

# Intro to Oracle APEX 4.2 and JQuery

If you have an Oracle database you already have APEX...  
it's included and FREE!

By  
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# Tony Jedlinski

- President - Konoso LLC
- Vice President - MOUG
- Former Executive VP, Director Web Content and Initiatives - IOUG
- *Recognized by Oracle Magazine as a leading expert in Oracle Application Express (ApEx) development (named HTML-DB Developer of the year – 2005).*
- *Published ApEx author (Oracle Magazine May/ Jun 2006), (IOUG SELECT Journal Q4 2005).*
- *ApEx presenter (OracleWorld 2004, 2006, 7), (IOUG Live! 2004,5), (Collaborate 2006,7,8,9,10,11).*
- *More than 20 of years experience as an Oracle systems architect / developer, and 30 years of experience in system analysis and development.*

# What is APEX (Application Express)

- Roots in Web DB
- Formerly HTML DB
- PL/SQL Package
- Included at no charge with every Oracle database
- Fully supported by Oracle
- Rapid Application Development (RAD)
- APEX is written in APEX!
- Declarative development environment
- No PL/SQL or HTML knowledge required (but if you understand these you can extend APEX)

# What can you do with APEX

- Quickly and easily build data intensive websites
- Can be secure or public
- Used extensively at Oracle Corporate
- Can be used simultaneously by two to twenty thousand users
- Easy to add functionality to packaged applications
- Can be extended with third-party plug-ins or custom Javascript

# APEX.ORACLE.COM

ORACLE



Welcome to  
**apex.oracle.com**

now running Oracle Application Express 4.2 **Pre-production Release**

[Login](#)

[Sign Up](#)

[Learn More >](#)

Use [apex.oracle.com](#) to develop database centric web applications with Oracle Application Express. If you have a workspace, click the [login](#) button, otherwise, click the [sign up](#) button to request a new workspace.

Oracle provides [apex.oracle.com](#) as an evaluation service free of charge. Oracle Application Express is a no-cost option of the Oracle database. The latest version of Oracle Application Express can be [downloaded from OTN](#).

## What's New in 4.1

- [Error Handling](#)
- [Use of ROWID](#)
- [Data Upload](#)
- [Calendar](#)
- [Tabular Forms](#)
- [Accessibility](#)
- [More ...](#)

## Getting Started

- [Learn More about Application Express](#)
- [Application Express Documentation](#)
- [Podcasts and Viewlets](#)
- [Oracle by Examples \(OBE\)](#)
- [Oracle Magazine Articles](#)

## Online Resources

- [Application Express on OTN](#)
- [Application Express Plug-Ins](#)
- [Learn about Interactive Reports](#)
- [Configure PDF Printing](#)
- [Packaged Applications](#)

## Community

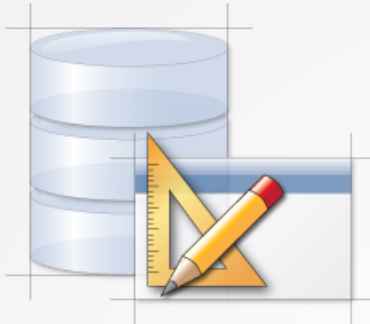
- [OTN Discussion Forum](#)
- [Blogs](#)
- [Consulting Services](#)
- [Commercial Applications](#)
- [Public Websites](#)
- [Hosting Companies](#)
- [More ...](#)

# What's available apex.oracle.com

- Documentation
- Podcasts and Viewlets
- Samples and Demos
- OTN Discussion Forum
- Blogs
- Sandbox environment

# Sandbox environment

## Application Express Login



Oracle Application Express is a rapid Web application development tool that lets you share data and create custom applications. Using only a Web browser and limited programming experience, you can develop and deploy powerful applications that are both fast and secure. [Learn how to get started.](#)

Workspace

konoso

Username

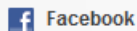
TONY@KONOSO.COM

Password

●●●●●●●●

[Reset Password](#)

Login to Application Express



Facebook



LinkedIn



Twitter



Google+

This service is for demonstration purposes only. Use of this system to store sensitive data is prohibited.

On 02-SEP-2012, [apex.oracle.com](http://apex.oracle.com) was upgraded to Oracle Application Express 4.2. If you believe you have encountered issues which are directly related to this upgrade, please feel free to post to the [APEX Discussion Form on OTN](#)

# Developer Console



Application Builder



SQL Workshop



Team Development






Administration



# Application Builder

All Applications Database Applications Websheet Applications Packaged Applications

Q- Go    Actions ▾ Reset Import **Create** >



**Mobile**  
ID: 22423  
Database Application

Run Edit



**Sample Application**  
ID: 28231  
Database Application

Run Edit



**28724. Websheet Sam...**  
ID: 28724  
Websheet Application

Run Edit



**Collection Showcase**  
ID: 28809  
Database Application

Run Edit



**Mobile Demo 2**  
ID: 35018  
Database Application

Run Edit



**Presentations**  
ID: 35418  
Database Application

Run Edit



**McConference POC**  
ID: 40498  
Database Application

Run Edit

assemble applications organized by page. Session state is transparently managed. Click the **Create** button to create an application.

