

# HP Universal Discovery for Oracle License Management Implementation Software

Software Version: 1.10

## User Guide

Document Release Date: June 2014

Software Release Date: June 2014



## Legal Notices

### Warranty

The only warranties for HP products and services are set forth in the express warranty statements accompanying such products and services. Nothing herein should be construed as constituting an additional warranty. HP shall not be liable for technical or editorial errors or omissions contained herein.

The information contained herein is subject to change without notice.

### Restricted Rights Legend

Confidential computer software. Valid license from HP required for possession, use or copying. Consistent with FAR 12.211 and 12.212, Commercial Computer Software, Computer Software Documentation, and Technical Data for Commercial Items are licensed to the U.S. Government under vendor's standard commercial license.

### Copyright Notice

© Copyright 1996 - 2014 Hewlett-Packard Development Company, L.P.

### Trademark Notices

Adobe® and Acrobat® are trademarks of Adobe Systems Incorporated.

AMD and the AMD Arrow symbol are trademarks of Advanced Micro Devices, Inc.

Google™ and Google Maps™ are trademarks of Google Inc.

Intel®, Itanium®, Pentium®, and Intel® Xeon® are trademarks of Intel Corporation in the U.S. and other countries.

Java and Oracle are registered trademarks of Oracle Corporation and/or its affiliates.

Microsoft®, Windows®, Windows NT®, Windows® XP, and Windows Vista® are U.S. registered trademarks of Microsoft Corporation.

UNIX® is a registered trademark of The Open Group.

- This product includes software developed by the Apache Software Foundation (<http://www.apache.org/>).
- This product includes OpenLDAP code from OpenLDAP Foundation (<http://www.openldap.org/foundation/>).
- This product includes GNU code from Free Software Foundation, Inc. (<http://www.fsf.org/>). This product includes JiBX code from Dennis M. Sosnoski.
- This product includes the XPP3 XMLPull parser included in the distribution and used throughout JiBX, from Extreme! Lab, Indiana University.
- This product includes the Office Look and Feels License from Robert Futrell (<http://sourceforge.net/projects/officefnfs/>).
- This product includes JEP - Java Expression Parser code from Netaphor Software, Inc. (<http://www.netaphor.com/home.asp>).

## Documentation Updates

The title page of this document contains the following identifying information:

- Software Version number, which indicates the software version.
- Document Release Date, which changes each time the document is updated.
- Software Release Date, which indicates the release date of this version of the software.

To check for recent updates or to verify that you are using the most recent edition of a document, go to: <http://h20230.www2.hp.com/selfsolve/manuals>

This site requires that you register for an HP Passport and sign in. To register for an HP Passport ID, go to: <http://h20229.www2.hp.com/passport-registration.html>

Or click the **New users - please register** link on the HP Passport login page.

You will also receive updated or new editions if you subscribe to the appropriate product support service. Contact your HP sales representative for details.

## Support

Visit the HP Software Support Online web site at: <http://www.hp.com/go/hpsoftwaresupport>

This web site provides contact information and details about the products, services, and support that HP Software offers.

HP Software online support provides customer self-solve capabilities. It provides a fast and efficient way to access interactive technical support tools needed to manage your business. As a valued support customer, you can benefit by using the support web site to:

- Search for knowledge documents of interest
- Submit and track support cases and enhancement requests
- Download software patches
- Manage support contracts
- Look up HP support contacts
- Review information about available services

- Enter into discussions with other software customers
- Research and register for software training

Most of the support areas require that you register as an HP Passport user and sign in. Many also require a support contract. To register for an HP Passport ID, go to:

<http://h20229.www2.hp.com/passport-registration.html>

To find more information about access levels, go to:

[http://h20230.www2.hp.com/new\\_access\\_levels.jsp](http://h20230.www2.hp.com/new_access_levels.jsp)

**HP Software Solutions Now** accesses the HPSW Solution and Integration Portal Web site. This site enables you to explore HP Product Solutions to meet your business needs, includes a full list of Integrations between HP Products, as well as a listing of ITIL Processes. The URL for this Web site is <http://h20230.www2.hp.com/sc/solutions/index.jsp>

---

# Universal Discovery for Oracle License Management Implementation Software

This document includes:

Overview .....	5
Supported Versions .....	5
Upgrade Path .....	5
How to Deploy the Software .....	5
What's New .....	6
Topology .....	6
Discovery Mechanism .....	8
How to Discover Oracle LMS Data .....	9
How to Access the Oracle LMS Data .....	12
How to Edit the LMS Data Customer Fields .....	13
Oracle LMS Audit Activity .....	14
Activity Name Page .....	15
Preferences Page .....	16
Schedule Discovery Page .....	17
Summary Page .....	19
Oracle LMS Data Collection by SQL Job .....	21
Oracle LMS Data Collection by SQL Adapter .....	21
Troubleshooting and Limitations .....	24

## Overview

Universal Discovery for Oracle License Management Implementation Software enables you to collect the required data for review, analysis and checking, and to send it to Oracle for use by their License Management Services division.

