

Oracle Health Insurance Back Office

OHIJET Application Installation & Configuration Manual

Version 1.12

Part number: F27899-01

October 13, 2020

Copyright © 2018, 2020, Oracle and/or its affiliates. All rights reserved.

This software and related documentation are provided under a license agreement containing restrictions on use and disclosure and are protected by intellectual property laws. Except as expressly permitted in your license agreement or allowed by law, you may not use, copy, reproduce, translate, broadcast, modify, license, transmit, distribute, exhibit, perform, publish, or display any part, in any form, or by any means. Reverse engineering, disassembly, or decompilation of this software, unless required by law for interoperability, is prohibited.

The information contained herein is subject to change without notice and is not warranted to be error-free. If you find any errors, please report them to us in writing.

If this software or related documentation is delivered to the U.S. Government or anyone licensing it on behalf of the U.S. Government, the following notice is applicable:

U.S. GOVERNMENT RIGHTS

Programs, software, databases, and related documentation and technical data delivered to U.S. Government customers are “commercial computer software” or “commercial technical data” pursuant to the applicable Federal Acquisition Regulation and agency-specific supplemental regulations. As such, the use, duplication, disclosure, modification, and adaptation shall be subject to the restrictions and license terms set forth in the applicable Government contract, and, to the extent applicable by the terms of the Government contract, the additional rights set forth in FAR 52.227-19, Commercial Computer Software License (December 2007). Oracle USA, Inc., 500 Oracle Parkway, Redwood City, CA 94065.

This software is developed for general use in a variety of information management applications. It is not developed or intended for use in any inherently dangerous applications, including applications which may create a risk of personal injury. If you use this software in dangerous applications, then you shall be responsible to take all appropriate fail-safe, backup, redundancy, and other measures to ensure the safe use of this software. Oracle Corporation and its affiliates disclaim any liability for any damages caused by use of this software in dangerous applications.

Oracle is a registered trademark of Oracle Corporation and/or its affiliates. Other names may be trademarks of their respective owners.

This software and documentation may provide access to or information on content, products, and services from third parties. Oracle Corporation and its affiliates are not responsible for and expressly disclaim all warranties of any kind with respect to third-party content, products, and services. Oracle Corporation and its affiliates will not be responsible for any loss, costs, or damages incurred due to your access to or use of third-party content, products, or services.

Where an Oracle offering includes third party content or software, we may be required to include related notices. For information on third party notices and the software and related documentation in connection with which they need to be included, please contact the attorney from the Development and Strategic Initiatives Legal Group that supports the development team for the Oracle offering. Contact information can be found on the Attorney Contact Chart.

The information contained in this document is for informational sharing purposes only and should be considered in your capacity as a customer advisory board member or pursuant to your beta trial agreement only. It is not a commitment to deliver any material, code, or functionality, and should not be relied upon in making purchasing decisions. The development, release, and timing of any features or functionality described in this document remains at the sole discretion of Oracle.

This document in any form, software or printed matter, contains proprietary information that is the exclusive property of Oracle. Your access to and use of this confidential material is subject to the terms and conditions of your Oracle Software License and Service Agreement, which has been executed and with which you agree to comply. This document and information contained herein may not be disclosed, copied, reproduced, or distributed to anyone outside Oracle without prior written consent of Oracle. This document is not part of your license agreement nor can it be incorporated into any contractual agreement with Oracle or its subsidiaries or affiliates.

ORACLE JET 9.0.2 License

Oracle JET 9.0.2

You may not use the identified files except in compliance with the Universal Permissive License (UPL), Version 1.0 (the "License.")

You may obtain a copy of the License at <https://opensource.org/licenses/UPL>. A copy of the license is also reproduced below.

Unless required by applicable law or agreed to in writing, software distributed under the License is distributed on an "AS IS" BASIS, WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied.

See the License for the specific language governing permissions and limitations under the License.

Copyright (c) 2014, 2020 Oracle and/or its affiliates
The Universal Permissive License (UPL), Version 1.0

Subject to the condition set forth below, permission is hereby granted to any person obtaining a

copy of this software, associated documentation and/or data (collectively the "Software"), free of charge and under any and all copyright rights in the Software, and any and all patent rights owned or freely licensable by each licensor hereunder covering either (i) the unmodified Software as contributed to or provided by such licensor, or (ii) the Larger Works (as defined below), to deal in both

(a) the Software, and (b) any piece of software and/or hardware listed in the lrgwrks.txt file if one is included with the Software (each a "Larger Work" to which the Software is contributed by such licensors), without restriction, including without limitation the rights to copy, create derivative works of, display, perform, and distribute the Software and make, use, sell, offer for sale, import, export, have made, and have sold the Software and the Larger Work(s), and to sublicense the foregoing rights on either these or other terms.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.

