

Dimitri Gielis

Moving your APEX app to the Oracle Exadata Express Cloud



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Dimitri Gielis

- ❖ Founder & CEO of APEX R&D
- ❖ 19+ years of Oracle Experience (OCP & APEX Certified)
- ❖ Oracle ACE Director
- ❖ “APEX Developer of the year 2009” by Oracle Magazine
- ❖ “Oracle Developer Choice award (ORDS)” in 2015
- ❖ Author Expert Oracle APEX
- ❖ Presenter at Conferences





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Dimitri Gielis Blog (Oracle Application Express - APEX)
I created this Blog to share my knowledge especially in Oracle Application Express (APEX) and my feelings ...

FRIDAY, SEPTEMBER 26, 2014

APEX 4.2.6 patch available

Oracle released [APEX 4.2.6](#) yesterday, it's also available from My Oracle Support as a patch set 19595896.

Here's the table of bug fixes.

Bug Number	Description
18393429	Importing pre-4.2 application with data loading results in runtime error
18609856	APEX_WEB_SERVICE.CLOBBASE642BLOB converts incorrectly
18658967	Corrupted HTML mail messages are created from APEX_MAIL.SEND
18719750	ORA-01858 during application import
18733989	Errors picking up session with cookie when TOP CALL is not F, SHOW, or ACCEPT
19021052	Oracle Application Express 4.2.4 throwing error while generating check boxes
19313700	Check box fails with ORA-06502 after upgrade from release 4.0 to 4.2.4
19482775	ORA-06502 when importing application containing translations

Applying the patch took less than 7 minutes.

```
Session altered.  
...Validating Application Express  
...Database user "SYS", database schema "APEX_040200", user# "186" 20:48:40  
...Compiled 0 out of 3014 objects considered, 0 failed compilation 20:48:40  
...271 packages  
...263 package bodies  
...452 tables  
...11 functions  
...16 procedures  
...3 sequences  
...457 triggers  
...1320 indexes  
...211 views  
...0 libraries  
...6 types  
...0 type bodies  
...0 operators  
...0 index types
```

My next public appearances:

- Oracle Open World: 27-SEP/2-OCT-2014
- ORCLAPEX-BE Meetup: 19-NOV-2014
- ODTUG KScope: 21/25-JUN-2015

About Me



Dimitri Gielis

Passionate about Oracle and especially Oracle Application Express (APEX). Building applications with love @ APEX R&D.

[View my complete profile](#)

**ORACLE**
ACE Director

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As a developer,
where do you want to spend
your time?

As a company,
where do you want to spend
your time?