Universal Discovery for Oracle License Management Implementation Software uses SQL queries to the underlying Oracle databases, and enriches that data with data discovered by Universal Discovery's host discoveries.

## Supported Versions

This discovery supports Oracle version 8 and later.

## Upgrade Path

You can upgrade from Oracle LMS 1.0 to 1.10. If you are running Oracle LMS 1.0, simply install Oracle LMS 1.10.

## How to Deploy the Software

This task contains the following steps:

### 1. Prerequisite - Install UCMDB version 10.01 CUP 1 or above

This software requires the UCMDB version to be 10.01 CUP 1 or above. If UCMDB 10.01 CUP 1 or above is already installed, ignore this step and move to step 2. Otherwise, perform the following:

- To install UCMDB 10.01, follow the instructions in the interactive *HP Universal CMDB Deployment Guide*.
- To install UCMDB 10.01 CUP 1 or above, follow the instructions in the *HP Universal CMDB 10.01 CUP Release Notes* for the CUP that you are installing.

**Note:** You are recommended to ensure you have installed the latest Universal CMDB CUP.

### 2. Prerequisite - Install Universal Discovery Content Pack 12 Update 1 (CP 12.01) or above

This software requires Universal Discovery Content Pack 12 Update 1 (CP 12.01) or above. If CP 12.01 or above is already installed, ignore this step and move to step 3. Otherwise, follow the instructions for installing CP 12.01 or above in the *HP UCMDB Universal Discovery Content Pack Update (CP) Release Notes* for the Content Pack Update that you are installing.

**Note:** You are recommended to ensure you have installed the latest Universal Discovery Content Pack Update.

3. Deploy the package
  - a. Locate the file **OracleLMS.zip** on the supplied DVD, and save it to a directory on the local hard drive.
  - b. Deploy the **OracleLMS.zip** package from the local hard drive, following the instructions in the section describing how to deploy a package in the *HP Universal CMDB Administration Guide*.

## What's New

New features for Oracle LMS version 1.10 are as follows:

The discovery logic has been enhanced to use Oracle LMS scripts version 14.1. These scripts include the following new functionality:

- Usage detection for the 12c Multitenant Option.
- Enhanced usage detection for OEM Packs. Most notably, the process has been enhanced to collect and reveal real usage of OEM Packs in OEM 12c Cloud Control. This OEM version records weekly statistics about the usage of Licensed Links available in OEM pages (GUI), through a mechanism that is similar to Database feature usage statistics collection.

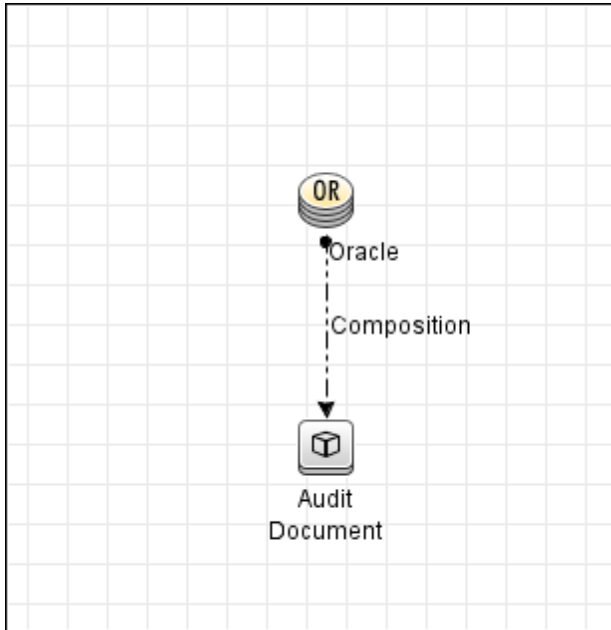
**Note:** Oracle 12c is supported when used with UCMBDB 10.10 only.

