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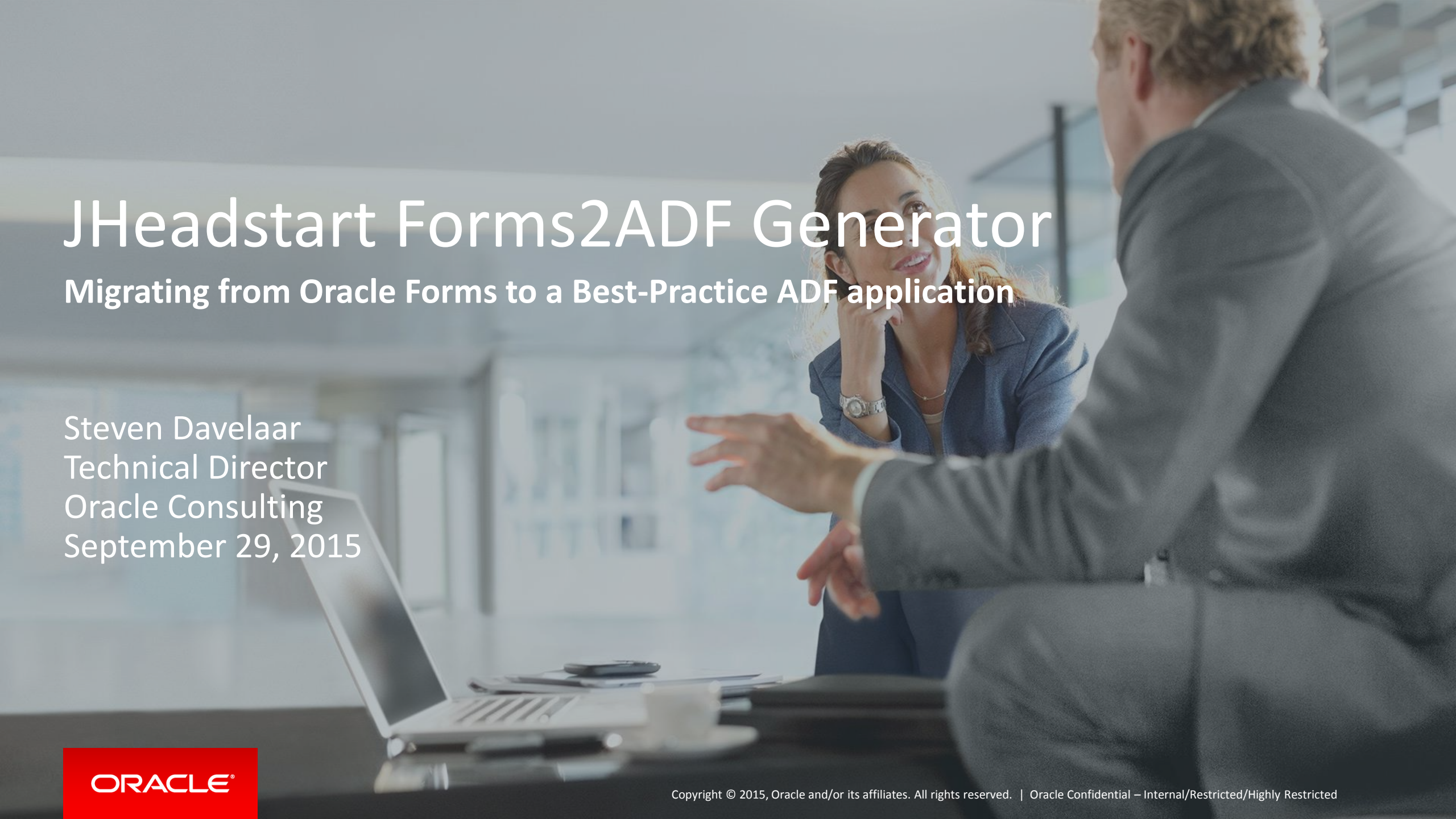

JHeadstart Forms2ADF Generator

Migrating from Oracle Forms to a Best-Practice ADF application

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September 29, 2015

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Agenda

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

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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

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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 Framwork (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

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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

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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

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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

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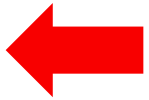
JHeadstart – Main Components

- 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

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Forms2ADF Migration Process

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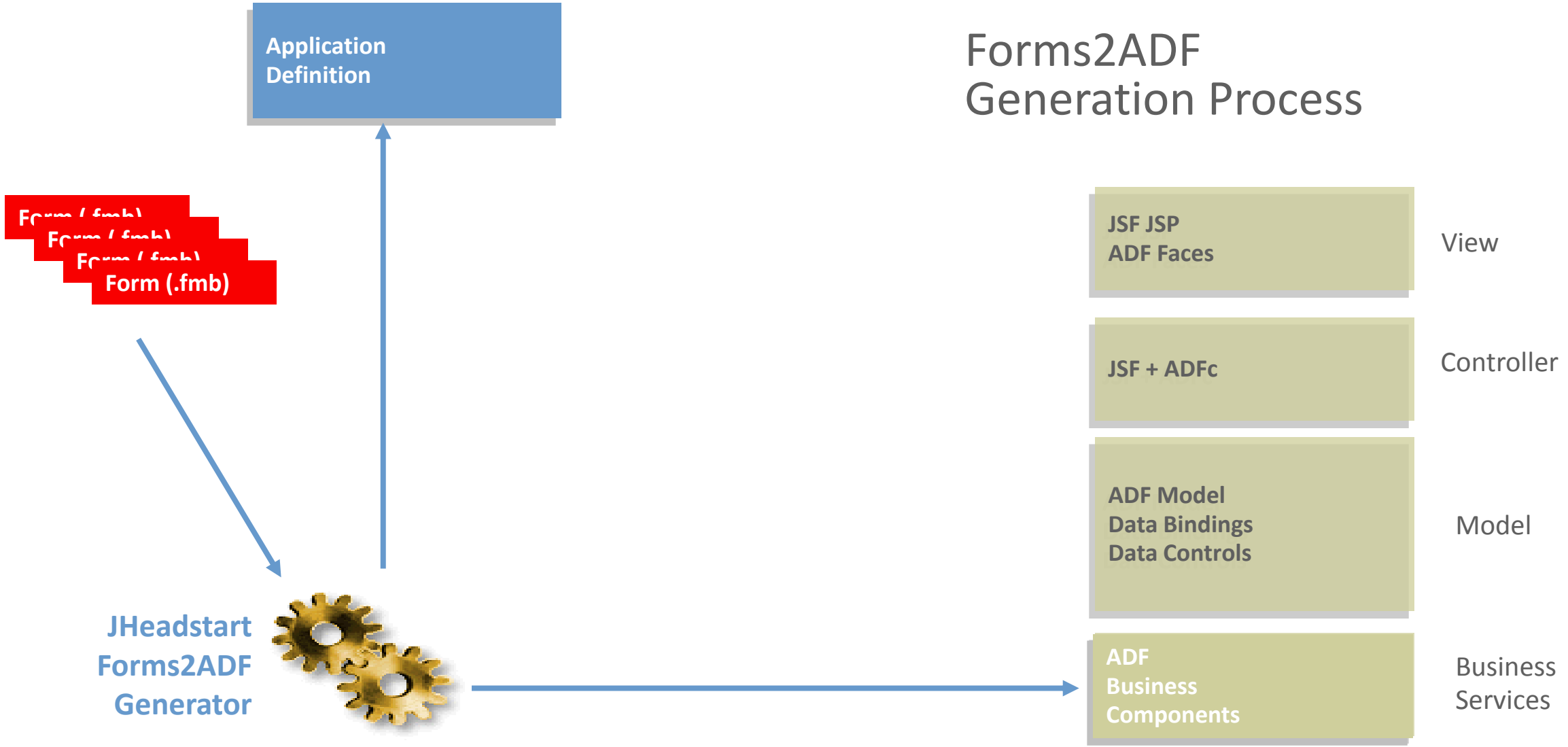
Forms2ADF Generation Process



