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JHeadstart Forms2ADF Generator

Migrating from Oracle Forms to a Best-Practice ADF application

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Oracle Consulting
September 29, 2015

Agenda

- Forms Modernization Strategy
- What is JHeadstart?
- Forms2ADF Migration Process
- Migration Result
- Case Studies

Before we start – Define a Forms modernization strategy!

- Where are we now?
 - Analyze current situation
- Where do we want to go?
 - Identify top business drivers / business benefits
- How do we want to go?
 - Identify and choose modernization options
- What do we need to do when and with whom?
 - Define modernization approach/timeline/project plan


Different Options

1. Do nothing
 - No benefits, higher maintenance costs
2. Migrate to latest release of Oracle Forms
 - Forms still supported, 12c release planned
3. Move to Oracle Application Development Framework (ADF)
 - Strategic Direction of Oracle, basis for Oracle Fusion Applications
4. Move to Oracle Application Express (APEX)
 - Reuse PL/SQL knowledge
5. Move to Standard applications on premise or SAAS
 - When there is a high functionality fit

Guidelines for different options

Situation	1. Do Nothing	2. Latest Forms release	3. ADF	4. APEX	5. Standard app/ SAAS
Migration Costs as low as possible	+++	--	---	---	---
Supported environment required	---	+++	+++	+++	+++
New functionality required	-	+	+++	+	+ ?
Integration with Fusion Middleware required	---	+	+++	+	++
Improvement to UI required	---	+/-	+++	++	+
Self Service/Mobile Extensions	---	+	+++	++	+ ?
Higher Developer Productivity needed	-	+	+++	+++	n/a


What is JHeadstart?

- JDeveloper extension automation of ADF development tasks
 - Development Toolkit on top of ADF
 - Builds on ADF Runtime architecture
 - Fully integrates with ADF Design Time
- Takes declarative development to the next level
 - Generates complete ADF applications
 - Like Designer generates Forms, JHeadstart generates ADF apps
 - Implements Oracle Consulting's best practices
- **Transforms Oracle Forms into ADF applications** 

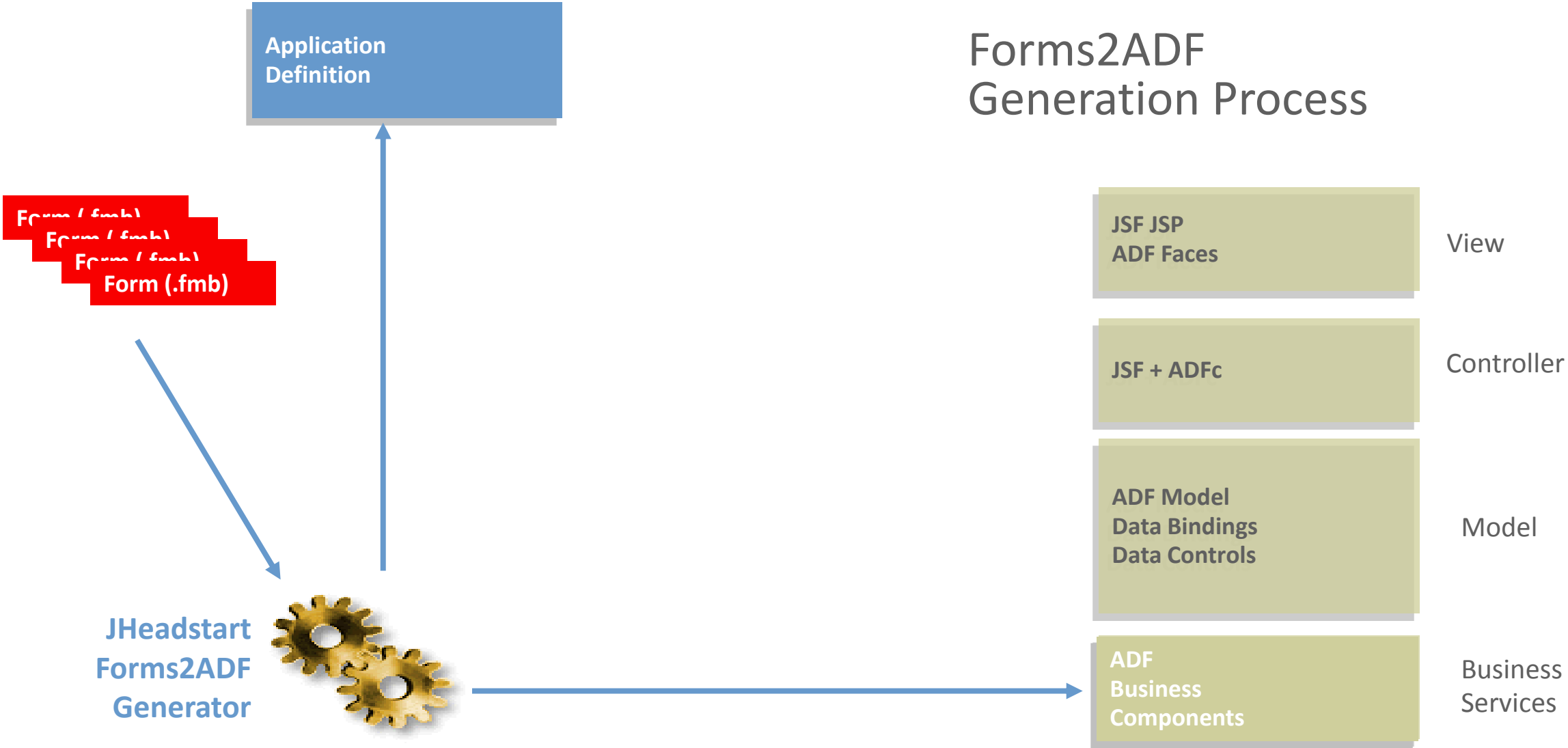
Oracle JHeadstart - Benefits

- Best Practices Auto Implemented
 - Increased Developer Productivity
 - Newbie can be productive fast
 - Generation provides consistency
 - Easy maintenance – metadata
 - New UI technology – just generate again!
 - Easy to learn for Forms developers
- Application generated as would have been done when built from scratch
 - Reusable components save months
 - Enables rapid prototyping
 - Prototype evolves in working system
 - Forms2ADF protects investment
 - Standards based

