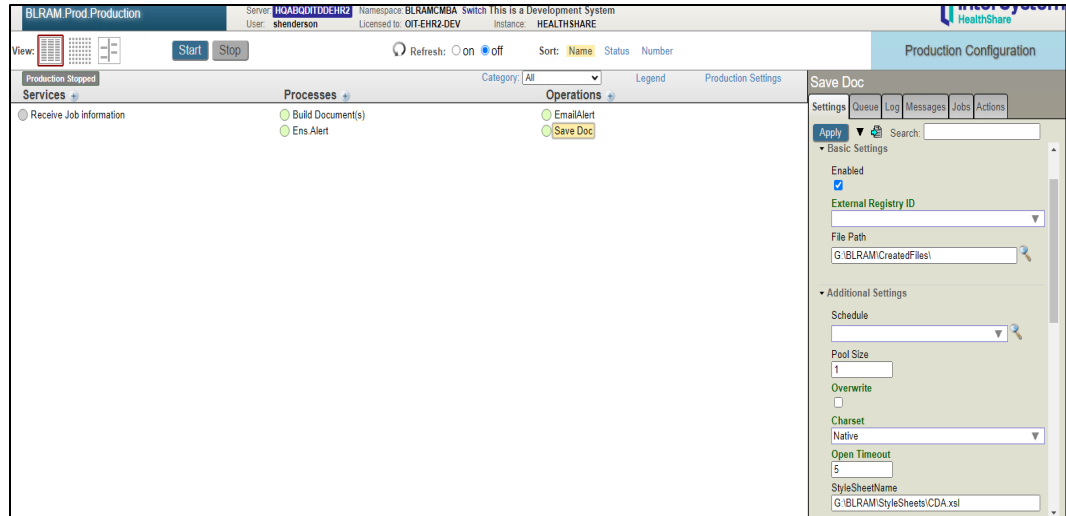


Figure 5-39: Enter Routine Database Location and Routine window

2. Set the value of the **File Path** field to a directory, if a different location is to be used when saving the antimicrobial files.
3. Click **Apply**.

5.6 Start the Production

1. Once you have entered and confirmed the configuration settings, click **Start**.

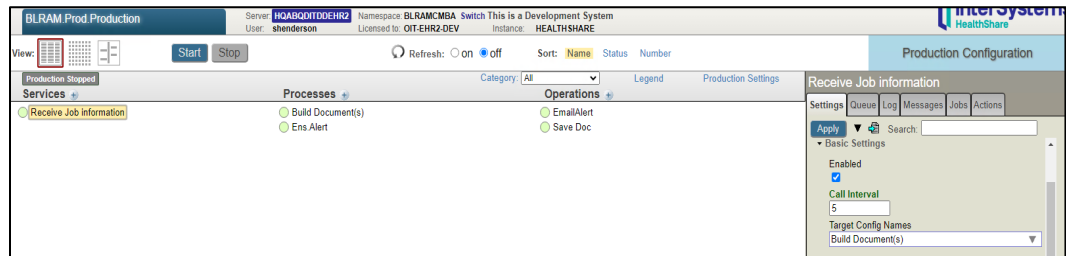


Figure 5-40: Start the Production window

All buttons should turn green.

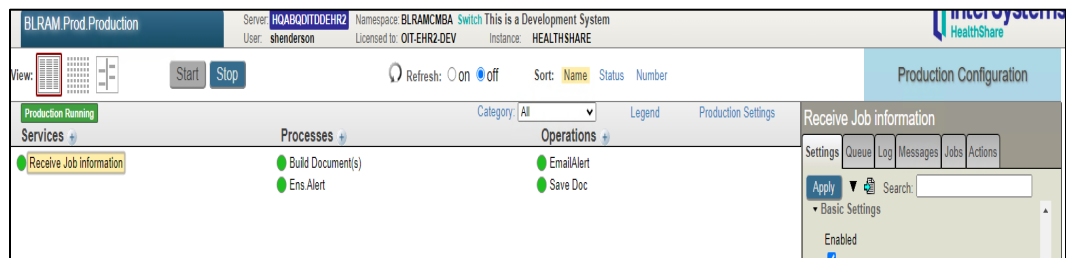


Figure 5-41: Production Running displays in green

A button that is not green indicates something is wrong with that item. It could be an incorrect configuration setting, or it could indicate that the connection is unavailable. Use the **Log** tab for the red item to obtain an indication of the issue.

