Oracle® Health Sciences Information Manager

OHMPI Installation and Configuration Guide

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Oracle Health Sciences Information Manager OHMPI Installation and Configuration Guide, Release 1.2

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Contents

Preface

Oracle Health Sciences Information Manager (OHIM) leverages the CONNECT open source, reference architecture and Oracle server virtualization to provide a broad range of international-standards-based web services to HIE applications in a management and performanceoptimized solution, an ideal complement to the Oracle Exadata hardware appliance and pre-installed Oracle VM.

Audience

This document is intended for users that want to install and configure OHIM OHMPI templates and then configure CONNECT software on OHIG Adapter VM and Gateway VM for OHMPI.

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Related Documents

For more information, see the following documents in the Oracle Health Sciences Information Manager Release 1.2 documentation set:

- *Oracle Health Sciences Information Manager Release Notes* (Part Number E22763-01)
- *Oracle Health Sciences Information Manager Policy Monitor Installation and Configuration Guide* (Part Number E22760-01)
- *Oracle Health Sciences Information Manager Policy Engine Installation and Configuration Guide* (Part Number E22759-01)
- *Oracle Health Sciences Information Manager Record Locator Service Installation and Configuration Guide* (Part Number E22761-01)

Conventions

The following text conventions are used in this document:

Convention	Meaning
boldface	Boldface type indicates graphical user interface elements associated with an action, or terms defined in text or the glossary.
italic	Italic type indicates book titles, emphasis, or placeholder variables for which you supply particular values.
`monospace`	Monospace type indicates commands within a paragraph, URLs, code in examples, text that appears on the screen, or text that you enter.

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Installing and Configuring OHIM OHMPI

This chapter provides instructions for installing and configuring the Oracle Health Sciences Information Manager (OHIM) OHMPI VM template. It also provides instructions on how to configure CONNECT software on OHIG Adapter/Gateway VMs to make use of OHMPI.

This chapter includes the following sections:

1.1 Understanding OHIM OHMPI Components and Templates

The OHIM OHMPI template uses the "Paravirtualized" virtualization method. The template is distributed as a compressed tar file (`*.tgz`). The compressed tar file contains two binary files and a text file. The binary files are the disk images taken from a fully configured and functional VM. The text file is a VM configuration file.

1.1.1 OHIM OHMPI Components

The contents of the compressed tar file is listed below:

- Disk Image with Oracle Software

  `/appliance.img`

- Disk Image with Operating System

  `/System.img`

- VM Configuration File

  `/vm.cfg`

1.1.2 OHMPI VM Template

The VM consists of the following pre-installed software:

- Oracle Enterprise Linux 5 (as in `System.img`)

  http://www.oracle.com/technetwork/topics/linux/whatsnew/index.html

- OHIM specific software (as in `appliance.img`)
  - Apache Ant 1.8.1

    Install directory: `/home/common/ant`
  - Java Development Kit 1.6.0_X

    Install directory: `/home/common/java/latest` *(symbolic link to JDK 1.6.0_X)*
  - For hiauser *only*:
    * OHIM Ant Configuration Utility

      Install directory: `/home/hiauser/config`
    * Netbeans 6.9.1

      Install directory: `/home/hiauser/OracleHealthcareMPIv1_1/netbeans`
    * GlassFish Enterprise Server 2.1.1

      Install directory: `/home/hiauser/OracleHealthcareMPIv1_1/glassfish`

      Admin user

      Username: `admin`

      Password: `adminadmin`

      Admin Console

      `http://<VM_IP or VM_HOST_NAME >:4848`

- VM Memory Settings:
  - 2 GB (2048 MB) of RAM

    Note: The RAM memory setting can be changed after installation in VM Manager.

  - 16 GB of Disk Space
- Linux Users:
  - Root user
    * Username: `root`
    * Linux Group: `root`
    * Password: `ovsroot`
  - OHIM specific user
    * Username: `hiauser`
    * Linux Group: `hiauser`
    * Password: `hiapass`

Tip: For security purposes, it is recommended that you change the default passwords after installation.