[Learn more ...](#)

## Tasks

[Application Builder Defaults](#)

[Application Groups](#)

[Workspace Themes](#)

[Cross Application Reports](#)

[Application Express Views](#)

[Export](#)

## Recent

# SQL Workshop



Object Browser



SQL Commands



SQL Scripts



Utilities

## Recently Created Tables

VOLUNTEERS	1 years ago
INCIDENT_STATUSES	1 years ago
INCIDENTS	1 years ago
PAPER_TYPE_LOOKUP	1.3 years ago

## Recent SQL Commands

No SQL commands found

# Team Development



Milestones



Features



To Dos



Bugs



Feedback

News



Milestones



Bugs



Features



To Do's



# Administration



Manage Service



Manage Users and Groups



Monitor Activity



Dashboards



Utilization Report

your account. Depending on your privileges you can monitor and administer this workspace.

[Learn More ...](#)

## Tasks

[Change My Password](#)

[About Application Express](#)

[Manage User Groups](#)

[Create User](#)

[Create Multiple Users](#)

[Delete Multiple Users](#)

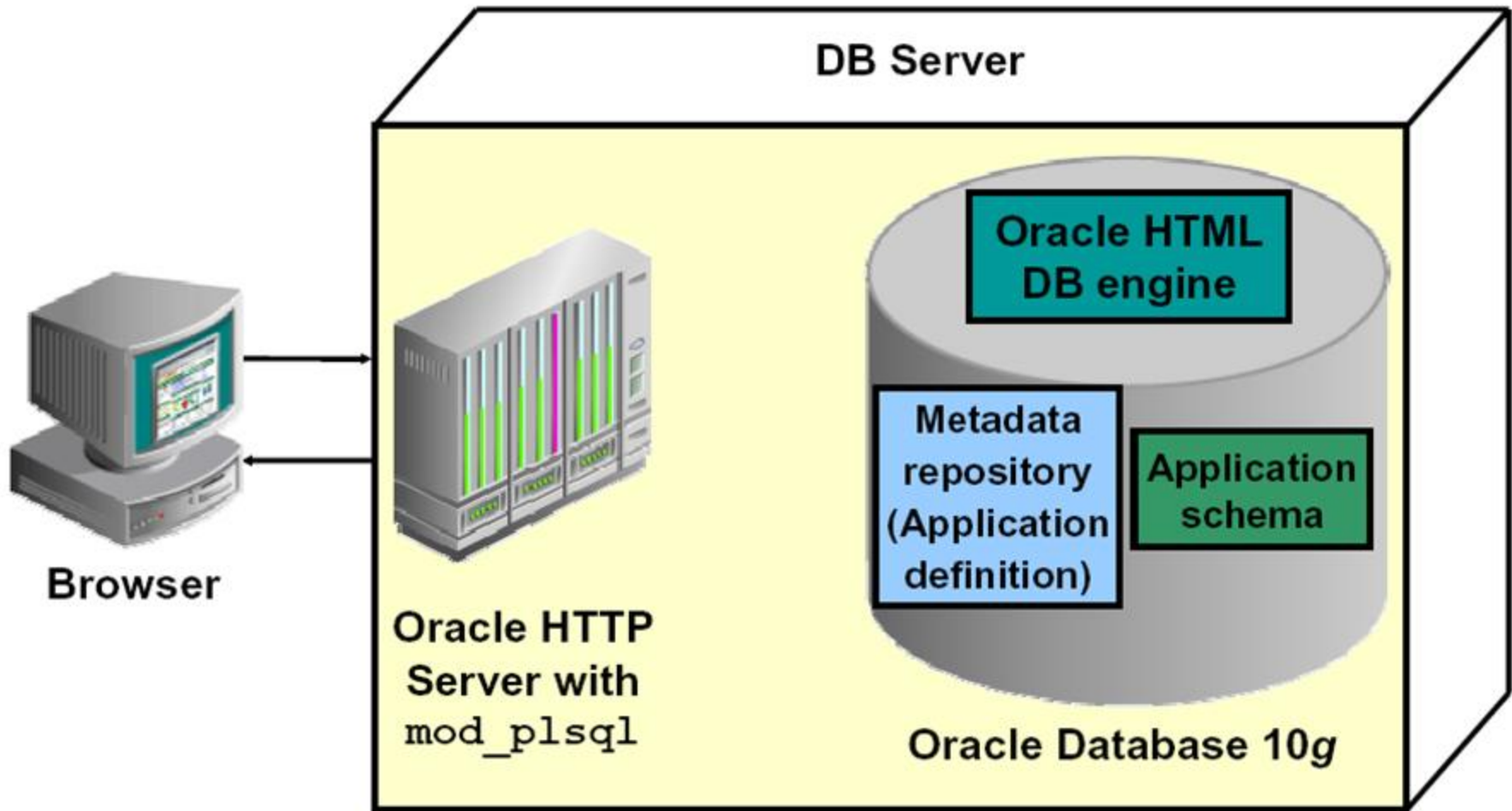
[Manage Interactive Report Settings](#)