JHeadstart – Main Components

- JHeadstart Application Generator (JAG)
 - Generates best-practice web application
- JHeadstart Utilities
 - Automate other ADF development tasks
 - Perform quality checks
- JHeadstart Runtime
 - Reusable components to implement complex functionality
 - Auto-implements host of best practices
- **JHeadstart Forms2ADF Generator** 
 - Create fully-functional ADF app based on forms definitions
- JHeadstart Developer's Guide

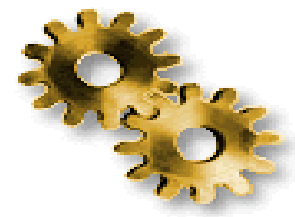
Forms2ADF Generation Process



Application Definition

Form (.fmb)
Form (.fmb)
Form (.fmb)
Form (.fmb)

JHeadstart
Forms2ADF
Generator



AppModuleApplicationDefinition.xml - Application Definition Editor

AppModule

- Employees
- Items
- Regions
 - BenefitsRegion
 - Salary
 - CommissionPct
 - DepartmentsRegion
 - EmployeesRegion
 - JobHistoryRegion
- Detail Groups
 - Departments2
 - Employees2
 - JobHistory3
- Departments
- Jobs
- Locations
- Countries
- Regions
- JobHistory
- EmployeesLOV
- Domains

Identification

Name	Employees
Short Name	
Description	Employees
Use as List of Values?	<input type="checkbox"/>
Group Image / Icon	

Group Layout

Layout Style	table-form
Table Overflow Style	inline
Stack Detail Groups on Same...	<input type="checkbox"/>
Same Page?	<input type="checkbox"/>

Query Settings

Data Collection	EmployeesView1
Data Collection Implementation	EmployeesView
Query Bind Parameters	

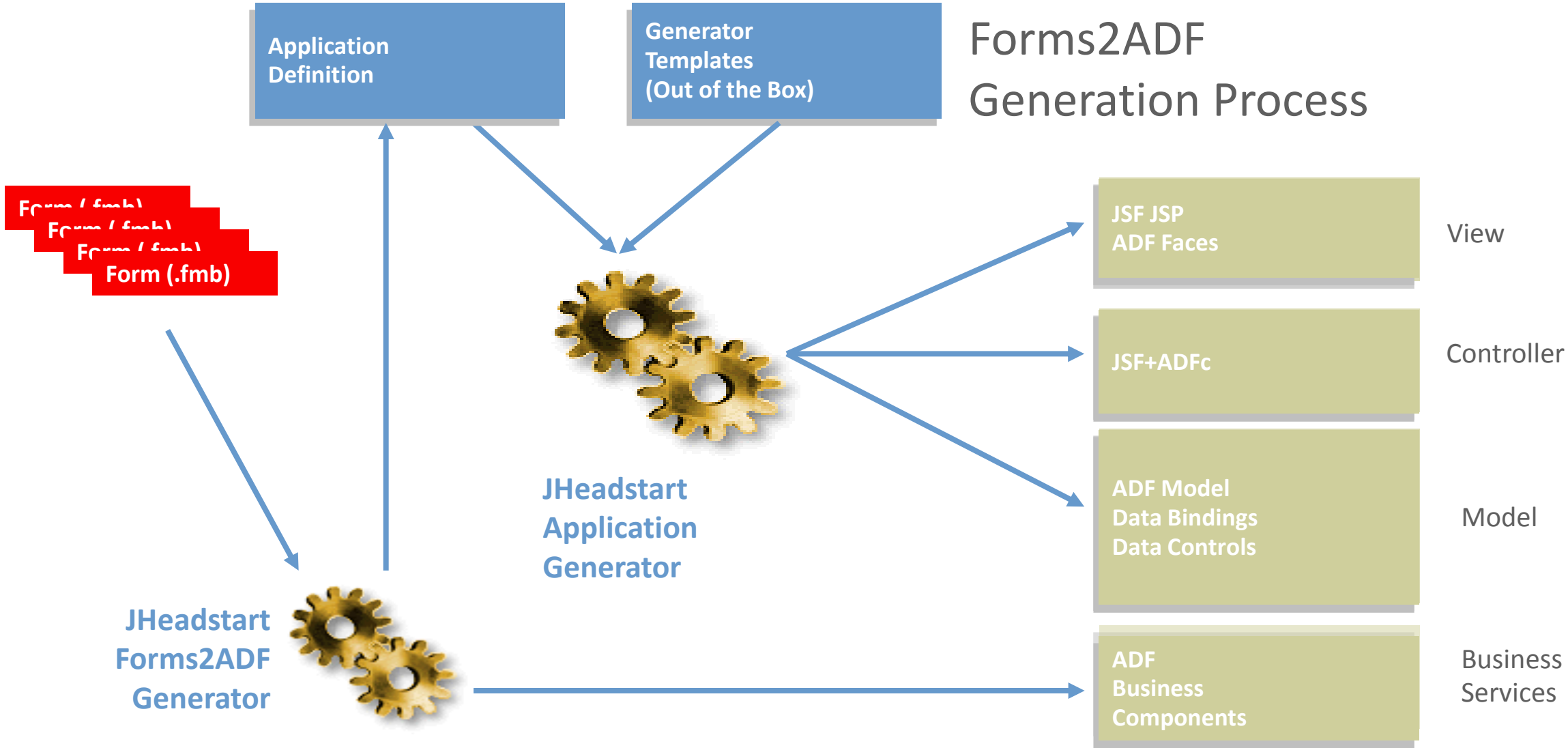
This attribute determines the number and layout of the pages that are generated to select, view and manipulate the group ViewObject.
form: generates a single-record page.
table: generates a single page in Table (multi-record) format.
table-form: generates a Table Page, as well as a single-record Details page.
select-form: generates a Select Page with a list box where the user can select a record, and a single-record page.

