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# Developing Mobile Applications for iOS and Android the Oracle Way

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# A Huge Opportunity

1.6

Billion  
phones sold  
in 2012

Source: Forrester, reported by Venturebeat.com  
<http://venturebeat.com/2013/02/14/forresters-top-10-trends-for-mobile-in-2013>

# A Huge Opportunity

1.4

Billion  
smartphones  
in use by the  
end of 2013

Source: Forrester, reported by Venturebeat.com  
<http://venturebeat.com/2013/02/14/forresters-top-10-trends-for-mobile-in-2013>

In 2013, mobile devices will pass PCs to be most common Web access tools. By 2015, over 80% of handsets in mature markets will be smart phones.

**Forbes**

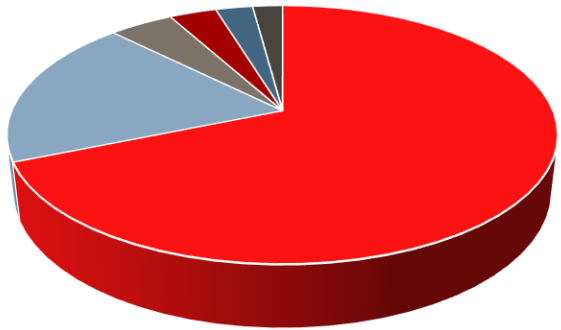
Source: Forbes.com

<http://www.forbes.com/pictures/ehjh45hjhg/mobile-device-battles>

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# Dominant platforms

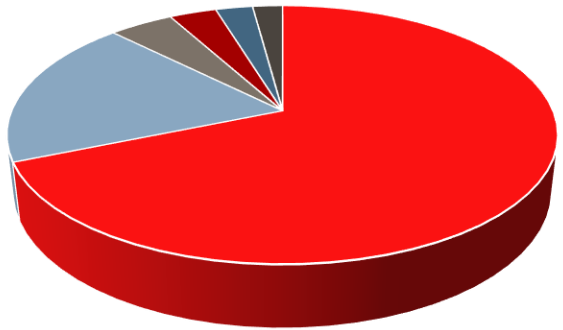
Smartphone OS market share, 2012



■ Android   ■ iOS   ■ BlackBerry  
■ Symbian   ■ Windows   ■ Others

# Dominant platforms

Smartphone OS market share, 2012



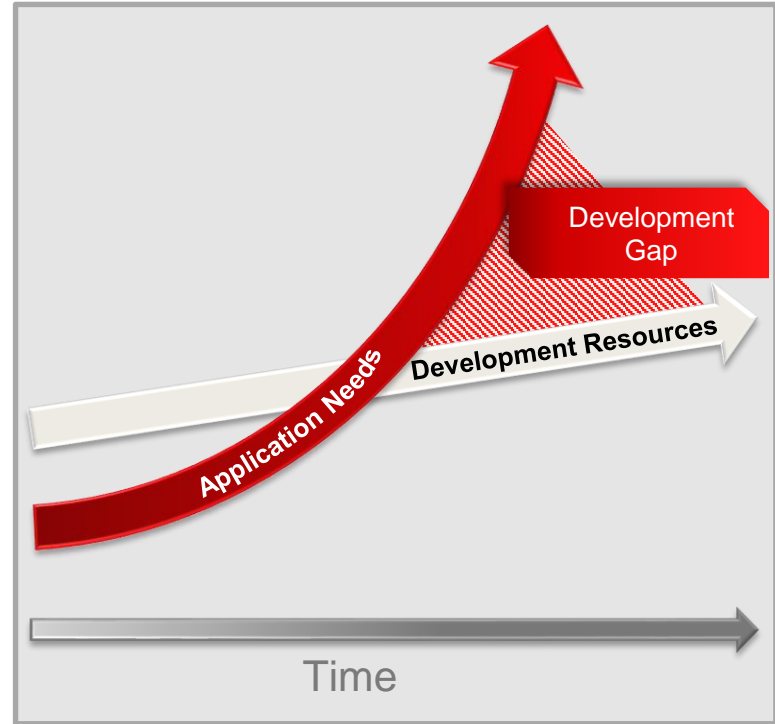
■ Android   ■ iOS   ■ BlackBerry  
■ Symbian   ■ Windows   ■ Others

**85% of all  
smartphones  
run iOS or  
Android**

# Time is not with you

## The development gap

- You will be asked to build mobile applications
- Needs growth will always outpace resource growth
- How can you be more productive?