1.2 Importing the OHIM OHMPI Template

To import the OHIM OHMPI VM template:

1. Copy the OHIM OHMPI VM template `.tgz` file to the `/OVS/seed_pool` directory of your Oracle VM Server machine.
2. Uncompress the `.tgz` file:

   `> tar -zxvf <FILENAME>.tgz`

   This step creates a directory with the name of the template.

   Example:

   ```
   > cd /OVS/seed_pool
   > tar -zxvf /OVS/seed_pool/OVM_HIMV12_X86_OHMPI_PVM.tgz
   ```

   Creates the directory:

   `/OVS/seed_pool/OVM_HIMV12_X86_OHMPI_PVM`

   Note: If you are using 64 bits, you would use `OVM_HIMV12_X86_64_OHMPI_PVM`.

3. Log in to the Oracle VM Manager

   Note: The default location for the Oracle VM Manager log in screen is `http://<VM_MANAGER_HOST_NAME>:8888/OVS`.

4. From the Oracle VM Manager console:
   a. Click the **Resources** tab. The Virtual Machine Templates screen is displayed.
   b. Click the **Import** button. The Source screen is displayed.
   c. Choose the **Select from Server Pool (Discover and register)** radio button.
   d. Click **Next**. The General Information screen is displayed.

   Enter or select the following general information:

   - The server pool on which the virtual machine will be located.

   Server Pool Name: *<SERVER_POOL_NAME>*

   - The operating system of the Virtual Machine Operating System:

   `Oracle Enterprise Linux 5`

   - The Oracle VM template to be imported.

   Virtual Machine Template Name: *<VM_TEMPLATE_NAME>*

   - The username used to log in to the Virtual Machine.

   Virtual Machine System Username: `root`

   - The password used to log in to the Virtual Machine.

   Virtual Machine System Password: `ovsroot`

e. Click **Next**. The Confirm Information screen is displayed.

f. Click **Confirm**. The Virtual Machine Template screen is displayed with a message to confirm the VM template has been imported.

5. Click the **Resources** tab to see the list of available VM templates.

6. To make the Virtual Machine template available for use, select the Virtual Machine template and click **Approve**, moving the VM template from the "Pending" state to the "Active" state.

   The VM template is imported and ready for use in Oracle VM Manager.

1.3 Creating the OHIM OHMPI VM

To create the OHIM OHMPI VM from the VM template:

1. Create a new VM using the OHMPI VM template just installed by following the instructions in the *VM Manager 2.2 User's Guide* (refer to Section 6.3.1, "Creating Virtual Machine from a Template").

2. To power on the Virtual Machine select the **Virtual Machines** tab, select the **Virtual Machine Name**, and click **Power On**.

3. In the VM Manager Console ensure that the OHMPI VM is now in the running state (Status=Running).

1.4 Installing and Configuring the OHIM OHMPI VM

This section provides instructions for configuring the OHIM Policy Engine VM.

- "How to VNC into a VM"
- "Configuring the VM Network Settings"
- "Configuring Assigning Authority Patient Feed - Application Server"
- "Configuring the OHIM OHMPI Oracle Database"
- "Installing and Configuring OHIM OHMPI"

1.4.1 How to VNC into a VM

To VNC into a VM:

Note: To enable the VNC Port link in the VM Manager follow the instructions in "Installing OVM Console" at `http://oss.oracle.com/oraclevm/manager/RPMS/README-console`.

Expand the details of the VM by clicking the **+** on **Show**. You can VNC into the box from the VM Manager by clicking on the VNC Port link under the VM details, or you can use a VNC client to log in using the address:

<VM_SERVER_HOST_NAME>:<VM_VNC_PORT>

1.4.2 Configuring the VM Network Settings

To configure the VM to use static IP:

Note: The VM is configured by default to use DHCP to assign an IP address.

If you are using DHCP addressing you can skip the following steps.

