Martin B. Nielsen, MBNDATA

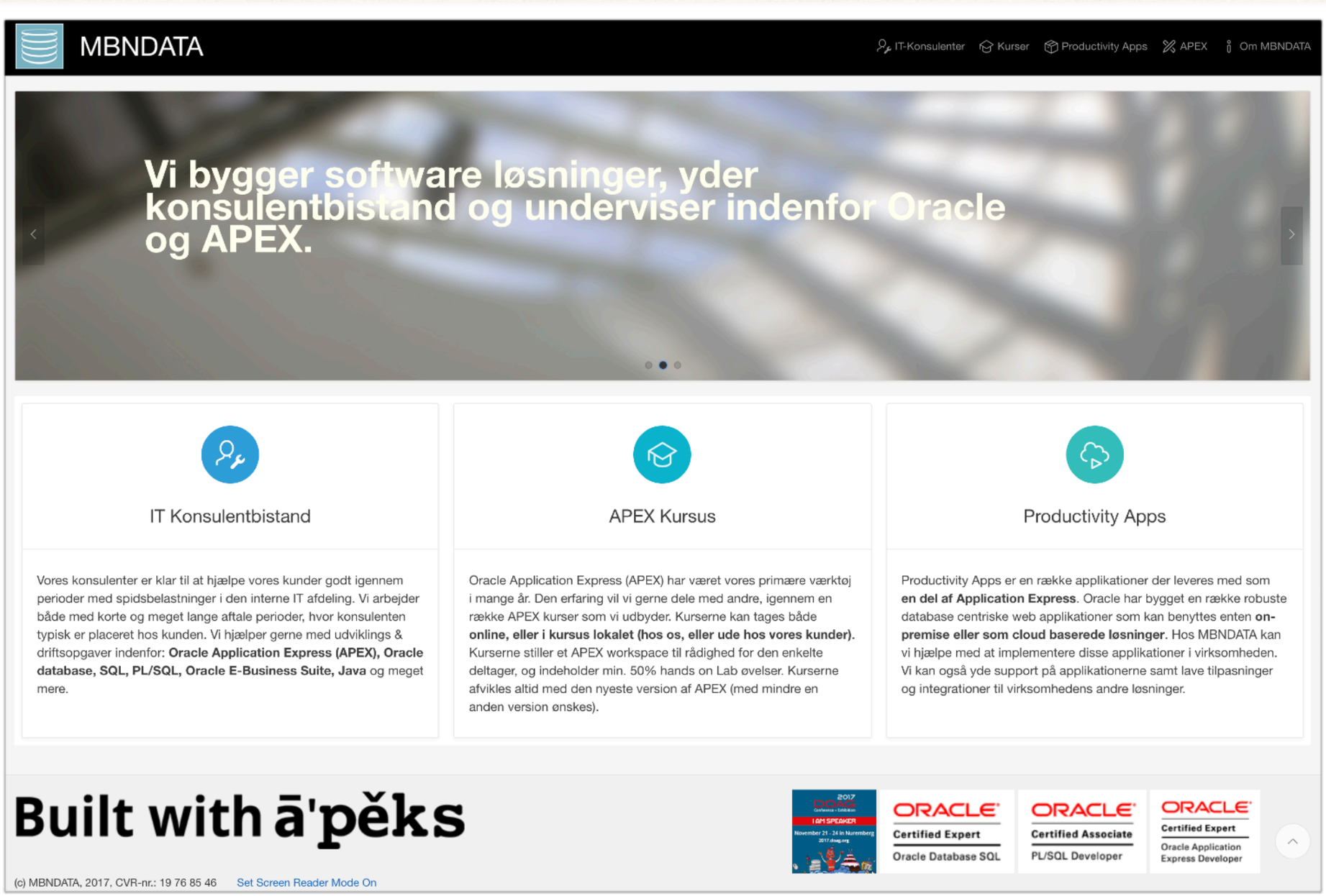
DOUG November 2018

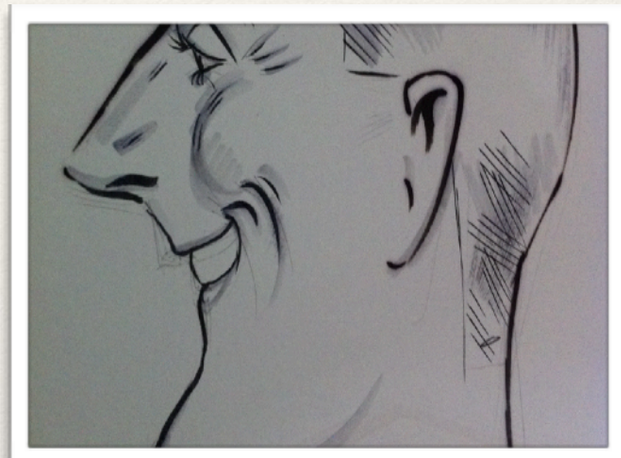
Latest news about building and supporting web applications with Oracle Application Express (APEX) 18.2

DOUG, Ballerup, 2018

MBNDATA

APEX Full Stack Developer







ORACLE ACE Associate

MBNDATA

Whats Happening and hot with APEX ?

- APEX version 18 (minor version 1 and 2) **new features**
- Remote Data Sources using ORDS and **REST** (with JSON)
- **Sqlcl** 18.3 (SQL command line tool)
- Progressive Web Apps (**PWA**) developed in APEX
- Oracle **18 XE** Database (newly released)
- Oracle **Cloud** (first trip to the cloud)

APEX Whats all the fuss about ?

Build stunning, scalable apps. Fast.

Oracle Application Express (APEX) is a low-code development platform that enables you to build stunning, scalable, secure apps, with world-class features, that can be deployed anywhere.

Low Code Development

With Oracle APEX and low code, your organization can be more agile - develop solutions faster, for less cost, and with greater consistency. You can adapt to changing requirements with ease. Empower professional developers and everyone else in your organization to be a part of the solution.