[Manage Export Repository](#)

[Websheet Database Objects](#)

Service		Users		Activity	
Workspace Name	KONOSO	Users	2	Reporting Timeframe	<a href="#">3 hours</a>
Database Applications	6	Workspace Administrators	1	Page Events	19
Websheet Applications	1	Application Developers	1	Median Page Time	0.09
Packaged Applications	0	End Users	1	Distinct Applications	5
SQL Scripts	10	Created Last 24 Hours	0	Distinct Users	2
Schemas	1	Created Last Week	0	Distinct Sessions	3
Open Requests	0			Errors	1

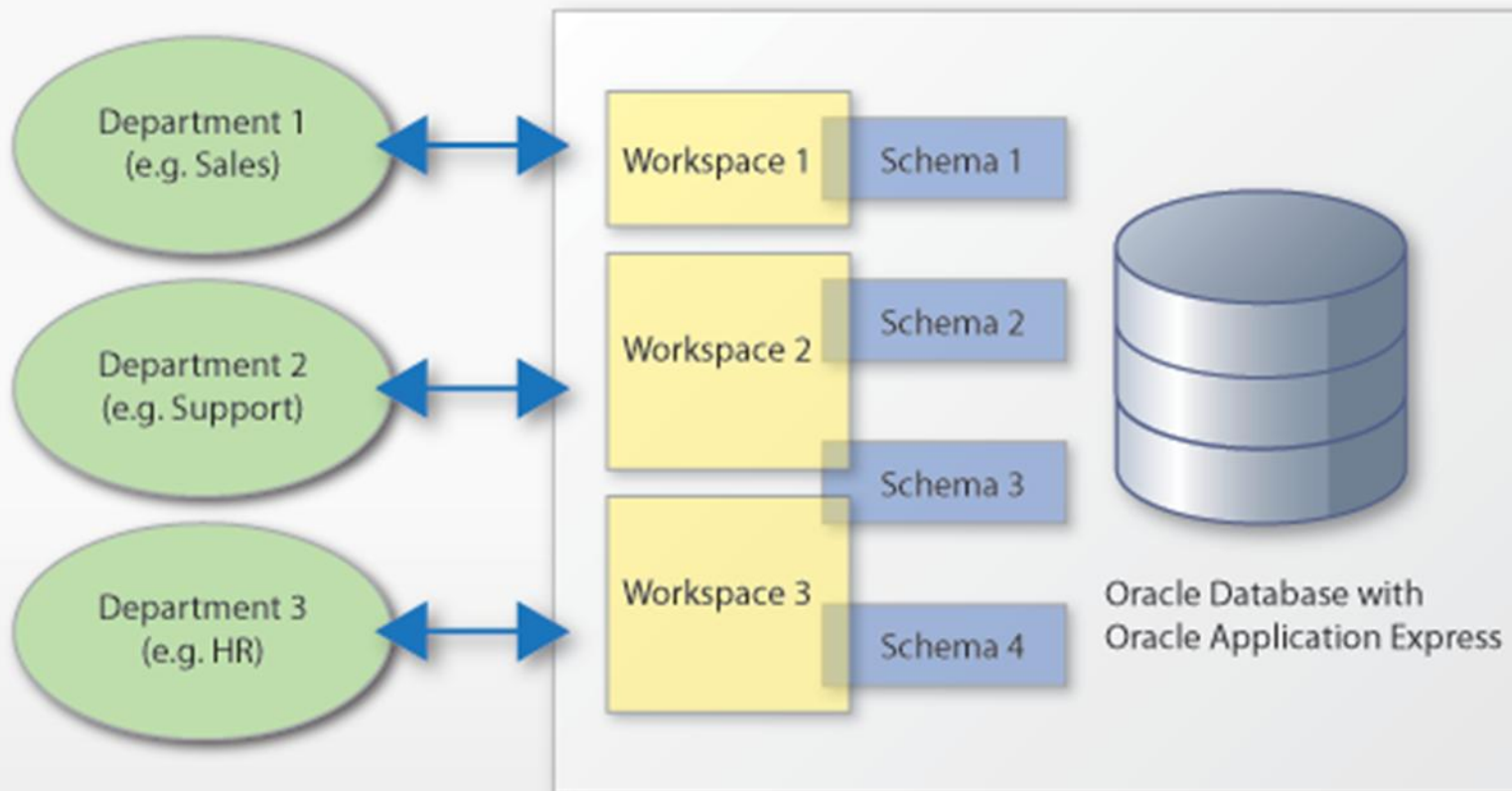
# APEX Architecture



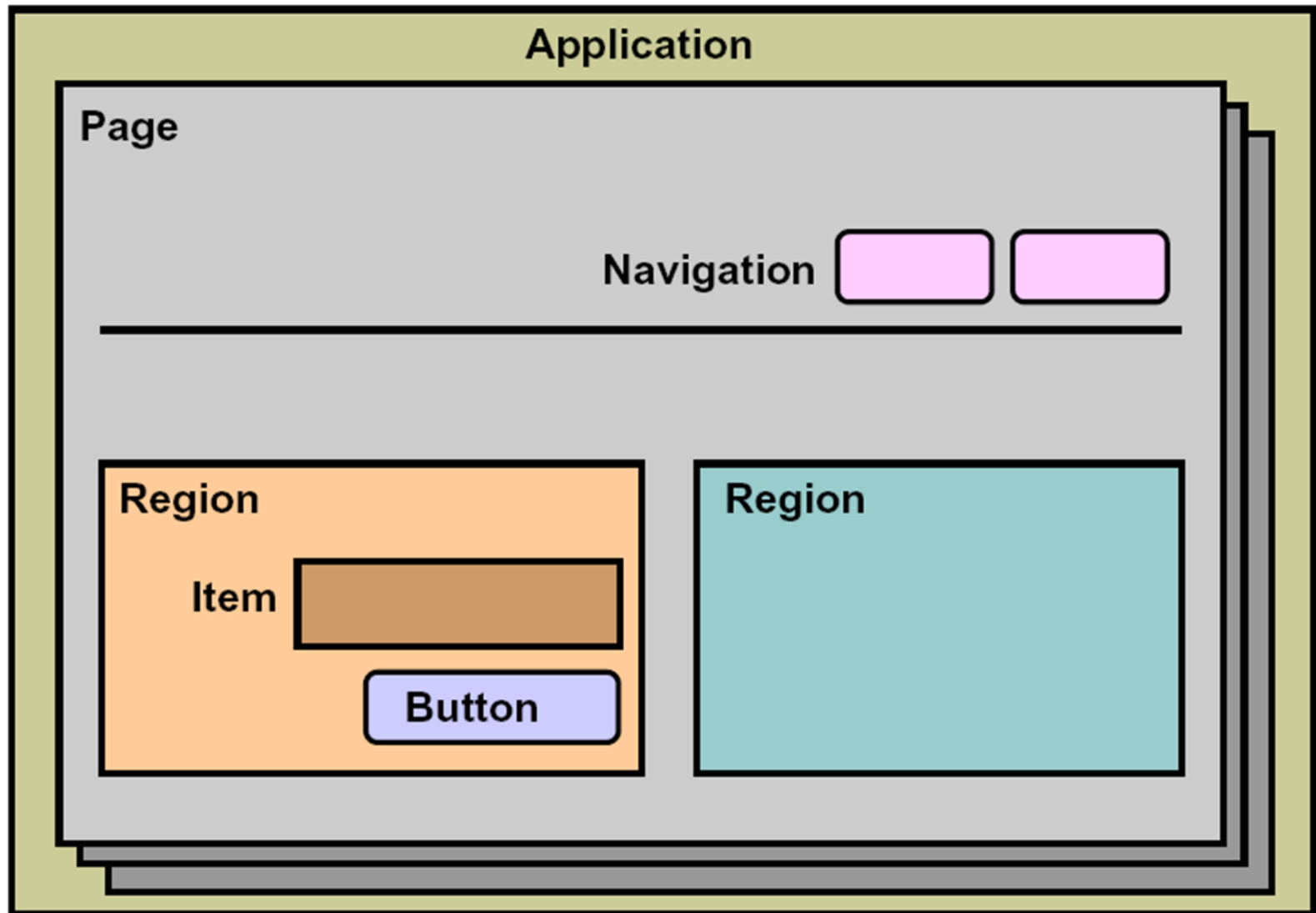
## Multi Tenant



Oracle Application Express enables a single database to host large numbers of applications and users. Developers work in a dedicated work area called a workspace to develop applications against one or more schemas. This flexible architecture enables a single database instance to act as a "Platform as a Service" (PaaS), providing a hosted Intranet capability within the organization.