Properties Templates

Help Apply OK Cancel



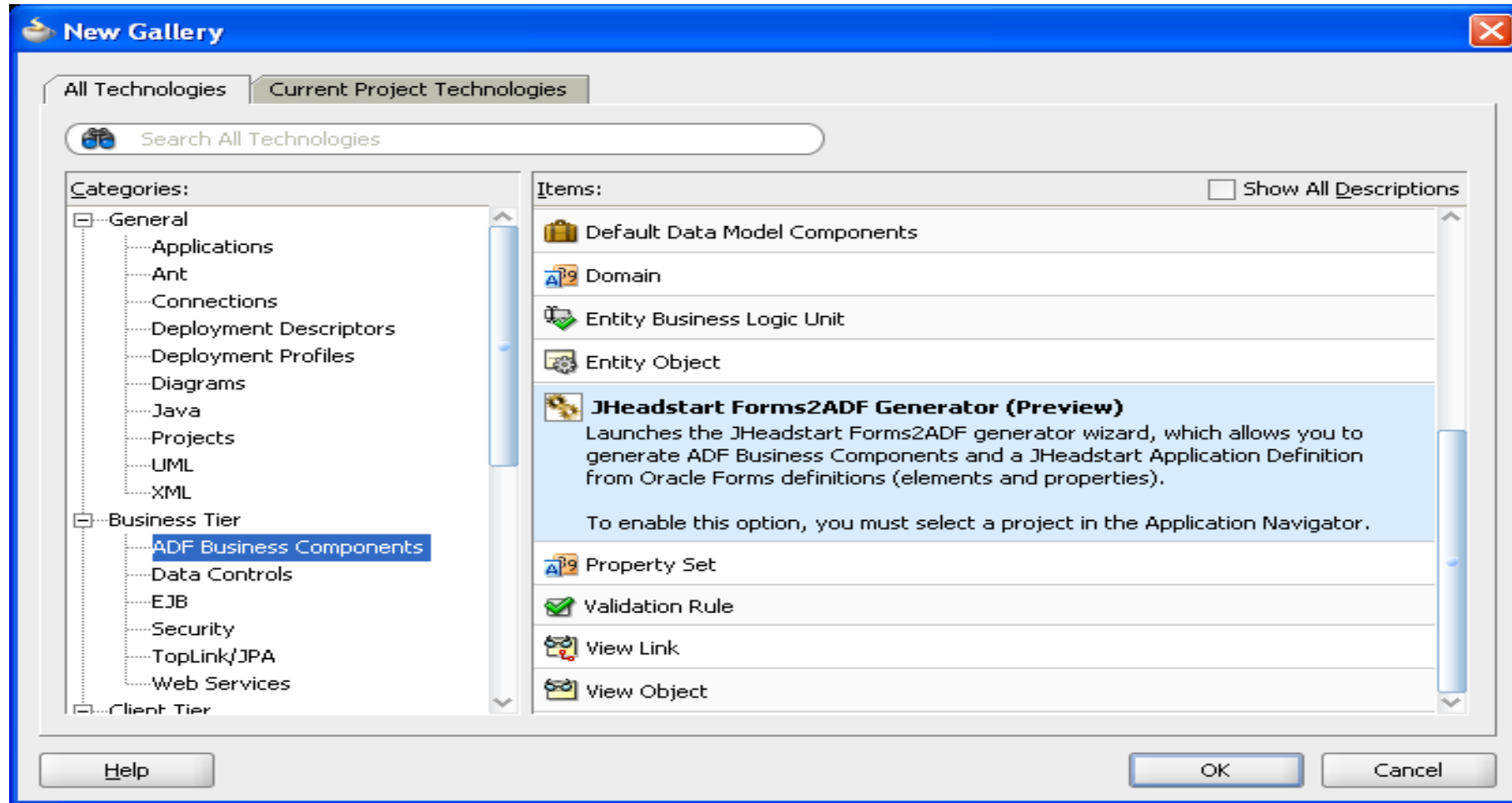
Forms2ADF Generation Process



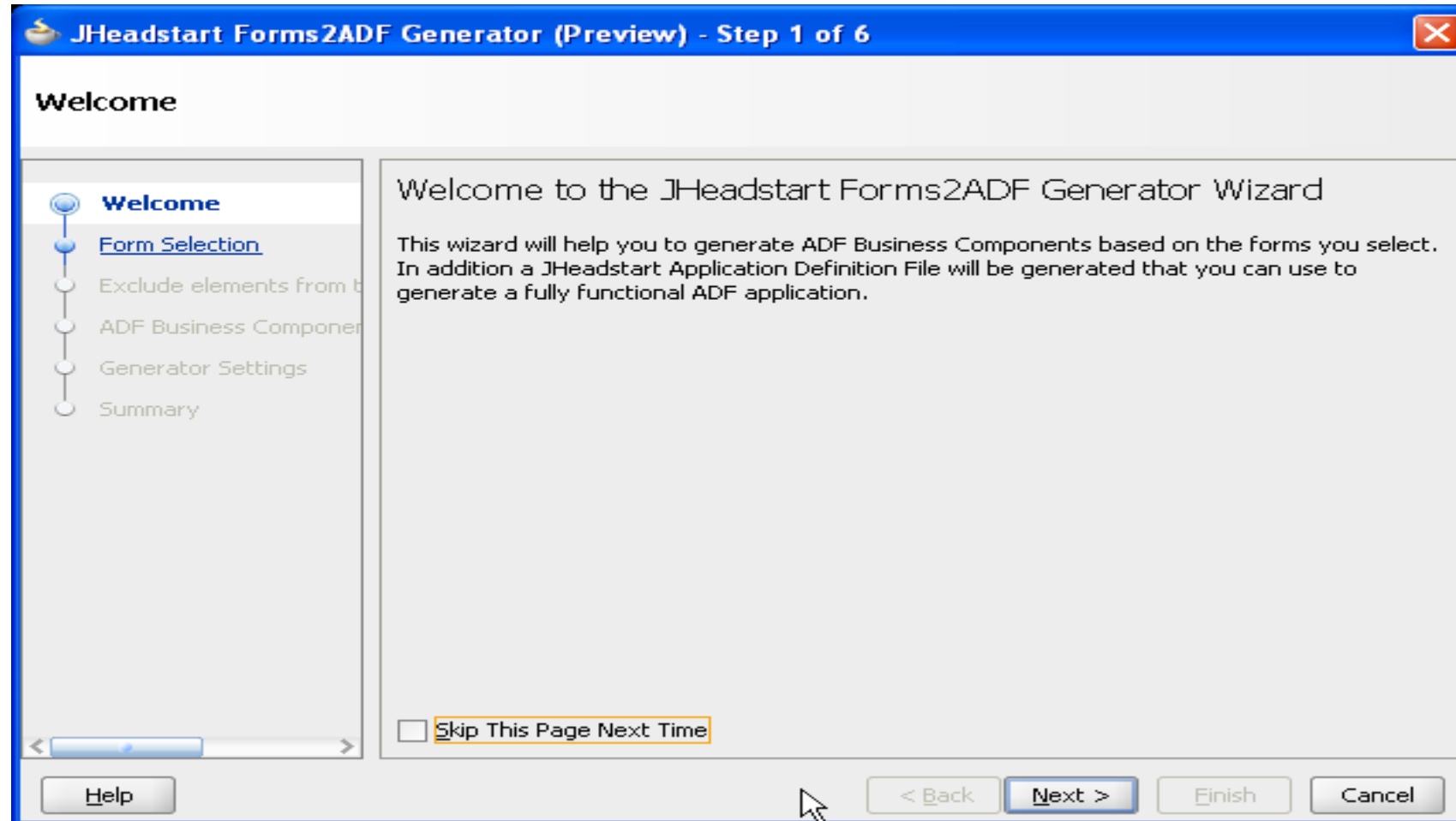
JHeadstart Forms2ADF Generator

- Generates ADF Business Components (BC) based on Forms Data Usages
 - ADF BC Entity Objects created for used tables
 - ADF BC View Objects created for blocks and record group queries
 - Model LOV's created for each LOV / Record Group
 - ADF BC Application Module created for each form
- Extracts Forms User Interface Definitions into JHeadstart Application Definition
 - Groups created for each block
 - Group Items created for each item in a block