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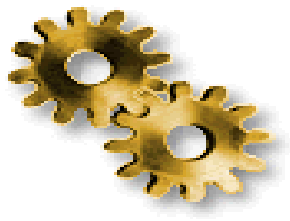
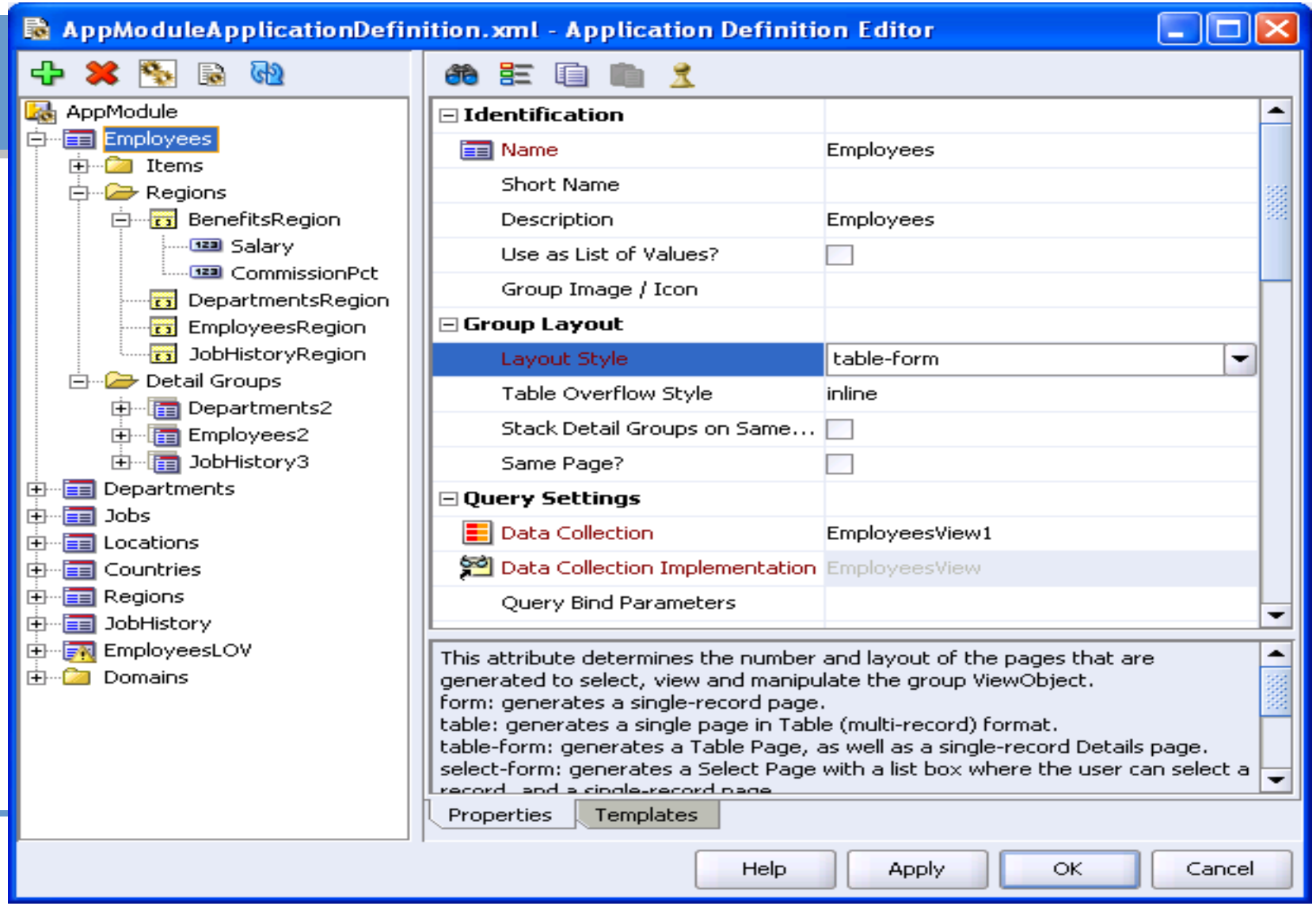
Application Definition

Form (.fmb)

JHeadstart Forms2ADF Generator





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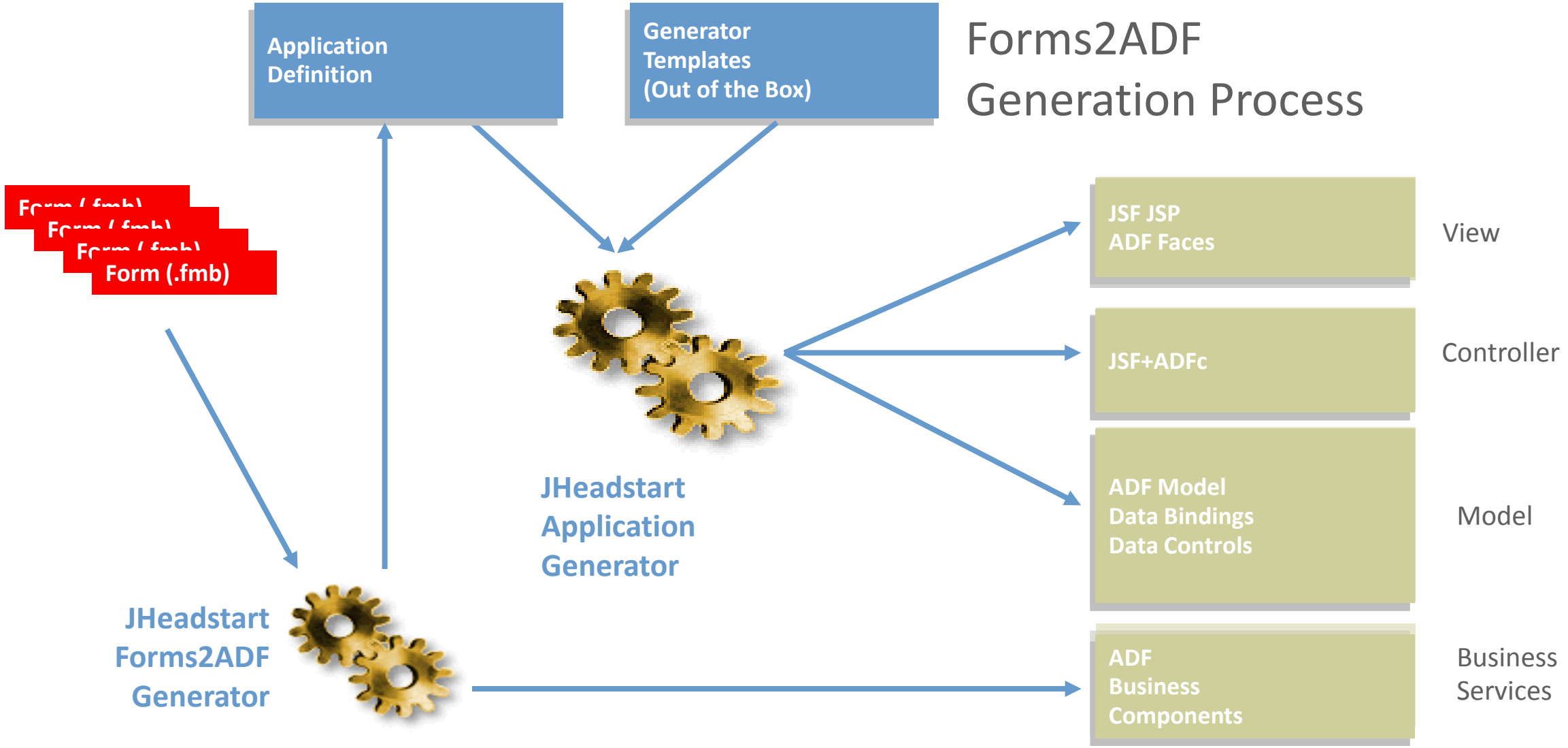
Forms2ADF Generation Process



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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

