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SQL Developer Data Modeler
Application Development Framework
Application Express
Oracle REST Data Services
Developer Tools for Visual Studio
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Oracle JDeveloper and Oracle ADF 12c (12.1.2.0.0): New Features

Updated: July 10, 2013

Introduction

JDeveloper 12c (12.1.2.0.0) is a major release, bringing support for the corresponding new Fusion Middleware release 12.1.2. JDeveloper and ADF 12.1.2 is a culmination of features, functions and bug fixes from the 11.1.1.7.0 and 11.1.2.4.0 releases, and delivers many new features on top of that.

In addition to the many new features which you can read about below, this release contains a plethora of bug fixes. During the development of 12.1.2, defects discovered and reported in 11.1.1.x and 11.1.2.x were fixed first in the 12c code line, and optionally back-ported to other code line(s) if considered safe and justified. As a result, 12.1.2.0.0 has more bug fixes than we can reasonably publish in this document. To check on the status of a particular defect, please work with your Oracle Support contacts and/or My Oracle Support.

Note, some of the new features noted below may cause you to experience déjà vu. This list also includes features that were added in 11.1.1.7.0, but not in 11.1.2.4. So, depending on your upgrade path, they may or may not be new to you.

As always, we welcome your feedback on the [OTN forum](#).

Previous Version? If you are looking for the new feature list for a prior 11g release, please refer to the [release documentation page](#).

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New In This Release

General

Oracle Fusion Middleware 12c: This release of JDeveloper and ADF correspond with Oracle Fusion Middleware 12c (12.1.2.0.0), which includes updated versions of WebLogic Server, TopLink, and Coherence in addition to other middleware components.

Installer: JDeveloper now uses Oracle Universal Installer framework for consistency of installing various products that are part of Fusion Middleware.

IDE

Windowing System: The JDeveloper and NetBeans team have been working together to refine and share a single windowing system in both IDEs. For JDeveloper users, the new features to enjoy as a result of this effort include some long-awaited goodies:

Ability to drag-and-drop to reorder editor tabs

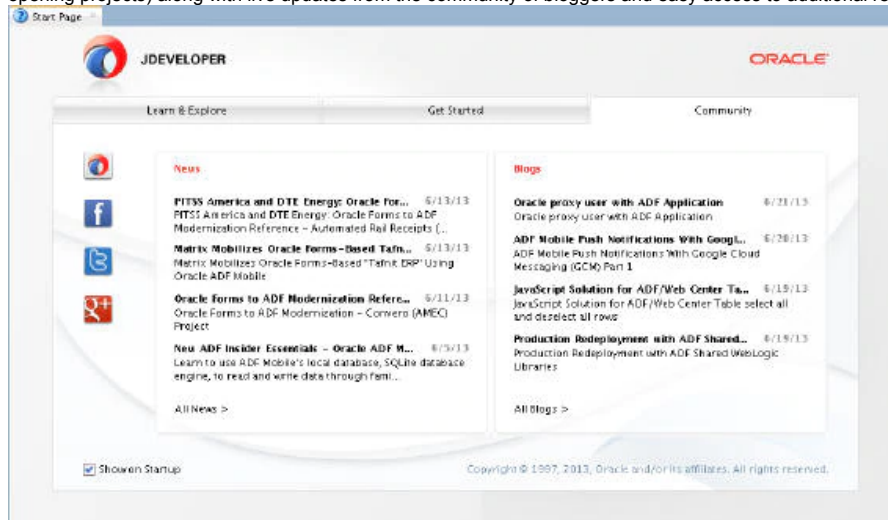
Ability to float editor windows outside of the IDE

Fully customizable toolbar

Drag-and-drop reshaping/resizing of docking areas

Ability to use editors in maximized state

Start Page: The page that appears when you launch the product has gotten a much-needed facelift. Now incorporating common tasks (creating or opening projects) along with live updates from the community of bloggers and easy access to additional resources.



Extension Development Design-time: We've added new wizards and dialogs to make development of JDeveloper extensions easier than ever! Manifest.MF & extension.xml composite flat editor, new Extension Project wizards

Update Center and Features:

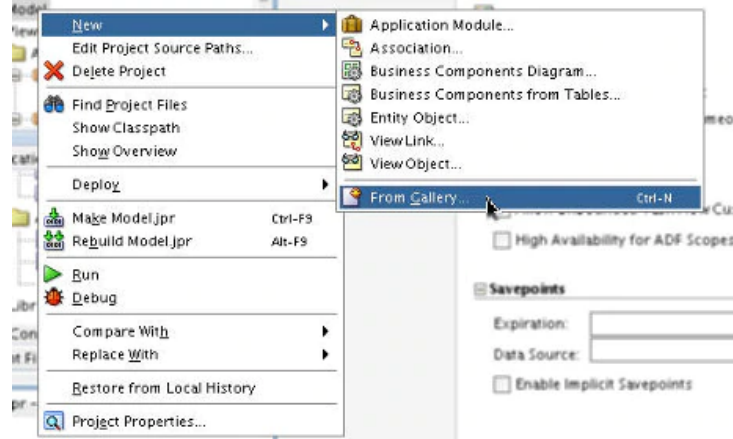
Update Center has been reorganized around the concept of product features