 - (Stacked) region containers and regions created based on item placement on (tabbed) canvasses
 - Domains created based on forms item allowable values
 - PL/SQL logic copied as “documentation” nodes

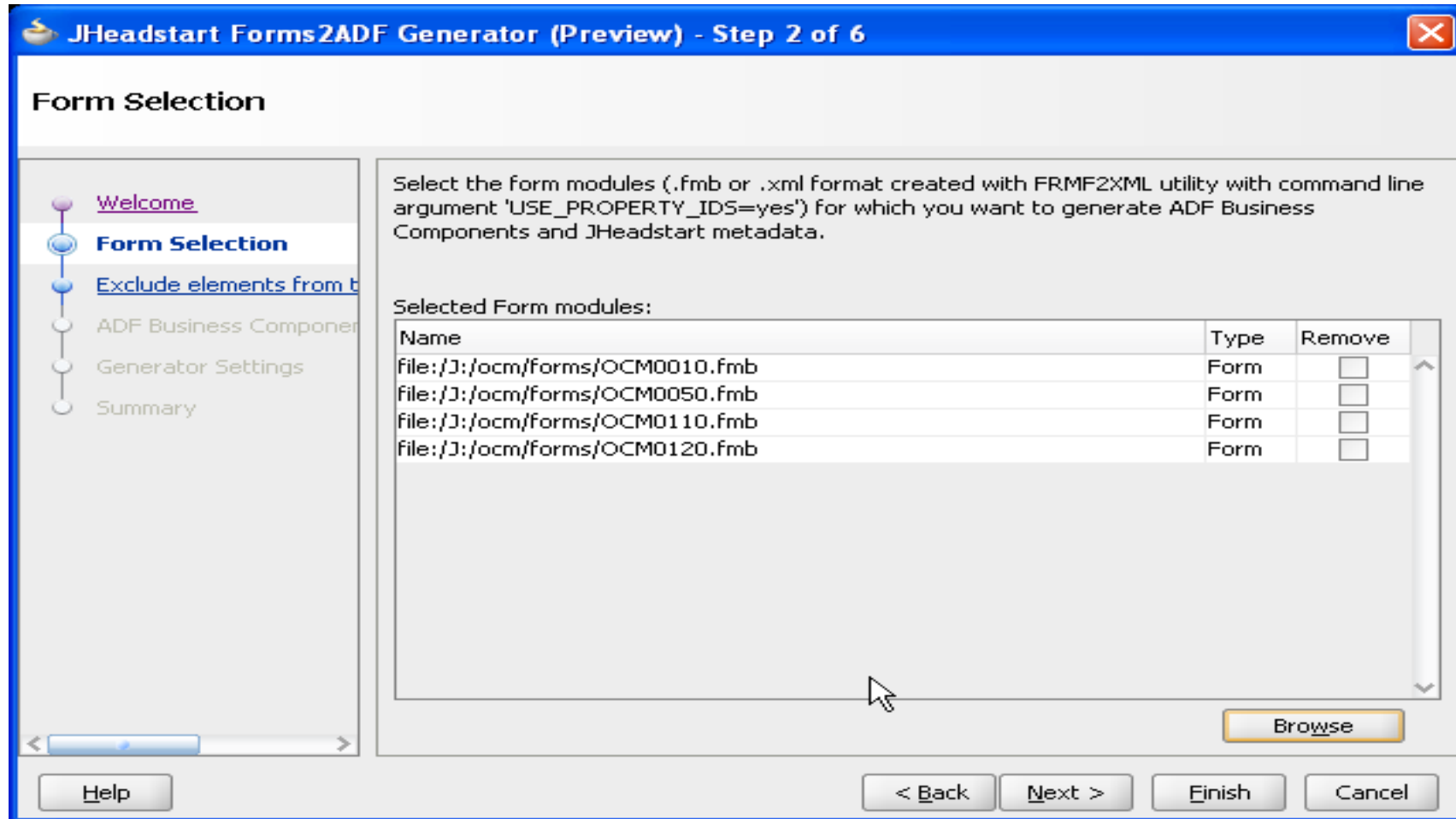
In JDeveloper Run the Forms2ADF Generator



Start the Forms2ADF Wizard



Select the Forms to be migrated to ADF



Connect to the Database and Finish

JHeadstart Forms2ADF Generator (Preview) - Step 4 of 6

ADF Business Components Database Connection

Select the connection to your database for ADF Business Components. This connection should have access to all tables and views used in the forms you selected.