# Application Builder Terminology



# Typical Page

Sample Application

Welcome: ADMIN [Print](#) [Feedback](#) [Logout](#)

- Home
- Customers
- Products**
- Orders
- Reports
- Administration

Home > Products

Search:



Bag



Belt



Blouse



Business Shirt



Jacket



Ladies Shoes



Mens Shoes



Skirt



Trousers



Wallet

1 - 10

## Top 5 Products

Jacket	\$2,700.00
Bag	\$2,000.00
Trousers	\$1,680.00
Ladies Shoes	\$1,440.00
Business Shirt	\$1,150.00



# Same Page Developer View

The screenshot displays the Oracle Application Express Same Page Developer View for page 3. The interface includes a top navigation bar with the Oracle logo, 'Application Express', and 'Workspace KONOSO (Logout)'. Below this is a breadcrumb trail: Home > Application Builder > Application 28231 > Page 3. A search bar is located on the right side of the navigation bar. The main content area is divided into three panels: Page Rendering, Page Processing, and Shared Components. The Page Rendering panel shows details for the page 'Products', including its name, title, header text, HTML header, HTML body, help text, page group, and regions. The Page Processing panel shows details for the page processing, including computations, validations, processes, branches, and after processing actions. The Shared Components panel shows details for the shared components, including tabs, lists of values, breadcrumbs, lists, templates, and security.

**ORACLE** Application Express Workspace KONOSO (Logout)

Home Application Builder SQL Workshop Team Development Administration

Application Builder Application 28231 Page 3 Page 3 [Icons]

3 [Icons] Run Utilities Create SBKENNED 2.3 years ago

### Page Rendering

Page Name: [Products](#) Template: [Application default](#)  
Title: [Products](#) Header Text:  
HTML Header: [<style>\\_apexir\\_WORKSHEET\\_ICON](#) Footer Text:  
HTML Body: Build Option:  
Help Text: [No help is available for this](#) Authorization: [No](#)  
Page Group: Cached: [No](#)

#### Regions

Display Point **Page Template Body (3)**  
20 [Products](#) [Interactive Report](#) [Saved Report](#)  
Display Point **Region Position 03**  
10 [Top 5 Products](#) [Report](#)

#### Buttons

Region **Products**  
10 [Create Product &gt;](#) Redirect to page 6

#### Items

Computations  
Processes  
Dynamic Actions

### Page Processing

#### Computations

#### Validations

#### Processes

#### Branches

#### After Processing

10 [Go To Page](#) [&](#) Conditional

### Shared Components

#### Lists of Values

#### Breadcrumbs

Main Menu: (No corresponding region)

#### Lists

#### Templates

Page [One Level Tabs - No Sidebar](#)  
Region [Region without Buttons and Titles](#)  
Region [Sidebar Region - Heading Inside](#)  
Button [Button](#)  
Report [Horizontal Border](#)

#### Theme

23. [Crimson](#)

#### Security

Button [Edit Products](#)

# Alternative (tree) View

The screenshot displays the Oracle Application Express interface for Workspace KONOSO. The top navigation bar includes 'Home', 'Application Builder', 'SQL Workshop', 'Team Development', and 'Administration'. A search bar is located on the right. The breadcrumb trail shows 'Application Builder' > 'Application 28231' > 'Page 3'. The main toolbar contains a 'Run' button, 'Utilities', and 'Create' options. The user 'SBKENNED' is logged in, with a last activity of '2.3 years ago'. The interface is divided into three panels:

- Page Rendering:** A tree view showing the page structure. The 'Products' region is expanded, showing 'Report Columns', 'Region Buttons' (with a 'CREATE' button), and 'Position 03' containing 'Top 5 Products' and 'Report Columns'. Other regions include 'Before Header', 'After Header', 'Before Regions', 'After Regions', 'Before Footer', and 'After Footer'.
- Page Processing:** A tree view showing the page processing flow. It includes 'After Submit', 'Validating', 'Processing', and 'After Processing'. Under 'After Processing', there are 'Branches' (with a 'Go To Page 6' link) and 'AJAX Callbacks'.
- Shared Components:** A list of shared components including 'Parent Tabs', 'List of Values', 'Breadcrumbs', 'Lists', 'Templates', and 'Security'.