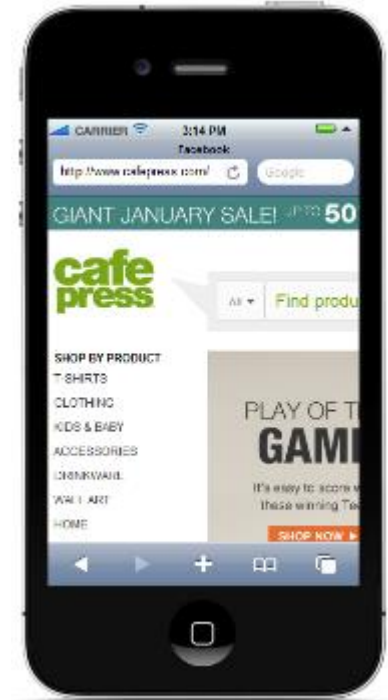
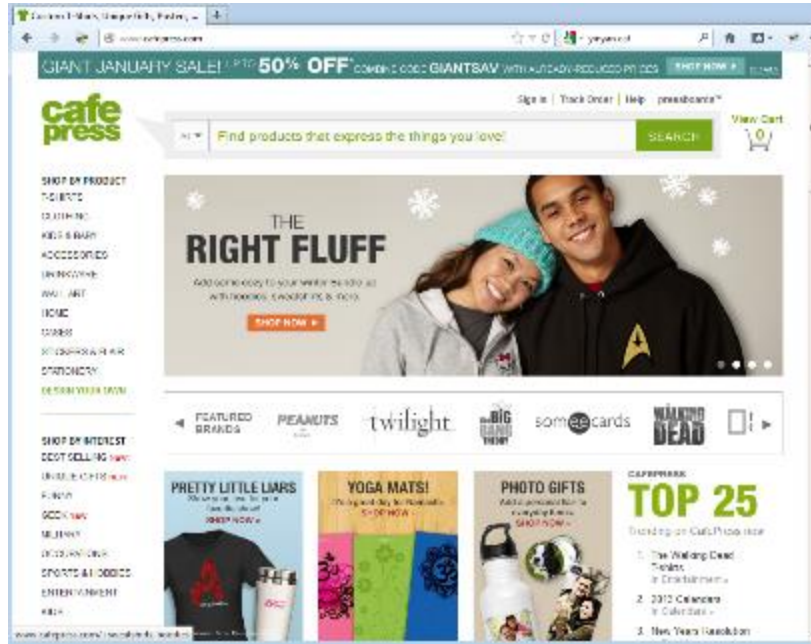
# Mobile Enterprise Challenges

## In Pursuit of Productivity and Connectivity



- Technology evolving at Consumer pace
  - iOS, Android, ...
  - Different tools, languages, platforms, etc.
- User expectations are high
  - Biased by Consumer experiences
- IT optimized for web
  - Technology expertise, headcount, processes
  - Now must address demand for mobile
    - Multiple platforms and form factors

# We'll Just Use Our Existing Web Application



# Adjusted Web UI for Mobile



# Understand Your Mobile Requirement

- Which device are you targeting?
- What network are you using?
- Which device feature do you leverage?
- What is your end-users profile?



# Mobile Development with Oracle Tools

# 3 Types of Mobile Application

## Mobile Web Apps

- Online application accessed through mobile device browser
- Browser governs access to local storage and device services (camera, GPS, etc.)
- Highly reusable code
- Highly portable

## Native Mobile Apps

- Application installed & runs on device
- Optimized for specific mobile platform and form factor
- Direct access to local storage and device services
- Code reuse can be complex
- Portability requires work

## Hybrid Mobile Apps

- Application installed & runs on device with HTML5 UI
- Optimized for specific mobile platform & form factor
- Direct access to local storage and device services
- Code reuse simplified
- Portability simplified

Mobile Web App  
(Viewed in Safari)

