RESOURCE AND PATIENT MANAGEMENT SYSTEM

IHS Lab Reporting System

(LR)

Install Guide (AUR)

Version 5.2 Patch 1057
August 2025

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	November 2024	Skip Squires	All	All	Initial version
1.0.1	March 2025	Skip Squires	All	All	Updated for Release Date change, etc.
1.0.2	April 2025	Skip Squires	1	1, 2	Added Features table
1.1	August 2025	Skip Squires	All	All	Added details for AUR XML additional installation file

1.0 Release Notes

The Lab Reporting System v5.2 p1057 is designed to update the logic released in the p1055 and 1056 used 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 NSHN.

This revision to LR v5.2 p1057 includes an additional XML file to address changes to the AUR Antimicrobial Reporting functionality that was omitted in error from the initial release.

This document consists of installation instructions for the LR v5.2 p1057 national release.

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

1.1 Patch #1057 Features

Table 1-1: Patch #1057 Features

ADO Feature ID	Description
108540	VA Lab Patch LR*5.2*571 - NLT/LOINC V2.77 UPDATE
119307	VA Lab Patch LR*5.2*576 - NLT/LOINC V2.78 UPDATE
112252	BLS interface options and routine removal
114829	Modify LRTSTOUT routine to prevent <UNDEFINED> Error
113021	LR:AUR - Update AR Patient Days Count Changes for Vendor Validation
112990	LR:AUR - Update Inpatient Therapy Day Count Changes from AU Vendor Validation
111906	LR:AUR - NHSN AU Vendor Validation for Version 5.0
101110	Ref Ranges in EHR & Lab Interim Reports do not match

ADO Feature ID	Description
110916	Correct <UNDEFINED> Error in Shipping Manifest Routines
112988	LR:AUR - Update Rule 18 Changes from Vendor Validation
112132	LR:AUR - Numerator Panel Drug Size - NHSN Upload Error
111921	LR:AUR - Research Inpatient vs. ED Location - NHSN Upload Error
113419	Create Patient X-Ref in the BLRAU ANTIMICROBIAL USE LOG (#9009026.82) file
111918	LR:AUR - Add Vendor Validation IDs as Site Parameters
114065	LR:AUR - Add Custom Location Codes in Site Parameters to Override Ward Abbreviations
114839	LR AUR - Implement changes based upon NHSN Updates for 2025 Reporting

2.0 Installation Notes

Prefix: LR

Current version: 5.2

Current patch: 1057

2.1 Contents of Distribution

Table 2-1: Distributed files and descriptions

File	Description
lr__0520.57k	RPMS KIDS
BLRAM_LR_v5_2_p1057_AUR.xml	Ensemble Production AUR Installation File
BLRAM_LR_v5_2_p1057.xml	Ensemble Production Installation File
lr__0520.57i.pdf	Installation Guide
lr__0520.57o.pdf	AUR User Addendum for Patch 1057
lr__0520.57o.zip	VA Individual Installation Notes

2.2 Required Resources

- LR v5.2 through p1056
- Healthshare 2017.2 (or later) or IRIS 2022.1.3 (or later)

3.0 BLRAM Ensemble Patch Installation

This installation process assumes that your site had previously installed the LR v5.2 p1056, possibly the original release of LR v5.2 p1057 and your site has a BLRAM<RPMS> Production established. For example, if your site's production namespace is ABCD, then the BLRAMABCD production is the target of this update.

Please note that this revision to the install process is for the Ensemble files only. The additional XML file, BLRAM_LR_v5_2_p1057_AUR.xml, should be imported first successfully, then the original XML file, BLRAM_LR_v5_2_p1057.xml should be imported thereafter.

3.1 Stop BLRAM<RPMS> Namespace Production

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

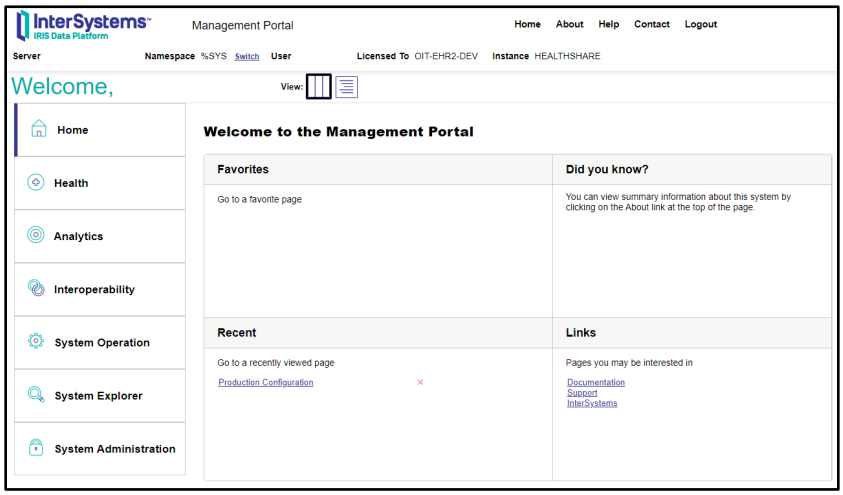

Figure 3-1: System Management Portal

2. If the Namespace: is not the BLRAM<RPMS> Namespace as described above, select **Switch** and choose the BLRAM<RPMS> from the list provided.