The BLRAM production is now installed and running.

6.0 Installation Configuration

1. Log on to the **System Management Portal** and select **System Operation > Task Manager > New Task**.
2. Set the following values within the **Task Scheduler Wizard** first screen.

Table 6-1: Task Scheduler, Task Name, Message Purge

Task name	Message Purge
Description	Purge Messages older than 14 days
Namespace to run task in	The namespace used for the BLRAM production (example: BLRAMCMBA)
Task type	Ens.Util.Tasks.Purge
KeepIntegrity	check this box
NumberOfDaysToKeep	14
TypesToPurge	All Types
Task priority	Priority Normal
Run task as this user	_SYSTEM
Leave the default values for the remainder of fields for this screen	

3. Select Next and set the following values within the Task Scheduler Wizard second screen.

Table 6-2: Task Scheduler Wizard

How often do you...task?	Weekly Every 2 weeks Check the Sunday box
Start Date	Leave default populated value
End Date	Leave blank
Run once at this time	03:00:00

4. Select finish.

7.0 Export Testing

7.1 Schedule Initial Extracts

Before scheduling the recurring task, you should run initial extracts for both Lab and Pharmacy data by using the **AREX** option on the **BLRAM Export Menu (BLRAMMENU)** and then the **AUEX** option on the **BLRAU Export Menu (BLRAUMENU)**, respectively. Due to the potential size of the files to be created, please queue this process to run in the background. Once the files are created, please contact the OIT AUR Team in order to select samples of these initial AREX Export and AUEX Export to batch messages for testing with the NHSN pre-production portal.

7.1.1 Initial Lab Export (AREX)

The **AREX** option is used to generate an export of microbiology and lab test results for antimicrobial resistance to the export directory configured in the BLRAM Ensemble Production. During the export process, lab results are compiled and then submitted to the Clinical Document Architecture (CDA) document generator to create Antimicrobial Resistance Option (ARO) Numerator and Summary Reports in CDA format (HL7 v3) documents. Once all labs are identified, output files will automatically be created and written to the export directory.

```
Select Antimicrobial Resistance Reporting System Option: AREX  Generate
Antimicrobial Resistance Transmission

This option will generate a transmission of Antimicrobial Resistance
Reporting transactions for the previous month.
You may "^" out at any prompt and will be asked to confirm your entries
prior to generating the transmission.

The date range for this run is Feb 2024.  Feb 01, 2024 to Feb 29, 2024.

In order to accurately calculate the patient days and admissions, the ADT
Census must be Recalculated up through Feb 29, 2024
The computer database location for this run is 2021 DEMO HOSPITAL (INST).

Do you want to continue? N// YES
Generating New Log entry.
Do you want to QUEUE this to run at a later time? N// O

Generating Antimicrobial Resistance transactions.  (21)
Updating log entry.
```

Figure 7-1: Sample Interaction to Generate an Antimicrobial Resistance Transmission

7.1.2 Initial Pharmacy Export (AUEx)

The process of generating the AUP Summary reports may take several minutes to complete after this option is executed. Users will not see the output files in the export directory until the CDA document generation has completed, even though the user has been brought back to the menu. A log entry is then created in the **BLRAU EXPORT LOG** file. Initial Pharmacy Extract (AUEx).

The **AUEx** option is used to generate an export of antimicrobial pharmacy data for antimicrobial use to the export directory configured in the BLRAM Ensemble Production. During the export process, medication administration data is compiled and then submitted to the CDA document generator to create Antimicrobial Use Reporting (AUP) Summary Reports in CDA format (HL7 v3) documents. Once all medications administered are identified, output files will automatically be created and written to the export directory.