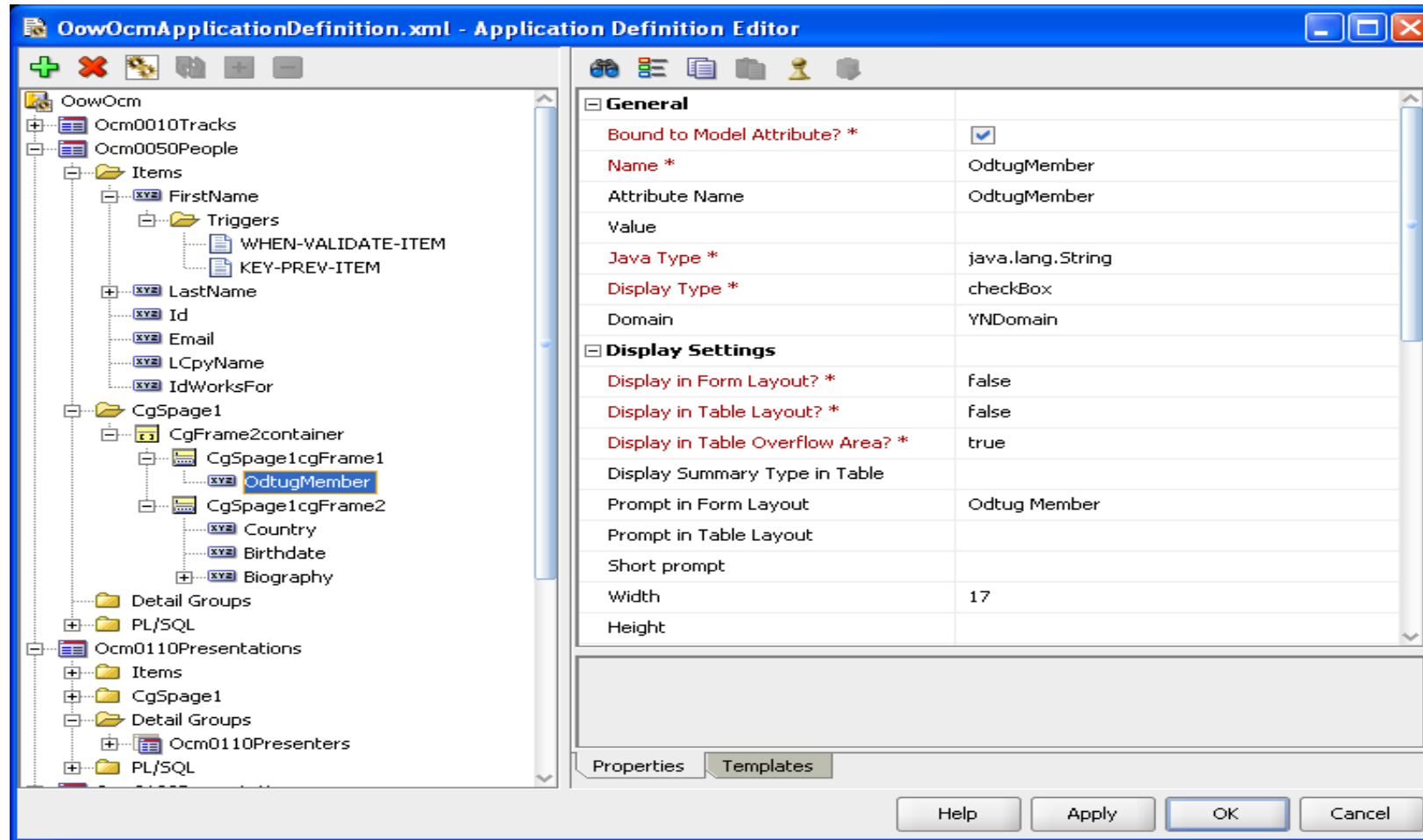
If the connection uses synonyms to access tables or views used by the forms, then the connection user must have the SELECT ANY DICTIONARY privilege for the Forms2ADF generator to succeed.

Connection: + ✎ 🔍

User Name: ocm
Driver: oracle.jdbc.OracleDriver
Connect String: jdbc:oracle:thin:@localhost:1521:orcl

