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Oracle Application Express 4.2 New Features

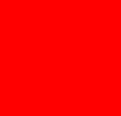
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New York, NY





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Agenda

- Oracle Application Express Overview
- New Features in 4.2
 - Mobile
 - HTML5
 - Cloud
- Beyond Oracle APEX 4.2
- Q&A

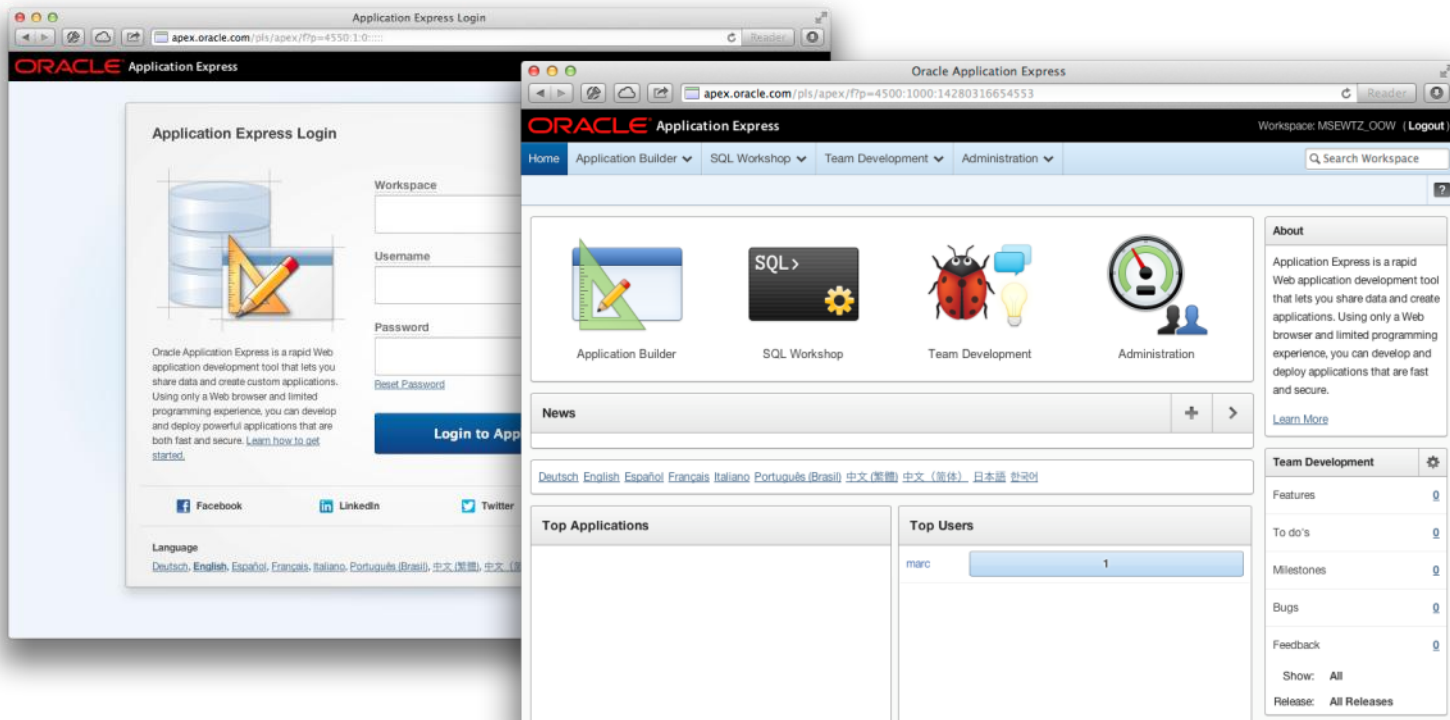




Oracle Application Express Overview

Oracle Application Express (Oracle APEX)

Browser Based Application Development



Oracle Application Express (Oracle APEX)