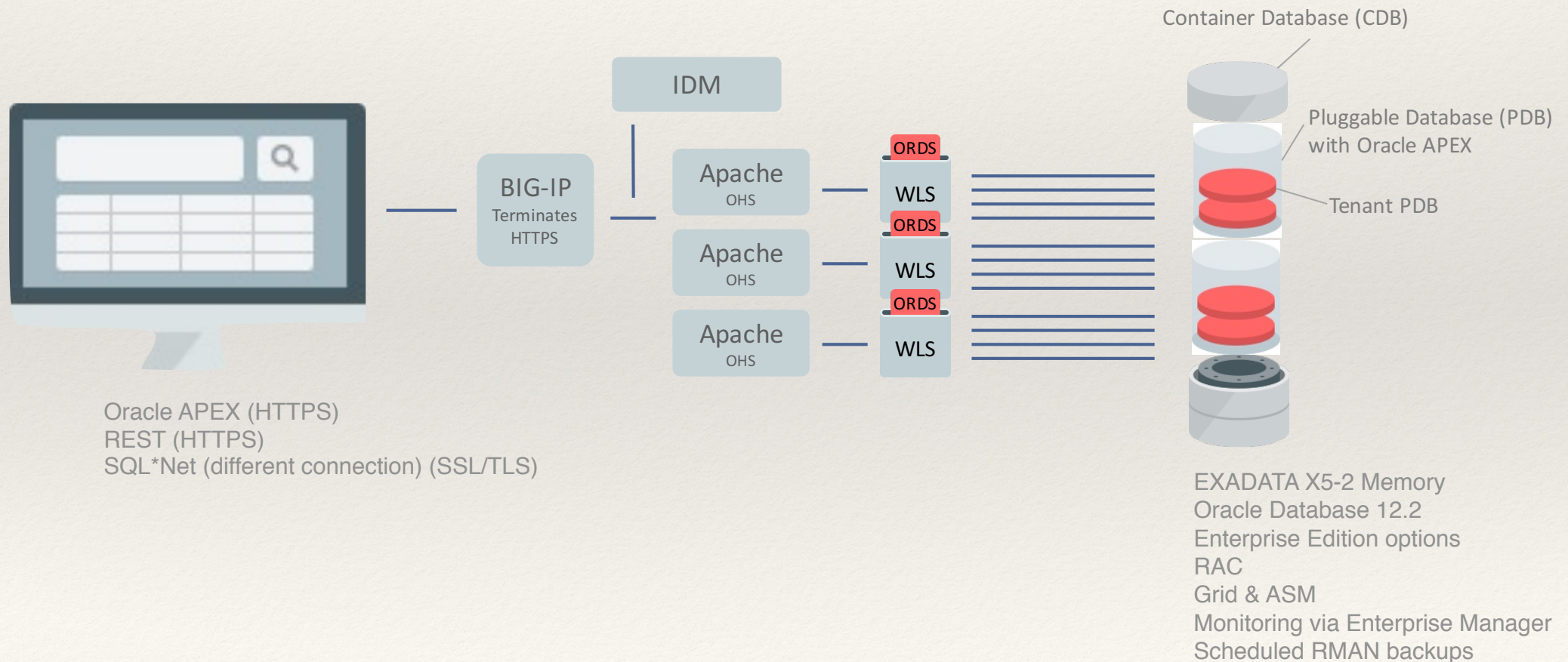
My (our) force is *

- ❖ Help business users be more efficient in their job
- ❖ Building great, scalable and secure Oracle APEX applications
- ❖ Streamline our own processes

(Oracle) Cloud

Oracle Database Cloud Type of Application	Exadata Cloud Cloud/Machine	Database Cloud Managed/Virtual Machine (Full DB)	Exadata Express (PDB)	Database Schema (Schema)
Packaged apps			X	X
Excel replacement			X	X
Low Code			X	X
Departmental App	X	X	X	X
Mobile app	X	X	X	X
Reporting	X	X	X	X
SAAS app	X	X	X	
EBS Extension	X	X	..	
Enterprise App	X	X	..	

Architecture Exadata Express



Non-Metered Service

[Buy Now](#)

Product	Price	Database Storage Maximum	Database Memory Maximum	Data Transfer Maximum
Exadata Express - X20	€152.00 / Month	20GB	3GB PGA, 3GB SGA	120GB / Month
Exadata Express - X50	€651.00 / Month	50GB	5GB PGA, 5GB SGA	300GB / Month
Exadata Express - X50IM	€825.00 / Month	50GB	5GB PGA, 10GB SGA, 5GB RAM for use with Database In-Memory Column Store	300GB / Month

Each Exadata Express account provides 1 managed Pluggable Database (PDB) of Oracle Database Enterprise Edition, plus relevant options, running on Exadata in Oracle Cloud. Oracle Database client tools and drivers can connect to the cloud PDB via Oracle Net (SQL*Net). The service also includes data access using Oracle REST Data Services (ORDS) and Simple Oracle Document Access (SODA) as well as rapid web application development using pre-configured Oracle Application Express (APEX). Note the X50IM shape includes an additional 5GB of RAM for use with Oracle Database In-Memory Column Store.

https://cloud.oracle.com/en_US/database/exadata-express/pricing

Oracle Database Exadata Express Cloud Service

Exadata Express provides your own Oracle Database Enterprise Edition running the latest database release on Exadata for a full Oracle experience. It's a fully managed service packed with features for modern application development and great for small to medium sized data.

