Using Oracle ADF with Oracle E-Business Suite: The Full Integration View

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Program Agenda

- Choosing the right technology
- Oracle E-Business Suite SDK for Java
- Integration examples
- Lake County Purchasing Portal
Extending Oracle E-Business Suite: Choose the Right Technologies
Extending Oracle E-Business Suite

What do you want to build?

- Add to existing Oracle E-Business Suite business flow
- Create new flow within Oracle E-Business Suite
- Build new, separate application

All of these extensions use Oracle E-Business Suite data
Extending Existing EBS Business Flow

Adding a few new screens

Within Oracle E-Business Suite

- Best practice: build custom screens in same technology as existing flow for consistent user interface
  - Oracle Application Framework (OAF), Oracle Forms
Creating New Flow within EBS

Users move between custom and EBS flows frequently

- Best practice: build custom screens in same technology as existing flow for consistent user interface
  - Oracle Application Framework (OAF)
  - Alternatively incorporate ADF alone or in hybrid pages with OAF
Creating Separate Application

No user interface interaction with EBS

Within Oracle E-Business Suite

EBS Home Page → EBS Screen → EBS Screen → EBS Screen → EBS Screen

Separate Application

Custom Start Screen → Custom Screen → Custom Screen → Custom Screen → Custom Screen

- Best practice: Choose technology that meets your needs
  - Oracle Application Framework or Oracle ADF or both (hybrid pages)
Choose OA Framework If You Need to…

New Applications

- Use Flexfields
- Have same look and feel as the E-Business Suite application
- Use OA Framework Personalization
Choose Oracle ADF If You Need to…

New Applications

- Support multiple data sources such as Web Services, URL, Java …
- Have multi-channel rich user interfaces
- Same development platform as Oracle Fusion Applications
- Support mobile devices
Oracle ADF – Multi-Channel Framework

- Web
- Desktop
- Mobile
- Office

- Database
- Web Services
- Legacy Systems
- Applications Unlimited
Oracle ADF – Rich Client Components
Choose OAF Pages with ADF Regions If…

New Applications

- Use Oracle ADF embedded in OA Framework pages if your application needs to:
  - Use flexfields
  - Have rich user interface components that are specific to ADF (hierarchy viewer, carousel)
  - Have same look and feel as the E-Business Suite application
Embedding ADF Content in an OAF Page

“Hybrid Page” lets OAF fields coexist with ADF

OAF Main Page

Rich Content Container in OAF

Embedded ADF content

Other OAF fields such as flexfields
Oracle E-Business Suite
SDK for Java
Oracle E-Business Suite SDK for Java
Enables integration using Oracle ADF

- Protect your investment in the future
- Co-exist with Fusion Applications
Oracle E-Business Suite SDK for Java
For Releases 11i to 12.x of Oracle E-Business Suite

E-Business Suite SDK for Java

JAAS  Session Management  Profile

i18n  Language Info  Messages  Apps Log Handler

AppsDataSource
Building Custom ADF Applications for EBS

Use E-Business Suite SDK for Java

- Write new applications with any Java EE including ADF and deploy on external application server
- Use E-Business Suite security
- Use AppsDataSource to access EBS database
AppsDataSource Standard Data Source

Standard Data Source for external applications

- Configure AppsDataSource for access to Oracle E-Business Suite database
  - Dedicated FND user with special UMX|APPS_SCHEMA_CONNECT role
  - External server does not need APPS password
  - External application can call stored procedures available in APPS
Oracle E-Business Suite SDK for Java

Java Authentication and Authorization Service (JAAS)

- JAAS provides FND users and UMX roles for securing external application
  - Use with separate application that does not need to share session context with EBS (UI independent of EBS UI)
  - Use AppsDataSource to provide access to database
EBS provides users and responsibilities
- Create, validate, destroy EBS sessions
- Share session context with EBS
- Log in once and navigate seamlessly between ADF and EBS
- Use AppsDataSource to provide access to database
- Either separate ADF pages or “Hybrid” OAF Pages
Oracle E-Business Suite SDK for Java

Session terminology

- “Session” refers to Oracle E-Business Suite ICX session
  - “User session” or “EBS session”
  - Context information such as user name, responsibility, NLS locale, other information
  - Identified by ICX session cookie on browser