User-installed extensions can now be uninstalled

New command-line tool (ojwebupdate) for installing extensions

Background processing: IDE now supports scheduling jobs for background processing and a user interface to manage these jobs. Many long-running tasks in JDeveloper are now taking advantage of this, for example creating/scanning indexes.

Context-sensitive New menu: Items that you most often need are within easy reach from the New menu in the navigator.



Refactoring UI: Improvements to streamline the UI and make the refactoring operations more consistent and predictable.

File Templates: Define custom file templates and invoke them from the gallery.

Improved Printing: Printing and print preview have generally been improved.

Show Empty Folders: New option to display empty folders in the Application navigator.

Dependency Explorer: Visualize your application and how the various resources are dependent on each other with the new dependency viewer.

Common Issues Window: Any problems found with your application are now reported into a single, consolidated Issues window so you can see all your mistakes at glance!

Build on Save: A new preference allows you to specify that JDeveloper should compile your modified files automatically after saving.

Team Development

Maven Improvements: Updated support for Maven.

POM files provided for ADF libraries.

Oracle now provides a sync tool to populate a Maven repository from an Oracle home.

Maven plugins for ojmave and ojdeploy.

Create project from archetype.

Options for handling test sources in multiple projects

Improved goal manager and easier access to running custom goals.

Upgrade to Maven 3.0

Many UI enhancements including an Overview editor for POM files.

Ability to generate and view an effective POM

Manage Maven profiles, plugins, dependencies, and more within Overview editor.

Option to use Maven as the build tool when creating a new application.

Git: Integrated tools for using git (including GitHub) for managing source code. Includes, branching, merging, viewing pending changes, and much more.

Subversion Update: Subversion client updated to 1.7.

Java Development

Profiler Update: The JDeveloper and NetBeans teams are working together to bring the best of each of its profiling tools to all users. The newly revised profiler includes new functionality, improved performance and better user experience. The following profiler modes are available:

CPU Profiling - Analyze your application's impact on the processor and find out what areas of code are consuming the most time.

Memory Profiler - Find out how your application is using the Java heap, including finding memory leaks. Available in Quick (sampled) mode and Advanced (instrumented).

Monitor - No-overhead monitoring of the JVM, including telemetry graphs and thread activity.

Swing Editor: The JDeveloper and NetBeans teams are working together to bring the best of each of its Java UI visual editing tools to all users. This release introduces the "Matisse" editor from NetBeans in JDeveloper.

@SuppressAudit annotation: The new @SuppressAudit annotation can be used in Java code to have the JDeveloper audit tool ignore something that it would ordinarily display a warning or error for.

Calls Window: Calls window now follows the cursor/insertion point and automatically updates

Java Code Editor Enhancements: A number of enhancements to the Java code editor, from better breadcrumbs, to improved code insight and Smart move lines (move line moves entire statements, rather than just the line).

ojformat: A new command-line tool for formatting Java sources and many improvements to the formatting options too.

Application Level libraries: Java libraries can now be managed at the application level, providing those libraries to all the projects in the application.

11.13.1

Java EE and Web Development

Java EE 6 Support: JDeveloper wizards and editors have been updated to work with Java EE 6 specifications, including EJB 3.1, Servlet 3.0, CDI, JPA 2.0, EL 2.2, and more.

EJB 3.1 Support: JDeveloper provides support for new EJB 3.1 features including:

Singleton Session Bean

Simplified No Interface Client View

Asynchronous Session Bean Invocations

TopLink/JPA 2.0: TopLink supports the following JPA 2.0 features:

JPA 2.0 project type and JPA 2.0 persistence unit properties

Delimited and derived identifiers

Mixed access

Unidirectional one-to-many mappings

Validation mode

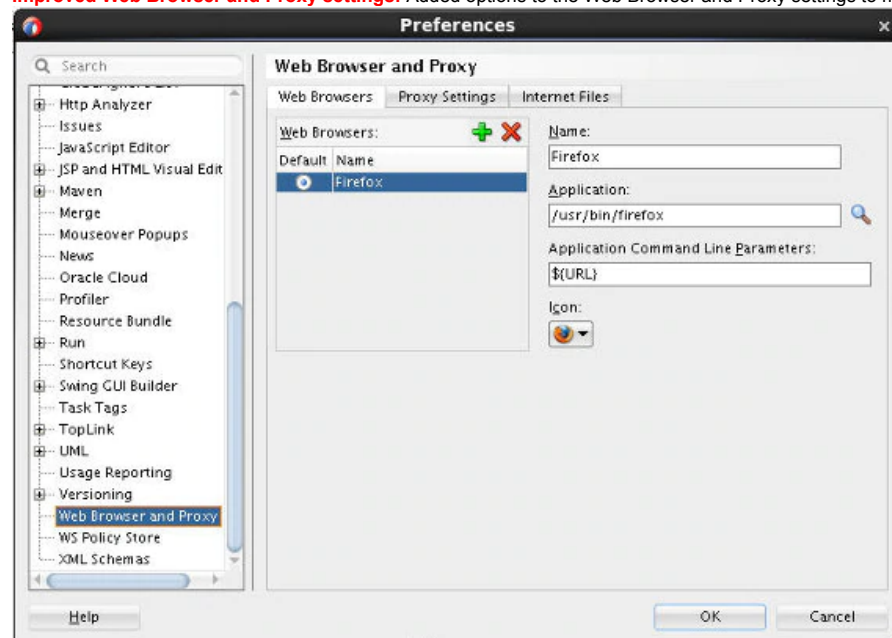
Element collection

Embeddable mapping

HTML5, MathML and CSS3 Support: Updated editors for working with latest HTML5 and CSS3 content.

CSS editor: Added ability to invoke Quickdoc feature for CSS properties and skinning keys, and other editor improvements

JSP to Facelets conversion: User may optionally choose to convert a project's JSP/JSPX content to Facelets



Updated Visual Editor: The JSP/JSF Visual editor has been reimplemented with the JavaFX WebView component. Now offers improved rendering accuracy (including JavaScript execution), support for the new ADF Faces and DVT components, and many UI improvements such as a new toolbar and redesigned context menus.

Web Services Development

REST/WADL Support: REST Support in Web Services design time: Service, Client generation from WADL, WADL structure view in HTTP Analyzer

OWSM Policy: Attach OWSM policies to web service clients using annotations.

SOAP over JMS: Using SOAP over JMS transport to enable web services and clients to communicate using JMS destinations instead of HTTP connections.

JUnit Testing: Generate JUnit tests for web service.

Configurable JAXB provider: Use either EclipseLink MOXy or Glassfish RI JAXB.

Application Server Integration

Shared Libraries: Ability to package and deploy shared libraries to WebLogic Server.

Oracle Public Cloud Ready: Develop applications and deploy directly to Oracle Public Cloud and the Java Cloud Service. (Note, at the time of publishing this document, Java Cloud Service does not yet support ADF 12.1.2)

Debugging Context Switch: Debug a different application on Integrated WebLogic Server without having to restart the server.

Hide Verbose Messages: Optionally turn off the verbose messages that appear when starting the Integrated WebLogic Server.

UML/Modeling

UML 2.4: UML Modeling tools updated to UML 2.4

Partitions/Swimlanes: Activity diagrams now support partitions and swimlanes

Stereotypes: Ability to create stereotyped elements from the New Gallery

Profiles: Profile diagrams and diagram-based user definition of UML profiles.

Code Insight: Code Insight and completion from within diagrams

Model libraries: Model libraries created and managed in projects similar to Java libraries.

Database Development

Oracle Public Cloud: Connect to, browse, and upload database objects to your Database Cloud Service in Oracle Public Cloud.

Improved Editors: Edit online database objects by way of the new Overview editors which affords many advantages over the modal dialog editors used in previous versions.

New database versions: Updates to support new database versions including Oracle Database 12.1, SQLite, and MySQL 5.5

Offline Database object improvements: Improved editors, history viewer support, refactoring

Improved Template support: Improved templates, include tablespace templates.

Views for non-Oracle database: New support for Views using non-Oracle database.

Database Links: General improvements for working with objects (such as Views) which utilize database links

ADF View (ADF Faces, DVT)

JSF 2.0 Support: Updates the supported Java Server Faces version to the 2.0 spec which adds the following features.