Database

Database Versions

Oracle Database 12c Release 2 Enterprise Edition plus options running on Exadata.

Service packaging

Available in different shapes up to 50 GB of storage.

DevOps

Easily provision new databases in the cloud within minutes.

Access

Administrative Access

Manage Exadata Express via an easy browser-based service console, SQL*Plus, SQLcl and other tools.

Data Access

Work with data using Oracle REST Data Services (ORDS), or directly connect database clients and access data over Oracle Net (SQL*Net). Supported client drivers include JDBC, .NET, Python, Node.js, PHP/C/C++ and more.

Dev Tools

Use Oracle Application Express (APEX) for rapid development of web apps that look beautiful in desktop and mobile browsers. Also, use Oracle SQL Developer and Data Modeler IDEs, which are included at no extra cost.

Management

Fully Managed Offering

A fully managed database cloud service. Network configuration, storage, database patching & upgrade and more are taken care of for you. No customer DBA required.

Security

Data at rest is encrypted by default using Transparent Data Encryption (TDE). Database auditing is enabled. Database client access uses SSL/TLS 1.2 encrypted and mutually authenticated connections.

Service Console: demo

**Web Access**

Develop database and web apps using
Oracle Application Express (APEX)

[Learn More](#) [Watch Video](#)

Go to SQL Workshop

Run SQL commands, execute SQL scripts and browse
database objects

Develop with App Builder

Declaratively develop and deploy data-driven apps

Define REST Data Services

Create and manage RESTful web service interfaces to
your database

Install Productivity Apps

Browse and install productivity apps

**Client Access**

Enable database client access, then
connect using drivers and tools

[Learn More](#) [Watch Video](#)

Download Client Credentials

Download a zip file containing your security credentials
and network configuration files

Download Drivers

Get database drivers for Java, .NET, Node.js, Python,
PHP, Ruby, C, C++, Instant Client and more

Disable Client Access

Disable SQL*Net access and invalidate all existing client
credential files

Download Tools

Get SQL*Plus command-line and developer tools
including SQL Developer and JDeveloper

**Administration**

Manage your cloud database

[Learn More](#) [Watch Video](#)

Create Database Schema

Create a new schema for database objects

Create Document Store

Enable or disable a schema-less document-style
interface, with JSON storage and access

Set Administrator Password

Set or reset your database's privileged user
(PDB_ADMIN) account password

Manage Application Express

Use Application Express (APEX) administrative options

Migrating to Oracle Cloud

Migrating data

Load mechanism	Exadata Cloud (Cloud/Machine)	Database Cloud (Managed/Virtual Machine)	Exadata Express	Database Schema
Oracle SQL Developer	X	X	X	X
Oracle APEX – SQL Workshop	X	X	X	X
ORDS REST Webservices	X	X	X	X
Oracle SQL*Plus / SQLcl	X	X	X	
Datapump	X	X		
RMAN	X	X		
PDB plugging	X	X		
Remote Cloning	X	X		
SQL Loader	X	X		
Other (Node.js, ...)	X	X	X	

Load mechanism	Exadata Cloud (Cloud/Machine)	Database Cloud (Managed/Virtual Machine)	Exadata Express	Database Schema
Oracle SQL Developer	X	X	DEMO	X
Oracle APEX – SQL Workshop	X	X	X	X
ORDS REST Webservices	X	X	X	X
Oracle SQL*Plus / SQLcl	X	X	DEMO	
Datapump	X	X		
RMAN	X	X		
PDB plugging	X	X		
Remote Cloning	X	X		
SQL Loader	X	X		
Other (Node.js, ...)	X	X	X	

Migrating application

Live Demo

Useful info

Oracle DB 12.2 but ...

Known Issues for Oracle Database Exadata Express Cloud Service



1 Feature Restrictions and Limitations



This section lists the feature restrictions and limitations associated with this release of Oracle Database Exadata Express Cloud Service. While these Oracle Database features are not currently available in Exadata Express, the intent is to enable many of them in a future release.