Rapid Browser Based Development

Point your browser and start developing

Leverage SQL Skills

Build reports, forms and charts using SQL

Self Service Provisioning

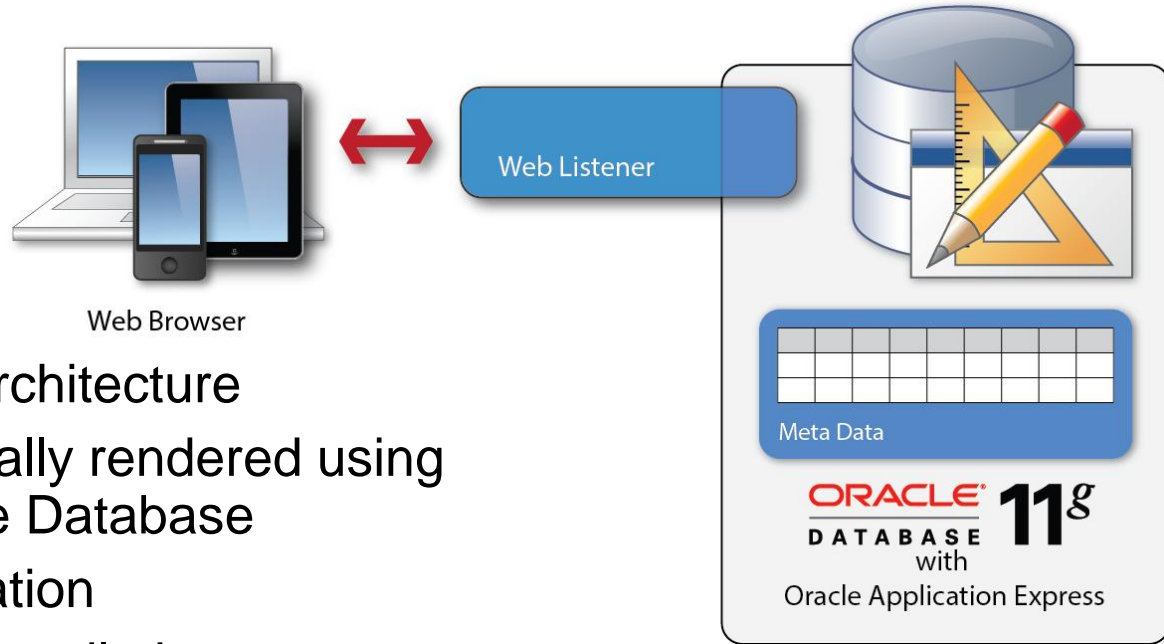
Out-of-the-box elastic private cloud service

Runs within Database

Simple to manage, highly scalable

Oracle Application Express (Oracle APEX)

Architecture



- Simple 2-Tier Architecture
- Pages dynamically rendered using meta data in the Database
- No code generation
- No file based compilation
- Runs everywhere Oracle Database runs

Oracle Application Express (Oracle APEX)

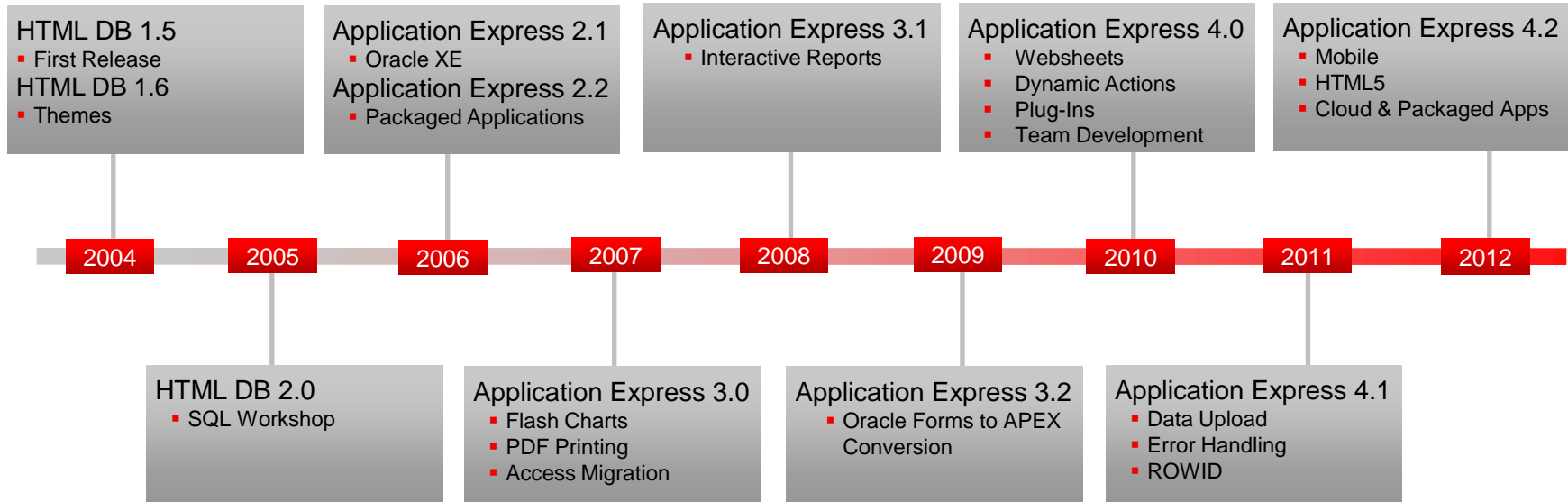
Fully supported no-cost feature of Oracle DB



- Distributed with
 - Oracle Enterprise Edition
 - Oracle Standard Edition
 - Oracle Standard Edition One
 - Oracle XE 10.2, 11.2
- Supported Database Releases
 - 10gR2, 11gR1, 11gR2, 12
 - Exadata, ODA, RAC