Facelets

Ajax

Get

Composite components

Annotated managed beans

New scopes

Conditional navigation

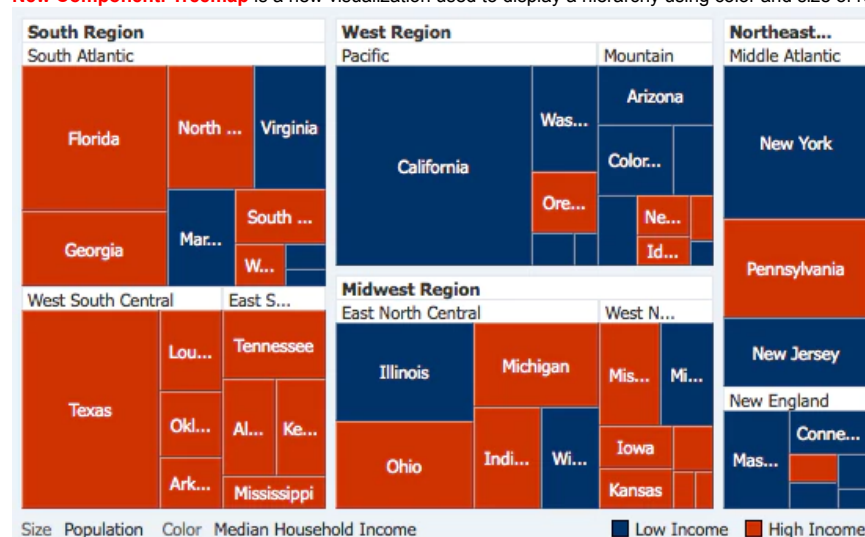
Add EL directly in page content

EL methods with arguments

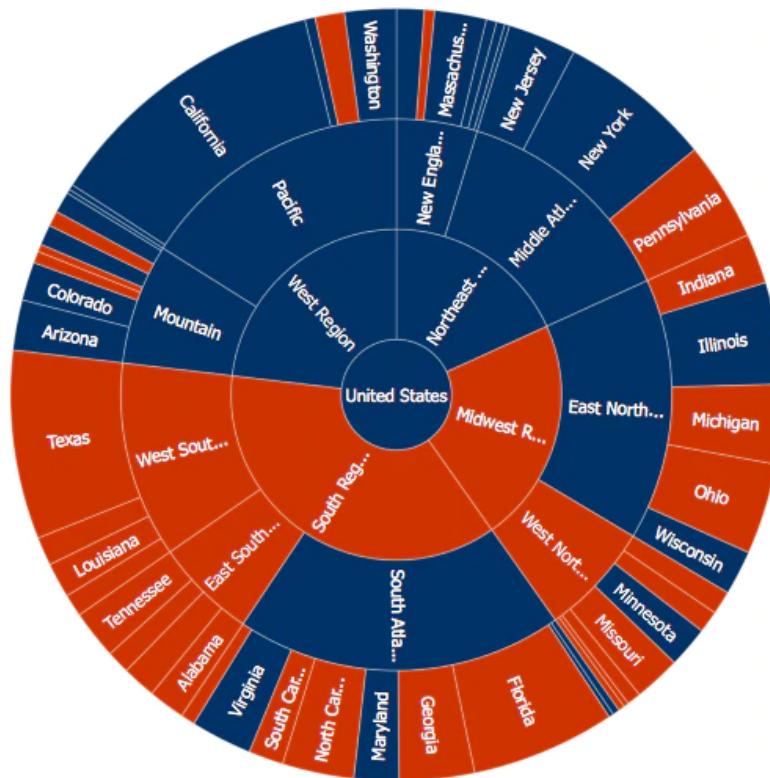
System events

New Component: Treemap is a new visualization used to display a hierarchy using color and size of rectangular nodes to convey information.

11.11.4

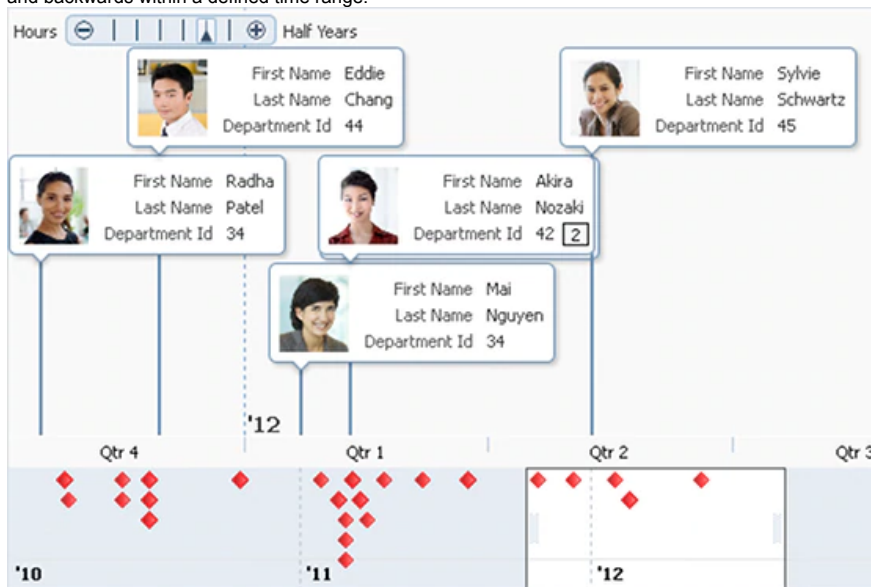


New Component: Sunburst is used to display multiple hierarchy levels in a radial layout.