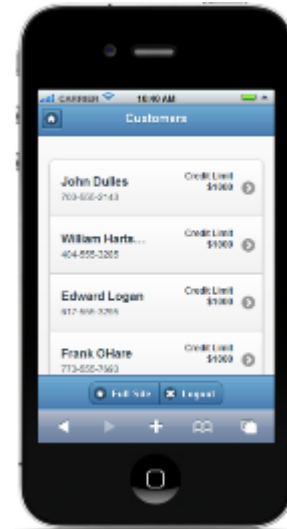
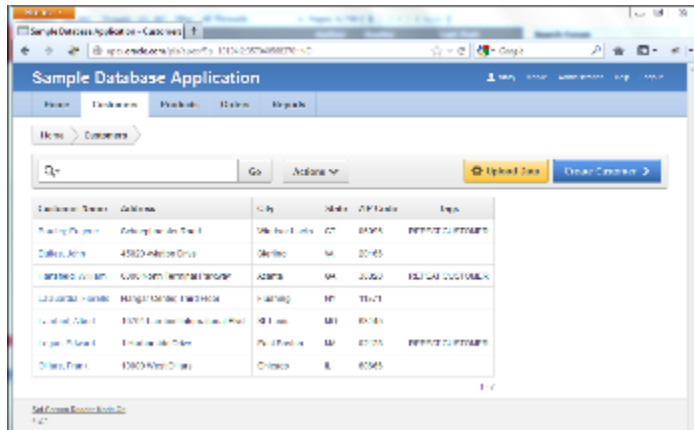


Native App  
(iOS)

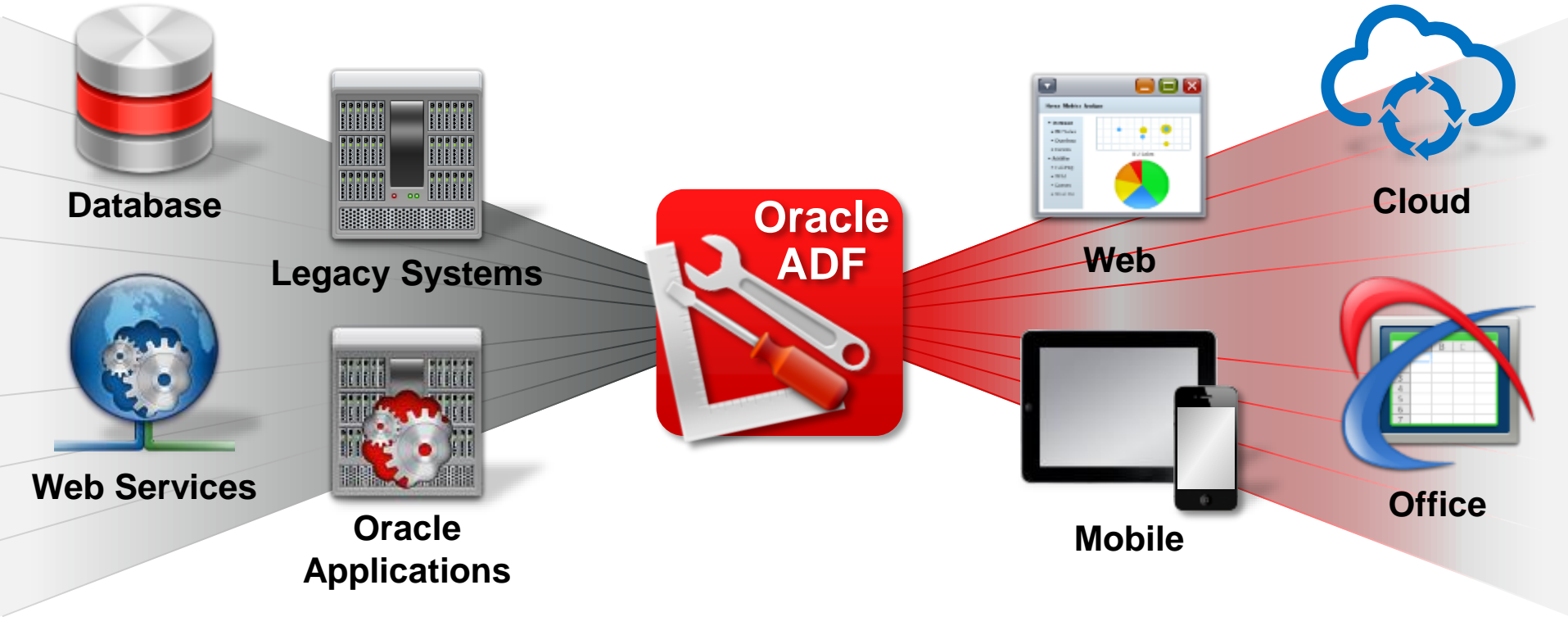


# Oracle APEX

- Templates for mobile UI accessed from browser
- Based on JQuery Mobile components



# Oracle ADF – Multi Channel Framework





# Mobile Web Applications with Oracle ADF

## Two Options

- Oracle ADF Faces
  - Targeting tablets
  - Good network
- Oracle ADF Mobile Browser
  - From feature phones to smart phones
  - Slower network

# Oracle ADF Faces

## Mobile Optimizations

- Touch gesture
- HTML5 rendering
- Flow layout
- Smart table
- More...



