

Upgrade to Oracle Database 12.2 Live and Uncensored!

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\$> whoami



Mike Dietrich

Master Product Manager
Database Upgrades & Migrations



MikeDietrichDE



<https://MikeDietrichDE.com>

6 years

RDBMS Core & Mission Critical Support

5.5 years

Technology Presales for DataGuard, Upgrades

>9 years

ST Upgrade Development Team

50%
Reference
Projects

50%
Workshops
Worldwide

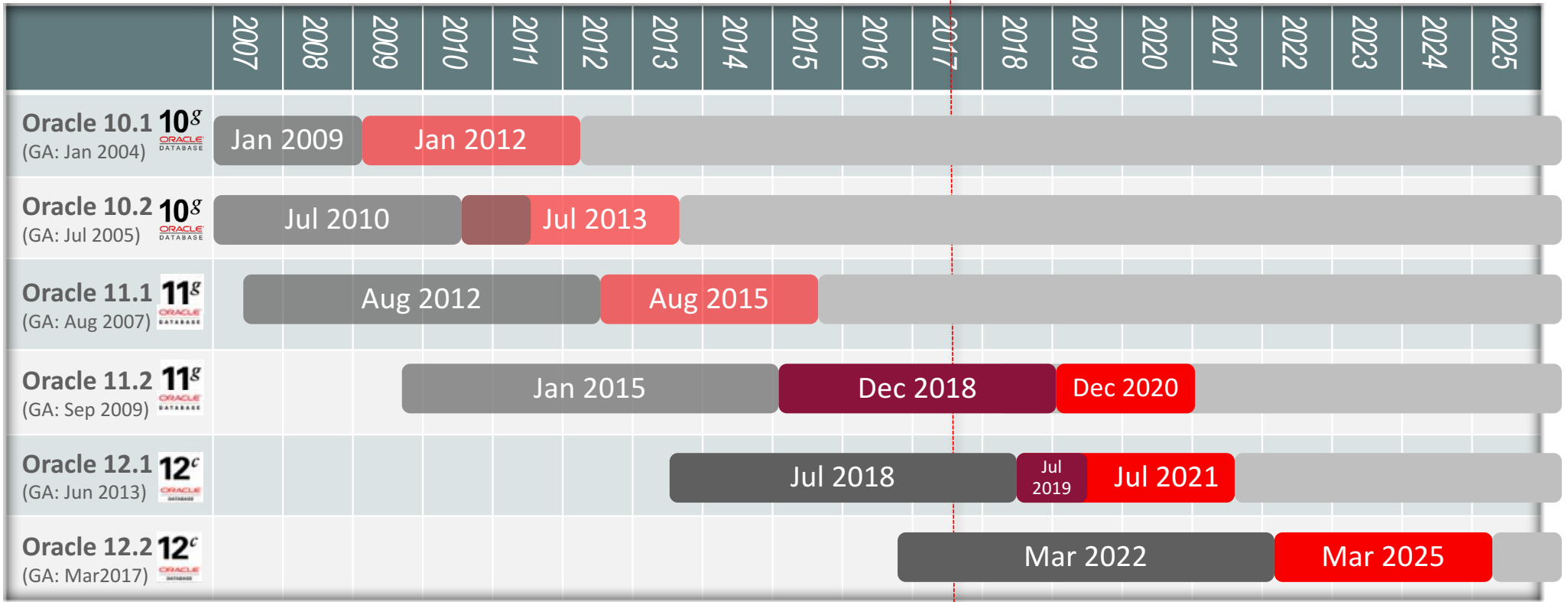
+ x%
Development
Work

Upgrade and Migrate to Oracle Database 12c - Live

- 1 Upgrade – Command Line
- 2 Upgrade – DBUA
- 3 Wrap Up

Supported Versions

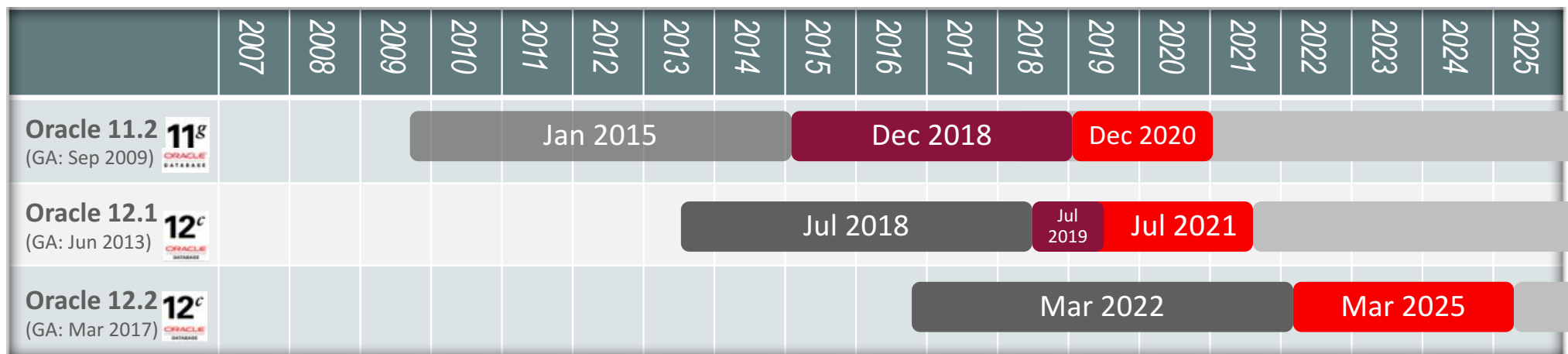
today →



Premier Support
Waived Extended Support
Paid Extended Support
Sustaining Support

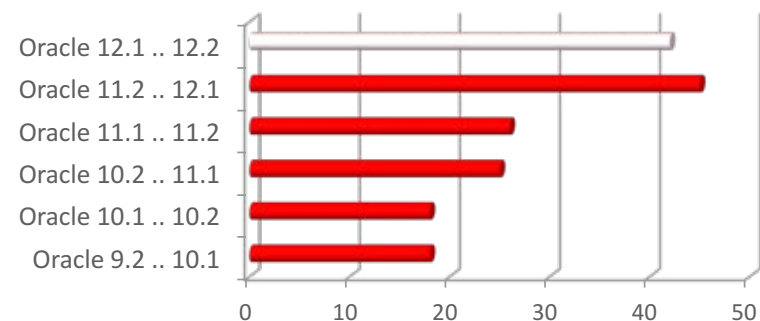


Oracle Database 12.1.0.2 or 12.2.0.1?