Live Demonstration

# APEX Themes



● Slate (Theme 12)



● Classic Blue (Theme 13)



● Simple Green (Theme 14) \*



● Light Blue (Theme 15) \*



● Dark Blue (Theme 16) \*



● Sapphire (Theme 17)



● Simplified Gray (Theme 18) \*



● Red Gray (Theme 19) \*



● Traditional Blue (Theme 20) \*



● Scarlet (Theme 21)



● Bluejay (Theme 22)



● Uniframe (Theme 23)



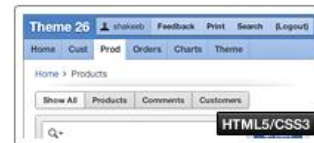
● Cloudy (Theme 24)



● Blue Responsive (Theme 25)



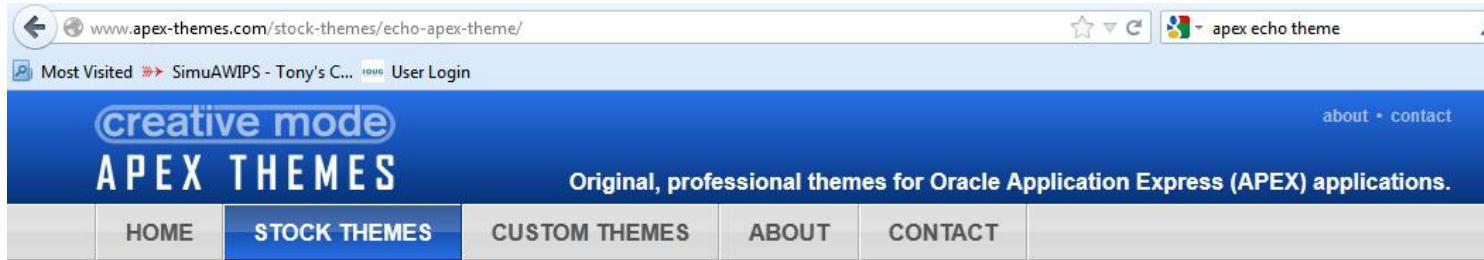
● Productivity Applications (Theme 26)



# Extend this concept using JQuery



# Echo Theme (from www.apex-themes.com)



## Echo Theme for APEX 4

A massively customisable APEX 4 theme combining the jQuery UI and APEX theme frameworks.



[Overview](#)

[Features](#)

[Requirements](#)

[Changelog](#)

The new Echo APEX theme is the ultimate customisable theme for your APEX 4 applications!

Echo theme combines the best features of **Charlie** and **Delta** themes in one massively customisable theme optimised for APEX 4. **Echo** theme has been created especially to take advantage of the jQuery and jQuery UI libraries now integrated with APEX 4.

### STOCK APEX THEMES

[Alpha Series](#)

[Bravo Series](#)

[Charlie Series](#)

[Delta Series](#)

[Echo APEX Theme](#)

[Features](#)

[Requirements](#)

[Changelog](#)

[Installation Guide](#)

### UPDATE

The current version of Echo Theme for APEX 4 is

**2.1** and was released on **01 March 2012**.

[More info »](#)

License fee  
about \$200  
for unlimited  
deployment  
by a single  
developer



# Users can select their own theme and change themes in real time.



Home nobody Customize Print Logout

Home Buttons Calendars Forms Lists Navigation Pages Regions Reports Tabular Forms

Interactive Report

**APEX Themes Link**

You are currently viewing a theme created by APEX-Themes.com. To buy this theme, see more or contact us please visit [APEX-Themes.com](http://APEX-Themes.com)

**Main Menu**

Global Notification

Show All Welcome Example Report

Right to Left (RTL) Language Support

Welcome

The purpose of this application is to demonstrate all of the features available within

**Style Switcher**

Different "skins" can be created using the [jQuery UI ThemeRoller](#) or by hand and interchanged by modifying the UI\_THEME\_PATH substitution string.

UI lightness

**Page Layout**



Home nobody Customize Print Logout

Home Buttons Calendars Forms Lists Navigation Pages Regions Reports

Tabular Forms Interactive Report

**APEX Themes Link**

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**Main Menu**

Global Notification

Show All Welcome Example Report

Right to Left (RTL) Language Support

Welcome

The purpose of this application is to demonstrate all of the features available within **Echo Theme** for APEX 4. This application is divided into pages that

**Style Switcher**

Different "skins" can be created using the [jQuery UI ThemeRoller](#) or by hand and interchanged by modifying the UI\_THEME\_PATH substitution string.

