

Questions from One-Button Patching - Makes life easier for every Oracle DBA

Virtual Classroom 21

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Public

Requirements

Which platforms does AutoUpgrade patching support?

For now, the new functionality works on Linux only. However, we are currently working on support for Windows. Eventually, we will support all platforms where you can run Oracle Database. AutoUpgrade has – and will – always support all platforms where you can run Oracle Database.

What's the minimum database version supported by AutoUpgrade?

For patching it is Oracle Database 19c. For upgrade, you can upgrade to Oracle Database 12.2 and later.

Patching

My company follows an N-1 practice. Is it possible to specify the Release Update instead of taking the latest one?

Yes. When using `patch=recommended` or `patch=ru` AutoUpgrade takes the latest available Release Update. If you want a specific release update, you specify `patch=ru:19.24` for an example.

Can I apply one-off and merge patches?

Yes. Specify the patches as a comma-separated list, for example: `patch=ru,1234,2345,3456`.

Is there an *alias* to download the latest JDK patch?

No. You need to specify the relevant patch yourself. We like the idea, though, so it's hereby added to our backlog.

Do you check the database before patching?

Yes. We follow our best practices and issue various checks, including Datapatch Sanity Checks, before proceeding.

Do you check for conflicting patches?

With out-of-place patching, it is not possible to perform a conflict check upfront. If there is a patch conflict, AutoUpgrade stops in the “create home” phase and tells you which patches are in conflict. At this point, AutoUpgrade hasn't touched the source database, so there's no interruption of the database.

Do you also update OPatch?

Yes. When you specify either `patch=recommended` or `patch=ru,opatch`.

Can I use AutoUpgrade with out-of-place patching using a cloned Oracle home?

We plan on adding support for that later. For now, we patch out-of-place using a brand-new Oracle home, according to our best practices.

Can I use AutoUpgrade with in-place patching?

We plan on adding support for that later. For now, we patch out-of-place using a brand-new Oracle home, according to our best practices.

Can I use AutoUpgrade to just patch JDK in my Oracle home?

That's essentially in-place patching. Please see the answer above.

Can I use AutoUpgrade to patch Oracle Grid Infrastructure?

No. We are focusing on Oracle Database. Oracle Fleet Patching and Provisioning is our solution for full-stack patching, including Oracle Grid Infrastructure.

What about the old Oracle home?

AutoUpgrade keeps the old Oracle home untouched. We recommend keeping the old Oracle home around for a while in case you need to perform a rollback. We like the idea of optionally also removing the old Oracle home after successful patching. We've added that to our list of good ideas. For now, removing the old Oracle home is a manual task. You can add the removal of the old Oracle home to an `after_action` script if you want AutoUpgrade to do it now.

Does AutoUpgrade make any changes to PFile or SPFile?

No, not by default. AutoUpgrade does have the option to add/remove parameters before/during/after patching, but that is optional and requires that the user specify it.

Does AutoUpgrade take care of files in the *db*s directory?

Yes. When doing out-of-place patching AutoUpgrades copies all configuration files into the new Oracle home. This includes the *db*s directory, but also files like network/admin and gateway configuration files.

What if a patch requires root permissions?

It is very rare for a one-off patch to require root permissions. If needed, however, you must do so manually. We're considering adding support for sudo. When AutoUpgrade creates a new Oracle home, it doesn't run the root script either, because in most cases, it is not needed. Only users with external jobs or some special options require it, and in that case AutoUpgrade flags in the post-checks summary that you must manually execute `root . sh`.

Database Options

We usually switch off options using `chopt`. Does AutoUpgrade do that?

Currently, we install a new Oracle home using the default settings. Removing certain features is a manual task. You can use an `after_action` script in the config file to run your own script that does it. We've added the idea to our list of good ideas.

We link Unified Auditing in pure mode in our Oracle home. Can AutoUpgrade do that?

Not currently. In most cases, unified auditing in mixed mode works just as fine. However, we've added the idea to our list of good ideas.

Does AutoUpgrade take care of database wallets, too?

AutoUpgrade handles any configuration file stored inside the Oracle home (like gateway configuration, p/spfile and password files, network/admin). Storing the database keystore (for TDE) inside the Oracle is not considered good practice and you should change that. If you are using Secure External Password Store for direct logons, then it depends on the specific configuration. Please explain your current setup and we can answer.

We used dNFS. How does that work?

You need to configure dNFS properly afterward as root.

Usage

Can we choose when to switch from the old to the new, patched Oracle home?

Yes. We have a *one-button* approach that does everything in one operation. If you want more control, you can use the `-mode` command line parameter to execute only certain stages.

If I create the home with “`create_home`” mode, does AutoUpgrade create the Oracle home again in “`deploy`” mode?

No. In `-mode deploy`, if the target Oracle home exists, AutoUpgrade checks if it contains the specified patches. If it does, AutoUpgrade moves on with patching. If there are more patches than specified, AutoUpgrade moves on as well. If there are fewer patches, AutoUpgrade errors out.

Can I use AutoUpgrade with automation tools like Ansible?

Yes. Be sure to use the `-noconsole` option when you start AutoUpgrade. All information is written to JSON files as well, including frequent status updates.

