# Oracle® Fusion Middleware Release Notes for Oracle Unified Directory

11*g* Release 1 (11.1.1)

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# Contents

# Preface

This document contains the release information for Oracle Unified Directory 11*g* Release 1 (11.1.1).

## Who Should Use This Book

This book is intended for administrators and users who want to deploy Oracle Unified Directory 11*g* Release 1 (11.1.1).

## Related Books

For more information, see other documents in the Oracle Unified Directory documentation set for 11*g* Release 1 (11.1.1). They are as follows:

- *Oracle Fusion Middleware Installation Guide for Oracle Unified Directory*
- *Oracle Fusion Middleware Administration Guide for Oracle Unified Directory*
- *Oracle Fusion Middleware Command-Line Usage Guide for Oracle Unified Directory*
- *Oracle Fusion Middleware Deployment Planning Guide for Oracle Unified Directory*
- *Oracle Fusion Middleware Architecture Reference for Oracle Unified Directory*

## Related Third-Party Web Site References

Third-party URLs are referenced in this document and provide additional, related information.

**Note** – Oracle is not responsible for the availability of third-party web sites mentioned in this document. Oracle does not endorse and is not responsible or liable for any content, advertising, products, or other materials that are available on or through such sites or resources. Oracle will not be responsible or liable for any actual or alleged damage or loss caused or alleged to be caused by or in connection with use of or reliance on any such content, goods, or services that are available on or through such sites or resources.

# Documentation and Support

See the following web sites for additional resources:

- Documentation (http://www.oracle.com/technetwork/indexes/documentation/index.html)
- Support (http://www.oracle.com/us/support/software/index.html)

# Oracle Software Resources

Oracle Technology Network (http://www.oracle.com/technetwork/index.html) offers a range of resources related to Oracle software:

- Discuss technical problems and solutions on the Discussion Forums (http://forums.oracle.com).
- Get hands-on step-by-step tutorials with Oracle By Example (http://www.oracle.com/technetwork/tutorials/index.html).

# Typographic Conventions

The following table describes the typographic conventions that are used in this book.

TABLE P–1  Typographic Conventions

| Typeface | Meaning | Example |
|---|---|---|
| AaBbCc123 | The names of commands, files, and directories, and onscreen computer output | Edit your .login file. <br><br> Use ls -a to list all files. <br><br> machine_name% you have mail. |
| **AaBbCc123** | What you type, contrasted with onscreen computer output | machine_name% **su** <br><br> Password: |
| *aabbcc123* | Placeholder: replace with a real name or value | The command to remove a file is rm *filename*. |
| *AaBbCc123* | Book titles, new terms, and terms to be emphasized | Read Chapter 6 in the *User's Guide*. <br><br> A *cache* is a copy that is stored locally. <br><br> Do *not* save the file. <br><br> **Note:** Some emphasized items appear bold online. |

# Shell Prompts in Command Examples

The following table shows the default UNIX system prompt and superuser prompt for shells that are included in the Oracle Solaris OS. Note that the default system prompt that is displayed in command examples varies, depending on the Oracle Solaris release.

**TABLE P–2** Shell Prompts

| Shell | Prompt |
| --- | --- |
| Bash shell, Korn shell, and Bourne shell | `$` |
| Bash shell, Korn shell, and Bourne shell for superuser | `#` |
| C shell | `machine_name%` |
| C shell for superuser | `machine_name#` |

# 1

# Release Notes

Oracle Unified Directory is a comprehensive, high-performance, highly-extensible next generation directory service that supports large-scale deployments and is easy to deploy, manage, and monitor.

This section contains release notes for the Oracle Unified Directory 11*g* Release 1 (11.1.1) software, and is divided into the following topics:

## Overview of Oracle Unified Directory 11*g* Release 1 (11.1.1)

Oracle Unified Directory is the newest member of the Oracle Directory Server product family. This next-generation directory server is designed for performance (fast reads and writes), scalability (vertical and horizontal), ease of use, robust availability, extensibility (numerous plug-in points), security, and maintenance.