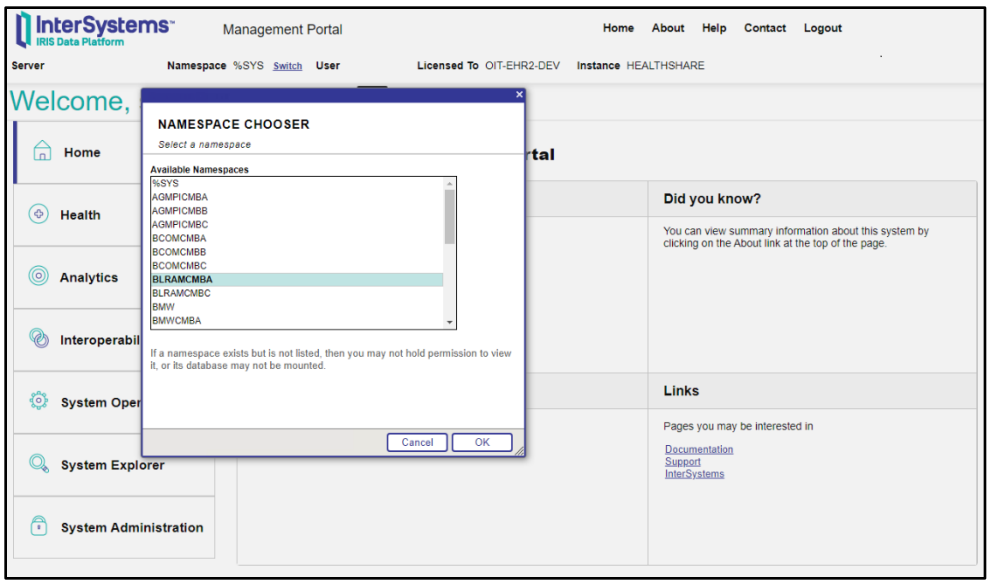

Figure 3-2: Namespace Chooser

3. Go to the **Production** configuration page.

   Select **Interoperability | Configure | Production**

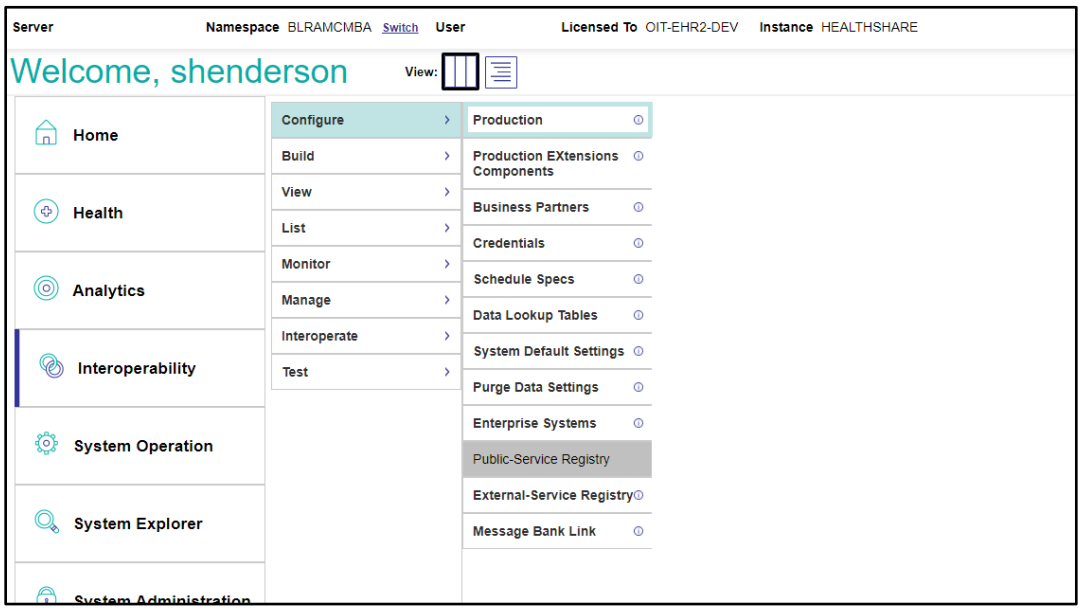

Figure 3-3: Selecting the Production

4. Select **Stop** production

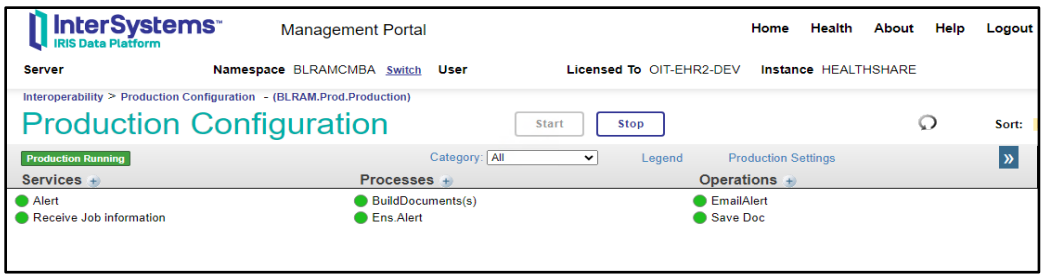

Figure 3-4: Stopping the Production

3.2 Import the BLRAM Patch Files

This section describes the import of the changes to the production with LR v5.2 p1057.

Please repeat the following steps for each XML file in the following order:

- BLRAM_LR_v5_2_p1057_AUR.xml
- BLRAM_LR_v5_2_p1057.xml

1. Go back to the **HS Management Portal** home page

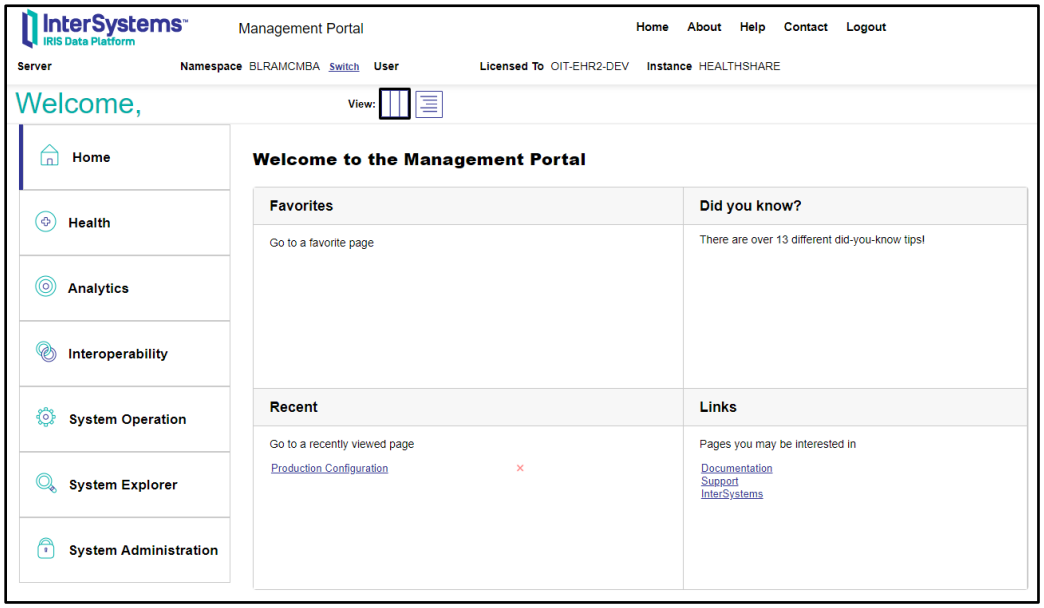

Figure 3-5: HealthShare Management Portal Home Page

2. Select **System Explorer** | **Classes**.

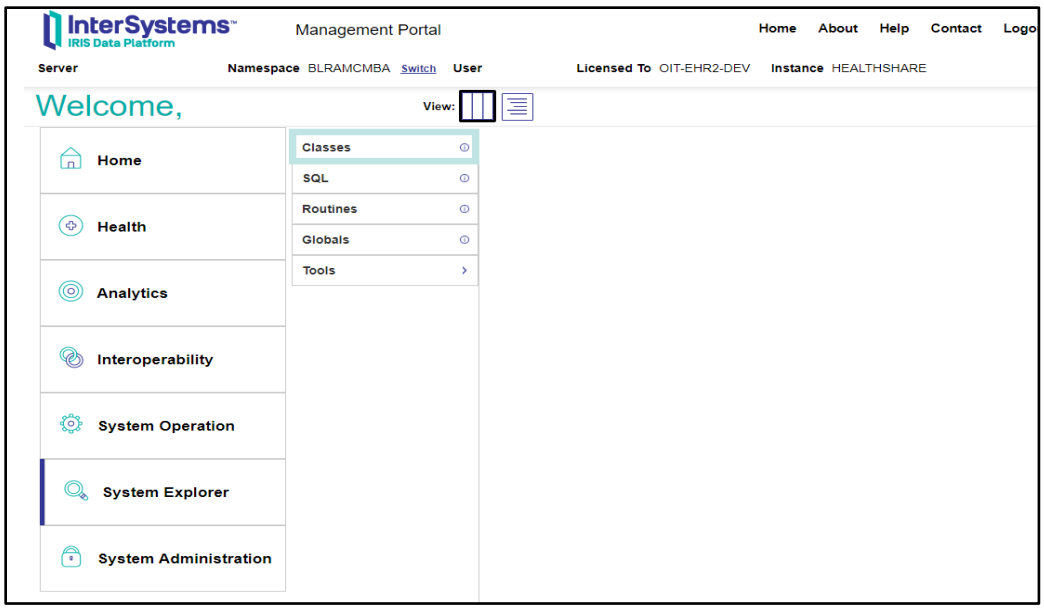

Figure 3-6: System Explorer-Classes