The process of generating the AUP Summary reports may take several minutes to complete after this option is executed. You will not see the output files in the export directory until the CDA document generation has completed, even though you have been brought back to your menu. A log entry is then created in the **BLRAU EXPORT LOG** file.

```
Select Antimicrobial Use Reporting System Option: AUEx  Generate
Antimicrobial Use Report

This option will generate a transmission of an Antimicrobial Use
Report for a specified month/year.
You may "^" out at any prompt and will be ask to confirm your entries
prior to generating the transmission.

The date range for this run is Feb 2024.  Feb 01, 2024 to Feb 29, 2024.

The computer database location for this run is 2021 DEMO HOSPITAL (INST).

Do you want to continue? N// YES
Generating New Log entry.
Do you want to QUEUE this to run at a later time? N// O

Generating Antimicrobial Use report. ... hold on .
Updating log entry.

RUN TIME (H.M.S): 0.0.3
```

Figure 7-2: Sample Interaction to Generate an Antimicrobial Use Report Extract

8.0 Initiate the NHSN Onboarding Process

Following the successful test exports, it is recommended that your site work with the IHS OIT AUR Team to initiate the onboarding process with NHSN which is the entity that will be receiving these export files. This process is separate from the RPMS and Ensemble install process and documented separately. Please reach out to the OIT AUR Team to work through these tasks. The OIT AUR Team will help validate the file format before completing the transition from pre-production mode to production mode.

9.0 Sample Installations

9.1 Sample RPMS KIDS Install

NOTE: This example install was done on a development system, which is why the "was loaded" message appears.

```
Select OPTION NAME: XPD MAIN          Kernel Installation & Distribution System
```

```
Edits and Distribution ...
Utilities ...
Installation ...
Patch Monitor Main Menu ...
```

```
Select Kernel Installation & Distribution System <TEST ACCOUNT> Option:
INSTALLation
```

- 1 Load a Distribution
- 2 Verify Checksums in Transport Global
- 3 Print Transport Global
- 4 Compare Transport Global to Current System
- 5 Backup a Transport Global
- 6 Install Package(s)
- Restart Install of Package(s)
- Unload a Distribution

```
Select Installation <TEST ACCOUNT> Option: 1 Load a Distribution
Enter a Host File: G:\EXPORT\lr_0520.55k
```

```
KIDS Distribution saved on May 17, 2024@10:01
Comment: IHS Lab Patch LR*5.2*1055
```