Oracle Unified Directory 11*g* Release 1 (11.1.1) can function in one of the three modes:

- As an LDAP directory server, which contains data.
- As an LDAP proxy server, where the server acts as an interface between the client and the directory server that contains the data.
- As a replication gateway between Oracle Unified Directory and Oracle Directory Server Enterprise Edition.

For specific information about installing the Oracle Unified Directory 11*g* Release 1 (11.1.1) software, see *Oracle Fusion Middleware Installation Guide for Oracle Unified Directory*.

## Support for the Oracle Directory Integration Platform

Oracle Directory Integration Platform consists of a set of services and interfaces that facilitates synchronization and provisioning solutions between the directory and other repositories.

If you want to use Directory Integration Platform to enable synchronization for Oracle Unified Directory, you need to enable the Oracle Unified Directory changelog. For more information about how to enable the changelog in Oracle Unified Directory, see the *Oracle Fusion Middleware Administration Guide for Oracle Unified Directory*.

Directory Integration Platform synchronization can be described as follows:

- "Synchronization between Oracle Unified Directory and Oracle Internet Directory" on page 10
- "Synchronization between Oracle Unified Directory and Third-Party Directories" on page 10

### Synchronization between Oracle Unified Directory and Oracle Internet Directory

Oracle Directory Integration Platform 11.1.1.5 and higher supports synchronization between Oracle Internet Directory and Oracle Unified Directory. For more information about the synchronization procedure, see the chapter, Integrating with Oracle Directory Server Enterprise Edition in the Directory Integration Platform Administrator's guide. Oracle Directory Server Enterprise Edition was formerly known as the Sun Java System Directory Server. You need to replace all references of SJSDS in the guide to OUD for synchronization to work accurately.

### Synchronization between Oracle Unified Directory and Third-Party Directories

To enable integration of Oracle Directory Integration Platform with Oracle Unified Directory, you need to apply a patch. This patch is tracked through **Bug 12427612**. For more information about the patch, see the readme bundled with the patch for **Bug 12427612**.

## System Requirements and Supported Systems

To ensure optimal server performance, your system must meet the following requirements:

- "Hardware Requirements" on page 11
- "Supported Operating Systems" on page 12
- "Operating System Requirements" on page 12
- "Java Requirements" on page 13
- "File Descriptor Requirements (Linux Systems)" on page 13

# Hardware Requirements

For optimal performance, your system must have sufficient RAM memory for the JVM heap and database cache. For more information about setting the JVM heap and database cache, see Chapter 6, "Configuring the JVM, Java Options, and Database Cache," in *Oracle Fusion Middleware Installation Guide for Oracle Unified Directory*.

On Solaris systems, the operating system should be configured to have at least twice as much virtual memory as JVM heap. To achieve this, you might need to increase the size of the operating system swap space.

Your system should also have enough disk space to store the generated log files. The server log files can consume up to 1 GB of disk space with default server settings. In replicated environments, the change log database can grow up to 30-40 GB with loads of 1000 mods/sec. For information about setting the log file size, see "Configuring Log Rotation Policies" in *Oracle Fusion Middleware Administration Guide for Oracle Unified Directory*.

You can configure Oracle Unified Directory in such a way that it uses substantially less, or more, disk space depending on your application and performance needs. Any setup considerations must determine the amount of memory for the server's database and log files.