# Oracle ADF Mobile Browser

## Mobile Optimizations

- Supports smart and feature phones
- Adapts to Browser Capabilities
- 60+ components
- Mobile optimized css



# Introducing Oracle ADF Mobile

# Oracle ADF Mobile

New Hybrid Mobile Solution



**Oracle  
ADF Mobile**

**Java**

**HTML5**

**Built On Standards**

**Use Existing Skills Set**



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# ADF Mobile Overview

- Thin Native container on each platform
  - Allows for native application install
  - Allows for device interaction
- HTML5/JavaScript based Frontend
- Java Backend



# UI Development

- Device native user experience
- Spring board and tab bar for feature navigation
- Advanced HTML5-based UI
  - Full animation, gesture, and touch interaction support
- Interactive Data Visualization Components



# Business Services Development

- Code logic with Java
- Lightweight JVM
- Native library on device
- Easy access to remote services
  - SOAP
  - REST (JSON/XML)

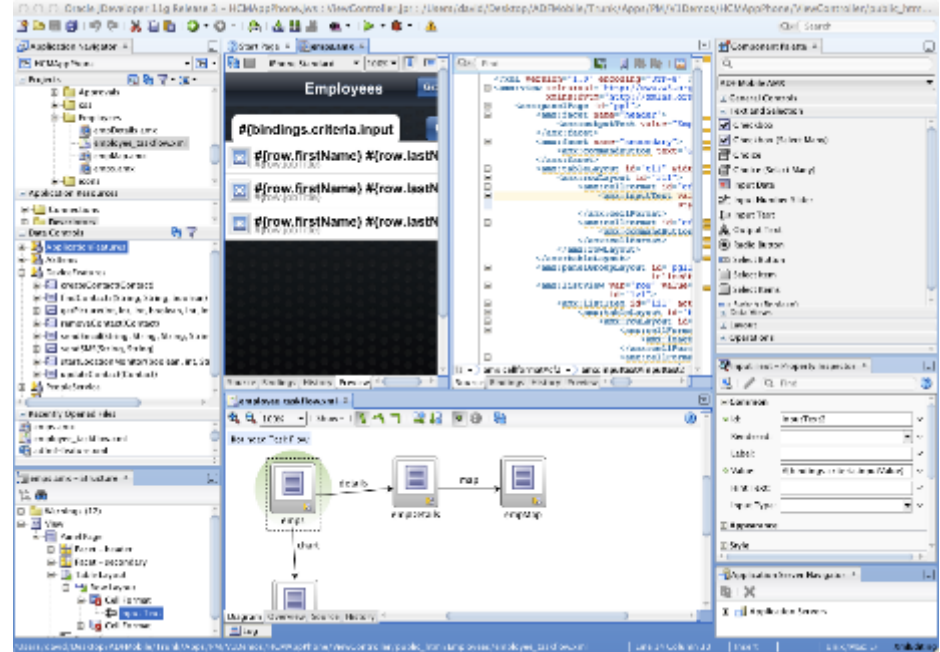




# Integrated Development Environment

## Focused on Productivity

- Oracle JDeveloper Extension
- Declarative and visual development
- Integration with Apple Xcode and Android SDK
- Consistent tooling
  - Component based UI construction
  - Task Flows
  - Data Controls
  - Packaging
  - Deployment
  - Debugging



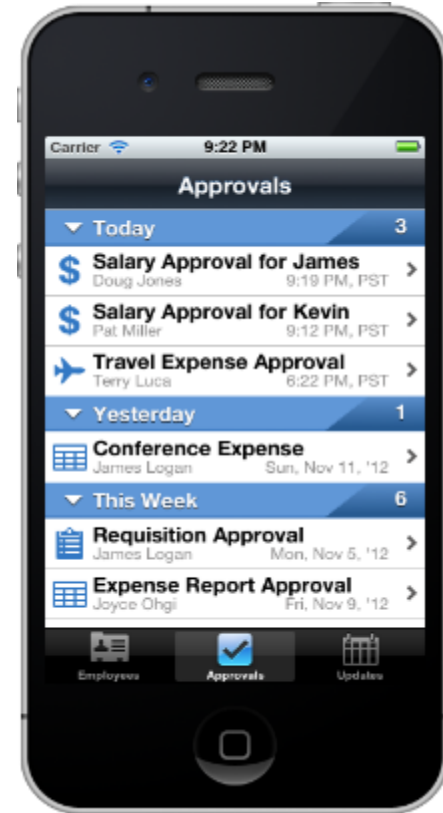
# UI Content options

- Local AMX File
  - JSF-like file built visually in JDeveloper
  - Generated into HTML/JS on device at RT
- Remote URL
  - Any server-side HTML
  - ADF Mobile Browser Apps
  - ADF Faces Apps
- Local HTML File
  - Coded with any third-party HTML5 frameworks