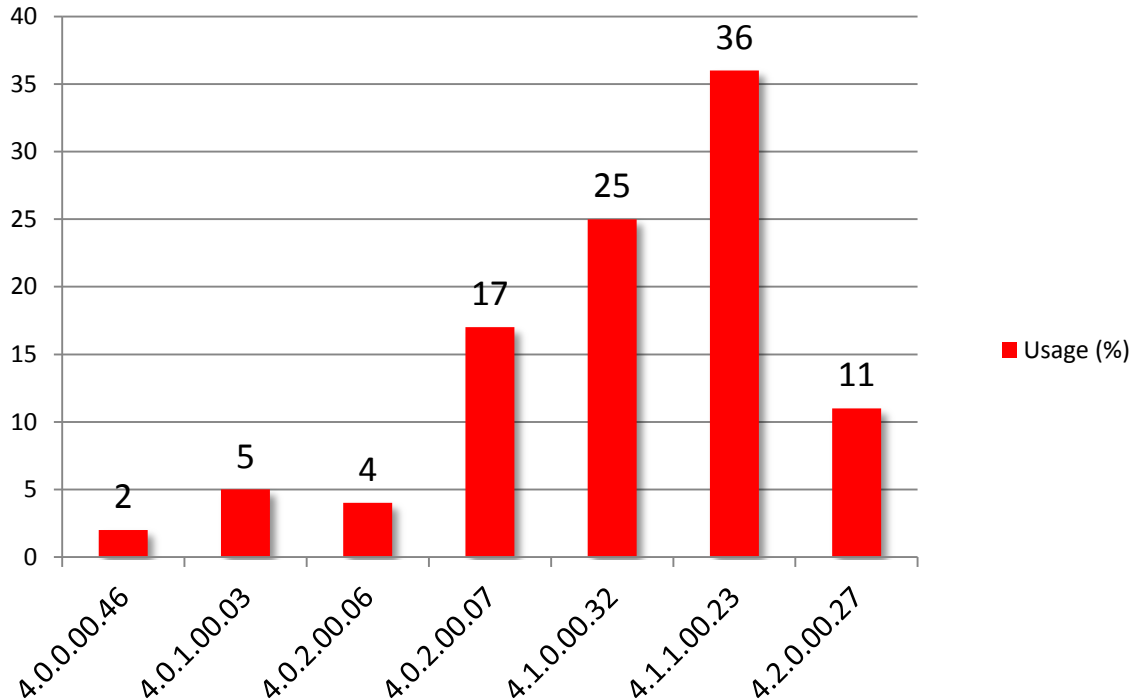
Oracle Application Express (Oracle APEX)

History



Oracle Application Express (Oracle APEX)

Versions in Use (as of 02-Nov-2012)



Oracle Application Express (Oracle APEX)

Community

- Estimated 400,000 developers worldwide
- Over 120 consulting companies worldwide
- Over 75 bloggers
- 3rd most popular forum on OTN
- Web sites dedicated to plug-ins, themes, tools

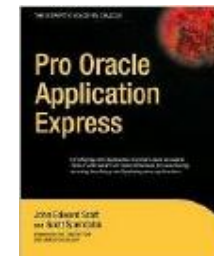
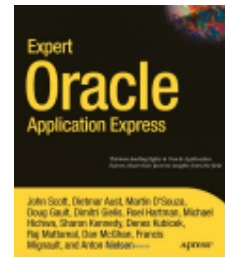
Oracle Application Express (Oracle APEX)

Industry Events

- ODTUG Kscope '12:
 - 64 APEX sessions and more than 300 APEX Developers
- Oracle Open World 2012
 - Over APEX 25 sessions
 - Numerous hands on labs
 - 3 Demo Ground booths
- UKOUG, DOAG, NYOUG, RMOUG, APEXposed, ...

Oracle Application Express (Oracle APEX)

Books



Browser Based Development

Rapidly and declaratively develop, deploy, and run applications using just a web browser



Take **Oracle Application Express** for a spin!

[Request a Free Workspace](#)



Getting Started

Learn why Oracle Application Express is so popular by going through tutorials and watching videos aimed at beginners.



Download

Download the latest version of Oracle Application Express from the Oracle Technology Network



New Features

Get an overview of the latest features introduced in Application Express 4.2



Discussion Forum

Get help from the Application Express community on the Oracle OTN Discussion Forum



Collateral

Access numerous powerpoint presentations, advanced tutorials, and videos



Oracle Cloud

Explore the Oracle Database Cloud Service

apex.oracle.com

Oracle Application Express 4.2 – New Features



Oracle Application Express 4.2 – Mobile Support

- Declarative support for building mobile web applications
- APEX Applications support multiple user interfaces:
e.g. Desktop, Smartphone, Tablet, others
- Mobile pages use jQuery Mobile through
jQuery Mobile based themes and templates
- HTML5 charts and new HTML5 item types



User Interfaces

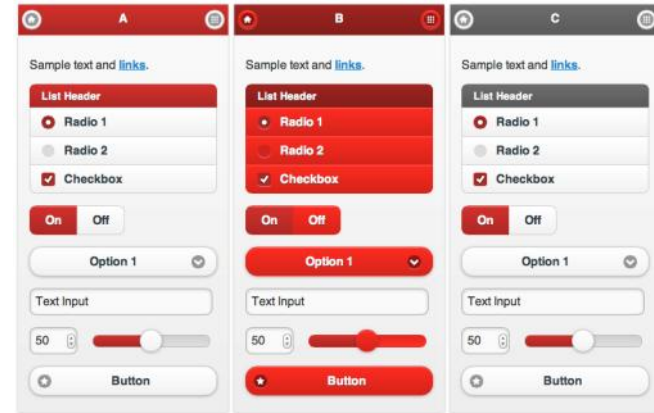
- Applications can be associated with multiple user interfaces
- Applications can include desktop and mobile specific pages
- Each Page supports only one user interface
- Each user interface is associated with one theme
- User Interface defines device specific login URLs, home page URLs and device auto detection
- Page 0 replaced by Global Page(s)