- Tuning Pack real usage measurement is also enhanced through the detection of SQL Tuning Advisor, SQL Access Advisor and SQL Tuning Sets features.
- More features of the Advanced Compression, Advanced Security, and Active Data Guard Options are now detected, including Flashback Data Archive (Total Recall), now an Advanced Compression feature.

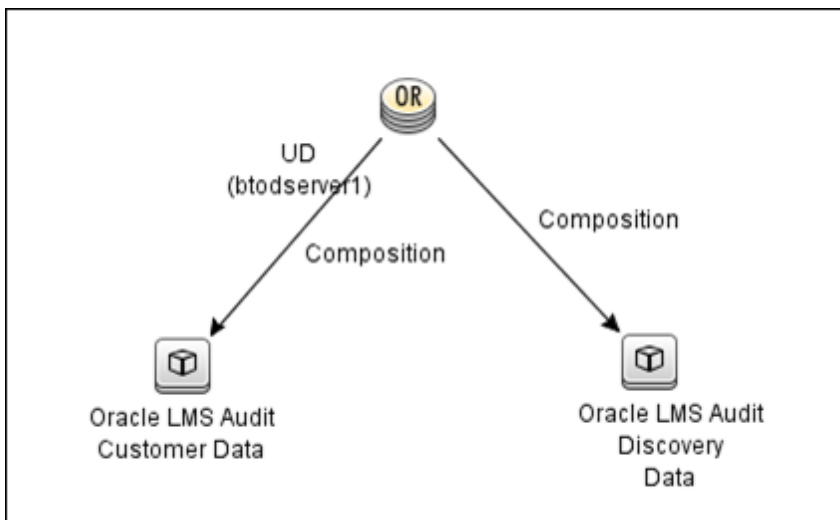
## Topology

The following image shows the Oracle topology.

**Note:** For a list of discovered CITs, see "[Discovered CITs](#)" on page 22.



The following image shows the reported CI instances.



The reported CI instances are:

- **Oracle LMS Audit Customer Data** (customer input fields)

This CI is used to store the data provided by users and has the following parameters:

- Aggregation Level
- Application Name
- Application Status
- Group
- Measurement Comments
- Oracle CSI
- Server Name in the Cluster
- User Count

- **Oracle LMS Audit Discovery Data** (CSV data)

This CI is used to store the data captured by the discovery jobs. The CSV files are generated according to that data.

## Discovery Mechanism

In outline, Universal Discovery for Oracle License Management Implementation Software:

1. Connects to the target Oracle database server using SQL.
2. Executes queries on the target Oracle database server.
3. Retrieves data discovered from other jobs (such as Inventory Discovery activity) to populate some LMS data, including `partitioning_method` and CPUs.
4. Collects user input data as LMS data.



## How to Discover Oracle LMS Data

**Note:** Installing the Oracle LMS package adds Oracle LMS related resources to UCMDB including:

- An activity in **Data Flow Management > Universal Discovery > Zone Based Discovery > New Discovery Activity > Auditing**. For more information see the section describing how to run a zone-based discovery in the *HP Universal CMDB Data Flow Management Guide*.
- The **Oracle LMS Data Collection by SQL** job in **Data Flow Management > Universal Discovery > Discovery Modules/Jobs > Discovery Modules > Auditing**.
- The **Oracle LMS Report** in **Modeling > Reports > Custom Reports > Custom > Auditing**.

## Outline

Following is the discovery process for collecting Oracle LMS data:

- Configuring and activating discovery, to discover (a) the servers hosting Oracle databases, and (b) virtualization information
- Discovering Oracle database instances
- Running the LMS job on the discovered Oracle database servers to collect the LMS data

## Task

**Note:** This part of the document describes all the task steps. You may already have completed some of these steps. If so, you do not have to repeat such steps, though you should ensure the configurations are accurate. For example, you do not need to create a new Management Zone if you already have one.

You must have full read access rights to the target Oracle database server.

This task includes the following steps:


### 1. Prerequisite - Set up protocol credentials

You must configure the following protocols:

- NTCMD, SSH, Telnet or UDA; to discover the hosts where Oracle is installed.
- Generic DB Protocol (SQL); to discover Oracle instances.
- VMware VIM; to discover virtualization topology.


For details, see the section describing Data Flow Probe Setup in the *HP Universal CMDB Data Flow Management Guide*.