3. Select **Import**.

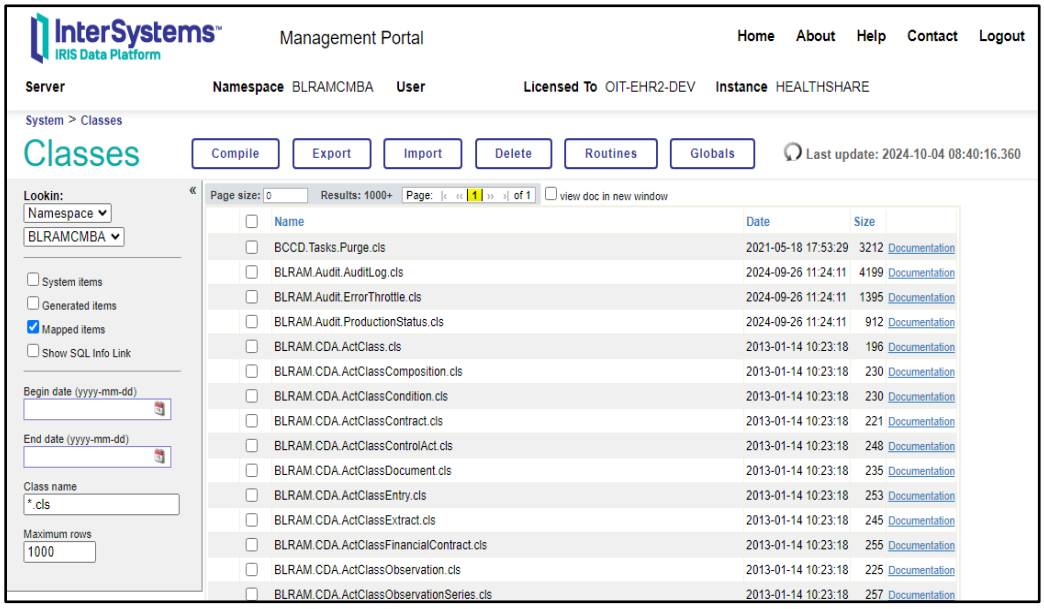

Figure 3-7: Click Import

4. Select classes to import to the BLRAM<RPMS> namespace.

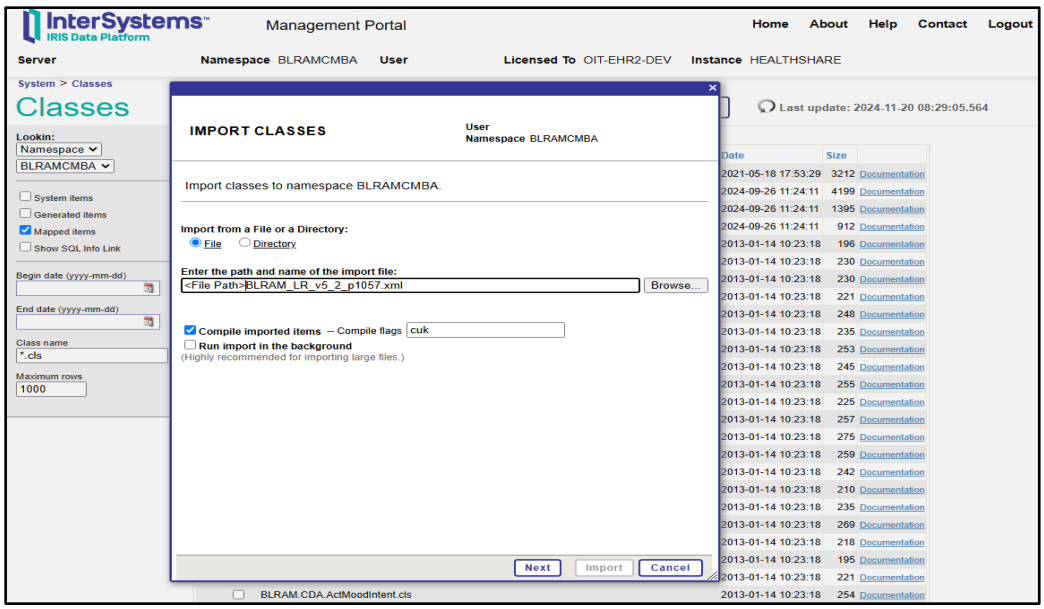

Figure 3-8: Import Classes Dialog

5. Select **Next**. Ensure all classes are selected.

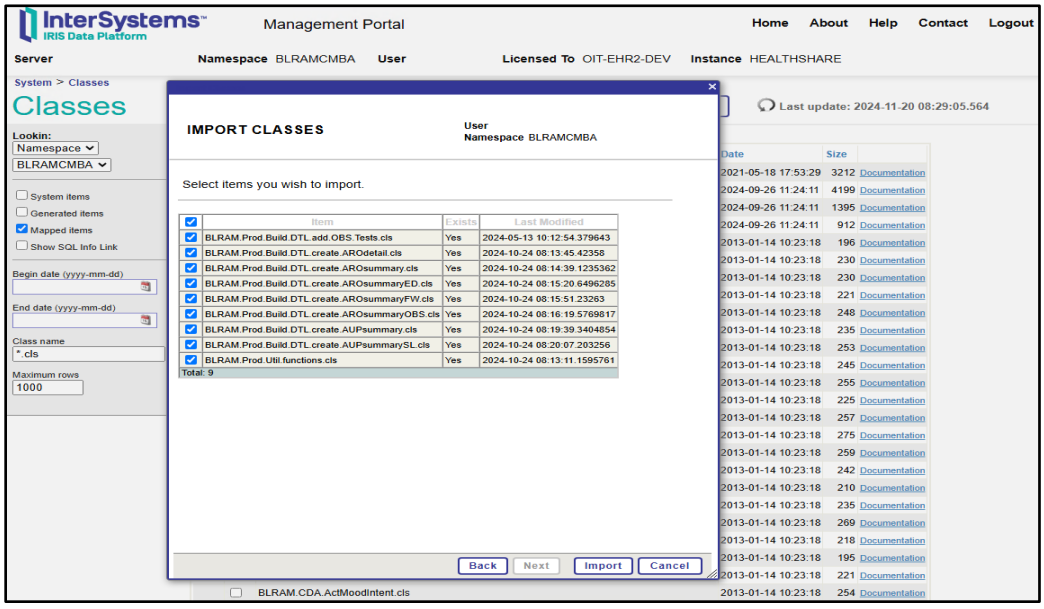

Figure 3-9: Show selected classes for import

