Oracle® Fusion Middleware

Oracle Fusion Middleware Bundle Patch Release Notes for IDM Stack Patch Bundle

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Oracle Fusion Middleware Oracle Fusion Middleware Bundle Patch Release Notes for IDM Stack Patch Bundle, 14.1.2.1.250424

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Bundle Patch Release Notes for IDM SPB

This README provides information about the SPBAT utility used for applying Oracle Identity Management SPB.

This document contains the following sections:

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About the Oracle Identity Management Stack Patch Bundle (SPB)

Oracle Identity Management Stack Patch Bundle (SPB) which is released every quarter, is essentially a collection of latest upper stack and lower stack mandatory patches applicable for IDM 14.1.2.1.0 installed environments. IDM 14.1.2.1.0 customer environments are broadly divided into following categories:

1. OAM - Oracle Access Manager
2. OIG - Oracle Identity Governance
3. OUD - Oracle Universal Directory
4. OID - Oracle Internet Directory

IDM customers belonging to above categories are required to apply the mandatory Patches prescribed for their respective installed environments. Please go through the remaining sections in this document for more information on applying the above patches on IDM 14.1.2.1.0 installed environments.

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About the SPBAT Utility

Stack Patch Bundle Automation Tool (SPBAT) applies IDM patches (delivered via IDM Quarterly Stack Patch Bundle) on IDM 14.1.2.1.0 installed environments. On-Premise customers can use this tool directly. In case of any issues or additional guidance the Customers can open a Service Request (SR) with Oracle Support.

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System Overview

The SPBAT utility is developed by using SHELL and Python scripts. This utility is supported only for LINUX X86-64 and WINDOWS64 platforms on which IDM 14.1.2.1.0 suite is deployed.

ORACLE_HOME (Oracle Home) setup for IDM 14.1.2.1.0 is broadly divided into the following categories:

1. OAM - Oracle Access Manager
2. OIG - Oracle Identity Governance
3. OUD - Oracle Universal Directory
4. OID - Oracle Internet Directory

In the following sections, the above categories are described as separate install types, each containing a dedicated ORACLE_HOME deployed in dedicated VMs/Hosts.

In case the setup is spread across multiple VMs/Hosts, then perform the patching steps for each ORACLE_HOME on respective VMs. If there are multiple ORACLE_HOME locations on the same VM, then perform the patching steps for each ORACLE_HOME separately. If two or more install types share the same ORACLE_HOME, then perform the patching steps for each install type against the ORACLE_HOME.

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Prerequisites

Ensure that you meet the following requirements before you attempt to run the SPBAT utility on IDM 14.1.2.1.0 installed environment.

5.1 Staging and verification

1. Decide where you want to install the SPB bundle. The location should have 50GB of free space. The location should be accessible to all IDM hosts with "read", "write" and "execute" rights enabled on the file system. Extract the zip to this location and verify it contains the following directory structure:

   IDM_SPB_14.1.2.1_<VERSION>/

   spbat-bundle.properties (file)

   README.txt (file)

   README.html (this file)

   binary_patches (dir)

   tools (dir)

   etc (dir)

   upgrade_installers (dir)

2. Navigate to the SPBAT directory and verify it contains the following directory structure:

   IDM_SPB_14.1.2.1_<VERSION>/tools/spbat/generic/SPBAT

   ExecEngine (dir)

   README.txt (file)

   bin(dir)

   config(dir)

   env (dir)

   spbat.bat (file)

   spbat.sh (file)

   tools (dir)

   version.txt (file)

3. DO NOT make any changes to the directory structure under `IDM_SPB_14.1.2.1_<VERSION>` location.

5.2 Minimum OPatch Version Check

Ensure that `ORACLE_HOME` has minimum required OPatch version, that is, 13.9.4.2.17 or higher.

To verify, run the following command under the `ORACLE_HOME/OPatch` directory:

```
-bash-4.2$ ./opatch


versionOPatch Version: 13.9.4.2.17


OPatch Succeeded.
```

5.3 Check for Minimum Java Version

There is a minimum update level of Java SE (JDK/JRE) requirement before installing the WLS PSU packaged in this SPB.

Fixes for deserialization vulnerabilities are made in the WebLogic Server PSU that depend on JEP 290 filtering and features within newer JDK updates. These fixes for deserialization vulnerabilities are not effective without these JDK updates. Users applying this WLS PSU without these JDK updates will receive warnings in the WebLogic Server console and in WebLogic Server logs.