Can AutoUpgrade create gold images?

No, not now. Support for gold images is coming.

We have multiple databases in the same Oracle home. Is that a problem?

No. AutoUpgrade can handle that.

Can I patch multiple databases using the same config file?

Yes

We're using Multitenant. How does that work?

It works just as if it is a non-CDB database. When you use AutoUpgrade to patch a container database, it will patch all PDBs as well.

Can I centrally patch my databases using AutoUpgrade?

No. You must execute AutoUpgrade on the server where the database resides. For centralized patch management, you should use Oracle Fleet Patching and Provisioning, which has additional benefits.

We're using Oracle Restart. How does that work?

AutoUpgrade does not patch Oracle Grid Infrastructure. However, AutoUpgrade updates the Oracle Restart configuration, so the database starts in the new, patched Oracle home.

We have a RAC database. How does that work?

AutoUpgrade does not patch Oracle Grid Infrastructure. However, AutoUpgrade can patch the RAC database, but in an *all-node* fashion (all nodes are taken down at the same time, so downtime). AutoUpgrade updates the Clusterware registration to the new, patched Oracle home.

We have Exadata Cloud@Customer. How does that work?

You must use the cloud tooling to patch your database.

We have Base Database Systems in OCI. How does that work?

You must use the cloud tooling to patch your database.

We have a Data Guard configuration. How does that work?

For now, this is for single instance databases. However, you can use `-mode download` and `-mode create_home` on a standby host. We plan to add better support for Data Guard later.

Does AutoUpgrade patch full clients?

No.

Does AutoUpgrade remove the old Oracle home after patching?

No. AutoUpgrade leaves the old Oracle home so you can perform a rollback, if needed. We're considering adding support for optionally de-installing the old Oracle home.

Security

What information do you send to My Oracle Support when you query for patches?

Nothing. Our connection to My Oracle Support is only to query for available patches and download them. No information about your environment is sent to Oracle.

How do I supply the MOS credentials used by AutoUpgrade to download the patches?

You need to input your MOS credentials (username and password). AutoUpgrade stores those credentials in a software keystore in the location specified by the parameter `global.keystore`. The keystore is protected by a password that you set, and every time you start AutoUpgrade you need to specify that keystore password. Alternatively, you can use an auto-login keystore and avoid typing the password. The latter is suitable for automation, however, it is a local auto-login keystore, so you must have one for each server where you want to download patches. The keystores are architectural-wise similar to those used by Transparent Data Encryption.

If the patches are already downloaded and stored in the patch folder, do I still need MOS credentials?

No. If the patches to apply are found in the local patch folder, then AutoUpgrade will not download them, and then no MOS credentials are needed.

We do not have internet access from our database host. What do we do?

Use AutoUpgrade in `-mode download` from a server with internet access to download the patches. Store the patches in an NFS/network share accessible by the database host. Then run AutoUpgrade in `-mode deploy` from the database host and be sure to specify `download=no` in your config file. Then AutoUpgrade picks up the patches from the folder instead of downloading them.

Network

Can we connect via a proxy?

Yes. Use the `https_proxy` environment variable.

Errors and Feedback and Additional Information

Where can I find additional information?

Currently, the documentation is added to My Oracle Support Doc ID [2485457.1](#). Soon, we will add it to the Upgrade Guide in the documentation. You can also watch our webinar [Virtual Classroom 21 One-Button Patching – makes life easier for every Oracle DBA](#) and look at the matching [slides](#).

Where can I report errors and enhancement requests?

Report them via My Oracle Support. Feel free to send us the SR number and we'll take a look as well.

I receive an error message saying prerequisites are missing. Where can I find the details?

If one of the prechecks found an issue it will be listed in the summary report. You can find the link to the summary report on the console output. Otherwise, it is stored in the logging directory specified by `global.global_log_dir`.

Where does AutoUpgrade store its log files?

It is stored in the logging directory specified by `global.global_log_dir`.

Does AutoUpgrade have a resume capability?

Yes, just like with an upgrade, you simply restart AutoUpgrade, and it picks up from where it left off.

Does AutoUpgrade create guaranteed restore points, and if so, does it clean up?

Yes, by default AutoUpgrade creates a guaranteed restore point before making any changes. This is controlled by the config file parameter `restoration` which defaults to `yes`. By default, AutoUpgrade leaves the guaranteed restore point in place and you need to manually drop it later on when there is no longer the need for a potential rollback. Optionally, you can set `drop_grp_after_upgrade=yes`, and AutoUpgrade drops it after a successful patching. For Standard Edition 2 there is no Flashback Database, so AutoUpgrade does not create a restore point.

Can I roll back without a guaranteed restore point?

Yes, but that's a manual task. AutoUpgrade preserves the source Oracle home, so all you need is to restart the database in the old Oracle home and run Datapatch. In addition, you must update `/etc/oratab` and so forth.

Can I roll back after the users have connected to the database?

Yes, but not using AutoUpgrade. AutoUpgrade's rollback feature relies on the Flashback Database, which can't be used after "go-live." In this case, you must roll back manually (see above).

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