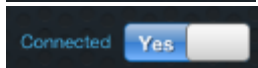
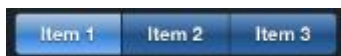
# ADF Mobile XML Components (AMX)

- XML format built visually in JDeveloper
- 50+ Components
- Declarative data binding
- Rendered into HTML5 on device at RT

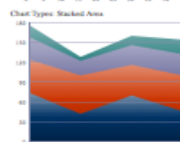
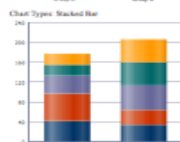
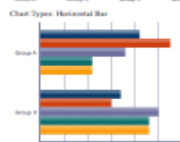
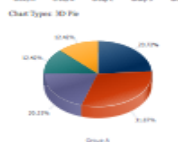
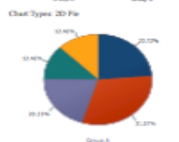
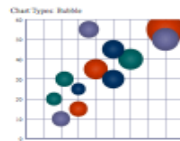
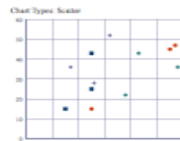
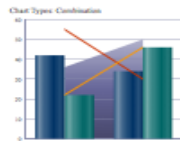
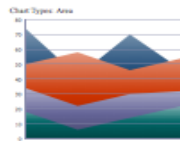
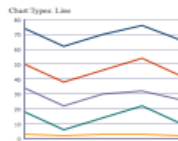
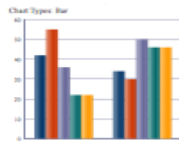


# Rich Component Set

- Basic Components



- Charts



- Gauge



- T-Maps



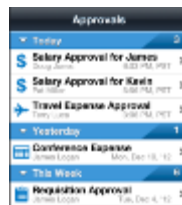
- Carousel



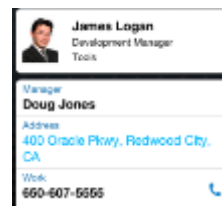
- GeoMap



- ListView

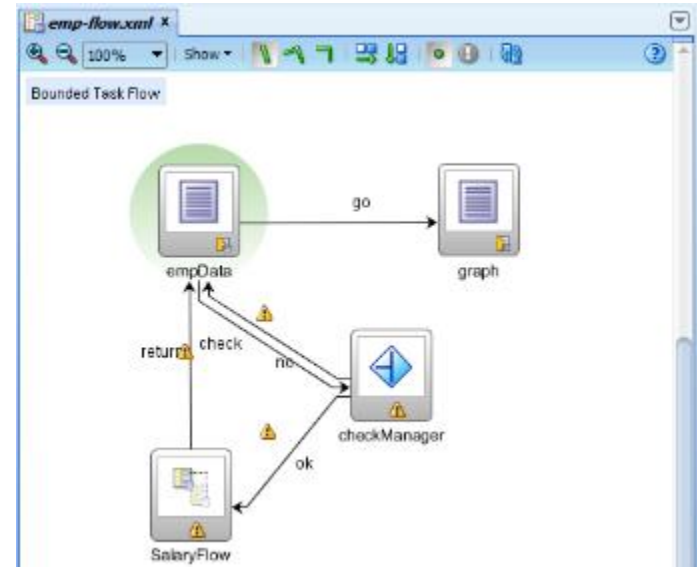


- Forms



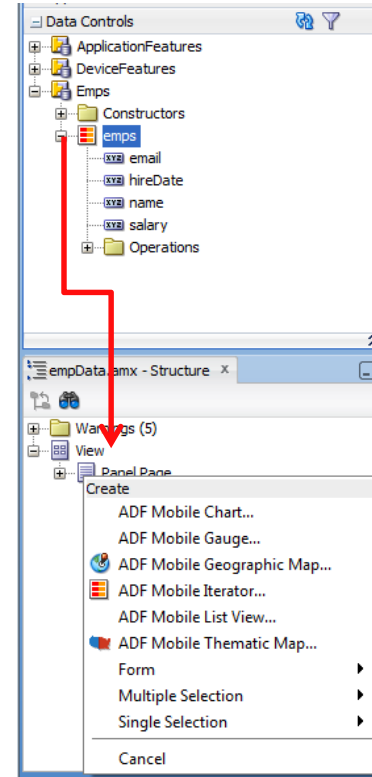
# ADF Controller

- Define the flow of your application
- Navigate between pages
- Similar to ADF Web Controller