- “Shared session” means same EBS user session across technologies
Using Session Management

Sharing session and context with EBS session

- Must use AppsDataSource to access EBS data
- Requires session management APIs (instead of JAAS)
- Can use EBS routines that require user or context
- Can use Message Dictionary
- Can use profile options
- Can use logging
Using JAAS
Session uses JAAS for authentication/authorization

- Must use AppsDataSource to access EBS data
- Does not share EBS session or context
- Use EBS users and UMX roles instead of responsibilities
- Can use services and EBS routines that do not need EBS context
- Can use logging
JAAS or Session Management

When Do I Use JAAS?

- JAAS uses container-managed security
  - Provides EBS user names and UMX roles to secure application
  - Use with basic or custom login screen, or launch from EBS Home Page after EBS login
  - Leverage ADF security features
  - If user logs out of external application, there is no effect on EBS (user never even needs to use EBS interface directly)
  - User will see pages in language set in browser preference
JAAS or Session Management

When Do I Use Session Management?

- Session management uses EBS security
  - Use for shared EBS session and user context
  - Allows seamless navigation between EBS and ADF
  - Use with EBS login screen (only)
  - Launch external application pages from EBS home page
  - For ADF applications, call FND routines for component-level security
  - If user logs out of external application, user automatically logs out of EBS
  - User will see pages in language set in EBS preference
  - Embed ADF regions on OA Framework pages
ADF Extensions with Oracle E-Business Suite

Accessing Oracle E-Business Suite Data

- **SOAP Services**
  - From SOA Suite, you can use Apps Adapter
  - Integrated SOA gateway for Native Services

- **Public API’s from Oracle E-Business Suite**
  - Use AppsDataSource
  - Access any Public PL/SQL API in Integration Repository
Examples of Using Oracle E-Business Suite SDK for Java
Three Examples

Different Use Cases

- Standalone application using JAAS, independent session
  - Lake County
- Application using session management with separate UI
  - Oracle Electronic Kanban
- ADF UI embedded in OA Framework page, using session management
  - HCM Organization Chart
Organization Chart in HCM

HCM embeds ADF in OA Framework using EBS SDK

- Available in Release 12.1 HRMS RUP5 - Patch 13418800 (R12.HR_PF.B.Delta.5)
Oracle Electronic Kanban (roadmap)

Entire application built using ADF but part of EBS

- Uses session management
- Launches from EBS home page
- Logging out logs out EBS too
- Calls EBS PL/SQL APIs
Lake County, Illinois

Separate ADF application using JAAS

- Created UMX role in EBS
  - corresponds to enterprise role in ADF
- Added to existing responsibility
- Built ADF application using enterprise role for security
Lake County Purchasing Portal
Developed in Oracle ADF

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Bonus Example of EBS SDK (Non-ADF)
Endeca embedded in OA Framework Rich Content Container
Oracle HCM Organization Chart Feature
Summary

- Choose the right technology for your EBS extension
  - OA Framework, Oracle ADF, or both
- Use Oracle E-Business Suite SDK for Java with Oracle ADF
  - AppsDataSource
  - EBS security
  - With or without EBS context
Resources

- “Oracle E-Business Suite Software Development Kit for Java” (My Oracle Support Doc ID 974949.1)
- See “Oracle Application Framework Documentation Resources, Release 12” (Doc ID 391554.1)
- See “OA Framework - How to find the correct version of JDeveloper to use with eBusiness Suite 11i or Release 12.x” (Doc ID 416708.1)
- ADF blogs
What JDeveloper Version to Use?

- Use JDeveloper 11g R1
  - Latest 11.1.1.6.0
  - Tooling for Oracle Fusion Middleware Stack

- Use JDeveloper 11g R2
  - Latest 11.1.2.3.0
  - ADF specific release
  - Supports latest Java EE standards
  - Various core improvements
E-Business Suite Technology Stack Blog

blogs.oracle.com/stevenChan

- Direct from EBS Development
- Latest EBS techstack news
- Certification announcements
- Primers, FAQs, tips
- Desupport reminders
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