## 2. Create a Management Zone

Go to **Data Flow Management > Universal Discovery > Zone Based Discovery**, and click the  button. **Select New Management Zone.**

For details, see the section describing how to run a zone-based discovery in the *HP Universal CMDB Data Flow Management Guide*.


## 3. Create an Infrastructure Discovery activity and activate it

- a. Go to **Data Flow Management > Universal Discovery > Zone-Based Discovery > Management Zones**.
- b. Select the appropriate Management Zone.
- c. Click the  button.
- d. Select **New Discovery Activity > Infrastructure**.

The **New Infrastructure Discovery Activity** dialog box appears.

For details, see "Infrastructure Discovery Activity" in the *HP UCMDB Universal Discovery Content Guide - Discovery Activities* document.

## 4. Create an Inventory Discovery activity and activate it

- a. Go to **Data Flow Management > Universal Discovery > Zone-Based Discovery > Management Zones**.
- b. Select the appropriate Management Zone.
- c. Click the  button.
- d. Select **New Discovery Activity > Inventory**.

The **New Inventory Discovery Activity** dialog box appears.


For details, see "Inventory Discovery Activity" in the *HP UCMDB Universal Discovery Content Guide - Discovery Activities* document.

### Important:


- If Oracle is also hosted on Microsoft Hyper-V, Solaris Zones, or VMware ESX, you have the following options:

- Enable **Include virtualization topology** on the **Virtualization** page of the Inventory Discovery Activity wizard.
- Create a Virtualization Discovery activity, and activate it. (See below.)
- If Oracle is hosted on IBM LPAR (HMC), Linux Xen/KVM, Oracle VM for SPARC, or HP nPartitions, you must create a Virtualization Discovery activity and activate it.

**To create a Virtualization Discovery activity and activate it:**

- i. Go to **Data Flow Management > Universal Discovery > Zone Based Discovery > Management Zones**.
- ii. Select the appropriate **Management Zone**.
- iii. Click the  button.
- iv. Select **New Discovery Activity > Software Configuration > Virtualization**.  
  
The **New Virtualization Discovery Activity** dialog box appears.
- v. Create the activity and activate it by following the online prompts through the activity wizard. You must enable discovery of the virtualization technologies that are in your environment.

**5. Create a Database Discovery activity and activate it**

- a. Go to **Data Flow Management > Universal Discovery > Zone Based Discovery > Management Zones**.
- b. Select the appropriate **Management Zone**.
- c. Click the  button.
- d. Select **New Discovery Activity > Software Configuration > Database**.

The **New Database Software Configuration Discovery Activity** dialog box appears.

- e. Create the activity and activate it by following the online prompts through the activity wizard. You must enable **Run Oracle Discovery** in the **Discovery Preferences** page of the activity wizard.

**6. Create an Oracle LMS Audit activity and run it**

For details, see "[Oracle LMS Audit Activity](#)" on page 14.

## How to Access the Oracle LMS Data

1. In **Modeling**, navigate to **Reports > Custom Reports > Auditing > Oracle LMS Report**.
2. Drag **Oracle LMS Report** to the right pane.

**Note:** You may also double-click the report to make it display in the pane.

3. Click **Export LMS Data**.

A Save dialog box is displayed. The data is saved to a zip file named, by default, **OracleLMS<date><time>** containing the following CSV files:

- **LMS\_DBA\_USERS.csv**
- **LMS\_DETAIL.csv**
- **LMS\_OPTIONS.csv**
- **LMS\_OVERVIEW.csv**
- **LMS\_V\$LICENSE.csv**
- **LMS\_V\$SESSION.csv**

See also "[How to Edit the LMS Data Customer Fields](#)" on the next page.

**Tip:** You may also access the Oracle LMS Data by exporting it using the JMX Console.

1. Login to the JMX Console on the UCMDB server.
2. Click **Discovery Manager**, and browse to **exportOracleLMSData**.
3. Enter a suitable value (an integer) for **customerId**.
4. Click **Invoke**.

Assuming UCMDB is installed in **C:\hp\UCMDB\UCMDBServer**, the file is saved to the path **C:\hp\UCMDB\UCMDBServer\runtime\discovery\customer\_<customerId>**, where <customerId> is the number you entered in the previous step.

**Note:** The LMS data from UCMDB is created in a format required by Oracle. Besides this zip file, Oracle may require other information as part of the LMS data collection. If required, you will have to work on that with Oracle.