1. To configure the VM to use static IP, log in as the root user (default password: `ovsroot`) and set the IP using the following steps:
   a. Select **System**, **Administration**, and then **Network**.
   b. Choose **Devices**, click **Edit**, select the **Statically Set IP Address** radio button, and then enter the following values:

      - Address: *<VM_IP>*

      - Subnet mask: *<SUBNET_MASK>*

      - Default Gateway address: *<DEFAULT_GATEWAY_ADDRESS>*

      - From the Ethernet Device panel, select the **Hardware Device** tab, and then click the **Probe** button that corresponds to "Bind to MAC address".

      This sets the correct MAC address for this machine.

      Note: Make certain that you a record the MAC address.

   c. Click **OK**.
   d. Choose **File** and then click **Save**.
   e. Click the **DNS** tab and then enter the following values:

      - Hostname: *<VM_HOST_NAME>*

      - Primary DNS: *<PRIMARY_DNS>*

      - Secondary DNS: *<SECONDARY_DNS>*

      - Tertiary DNS: *<TERTIARY_DNS>*

      - DNS search path: *<VM_NAME_SUFFIX>*
   f. Choose **Next** and then click **Save**.
   g. Choose the **Hosts** tab, click **New**, and then enter the following values:

      - Address: *<VM_IP>*

      - Hostname: *<VM_HOST_NAME>*

      - Aliases: *<VM_NAME_PREFIX>* hostname
   h. Click **OK**.
   i. Choose **File** and then click **Save**.
   j. Restart Network Services from a terminal window.

      ```
      > service network restart
      ```
   k. Check the output for *<VM_IP>*.

      ```
      > ifconfig
      ```
   l. Check the output for *<VM_HOST_NAME>*.

```
> hostname
```

m. Check the success of:

```
> ping <VM_IP>
```

n. Check the success of:

```
> ping <VM_HOST_NAME>
```

Note: (Optional) In order to preserve the static IP address when the OVM is powered off, follow below steps, but only if the line

```
vif = ['mac=AA:BB:CC:DD:AA:CC,bridge=xenbr0']
```

does not match what you have in the `vm.cfg` file (see below).

1. Power off the Virtual Machine by selecting the **Virtual Machines** tab in the VM Manager, choose the **Virtual Machine Name**, and click **Power Off**.
2. Edit the `vm.cfg` file that is found on the VM Server under `/OVS/seed_pool/`<*template_name*> by replacing the line:

   ```
   vif = ['bridge=xenbr0,type=netfront']
   ```

   with the MAC corresponding to that virtual machine:

   ```
   vif = ['mac=AA:BB:CC:DD:AA:CC,bridge=xenbr0']
   ```

   where `AA:BB:CC:DD:AA:CC` is the MAC corresponding to the created OVM noted above.

1.4.3 Configuring Assigning Authority Patient Feed - Application Server

1. Edit the properties file `$AS_HOME/domains/domain1/config/ohmpi/patient-feed.properties` as needed. See Table 1–1, " List of Properites in the patient-feed.properties File" for a list of the `patient-feed.properties` properties.
2. Ensure that the "assigning-auth-oid" value that you enter here matches with the one that is configured in the Secure Health Email Server and the OHIG Gateway. To do this:
   a. If the Secure Health Email Server is not yet configured, look at the property "james_init.assigningAuthorityId" in the `~hiauser/config/config.properties` file as this is used during the configuration initial set up. Otherwise, if it is already configured, look at the "assigningAuthorityId" in `/home/common/james/apps/james/SAR-INF/config.xml` file.
   b. Also look at the corresponding OHIG Gateway property which is "assigningAuthorityId" in `/home/hiauser/SUNWappserver/domains/domain1/config/nhin/adapter.properties` file.