For details, refer to the document Doc ID 2421487.1 Restricting Incoming Serialized Java Objects to Oracle WebLogic Server.

Refer to the following table for minimum and recommended Java SE versions:

Platform	JDK Vendor	Major JDK Version	Expected Minimum Version	Latest Recommended Version
Windows 64	Oracle	17, 21	17.0.12, 21.0.4	JDK 17.0.14 Oracle JDK 21.0.6
Linux X86-64	Oracle	17, 21	17.0.12, 21.0.4	JDK 17.0.14 Oracle JDK 21.0.6

Refer the following document to verify and upgrade to relevant JDK:

Doc ID 1492980.1 on How to Install and Maintain the Java SE Installed or Used with FMW 11g/12c/14c Products.

5.4 Backup

1. Create a complete backup of `ORACLE_HOME` and `DOMAIN_HOME` locations before Downtime phase.
2. Create a cold backup of the entire IDM setup by using standard backup software/utilities.

5.5 Setting Heap size for OPatch

OPatch sets the default Heap size to 3 GB for LinuxX86-64 and to 1.5GB for other platforms. It is suggested to override this default value for platform patches (except LinuxX86-64) before OPatch session is invoked by setting the parameter as:

```
export OPATCH_JRE_MEMORY_OPTIONS="-Xmx3072m"
```

5.6 Removing Inactive Patches

Customers who want to improve storage and SPB patching performance should consider the following steps:

1. Choose the level of rollback capability needed.

   To keep the rollback level of SPB environment at N-1 (where N is the current patch level), update the `RETAIN_INACTIVE_PATCHES` parameter to value `1` (`RETAIN_INACTIVE_PATCHES=1`) in the `<ORACLE_HOME>/OPatch/config/opatch.properties` file.

2. Run the following command to delete the inactive patches:

   ```
   <ORACLE_HOME>/OPatch/opatch util deleteinactivepatches -oh <ORACLE_HOME>
   ```

   Known Issue :

   Currently the `deleteinactivepatches` option deletes only 1 PSU/BP/RU chain and its overlays. In Oracle Homes where there are more than 1 inactive PSU/BP/RU chain (for example, DBRU, GIRU applied/installed on `ORACLE_HOME`), the user needs to run `opatch` command with `deleteinactivepatches` option multiple times.

   As a verification point, after each run of `opatch` command with `deleteinactivepatches` option, run the following command:

   ```
   <ORACLE_HOME>/OPatch/opatch util listorderedinactivepatches -oh
   <ORACLE_HOME>
   ```

   When the output of this command looks like the following:

   ```
   Total: 1 inactive RU/CPU patch (es) and 1 inactive overlay patch (es).
   ```

   then there is no need to run again the `opatch` command with `deleteinactivepatches` option as the desired rollback level has been achieved.

3. Run the following command to perform cleanup:

   ```
   <ORACLE_HOME>/OPatch/opatch util cleanup -oh <ORACLE_HOME>
   ```

   This would cleanup any stale files.

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SPB Patches and their Applicability

Following is the list of patches included in the SPB and which will be applied on the respective ORACLE_HOME using SPBAT utility:

Patches	Patch Number	Applicability			
MERGE REQUEST ON TOP OF 14.1.2.0.0 FOR BUGS 37571450 37359866	37632501	OAM	OIG	OUD	OID
Unable to Retrieve Request Details by REST Client With End User - Error occurred in routing slip default/ DefaultOperationalApproval!5.0/ ApprovalTask with message: null	37512243	-	OIG	-	-
UPDATE GRAALVM TO 24.1.1 MANUALLY IN 14.1.2.0.0	37376076	OAM	OIG	OUD	OID
RDA release 25.2-2025415 for FMW 14.1.2.0.0	37606570	OAM	OIG	OUD	OID
WEBLOGIC SAMPLES PATCH 14.1.2.0.250415	37635555	OAM	OIG	OUD	OID
WLS PATCH SET UPDATE 14.1.2.0.250324	37743913	OAM	OIG	OUD	OID
Coherence 14.1.2.0 Cumulative Patch 2 (14.1.2.0.2)	37658370	OAM	OIG	OUD	OID
OWSM BUNDLE PATCH 14.1.2.0.250325	37751141	OAM	OIG	OUD	OID

Patches	Patch Number	Applicability			
OAM BUNDLE PATCH 14.1.2.1.250318	37719694	OAM	OIG	-	-
OIM BUNDLE PATCH 14.1.2.1.250328	37765984	OAM	OIG	-	-
SOA Bundle Patch 14.1.2.0.250307	37678678	-	OIG	-	-

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SPB usage Instructions

To run the SPBAT utility, navigate to the `IDM_SPB_14.1.2.1_<VERSION>/tools/spbat/generic/SPBAT/` directory.