Vibrant Community



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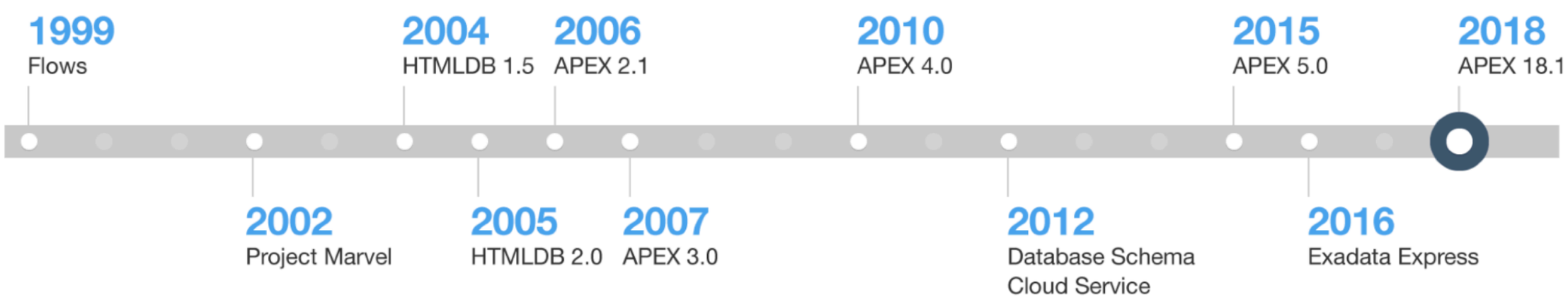
APEX History

Oracle APEX Turns 18 🧁

The upcoming release of Oracle APEX will be APEX 18.1, consistent with the release numbering for the Oracle Database as well as Oracle REST Data Services and Oracle Cloud services.

Coincidentally, it has been a little over 18 years since the first line of code was written for APEX. Throughout this time, we have always strived to empower developers with the tools they need to build modern apps fast, with less effort, and with greater consistency.

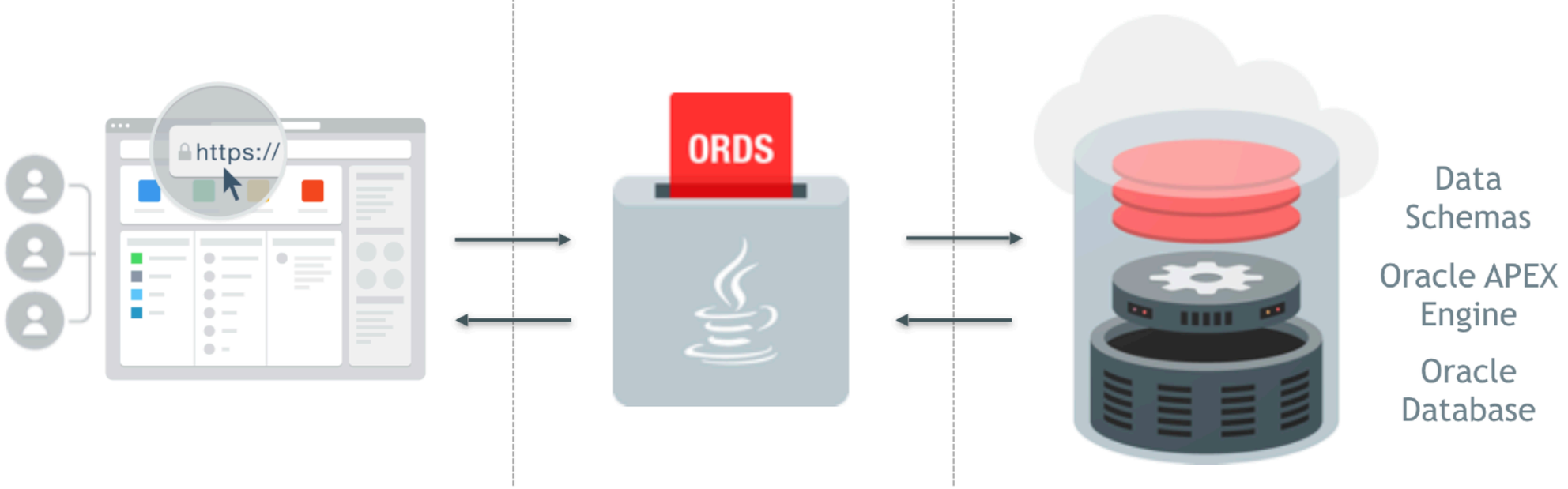
Oracle APEX has an incredible legacy and an even brighter future! #LetsWreckThisTogether



APEX Architecture

Oracle Application Express

3 Tier Architecture



Browser | Mid Tier | Database Tier

ORDS = Oracle REST Data Services

ORACLE

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APEX 18 Major New features

★**REST Enabled SQL support & Service consumption**



★**Create App Wizard (Blueprint/LowCode)**

★**Oracle JET Upgrade to latest version (4.2)**

Social Login (Google, Facebook, OAuth2…)

Page Designer Improvements

Quick SQL

Font APEX and many other things…



APEX 18 ALL new features

REST Enabled SQL Support

- Create and maintain References to REST Enabled SQL Instances (Oracle REST Data Services) in Shared Components
- Use a REST Enabled SQL Service and therefore a remote Oracle database as the Data Source for the following components: Classic Reports, Interactive Reports, CSS Calendar, JET Charts, Tree Region, Toggle Column Report, and Reflow Table Report
- Execute PL/SQL page processes on a remote Oracle database
- Use the APEX_EXEC PL/SQL package to execute SQL Queries or PL/SQL blocks on a remote database1, from within your custom PL/SQL code.
- Caching for REST Enabled SQL: Session based, user based or for all users and sessions. Cache invalidation can be specified in minutes or with a DBMS_SCHEDULER calendaring syntax.