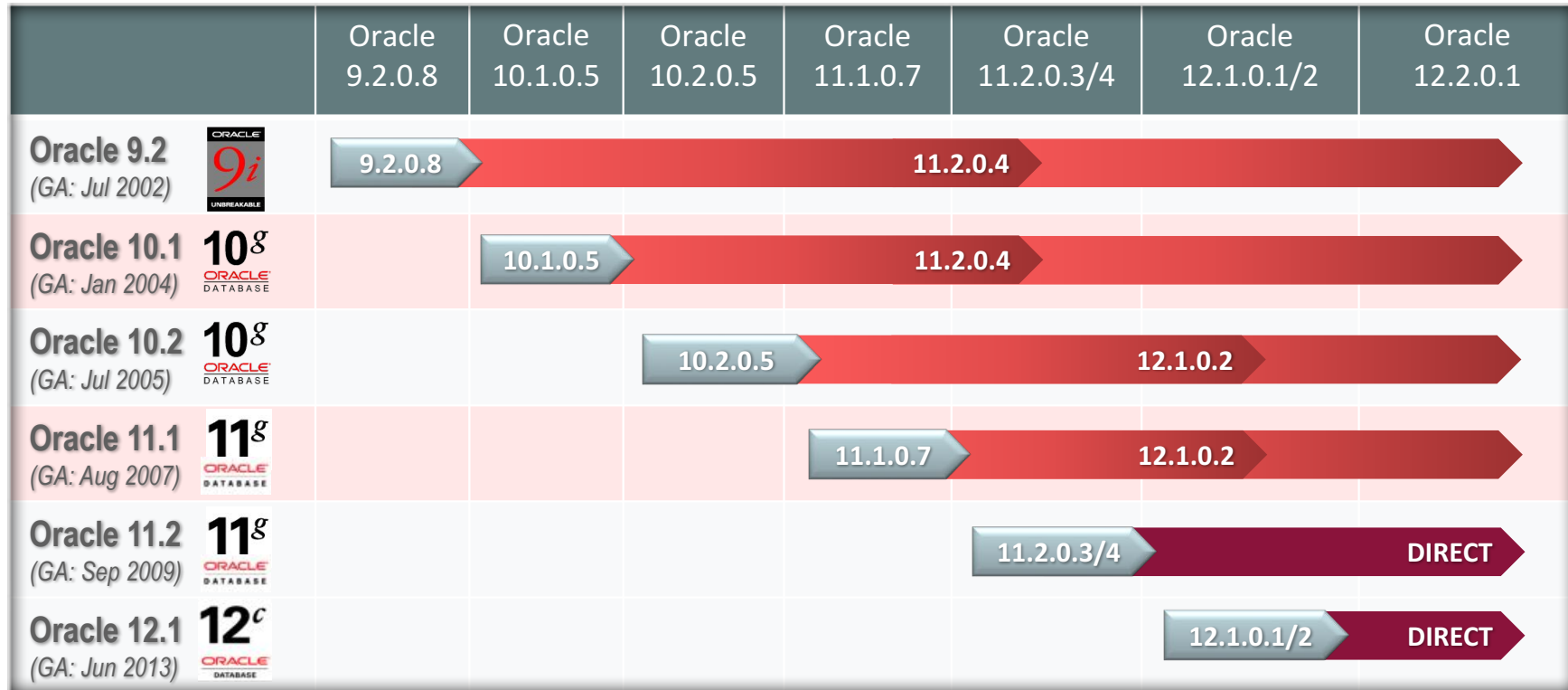


- **Every release is a full release**
- Every release will get a significant number of new features and changes
- **There's no such thing as THE 2nd release anymore!**

Span between Releases in Months



Direct Upgrade to Oracle Database 12c Release 2 (12.2)



Please note: This graph will apply to database upgrades only!

Upgrade SQL Automation

New Pre-Upgrade Script

- `preupgrade.jar`
- Execute checks in source environment
- Generates detailed recommendations
- Generates fixup scripts
- **Rerunnable**
- MOS Note:884522.1

```
+ (AUTOFIXUP) Empty the RECYCLEBIN immediately before database upgrade.  
The database contains 11 objects in the recycle bin.  
The recycle bin must be completely empty before database upgrade.
```

RECOMMENDED ACTIONS

```
=====
```

```
+ Gather dictionary statistics prior to database upgrade in off-peak time  
using:
```

```
EXECUTE dbms_stats.gather_dictionary_stats;
```

```
Dictionary statistics do not exist or are stale (not up-to-date).
```

```
Dictionary statistics help the Oracle optimizer find efficient SQL  
execution plans and are essential for proper upgrade timing. Oracle  
recommends gathering dictionary statistics in the last 24 hours before  
database upgrade.
```

```
=====
```

```
AFTER UPGRADE
```