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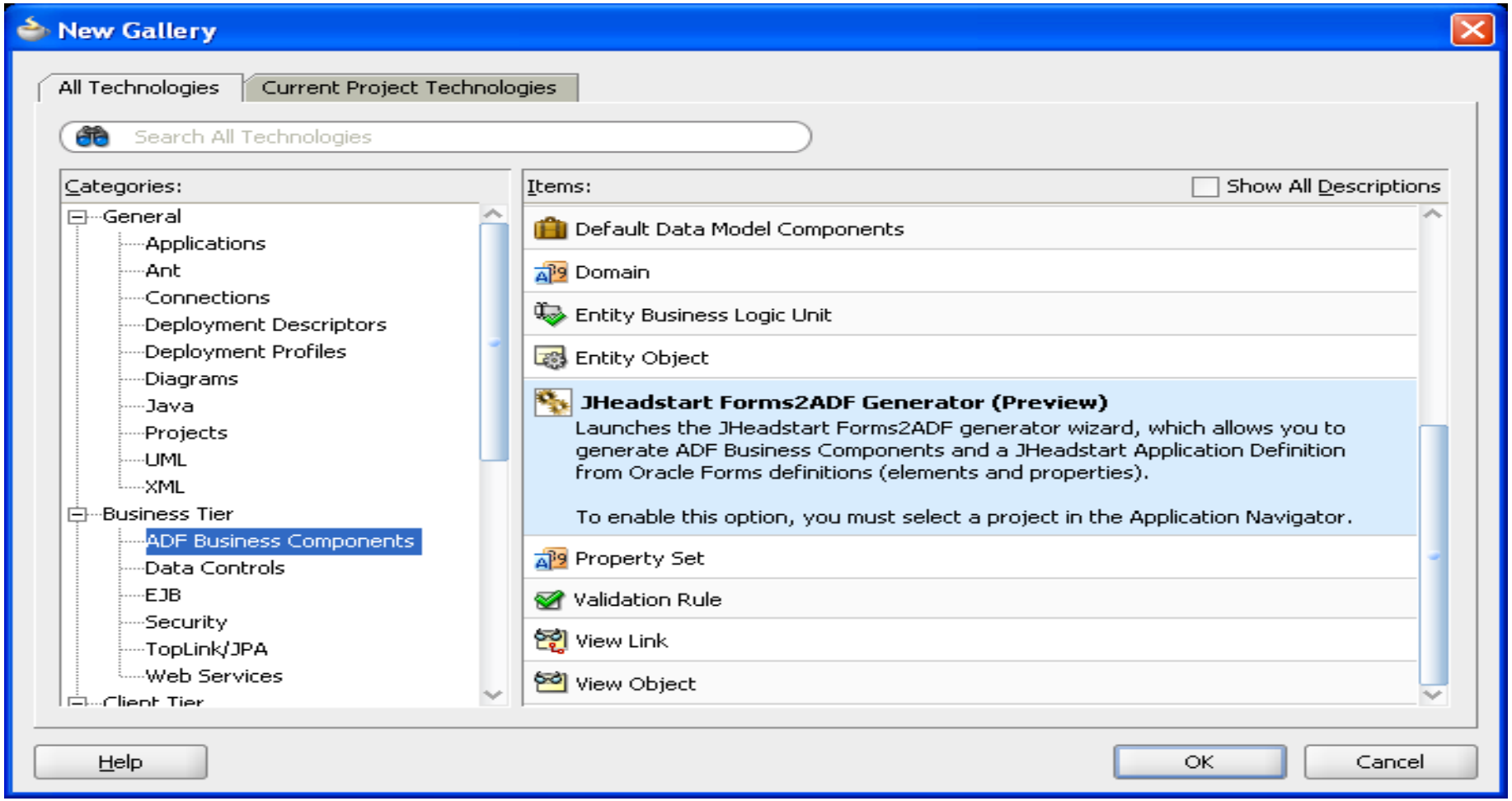
In JDeveloper
Run the Forms2ADF Generator



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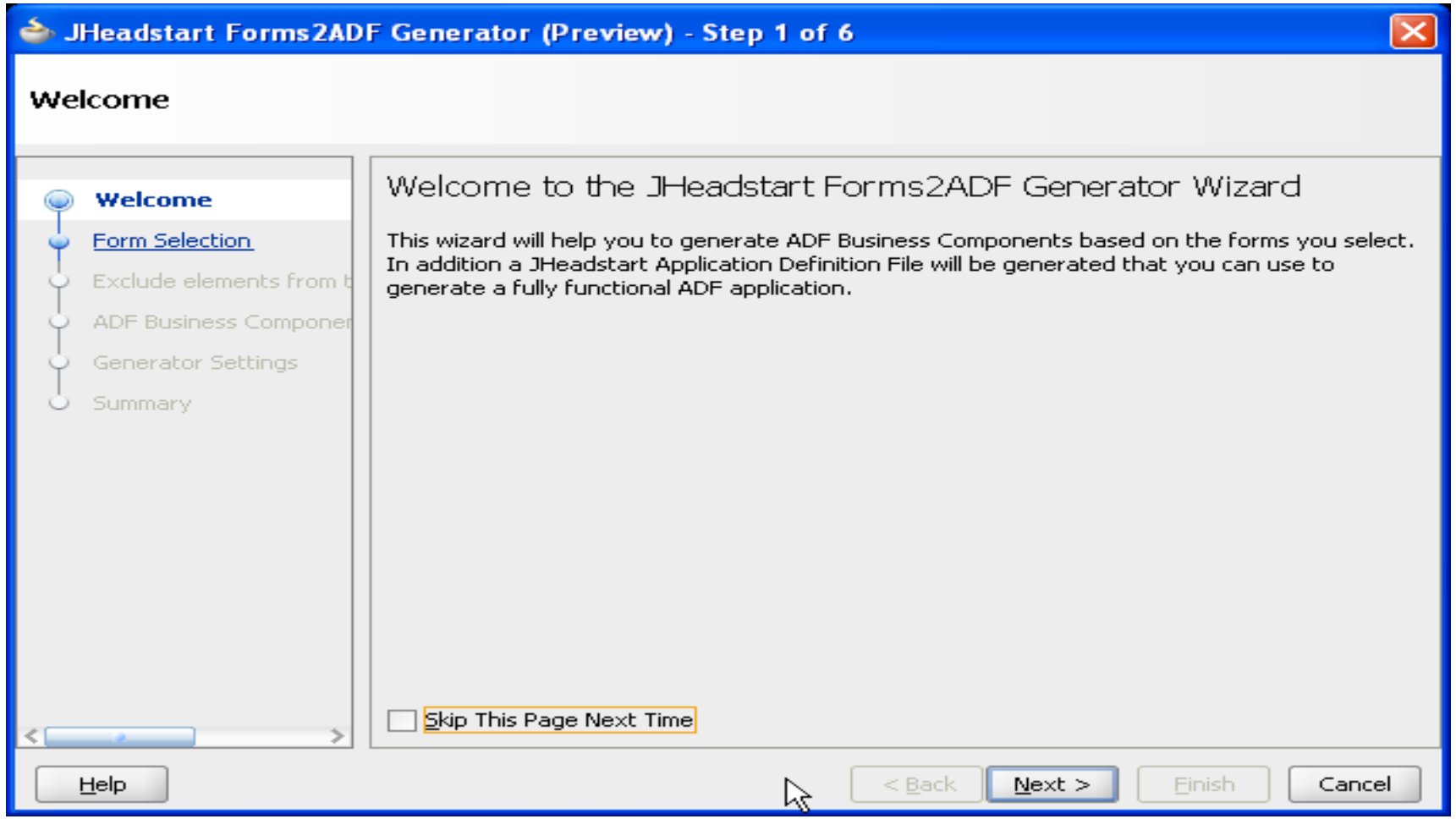
Start the Forms2ADF Wizard



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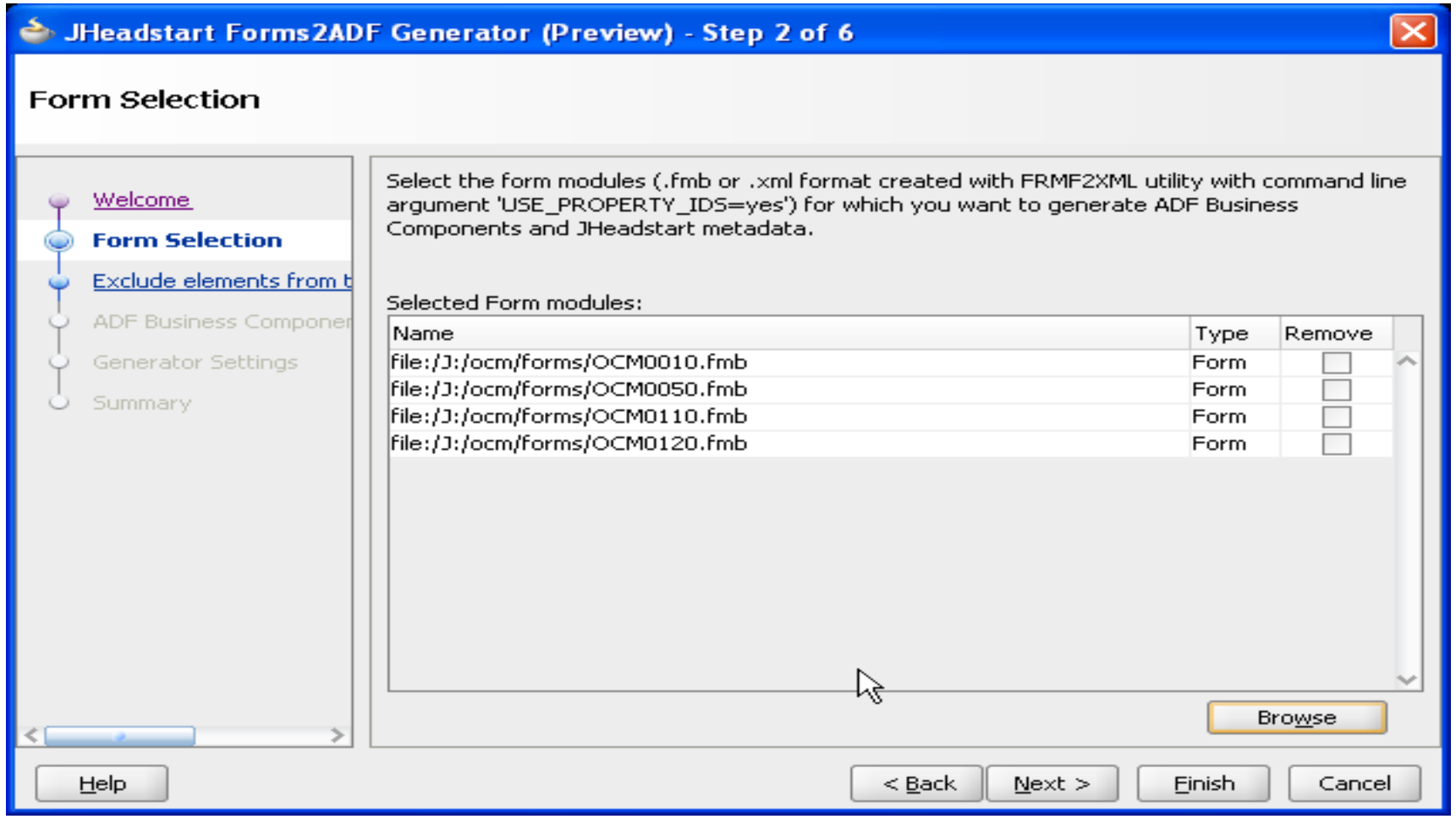
Select the Forms to be migrated to ADF