REST Service Consumption

- Create and maintain references to REST services (Web Source Modules) within Shared Components
- Leverage Oracle REST Data Services features like server-side filtering or pagination to fetch only required data from the REST service
- Use Simple HTTP for generic REST services, JSON or XML data feeds
- Have Application Express automatically discover and maintain the Data Profile; no manual SQL or PL/SQL coding is required for JSON or XML parsing
- Use Web Sources as the data source for the following components: Classic Reports, Interactive Reports, CSS Calendar, JET Charts, Tree Region, Toggle Column Report, and Reflow Table Report

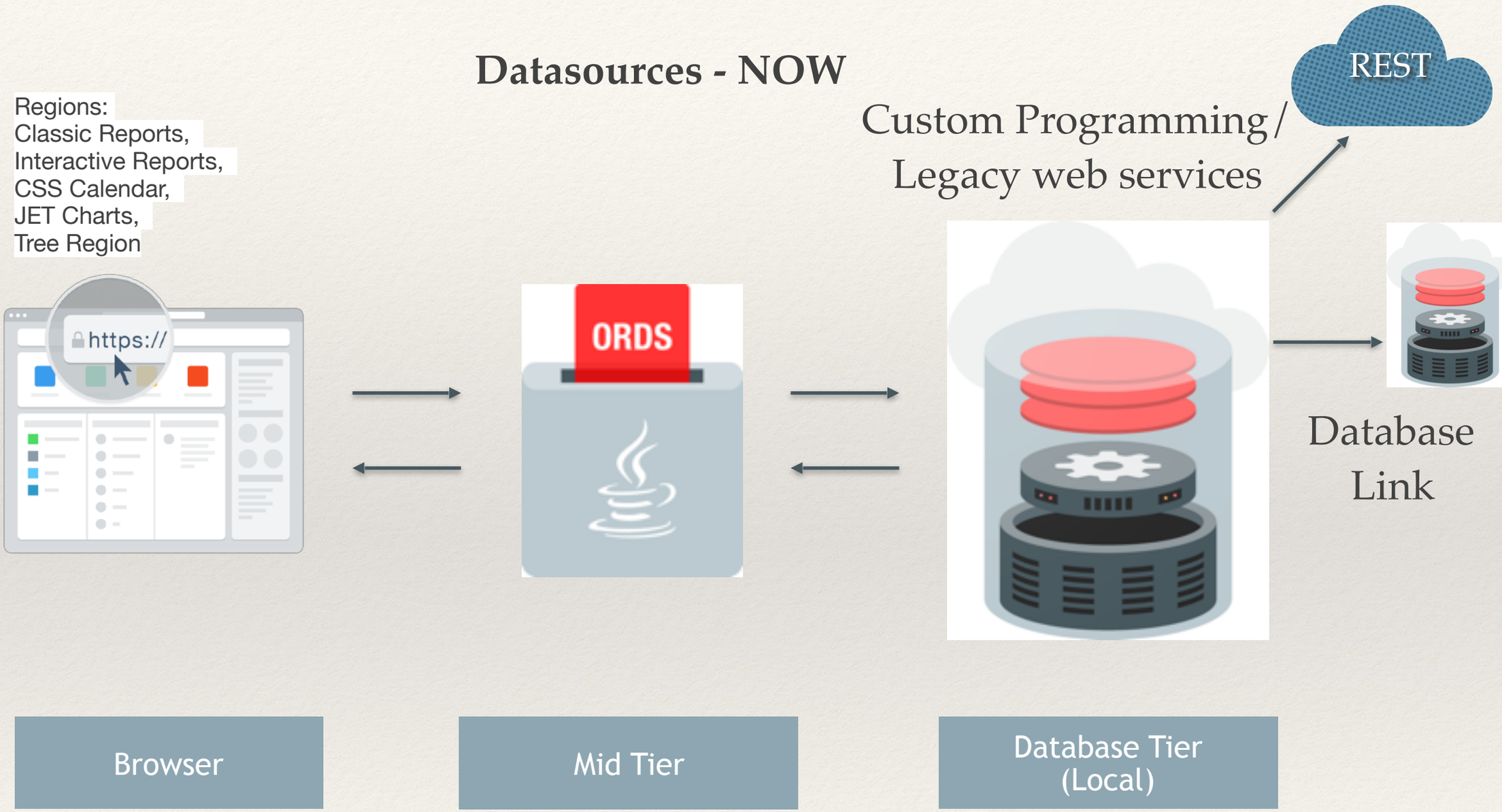
APEX 18

DEMO

How to provision a new development workspace, create a database schema and table space, and create a feature rich web application (including underlying datamodel), user feedback, Configurations options for users…

in less than 5 minutes.