As a general guideline, the following hardware is recommended:

| Hardware Component | Requirement |
|---|---|
| RAM | **Evaluation purposes:** At least 256 MB of free memory for a small database. |
| | **Production:** Minimum of 2 GB. |
| | **Note –** For large databases or large global index catalogs that require more than 4 GB of RAM, your system should use 64–bit architectures. |

| Hardware Component | Requirement |
|---|---|
| Local disk space | **Evaluation purposes:** For a small database and sufficient space for log files, your system should have at least 100 MB of free local disk space. Preferably, you should have at least 1 GB of disk space. |
| | **Production:** For a typical production deployment with a maximum of 250,000 entries and no binary attributes, such as images, 4 GB of disk space might be sufficient for the database only. You might need an additional 1 GB of disk space for log files. You need to determine disk space for the change log database (DB), which is dependent on the load (updates per second) and on the replication purge delay (that is, the time the server should keep information about internal updates). The change log DB can grow up to 30-40 GB with loads of 1000 modifications per second. |
| | When you use global index replication, ensure that you have enough disk space for the replication change logs. By default, the change log stores changes from the last 24 hours. The configuration should be based on the expected size of the service. For example, you would need 150 GB for 5000 modify/seconds. |
| | The directory server does not support databases and logs installed on NFS-mounted file systems. Sufficient space should be provided for the database on a local file system, for example, in /var/opt or /local on UNIX or Linux machines. |

## Supported Operating Systems

For information about certified Operating Systems for Oracle Unified Directory 11*g* Release 1 (11.1.1) refer to the certification matrix on the following Web page

http://www.oracle.com/
technetwork/middleware/ias/downloads/fusion-certification-100350.html

## Operating System Requirements

The following table outlines the operating system requirements.

| Item | Requirement |
| --- | --- |
| Operating System TCP/IP Ports | The directory server uses the following ports by default:<br>■ Administration connector, default port 4444<br>■ LDAP, default port 389<br>■ LDAPS, default port 636<br>■ SNMP, default port 161 if configured<br>■ JMX, default port 1689<br>■ Replication port 8989<br>■ The ports can differ between root and non-root users for some protocols. |
| File Descriptor Limits | On some Linux systems, the default file descriptor limit is set to 1024. This value might be too small when processing the total number of client connections, database files, and log files that the directory server requires to operate. It is strongly advised to increase the file descriptor limit to 64K or (65536 field descriptors). |

## Java Requirements

For information about certified Java version for each Java implementation, refer to the following Web page

http://www.oracle.com/
technetwork/middleware/ias/downloads/fusion-certification-100350.html

## File Descriptor Requirements (Linux Systems)

To ensure optimal server performance, the total number of client connections, database files, and log files must not exceed the maximum file descriptor limit on the operating system (ulimit -n). By default, the directory server allows an unlimited number of connections but is restricted by the file descriptor limit on the operating system. Linux systems limit the number of file descriptors that any one process may open to 1024 per process. (This condition is not a problem on Solaris machines, x86, x64, or SPARC).

After the directory server has exceeded the file descriptor limit of 1024 per process, any new process and worker threads will be blocked. For example, if the directory server attempts to open a Oracle Berkeley JE database file when the operating system has exceeded the file descriptor limit, the directory server will no longer be able to open a connection that can lead to a corrupted database exception. Likewise, if you have a directory server that exceeds the file

descriptor limit set by the operating system, the directory server can become unresponsive as the LDAP connection handler consumes all of the CPU's processing in attempting to open a new connection.

To fix this condition, set the maximum file descriptor limit per process on Linux machines.

## ▼ To Increase the File Descriptor Limit (Linux)

**1 Display the current hard limit of your machine.**

The hard limit is the maximum server limit that can be set without tuning the kernel parameters in proc file system.

```
$ ulimit -aH
core file size (blocks)      unlimited
data seg size (kbytes)       unlimited
file size (blocks)           unlimited
max locked memory (kbytes)   unlimited
max memory size (kbytes)     unlimited
open files                   1024
pipe size (512 bytes)        8
stack size (kbytes)          unlimited
cpu time (seconds)           unlimited
max user processes           4094
virtual memory (kbytes)      unlimited
```

**2 Edit the `/etc/security/limits.conf` and add the lines:**

```
*      soft   nofile  1024
*      hard   nofile  65535
```