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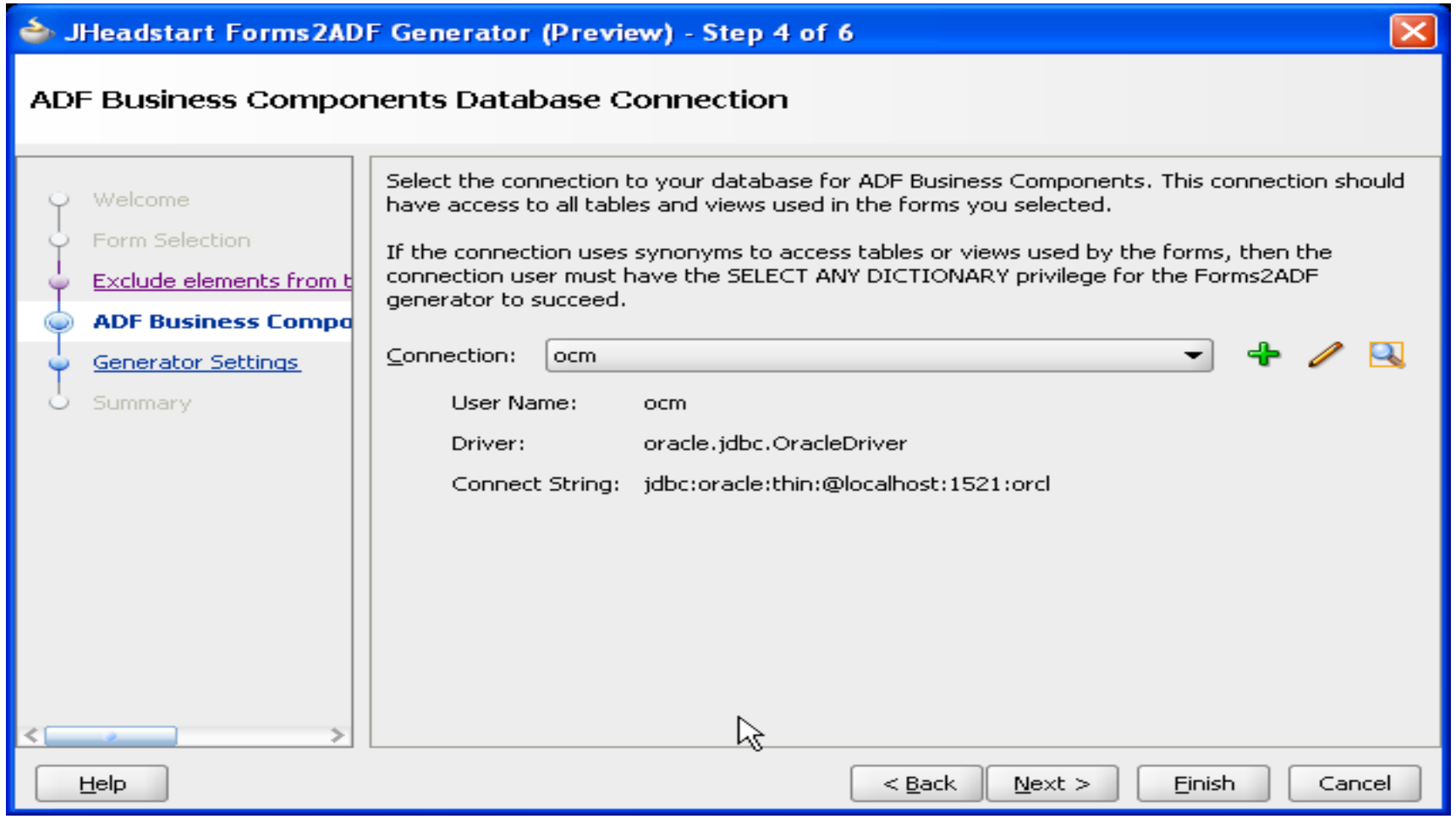
Connect to the Database and Finish



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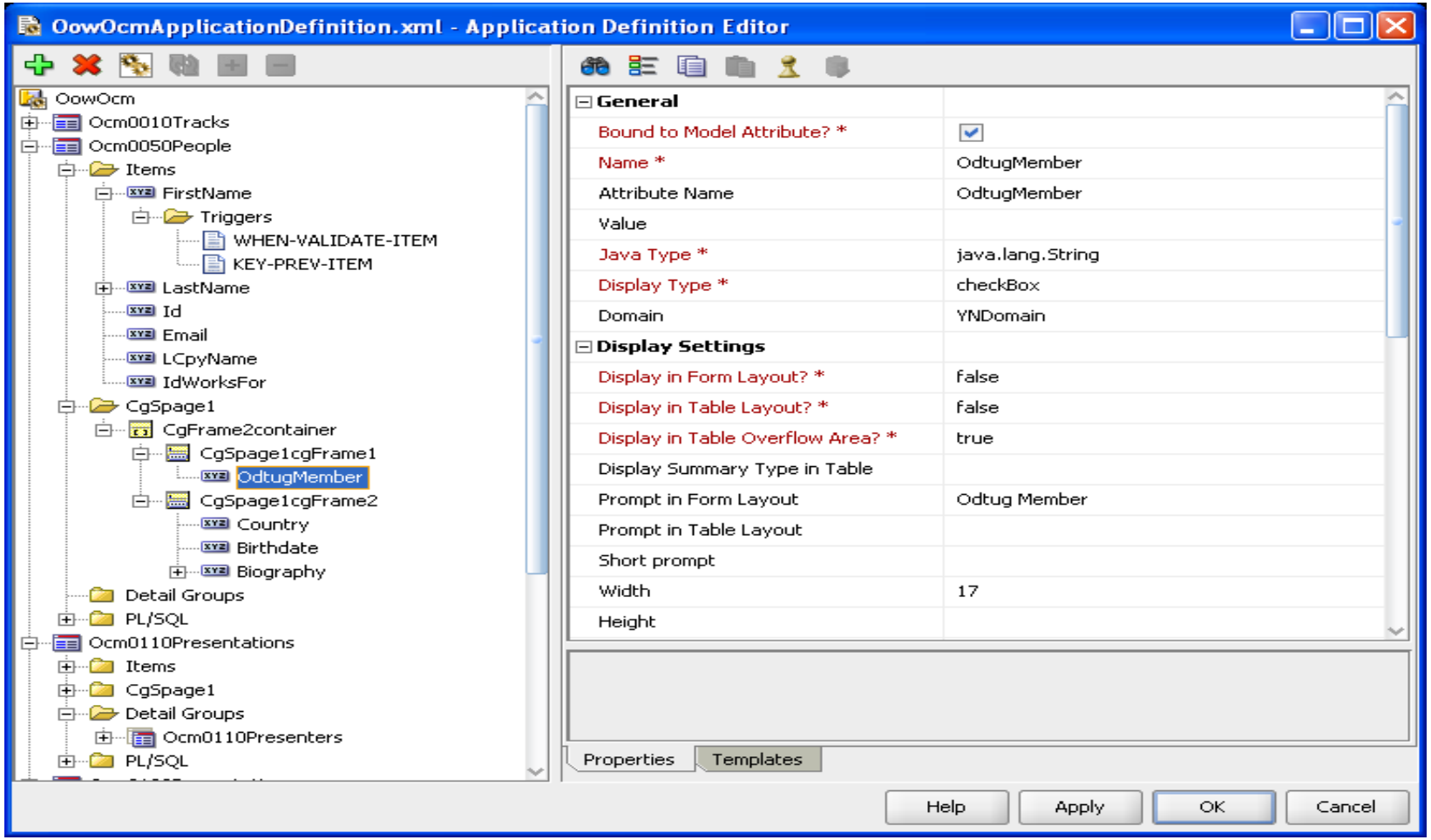
Check the Application Definition
Run the JHeadstart Application Generator – READY!