Size Population Color Median Household Income Low Income High Income

New Component: Timeline is an interactive data visualization that allows users to view events in chronological order and easily navigate forwards and backwards within a defined time range.



Hierarchy Viewer Enhancements:

- Support for drag and drop
- Ability to disable drag for individual nodes
- Auto pan Hierarchy Viewer when dragging and dropping to bring hidden nodes into view
- Option to disable node detail window

Paging Support for Pivot Table and Gantt:

- Pivot Table now provides support for both row and column paging.
- Gantt supports paging similar to the TreeTable support.
- Both components allow configuration of the paging vs. scrolling via the new scrollPolicy attribute.

Pivot Table Enhancements:

- Split View mode
- Active Data support
- Attachment mode support
- Ability to always display layer headers
- Ability to wrap header labels
- Header sorting
- Row Header Width and Column Header Height API
- inlineStyle and styleClass API for DataCell and HeaderCell tags

Skyros Skin:

A new look and feel that incorporates current UI visual design trends (flat, rather than dimensional, reduced gradients, reduced borders, light and or white colors with splashes of color). This skin family uses CSS3 for gradients, drop shadows, rounded corners etc. in comparison to the fusion skins that use background images. Making this skin modern, lightweight, and easy to skin.

New component: List View: A new component for viewing a collection of data. The listView can be used to declaratively achieve paragraph style results lists.

Request Trial Extension		
Actions ▾	Customer ▾	Create Database Get More Services
<input type="checkbox"/>		My New Database(Oracle Database) Subscription: Enterprise 153 Users Monthly Cast \$340
<input type="checkbox"/>		Collaboration(Oracle Social Network) Subscription: Trial Ends (01/10/2012) 168 Users Monthly Cast \$340
<input type="checkbox"/>		Platform Test(Oracle java) Subscription: Enterprise All Apps Oracle Base Monthly Cast \$340
<input type="checkbox"/>		New HCM(Oracle HCM) Subscription: Enterprise All Services Monthly Cast \$340
<input type="checkbox"/>		Phone Book(Custom Application) N/A 319 Users Upgrading Results in \$27 Credit on your Credit Card. You will be billed monthly and send a confirmation mail.
Load More Items 1-5 of 50 items		

New component: PanelGridLayout: A new, more predictable and more efficient layout component that can be used to create all new layouts. This component generates the same markup that meets the CSS3 specs for grid layout so it can be optimized for layout performance. This is now a recommended UI layout component for most pages.

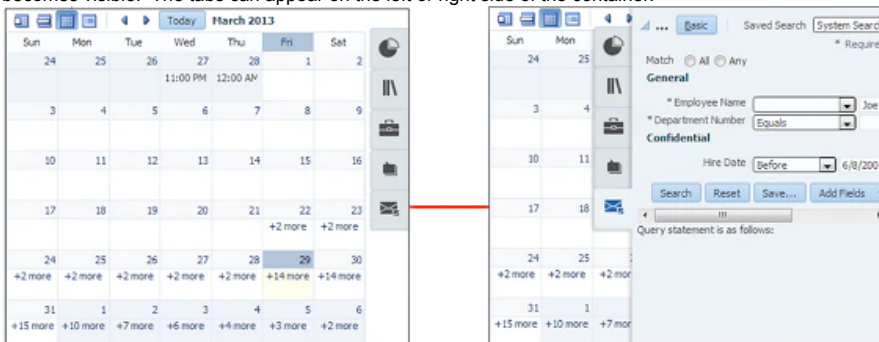
New Component: Code Editor: This new component allows you to display and edit text in a code editor format with line numbers and text highlighting.

```

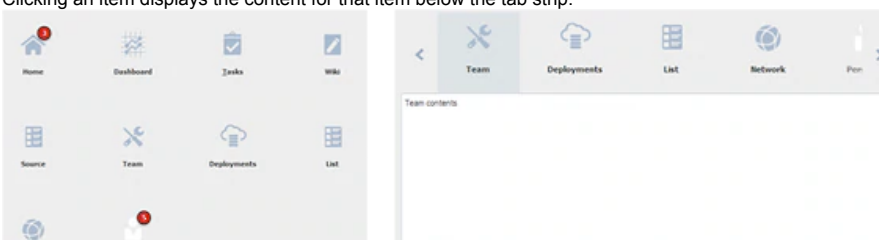
1  /** Copyright (c) 2008, 2012, Oracle and/or its affiliates. All rights reserved. */
2  // Utilities required for testFileExplorer.jsx
3
4  var TestFileUtils = new Object();
5
6  // Action listener for the unimplemented actions
7  TestFileUtils.notImplemented = function(event)
8  {
9      alert("Not yet implemented: " + event);
10 }
11
12 // Action listener for the search button
13 TestFileUtils.searchButtonClicked = function(event)
14 {
15     this.toggleAccordionItem(event, "searchAccordionItem");
16 }