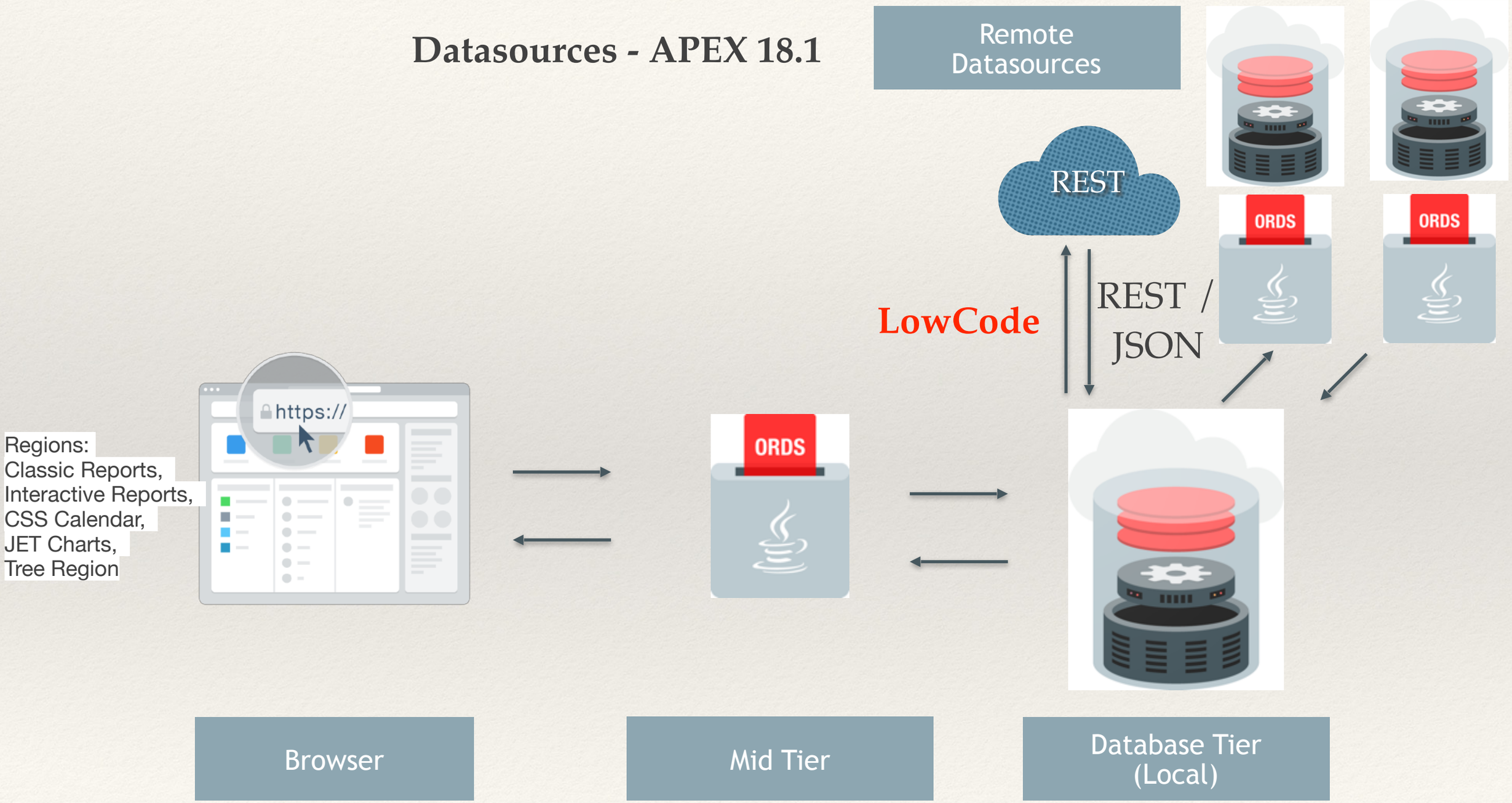
APEX 18 REST features



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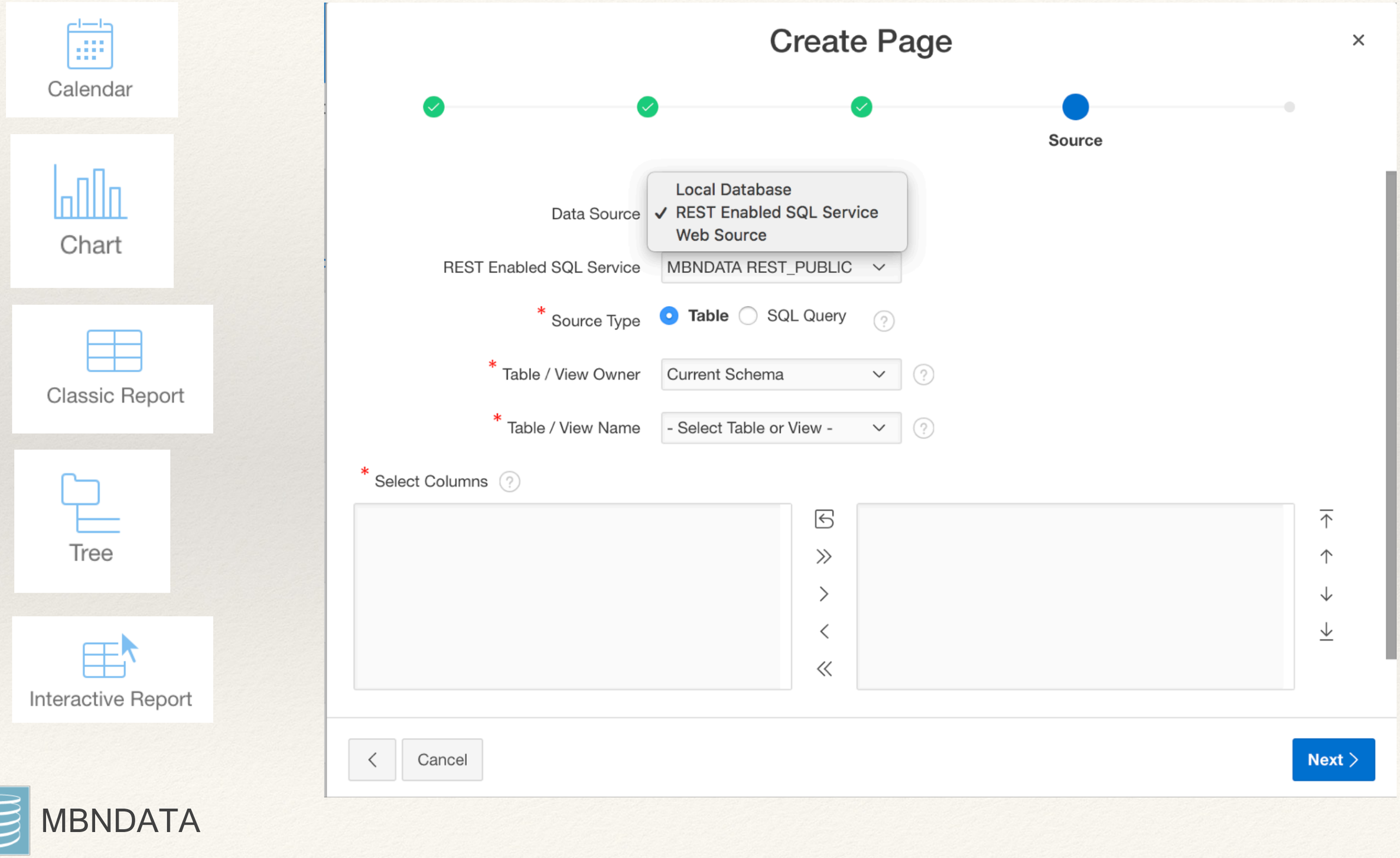
APEX 18 REST features