Table 1–1 List of Properites in the patient-feed.properties File

Property Name	Description	Example
enable-aa-patient-feed	"true" enables sending Assigning Authority patient feed to RLS, "false" disables it. In order for Secure Health Email to work, feed must be enabled.	`true`
registry-endpoint	The URL of RLS or XDS.b Doc Registry Web service endpoint URL.	`http://<RLS_HOST>:8080/axis2/services/xdsregistryb`
assigning-auth-oid	The Assigning Authority OID that OHMPI uses while sending a patient feed to RLS.	1.3.6.1.4.1.21367.2010.1.2.300
assigning-auth-name	The Assigning Authority Name.	OHMPI Assigning Auth
pix/device/universalID	The Object ID (OID) of the PIX V3 Device UniversalID.	1.3.6.1.4.1.21367.13.10.380
pix/device/namespaceID	The PIX V3 Device Namespace.	PIX_X_REF_MGR_Oracle
pix/organization/universalID	The OID of the PIX V3 Organization UniversalID.	1.3.6.1.4.1.21367.13.50.5380
pix/organization/namespaceID	The PIX V3 Organization NamespaceID.	Oracle

1.4.4 Configuring the OHIM OHMPI Oracle Database

To configure your Oracle Database to be used with OHMPI:

1. Log in to the VM as `hiauser` (default password: `hiapass`).
2. Copy the file from `~hiauser/config/scripts/hia11_ohmpi_db.tgz` to the host where you have a SQL Plus client present in the PATH and Bash or Sh shell is available. Uncompress the contents (for example, `tar -zxvf hia11_ohmpi_db.tgz`)
3. Login to the host having SQL Plus, and change the directory to where you copied/extracted the files in the previous step.
4. Update `create_mpi_user_tables.sh` for the below variables.

   `baseScriptsDir`: Current directory

   `DB_ADMIN_ID`: Root or Id in your Oracle DB having access to create table spaces and users

   `DB_ADMIN_PASS`: Password for above Id

   `DB_HOST`: Database host

   `DB_PORT`: Database port

   `DB_SID`: Database SID

   `MPI_USER`: MPI user name

   `MPI_USER_PASS`: Password for mpi user
5. To make sure that `sqlplus` is available in the path, run the script `create_mpi_user_tables.sh` as follows:

```
>bash create_mpi_user_tables.sh
```

1.4.5 Installing Self-signed Certificates on OHIG Adapter VM (if not done already)

1. Log in to the Adapter VM as `hiauser` (password: `hiapass`)
2. Stop the application server using the following commands:
   a. `> cd /home/hiauser/SUNWappserver/bin`
   b. `> asadmin stop-domain domain1`
3. Navigate to the directory `/home/hiauser/config/scripts` using the following command:

   ```
   > cd /home/hiauser/config/scripts
   ```
4. Run the script `create-and-import-selfsigned-certs.sh` to install the self-signed certificate. It does the following things:
   - Creates the keystore for the private internal key
   - Exports the certificate that will authenticate the internal key
   - Imports the trusted certificates into the truststore
   - Provides these certificates to `appserver` to use for authentication purposes

   ```
   > sh create-and-import-selfsigned-certs.sh
   ```
5. Install the certificates from the other components that will communicate with the Adapter (Gateway, OHMPI, Record Locator, Policy Engine, and so on). Copy the certificate of the component VM *<VM_HOSTNAME.cer>* to the `/home/hiauser/SUNWappserver/domains/domain1/config` folder. Navigate to and run the scripts `/home/hiauser/config/scripts/import-others-cert.sh`. When prompted by the scripts, enter the VM hostname (it should match with the cert file you copied to the `config` folder without ".cer" suffix).