Help < Back Next > Finish Cancel

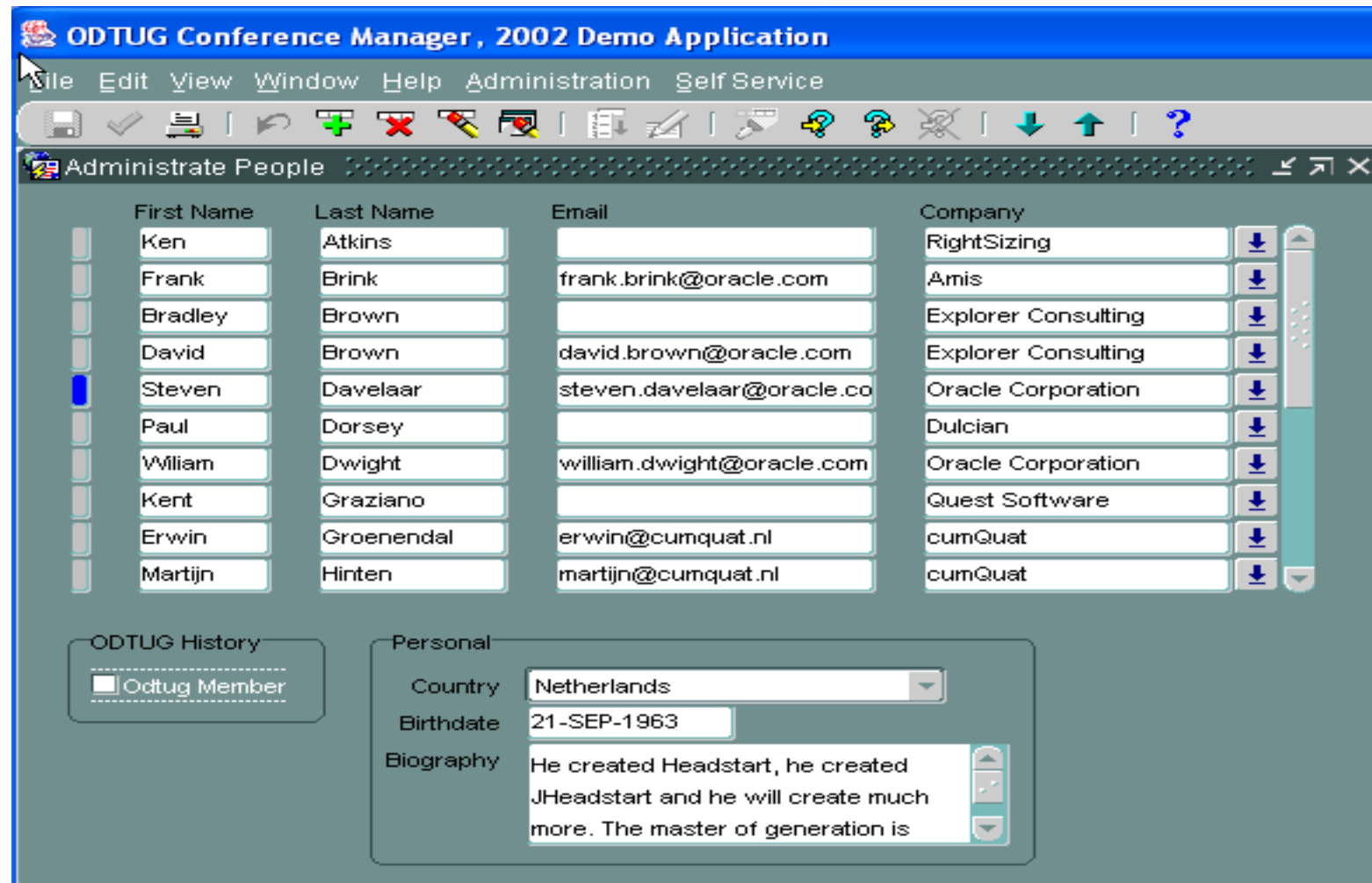
Check the Application Definition Run the JHeadstart Application Generator – READY!





Sample Generated Pages

Oracle Forms Screen



JHeadstart Generated ADF/JSF Page

ORACLE JHeadstart Demo

Home Administration SelfService

Administrate Conference Tracks | Administrate Companies | Administrate Conference Rooms | Administrate Evaluation Questions | **Administrate People**

Administrate People Save Cancel

Filter By: First Name Advanced Search

Action View Format + Freeze Detach Wrap

	First Name	Last Name	Email	Company
	Ken	Atkins		cumQuat
	Frank	Brink	frank.brink@oracle.com	Oracle Corporation
	Bradley	Brown		Explorer Consulting
	David	Brown	david.brown@oracle.com	Oracle Corporation
	Steven	Davelaar	steven.davelaar@oracle.com	Oracle Corporation
	Paul	Dorsey		Oracle Corporation
	William	Dwight	william.dwight@oracle.com	Explorer Consulting
	Kent	Graziano		Quest Software
	Erwin	Groenendal	erwin@cumquat.nl	cumQuat
	Martijn	Hinten	martijn@cumquat.nl	cumQuat

ODTUG History
OdtugMember

Personal
Country: Netherlands
Birthdate: 21-Sep-1963
Biography: He created Headstart, he created JHeadstart and he will create much more.

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Oracle Forms Screen

The screenshot shows the Oracle Forms application window titled "ODTUG Conference Manager, 2002 Demo Application". The menu bar includes "File", "Edit", "View", "Window", "Help", "Administration", and "Self Service". The toolbar contains various icons for file operations and navigation. The main form is titled "Submit Presentations for ODTUG 2002" and contains the following fields and sections:

- Title:** CDM RuleFrame: the framework for analysing, designing and implementing business rules
- Technology Track:** Oracle Forms Developer
- Keywords:** business rules, design, j2ee, html, forms, eee
- Presentation Level:** Novice
- Abstract:** Business Rules are key. Multiple technologies (Java/J2ee/HTML, Forms, Portal) used to build applications that act on the same data.
- Schedule:** Administration tab selected. Room: Capri, Slot: 2.00 -3.00 PM, Day: Wednesday 19th June.
- Presenters:** A table with columns for First Name, Last Name, Primary presenter?, and Demonstrator?.

First Name	Last Name	Primary presenter?	Demonstrator?
Steven	Davelaar	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Lucas	Jellema	<input type="checkbox"/>	<input type="checkbox"/>
		<input type="checkbox"/>	<input type="checkbox"/>

Record: 1/2 ... <OSC>

JHeadstart Generated ADF/JSF Page

The screenshot displays the Oracle JHeadstart Demo application interface. The top navigation bar includes 'Home', 'Administration', and 'SelfService'. Below this, there are tabs for 'Submit Presentations', 'Presentation Scheduler', 'Presentation Evaluations', and 'Conference Attendance Management'. The main content area is titled 'Presentations' and features a search bar with 'Filter By' set to 'Title'. The search results show a presentation with the following details:

- * Title: CDM RuleFrame: the framework for analysing, designing and implementing business rules
- * Technology Track: 16
- Keywords: business rules, design, j2ee, html, forms, eee
- * Presentation Level: Novice
- Abstract: Business Rules are key. Multiple technologies (Java/J2ee/HTML, Forms, Portal) used to build applications that act on the same data.

Below the presentation details, there is a 'Schedule' section with a sub-tab 'Administration'. It includes fields for 'Room' (Capri), 'Slot' (2.00 -3.00 PM), and 'Day' (Wednesday 19th June).