Datasources - APEX 18.1



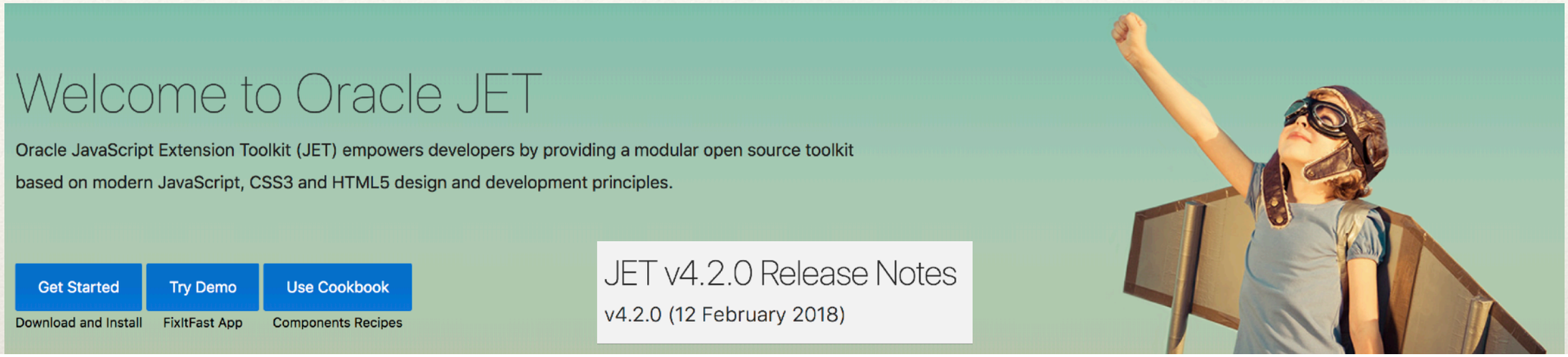
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APEX 18 REST datasources

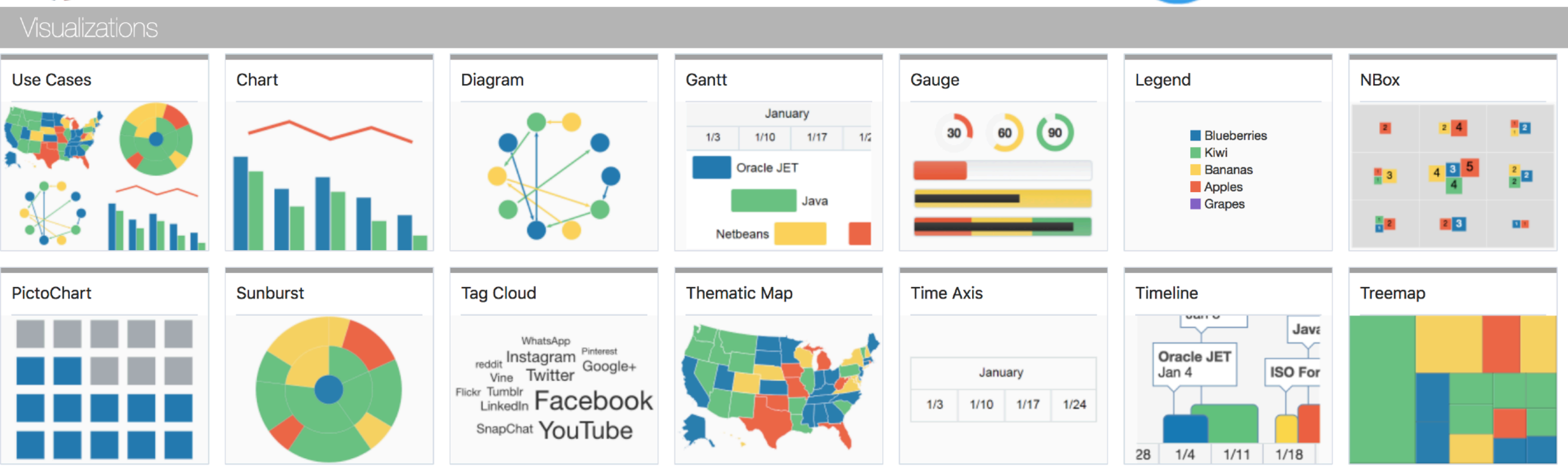


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APEX 18 JET 4.2 Integration



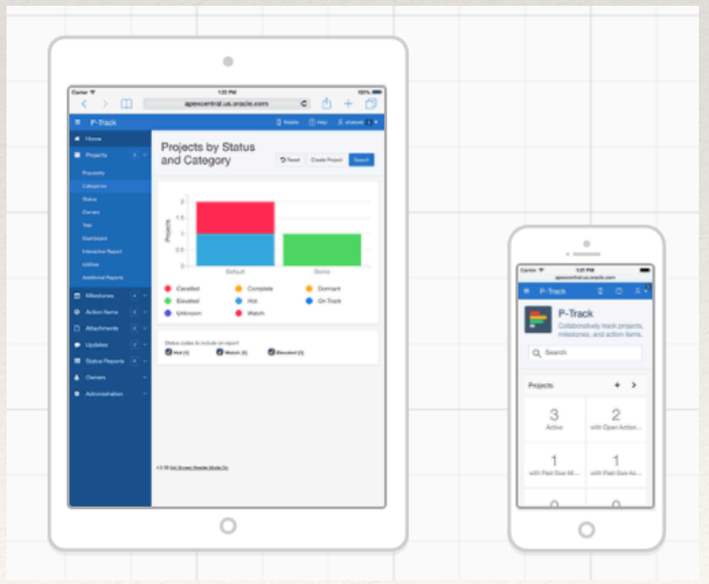




APEX 18.1 Mobile Devices

We're deprecating jQuery Mobile. The components which were unique to our mobile UI (List View, Column Toggle Report, Reflow Report) are now a part of any app and work with Universal Theme. Touch events like Tap, Double Tap, Press, Pan and Swipe are dynamic action events. Definitely Universal Theme is our strategic direction forward

Joel R. Kallman, Twitter



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SQLcl 18.3 - Command line tool

SQLcl
Downloads

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SQLcl 18.3

October 3, 2018 - Update 18.3.0.259.2029

Release Notes, Command-Line Reference, Getting Started Video, FAQ, Forum

All Platforms - (7550bdbc481c4603b41096d95fa89e3f) 20 MB Download

SQLcl 18.3 - Command line tool

```
martin@Martins-MacBook-Pro ~/D/Foredrag> sql /nolog

SQLcl: Release 18.3 Production on Sat Nov 03 16:33:49 2018

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@> help
For help on a topic type help <topic>
List of Help topics available:
/                @                @@               ACCEPT           ALIAS            APEX             APPEND
BREAK            BRIDGE           BTITLE           CD               CHANGE           CLEAR            COLUMN
CONNECT          COPY             CTAS             DDL              DEFINE           DEL              DESCRIBE
EDIT             EXECUTE          EXIT             FIND             FORMAT           GET              HISTORY
INFORMATION      INPUT            LIST             LOAD             NET              OERR             PASSWORD
PRINT            PROMPT           QUIT             REMARK           REPEAT           RESERVED_WORDS   REST
SAVE             SCRIPT           SET              SETERRORL        SHOW             SHUTDOWN         SODA
SSHTUNNEL        START            STARTUP          STORE            TIMING           TNSPING          TTITLE
VARIABLE         WHENEVER         WHICH            XQUERY
@>
```

```
APEX
---------

apex - Lists Application Express Applications
apex export <app id> - Exports the application which could be combined with spool for writing to a file
@>
```