   ```
   >bash import-others-cert.sh
   ```

1.4.6 Installing Self-signed certificates on OHIG Gateway VM (if not done already)

1. Log in to the Gateway VM as `hiauser` (password: `hiapass`)
2. Stop the application server using the following commands:
   a. `> cd /home/hiauser/SUNWappserver/bin`
   b. `> asadmin stop-domain domain1`
3. Navigate to the directory `/home/hiauser/config/scripts` using the following command:

   ```
   > cd /home/hiauser/config/scripts
   ```
4. Run the script `create-and-import-selfsigned-certs.sh` to install the self-signed certificate. It does the following things:
   - Creates the keystore for the private internal key
   - Exports the certificate that will authenticate the internal key
   - Imports the trusted certificates into the truststore
   - Provides these certificates to `appserver` to use for authentication purposes

```
> sh create-and-import-selfsigned-certs.sh
```

5. Install the Adapter VM certificate. Copy the certificate of Adapter VM *<ADAPTER_VM_HOSTNAME.cer>* to the `/home/hiauser/SUNWappserver/domains/domain1/config` folder. Navigate to and run the scripts `/home/hiauser/config/scripts/import-others-cert.sh`. When prompted by the scripts, enter the Adapter VM hostname (it should match with the cert file you copied to the config folder without ".cer" suffix).

   ```
   >bash import-others-cert.sh
   ```

1.4.7 Installing and Configuring OHIM OHMPI

> **Note:** You need to setup your Oracle Database as described in previous section before proceeding with this section.

1. Log in to the OHIM OHMPI VM as `hiauser` (default password: `hiapass`).

   > **Note:** When `hiauser` is used to login, proper environment variables and aliases are set.

2. Navigate to the `/home/hiauser/config/scripts/` folder. Modify `update_mpi_gf_resources.sh`, set `AS_HOME` to the target GlassFish installation directory.

   Run `update_mpi_gf_resources.sh`.

   ```
   >bash update_mpi_gf_resources.sh
   ```

   It will ask you for following input:

   - Please enter Oracle database host: Enter the mpi database host
   - Please enter Oracle database port: Enter the database port number
   - Please enter Oracle database SID: Enter the oracle SID (for example, `orcl`)
   - Please enter Oracle database SID: Enter the mpi user created in section 1.4.4 (see "Configuring the OHIM OHMPI Oracle Database")
   - Please enter password for mpi database user: Enter the password for the mpi user
   - Confirm password: Confirm the password

   This script will update `domain.xml` and set the database connection property.

3. This step produces a self-signed certificate for use during initial installation and testing. Use appropriate signed certificates for production use.

Note: Before proceeding to the next step, make sure that the hostname does not return a fully configured name for the Virtual Machine. Please check the following commands before proceeding:

`> hostname` (should return just the hostname)

`> hostname -f` (should return a fully configured hostname)

`> hostname -d` (should return the domain)

Navigate to and run the scripts `~hiauser/config/scripts/create-and-import-selfsigned-certs.sh`.

```
>bash create-and-import-selfsigned-certs.sh
```

The script specifically does following things:

- Creates the keystore for the private internal key
- Exports the certificate that will authenticate the internal key
- Imports the trusted certificates into the truststore
- Provides these certificates to `appserver` to use for authentication purposes

4. Install the Adapter VM certificate. Copy the certificate of Adapter VM `<ADAPTER_VM_HOSTNAME.cer>` to the `/home/hiauser/OracleHealthcareMPIv1_1/glassfish/domains/domain1/config` folder. Navigate to and run the scripts `/home/hiauser/config/scripts/import-others-cert.sh`. When prompted by the scripts, enter the Adapter VM hostname (it should match with `cert` file you copied to the `config` folder without ".cer" suffix).

   ```
   >bash import-others-cert.sh
   ```

5. Start the application server using the following commands

   a. `> cd /home/hiauser/OracleHealthcareMPIv1_1/glassfish/bin`

   b. `> asadmin start-domain domain1`

6. Login to OHMPI Master Index Data Manager (MIDM) web application.

   `http://<ohmpi_host_url>:8080/PatientMIDM`

   A default user with `MasterIndex.Admin,Administrator` group privileges has already been created in the GlassFish File realm.

   - User: `mdm`
   - Password: `mdm`

   You can use the above to log in to, or modify, the MIDM before use. Consult the GlassFish Admin guide for usage.