CHANGE HISTORY

Release	Version	Changes
10.18.1.3.0	0.1	<ul style="list-style-type: none"> • Creation
10.18.1.3.0	0.2	<ul style="list-style-type: none"> • Revision 07-09-2018 • Add 'Back Office' to 'Prerequisites' • Revised 'Deploy HSL and PSL services'
10.18.1.3.0	0.3	<ul style="list-style-type: none"> • Revised PSL installation
10.18.1.3.0	0.4	<ul style="list-style-type: none"> • Revised architecture diagram • Minor textual changes • Revised note about hsl.tokenvalidation.rotor
10.18.1.3.0	1.0	<ul style="list-style-type: none"> • Reviewed. Slightly adjusted and updated to version 1.0.
10.18.2.0.0	1.1	<ul style="list-style-type: none"> • Republished with new part nr.
10.18.2.3.0	1.2	<ul style="list-style-type: none"> • Added description for PSL services deployment. • Added description of delivery of properties file templates.
10.19.1.0.0	1.3	<ul style="list-style-type: none"> • Added Oracle 6.1.0 JET License text • Renamed to OHIJET Application Installation & Configuration Manual • Revised and updated 'HSL and PSL services'
10.19.1.2.0	1.4	<ul style="list-style-type: none"> • Updated the list of required PSL services • Updated list of modules which require authorization
10.19.1.3.0	1.5	<ul style="list-style-type: none"> • Changed location of war files to \$OZG_BASE/java • BAC0014J, BAC0016J and BAC0018J added in the list of services which might be deployed and in the list of modules which require authorization
10.19.1.4.0	1.6	<ul style="list-style-type: none"> • Introduced OHIJET.ear and adapted deployment instructions and references to individual web service deployments.
10.19.2.0.0	1.7	<ul style="list-style-type: none"> • No changes, republished with a new part number.
10.20.1.0.0	1.8	<ul style="list-style-type: none"> • Oracle JET version has changed.
10.20.3.0.0	1.9	<ul style="list-style-type: none"> • Oracle JET version has changed.
10.20.4.0.0	1.10	<ul style="list-style-type: none"> • Oracle JET version has changed.
10.20.6.0.0	1.11	<ul style="list-style-type: none"> • Oracle JET version has changed.
10.20.7.0.0	1.12	<ul style="list-style-type: none"> • Added an extra reference to Doc[1] for the deployment of HSL services (HSL_POL, HSL_REL, etc).

RELATED DOCUMENTS

A reference in the text (**doc[x]**) is a reference to another document about a subject that is related to this document.

Below is a list of related documents:

Doc[1] OHI Back Office HTTP Service Layer (HSL) Installation & Configuration Manual (CTA13681)

Contents

1	Introduction.....	7
2	Architectural overview	8
2.1	OHIJET Application.....	8
2.2	HSL and PSL services	9
3	Prerequisites	11
3.1	Weblogic Server (WLS) Preparation	11
3.2	Database Preparation	11
3.2.1	Create a HSL database user account	11
3.2.2	Create a PSL database user account	11
3.3	OHI Back Office	12
3.4	Deploy OHIJET.ear.....	12
3.4.1	Create WLS data source for HSL database account	12
3.4.2	Create WLS data source for PSL database account.....	12
3.4.3	Configure hsl.properties	12
3.4.4	Configure psl.properties	12
3.4.5	WLS Managed Server Start arguments for psl.properties.....	13
3.4.6	Deployment.....	13
3.4.7	Testing.....	13
4	Installation of OHIJET Application	15
4.1	OHIJET Deployment.....	15
4.2	Post Installation.....	15
4.3	Updating the OHIJET Application.....	15
4.4	Deployment validation	16

1 Introduction

The OHI Back Office JET Application provides web modules for OHI Back Office users.

OHI Back Office web modules are designed from the ground up as productivity tools for power users.