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Progressive Web Apps (PWA)





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Progressive Web Apps (PWA)

Covered Features

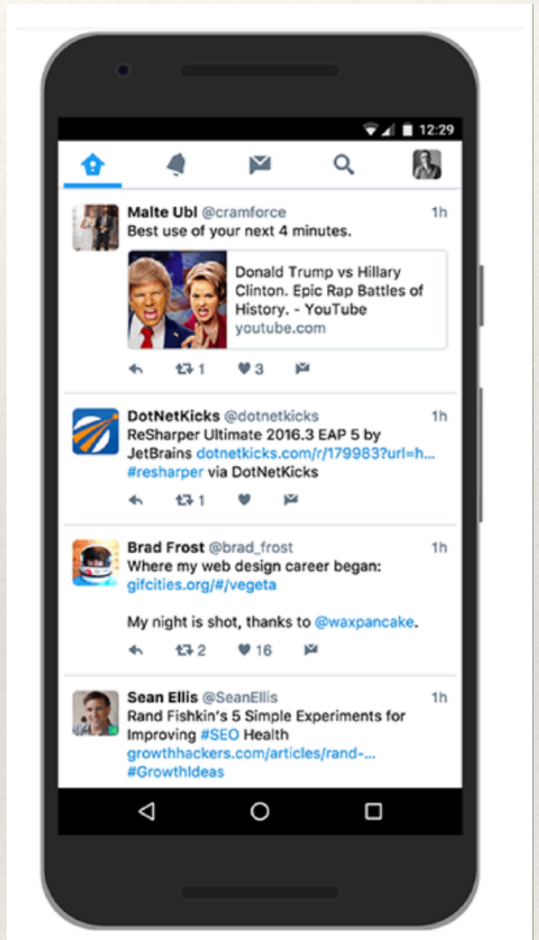
- Installing the APEX app on a mobile device
- Making the APEX app available offline
- Syncing offline requests when getting back online
- Sending push notifications

Turning

APEX

into a

PWA



Vincent Morneau

MBNDATA

https://vmorneau.me/apex-pwa/

Oracle 18 XE



- 2 CPUs
- 2GB RAM
- 12GB of user data
- 3 Pluggable Databases
- Nearly all features from EE
  - Java
  - Partitioning
  - Compression
  - Redaction
  - VPD
  - Spatial
  - …

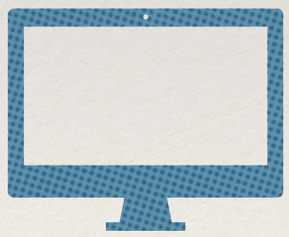
Where is Oracle APEX?

Oracle APEX is no longer included with the distribution. Instead you need to download the latest version from the Oracle APEX Home Page, and follow these instructions Exporting and Importing Data for Oracle Application Express (APEX) Users.

Windows download is not currently available, but is coming soon!

APEX 18 Starter Stack





Oracle Rest Data Services
(ORDS 18.3)