## How to Edit the LMS Data Customer Fields

1. Go to **Modeling > IT Universe Manager**.
2. In Search CIs mode, search for the **Oracle LMS Audit Customer Data** CI in the topology map or the CI Selector, and select it.
3. In the **Advanced Pane**, select the **Properties** tab and click **Edit**.


The **Configuration Item Properties** dialog box is displayed.

4. Click **Document Content**.

A file containing the customer fields is displayed. You may edit and save the file as required.

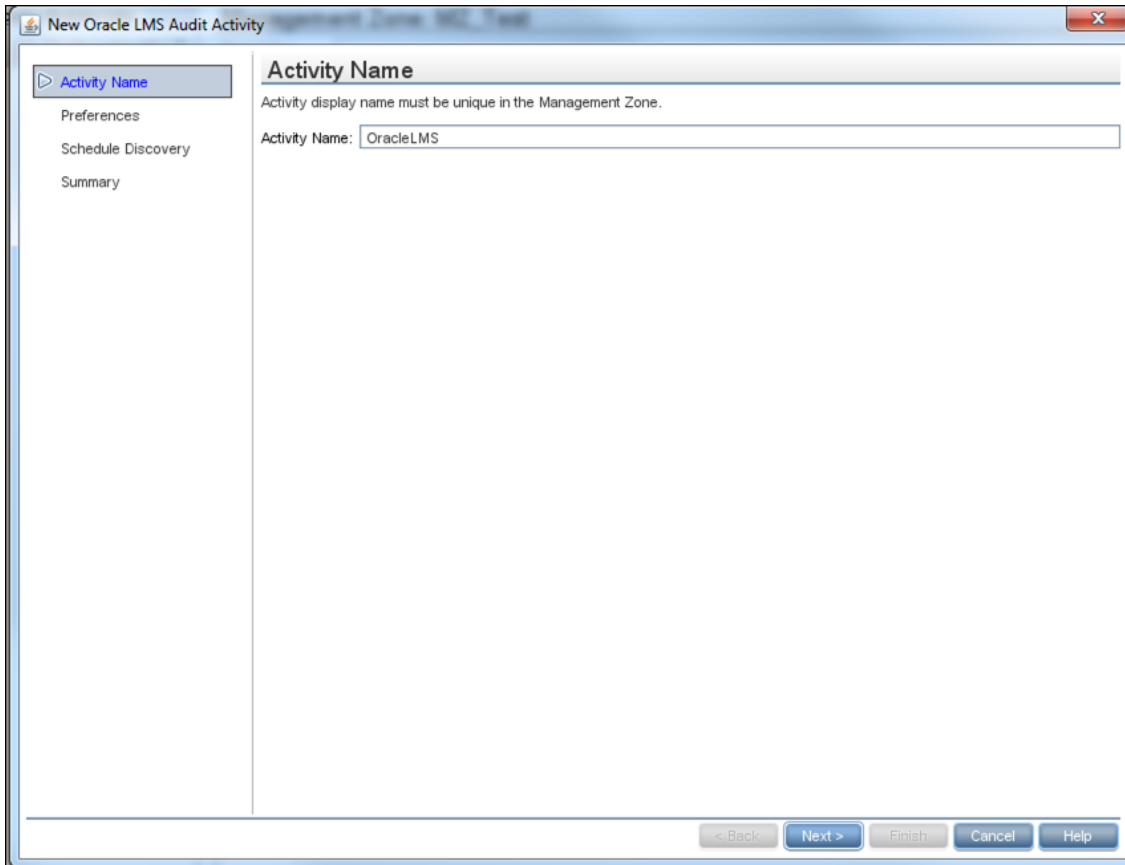
## Oracle LMS Audit Activity

Enables you to collect Oracle data.

<b>To access</b>	In <b>Data Flow Management &gt; Universal Discovery &gt; Zone-Based Discovery &gt; Management Zones</b> :  1. Select the appropriate <b>Management Zone</b>  2. Click the  button.  3. Select <b>New Discovery Activity &gt; Auditing &gt; Oracle LMS</b>  The <b>New Oracle LMS Audit Activity</b> dialog box appears.
<b>Important Information</b>	For more information, hold the pointer over a question mark icon.
<b>Wizard Map</b>	The <b>Oracle LMS Audit Activity</b> contains:  <a href="#">"Activity Name Page"</a> > <a href="#">"Preferences Page"</a> > <a href="#">"Schedule Discovery Page"</a> > <a href="#">"Summary Page"</a>

## Activity Name Page

Enables you to configure a name for the Oracle LMS Audit activity.