The 'Presenters' section contains a table with the following data:

Action	View	Format	+	Freeze	Detach	Wrap	First Name	Last Name	Primary presenter?	Demonstrator?
							Lucas	Jellema	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
							Steven	Davelaar	<input type="checkbox"/>	<input type="checkbox"/>

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Oracle Forms Screen

The screenshot displays the Oracle Forms application window titled "ODTUG Conference Manager, 2002 Demo Application". The main form is titled "Submit Presentations for ODTUG 2002" and contains the following fields:

- Title: CDM RuleFrame: the framework for analysing, designing and implementing business rules
- Technology Track: Oracle Forms Developer
- Keywords: business rules, design, j2ee, html, forms, eee
- Presentation Level: Advanced
- Abstract: Business Rules are key. Multiple technologies (Java/J2ee/HTML, Forms, Portal) used to build applications that act on the same data.

The "Administration" tab is active, showing a "Room" dropdown set to "Roman Ballroom Salon II", a "Slot" dropdown set to "2.00 -3.00 PM", and a "Day" dropdown set to "Wednesday 19th June".

Below the schedule section is a "Presenters" table:

First Name	Last Name	Primary pres
Steven	Davelaar	<input checked="" type="checkbox"/>
Lucas	Jellema	<input type="checkbox"/>
		<input type="checkbox"/>

A "Conference Rooms" dialog box is open, showing a search field "Find %" and a list of room names. The "Pompeian Ballroom Salon I&II" is selected in the list. The dialog box includes "Find", "OK", and "Cancel" buttons.

JHeadstart Generated ADF/JSF Page

The screenshot displays the Oracle JHeadstart Demo application interface. The main page is titled "ORACLE JHeadstart Demo" and has navigation tabs for "Home", "Administration", and "SelfService". The "Administration" tab is active, showing a "Presentations" section with a "Filter By" dropdown set to "Title". Below this, there are input fields for "Title" (containing "CDM RuleFrame: the F..."), "Technology Track" (16), "Keywords" (business rules, design...), "Presentation Level" (Novice), and "Abstract" (Business Rules are key that act on the same c...).

The "Schedule" section shows "Room" (Capri), "Slot" (2.00 -3.00 PM), and "Day" (Wednesday 19th June). Below this is a "Presenters" table with columns for "Action", "View", "Format", "First Name", and "Last Name". The table contains two rows: one for "Lucas Jellema" and one for "Steven Davelaer".

A "Search and Select Room" dialog box is overlaid on the page. It has a title bar with a close button. The dialog contains a "Search" section with a "Match" radio button group (All selected, Any unselected) and input fields for "Id" and "Name". There are "Search" and "Reset" buttons. Below the input fields is a list of room names: Roman Ballroom Salon I, Florentine Ballroom, Pompeian Ballroom Salon I&II, Anzio, Turin, Trevi (highlighted), Capri, Pompeian Ballroom Salon III&IV, Roman Ballroom Salon II, Roman Ballroom Salon III, Roman Ballroom Salon IV, and Bathroom. At the bottom of the dialog are "OK" and "Cancel" buttons.

Oracle Forms Screen

ODTUG Conference Manager, 2002 Demo Application

File Edit View Window Help Administration Self Service

Presentation Scheduler

Title	Slot	Day
CDM RuleFrame: the framework for analysing, design	2.00 -3.00 PM	Wednesday 19th J...
Forms Tuning Techniques -- Users Will Sing Praise	2.00 -3.00 PM	Wednesday 19th J...
High Performance Web Sites with Web Cache	3.15 -4.15 PM	Tuesday 18th June
How the west was won - Oracle Designer makes it		Monday 17th June
Implementing Business Rules in Business Componen	4.45 -6.15 PM	Wednesday 19th J...
Java Race: Case Study Comparing the Performance	8.30-9.30 AM	Monday 17th June
Java/J2EE Application Development with Oracle Desi	11.00-12.30...	Wednesday 19th J...
Migrate to the Web with Oracle9i Designer	3.15 -4.15 PM	Monday 17th June

Room: Roman Ballroom Salon Technology: Oracle Forms Developer Level: Advanced

Track

Details

Abstract: Business Rules are key. Multiple technologies (Java/J2ee/HTML, Forms, Portal) used to build applications that act on the same data.

Keywords: business rules, design, j2ee, html, forms, eee

Oracle Presentation?

Audience Presenters Ambass...

JHeadstart Generated ADF/JSF Page

The screenshot shows the Oracle JHeadstart Demo interface, specifically the Presentation Scheduler. The page has a blue header with the Oracle logo and the text "ORACLE JHeadstart Demo". Below the header is a navigation bar with tabs for "Home", "Administration", and "SelfService". Under "SelfService", there are links for "Submit Presentations", "Presentation Scheduler", "Presentation Evaluations", and "Conference Attendance Management".

The main content area is titled "Presentation Scheduler" and includes a "Filter By" dropdown set to "Title" and an "Advanced Search" button. There are "Save" and "Cancel" buttons in the top right. Below the search area is a toolbar with "Action", "View", and "Format" dropdowns, along with icons for "+", "Freeze", "Detach", and "Wrap".

The central part of the interface is a table with the following columns: * Title, Slot, and Day. The table contains several rows of presentation entries:

* Title	Slot	Day
CDM RuleFrame: the framework for analysing, designir	2.00 -3.00 PM	Wednesday 19th June
Forms Tuning Techniques -- Users Will Sing Praise	2.00 -3.00 PM	Wednesday 19th June
High Performance Web Sites with Web Cache	3.15 -4.15 PM	Tuesday 18th June
Implementing Business Rules in Business Components f	4.45 -6.15 PM	Wednesday 19th June
Java Race: Case Study Comparing the Performance of	8.30-9.30 AM	Monday 17th June
Java/J2EE Application Development with Oracle Design	11.00-12.30 I	Wednesday 19th June
Migrate to the Web with Oracle9i Designer	3.15 -4.15 PM	Monday 17th June
Mom, I'am in Vegas - Business Intelligence for the millio		Monday 17th June

Below the table, there are input fields for "Room" (Anzio), "* Technology Track" (23), and "* Level" (Intermediate). A "Details" section is visible below, containing an "Abstract" text area with the text: "For developing batch processing applications, both PL/SQL and Java can be used. For both languages a number of technical setups is possible, including native compilation. This", a "Keywords" text area with the text: "java,pl/sql,performance,batch", and a checked "OraclePresentation" checkbox. At the bottom of the details section are buttons for "Audience", "Presenters", and "Ambassadors".