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Sample Generated Pages

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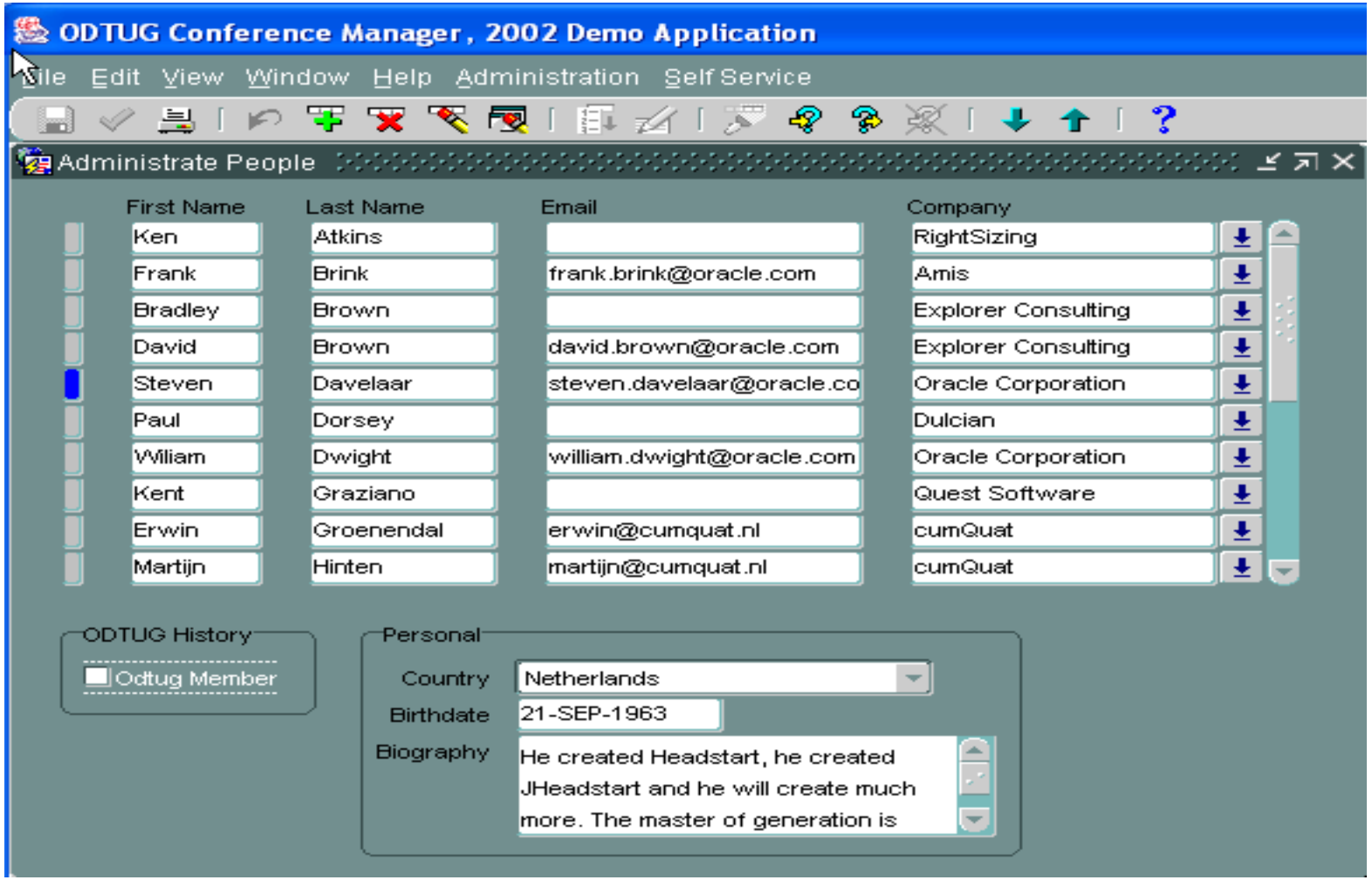
Oracle Forms Screen



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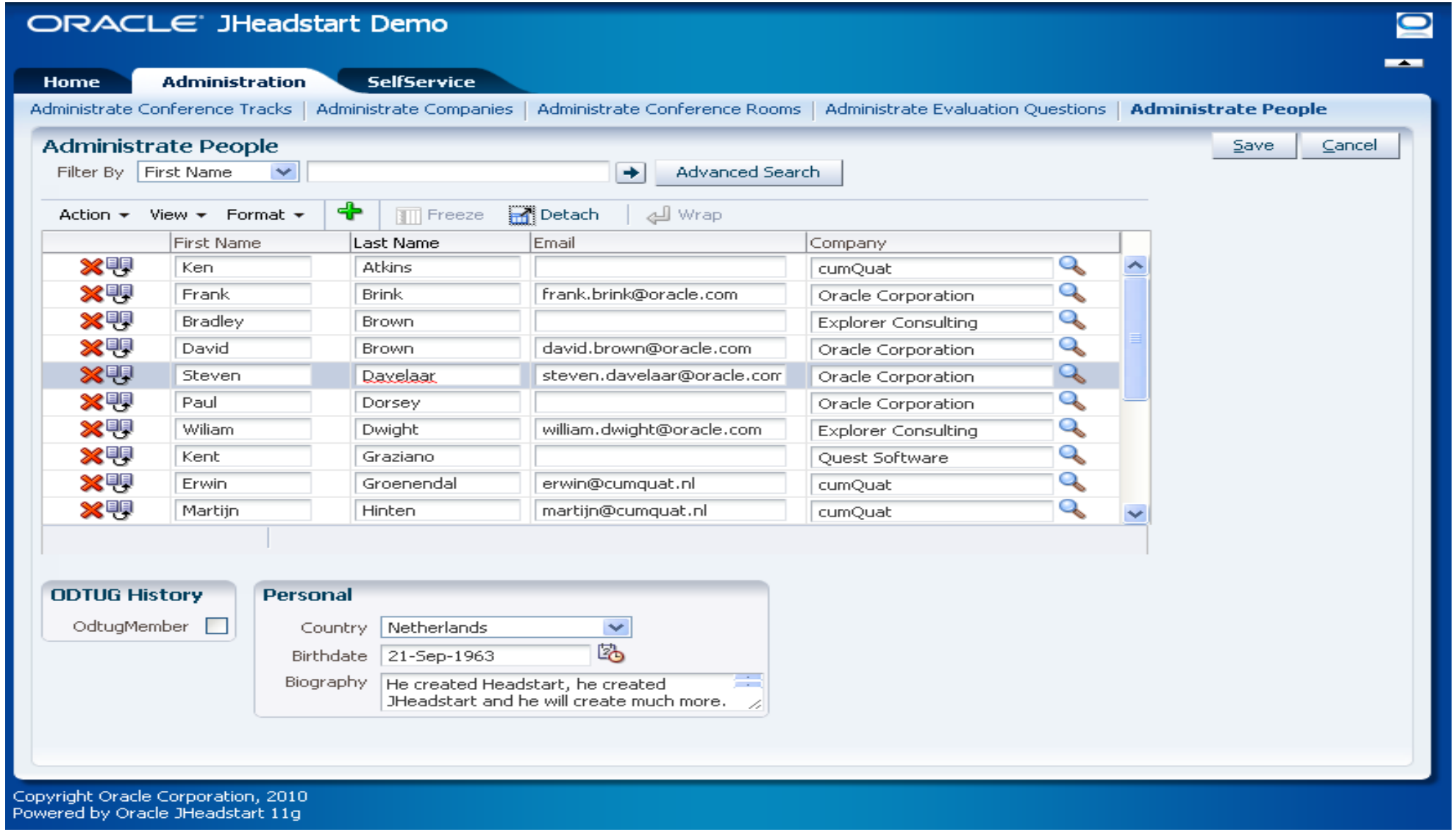