### Activity Name Page

<p><b>Important Information</b></p>	<p>General information about the activity is available in <a href="#">"Oracle LMS Audit Activity" on the previous page.</a></p> <p><b>Note:</b> This screen is not displayed when editing an Oracle LMS Audit activity.</p>
<p><b>Wizard Map</b></p>	<p>The <a href="#">"Oracle LMS Audit Activity"</a> contains:</p> <p><b>Activity Name Page</b> &gt; <a href="#">"Preferences Page"</a> &gt; <a href="#">"Schedule Discovery Page"</a> &gt; <a href="#">"Summary Page"</a></p>

User interface elements are described below:

UI Element (A–Z)	Description
<b>Activity Name</b>	<p>Enter a unique name for the Oracle LMS Audit activity.</p> <p><b>Note:</b> Names should consist only of alphanumeric characters (a-z, A-Z, 0-9), hyphens (-), and periods (.). Names appear in some reports. Additionally, names may also appear in the <b>Updated by</b> attribute in the <b>CI Properties</b> page if a CI was updated by a job. Names can be changed at any time, however, the <b>Job ID</b> attribute that is associated with the job name does not change.</p>

## Preferences Page

Enables you to select preferences for the Oracle LMS Audit activity.

### Preferences Page

<b>Important Information</b>	General information about the activity is available in <a href="#">"Oracle LMS Audit Activity"</a> on page 14.
<b>Wizard Map</b>	<p>The <a href="#">"Oracle LMS Audit Activity"</a> contains:</p> <p><a href="#">"Activity Name Page"</a> &gt; <b>Preferences Page</b> &gt; <a href="#">"Schedule Discovery Page"</a> &gt; <a href="#">"Summary Page"</a></p>



User interface elements are described below:

UI Element (A–Z)	Description
<b>Fill Customer Fields</b>	<p>Customer Fields are user definable fields in the Oracle LMS data.</p> <p>You may select this option and complete these fields here, if you want them to apply to all databases queried by this activity.</p> <p>Otherwise, you may set unique values for these fields in the <b>DocumentContent</b> attribute of the <b>AuditDocument</b> CI instance (named <b>Oracle LMS Audit Customer Data</b>) stored in the database.</p> <p>For details, see "<a href="#">Parameters</a>" on page 23.</p>
<b>Compressed Size</b>	<p>A limit on the size of the collected LMS data per database CI, in bytes.</p> <p><b>Default:</b> 2 MB (2,097,152 bytes).</p>

## Schedule Discovery Page

Enables you to define a schedule for the Oracle LMS Audit activity.

The screenshot shows a window titled "New Oracle LMS Audit Activity" with a sub-tab "Schedule Discovery". The window contains the following elements:

- Left Navigation Panel:**
  - Activity Name
  - Preferences
  - Schedule Discovery** (selected)
  - Summary
- Main Content Area:**
  - Schedule Discovery** (Section Header)
  - Define a schedule for running this activity on a periodic basis. You can limit the schedule and set the times when it must not run.
  - Repeat Every:  Days
  - Allow Discovery to run at:
  - Start at:
  - End by:
- Bottom Buttons:**
  - < Back
  - Next >
  - Finish
  - Cancel
  - Help