Mobile Themes and Templates

- Provide Themes & HTML Templates to support the development of Mobile applications
- Declarative support to specify JavaScript & CSS files
- Default Mobile Page and Popup Transition Type

Mobile Themes and Templates

- Support Content Delivery Networks for jQuery files
- New #PAGE_STATIC_ID# substitution string added to page templates
- Easy to create custom Mobile themes using Theme Roller



List View Region Type

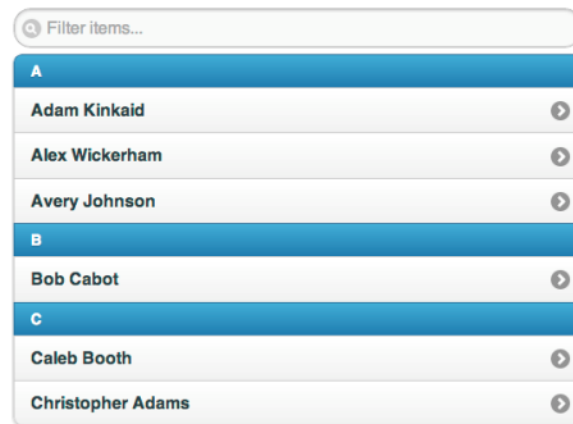
- Un-ordered list with data-role="listview"
- Used for data display, navigation, list view and form pages
- Full width by default with inset option
- Automatic dividers
- Declarative search filter
- Client- and server-side search options



A simple list UI component with five items: Acura, Audi, BMW, Cadillac, and Ferrari. Each item is displayed in a light gray box with a right-pointing arrow icon.

Acura	➤
Audi	➤
BMW	➤
Cadillac	➤
Ferrari	➤

Simple list



A divided, filterable list UI component. It features a search bar at the top with the placeholder text "Filter items...". Below the search bar, the list is organized into sections with blue headers: "A", "B", and "C". The items are: Adam Kinkaid, Alex Wickerham, Avery Johnson, Bob Cabot, Caleb Booth, and Christopher Adams. Each item is displayed in a light gray box with a right-pointing arrow icon.

Filter items...	
A	
Adam Kinkaid	➤
Alex Wickerham	➤
Avery Johnson	➤
B	
Bob Cabot	➤
C	
Caleb Booth	➤
Christopher Adams	➤

Divided, filterable list

Mobile Calendars

- Mobile-friendly calendar templates
- New list-view for date entries
- Monthly view shows date entries below calendar on mobile devices



Dynamic Action Enhancements

- Expose jQuery Mobile events through Dynamic Actions
e.g. swipe, touch, tap/hold, orientation
- Provide 'Custom' event support
- Declarative support for buttons to be the 'Affected Element'
- AJAX based Dynamic Actions to work asynchronously
- Chart 'Refresh' Dynamic Actions support

Demo Mobile Development

Building Mobile Web Applications with Oracle Application Express (APEX)