7. Create the following patients in the MIDM by clicking on the **Source Record** tab and choosing **Add**.

   System: SelfTest System 1

   LocalID: D123401

   FirstName: Gallow

   LastName: Younger

   SSN: 999-99-9999

Gender: Male
Date of Birth: 06/27/1999
Address Type: street address line
Address Line1: 123 Main street
City: LEESBURG
State Code: VA
Postal Code: 20176

System: SelfTest System 1
LocalID: D123407
FirstName: Jordy
LastName: LaForge
SSN: 999-99-9999
Gender: Female
Date of Birth: 11/14/1923
Address Type: delivery address line
Address Line1: 5804 Post Corners Trl
City: Centerville
State Code: VA
Postal Code: 20120

System: SelfTest System 1
LocalID: D123409
FirstName: Audrey
LastName: Kim
SSN: 999-99-9999
Gender: Female
Date of Birth: 03/14/1980
Address Type: street address line
Address Line1: 14701 Demming Drive
City: Gainsville
State Code: VA
Postal Code: 20155

System: SelfTest System 1
LocalID: D123402
FirstName: Anna

LastName: Schnur

SSN: 999-99-9999

Gender: Female

Date of Birth: 08/13/1956

Address Type: street address line

Address Line1: 312 HILL ROAD

City: HILLSBRO

State Code: MO

Postal Code: 37660

Note that the EUID returned on each of the above patients and update the PatientID in the NHINC and RLS databases. Follow the instructions below:

To update the NHINC database with new patient ids:

1. Copy the file from `~hiauser/config/scripts/hia11_ohmpi_nhinc_db.tgz` to the host where you have a SQL Plus client present in the PATH and Bash or Sh shell is available. Uncompress the contents (for example, `tar -zxvf hia11_ohmpi_nhinc_db.tgz`).
2. Update script `nhinc3_upd_nhinc_patients.sh` with variable "oracleDBScriptsDir" pointing to the path where the above file was extracted.
3. Run the script `nhinc3_upd_nhinc_patients.sh`.

   ```
   > bash nhinc3_upd_nhinc_patients.sh
   ```

4. The script will prompt for OHIG Oracle database host, port, SID, and NHINCUSER database user password.
5. When prompted, enter new patient Ids for the patients D123401/Gallow Younger, D123407/Jordy LaForge, D123409/Audrey Kim, and D123402/Anna Schnur.

To update the RLS database with new patient ids:

1. Copy the file from ohmpi VM, `~hiauser/config/scripts/hia11_ohmpi_rls_db.tgz` to the host where you have a SQL Plus client present in the PATH and Bash or Sh shell is available. Uncompress the contents (for example, `tar -zxvf hia11_ohmpi_rls_db.tgz`).
2. Update script `nhinc3_upd_rls_patients.sh` with variable "oracleDBScriptsDir" pointing to the path where the above file was extracted.
3. Run the script `nhinc3_upd_rls_patients.sh`.

   ```
   > bash nhinc3_upd_rls_patients.sh
   ```

4. The script will prompt for RLS Oracle database host, port, SID, and ADT and OMAR database users passwords.
5. When propmpted enter new patient Ids for patients D123401/Gallow Younger, D123407/Jordy LaForge, D123409/Audrey Kim and D123402/Anna Schnur.

1.5 Configuring CONNECT Software on OHIG Adapter VM and Gateway VM for OHMPI

1. Log in to the OHIG Adapter VM using `hiauser` (password: `hiapass`).

   Note: Follow the same steps for OHIG Gateway VM.

2. Update the NHIN configuration file at `~hiauser/SUNWappserver/domains/domain1/config/nhin/internalConnectionInfo.xml`.