**3 Edit the `/etc/pam.d/login` by adding the line:**

```
session required /lib/security/pam_limits.so
```

**4 Use the system file limit to increase the file descriptor limit to 65535.**

The system file limit is set in /proc/sys/fs/file-max .

```
echo 65535 > /proc/sys/fs/file-max
```

**5 Use the `ulimit` command to set the file descriptor limit to the hard limit specified in `/etc/security/limits.conf`.**

```
ulimit -n unlimited
```

**6 Restart your system.**

# Specific Requirements for Installation in Solaris Zones

The Oracle Unified Directory software treats global, full local, and sparse zones as an independent physical system. Installing the server in any type of Solaris zone is therefore like installing on an independent system. The software does not share services or file locations with other zones.

# Supported Application Servers

Before you begin the installation procedure, you must read the certification matrix to ensure that your environment meets the minimum installation requirement for each component.

For more information about certified application servers, refer to the certification matrix on the following Web page

```
http://www.oracle.com/
technetwork/middleware/ias/downloads/fusion-certification-100350.html
```

# Certified Languages

Oracle Unified Directory 11*g* Release 1 (11.1.1) is certified for the following languages:

- Chinese (Simplified)
- Chinese (Traditional)
- French
- German
- Italian
- Japanese
- Korean
- Spanish
- Portuguese (Brazilian)

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**Note –** Certain error messages (specifically, the SEVERE and FATAL messages) are displayed in English only.

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For more information, see the following Web page

```
http://my.oracle.com/site/pd/fmw/platform/release/CNT634718.xls
```

# Software Environment Limitations and Recommendations

The Oracle Unified Directory 11*g* Release 1 (11.1.1) software has some limitations that might affect the initial deployment of your directory server. Follow the recommendations for deployments in this section.

Administrators also should appropriately tune the Oracle Unified Directory directory server and its Java Virtual Machine (JVM) to ensure that adequately sized hardware is made available to support heavy write operations. For more information, see Chapter 6, "Configuring the JVM, Java Options, and Database Cache," in *Oracle Fusion Middleware Installation Guide for Oracle Unified Directory*.

## Oracle Unified Directory 11*g* Release 1 (11.1.1) Limitations

- The Oracle Unified Directory directory server provides full LDAP v3 support, except for alias dereferencing, and limited support for LDAPv2.

- To maximize performance when running the server as a proxy, you should restrict queries so that the proxy returns only the required attributes rather than all the attributes of an entry.

## Oracle Unified Directory Software Recommendations

- The directory server provides better performance when the database files are cached entirely into memory.

- The default settings of the Oracle Unified Directory directory server are targeted initially at evaluators or developers who are running equipment with a limited amount of resources. For this reason, you should tune the Java virtual machine (JVM) and the directory server itself to improve scalability and performance, particularly for write operations. For more information, see Chapter 6, "Configuring the JVM, Java Options, and Database Cache," in *Oracle Fusion Middleware Installation Guide for Oracle Unified Directory*.

- If you want to import large LDIF files by using the `import-ldif` command, then it is recommended that you use the `--skipDNvalidation` option. However, if you are not certain that the LDIF file is valid, using this option is not advised.

# Related Documentation

The Oracle Unified Directory 11*g* Release 1 (11.1.1) documentation is available at `http://fmwdocs.us.oracle.com/doclibs/fmw/E22289_01/`, and includes the following documents:

- *Oracle Fusion Middleware Administration Guide for Oracle Unified Directory*
- *Oracle Fusion Middleware Installation Guide for Oracle Unified Directory*
- *Oracle Fusion Middleware Command-Line Usage Guide for Oracle Unified Directory*
- *Oracle Fusion Middleware Deployment Planning Guide for Oracle Unified Directory*
- *Oracle Fusion Middleware Architecture Reference for Oracle Unified Directory*
- *Oracle Fusion Middleware Configuration Reference for Oracle Unified Directory*
- *Oracle Fusion Middleware Glossary for Oracle Unified Directory*

# 2

# Known Issues

This chapter describes known issues associated with Oracle Unified Directory 11*g* Release 1 (11.1.1) and its components.