### Schedule Discovery Page

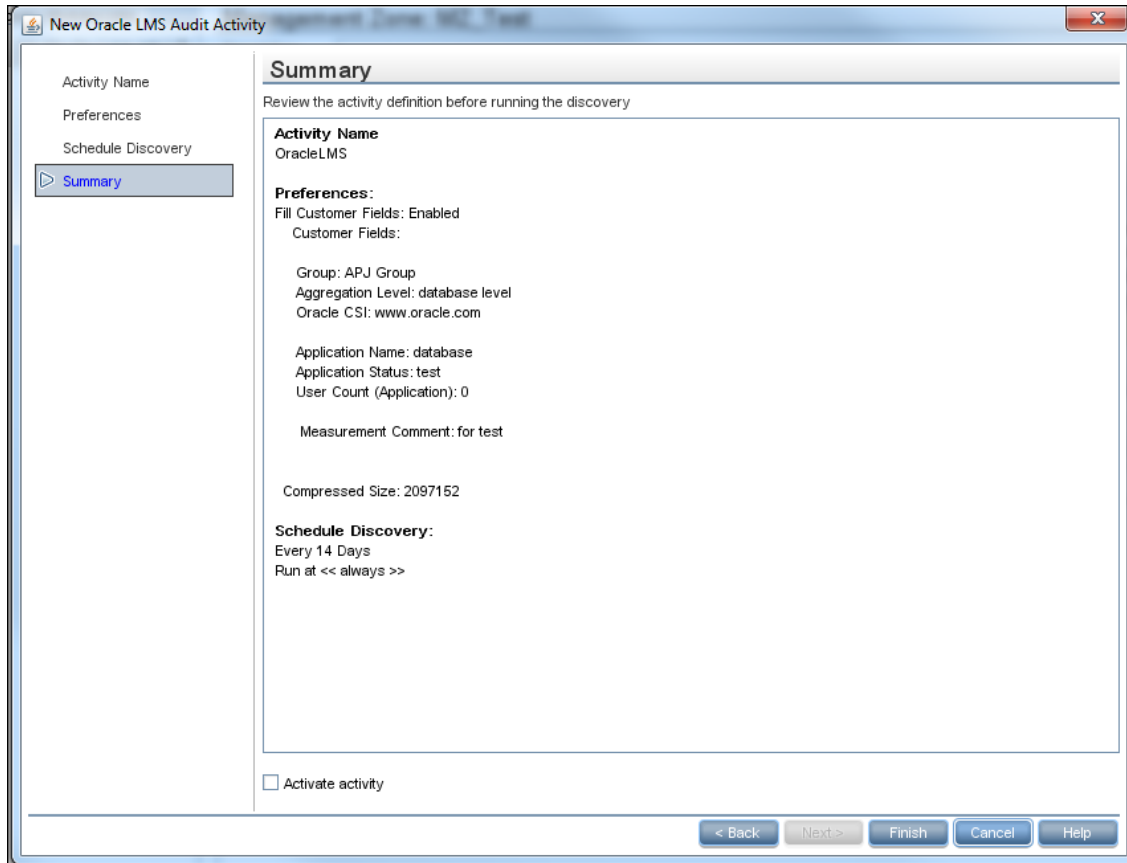
<b>Important Information</b>	General information about the activity is available in " <a href="#">Oracle LMS Audit Activity</a> " on page 14.
<b>Wizard Map</b>	The " <a href="#">Oracle LMS Audit Activity</a> " contains: " <a href="#">Activity Name Page</a> " > " <a href="#">Preferences Page</a> " > <b>Schedule Discovery Page</b> > " <a href="#">Summary Page</a> "

User interface elements are described below:

<b>UI Element (A–Z)</b>	<b>Description</b>
<b>Allow Discovery to run at</b>	Select the time template that you want to use to schedule the Oracle LMS Audit activity.
<b>End by:</b>	Choose the date and time when the Oracle LMS Audit activity must finish running by selecting the <b>End by</b> check box, opening the calendar, and selecting the date and time.
<b>Repeat Every</b>	Select how often the Oracle LMS Audit activity runs. Type or select a value for the interval between successive runs and choose the required unit of time (hours, days, or weeks).
<b>Start at:</b>	Choose the date and time when the Oracle LMS Audit activity must begin running by selecting the <b>Start at</b> check box, opening the calendar, and selecting the date and time.

## Summary Page

Enables you to review all configurations and parameter values before running the Oracle LMS Audit activity.



### Summary Page

<b>Important Information</b>	<p>Review configurations and decide whether to run the activity or go back and make changes.</p> <p>General information about the activity is available in <a href="#">"Oracle LMS Audit Activity"</a> on page 14.</p>
<b>Wizard Map</b>	<p>The <a href="#">"Oracle LMS Audit Activity"</a> contains:</p> <p><a href="#">"Activity Name Page"</a> &gt; <a href="#">"Preferences Page"</a> &gt; <a href="#">"Schedule Discovery Page"</a> &gt; <b>Summary Page</b></p>

User interface elements are described below:

UI Element (A-Z)	Description
<b>Activate Activity</b>	<p>Activates the activity upon creating it.</p> <p><b>Note:</b> If you do not want to activate the activity at this stage, you can activate it later from the Zone-Based Discovery view.</p>
<b>Finish</b>	<ul style="list-style-type: none"> <li>• <b>Creation mode:</b> Closes the wizard and adds the activity to the Management Zone tree.</li> </ul> <p><b>Note:</b> If you selected <b>Activate Activity</b>, the activity is activated upon creation.</p> <ul style="list-style-type: none"> <li>• <b>Edit mode</b> Saves the changes to the activity.</li> </ul> <p><b>Note:</b> You cannot activate the activity from the wizard in Edit mode.</p>

# Oracle LMS Data Collection by SQL Job

## Adapter

This job uses the **Oracle LMS data collection by SQL** adapter.