6. Select **Import**.

7. Ensure that the load finished successfully and select **Done**.

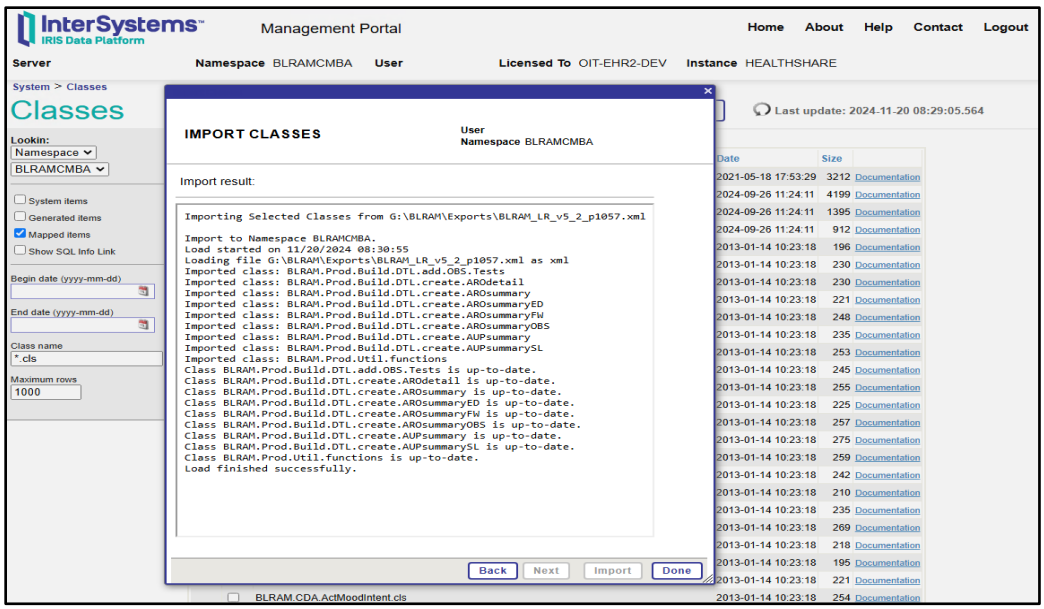

Figure 3-10: Import Classes-Import result

3.3 Restart the Production

Please ensure that both XML files have been successfully imported in the previous step before restarting the Production.