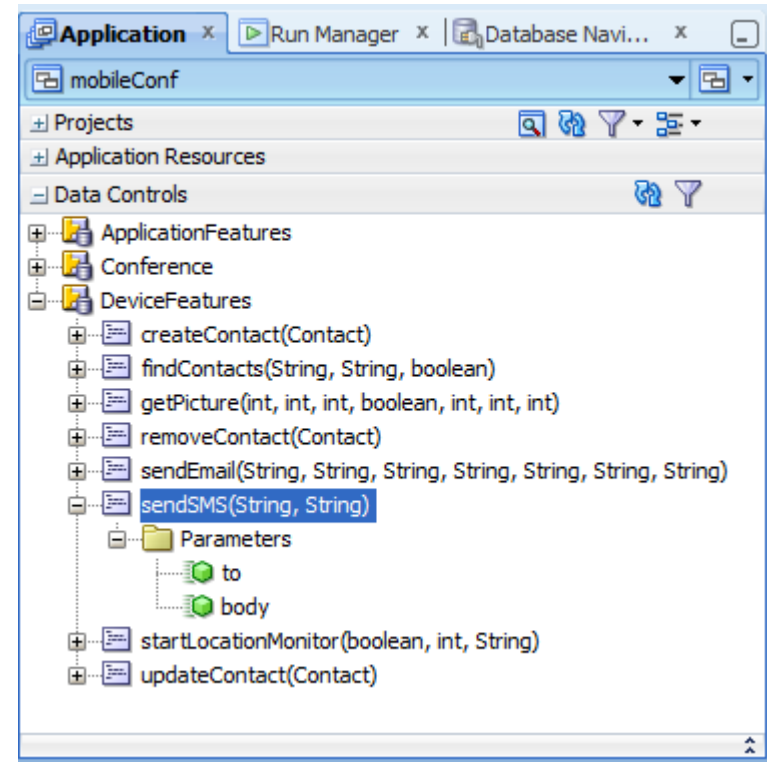
# ADF Binding – Simplify UI Creation

- Drag and drop service components to create UI components
- Drag data or methods
- Drop as various UI components



# Device Features Interaction

- Leverages PhoneGap/Cordova
- Drag and drop to use
  - Email
  - SMS
  - Contacts
  - GPS
  - Camera
- Or access programmatically



# Access and Security

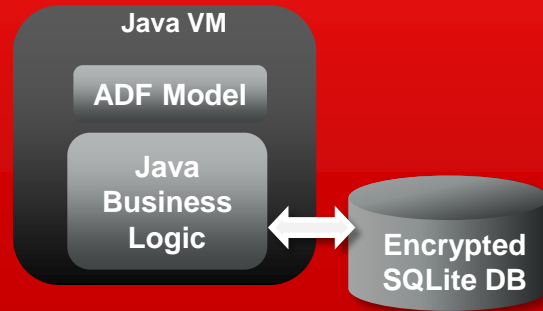
- Authentication:
  - Out of the box integration with Oracle IDM
  - Offline authentication
  - Single login across Features
- Access Control:
  - Role based access
- Encryption:
  - Credential store
  - Local data
  - Communication channels