Marc Sewtz

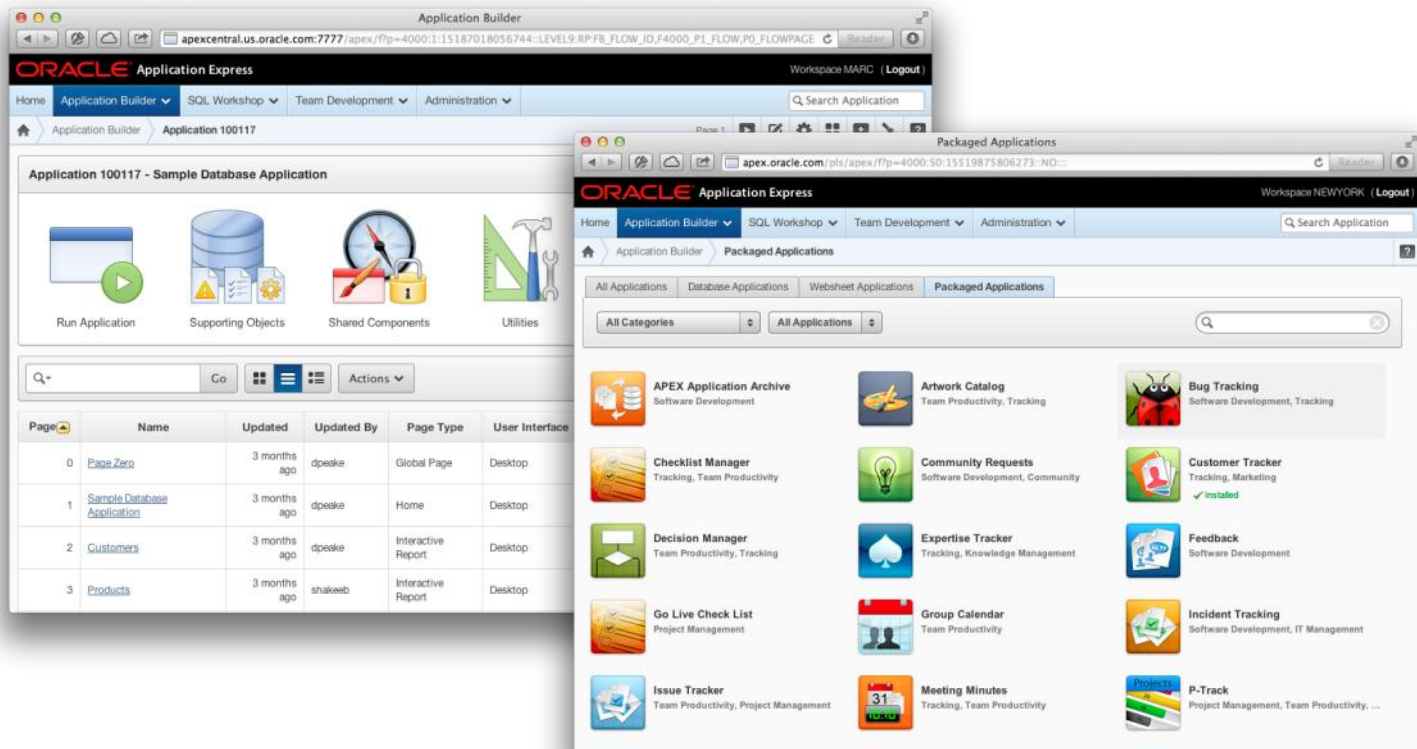
Wednesday, 21. November
10:00am – 10:45am

12-Istanbul

Oracle Application Express 4.2 – New Features

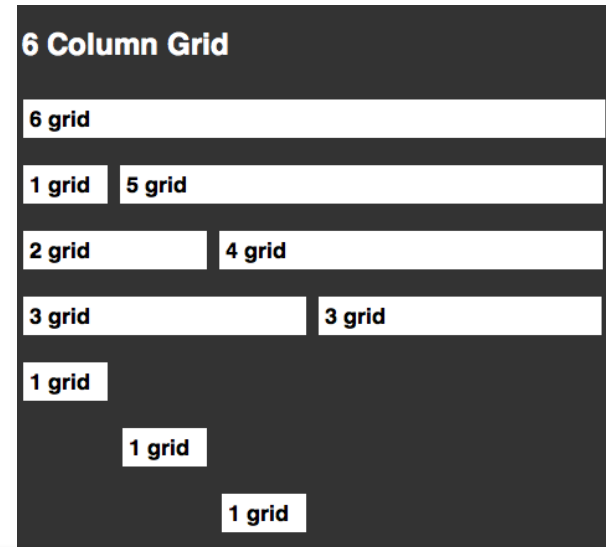


Enhanced Application Builder User Interface



Grid Layout

- Declarative way to lay out regions and items on a page
- Possible to do complex layouts without manual CSS overrides
- Compatible with popular grid frameworks such as twitter bootstrap, 960 gs, etc.



Grid Layout

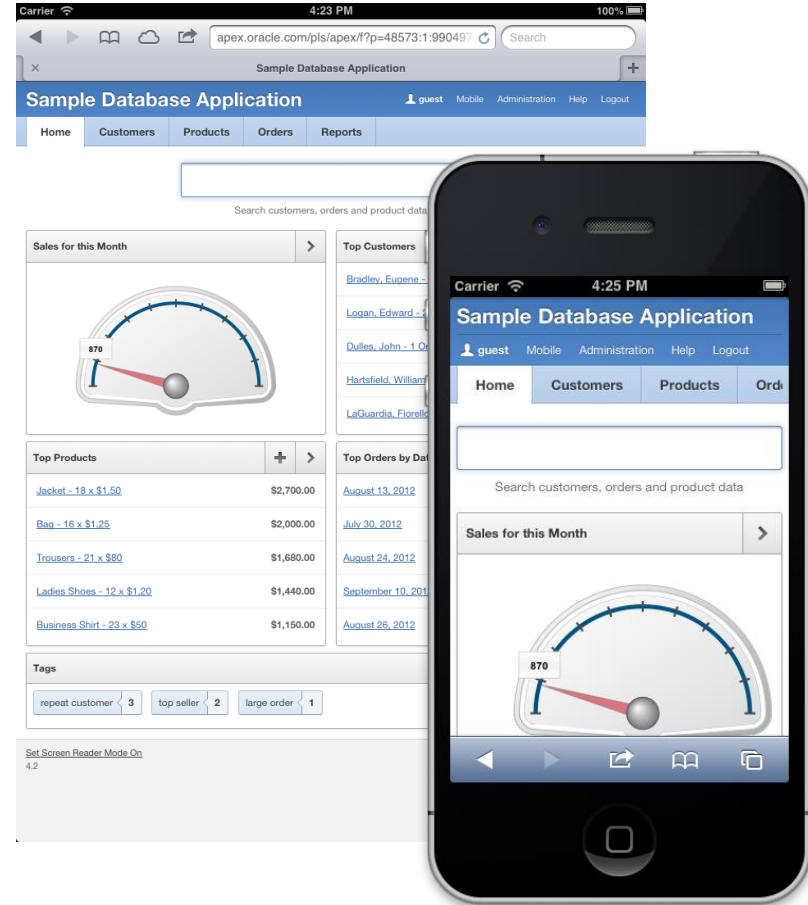
Start New Row	No	
Column	Automatic	New Column Yes
Column Span	6	