The SPBAT utility usage and execution steps are as follows:

- To get usage details on the command line, enter:

```
[Unix]
./spbat.sh


[Windows]
spbat.bat
```

- To obtain SPBAT utility version, enter:

```
./spbat.sh -version
```

- To apply the patches using SPBAT utility, enter:

```
[Unix]
./spbat.sh -type <install_type> -phase <phase> -mw_home <mw_home> -
spb_download_dir <spb_download_dir> -log_dir <log_dir>


[Windows]
spbat.bat -type <install_type> -phase <phase> -mw_home <mw_home> -
spb_download_dir <spb_download_dir> -log_dir <log_dir>
```

Here:	
`-install_type:`	The install type or IDM component, such as `oam/oig/oud/oid`.
`-phase:`	The various phases of applying the patch, such as `PreStop/Downtime/PostStart`.
`-mw_home:`	The path to Oracle Home directory.
`-spb_download_dir:`	The path to IDM_SPB_14.1.2.1_<VERSION> stage location directory.
`-log_dir (optional):`	The path to `log_dir` directory, this is where you want logs to go on your file system. The default directory is created under `IDM_SPB_<VERSION>/tools/spbat/generic/SPBAT/logs` location, or you can set your

	own location which exists and has "write" access.
`-verbose (optional):`	To be set to "true" or "false" value. This is to display additional information on the default output stream (STDOUT).
`-force (optional and applicable for PreStop phase):`	To be set to "true" or "false" value. When set to "true", it forces performing all the validations.

- To know the status of SPBAT anytime once the patching has started, enter:

```
[Unix]
./spbat.sh -status report -type <install_type> -mw_home <mw_home> -log_dir
<log_dir>


[Windows]
spbat.bat -status report -type <install_type> -mw_home <mw_home> -log_dir
<log_dir>
```

Here:	
`-report:`	is a constant implying status report.
`-install_type:`	refers to install type, such as oam/oig/oud/oid.
`-mw_home:`	is the path to Oracle Home directory.
`-log_dir (optional):`	The path to `log_dir` directory, this is where you want logs to go on your file system. The default directory is created under `IDM_SPB_<VERSION>/tools/spbat/generic/SPBAT/logs` location, or you can set your own location which exists and has "write" access.

Important Note for Windows users: Please open the Command Prompt as Administrator and execute the spbat.bat script for patching.

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Phases in the Patching Process

Once the steps described in section **Prerequisites** are completed, the sequences of phases in applying the SPB patches using SPBAT utility on the IDM 14.1.2.1.0 installed environment are:

a. PreStop	Run the SPBAT utility for the PreStop phase to evaluate the environment prior to patching. Verify the html report summary and refer to the logs and reports, if needed. This phase can be run while the services, instances and/or servers are up and running.
b. Stop Services	Stop all IDM related services (including WebLogic Servers) running on IDM hosts.
c. Backup	Create a cold backup of the entire ORACLE_HOME and DOMAIN_HOME directories.
d. Downtime Patching	Run the SPBAT utility for the Downtime phase.
e. Start Services	Start all IDM related services (including WebLogic Servers) running on IDM hosts, and make sure these are up and running.
f. PostStart	Run the SPBAT utility for the PostStart phase.
g. Complete Validation	Once the SPB patching activity is complete, verify the environment and URLs.

For detailed information about the steps in the execution phases, please refer to section "Applying the SPB Patches using SPBAT".