{JSON}

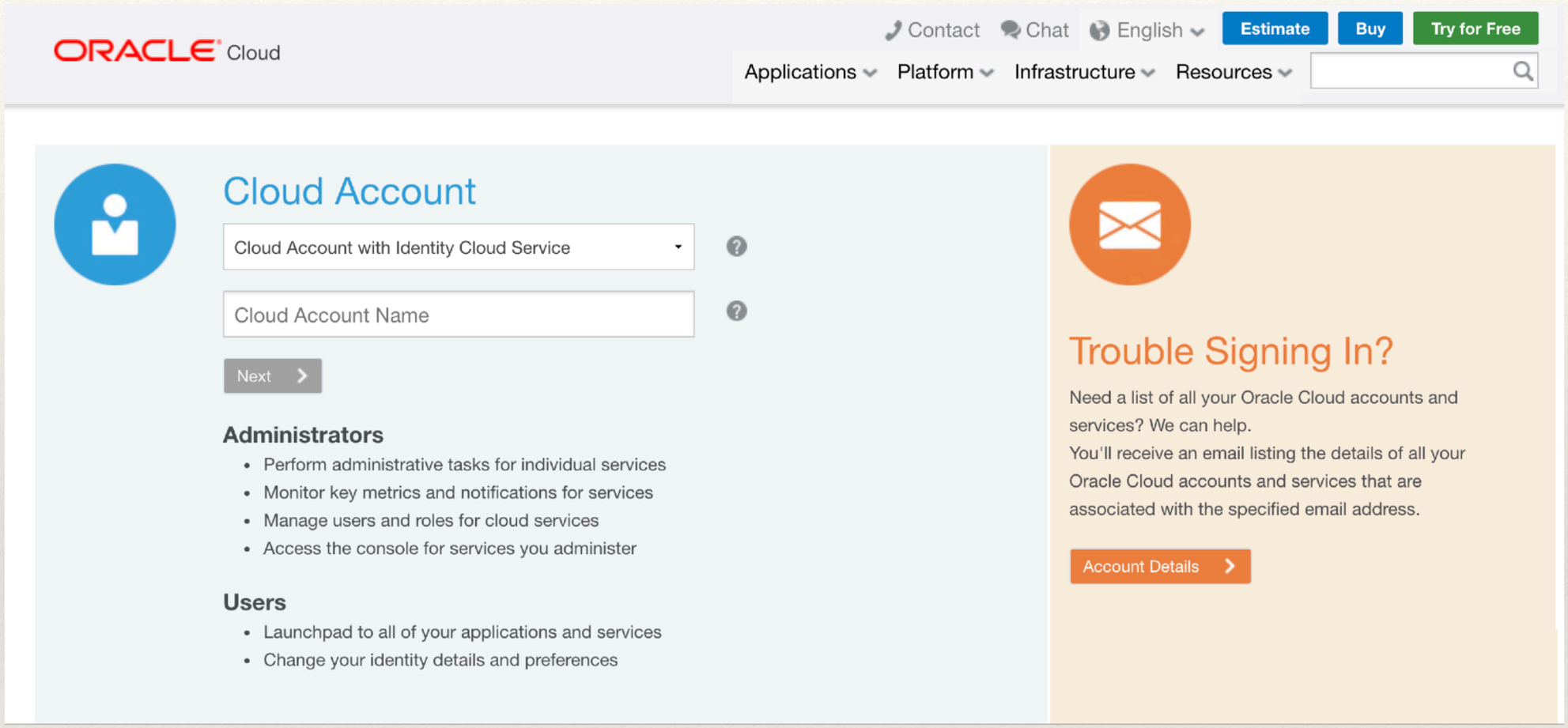
Oracle 18 XE Database
APEX 18.2



- 2 CPUs
- 2GB RAM
- 12GB of user data

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Oracle Cloud

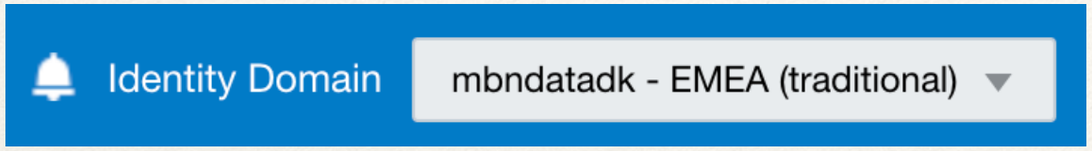


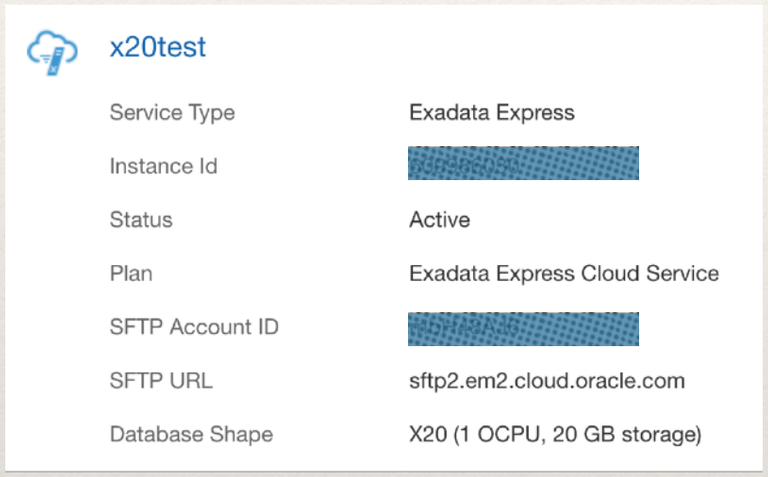
How to pick a services, How much will it cost ?, Do I get a VM, or just the DB as a service, which tools do I get ?, what about SSL and host name ?..

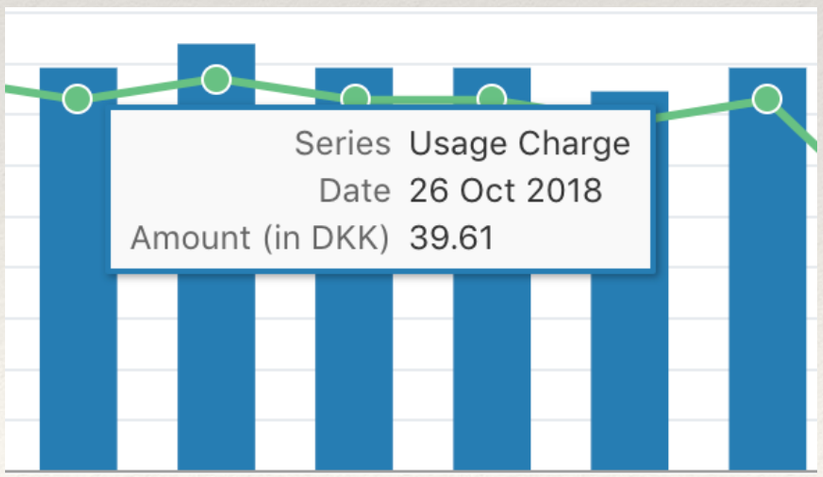


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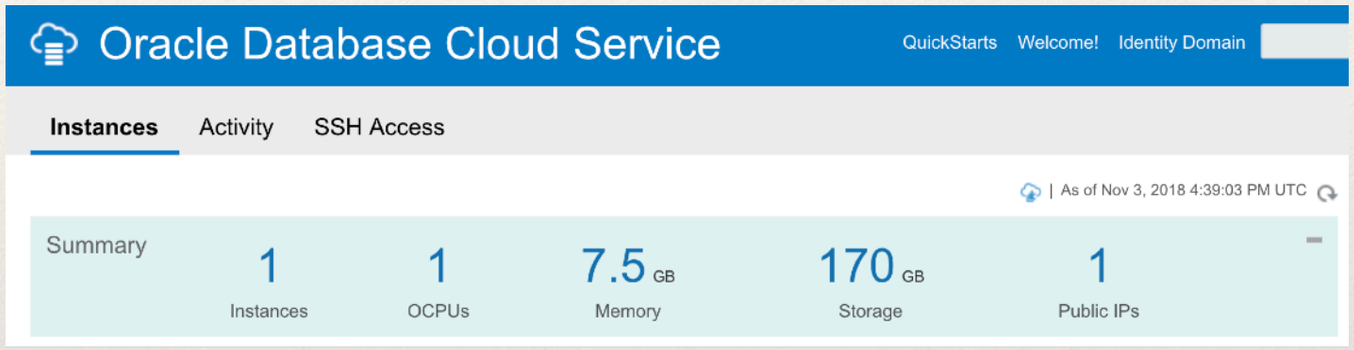
Oracle Cloud - Choosing and price