Already 40%

faster Upgrades in
Oracle Database 12.1
for the ORACLE SERVER

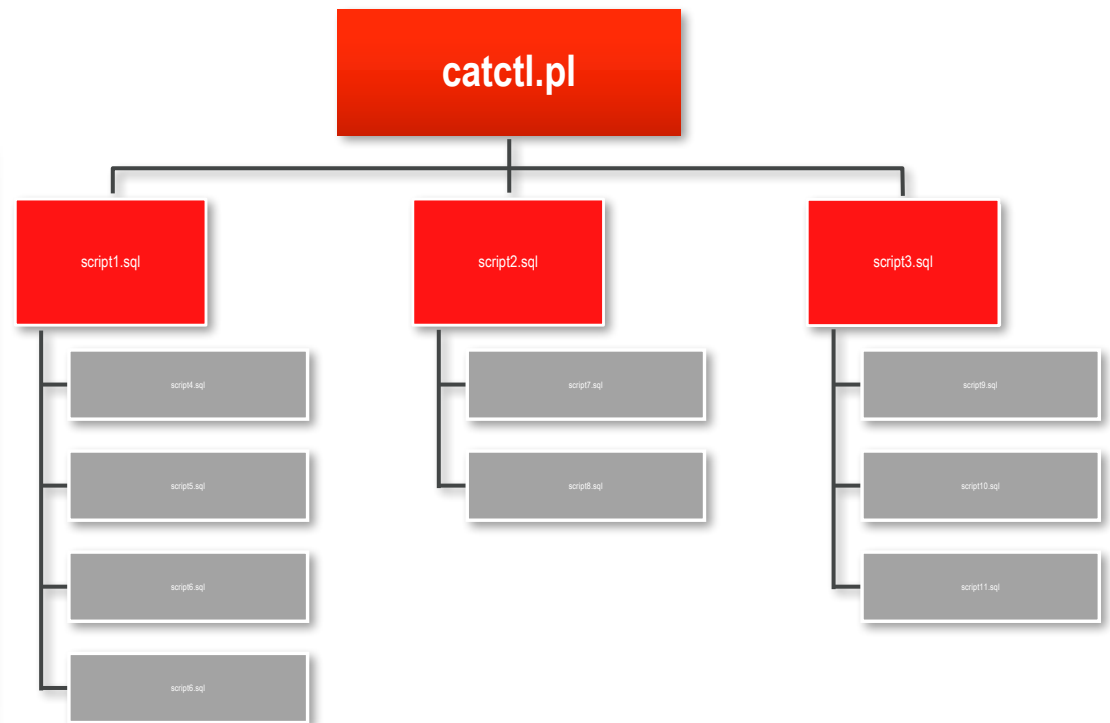


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Faster Upgrade – Less Downtime

Parallel Upgrade

- `catctl.pl`
- Runs database upgrade in parallel
 - Incl. XDB and Multimedia now
- Deals with non-CDBs and CDBs
- Resumable: `-R` option
- Used and proven to work efficiently by thousands of Oracle customers



Faster Upgrade – Less Downtime

Parallel Upgrade

- `$> $ORACLE_HOME/perl/bin/perl
catctl.pl -n 8 -l /home/orcl
catupgrd.sql`



```
***** Catproc DataPump *****  
[..]  
***** Catproc SQL *****  
[..]  
***** Final Catproc scripts *****  
Serial Phase #:48 [UPGR] Files:1 Time: 8s  
Restart Phase #:49 [UPGR] Files:1 Time: 0s  
***** Final RDBMS scripts *****  
Serial Phase #:50 [UPGR] Files:1 Time: 32s  
***** Upgrade Component Start *****  
Serial Phase #:51 [UPGR] Files:1 Time: 1s  
Restart Phase #:52 [UPGR] Files:1 Time: 0s  
***** Upgrading Java *****  
Serial Phase #:53 [UPGR] Files:1 Time: 0s  
Restart Phase #:54 [UPGR] Files:1 Time: 1s  
***** Upgrading XDK *****  
Serial Phase #:55 [UPGR] Files:1 Time: 0s  
Restart Phase #:56 [UPGR] Files:1 Time: 0s  
***** Upgrading APS.OLS.DV.CONTEXT *****
```

“We experienced very few problems and in general the upgrades were very fast.

We were able to upgrade almost all of our 200+ database instances to Database 12c with a downtime of only 30-40 minutes (and that includes some of the pre- and post-tasks).

I have been upgrading Oracle databases since 9i to 10g, and this has been the best release (measured on how easy upgrading is) so far.”