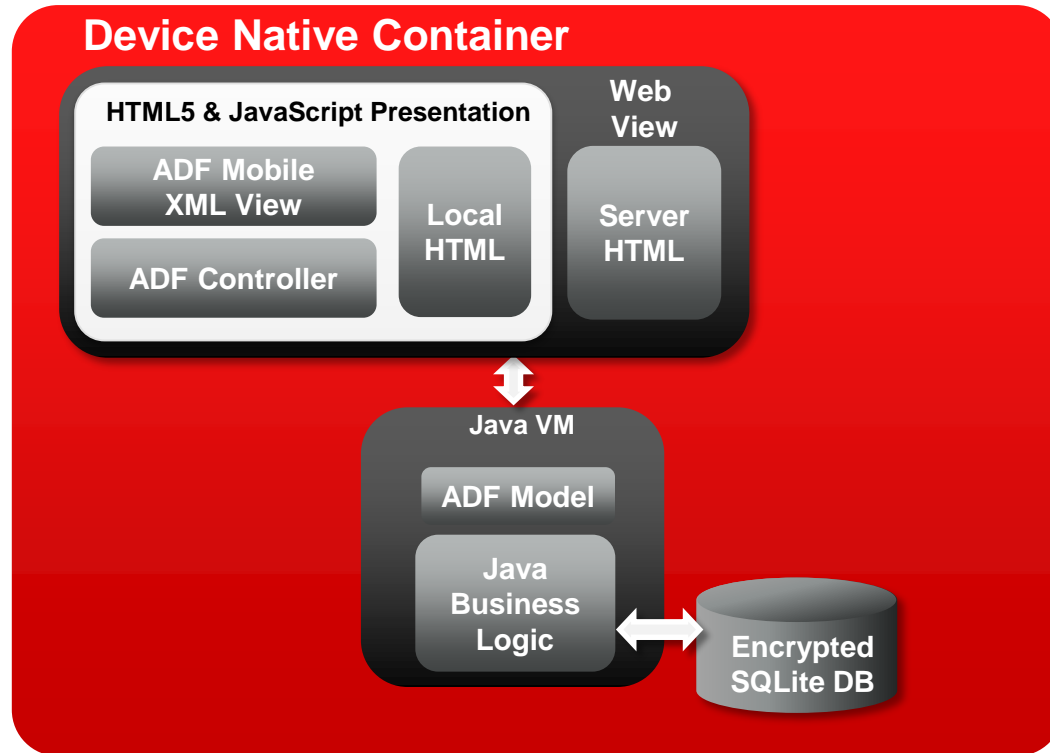


# ADF Mobile Architecture

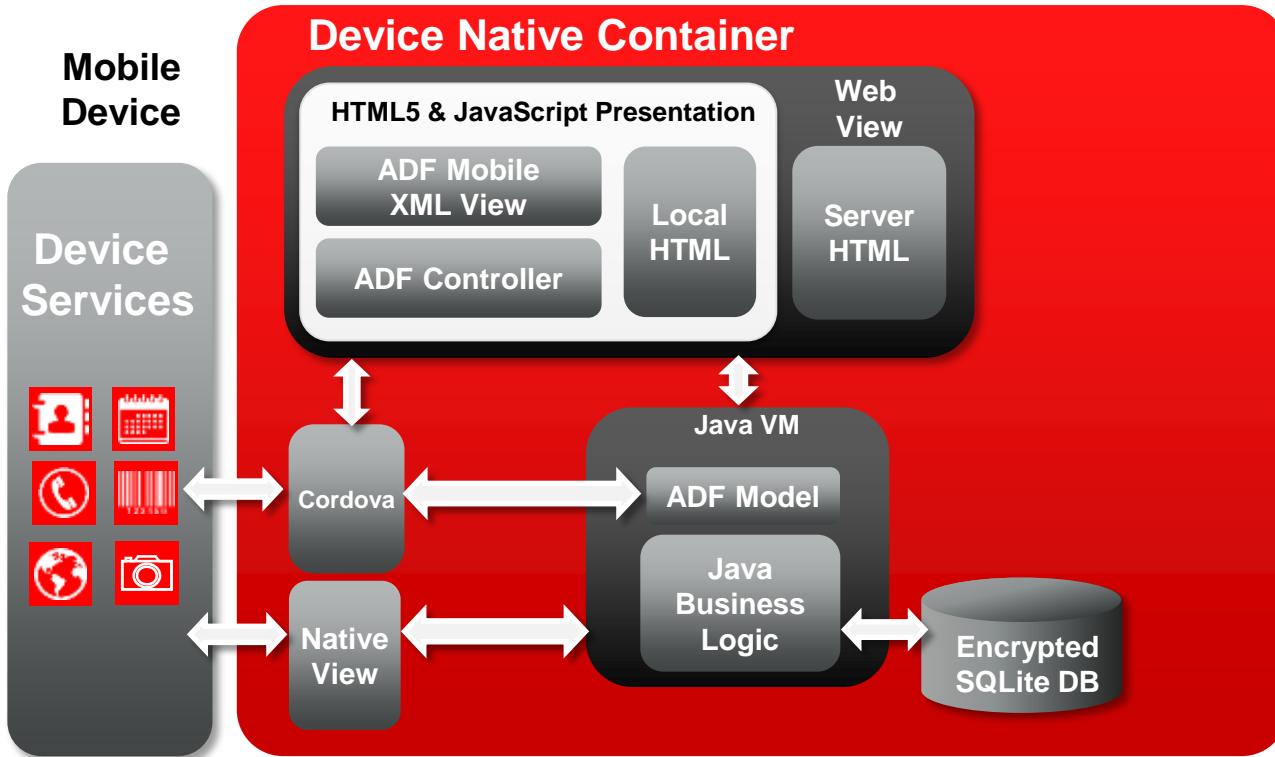
## Device Native Container



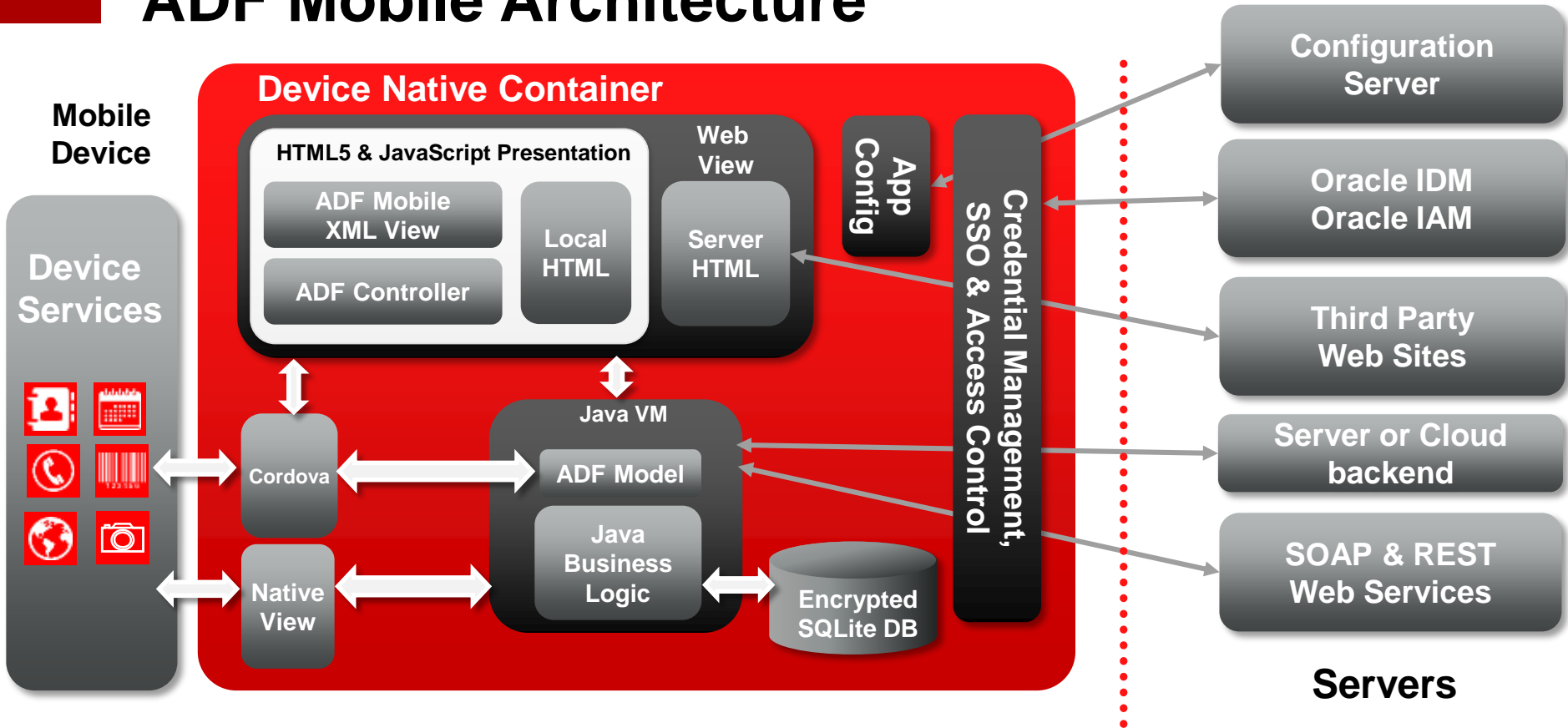
# ADF Mobile Architecture



# ADF Mobile Architecture



# ADF Mobile Architecture



# ORACLE ADF MOBILE

## ENOUGH WITH THE SLIDES!



# ADF ACADEMY

## FREE ONLINE COURSE ON ADF MOBILE



<http://bit.ly/adfmobilecourse>

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# Summary

- Oracle ADF Mobile – On-Device iOS and Android Applications
- Abstract Complexity and Simplify Development
- Reuse your Java and ADF skills
- Learn More: <http://oracle.com/ADF>

# Join the JDeveloper / ADF Community



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**ADF Insider Essentials channel**

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