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Applying the SPB Patches using SPBAT

After completing the steps described in section **Prerequisites**, follow the next steps to apply the SPB patches in the IDM 14.1.2.1.0 environment:

PreStop:

To be done on all IDM hosts, as described in section System Overview:

1. Run the SPBAT utility with appropriate options for the PreStop phase based on the install type:
   [Unix - Please open the bash shell and execute]

   ```
   cd IDM_SPB_14.1.2.1.<VERSION>/tools/spbat/generic/SPBAT
   ./spbat.sh -type <oam/oig/oud/oid> -phase prestop -mw_home <path to
   mw_home> -spb_download_dir <path to IDM_SPB_14.1.2.1.<VERSION> stage
   location> -log_dir <log_dir>
   ```

   [Windows - Please open the Command Prompt as Administrator and execute]

   ```
   cd IDM_SPB_14.1.2.1.<VERSION>\tools\spbat\generic\SPBAT
   spbat.bat -type <oam/oig/oud/oid> -phase prestop -mw_home <path to
   mw_home> -spb_download_dir <path to IDM_SPB_14.1.2.1.<VERSION> stage
   location> -log_dir <log_dir>
   ```

2. Perform the following after running the script:
   a. Review the html reports before proceeding with the next phase. The analysis reports are generated under `<log_dir>/<hostname_type>patch_log_dir/spbat-logs/reports` location.
   b. Upgrade OPatch after creating a full backup of ORACLE_HOME if the minimum OPatch version requirement is not met.
   c. If there are any issues that need to be addressed, you can run the **PreStop** phase again but will need to create and use a new logs directory prior to doing so.
   d. If no issues are found, for Downtime and **PostStart** phases please use the same log directory as in the **Prestop** phase.
3. For IDM cluster, repeat steps 1 and 2 on each VM. Make sure that the patching user and `ORACLE_HOME` install user/owner are same to avoid permission issues.
4. If two or more install types share the same `ORACLE_HOME`, then repeat steps 1 and 2 against `ORACLE_HOME` for each install type.

Stop Services:

1. Stop all IDM related services (including WebLogic servers) running on IDM hosts.
2. Make sure that no services are accessing the `ORACLE_HOME` binaries.

Backup:

1. Create a complete backup of `ORACLE_HOME` and `DOMAIN_HOME` locations.
2. Create a cold backup of the entire IDM setup by using standard backup software/utilities.
3. Create a backup of the database.

Downtime Patching:

To be done on all IDM hosts, as described in section System Overview:

1. Run the SPBAT utility with appropriate options for the Downtime phase based on the install type:
   [Unix - Please open the bash shell and execute]

   ```
   cd IDM_SPB_14.1.2.1.<VERSION>/tools/spbat/generic/SPBAT
   ./spbat.sh -type <oam/oig/oud/oid> -phase downtime -mw_home <path to
   mw_home> -spb_download_dir <path to IDM_SPB_14.1.2.1.<VERSION> > -log_dir
   <log_dir>
   ```

   [Windows - Please open the Command Prompt as Administrator and execute]

   ```
   cd IDM_SPB_14.1.2.1.<VERSION>\tools\spbat\generic\SPBAT
   spbat.bat -type <oam/oig/oud/oid> -phase downtime -mw_home <path to
   mw_home> -spb_download_dir <path to IDM_SPB_14.1.2.1.<VERSION> > -log_dir
   <log_dir>
   ```

2. Perform the following after running the script:
   a. In case of any failure, review the patching logs before proceeding to next steps.
3. Perform appropriate Post-Install and Configuration steps before the servers are started up:
   a. OAM - Please refer to item **A. Before Server Startup** of section Post-Install and Configuration Steps - OAM in this document.
   b. OIG - Please refer to item **A. Before Server Startup** of section Post-Install and Configuration Steps - OIG in this document.
   c. OUD - Please refer to item **A. Before Server Startup** of section Post-Install and Configuration Steps - OUD in this document.
   d. OID - Please refer to item **A. Before Server Startup** of section Post-Install and Configuration Steps - OID in this document.
4. For IDM cluster, repeat steps 1, 2 and 3 on each VM. Make sure that the patching user and `ORACLE_HOME` install user/owner are the same to avoid permission issues.
5. If two or more install types share the same `ORACLE_HOME`, then repeat steps 1,2 and 3 against `ORACLE_HOME` for each install type.

Start Services:

Start all IDM related services (including WebLogic Servers) running on IDM hosts.