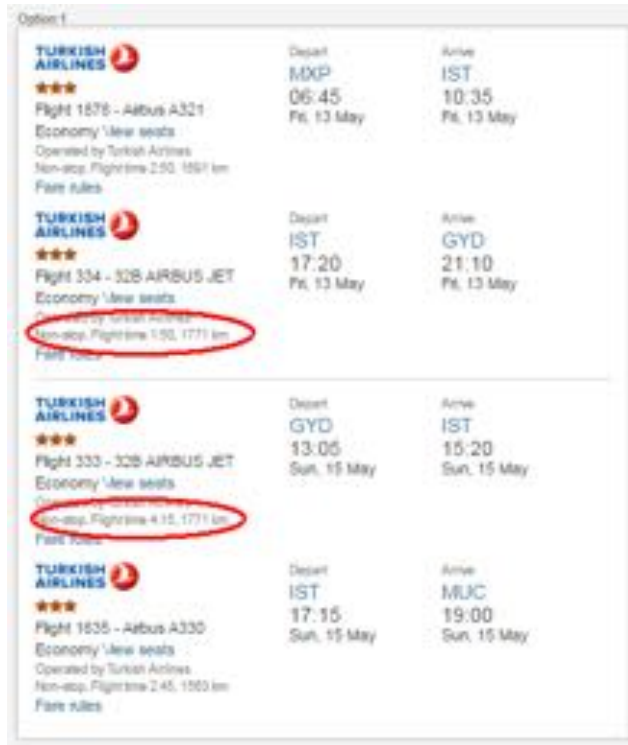
Daniel Overby Hansen

Chief Software Developer, Environment Operation
SimCorp A/S - Denmark



Upgrade to Oracle Database 12.2

- **Time zone** adjustment - why?
 - Same distance, different flight times?



- Adjust time zone post upgrade
 - No time zone downgrade possible
- Find the **most recent time zone patch**:
 - [MOS Note:412160.1](#)
- **Download** and **execute** the time zone adjustment **scripts**:
 - [MOS Note: 1585343.1](#)

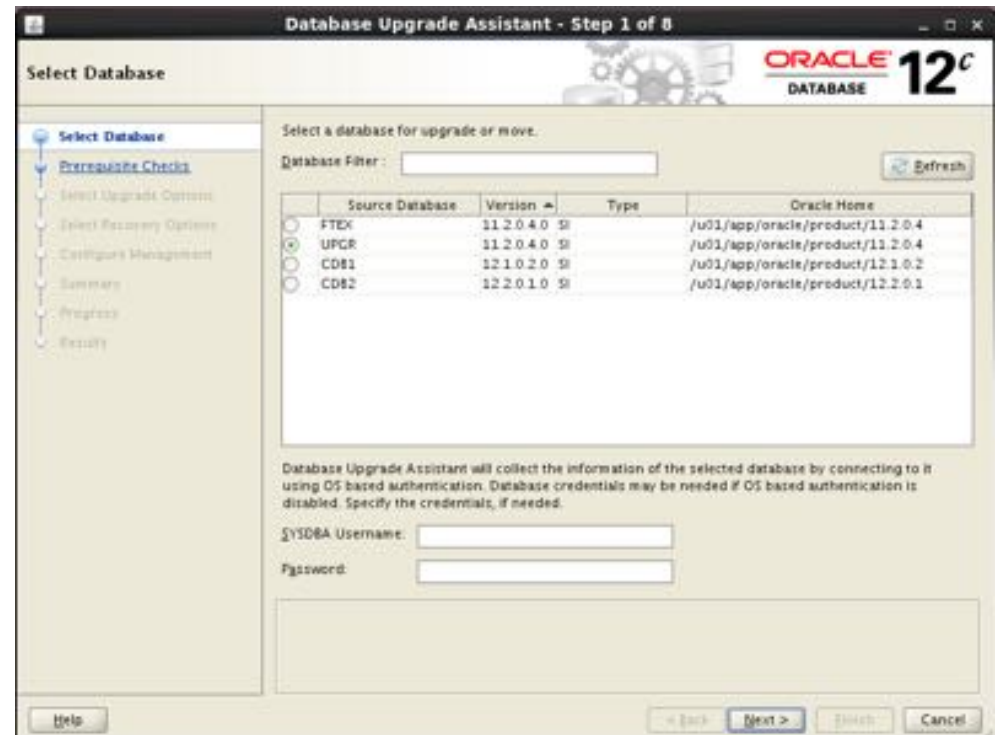
Oracle Database Release	Default TZ Version
10.2.0.3 – 11.1.0.7	DST V4
11.2.0.1	DST V11
11.2.0.2 - 11.2.0.4	DST V14
12.1.0.1, 12.1.0.2	DST V18
12.2.0.1	DST V26