Whereas most of the Forms modules help to navigate through the OHI Back Office data to support multiple potential different processes, the web modules are designed to support a specific process.

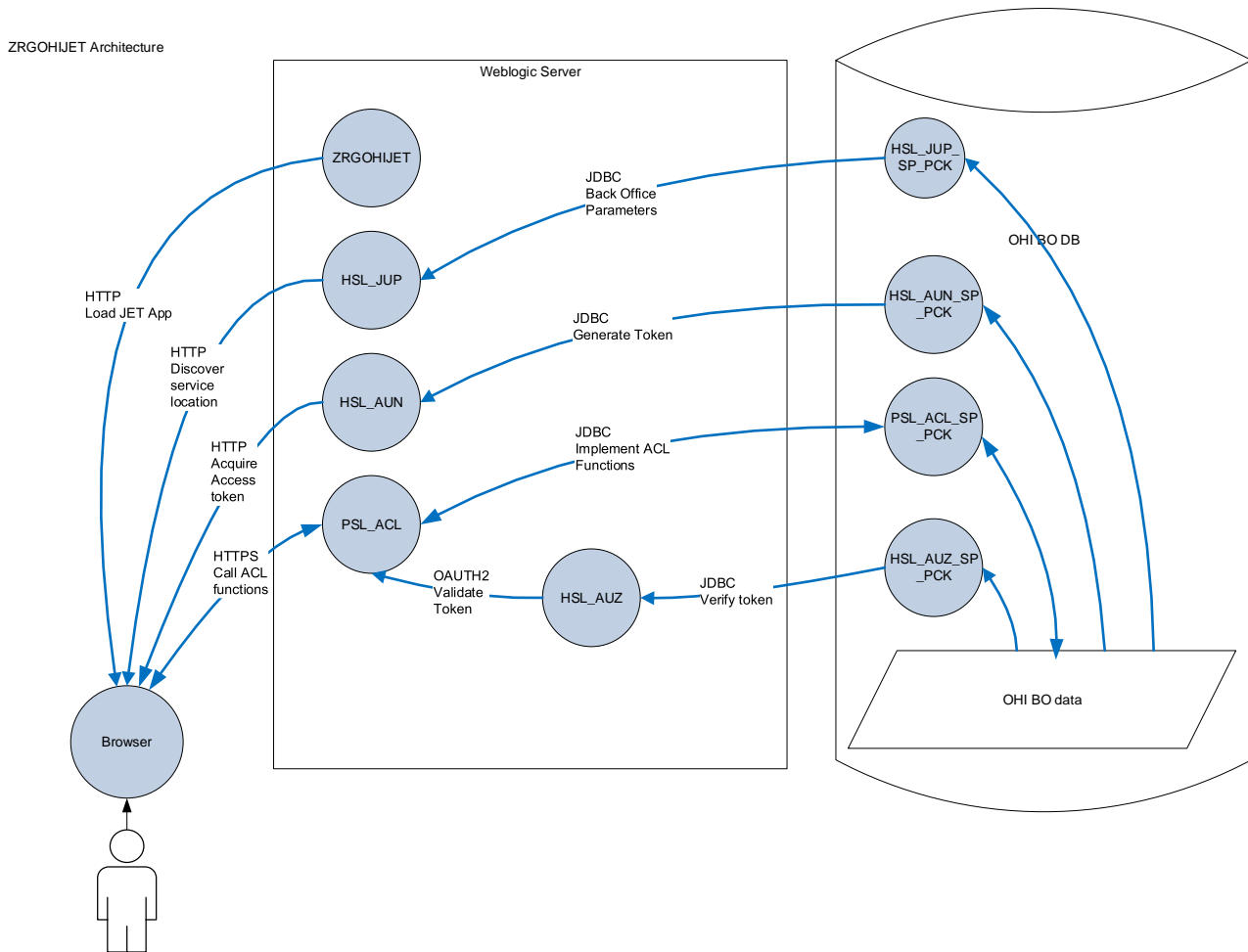
All web modules of the OHIJET application and their supporting components are packaged as a single EAR file: OHIJET.ear.

The OHIJET application is deployed to Oracle WebLogic Application Server (WLS).

This document describes how to install the OHIJET application and its related services.

2 Architectural overview

The diagram below shows the components of the OHI BO JET Application:



2.1 OHIJET Application



The OHIJET application was built using Oracle's JET toolkit for building modern web applications.