## Discovery Flow

1. Connect to the target Oracle database with Oracle SID or session ID using the Generic DB protocol (SQL).
2. Run the SQL query in the target Oracle database and save the result to the probe database.
3. Send the collected data from the probe database to the UCMDB server.

# Oracle LMS Data Collection by SQL Adapter

## Input CIT

Oracle

## Input TQL Query

Host with Oracle with LMS

## Triggered CI Data

Name	Value
core_number	\${Cpu.core_number:NA}
cpu_clock_speed	\${Cpu.cpu_clock_speed:NA}
cpu_specifier	\${Cpu.cpu_specifier:NA}
credentialsId	\${SOURCE.credentials_id}
discovered_host_name	\${HOST.name:NA}
discovered_model	\${HOST.discovered_model:NA}
discovered_os_name	\${HOST.discovered_os_name:NA}
discovered_vendor	\${HOST.discovered_vendor:NA}
document_content	\${ConfigurationDocument.document_content:NA}
host_isvirtual	\${HOST.host_isvirtual:NA}

Name	Value
ip_address	\${SOURCE.application_ip}
logical_cpu_count	\${Cpu.logical_cpu_count:NA}
partitioning_amazon_ec2_config	\${Amazon EC2 Config.name:NA}
partitioning_hp_npar_config	\${HP nPar Config.name:NA}
partitioning_hp_vpar_config	\${HP vPar Config.name:NA}
partitioning_hyper-v_partition_config	\${HyperV Partition Config.name:NA}
partitioning_ibm_lpar_profile	IBM LPAR Profile.name:NA}
partitioning_solaris_zone_config	\${Solaris Zone Config.name:NA}
partitioning_vmware_host_resource	\${VMware Host Resource.name:NA}
partitioning_xen_domain_config	\${Xen domain config.name:NA}
port	\${SOURCE.application_port:NA}
sid	\${SOURCE.name:NA}

## Used Scripts

- Oracle\_LMS.py
- OracleLMSDBaUsers.py
- OracleLMSDetail.py
- OracleLMSOptions.py
- OracleLMSOverview.py
- OracleLMSUtils.py
- OracleLMSVLicense.py
- OracleLMSVSession.py

## Discovered CITs

- Composition
- AuditDocument
- Oracle

## Parameters

Name	Description
<b>aggregationLevel</b>	The relevant aggregation level. For example: database level, server level, or network level.
<b>applicationName</b>	The name of the application running in conjunction with the Oracle product.
<b>applicationStatus</b>	The status of the application. For example: development, production, test environment, or training.
<b>group</b>	The relevant grouping as you define it. For example: region, or department.
<b>measurementComment</b>	Additional comments you want to add to the data.
<b>oracleCSI</b>	The Oracle Customer Support Identifier that you use when dealing with Oracle Support Services.
<b>serverNameInTheCluster</b>	If the servers are clustered, the names of the servers in the cluster.
<b>size</b>	Default size of the compressed LMS data in bytes.
<b>userCountForApplication</b>	If the DBA_USERS table has generic usernames or schemas to connect to the application or database, this is the User Count at Application Level.

## Troubleshooting and Limitations

- **Problem:** The warning message "Configuration file X size (Y) is too big" appears when running the Oracle LMS Data Collection job.

**Solution:** Increase the size parameter in the Oracle LMS Data Collection by SQL adapter to be greater than Y. You should leave some margin (for example, by making the size 10% larger than Y) to prevent reoccurrence of this problem in subsequent runs.

- **Problem:** The following warning message appears when running the Oracle LMS Data Collection job:

*"TotalPhysicalCores is not discovered. You should run an Inventory Activity to discover this data. For details, see Inventory Activity in the HP Universal CMDB Discovery and Integration Content Guide."*

**Note:** Instead of **TotalPhysicalCores**, the message may show SocketsPopulatedPhys, ProcessorIdentifier, PartitioningMethod, etc.

**Solution:** Run an Inventory Discovery or Virtualization Discovery, then re-run Oracle LMS Data Collection by SQL.