Upgrade and Migrate to Oracle Database 12c - Live

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Upgrade to Oracle Database 12.2 - DBUA

- **Database Upgrade Assistant (DBUA)**
 - No HW migration
 - Requires old and new home to be present
 - Tough to debug
 - Lacks fixes in Oracle 12.1
 - There's no ACTIVITY and ALERT monitor anymore in Oracle 12.2.0.1
 - The progress bar is imprecise
 - Special care on datapatch in 12.1
 - Not fully automated in 12.1
 - Parallel upgrade
 - Default: `parallel_degree = cpu_count`



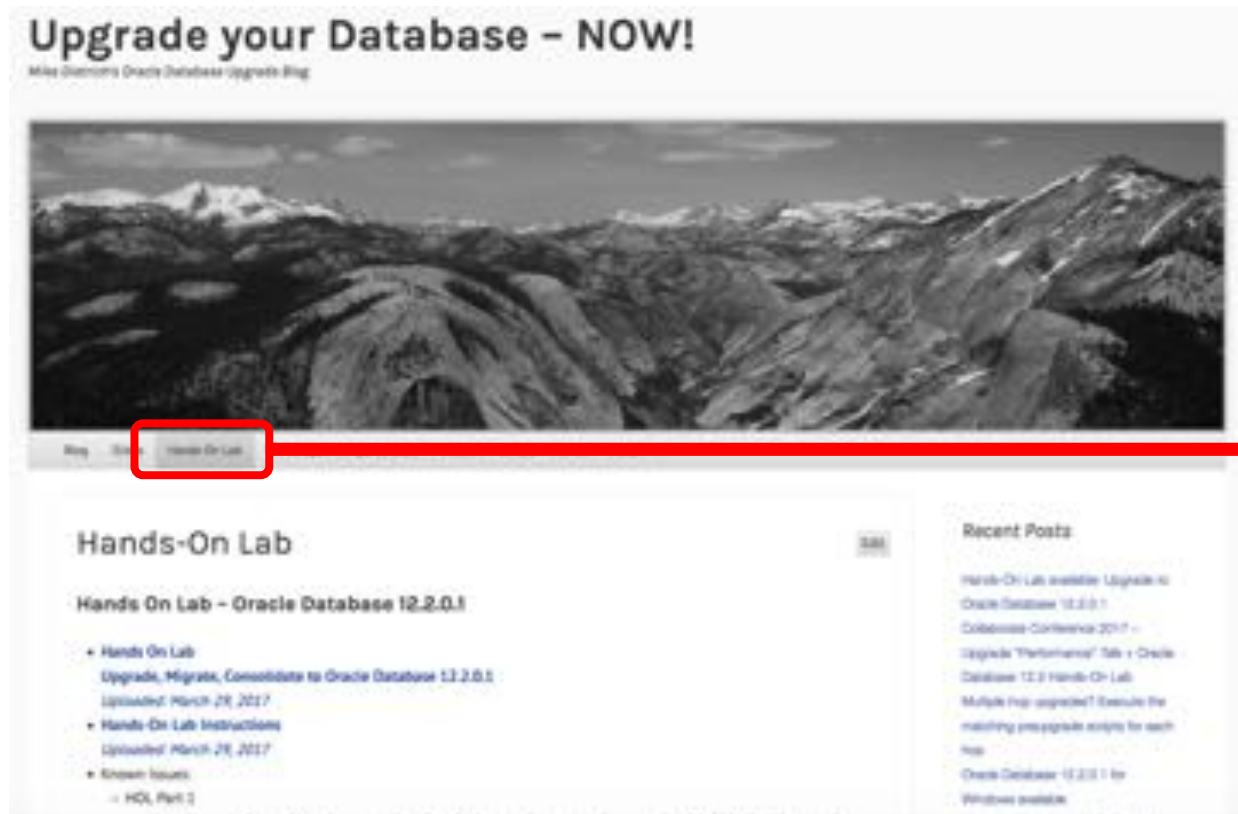


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Try the Upgrade: Hands On Lab