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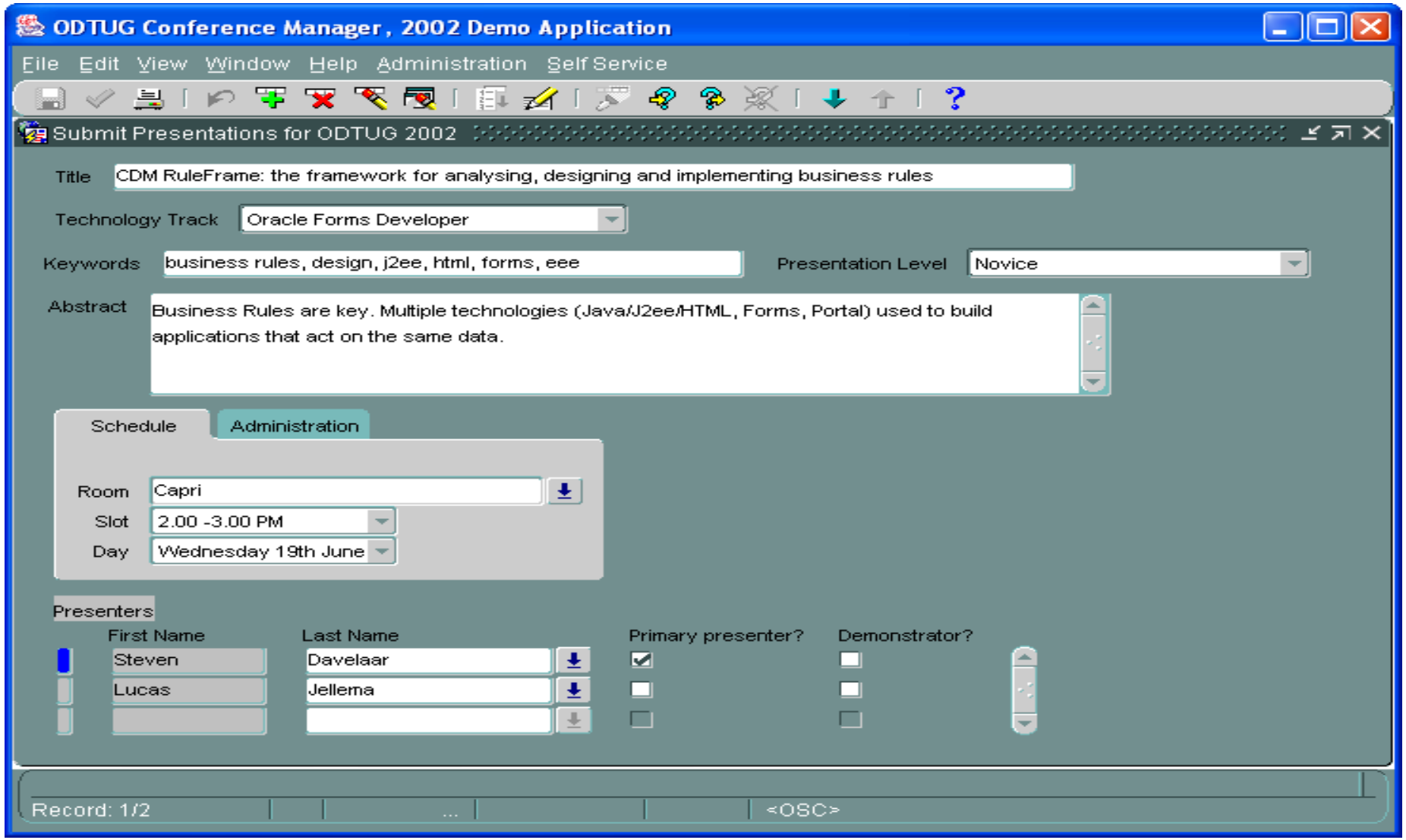
Oracle Forms Screen



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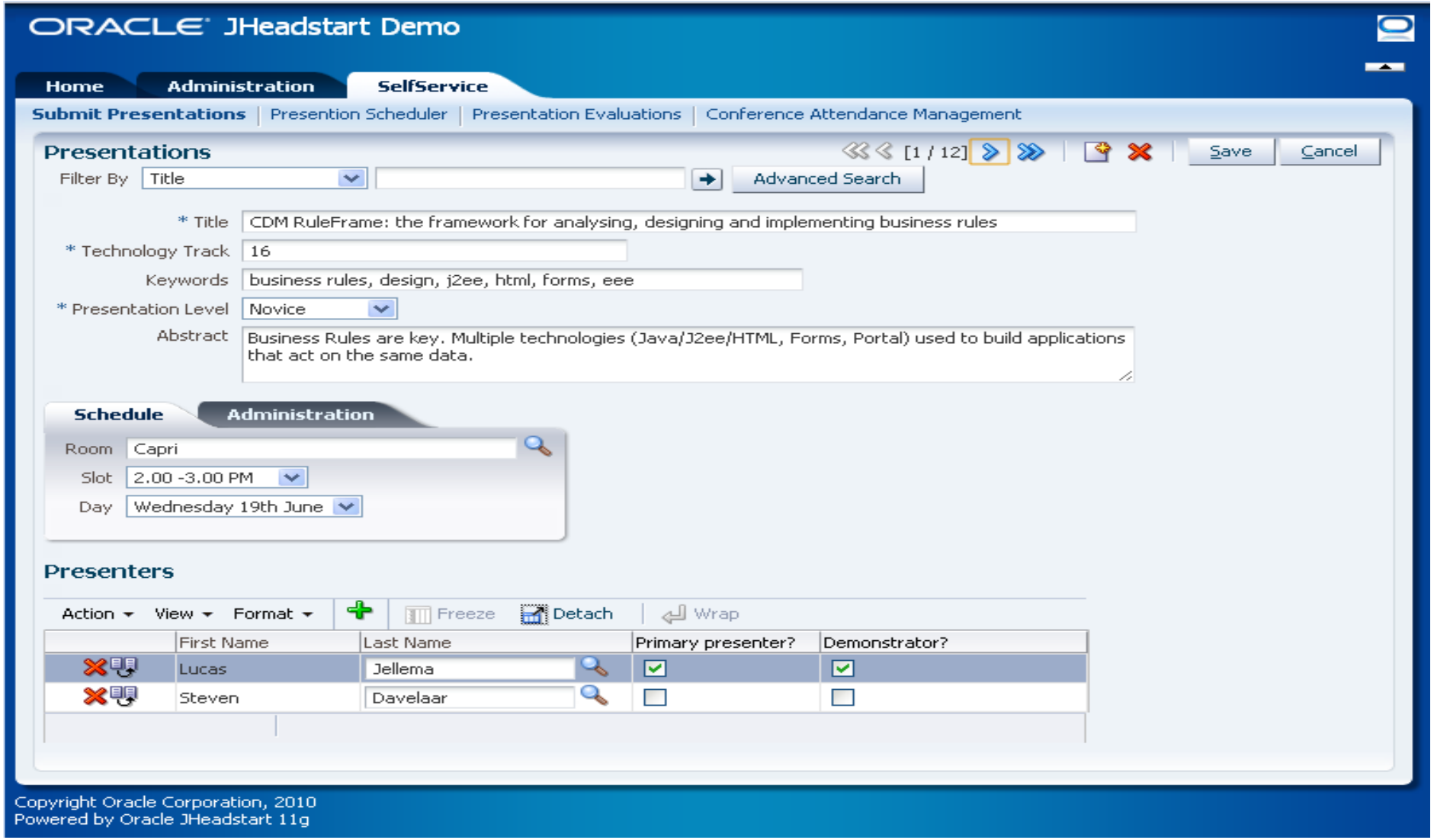

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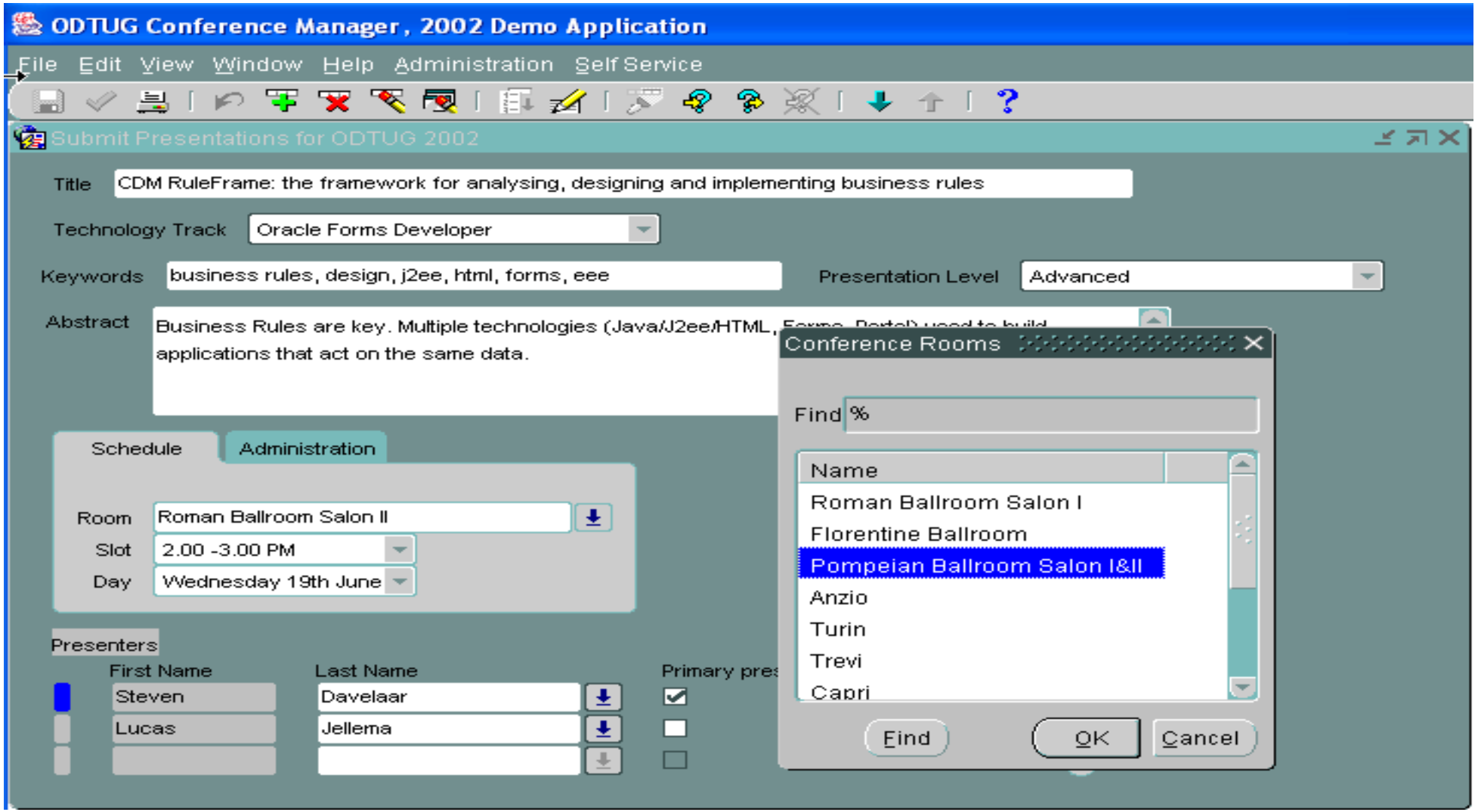