1. Go back to the **HS Management Portal** home page

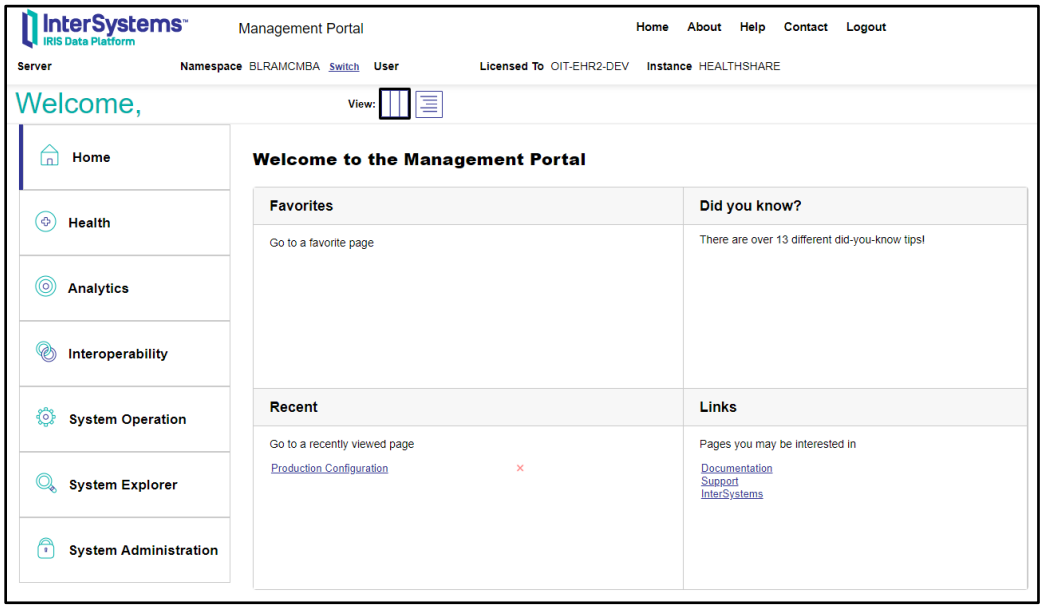

Figure 3-11: HealthShare Management Portal Home Page

2. Go to the **Production** configuration page.

Select **Interoperability | Configure | Production**

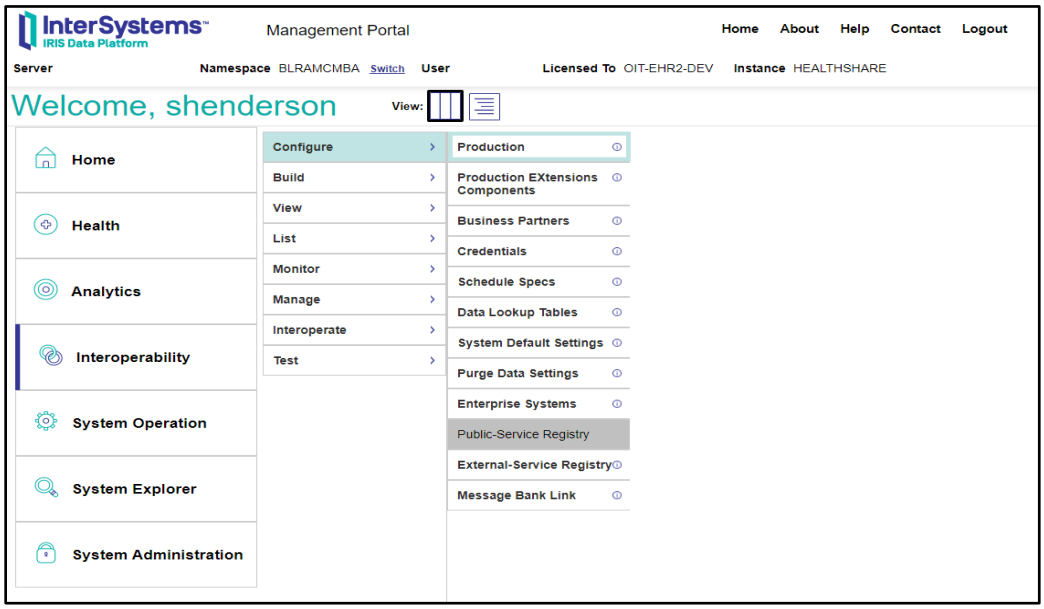

Figure 3-12: Select the Production

3. Select **Start** production

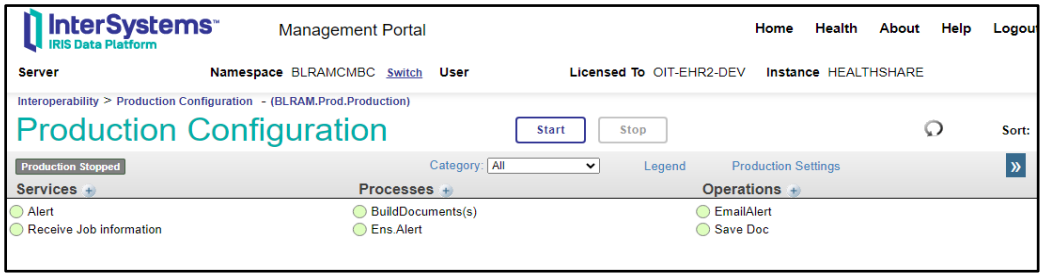

Figure 3-13: Start the Production

4.0 Sample Installations

4.1 Sample RPMS KIDS Install

Please note that if the site has already installed the original KIDS file for LR v5.2 Patch 1057, this step can be skipped.

```
  IMPORTANT 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__)520    0520.57k

KIDS Distribution saved on Nov 01, 2024@05:16:10
Comment: IHS Lab Patch LR*5.2*1057 & VA Patch LR*5.2*571

This Distribution contains Transport Globals for the following
Package(s):
   LR*5.2*1057
   LR*5.2*571
Distribution OK!

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

   LR*5.2*1057
   LR*5.2*571
Use INSTALL NAME: LR*5.2*1057 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: INSTALL Package(s)
Select INSTALL NAME: LR*5.2*1057       Loaded from Distribution
11/1/24@05:24:27
     => IHS Lab Patch LR*5.2*1057 & VA Patch LR*5.2*571
;Created on Nov 01, 2

This Distribution was loaded on Nov 01, 2024@05:24:27 with header of
   IHS Lab Patch LR*5.2*1057 & VA Patch LR*5.2*571  ;Created on
Nov 01, 2024@05:16:10
   It consisted of the following Install(s):
    LR*5.2*1057     LR*5.2*571
Checking Install for Package LR*5.2*1057

Install Questions for LR*5.2*1057

Incoming Files:


   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.


   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.


   9009026.8501BLRAM DRUG PANELS  (including data)
Note:  You already have the 'BLRAM DRUG PANELS' File.
I will REPLACE your data with mine.

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

Checking Install for Package LR*5.2*571

Install Questions for LR*5.2*571

Incoming Files:


   64        WKLD CODE
Note:  You already have the 'WKLD CODE' File.


   64.061    LAB ELECTRONIC CODES  (including data)
Note:  You already have the 'LAB ELECTRONIC CODES' File.
I will OVERWRITE your data with mine.


   64.2      WKLD SUFFIX CODES  (including data)
Note:  You already have the 'WKLD SUFFIX CODES' File.
I will OVERWRITE your data with mine.
```

```
   64.81     LAB NLT/CPT CODES  (including data)
Note:  You already have the 'LAB NLT/CPT CODES' File.
I will OVERWRITE your data with mine.


   95.3      LAB LOINC  (including data)
Note:  You already have the 'LAB LOINC' File.
I will REPLACE your data with mine.


   95.31     LAB LOINC COMPONENT  (including data)
Note:  You already have the 'LAB LOINC COMPONENT' File.
I will OVERWRITE your data with mine.


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
lqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqk
qqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqql
qqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqk
qqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqql
qqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqkxxmqqqqq
qqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqj
            25            50            75                0%
Complete                                LR*5.2*1057

 Install Started for LR*5.2*1057 :
               Nov 01, 2024@05:24:50

Build Distribution Date: Nov 01, 2024

 Installing Routines:             25            50            75
                      0            25            50            75
                      3            25            50            75
                      8            25            50            75
                     12            25            50            75
                     17            25            50            75
                     22            25            50            75
                     25            25            50            75
                     30            25            50            75
                     33            25            50            75
                     38            25            50            75
                     43            25            50            75
                     47            25            50            75
                     52            25            50            75
                     55            25            50            75
                     60            25            50            75
                     65            25            50            75
                     68            25            50            75
                     73            25            50            75
                     77            25            50            75
                     82            25            50            75
                     87            25            50            75
                     90            25            50            75
                     95            25            50            75