- <https://MikeDietrichDE.com>



Upgrade your Database - NOW!
Mike Dietrich Oracle Database Upgrade Blog

Hands On Lab

Hands On Lab - Oracle Database 12.2.0.1

- Hands On Lab
Upgrade, Migrate, Consolidate to Oracle Database 12.2.0.1
Uploaded: March 28, 2017
- Hands On Lab Instructions
Uploaded: March 28, 2017
- Show Issues
- HOL Part 1

Recent Posts:

- Hands On Lab available Upgrade to Oracle Database 12.2.0.1
- Collaborate Conference 2017 - Upgrade "Performance" 56s + Oracle Database 12.2 Hands On Lab
- Multiple Post-upgrades? Execute the matching pre-upgrade scripts for each Post
- Check Database 12.2.0.1 for Windows available



Try the Upgrade: Hands On Lab

- <https://MikeDietrichDE.com>

Upgrade your Database - NOW!

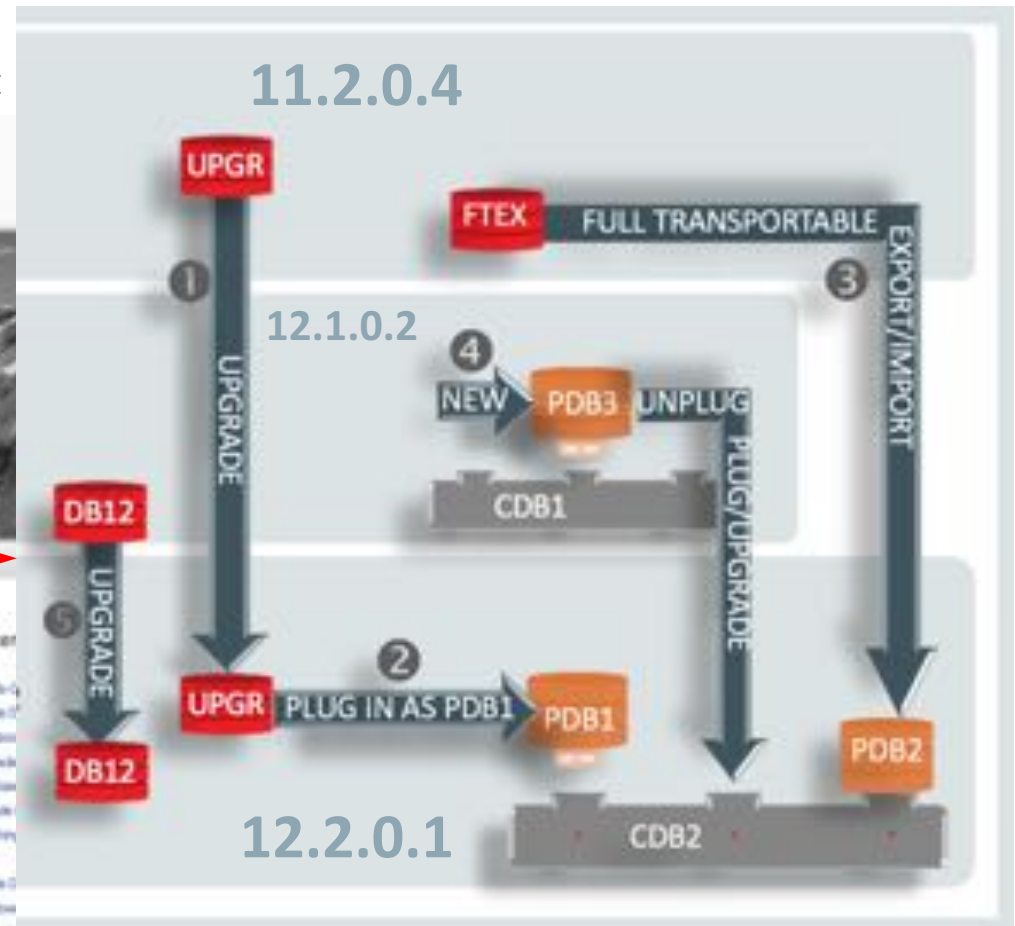
Mike Dietrich's Oracle Database Upgrade Blog