This Distribution contains Transport Globals for the following Package(s):

```
Build LR*5.2*1055 has been loaded before, here is when:
LR*5.2*1055 Install Completed
was loaded on Feb 20, 2024@13:21:55
LR*5.2*1055 Install Completed
was loaded on Feb 20, 2024@13:27:10
LR*5.2*1055 Install Completed
was loaded on Mar 12, 2024@05:20:56
LR*5.2*1055 Install Completed
was loaded on Mar 13, 2024@07:20:47
LR*5.2*1055 Install Completed
was loaded on Mar 13, 2024@11:13:39
LR*5.2*1055 Install Completed
was loaded on Apr 18, 2024@05:19:05
LR*5.2*1055 Install Completed
was loaded on Apr 19, 2024@05:18:35
LR*5.2*1055 Install Completed
was loaded on Apr 23, 2024@05:37:39
LR*5.2*1055 Install Completed
was loaded on Apr 23, 2024@13:05:33
LR*5.2*1055 Install Completed
was loaded on Apr 24, 2024@14:01:52
LR*5.2*1055 Install Completed
was loaded on Apr 24, 2024@14:14:14
LR*5.2*1055 Install Completed
```

```
LR*5.2*1055      was loaded on Apr 26, 2024@10:12:36
                  Install Completed
LR*5.2*1055      was loaded on Apr 29, 2024@08:14:30
                  Install Completed
LR*5.2*1055      was loaded on May 01, 2024@23:36:50
                  Install Completed
LR*5.2*1055      was loaded on May 17, 2024@09:54:38
OK to continue with Load? NO// YES

Distribution OK!

Want to Continue with Load? YES//
Loading Distribution...

LR*5.2*1055
Use INSTALL NAME: LR*5.2*1055 to install this Distribution.

1      Load a Distribution
2      Verify Checksums in Transport Global
3      Print Transport Global
4      Compare Transport Global to Current System
5      Backup a Transport Global
6      Install Package(s)
        Restart Install of Package(s)
        Unload a Distribution

Select Installation <TEST ACCOUNT> Option: INSTAl Package(s)
Select INSTALL NAME: LR*5.2*1055      Loaded from Distribution      5/17/24@10:03
:47
=> IHS Lab Patch LR*5.2*1055 ;Created on May 17, 2024@10:01

This Distribution was loaded on May 17, 2024@10:03:47 with header of
IHS Lab Patch LR*5.2*1055 ;Created on May 17, 2024@10:01
It consisted of the following Install(s):
LR*5.2*1055
Checking Install for Package LR*5.2*1055

Install Questions for LR*5.2*1055

Incoming Files:

61      TOPOGRAPHY FIELD
Note: You already have the 'TOPOGRAPHY FIELD' File.

90476      IHS LAB CCA §170.315f(6) SNOMED Codes (including data)
Note: You already have the 'IHS LAB CCA §170.315f(6) SNOMED Codes' File.
I will REPLACE your data with mine.

90476.1    BLRAM EXPORT SPECIMEN SNOMED CODES (including data)
Note: You already have the 'BLRAM EXPORT SPECIMEN SNOMED CODES' File.
I will REPLACE your data with mine.

90476.2    BLRAU EXPORTABLE DRUGS (including data)
Note: You already have the 'BLRAU EXPORTABLE DRUGS' File.
I will REPLACE your data with mine.
```

```

9000010.25V MICROBIOLOGY
Note: You already have the 'V MICROBIOLOGY' File.

9009026.81BLRAM ANTIMICROBIAL RESISTANCE LOG
Note: You already have the 'BLRAM ANTIMICROBIAL RESISTANCE LOG' File.

9009026.82BLRAU ANTIMICROBIAL USE LOG
Note: You already have the 'BLRAU ANTIMICROBIAL USE LOG' File.

9009026.83BLRAU ANTIMICROB USE SITE PARAMETERS
Note: You already have the 'BLRAU ANTIMICROB USE SITE PARAMETERS' File.

9009026.8301BLRAU NHSN LOCATION (WARD) CODES (including data)
Note: You already have the 'BLRAU NHSN LOCATION (WARD) CODES' File.
I will REPLACE your data with mine.

9009026.8382BLRAU MEDICATION ROUTE (including data)
Note: You already have the 'BLRAU MEDICATION ROUTE' File.
I will REPLACE your data with mine.

9009026.84BLRAM EXPORT ITEMS (including data)
Note: You already have the 'BLRAM EXPORT ITEMS' File.
I will REPLACE your data with mine.

Incoming Mail Groups:

Enter the Coordinator for Mail Group 'F6 ALERTS':

Want KIDS to Rebuild Menu Trees Upon Completion of Install? NO//

Want KIDS to INHIBIT LOGONS during the install? NO//
Want to DISABLE Scheduled Options, Menu Options, and Protocols? NO//

Enter the Device you want to print the Install messages.
You can queue the install by enter a 'Q' at the device prompt.
Enter a '^' to abort the install.

DEVICE: HOME// Virtual
lqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqq
LR*5.2*1055

Install Started for LR*5.2*1055 :
    May 17, 2024@10:04

Build Distribution Date: May 17, 2024

Installing Routines:
    May 17, 2024@10:04

Running Pre-Install Routine: PRE^BLRPRE55

LR*5.2*1055 Pre Install begins.
```



```
Clearing IHS LAB CCA $170.315f(6) SNOMED Codes (#90476) File
..... 110
..... 220
..... 330
..... 440
..... 550
..... 660
..... 770
..... 880
..... 990
..... 1,100
..... 1,109
....

1109 entries were in file 90476.
1109 entries were deleted.

Clearing BLRAM EXPORT SPECIMEN SNOMED CODES (#90476.1) File
..... 110
..... 137

137 entries were in file 90476.1.
137 entries were deleted.

Clearing BLRAU EXPORTABLE DRUGS (#90476.2) File
..... 96

96 entries were in file 90476.2.
96 entries were deleted.

Clearing BLRAM EXPORT ITEMS (#9009026.84) File
..... 110
..... 220
..... 330
..... 440
..... 550
..... 660
..... 770
..... 880
..... 990
..... 1,100
..... 1,109
....

1109 entries were in file 9009026.84.
1109 entries were deleted.

LR*5.2*1055 Pre Install ends.

Installing Data Dictionaries:
    May 17, 2024@10:04:10

Installing Data:
    May 17, 2024@10:04:14

Installing PACKAGE COMPONENTS:
```

```

Installing SECURITY KEY
Installing INPUT TEMPLATE
Installing MAIL GROUP
Installing PROTOCOL
Installing LIST TEMPLATE
Installing OPTION
      May 17, 2024@10:04:14
Running Post-Install Routine: POST^BLRPST55
LR*5.2*1055 Post Install begins.

Adding Option BLRPCCER to BLRMENU.
  "BLRPCCER" Option Added.
Completed Adding BLRPCCER Option to BLRMENU.

Adding Option BLRPCCER to BLRMENU V2 REPORTS.
  "BLRPCCER" Option Added.
Completed Adding BLRPCCER Option to BLRMENU V2 REPORTS.

Re-indexing
  APCDT (COLLECTION DATE AND TIME)
Cross-Reference on V MICROBIOLOGY.....
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Re-indexing
  APATCD (COMPLETE DATE)
Cross-Reference on V MICROBIOLOGY.....
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 ACD (COMPLETE DATE)
 Cross-Reference on V MICROBIOLOGY.....
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Re-indexing ORGANISM trigger on V MICROBIOLOGY.....
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Re-indexing ANTIBIOTIC trigger on V MICROBIOLOGY.....
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    Re-indexing SITE trigger on V MICROBIOLOGY.....  
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LR*5.2*1055 Post Install ends.  
  
Updating Routine file...  
Updating KIDS files...  
LR*5.2*1055 Installed.
```