   Locate or add the service `muralmpi` under your local Gateway's OID. Set the endpoint to point to the OHMPI just configured as shown below:

   <service>

   <name>muralmpi</name>

   <description>Mural MPI Database</description>

   <endpointURL>http://*<OHMPI_HOST>*:8080/PatientEJBService/PatientEJB</endpointURL>

   </service>

3. Modify the adaptercomponentmpiservice end point to use the MuralMPIEJB Adapter end point by changing the following:

   <service>

   <name>adaptercomponentmpiservice</name>

   <description>Master Patient Index Component</description>

   <endpointURL>http://*<ADAPTER_HOST>*:8080/CONNECTAdapter/AdapterComponentMpiService</endpoint URL>

   </service>

   to

   <service>

   <name>adaptercomponentmpiservice</name>

   <description>Master Patient Index Component</description>

   <endpointURL>http://*<ADPATER_HOST>*:8080/NhinConnect/AdapterComponentMpiService</endpointURL>

   </service>

1.6 Validating the Configuration

Using the sample universal client distributed with the Gateway:

1. Launch the application by navigating to the following URL:

   `http://<GATEWAY_VM_IP>:8080/UniversalClientGUI/`

2. Search for the patient with the last name Younger.

3. If the installation is correct, this returns a page with the PatientId for the patient.

   Note: This patient ID now comes from OHMPI.

4. Click on the PatientId hyperlink for additional details on the patient.

   The **Document** tab is now enabled and you can search for patient documents by date range.

5. Search for date range 08/01/2000 to 08/01/2010.
6. Click on the document URL to retrieve the document.

1.7 Avoiding a Java Security Certificate Exception

To avoid a `java.security.cert.CertificateException` you need to ensure that your OHIG/OHIM hostnames are not fully qualified.

To Make the Hostname Not Fully Qualified

1. Set the OHIM and OHIG hostnames to be not fully qualified.
2. Add aliases for all hosts.
3. Regenerate and re-import the certificates.
4. Restart all the servers.
5. Test that you do not have a Java security certificate exception.

A

References

This section provides links to supporting documentation and resources.

A.1 Oracle Virtual Machine

Oracle Virtual Machine (VM) Documentation Index

http://download.oracle.com/docs/cd/E15458_01/index.htm

Oracle VM Manager Release Notes

http://download.oracle.com/docs/cd/E15458_01/doc.22/e15440/toc.htm

Oracle® VM Manager Installation Guide

Release 2.2, Part Number E15439-01

http://download.oracle.com/docs/cd/E15458_01/doc.22/e15439/toc.htm

Oracle VM Manager User Guide

Release 2.2, Part Number E15441-02

http://download.oracle.com/docs/cd/E15458_01/doc.22/e15441/toc.htm

Oracle VM Server Release Notes

http://download.oracle.com/docs/cd/E15458_01/doc.22/e15443/toc.htm

Oracle® VM Server Installation Guide

Release 2.2, Part Number E15442-01

http://download.oracle.com/docs/cd/E15458_01/doc.22/e15442/toc.htm

Oracle VM Server User Guide

Release 2.2, Part Number E15444-03

http://download.oracle.com/docs/cd/E15458_01/doc.22/e15444/toc.htm

Installation of Oracle 11g Database Release 1

Oracle 11g is also available as a VM template

http://www.oracle.com/pls/db111/homepage

Oracle 11g VM Template

http://www.oracle.com/technetwork/server-storage/vm/database-092479.html

B

Acronyms

This section provides a list of commonly used acronyms.

B.1 Acronyms

ARR
Audit Record Repository

CCD
Continuity of Care Document

CDA
Clinical Document Architecture

DER
Distinguished Encoding Rules

HIE
Health Information Exchange

OHIG
Oracle Health Sciences Information Gateway

OHIM
Oracle Health Sciences Information Manager

HIO
Health Information Organization

HL7
Health Level 7

IHE
Integrating the Healthcare Enterprise

NHIE
Nationwide Health Information Exchange

NAV
Notification Of Document Availability

NHIN
Nationwide Health Information Network

NHIO
Nationwide Health Information Organization

SAML
Security Assertion Markup Language

VM
Oracle Virtual Machine

WSDL
Web-Service Definition Language

XDM
Cross-Enterprise Document Media Interchange

Glossary

This section provides definitions of commonly used words.