Hands-On Lab

Hands On Lab - Oracle Database 12.2.0.1

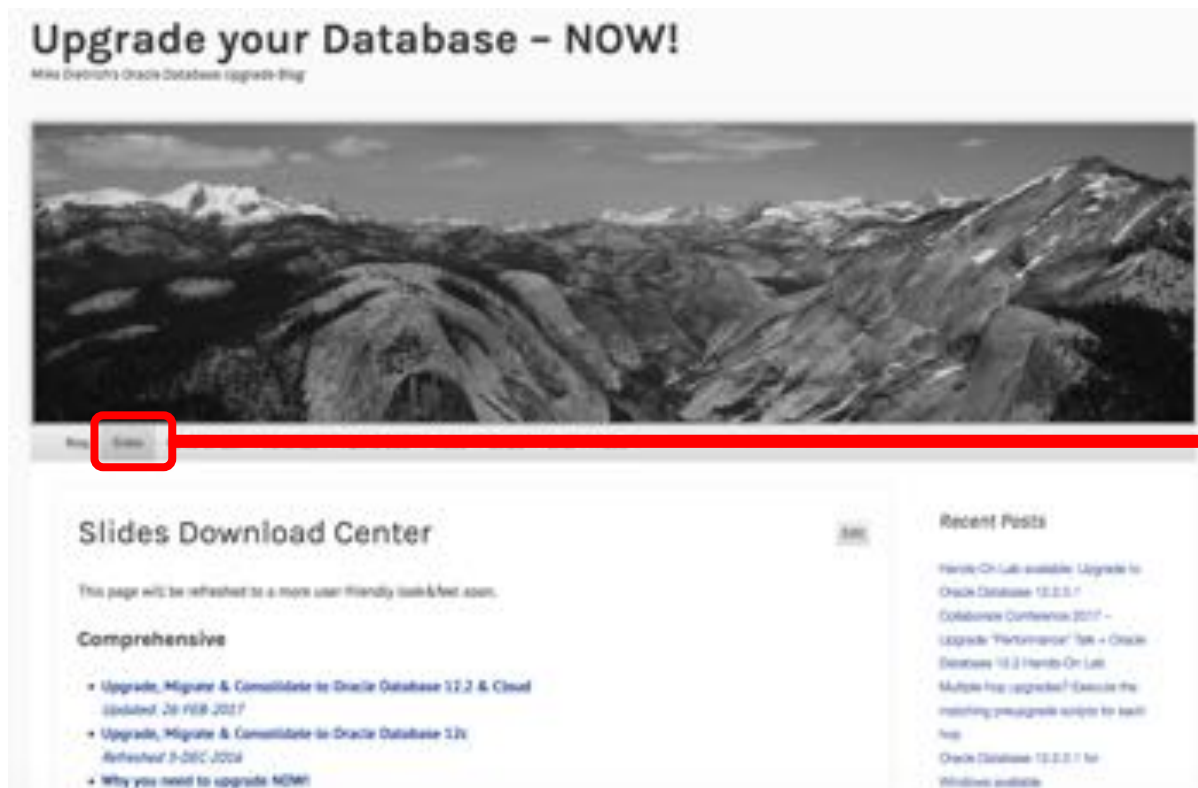
- Hands On Lab
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→ HOL Part 1



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Get the Slides from the Database Upgrade Blog

- <https://MikeDietrichDE.com/>



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