```

New Component: Panel Drawer: Renders tabs attached to the side of a container component. Clicking a tab opens the drawer and the content becomes visible. The tabs can appear on the left or right side of the container.



New Component: Panel Springboard: Presents a toolbar navigation component that can display itself either as a tab strip or a grid of icons. Clicking an item displays the content for that item below the tab strip.



Android Certification: Certify Android 4.0 with Chrome browser

Enable Runtime Skin Updates - This feature allows an application to make itself available to accept new skins without having to restart the application. This is a developer/testing productivity improvement for developers of new skins. You need the standalone skin editor (12c) to invoke the wizard which allows you to deploy to these web applications.

Table Enhancements:

Support for freezing the right most columns in a table so that a scroll bar appears on the left side of the frozen columns.

Table/TreeTable - Both components allow configuration of the paging vs. scrolling via the new scrollPolicy attribute.

Calendar support for 15min appointments and the ability to zoom in:

Time slots are configurable and need not be fixed at 30 minutes

Support zoom-in/zoom-out of the calendar

Hint Text support for inputDate, inputText, and inputColor:

Available in HTML5 browsers.

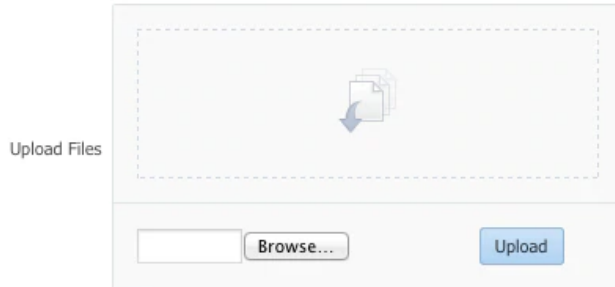
Use "placeholder" attribute.



File Upload Enhancements:

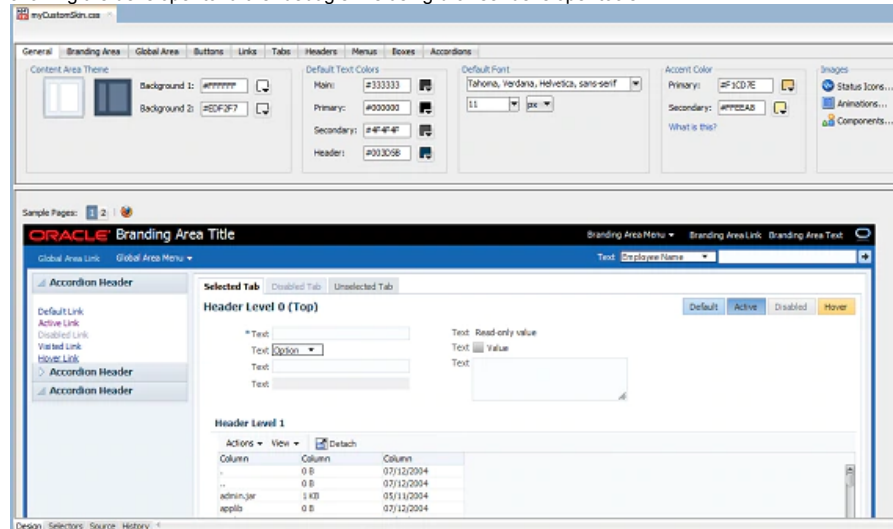
Support chunked file transfer for large file uploads

Support for multiple file upload using HTML5 UI where available, and non-HTML5 with java applet. Includes a Drag and Drop interface and a progress bar.