Among others, Oracle JET contains UI components, data binding support to synchronize between the front end application and a database back end, and has mobile support.

You can find more information on

<http://www.oracle.com/webfolder/technetwork/jet/index.html>

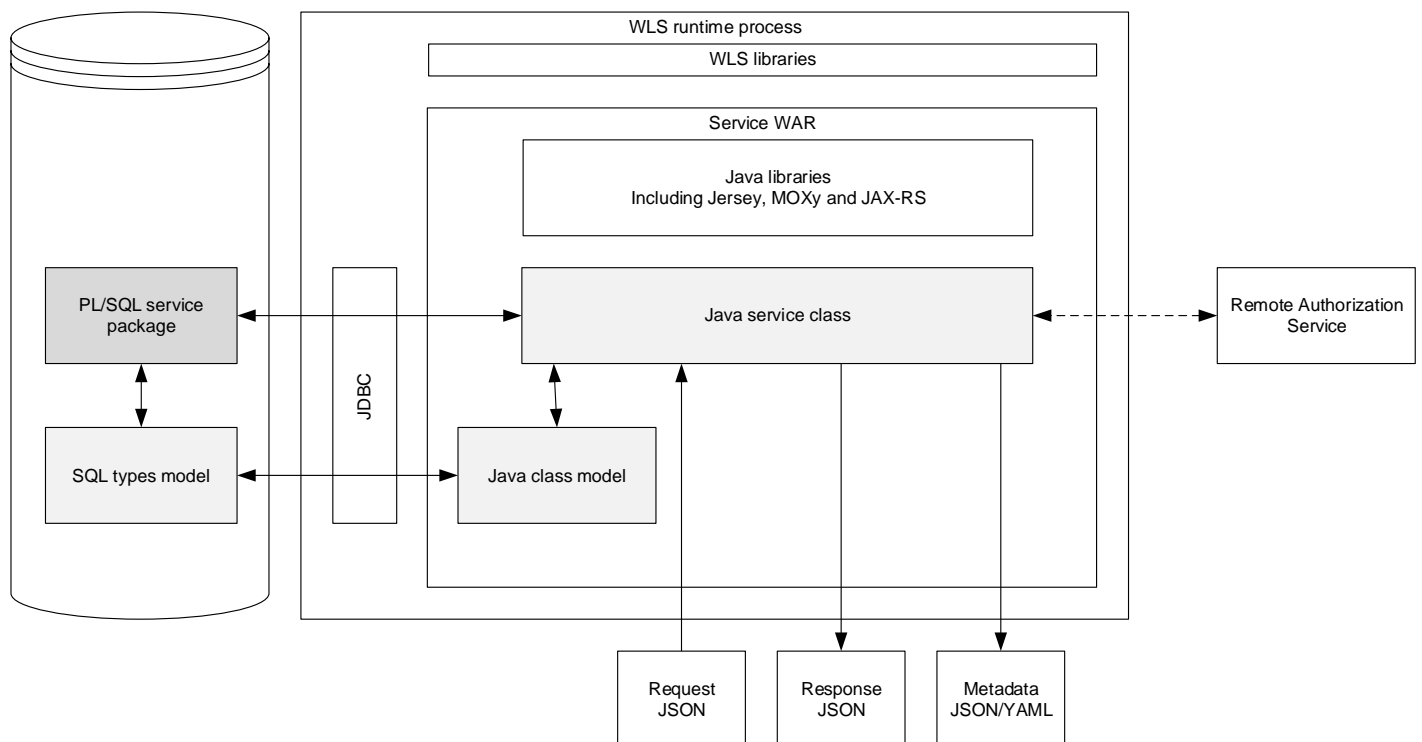
The OHIJET application consists of multiple 'components':

- OHIJET - The JET base web application
- HSL_AUN - Web service to log on to the OHI Back Office database using the credentials entered by the user. If successful, return an OAUTH2 access token and a list of 'claims', i.e. a list of modules which may be accessed by the user.
- HSL_AUZ - Web service to verify that the access token provided by the user is valid for the required service operation.
- HSL_JUP - Web service to retrieve the OHI Back Office parameter values for 'JavaScript user interface' as a list of properties.
- PSL_<app> - Many private REST services used by the JET base web application

The web application calls these HSL and PSL web services to interact with the OHI Back Office database. Ensure that the OHIJET application is deployed successfully. The corresponding EAR file (OHIJET.ear) can be found in \$OZG_BASE/java.

