

## Database Configuration Assistant (DBCA) Database Maintenance

DBCA is the recommended patch maintenance for single-instance Oracle AI Database.

To simplify the patching process, Oracle recommends that you use DBCA for most single-instance Oracle AI Database deployments. DBCA is a preferred database maintenance utility to use for all On Premises database patch maintenance.

### Note

As a best practice to simplify maintenance and avoid potential issues, Oracle strongly recommends that you perform database maintenance using a new Oracle home and out-of-place patching. This is the preferred deployment choice for patching operations.

- [When Do You Need to Patch Your Database](#)  
To support the security of your database, and to maintain that security over time, Oracle recommends that you perform database maintenance using the quarterly Release Updates (RUs).
- [About Oracle AI Database Release Update Patches](#)  
Oracle provides quarterly updates in the form of Release Updates (RUs) to release new features, upgrade existing features, enhance security, or fix problems with supported software.
- [Load SSH Keys Into Memory Before Starting DBCA](#)  
Load SSH keys into memory for the terminal session where you start Oracle DBCA, to avoid user equivalency errors while starting Oracle DBCA.
- [Start Release Update Maintenance Using DBCA](#)  
Beginning with Oracle AI Database, you can use Database Configuration Assistant (DBCA) to perform software maintenance.

## When Do You Need to Patch Your Database

To support the security of your database, and to maintain that security over time, Oracle recommends that you perform database maintenance using the quarterly Release Updates (RUs).

Be aware of these guidelines as a best practice before you begin:

- Record the version numbers, patches, and other configuration information for your database
- Review the README for the Release Update before beginning.

## About Oracle AI Database Release Update Patches

Oracle provides quarterly updates in the form of Release Updates (RUs) to release new features, upgrade existing features, enhance security, or fix problems with supported software.

Starting with Oracle AI Database 26ai, RUs are delivered in two formats:

- As a gold image that you can install out-of-place like a new software release.
- As a binary patch that you can apply in-place using OPatch or OPatchAuto.

You can apply out-of-place Oracle AI Database patches using the following steps:

1. Download the RU as a gold image.
2. Create a new Oracle home (target) identical to the old Oracle home (source) in the same Oracle base as the source Oracle home, using `runInstaller -setupDBHomeAs`.
3. Move Oracle AI Database from the old Oracle home to the new Oracle home.

After you move the database to the new Oracle home, all database services will start from the new home.

### Related Topics

- `runInstaller -setupDBHomeAs`
- Creating a CDB with DBCA
- User Interface for PDB Relocation

## Load SSH Keys Into Memory Before Starting DBCA

Load SSH keys into memory for the terminal session where you start Oracle DBCA, to avoid user equivalency errors while starting Oracle DBCA.

If you use a pass phrase on your system for SSH, then you must provide the pass phrase to load the SSH keys.

- Use the following commands to load SSH keys:

```
$ exec /usr/bin/ssh-agent $SHELL
$ /usr/bin/ssh-add
```

If needed, provide the pass phrase when prompted. You can then start Oracle DBCA.

## Start Release Update Maintenance Using DBCA

Beginning with Oracle AI Database, you can use Database Configuration Assistant (DBCA) to perform software maintenance.

The recommended procedure for software maintenance is to deploy Release Updates (RUs) into a new Oracle home. This process requires minimal downtime, because the patch process is an out-of-place update. Oracle provides a variety of patching technologies. However, for ease of use, Oracle recommends that you perform database patch maintenance using either DBCA or Oracle Fleet Patching and Provisioning.

For single-instance databases, the recommended utility is DBCA, which is available both as a graphic user interface utility with silent mode command options, and Database Configuration Assistant Utility (`dbcactl`), which is available for both Oracle Database 19c and Oracle AI Database 26ai. For clustered environments, if you do not use Oracle Fleet Patching and Provisioning, then DBCA is commonly the easiest choice to assist you with patch maintenance.