Grid Layout

- Three types of grid layout available:
 - HTML Table - Uses HTML tables to position regions, items and buttons.
 - Fixed Number of Columns - Used for grids which divide the screen into a fixed number of grid columns.
 - Variable Number of Columns - Used for grids which can display up to "n" number of grid columns depending on how the regions, page items and buttons are positioned.

Responsive Design

Approach to web design in which a designer intends to provide an **optimal viewing experience** – easy reading and navigation with a minimum of resizing, panning, and scrolling – **across a wide range of devices** (from desktop computer monitors to mobile phones). (Wikipedia)



Responsive Design

- Fully Responsive Theme included (Theme 25)
- Uses custom flexible grid up to 2560px wide
- Mobile, Tablet, Desktop support
- Icon Buttons
- Retina Display Compatible

Responsive Design



- Modernizr
 - Detects HTML5 and CSS3 features in the user's browser
- SCSS Based
 - Extension of CSS3, adding nested rules, variables, mixins, selector inheritance and more. Gets translated to well-formatted, standard CSS
- Respond.js for Responsive Web Design support in older IE
- Sprite based graphics, icons

Responsive Design

- CSS3 Media Queries
 - Allows defining styles based on conditions such as screen size or resolution
 - @media screen and (min-width: 320px) and (max-width: 479px) {...}
 - define multiple CSS media queries to target “cut off points” and appropriately adjust UI for given screen size



HTML5 Charts

- HTML5 charts - AnyChart version 6
- 2 Chart Rendering options
 - Flash Preferred
 - HTML5
- Conditional Display of Chart Series
- HTML Chart region plug-in



HTML5 Item Types

- Incorporate HTML 5 attributes:
 - HTML5 placeholder attribute
 - HTML5 types EMAIL, TEL and URL for Textfield
 - HTML5 “required” attribute
 - Display Orientation attribute



- New Items Types:
 - Slider
 - Date Picker (HTML 5)
 - Yes/No (Flip Toggle Switch)