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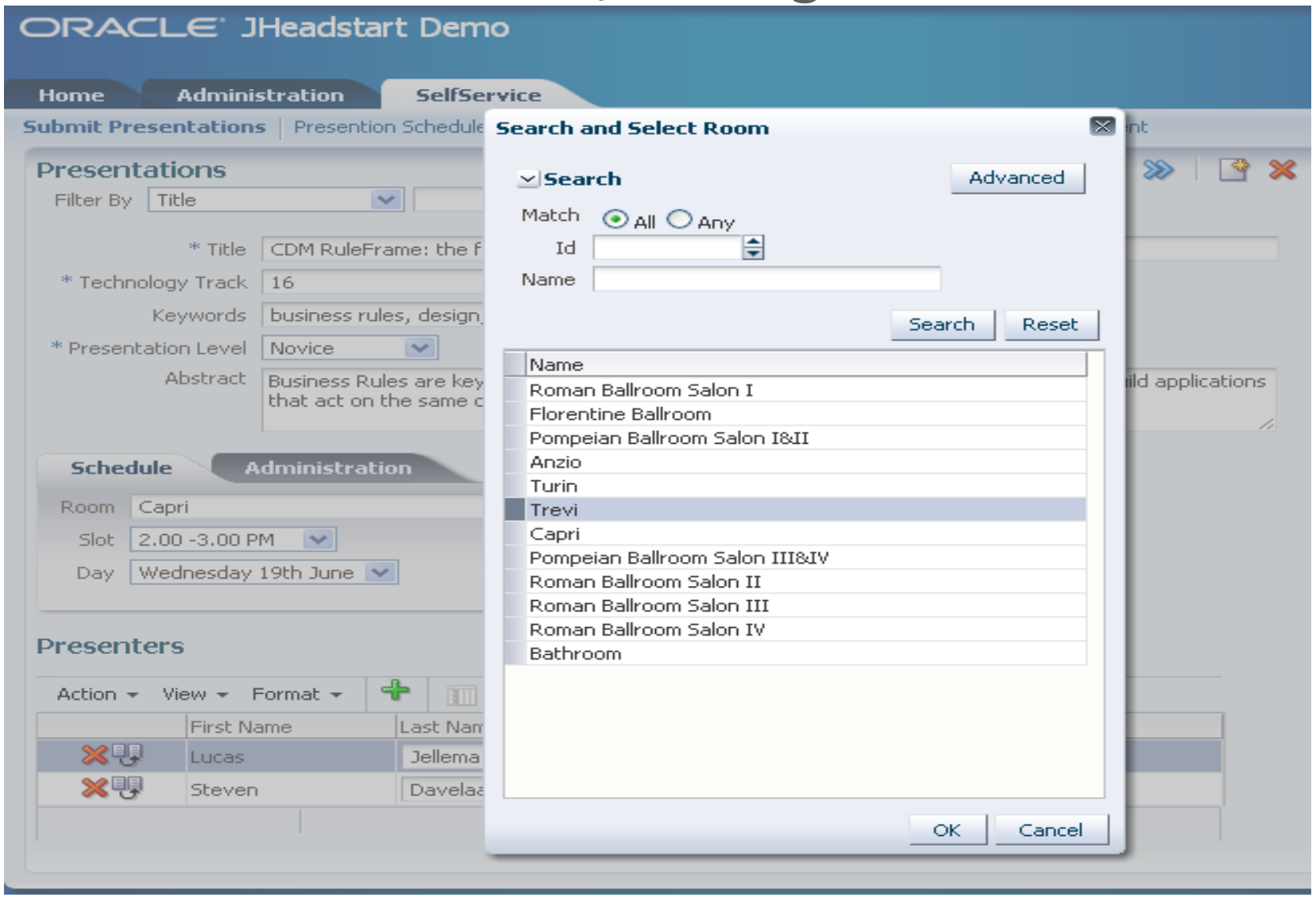

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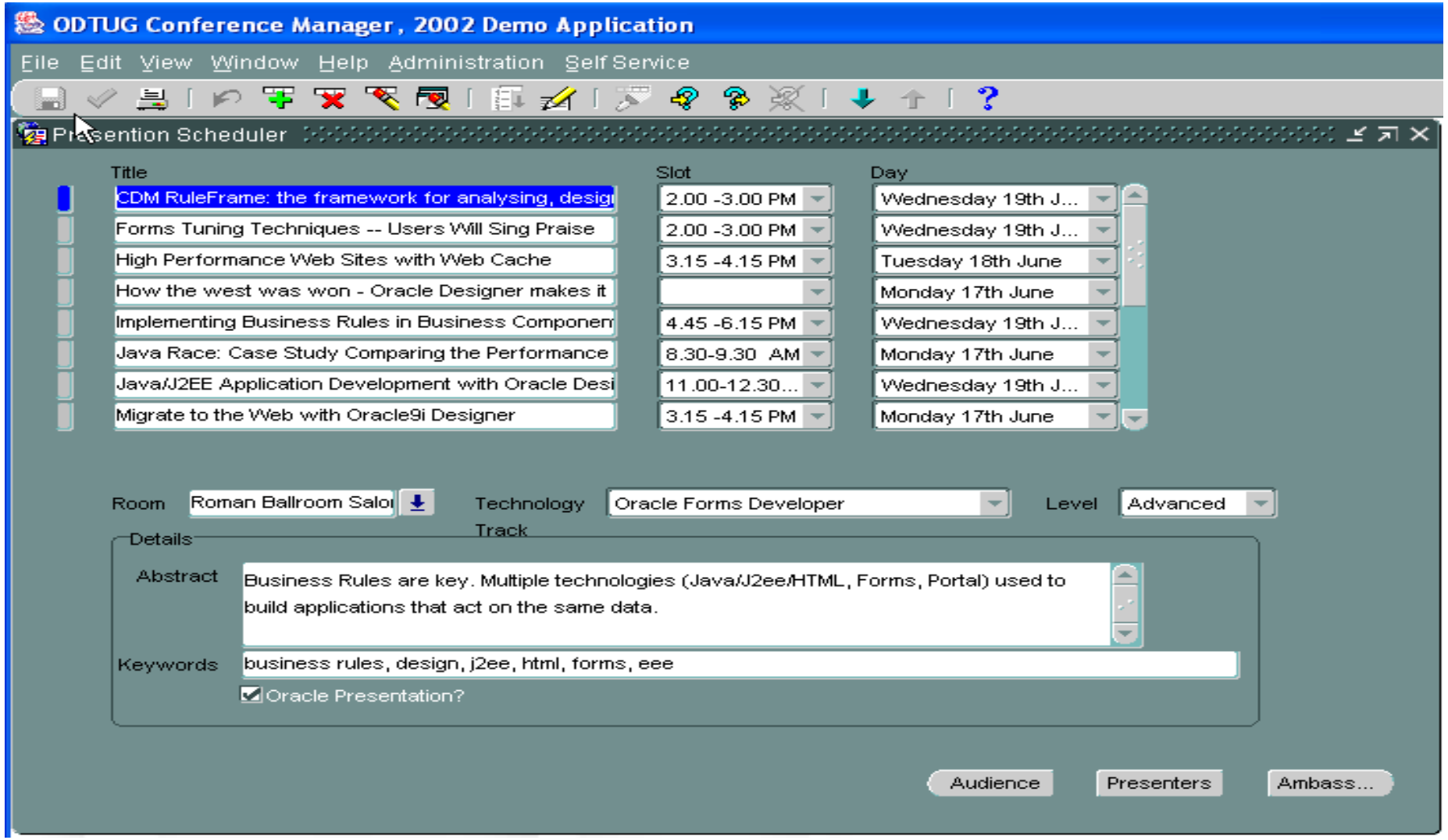
Oracle Forms Screen