Dot Luv

**Page Layout**

Live Demonstration

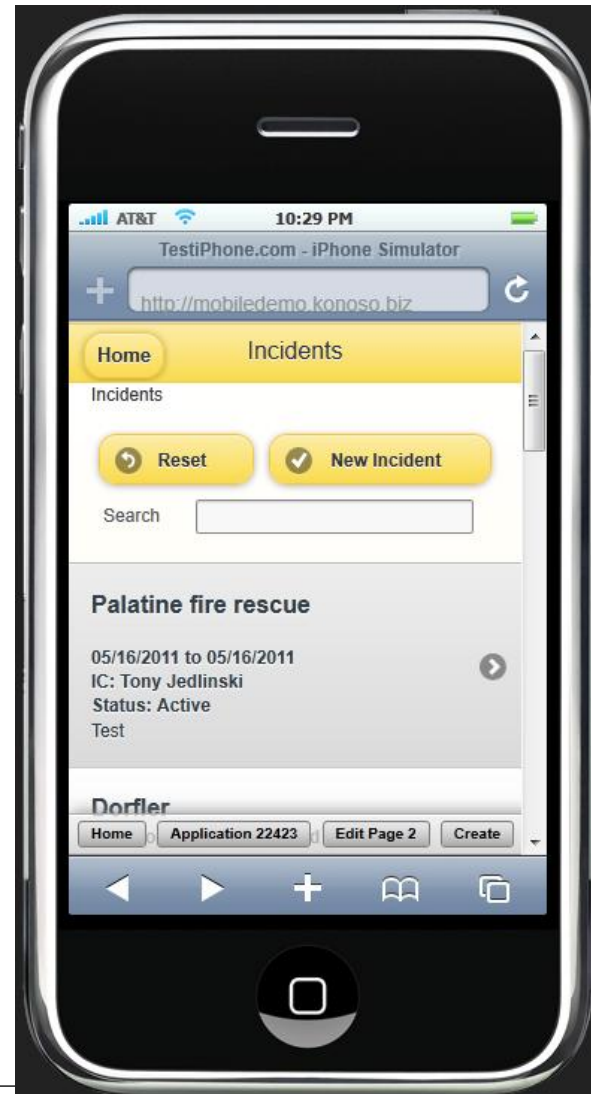
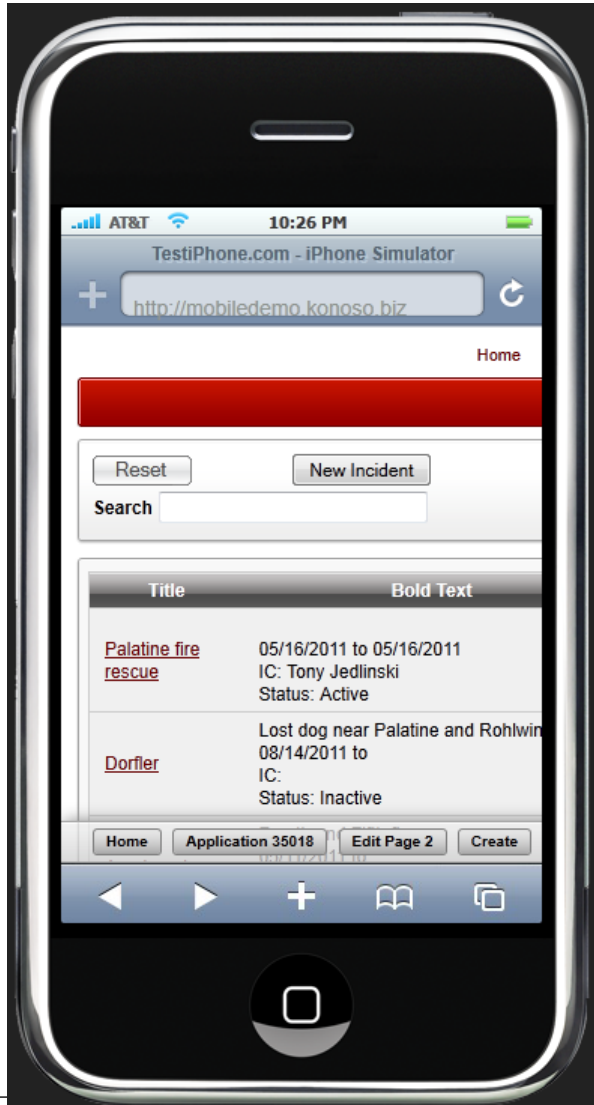