```

```
                 100             25             50             75
                 100
               Nov 01, 2024@05:24:50

 Installing Data Dictionaries:
                  25             50             75
    0             25             50             75
                  25             25             50             75
                  50             25             50             75
                  75             25             50             75
                 100             25             50             75
                100
               Nov 01, 2024@05:24:50

 Installing Data:
               Nov 01, 2024@05:24:50

 Installing PACKAGE COMPONENTS:

 Installing OPTION             25             50             75
                0              25             50             75
              100              25             50             75
              100
              Nov 01, 2024@05:24:50

 Running Post-Install Routine: POST^BLRPST57
            25             50             75                   0

LR*5.2*1057 Post Install begins.

     Deprecation of BLS LOINC Options begins.

       "BLS CLEANUP EXPORT LOG" OUT OF ORDER field updated.
       "BLS ENTER TESTS TO EXPORT" OUT OF ORDER field updated.
       "BLS EXPORT DATA" OUT OF ORDER field updated.
       "BLS LOINC PRINT 60/LOINC MAP" OUT OF ORDER field updated.
       "BLS MAP IND TEST" OUT OF ORDER field updated.
       "BLS MAP LOINC TO TEST" OUT OF ORDER field updated.
       "BLS REMOVE A FILE(S)" OUT OF ORDER field updated.
       "BLS RESEND EXPORT FILE" OUT OF ORDER field updated.
       "BLSMENU" OUT OF ORDER field updated.

     Deprecation of BLS LOINC Options ends.


     Re-indexing begins.

       BLRAU ANTIMICROBIAL USE LOG FILE
       All Cross-References ...

     Re-indexing complete.


LR*5.2*1057 Post Install ends.

 Updating Routine file...            25             50             75
                       0             25             50             75
                      40             25             50             75
                      80             25             50             75
                     100

 Updating KIDS files...            25             50             75
```

```
                     0             25             50             75
                    20             25             50             75
                    40             25             50             75
                    80             25             50             75
                   100

 LR*5.2*1057 Installed.
               Nov 01, 2024@05:24:50

 NO Install Message sent                                    LR*5.2*571

 Install Started for LR*5.2*571 :
               Nov 01, 2024@05:24:50

Build Distribution Date: Nov 01, 2024

 Installing Routines:             25             50             75
                   0              25             50             75
                 100              25             50             75
                 100
               Nov 01, 2024@05:24:50

 Running Pre-Install Routine: PRE^LR571
               25             50             75
                0

               Sending install started alert to mail group G.LMI

                         *** Pre install completed ***

 Installing Data Dictionaries:
                                25             50             75
                  0             25             50             75
                 17             25             50             75
                 33             25             50             75
                 50             25             50             75
                 67             25             50             75
                 83             25             50             75
                100             25             50             75
                100
               Nov 01, 2024@05:24:50

Installing Data:

** ERROR IN DATA FOR FILE # 64.061 **
Record with .01 value Pt and internal entry #10679
could not be added to file 64.061.

Record with .01 value PrThr and internal entry #10680
could not be added to file 64.061.

Record with .01 value Imp and internal entry #10681
could not be added to file 64.061.

Record with .01 value ThreshNum and internal entry #10682
could not be added to file 64.061.

Record with .01 value Prid and internal entry #10683
could not be added to file 64.061.

Record with .01 value Ord and internal entry #10684
could not be added to file 64.061.
```

```
Record with .01 value Qn and internal entry #10685
could not be added to file 64.061.

[All detail excluded due to size]

Record with .01 value 102107 and internal entry #102107
could not be added to file 95.3.

Record with .01 value 103149 and internal entry #103149
could not be added to file 95.3.

Record with .01 value 103156 and internal entry #103156
could not be added to file 95.3.

Record with .01 value 103224 and internal entry #103224
could not be added to file 95.3.
               Nov 01, 2024@05:26:39
```