The chapter covers the following topics:

## Known Issues with Oracle Unified Directory 11*g* Release 1 (11.1.1)

The following table lists the bugs that are known to exist at the time of the Oracle Unified Directory 11*g* Release 1 (11.1.1) release.

| Bug Number | Description | Workaround |
|---|---|---|
| Bug 11869296 | Under heavy and sustained load the database cleaning process does not end. | The workaround is to configure a larger database cache. |
| Bug 12320965 | When you configure a directory server on a Microsoft Windows 2008 machine, the directory server does not listen to IPv6 versions of the Internet Protocol. | There is currently no workaround available for this issue. |
| Bug 11938557 | Some commands have an option where the password is provided in a clear text format on the command-line interface. This might result in security exposure, because one can retrieve the password using the ps command on a UNIX machine. | The workaround is to use the file-based option. It will be fixed in the next release of Oracle Unified Directory. |

| Bug Number | Description | Workaround |
|---|---|---|
| Bug 12280661 | When using global index replication, disabling replication on one server leaves references of that server in the other server configuration. | Run `gicadm disable-replication` on all global indexes of the same replication domain if you plan to reuse the removed server in another replication domain. |
| Bug 12280658 | Modify DN (ModDN) is not supported if the DNs are indexed in the global index catalog (GIC). | If DNs are not indexed in the global index catalog, the modify DN operation is supported. Otherwise, only the modify RDN operation is supported. |
| Bug 12291880 | The performance of the `rebuild-index` command decreases as the database IDs become unordered over time. | If possible, avoid reindexing large databases or import the database again. |
| Bug 12291860 | On Windows systems no SNMP trap is sent if the server is stopped by using `stop-ds` with no credentials. The server is, however, stopped correctly. | The SNMP trap is sent if the server is stopped by using `stop-ds -D` *bindDN* `-p` *password*. |
| Bug 12291930 | Running the `ldif-diff` command on LDIF files over a certain size (around 600 Kbytes on Windows systems, larger on UNIX systems) results in a memory error similar to the following: `Exception in thread "main" java.lang.OutOfMemoryError: Java heap space`. | Increase the heap size and rerun the command. For more information, see Chapter 6, "Configuring the JVM, Java Options, and Database Cache," in *Oracle Fusion Middleware Installation Guide for Oracle Unified Directory* for more information. |
| Bug 12291765 | In a replicated topology, if a server unexpectedly stops immediately after receiving delete operations, the delete operations might not be replicated to the other servers in the topology. | The delete operations must be replayed manually on another server in the topology. |
| Bug 2306023 | In `dsconfig` interactive mode, the password value set for the `remote-ldap-server-bind-password` property displays in clear format. | Provide the password in a text file and use `remote-ldap-server-bind-password-file` to configure the path to that file, instead of directly providing the password. |
| Bug 12263728 | The Oracle Unified Directory proxy cannot monitor the remote LDAP server if the LDAP extension property `monitoring-check-interval` is set to a value smaller than `1 second`. | Set the `monitoring-check-interval` property to a value higher than 1 second. |
| Bug 11897202 | When you perform LDAP operation on Oracle Unified Directory with super user `cn=directory manager`, the modifersname in the changelog is set as `cn=Directory Manager, cn=Root DNS, cn=config` instead of `cn=directory manager`. | There is currently no workaround available for this issue. |