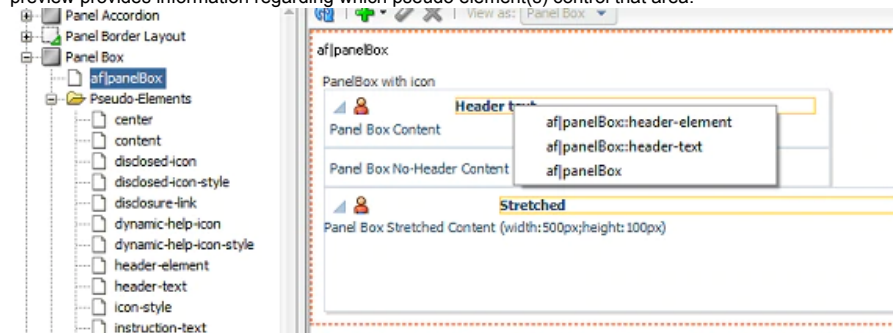


Skin Editor Enhancements:

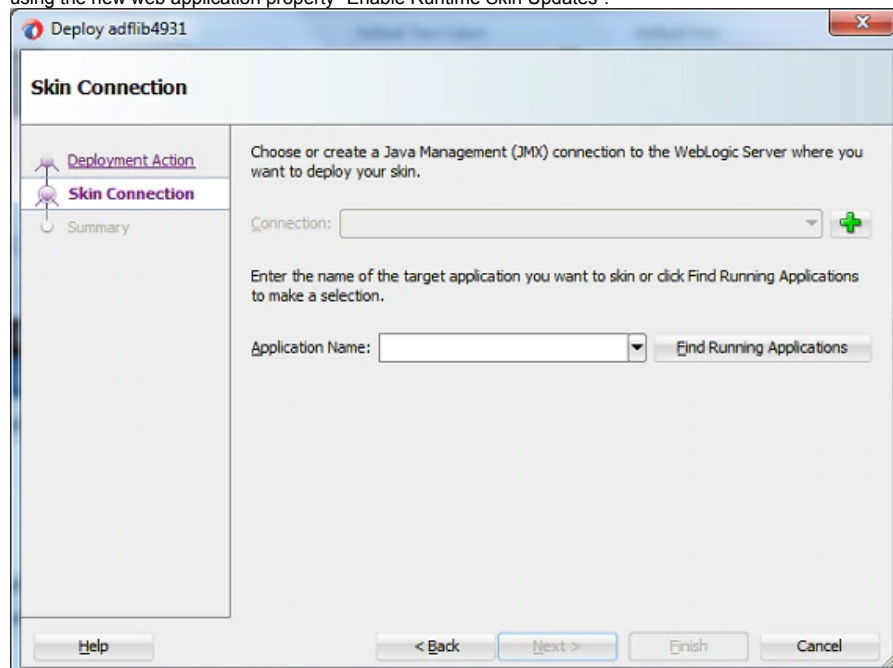
New Design Tab that allows for easy customization of the most commonly skinned items. Includes sample page preview and preview in browser, allowing the developer to further debug skins using browser developer tools.



Interactive Selector Preview. Selecting a pseudo-element highlights the area in the preview that pseudo element effects. Selecting an element in the preview provides information regarding which pseudo element(s) control that area.



New deployment option in Standalone Skin Editor which allows deployment of skin ADF Library jars directly to running web applications. This is a developer/testing productivity improvement for developers of new skins. Web applications need to make themselves available to accept new skins using the new web application property "Enable Runtime Skin Updates".



ADF Controller

Pretty URLs: In this release, the ADF Controller state information is no longer included in the URL whenever possible.

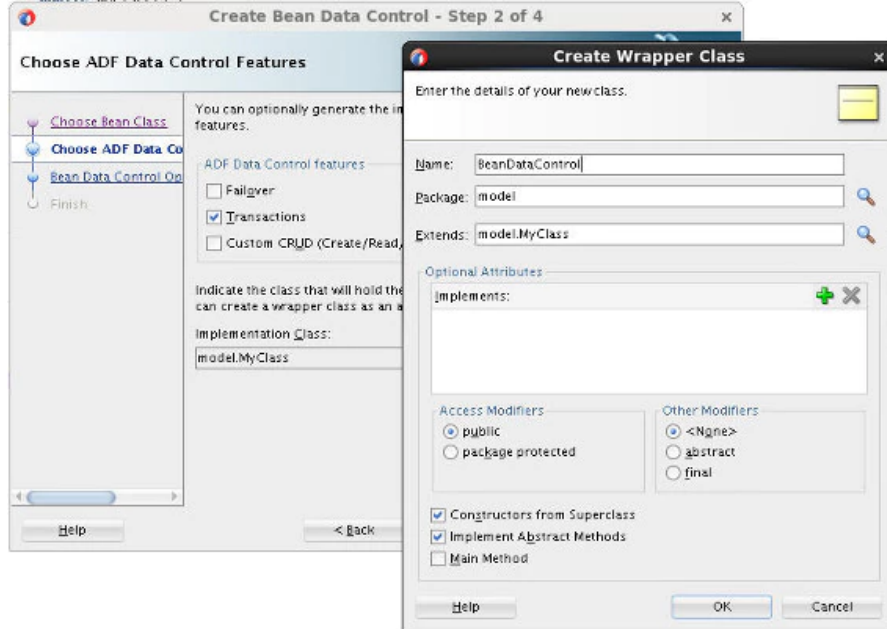
Unauthorized Region Taskflow: Allows developer to specify a "fall-back" bounded task flow to be shown in case the user is not authorized to access the current one.