PostStart:

To be done on all IDM hosts, as described in section System Overview:

1. Run the SPBAT utility with appropriate options for the PostStart phase based on the install type:

[Unix - Please open the bash shell and execute]

```
cd IDM_SPB_14.1.2.1.<VERSION>/tools/spbat/generic/SPBAT
./spbat.sh -type <oam/oig/oud/oid> -phase poststart -mw_home <path to
mw_home> -spb_download_dir <path to IDM_SPB_14.1.2.1.<VERSION> > -log_dir
<log_dir>
```

[Windows - Please open the Command Prompt as Administrator and execute]

```
cd IDM_SPB_14.1.2.1.<VERSION>\tools\spbat\generic\SPBAT
spbat.bat -type <oam/oig/oud/oid> -phase poststart -mw_home <path to
mw_home> -spb_download_dir <path to IDM_SPB_14.1.2.1.<VERSION> > -log_dir
<log_dir>
```

2. After running the script, review the patching logs generated under `/patch_log_dir/spbat-logs` for any failures.
3. Perform appropriate Post-Install and Configuration steps after the servers are started up:
   a. OAM - Please refer to item "B. After Server Startup" of section "Post-Install and Configuration Steps - OAM" in this document
   b. OIG - Please refer to item "B. After Server Startup" of section "Post-Install and Configuration Steps - OIG" in this document
   c. OUD - Please refer to item "B. After Server Startup" of section "Post-Install and Configuration Steps - OUD" in this document
   d. OID - Please refer to item "B. After Server Startup" of section "Post-Install and Configuration Steps - OID" in this document
4. For IDM cluster, repeat steps 1 and 2 on each VM. Make sure that the patching user and `ORACLE_HOME` install user/owner are the same to avoid permissions issues.
5. If two or more install types share the same `ORACLE_HOME`, then repeat steps 1,2 and 3 against `ORACLE_HOME` for each install type.

Complete Validation:

Once the SPB patching activity is completed, restart and verify the environment and URLs.

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Post-Install and Configuration Steps - OAM

Following are the post-install and configuration steps which are required to be performed after Downtime phase once the OAM binaries are applied using OPatch:

A. Before Server Startup

After applying patches, clear out the contents of any `cache/tmp/stage` directories which exist in all `$DOMAIN_HOME/servers/<SERVER_NAME>` locations, prior to restarting.

B. After Server Startup

There are no post-install and configuration actions to be performed currently.

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Post-Install and Configuration Steps - OIG

Following are the post-install and configuration steps which are required to be performed after Downtime phase once the OIG binaries are applied using OPatch:

A. Before Server Startup

After applying patches, clear out the contents of any `cache/tmp/stage/dc` directories which exist in all `$DOMAIN_HOME/servers/<SERVER_NAME>` locations, prior to restarting.

B. After Server Startup

There are no post-install and configuration actions to be performed currently.

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Post-Install and Configuration Steps - OUD

Following are the post-install and configuration steps which are required to be performed after Downtime phase once the OUD binaries are applied using OPatch:

A. Before Server Startup

After applying patches, clear out the contents of any `cache/tmp/stage` directories which exist in all `$DOMAIN_HOME/servers/<SERVER_NAME>` locations, prior to restarting.

B. After Server Startup

There are no post-install and configuration actions to be performed currently.

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Post-Install and Configuration Steps - OID

There are no post-install and configuration actions to be performed currently.

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Troubleshooting

1. If the minimum OPatch version requirement is not met, then upgrade the OPatch after creating a full backup of `ORACLE_HOME`.
2. As more and more patches are applied, OPatch backs up subset patches in the `ORACLE_HOME/.patch_storage` directory to facilitate a rollback. This might result in performance issues. If you observe such performance issues, please refer to Doc ID 2942050.1 for further details.
3. If you encounter any errors during any phase of applying the patch, contact Oracle Support.

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Limitations

1. The SPBAT utility automates the binary patch apply for the patches that are obtained through the SPB bundle only. It excludes the configuration actions and server restart operations.
2. The SPBAT utility does not handle the start, stop, and post-patching configuration operations of the servers. The user can use either custom startup/shutdown scripts or the ones available with the product. The post-patching configuration operations, if any, must be manually performed, as documented in the SPB `README.html`.
3. The SPBAT utility supports only IDM 14.1.2.1 versions deployed on `LinuxX86-64` and `WINDOWS64` platforms.
4. The SPBAT utility has minimalistic error handling, and it relies on the correctness of the input values provided by the user while using the tool.
5. The SPBAT utility does not create any backup of the environment/application/configuration/data prior to individual patching of the product or component.
6. The SPBAT utility does not provide rollback support. For any issues, use the backups (created before Downtime phase) to restore the environment. However, while applying SPB, existing one-offs present in the `ORACLE_HOME` can be rolled back. Manually review the `ORACLE_HOME` inventory and re-apply any one-offs that might have been rolled back during the application of IDM SPB.