2.2 HSL and PSL services

The architecture of each of the HSL and PSL services is shown below:



For more information about HSL services, see [Doc\[1\]](#).

PSL services are created specifically to support OHI BO application components like the OHIJET user interface application. 'PSL' stands for 'Private Service Layer'. These services use the same technology as the HSL services but are not intended as an 'API',

so may and should not be used to support custom client applications as they may be altered without any notice.

Characteristics of PSL services:

- Specifically built to support OHI BO applications components. This means that PSL services are not intended to be called by customer applications. It also means that contents or operation of PSL service operations may be changed by OHI Back Office Development without notice.
- No online help documentation.
- Built on the same technology as HSL services.
- Configured through a 'psl.properties' file, similar to the 'hsl.properties' file used for HSL services.

3 Prerequisites

The following prerequisites apply before you can deploy the OHI Back Office JET Application.

3.1 Weblogic Server (WLS) Preparation

Follow the instructions in **Doc[1]** to prepare WebLogic Server.

Ensure that the following steps are completed:

- Create HSL properties file (as described in **Doc[1]**)
- Create PSL properties file (as described below)
- Add `-Dhsl.properties=<hsl_properties>` to Server Start parameter in WLS. Where `<hsl_properties>` refers to the location of the HSL properties file (as described in **Doc[1]**).
- Add `-Dpsl.properties=<psl_properties>` to Server Start parameter in WLS. Where `<psl_properties>` refers to the location of the PSL properties file (as described below).

Note: For OHIJET.ear you may use the same WLS domain as for the HSL and SVL services. At this moment no other 'functional' HSL services are used by the OHI Back Office JET application, so you may deploy other HSL services in the same or a different environment with a different authentication setup.

3.2 Database Preparation

Install the database components for OHI Back Office using OHIPATCH.pl.

3.2.1 Create a HSL database user account

Create a database account to call/use the HSL services, eg. 'hsl_user'. See **Doc[1]** for more information.

3.2.2 Create a PSL database user account

The PSL services require a PSL database account similar to the HSL database account:

1. Create a database account, for example PSL_USER.
2. Grant create session system privilege to the PSL database account.
3. Log on as the OHI Back Office schema owner, enable serveroutput and run:

```
alg_security_pck.psl_grants
( pi_owner    => '<ohibo_owner>'
, pi_grantee => '<psl_user_account>'
);
```

Example:

```
execute alg_security_pck.psl_grants
( pi_owner    => 'OZG_OWNER'
, pi_grantee => 'PSL_USER');
```

The notes mentioned in **Doc[1]** in the section 'Creating a HSL database account' also apply to the PSL database account.

3.3 OHI Back Office

Do not forget to set up module authorization for the OHIJET modules.

To access module authorization: Systeem > Beheer > Autorisatie > Moduleautorisatie.

3.4 Deploy OHIJET.ear

Like HSL services, the OHIJET.ear file should be deployed through Weblogic Application Server (WLS). The chapter 'Installation of HSL services' in **Doc[1]** also applies to the installation of OHIJET.ear. The instructions below are additional to these general instructions.

The corresponding ear file is available in \$OZG_BASE/java.

3.4.1 Create WLS data source for HSL database account

Create a data source for connecting to the HSL user in the OHI Back Office database. Instruction can be found in section 'Creating a data source' in **Doc[1]**.

3.4.2 Create WLS data source for PSL database account

Create a data source for PSL services, similar to 'Creating a data source' for the HSL services (as described in **Doc[1]**). But then refer to the PSL database account instead of the HSL database account.

Also be sure to use the 'psl_grants' packaged procedure instead of the 'hsl_grants' version.

3.4.3 Configure hsl.properties

The properties controlling the HSL_AUN, HSL_AUZ and HSL_JUP services are set in the hsl.properties file. Ensure that these values are set as described in Appendix E & F in **Doc[1]**.

3.4.4 Configure psl.properties

The properties controlling all PSL services are set in the psl.properties file.

With the OHI Back Office release installation, a properties file template called psl.properties.template is distributed to the \$OZG_BASE/conf/Back-Office directory. Each OHI Back Office release, may overwrite this template with an updated version. The psl.properties.template can be used as an example to create your own psl.properties file (for example in \$OZG_BASE/conf).