Demo HTML5 Features

Oracle Application Express 4.2 – New Features



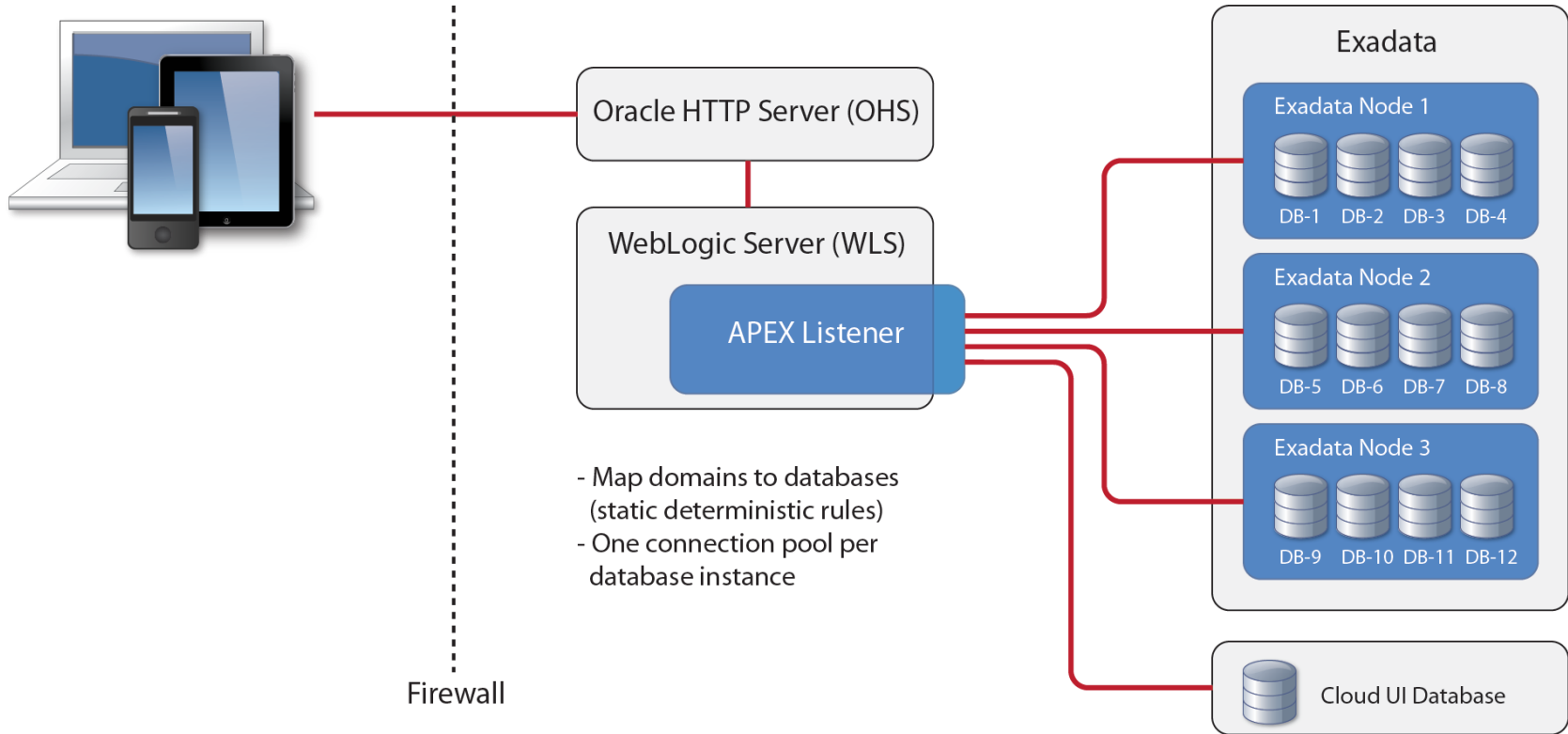
Database Cloud Service

Database	Data Access	Development	Productivity Apps
<p>World's leading database Oracle Database 11g Release 2 Enterprise Edition</p> <p>Performance and Availability Professionally managed using Exadata, Exalogic and Real Application Clusters (RAC)</p> <p>Secure Schema isolation, encrypted storage, and resource management</p>	<p>SQL and PL/SQL Industry standards for data access and logic</p> <p>Access Methods Oracle Application Express, RESTful Web Services, Java in Oracle Java Cloud Service through internal JDBC</p> <p>Data Movement Load data with Oracle SQL Developer "carts" using drag and drop</p>	<p>Database Development Oracle SQL Developer and the Oracle Application Express SQL Workshop</p> <p>Application Development Oracle Application Express - rapid application development tool</p> <p>Web Services RESTful Web Services access to data and logic, and a wizard to speed development</p>	<p>Included Applications More than 30 productivity and sample applications from decision management to project tracking</p> <p>Productive Get started in minutes by deploying HTML5 and mobile-enabled applications with one click</p> <p>Websheets Rapidly create and share database enabled wikis</p>

Database Cloud Service - Pricing

Database S5 \$175 / Month	Database S20 \$900 / Month	Database S50 \$2,000 / Month
1 Schema Oracle Database 11g Release 2	1 Schema Oracle Database 11g Release 2	1 Schema Oracle Database 11g Release 2
5 GB Oracle Database Storage	20 GB Oracle Database Storage	50 GB Oracle Database Storage
30 GB Data Transfer	120 GB Data Transfer	300 GB Data Transfer

Database Cloud Service - Architecture



ORACLE CLOUD


Home Offerings Resources Sign In

Larry Ellison tells why Oracle Cloud is the enterprise choice.

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Inspire great customer experiences


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- [Social Marketing](#)
- [Social Engagement and Monitoring](#)
- [Data and Insight](#) PREVIEW



Build Apps

Rapidly deploy scalable applications

- [Database](#)
- [Java](#)
- [Developer](#) PREVIEW
- [Storage](#) PREVIEW
- [Messaging](#) PREVIEW

cloud.oracle.com

APEX Listener 2.0 – New Features

- Support for multiple database connections
- Administration of Listener using Oracle SQL Developer
- Command line facility for configuring APEX Listener
- Design and creation of RESTful Services using APEX
- Moved storage of RESTful Services (Resource Templates) to the APEX Schema
- RESTful Services protected via the OAuth2 Protocol

RESTful Web Services



- Interaction with data sources through use of Uniform Resource Identifiers (URIs)
- Standard method of accessing data in the Oracle Cloud
- Ability to create services which implement any SQL statement or PL/SQL procedure
- Data returned in JSON or CSV format, or additionally through PL/SQL

Packaged Applications



- Suite of Business Productivity applications installable with only a few clicks
- Production-ready applications include Project Management, Shared Calendars, Checklists, etc.
- Support for Third-party applications, sharing same infrastructure and user pool
- Sample applications
(Download APEX 4.1 versions from OTN)

Packaged Applications

- **Productivity Apps**

- Project Tracker
- Checklist Manager
- Customer Tracker
- Group Calendar
- Product Features
- Bug Tracker
- Asset Manager
- Document Library
- Survey Builder

- **Sample Code**

- Calendars
- Charts
- Data Loading
- Dynamic Actions
- Interactive Reports
- Master-Detail Forms
- Tabular Forms
- Trees
- Sample Database Application
- Sample Websheets