Additional restrictions are also described in [Lockdown and Restrictions](#) in *Using Oracle Database Exadata Express Cloud Service*.

- **Oracle Database Net Services (SQL*Net) Connection Timeout**

Client connections to your Exadata Express cloud database automatically disconnects after 30 minutes of idle time. This timeout interval cannot be changed. To keep your client connections alive, make sure they execute an operation on the database at least once during each 30-minute period.

- **File System Access**

Access to the host file system is disabled.

- **Database Sharding**

Database sharding is not supported.

- **Java**

Java functionality in Oracle Database is disabled, with the exception of the prepackaged Java-based implementations required for features such as XML DB.

- **Oracle Database Features on Microsoft Windows**

Oracle Database features specific to Microsoft Windows are not supported when running on Exadata Express (for example, Oracle Database Extensions for .NET). You can connect to Exadata Express from a Windows system without any problem, but database features specific to the Windows operating system cannot be used.

- **Data Pump**

Data Pump Import and Data Pump Export are currently not available.

- **Legacy Database Export/Import**

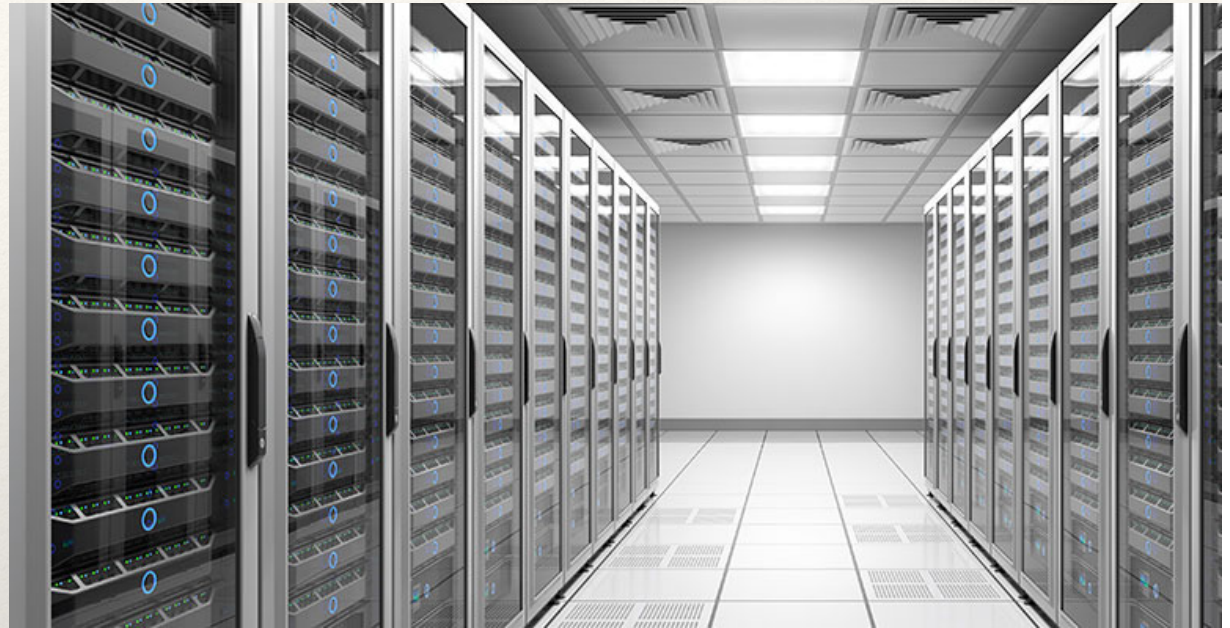
Legacy database export/import is not supported. The host file system cannot be accessed from Exadata Express.

Oracle DB 12.2 but ...