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What about PL/SQL Logic?

- Custom PL/SQL Logic not automatically migrated to Java
- JHeadstart prefers sound multi-tier target architecture (ADF MVC) above automated PL/SQL migration
 - Analyze the logic
 - Determine in which tier(s) it should be implemented
 - Determine how to implement it
- Application Definition Editor shows form, block, item triggers program units
 - Good overview of all custom PL/SQL logic
 - Ability to move logic to database, to ADF BC or to JSF managed beans

PL/SQL Code in Appl. Definition Editor as documentation

The screenshot displays the Oracle Application Definition Editor (ADE) interface. On the left, a tree view shows the project structure for 'OCMDemo', including folders for 'Ocm0010Tracks', 'Ocm0050People', 'Items', 'CgSpa1', 'Detail groups', and 'PL/SQL'. Under 'PL/SQL', a folder named 'Program Units' contains several files, with 'CGFK\$QRY_PEOPLE_PSN_CPY_FK' selected and highlighted in blue.

The main editor area on the right shows the 'General' properties for the selected program unit. The 'Name' is 'CGFK\$QRY_PEOPLE_PSN_CPY_FK' and the 'Program Unit Type' is 'Procedure'. Below the properties, the PL/SQL code is displayed in a text area:

```
/* CGFK$QRY_PEOPLE_PSN_CPY_FK */  
/* Query foreign key value/query lookup data. */  
PROCEDURE CGFK$QRY_PEOPLE_PSN_CPY_FK(  
  P_L_CPY_NAME      OUT VARCHAR2, /* Value in item :PEOPLE.L_CPY_  
  P_ID_WORKS_FOR    IN  NUMBER    /* Value in item :PEOPLE.ID_WOR  
)  
IS  
  CURSOR C1 IS  
    SELECT L_CPY.NAME  
    FROM   OCM_COMPANIES L_CPY  
    WHERE  P_ID_WORKS_FOR = L_CPY.ID  
  ;  
  CURSOR C2 IS  
    SELECT L_CPY.NAME  
    FROM   OCM_COMPANIES L_CPY  
    WHERE  P_ID_WORKS_FOR = L_CPY.ID  
  ;  
BEGIN  
  IF /
```

At the bottom of the editor, there are buttons for 'Revert', 'Apply', 'Help', 'Apply', 'OK', and 'Cancel'. The 'Properties' and 'Templates' tabs are visible at the bottom of the editor area.

Forms2ADF Generator - Benefits

- Auto-created ADF Business Components with model-based LOV's, UI Hints
- Migrates Forms user interface to metadata, not application code!
 - Easy to redesign into task-oriented web 2.0 user interface.
- Forms2ADF provides most savings for forms with
 - Standard data blocks based on table or view
 - Complex user interface: many (stacked) canvasses, tabs, LOV's, other display types
 - PL/SQL logic mostly limited to user interface dynamics
- Automatically implements best Practice ADF architecture

JHeadstart Superior Productivity – In Many Ways

- Saves you months to figure out ADF best practices
- Saves you months with ready-to-use reusable components
- Maximizes reuse
- Facilitates agile development
 - Start with generating functional prototypes that evolve into working system
- Eases upgrade to new JDeveloper releases
 - Technology-agnostic metadata layer!

A woman with long brown hair and glasses is sitting at a wooden table in a bright, modern office or cafe. She is wearing a brown leather jacket over a blue patterned scarf. She is holding a black mobile phone to her ear with her left hand and looking down at a document on the table with her right hand. The background is slightly blurred, showing other people and large windows.

Forms2ADF Case Studies

Finland - Financial Institution

- Customer Impressed with Added Value ADF and JHeadstart
 - Dynamic form rebuilt in ADF in three hours with much cleaner architecture
 - Polling requirement: 15 minutes work with standard ADF Faces components
 - ADF Business Components well suited to reuse existing SQL statements
 - Reuse capabilities of ADF task flows
 - Clean MVC architecture
- Customer strongly considers to move to ADF and JHeadstart, has to do strategic thinking first!

Netherlands - ISV

- Why Forms2ADF
 - Wants to add self service capabilities to core app
 - Wants modern user interface
- Architecture Forms App
 - Complex user interface, many tabs, many items on canvas
 - Standard data retrieval and manipulation
 - Most business logic in database
- Added Value JHeadstart Forms2ADF Generator
 - Business Components auto-created based on forms definitions
 - 1 form resulted in 162 business components
 - Migrated metadata strongly modified to generate new user interface

Netherlands – Government IT Department

- Why Forms2ADF
 - Forms 4.5 and DB 8.1.7 no longer supported
 - High maintenance cost, System integration difficult because of old/obsolete technology
 - Character-based user interface, end users complain
 - Hard to find resources skilled with older Forms versions
- Architecture Forms App
 - Character-based 24*80 screens
 - Standard data retrieval and manipulation
 - Most business logic in forms
- Added Value JHeadstart Forms2ADF Generator
 - Business Components auto-created, including UI labels derived from boilerplate text
 - Migrated screens generated with minor changes to metadata

Netherlands – Government IT Department

- Migrated ADF prototype used to create enthusiasm and gain credibility in organisation
- Existing Forms developers keen to learn ADF
- JHeadstart Migration Estimating Utility generates excel sheet with estimates based on forms characteristics
 - Used to provide insight in total migration effort

Forms2ADF - Recommendations

- Think Big - Start Small
- Make a roadmap for your Forms app
 - Review Architecture of your Forms app
 - Review Business and Functional requirements
 - How does it fit in your overall IT landscape
- Start Forms to Oracle ADF Assessment / Proof of Concept
- Start SOA Maturity Assessment

JHeadstart – Next Steps

- Get more info at “JHeadstart Product Center” (google):
 - Developer’s guide, Tutorial
 - Online Forms2ADF demonstrations
 - Frequently asked questions
- Evaluate JHeadstart
 - JDeveloper Help -> Check for Updates -> Open Source and Partner Extensions
 - Do the tutorial
 - Start Forms2ADF Assessment
- Buy JHeadstart
- Ask additional questions at OTN JHeadstart Discussion Forum or email idevcoe_nl@oracle.com

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