Demo Cloud



Oracle Application Express 4.2

Other functional and performance
improvements

Data Upload Enhancements

- Allow up to 3 columns in Look-up Definition
- Expand transformation rules to include PL/SQL
- Provide aliases for column names

Plug-In Enhancements

- Increased Number of Custom Attributes to 25
- New APIs in *apex_plugin_util* to better support custom plug-in attributes of type "Region Column Name "
- New Standard Region Type Plug-in Settings:
 - 'Fetched Rows'
 - 'No Data Found Message'
- Add support for media queries and IE conditions to *apex_css* and *apex_javascript* APIs

Security: Require outbound HTTPS

- Require all outbound requests to be over HTTPS.
- Region of type URL, Web Services

HTTPS

Warning: Requiring HTTPS will make Application Express unreachable by the HTTP protocol. Before requiring HTTPS, ensure that the HTTPS protocol is enabled on your server.

Require HTTPS

Require Outbound HTTPS

Security: Instance-wide proxy

- Require all outbound HTTP(s) traffic use instance-wide proxy

Security

Configure service level security settings typically used to lock down a production service.

Set Workspace Cookie	Yes
Disable Administrator Login	No
Disable Workspace Login	No
Allow Public File Upload	Yes
Restrict Access by IP Address	
Instance Proxy	

Security: Restricted Characters

- Input validation: Declarative control over which characters can be entered into session state

The screenshot displays the 'Security' configuration page in the Oracle AEM console. The 'Restricted Characters' dropdown menu is open, showing the following options:

- ✓ - All Characters Allowed -
Whitelist for a-Z, 0-9 and space
- Blacklist HTML command characters (<>)
- Blacklist &<>"/;,*|=%% and --
- Blacklist &<>"/;,*|=%% or -- and new line

The 'Configuration' section below the 'Restricted Characters' dropdown shows the 'Build Option' set to '- No Build Option -'.

Security: Log Switch (Data Retention)

- Retention of all logs is variable
- Greater log switch interval can result in less performance

Manage Log Interval		
Log Name	Log Switched Date	Log Switch After Days
Access Log	06/09/2012 12:00:00 AM	90
Activity Log	06/09/2012 12:00:00 AM	30
Debug Messages	06/09/2012 12:00:00 AM	10
External Click Count Log	06/06/2012 12:00:00 AM	10

Resource Manager Consumer Group

- All requests from a workspace can be confined to a resource consumer group

Edit Workspace Information

Workspace Identifier:

459969521215479566

Workspace Status:

ASSIGNED

* Workspace Name

MARC

First Schema Provisioned

MARC

Feedback Synchronization Source Identifier

MARC

Allow workspace to be automatically purged

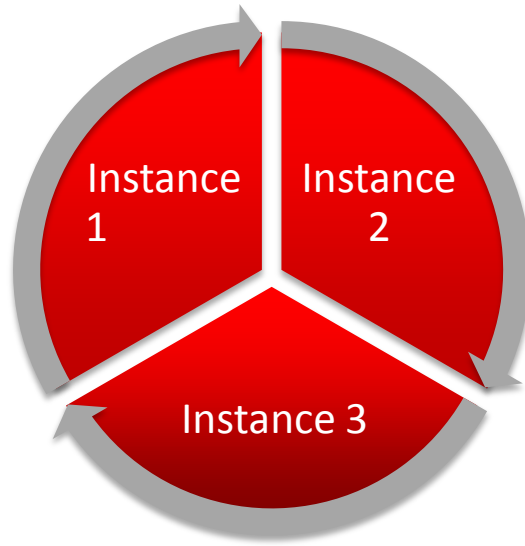
Yes

Resource Consumer Group

Builder Notification Message

Partitioning of APEX runtime tables

- Supported method to partition APEX runtime tables (session data, activity logs and indexes)



Other New Features in APEX 4.2

- Named Branches
- Read-only attribute for Pages and Regions
- Interactive Report and Worksheet enhancements
- Instance Administration improvements
- SQL Workshop Date Format
- Publish Translations from command-line
- Item limit per page raised to 200

Other New Features in APEX 4.2

- New CKEditor, jQuery and AnyGantt charts versions
- Modernized JavaScript Library
 - Streamlined, lighter-weight APEX JavaScript library
 - Older APEX JavaScript functions moved to legacy file
 - Legacy JS included for older applications for backwards compatibility

Beyond Oracle APEX 4.2...

Beyond Oracle APEX 4.2...

Features under consideration

- Multiple Interactive Reports per page
- Multiple Tabular Forms per page
- Master / Detail / Detail
- Tablet User Interface
- Declarative Theme customizations
- Modal Dialogs
- Drag and Drop Layout Editor
- Improved PDF printing
- Add Pivot reporting capabilities to Interactive Reports

Oracle Application Express

Feature Requests

<http://tiny.cc/apexvote>

<http://apex.oracle.com/pls/apex/f?p=55447:1>



my Blog:
<http://marcsewtz.blogspot.com>

Twitter
@msewtz #orclapex



Hardware and Software

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