For more information about patch deployment options, see [Oracle AI Database Patch Maintenance Guidelines](#)

1. Determine if you need to update Oracle AI Database software.

Update software if the last software update was performed before your Apply Frequency policy permits. Apply Frequency policy defines how often you apply proactive software updates: quarterly, semiannually, or annually. Oracle recommends quarterly Apply Frequency.

To determine the last software update, run `oraclerunversion -compositeVersion`. For example:

```
$ORACLE_HOME/bin/oraclerunversion -compositeVersion
23.04.0.0.0
```

2. If the patch update is out of date, then download the latest Oracle AI Database software RU image into a temporary file location, such as `/tmp`.

### Note

The most recent Oracle AI Database release updates for all database releases in support are available from [Primary Note for Database Proactive Patch Program \(Doc ID 888.1\)](#)

3. Deploy the new RU image into a new Oracle AI Database Oracle home using the `runInstaller -deployDBGoldImage` command.

For example, where the RU image is p123456, and the new Oracle AI Database Oracle home is /u01/app/oracle/product/23.26/dbhome\_2:

```
$ sudo runInstaller -deployDBGoldImage -imagePath /tmp/p123456.zip -
targetHome /u01/app/oracle/product/23.0.0.0/dbhome_2
```

4. Run DBCA Precheck for Apply Software Update to check for any issues before you move the database.

For example, where the target home is /u01/app/oracle/product/23.26/dbhome\_2 and the database unique name that you want to move is sales:

```
$ cd $ORACLE_HOME/bin
$ /u01/app/oracle/product/23.0.0.0/dbhome_2/bin/dbca -silent -
moveDatabase -sourceDB sales -executePrereqs
```

If DBCA reports that the target database home is missing patches that are already present in the source database home, then it means that one or more interim (one-off) patches were previously installed in the source database home, and these patches are not yet included in the Release Update used for the target database home. In that case, follow these steps:

- a. Build a gold image using the steps documented in My Oracle Support [Creating Gold Image for Oracle AI Database and Grid Infrastructure Installations \(Doc ID 2915366.2\)](#). To create the image, supply the following information:
    - The source database home (opatch lsinventory).
    - The target database home Release Update patch number in the candidate patch input text box.
  - b. When the new gold image is available, run DBCA Precheck for Apply Software Update again using the new gold image.
5. Run DBCA to move the database to the new Oracle AI Database Oracle home. .

To start a noninteractive (silent) session of DBCA, start DBCA using the following command, where *source\_DB\_name* is the Oracle system identifier (SID) for the single-instance database. For example, where the new Oracle Database home is /u01/app/oracle/product/23.26/dbhome\_2/ and the database unique name is sales:

```
$ /u01/app/oracle/product/23.0.0.0/dbhome_2/bin/dbca -silent -
moveDatabase -sourceDB sales
```

DBCA is run from the target RU version Oracle Home to perform the move. DBCA provides both Noninteractive (silent) and graphic user interface (UI) modes to move the database. In silent mode, DBCA provides advanced options to control the behavior of the move operation. You can access the help for these commands in the following path:

```
/u01/app/oracle/product/23.0.0.0/dbhome_2/bin/dbca -silent -
moveDatabase -help
```

### See Also

The Database Configuration Assistant Command Reference in Oracle Multitenant Administrator's Guide *Oracle Multitenant Administrator's Guide* for information about creating a configuration file, and for additional DBCA commands and options.

6. After the database move operation is completed successfully, and you have verified the database functionality in the new target Oracle home, consider deleting the source Oracle AI Database Oracle home using the `deinstall` command.

### Caution

Only remove the source Oracle home after you verify the functionality of the relocated database in the target new Oracle home.

### Related Topics

- *Oracle Multitenant Administrator's Guide*
- Oracle AI Database Installer Command-Line Options in *Oracle AI Database Installation Guide for Linux*

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Oracle AI Database Oracle AI Database Patch Maintenance Using Database Configuration Assistant , Release 26ai and Later Releases  
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