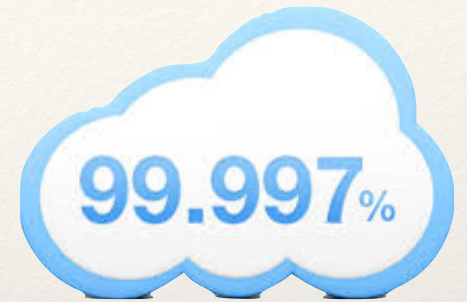
- ❖ Today
 - ❖ Feature restrictions
 - ❖ e.g. Spatial, RAS, ...
- ❖ Future
 - ❖ Many limitations will disappear
 - ❖ e.g. RAS will become available

Datacenters

- ❖ Today
 - ❖ US (Chicago)
- ❖ Future
 - ❖ EU
 - ❖ Other



Up-time



- ❖ No failure so far (Oracle cloud SLAs)
- ❖ Scheduled service downtime: 3rd weekend/month
- ❖ Downtime: None or a few minutes

Backups

- ❖ Today
 - ❖ RMAN backups by Oracle
 - ❖ Restored via customer SR
 - ❖ Own backup strategy via SQL*Plus / REST
- ❖ Future
 - ❖ Backup to cloud



Oracle APEX Version

- ❖ Today
 - ❖ APEX 5.0.4
- ❖ Future
 - ❖ APEX 5.1.1
 - ❖ Opt-in



Printing / Reporting



- ❖ **APEX Office Print** supported
 - ❖ Native Oracle APEX Plugin
 - ❖ Create templates in Word, Excel, Powerpoint (HTML, Markdown coming in AOP 3.0)
 - ❖ Output to DOCX, XLSX, PPTX, HTML, PDF

Custom URL

- ❖ Redirect
- ❖ Forwarding with / (without) Masking
- ❖ Use of Proxy
- ❖ Oracle Traffic Director (?)



Conclusion

- ❖ Oracle Exadata Express is definitely an option to look at and for me the first great offer from Oracle especially for Oracle APEX applications

Other people's views



EECS - Oracle Exadata Express Cloud Service, Step 4 : APEX !

So what are my experiences using EECS doing some APEX work?

First of all, it is not blazing fast. Probably caused by the latency (as mentioned in my previous post). It is not slow, it is just ok('ish).

Second, and way more important, it runs **APEX 5.0.4**! So whatever Oracle advertises about "*Cloud first*" ... it doesn't seem to apply to APEX (or APEX on EECS). So this fact alone makes this environment useless for demo, development and presentation purposes at this moment. I heard through the grapevine that 5.1 will be available from April 25 - but that's still a month away. And that rumour could be false.

Third, because you don't have access to a SYS account, you can't install something like [APEX-SERT](#). Maybe the install scripts can be adapted for the PDB_ADMIN account - I haven't looked into that yet.

Four : As mentioned in an earlier post, within an EECS PDB instance you get one and only one APEX Workspace. You can't add one (nor delete). You can create as much schema's as you wish, but you have to assign them all to that same Workspace. Thus if you need more Workspaces, you either buy multiple EECS instances or look into another - more expensive - Database Cloud offering.

Five : The default Authentication Scheme is the new "Oracle Cloud Identity Management" scheme. If you have admin rights for the Service you can add users in that layer. If you would like to use "APEX Users" as an Authentication Scheme, you need admin rights as well to create those users. Or create your own scheme if you like that better.

And finally, when you buy an EECS, you get a Customer Support (CSI) number. You should be able to use this number to access My Oracle Support (MOS) to get information, ask questions etc. But the first few weeks that number was not recognised by MOS. But as I tried it again today, it seems to "know" the number and registration is in progress.

Reading the points above and the previous post, you might think EECS is not that good. But that all depends on what you expect to get for your money. Compared with other Oracle Cloud products, EECS is rather cheap. At some points it could do better, but especially when the service is upgraded to APEX 5.1, I will use it more for demo / development and presentations. Multiple Workspaces would be second on my wish list.

And also Oracle announced a free APEX development environment a while ago - comparable to apex.oracle.com, but with that major difference that you are officially allowed to develop applications in that new environment (apex.oracle.com is targeted as a playground - despite all the development that is probably happening there....).

❖ <http://roelhartman.blogspot.nl/search/label/Cloud>



Q&A

APEX RD
research & development



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Consulting, Development, Training

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