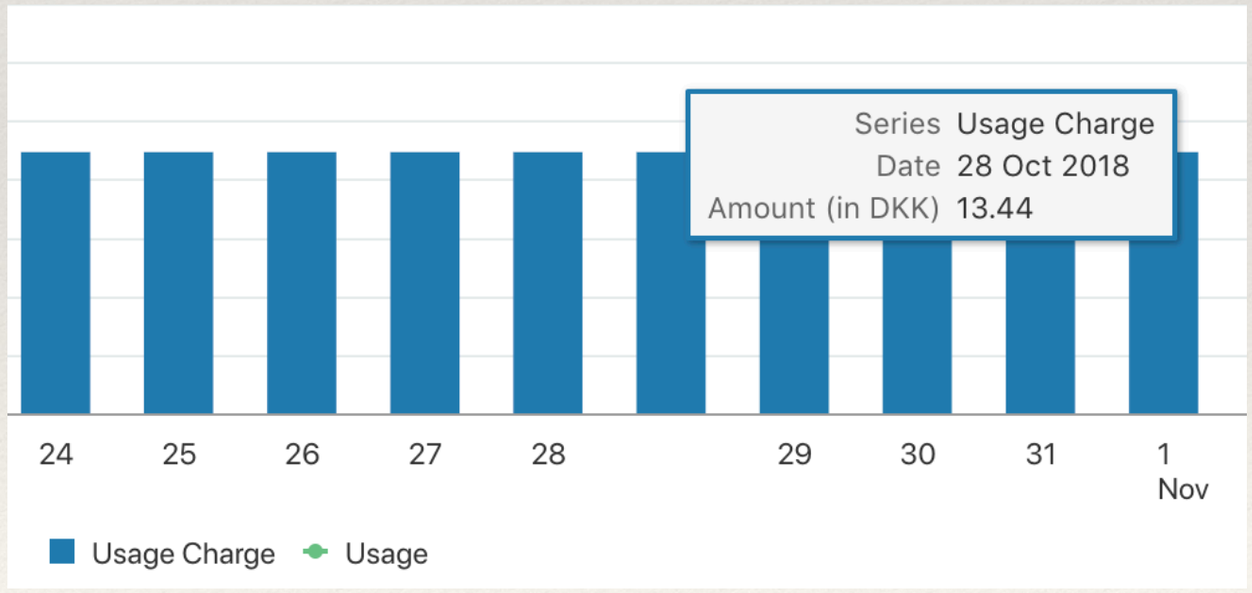












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Oracle Cloud - Setting up

```
martin@Martins-MacBook-Pro ~/D/Foredrag> ssh oracle@test01
-- WARNING -- This system is for the use of authorized users only. Individuals
using this computer system without authority or in excess of their authority
are subject to having all their activities on this system monitored and
recorded by system personnel. Anyone using this system expressly consents to
such monitoring and is advised that if such monitoring reveals possible
evidence of criminal activity system personnel may provide the evidence of such
monitoring to law enforcement officials.

Last login: Sat Nov  3 17:45:17 2018
[oracle@test01 ~]$
```

1. Install APEX 18.2

Upload apex_18.2.zip
Unzip
Sqlplus / as sydba
Alter session set container = PDB1
Start apexind SYSAUX SYSAUX TEMP https://static.oracle.com/cdn/apex/18.2.0.00.12/

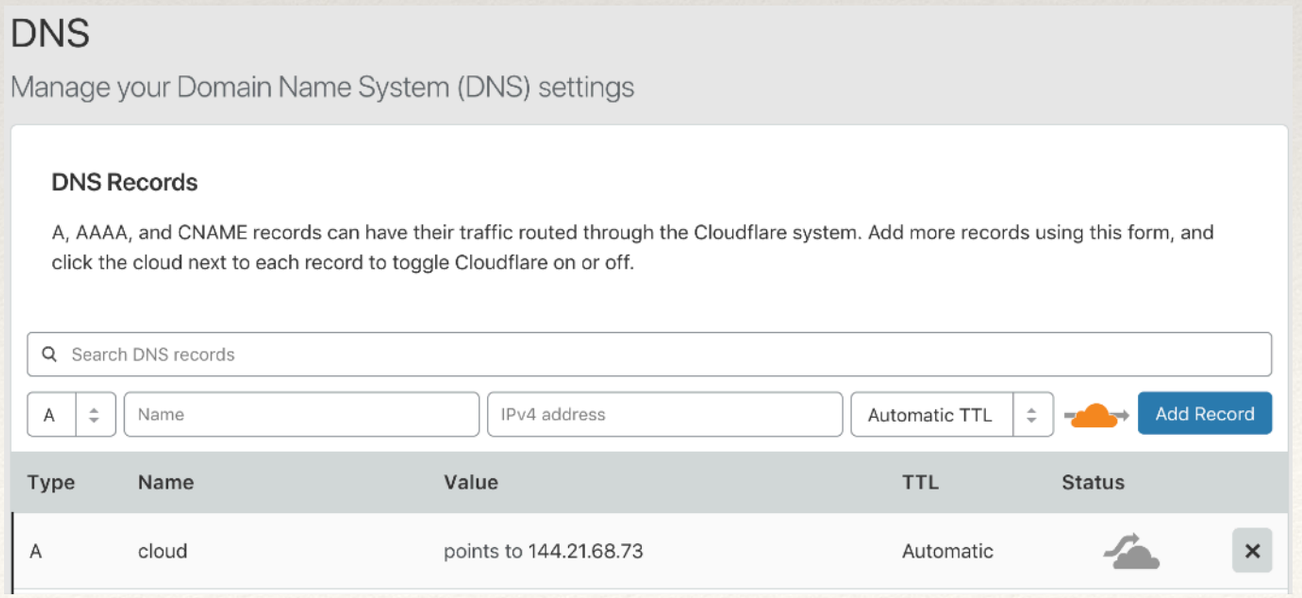
2. Install SSL certificate in ORDS

ssl.cert=/u01/app/oracle/product/ords/comodocert.crt
ssl.cert.key=/u01/app/oracle/product/ords/comodokey.key

3. Enabling SQL Developer for web

./ords -ords_action="enable_schema_for_sdw" \
-ords_sdw_schema="PDBADMIN" \
-ords_sdw_schema_password="/home/oracle/password.txt" \
-ords_sdw_schema_container="PDB1" \
-ords_sdw_schema_enable_dba="TRUE"

4. Setup DNS



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Oracle Cloud - What did I get ?

DEMO

Thank You

Questions ?



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