ADF Model/Share and Databinding

ADF Logger Enhancements: A new oracle.adf.diagnostics logger to enable ADF logging using a single logger. Several improvements to the ADF Log analyzer.

Bean Data Control Improvements:

Create Bean Data Control Wizard with new options for scrolling and range paging as well as defining a wrapper class for data control implementation code.



Declarative Lists of Values (LOV)

Automatically call mergeEntity

Support CreateInsert and CreateWithParameters operations

Web Service Data Control Enhancements:

Support for all REST operations

Create a Web Service Data control from RESTful service URL

ADF Business Components

Support for offline databases: This feature enables the user to work with offline databases. The user can create new offline database objects based on existing objects in a database. The user can also compare existing offline database objects with objects in a database connection or in an offline database. We've added new wizards to make working with offline databases easier.

Support for RowFinder feature: The Row Finder feature provides users a declarative means of using a View Criteria on a View Object. A prominent use case of the Row Finder feature is to use a Row Finder object to find a row (or a set of rows) in a single subordinate detail table based on a row in a master table. However, this feature may be used more generally to link master tables to a set of one or more detail tables as well as to link tables to view criteria with bind variables.

Support for multiple required View Criteria: Multiple View Criteria can be created on a single View Object. In addition, with 12.1.2.0.0., one or more of them can be marked as required so that you can now have multiple mandatory view criteria being used per view object.

ADF Desktop Integration

Support for Progress Indication Bar: While downloading/uploading the user gets a visual progress bar indicator of the overall progress and individual records processing

Support for self-signed certificates: Users can ignore warnings from self-signed certificates. Useful for dev and test deployments.

Merge Cell Support: Allows a form component to be inserted into a merge cell range

Client-Server version mismatch warning: Displays a warning if the ADF desktop integration client and server versions do not match.

Performance Enhancements: Choice list caching optimization. 10x reduction in time for some cases. Upstream compression. Reduces payload size by up to 90% improving upload times by as much as 30% in high latency (WAN) scenarios

Design time Enhancements: Delete multiple components at once. Drag and drop from bindings palette. Default runtime values for resource properties.

All or nothing upload: Only commits changes if all the rows are successfully uploaded.

Import and Export Workbook metadata: Developers can export/import metadata from the workbooks. The exported XML file can be edited outside of Excel and imported back. Useful for audits and mass updates.

Download updates and inserts together: Table.Download action now uses server row state to determine whether a row needs to be treated as pending for insert or pending for update.

Protected view: Support for MS Excel 2010 "Protected View" which disables add-ins

PageDefinition authorization: Validates if the user has permission to access the pageDefinition on which a worksheet is based.

Worksheet setup action: Allows developer to invoke a custom method before fetching binding container metadata. Facilitates highly dynamic use cases.

Override locale handling: ADF Desktop Integration uses the browser's locale preference to determine server-side localization. Using an API a given application can provide a different mechanism/algorithm for determining the appropriate locale.

Team Productivity Center

Code Review: Code Review has been integrated into many features of Team Productivity Center and enables teams to create a code review workflow for code changes that are waiting to be checked into version control.

Code Review Window: A new window which serves as the central hub for all code review tasks and activities

Create Code Reviews: Create a code review from a changeset in version control and invite teammates to participate in the code review.

Code Review Search: Browse and search active and past code reviews through a variety of categories and filters

Code Review Comment: Teammates can make general comments about the code review as well as comments on specific files and line numbers in the source code. Code review comments enable teams to create a conversation about a code change, ask for clarification on a change from teammates, suggest alternate implementations, and ultimately decide if the code change should be accepted or rejected.

Additional Code Review Content: In addition to commenting on code review, teammates can make attachments, provide external links, and even attach code snippets to a code review.

News Reader: A News panel allows a team to select from available RSS feeds to have news of interest displayed in JDeveloper. Important news items can be identified by the sender or the RSS feed and a number of options are available to quickly sort and display news items.

HP Quality Center: A new connector for HP Quality Center is now available for Team Productivity Center. With the new HP Quality Center connector, you can now create queries through JDeveloper for HP Quality Center Defects, Test, and Test Set work item types. Through the new connector, you can also use JDeveloper to create new defects in HP Quality Center.

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