Please note that all values are examples. You should consider if these values are appropriate for your installation and replace them with your own values if needed. Values indicated with <<some_name>> in the templates are placeholders and must be replaced. This notation is intended to make scripted deployment easier. Also make sure not to set log level to FINE, FINER or FINEST in production mode, use SEVERE or WARNING instead.

The PSL services use the same generic properties as the HSL services (but prefixed with psl instead of hsl). These generic properties are described in more detail in chapter 'Configuration Files for HSL services' in **Doc[1]**.

The PSL services do support specifying the properties per service, using the <app> abbreviation, but this is not used under normal circumstances. Only when there is a problem OHI Support may ask you to specify for example an enhanced log level and/or separate specific log file name for a specific PSL service for which the abbreviation will be provided at such a moment. The valid abbreviations are not published.

OHI advises you to use the PSL services with OAUTH 2.0 (a 'Bearer' HTTP Authorization header with a JWT token) as authorization method, which is enforced by setting the default `psl.authorization` property to `TOKEN`. When the authorization is set to `TOKEN`, a number of specific `usercontent` and `tokenvalidation` properties must be set. These properties are explained in more detail in Appendix E in [Doc\[1\]](#), sections 'Setting user context' and 'Access Token Validation'.

3.4.5 WLS Managed Server Start arguments for psl.properties

The instructions for setting the `psl.properties` parameter are similar to those for setting 'hsl.properties' as described in the 'Installation of HSL services' chapter in [Doc\[1\]](#).

You will need to set `-Dpsl.properties=<filename>`

Example:

```
-Dpsl.properties=/ohi/envBase/vohi/conf/psl.properties
```

Add the line to file `$DOMAIN_HOME/bin/setUserOverrides.sh`:

```
JAVA_OPTIONS="-Dpsl.properties="/ohi/envBase/vohi/conf/psl.properties" ${JAVA_OPTIONS}"
```

3.4.6 Deployment

After the weblogic setup is completed and the properties files are configured, the web services can be deployed. Formerly, up to release 10.19.1.3.0, this was done separately. Starting with release 10.19.1.4.0 this is all done with a single application deployment of `OHIJET.ear`.

The procedure for deploying the `OHIJET` application is described in chapter 4, `Installation of OHIJET Application`.

3.4.7 Testing

When you have deployed the `OHIJET` application, you can test the PSL services by first getting a JWT token through the `HSL_AUN` service and pass it on a PSL service.

An example call for service `PSL_ACL`:

```
curl -i -k \  
  
  -H Authorization:\ \ Bearer\  
eyJhbnR1eU00Tg3NDg1IiwgImV4cCI6ICJ3d3cub3JhY2x1LmNvbSIsICJwcm4iOiAiaSUxJRUFULciLCAibmFtZSI6ICJCbW8gTGllYmVyd2VydGgiLCAiY2xhaW1zIjogW3sgIm5hbWUiOiAiWlJHMzA5N0oiLCAicXVlcnlfSx7IICJuYW11IjogIkpBQzAwMDhKIiwgInF1ZXJ5X29ubHkiOiBmYWxzZX0seyAibmFtZSI6ICJJCUMwMDA2SiIsICJxdWVyeV9vbmx5IjogZmFsc2V9LHsgIm5hbWUiOiAiqkFDMDAwNUoiLCAicXVlcnlfSx7IICJuYW11IjogIkpBQzAwMDhKIiwgInF1ZXJ5X29ubHkiOiBmYWxzZX0seyAibmFtZSI6ICJJCUMwMDA2SiIsICJxdWVyeV9vbmx5IjogZmFsc2V9LHsgIm5hbWUiOiAiWlJHMzA5OEoiLCAicXVlcnlfSx7IICJuYW11IjogIlpSRzMwOTlKIiwgInF1ZXJ
```

```
5X29ubHkiOiBmYWxzZX1dIH0.SGDDGIV8GdXf-  
SFFaMccvm54CC1QOExlYd9xExLqxc3Dbkigt9fAEGDmP8jB5x1Rw5K1D7b45eij  
-QisnJNvFA \
```

```
-H Content-Type\:\ application/json \
```

```
-H Accept\:\ application/json
```

```
-XGET
```

```
https\://slc10yip.us.oracle.com\:7410/PSL_ACL/acl/v1/subsequent  
check/checks
```

The long string after Bearer is the access token as returned by the HSL_AUN service.