CONNECT

Is a software solution that supports health information exchange that implements Nationwide Health Information Network (NHIN) standards and governance to make sure that health information exchanges are compatible with other exchanges being set up throughout the country. It enables public and private organizations to participate in the NHIN by leveraging their existing health information systems.

CONNECT Adapter

The portion of the CONNECT architecture that encapsulates the components most likely to be customized or replaced by an organization implementing CONNECT.

CONNECT Gateway

The portion of the CONNECT architecture that encapsulates the components most likely to be use as-is by an organization without modification. These components are primarily responsible for orchestrating information exchange with the NHIN.

Health Information Exchange

Health Information Exchange is an entity that enables the movement of health-related data among entities within a state, a region, or a non-jurisdictional participant group, which might include "classic" regional health information organizations at regional and state levels, Health Information Organization integrated delivery systems and health plans, or health data banks that support health information exchange.

Health Information Organization

Health Information Organization is an organization that enables the movement of health-related data among entities, evolving as a replacement term for health information exchange or HIE. Healthcare Information Technology Standards Panel Or simply HITSP, a cooperative partnership between the public and private sectors formed and supported by ONC for the purpose of harmonizing and integrating standards that will meet clinical and business needs established by AHIC use cases for sharing information among organizations and systems.

Integrating the Healthcare Enterprise

Integrating the Healthcare Enterprise is an initiative by healthcare professionals and industry to improve the way computer systems in healthcare share information, promoting and coordinating the use of established standards such as DICOM and HL7 to address specific clinical need in support of optimal patient care. The Nationwide Health Information Network is being developed by ONC to provide a secure,

nationwide, interoperable health information infrastructure that will connect providers, consumers, and others involved in supporting health and healthcare.

Nationwide Health Information Network

Nationwide Health Information Network is a set of standards, services and policies that enable secure health information exchange over the Internet. The network will provide a foundation for the exchange of health information across diverse entities, within communities and across the country, helping to achieve the goals of the HITECH Act. This critical part of the national health IT agenda will enable health information to follow the consumer, be available for clinical decision making, and support appropriate use of healthcare information beyond direct patient care so as to improve population health.

Nationwide Health Information Network Gateway

Within the CONNECT solution, the implementation of the core NHIN services and service interface specifications, comprising the CONNECT gateway and CONNECT adapter. The NHIN health information exchange or NHIE, a health information exchange that implements the NHIN architecture, processes, and procedures, is accredited as a participant of the NHIN.

Oracle Virtual Machine

Oracle Virtual Machine is a platform that provides a fully equipped environment for better leveraging the benefits of virtualization technology. Oracle VM enables you to deploy operating systems and application software within a supported virtualization environment.

Oracle Virtual Machine Manager

Oracle Virtual Machine Manager provides the user interface, which is a standard ADF (Application Development Framework) web application, to manage Oracle VM Servers. It manages virtual machine lifecycle, including creating virtual machines from installation media or from a virtual machine template, deleting, powering off, uploading, deployment and live migration of virtual machines. It manages resources, including ISO files, virtual machine templates, and sharable hard disks.

Oracle Virtual Machine Server

Oracle Virtual Machine Server allows a self-contained virtualization environment designed to provide a lightweight, secure, server-based platform for running virtual machines. Oracle VM Server is based upon an updated version of the underlying Xen hypervisor technology, and includes Oracle VM Agent.

Oracle Virtual Machine Template

Oracle Virtual Machine Template provides an innovative approach to deploying a fully configured software stack by offering pre-installed and pre-configured software images. Use of Oracle VM templates eliminates the installation and configuration costs, and reduces the ongoing maintenance costs helping organizations achieve faster time to market and lower cost of operations.

Security Assertion Markup Language

Security Assertion Markup Language is an XML-based standard for exchanging authentication and authorization data between security domains.

Web Services Description Language

Web Services Description Language is an XML format for describing network services as a set of endpoints operating on messages containing either document-oriented or procedure-oriented information.

XML Schema

XML Schema is a means for defining the structure, content, and semantics of XML documents.