# Jquery Mobile

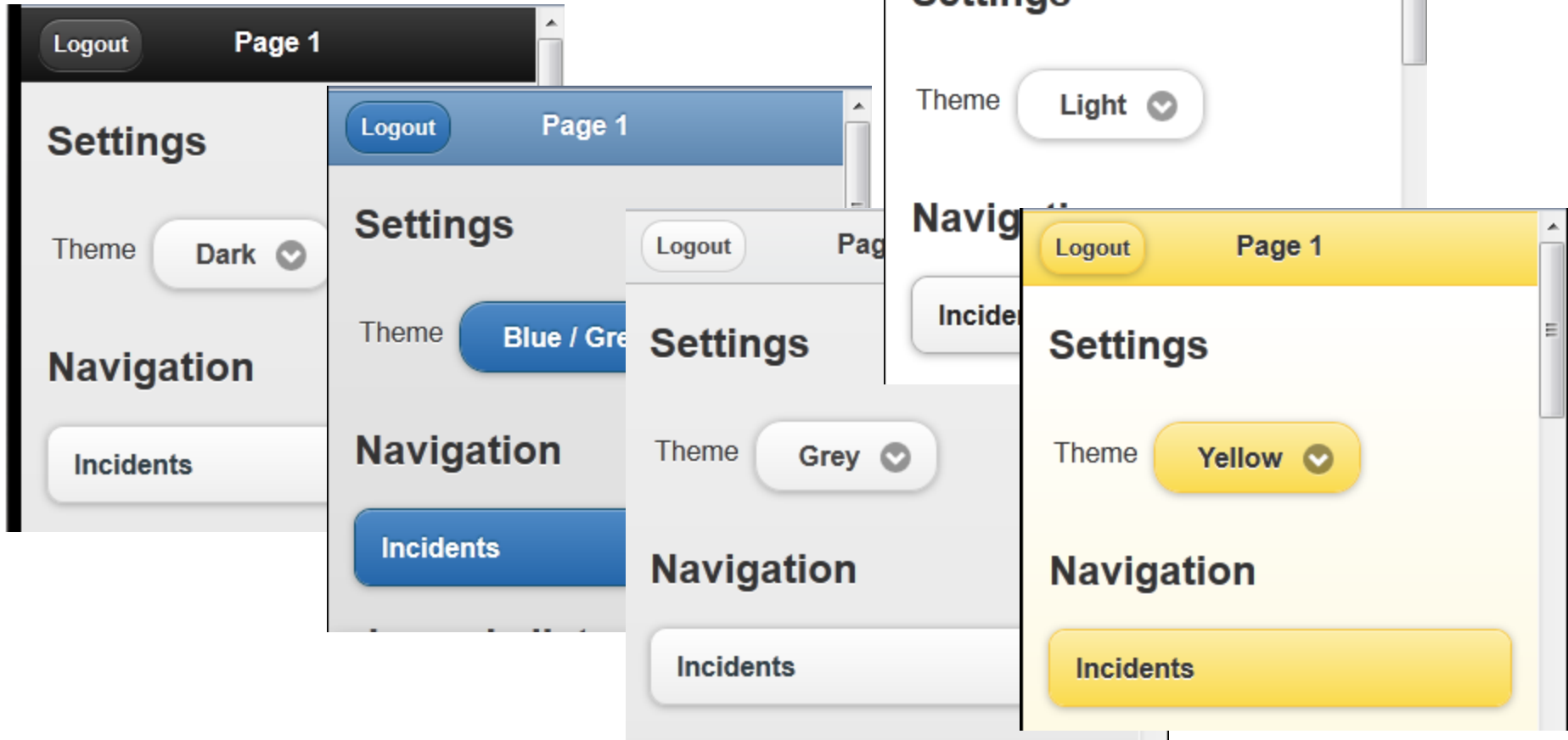
- Keep it simple - APEX as the development platform
- Avoid duplicate effort - Develop one application for as many different devices as possible
- Provide an intuitive user experience – Although they are web based, apps should look and feel like they are native to the mobile device.
- Make it fun – Incorporate charts and graphics
- Allow user customization – End user should be able to select “skins

# Standard vs jQuery Mobile

## Which would you prefer to use?



# Available data themes



Dark = a, Blue/Grey = b, Grey = c, Light = d, Yellow = e



## Peter Raganitsch

on July 14, 2011

I wish to acknowledge **Peter Raganitsch** who first posted this technique on his blog.

The original posting can be found at:

<http://www.oracle-and-apex.com/create-a-mobile-theme-for-oracle-apex/>

He did a webinar on this topic which can be downloaded at:

<http://click-apex.at/Downloads/APEX%20for%20Mobile%20Development%20-%20Peter%20Raganitsch%20-%20redGate.pdf>

# Using jQuery Mobile within APEX

- Update a Page Template by replacing the
  - Header
  - Body
  - Footer
  - Navigation Bar Entry
- Create a NEW Region Template
- Create a NEW List Template
- Create Report Template(s) using Named Columns
- Add Data Theme selector (optional)

Live Demonstration

# Demonstration

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Try it yourself at:

<http://mobiledemo.konosobiz>

Download this presentation at:

<http://www.konosobiz/mobileapex.pdf>

Contact me

[tony@konosobiz](mailto:tony@konosobiz)