Figure 4-1: Sample Installation screen

All errors will not be included in the sample install display.

```
Running Post-Install Routine: POST^LR571
             25             50             75
0

                          *** Post install started ***
                          ..........................................

              Sending install completion alert to mail group G.LMI
.....................................................................
.....................................................................
.......................................

*** Update of LOINC Files: 129.1  129.11  129.12  129.13 started ***

*** Update of LOINC Files: 129.1 129.11 129.12 129.13 completed ***

                         *** Post install completed ***

 Updating Routine file...
                                  25             50             75
                   0              25             50             75
                  40              25             50             75
                  80              25             50             75
                 100

 Updating KIDS files...           25             50             75
                   0              25             50             75
                  20              25             50             75
                  40              25             50             75
                  80              25             50             75
                 100

 LR*5.2*571 Installed.
               Nov 01, 2024@05:26:41

 Not a VA primary domain
```

```
 NO Install Message sent

Install Completed




   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

Installation of patch LR*5.2*571 completed on Nov 01, 2024@05:26:39
Installation of patch LR*5.2*571 started on Nov 01, 2024@05:24:50
          Enter  "VA to jump to VIEW ALERTS option


Select Installation <TEST ACCOUNT> Option: VA  View Alerts



 1.I  Installation of patch LR*5.2*571 completed on Nov 01, 2024@05:26:39
 2.I  Installation of patch LR*5.2*571 started on Nov 01, 2024@05:24:50
          Select from 1 to 2
          or enter ?, A, I, D, F, S, P, M, R, or ^ to exit: 1

Processed Alert Number 1
    Installation of patch LR*5.2*571 completed on Nov 01, 2024@05:26:39



Continue (Y/N) or F(orward) or R(enew) YES//



 1.I  Installation of patch LR*5.2*571 started on Nov 01, 2024@05:24:50
          Select from 1 to 1
          or enter ?, A, I, D, F, S, P, M, R, or ^ to exit: 1

Processed Alert Number 1
    Installation of patch LR*5.2*571 started on Nov 01, 2024@05:24:50



Continue (Y/N) or F(orward) or R(enew) YES//


   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:
```

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

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

Do you really want to halt? YES//
Install Completed
```

Figure 4-2: Sample Installation screen

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