Figure 9-1: Sample Installation screen

Setup Checklist

Process	Resource Responsible	Date Completed
Confirm Lab Test Setup	Lab Staff	
Confirm Pharmacy Setup	Pharmacy Staff	
Setup BLRAM User Access	Site Admin	
Configure BLRAM Export Settings	Designated Staff	
Run Test Export – Previous Month	Designated Staff	
Initiate Onboarding with NHSN	Designated Staff	
Add Locations for NHSN Reporting	Designated Staff	
Upload Export File(s) to NHSN Portal	Designated Staff	

Glossary

Health Level 7

An international standard messaging system for passing data from one site to another. The AU/AU exports format data from RPMS to the NHSN using HL7 messages.

Onboarding

In order to attest to the CMS measure, the site will need to register with NHSN to indicate participation in the Patient Safety with the AUR module. The site will receive an NHSN assigned Facility OID to update in the AUR site parameters to allow the upload of the monthly files to NHSN.

Acronym List

Acronym	Meaning
ARO	Antimicrobial Resistance Option
AUP	Antimicrobial Use
AUR	Antimicrobial Use and Resistance
CDA	Clinical Document Architecture
CDC	Centers for Disease Control and Prevention
DNS	Domain Name System
ELR	Electronic Lab Reporting
FTP	File Transfer Protocol
HAI	Healthcare Associated Infection
HHS	Health and Human Services
HL7	Health Level Seven
ICD	International Classification of Disease
IHS	Indian Health Service
IP	Internet Protocol
LOINC	Logical Observation Identifiers Names and Codes
NHSN	National Health and Safety Network
PCC	Patient Care Component
RPMS	Resource and Patient Management System
SFTP	Secure Shell File Transfer Protocol
SVAP	Standards Version Advancement Process

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/>

Email: itsupport@ihs.gov