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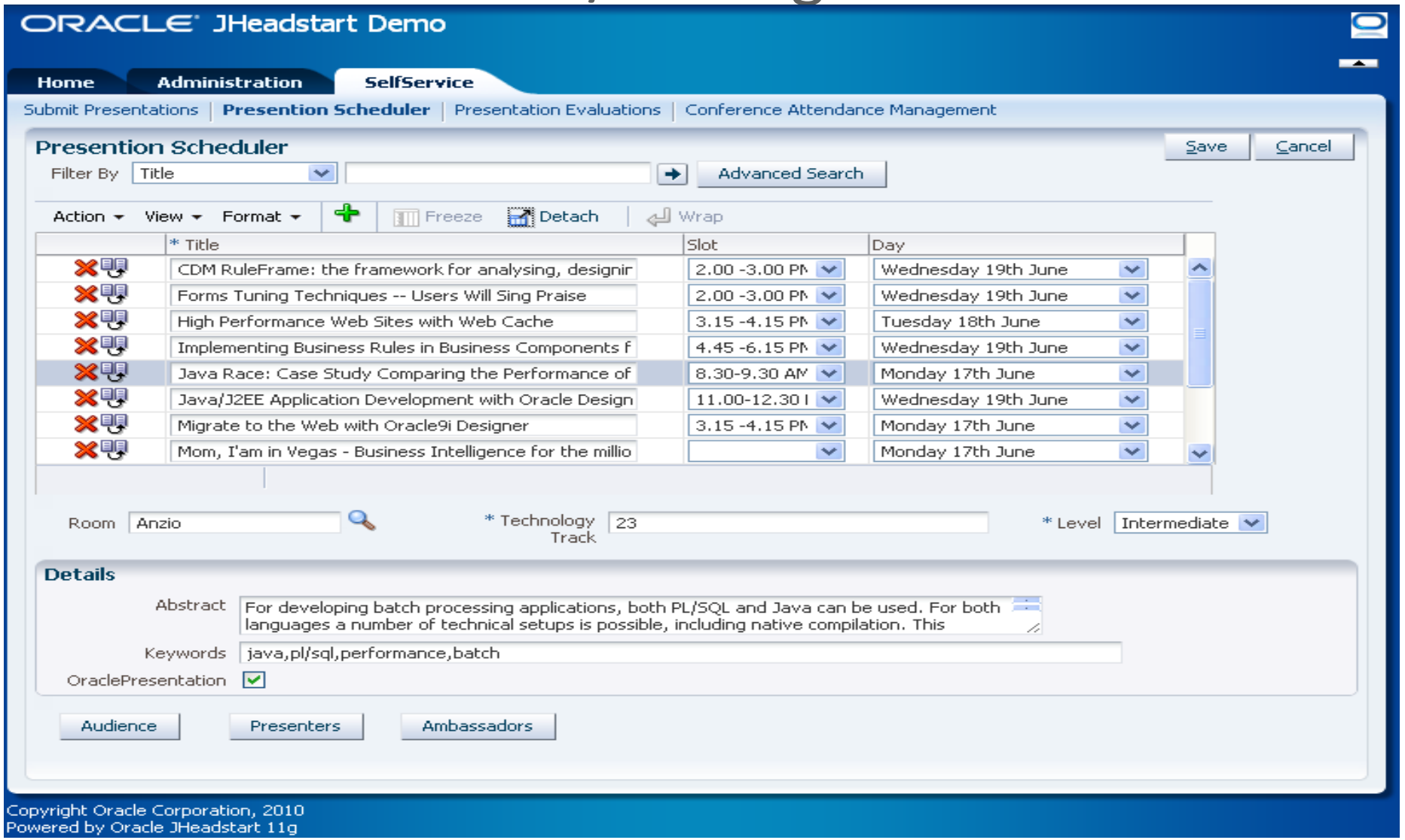

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What about PL/SQL Logic?

- 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

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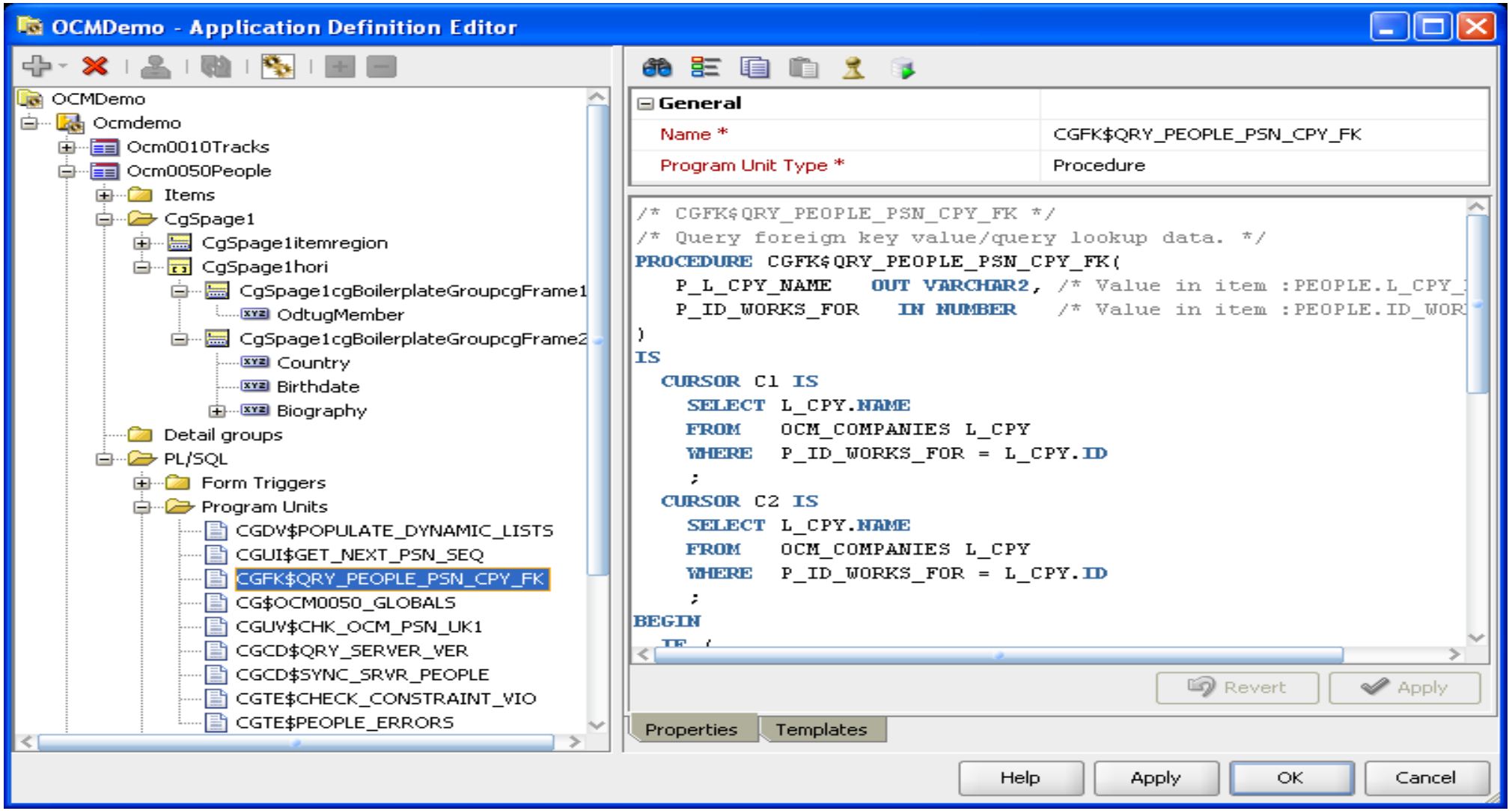
PL/SQL Code in Appl. Definition Editor as documentation



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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

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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!

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Forms2ADF Case Studies

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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!

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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

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Netherlands – Government IT Department

- Why Forms2ADF
  - Forms 4.5 and DB 8.1.7 no longer supported
  - High maintenance cost, System integration dificult 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

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Netherlands – Government IT Department

- Migrated ADF prototype used to create enthousiasm 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

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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

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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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