| Bug Number | Description | Workaround |
|---|---|---|
| Bug 11799386 | If you are running the CLI commands with JRockit JVM R28.1.1, the performance will be slow. | It is recommended that you use JDK JVM for better and faster performance. |
| Bug 11718654 | In a replicated topology, if the server has a heavy workload then the following error message is recorded in the error log: The server failed to obtain a read lock on the parent entry dc=example, dc=com after multiple attempts. | You need to configure a larger database cache. |
| Bug 11710468 | The sub entries are not updated in the global index when you perform a modify DN (MODDN) of a parent entry. | There is currently no workaround available for this issue. |
| Bug 12301506 | If you index replicationCSN attribute on parameters other than cn=changelog, then it might impact the performance. | It is recommended that you index the replicationCSN attribute on cn=changelog for compatibility reasons. |
| Bug 12300988 | In a replicated topology with heavy workload the Oracle Unified Directory database grows quickly leading to disk full. | The workaround is to increase the memory allocated to the cleaner using the following command:<br><br>`dsconfig set-workflow-element-prop --element-name database --set je-property:je.cleaner.detailMaxMemoryPercentage` |
| Bug 12329839 | When you run the Oracle Unified Directory installer using the runInstaller command on SuSE Linux Enterprise Server 11, the prerequisite checks are not executed and an error is generated. | The workaround is to use the -ignoreSysPrereqs flag while running the runInstaller command. |
| Bug 12331051 | In an native character encoding environment, the Non-ASCII characters in stop-ds command message are garbled. However, if the character encoding is UTF-8 this issue does not arise. | There is currently no workaround available for this issue. |
| Bug 12416915 | Replication between Oracle Directory Server Enterprise Edition and Oracle Unified Directory works effectively in one direction only. Changes made on an Oracle Directory Server Enterprise Edition server are successfully replicated to Oracle Unified Directory. In a topology that includes Oracle Directory Server Enterprise Edition servers and Oracle Unified Directory servers, only a very limited set of changes should be performed on the Oracle Unified Directory servers. | There is currently no workaround for this issue. |

| Bug Number | Description | Workaround |
|---|---|---|
| Bug 12584793 | Command-line examples in the documentation should use instance-dir not install-dir. There are several areas in the documentation that refer to commands located in the install-dir directory. This is incorrect. Any commands that are used to manage the server instance are located in the instance-dir directory. | Replace install-dir with the correct path in the examples. |
| Bug 12561966 | The dps2oud command exits when migrating a resource limit policy or a load-balancing algorithm not yet supported by Oracle Unified Directory. | The workaround is to remove the resource limit policies and load-balancing algorithms from the Directory Proxy Server (DPS) configuration before running the dps2oud command. |

# Known Issues with Oracle Directory Services Manager

The following table lists the bugs that are known to exist with Oracle Directory Services Manager at the time of Oracle Unified Directory 11*g* Release 1 (11.1.1) release.

| Bug Number | Description | Workaround |
|---|---|---|
| Bug 12362441 | When you configure replication between two hosts with IPv6 addresses through the graphical-user Oracle Directory Services Manager interface, an error is generated. | The workaround is to try again. |
| Bug 12363352 | The Create, Apply, and Cancel buttons in the Oracle Directory Services Manager interface does not get focus after modification. | The workaround is to press the Tab key till you get the focus on the required button. Alternatively, you can use the mouse to activate the required button. |
| Bug 11937031 | Microsoft Internet Explorer 7 does not render some Web pages of Oracle Directory Services Manager properly. It does not lead to any loss of functionality, but some Web pages display with unnecessary scroll bars or wrapped field names. | The workaround is to upgrade the browser to Microsoft Internet Explorer 8 or Microsoft Internet Explorer 9. While using Microsoft Internet Explorer 8 or Microsoft Internet Explorer 9, you need to disable the compatibility view mode in the browser. For more information about how to disable the compatibility view mode in the browser, refer to the following Web page: http://support.microsoft.com/kb/956197 |

| Bug Number | Description | Workaround |
| --- | --- | --- |
| Bug 12533807 | When you open the Oracle Directory Services Manager Web page in Mozilla Firefox 3.x, you will see both the disabled and enabled icons for the same functionality. It does not lead to any loss of functionality, but might cause some confusion. | There is currently no workaround available for this issue. |