4 Installation of OHIJET Application

The OHI Back Office web modules and REST services are packaged in a single archive named 'OHIJET.ear'. This ear file must be deployed to WLS.

Until OHI Back Office release 10.19.1.3 all warfiles related to OHIJET were deployed separately. Before deploying OHIJET.ear ensure that none of the following warfiles are deployed:

1. PSL_<app>.war: Ensure that no PSL services are deployed. If PSL services do exist they need to be deleted in the WLS console.
2. HSL_AUN, HSL_AUZ and HSL_JUP: Ensure that none of these HSL services are deployed. If these services do exist they need to be deleted in the WLS console. Note that this does not concern any of the other HSL services (e.g. HSL_POL, HSL_REL, HSL_CLA, HSL_C2B). Follow the instructions in **Doc[1]** for these other HSL services as they are not related to OHIJET.
3. ZRGOHIJET.war: Ensure that this warfile is not deployed. If this war does exist it needs to be deleted in the WLS console.

4.1 OHIJET Deployment

Although the procedure is similar to deploying HSL services you may find it useful to look at the step-by-step instructions below.

1. Select 'Deployments' from the WLS console:
2. Select 'Install' to create a new deployment.
3. Select 'OHIJET.ear'
4. Select to install the deployment as an application
5. Target the application at the managed server on which the OHIJET application should become available.
6. Finish the deployment using 'Custom Roles and Policies'.

The application is now deployed.

4.2 Post Installation

New deployments are not initially active. Either start the new deployment through the WLS console or restart the managed server(s) to which the application is deployed.

4.3 Updating the OHIJET Application

In time, more modules will be added to the OHIJET application.

When deploying a newer version of the OHIJET application, select 'Update' to update the application (ensure that the new OHIJET.ear is copied to the existing location).

Alternatively, select 'Delete' to delete the existing OHIJET application and create a new deployment as described above.

4.4 Deployment validation

When validating the deployment, all components must be correctly installed and deployed.

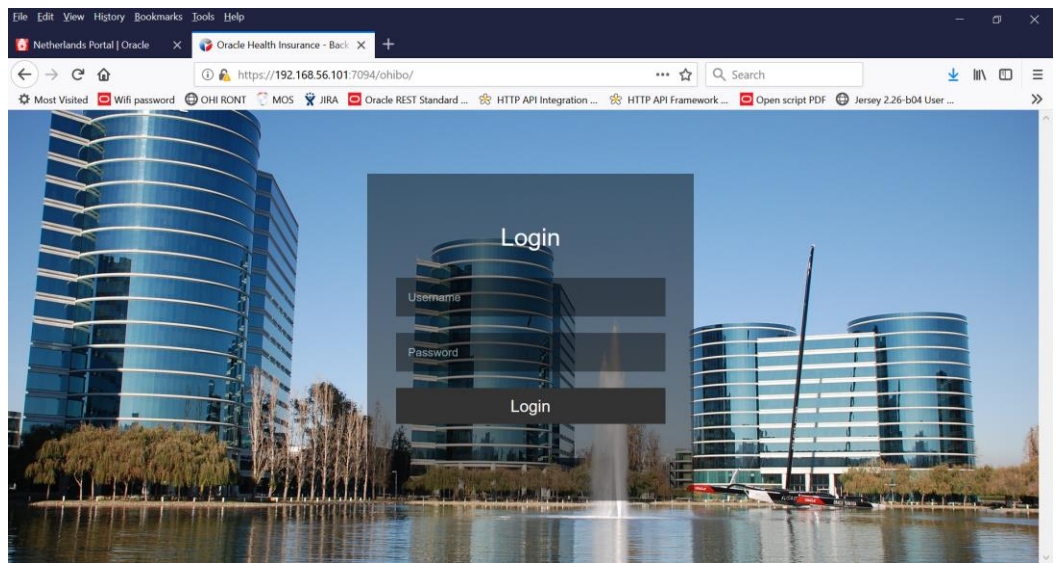
Before you continue:

- verify that you have completed all steps in 'Prerequisites'.
- verify that you have deployed and started the OHIJET.ear application as described in this chapter.

To verify the deployment, browse

<https://server:port/ohibo>

Example:



When you have successfully logged on with your OHI username and password, the screen should look like this:

