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Oracle APEX 23.2

New Features

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Principal Member of Technical Staff
APEX
November 13, 2023

*“ We're now building a lot of our applications in **APEX**. And our productivity gains are, again, a factor of **10**. And we build the applications in **one tenth** the time, or **one tenth** the amount of people, or at **one tenth** the cost. But these are not typical low-code applications. These are applications that can scale to **millions** of users and all over the world.”*

- Larry Ellison

Founder & CTO, Oracle

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What's New in Oracle APEX 23.2?

- Application Working Copy
- Workflow
- New and Updated Components
- Developer Experience
- General Builder Improvements
- Additional Updates and Enhancements

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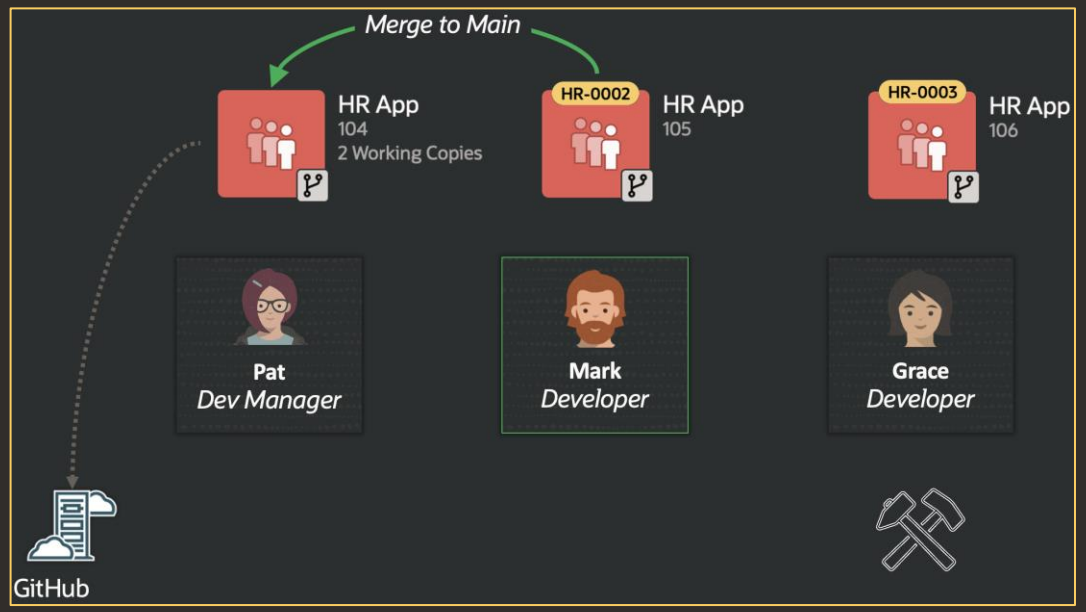
Application Working Copy

- Enables multiple developers to work on different features in isolation of each other on the same application and then periodically merge their changes
- Beneficial for single developers who already have an application in production and want to keep new changes separate from application maintenance changes until they are ready to be moved through dev/test/production
- Allows developers to create a working copy of an existing application, diff changes between the copy and main application, and then merge changes back into the main application



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Application Working Copy

- Creating "Working Copy" is very similar to copying an application
- Comparison of changes is done by performing a split YAML export of both applications
- A merge conflict occurs when a page or shared component in the main application has changed and has the same component in the working copy
- Conflicts will be manually identified when viewing the file differences
- Developers have the choice of merging in full or by choosing which components they would like to merge
- Option to perform a full backup, so developer can revert to backup in case of merge issues

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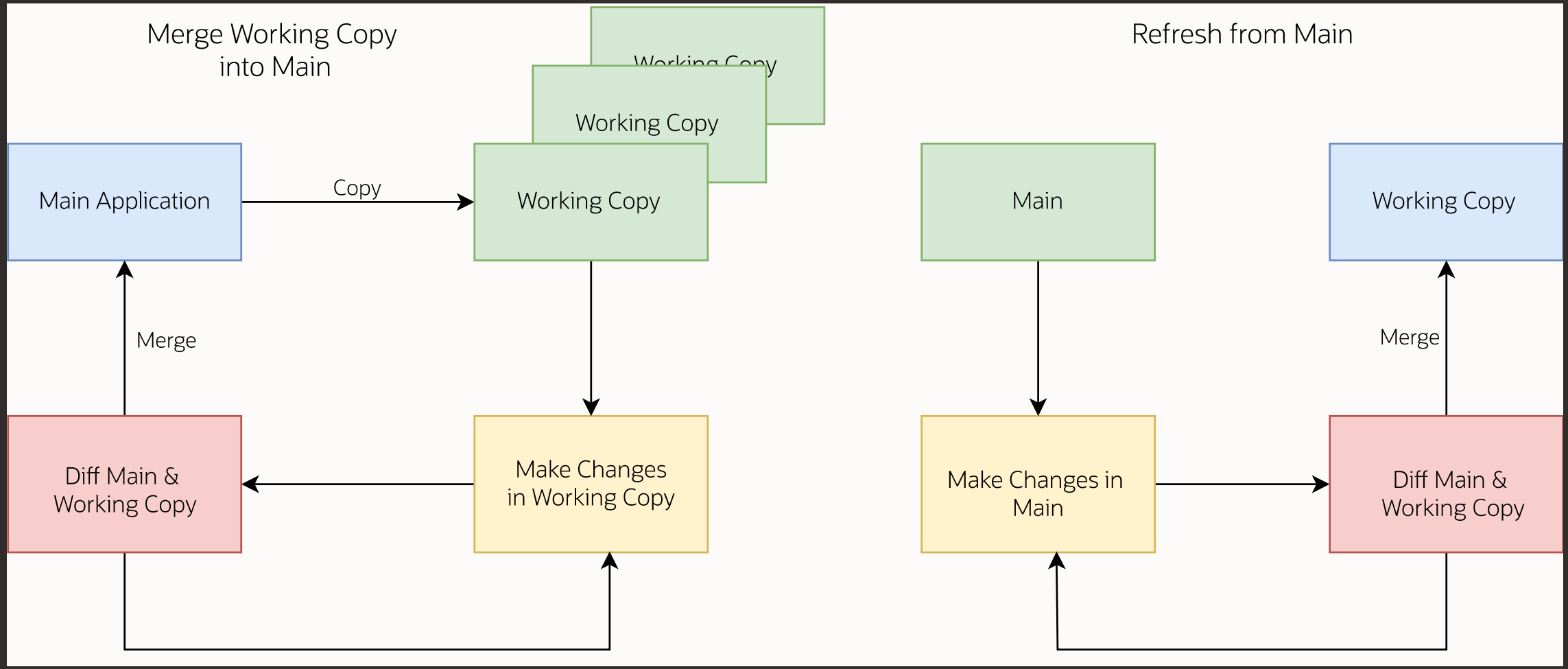
Application Working Copy



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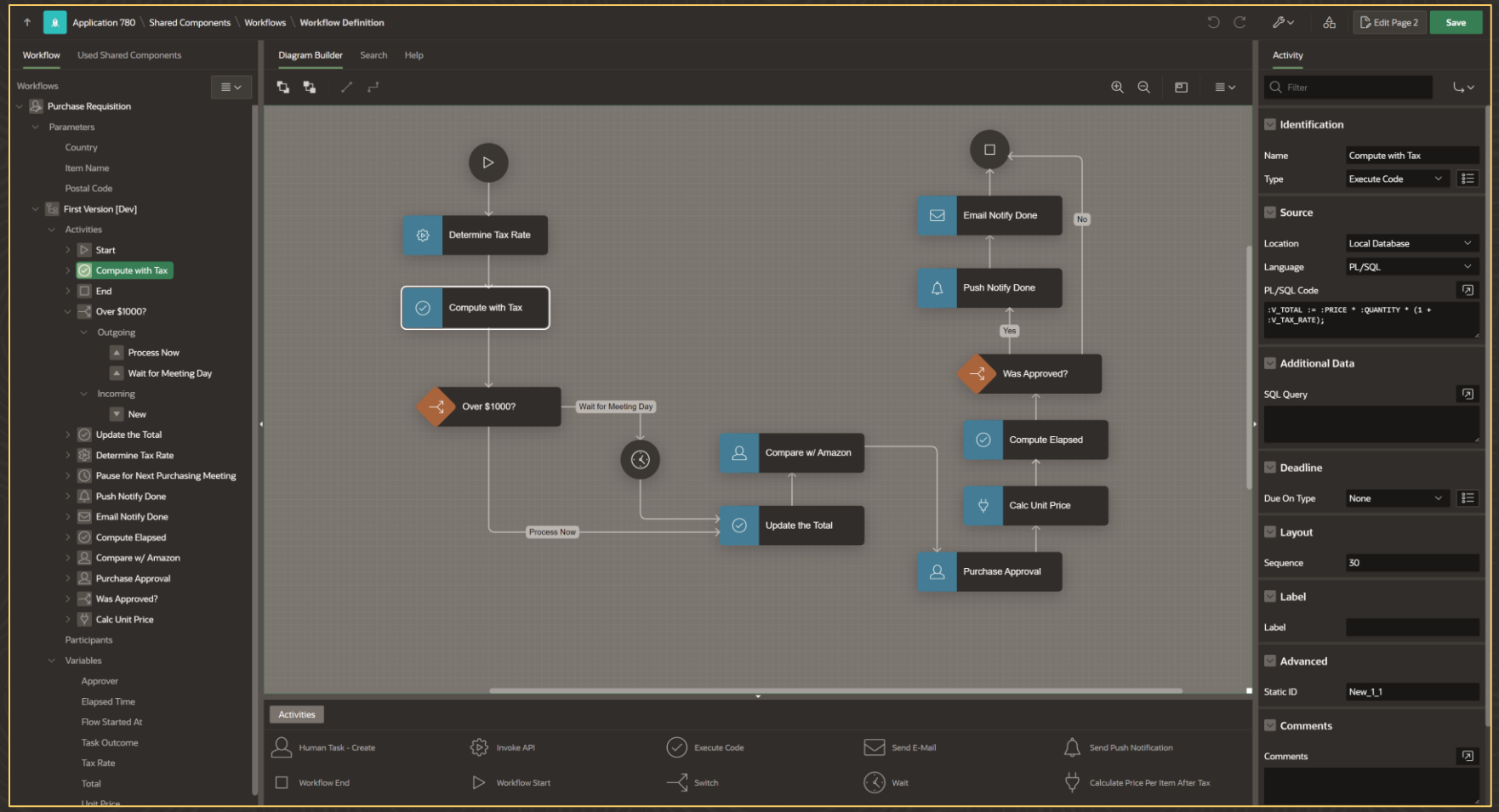
Workflow



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Workflow

- Workflow is the **automation of a business process**, in whole or part, during which documents, information or tasks are passed from one participant to another for action, according to a set of procedural rules (e.g. sequence flow, transition conditions etc.).
- APEX Workflow provides the following capabilities:
  - **Visual Workflow Designer** to create and author sequential workflows
  - **Workflow Console** for the monitoring and administration of Workflows
  - **Workflow Runtime** (Engine) for the execution of Workflows
- Manage workflows by creating workflow models in the Workflow Designer.
- Activate workflows and monitor them through the Workflow Admin Console.
- Use page processes to initiate workflows.

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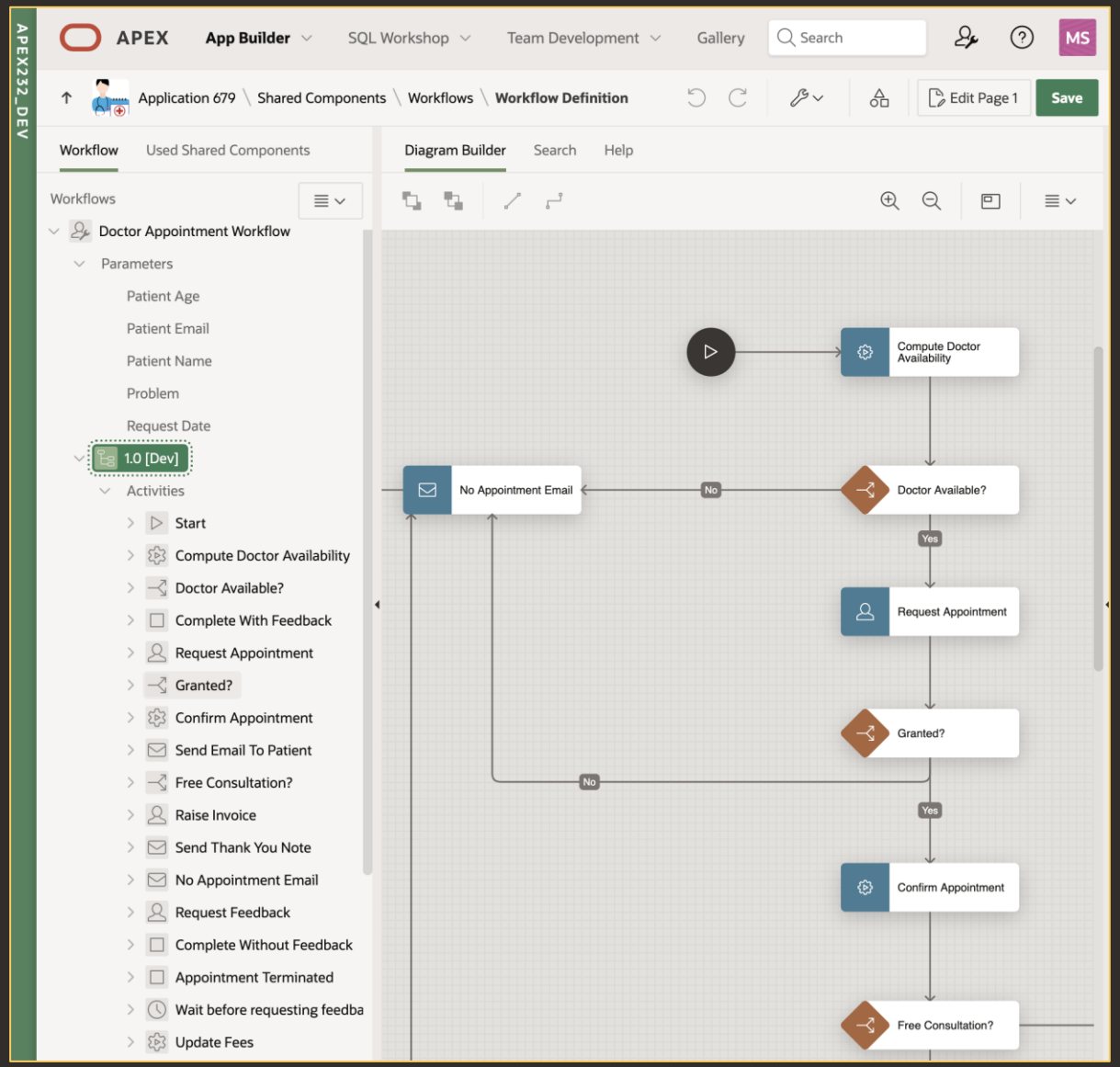
Designing Workflows

- The Workflow Designer is a graphical user interface for modeling of Oracle APEX Workflows.
- The Workflow Designer shows all Workflow Definitions within the APEX Application in a tree.
- Workflow Definitions can be expanded to show additional information like the Workflow Input Parameters, Workflow Activities, Transitions, and Variables.
- The Central Pane of the Workflow Designer also has a Diagram Builder for modeling workflows.



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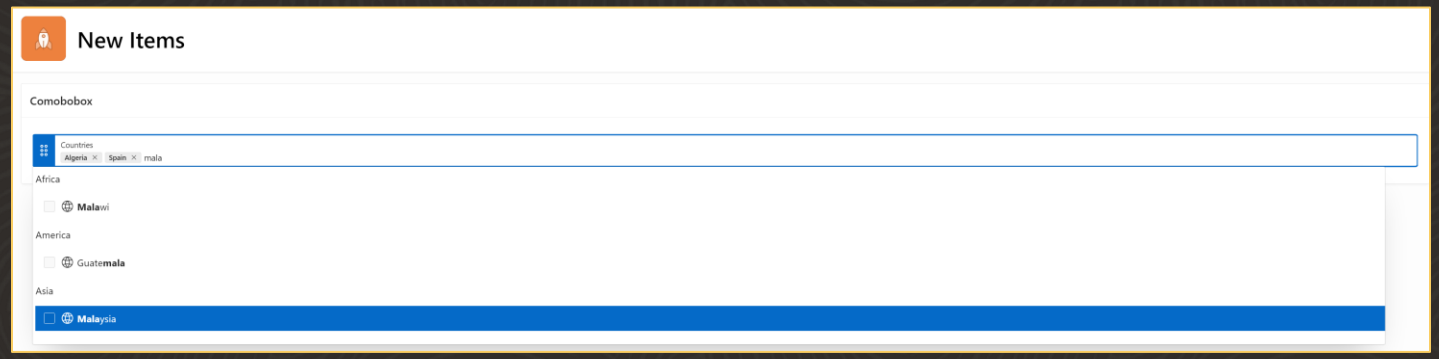
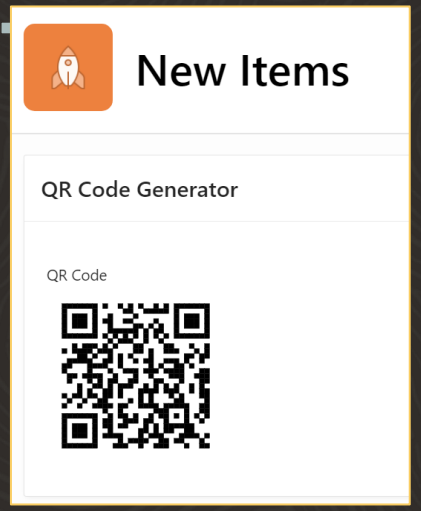
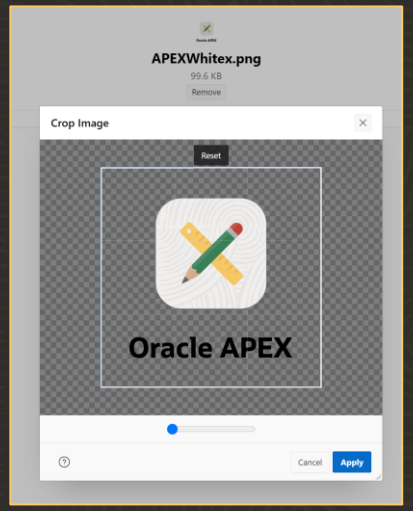
New and Updated Components







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New and Updated Components – New Page Items

Combobox

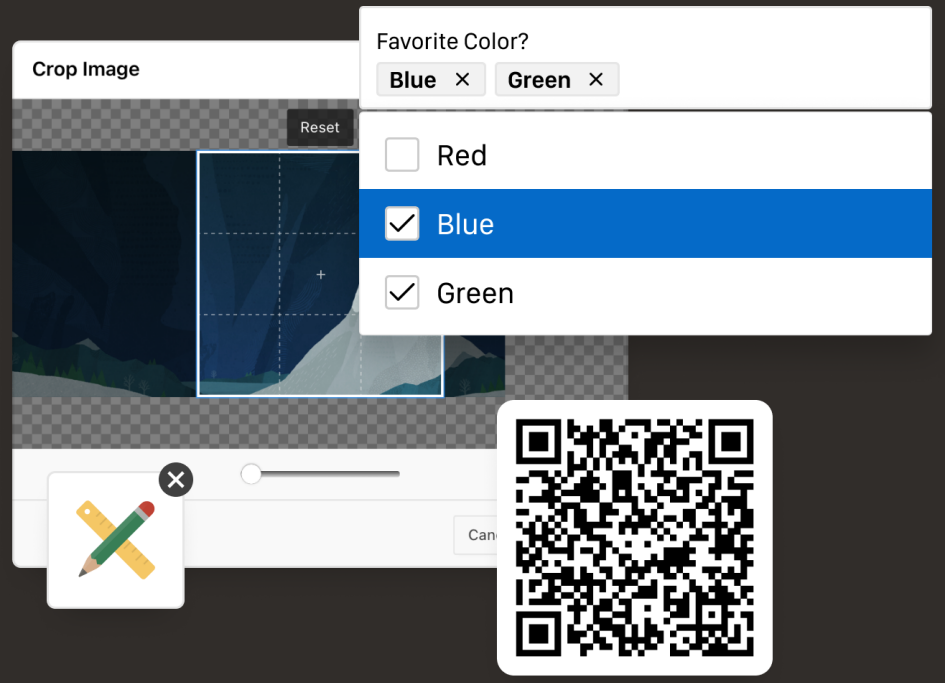
- A new Combo Box item type, which has a One and Many configuration
- Supports custom HTML for the choices with Template Directives
- Multi-select, The user can select more than one option and the dropdown is kept opened

QR Code Generator

- The new QR Code item type lets you easily embed scannable QR codes that contain text, URL, phone, email, SMS, or location data.
- You can also use the associated QR Code API for embedding QR codes within reports, emails, or other parts of your application.

Image Upload

- File Browse renamed to File Upload
- Ability to crop and/or resize images client-side
- You can also configure whether to use the main or selfie camera for mobile devices.



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New and Updated Components

Custom Map Backgrounds

- Maps now support custom background tiles enabling you to visualize your spatial data in more ways than ever before.
- Map backgrounds are defined in Shared Components and can be used across all map components. You can subscribe, refresh, and publish your Map Backgrounds just like any other Shared Component.
- Map backgrounds can be defined as Raster, Vector, and OGC WMS tile layers, and can be further customized with additional parameters

Faceted Search Enhancements

- Arbitrary Facets Support: Flexible filtering of report columns on input-based facets, with support for comparison operators extended to include not equals, does not contain, and does not start with.
- Sort by Descending: Developers can control the sort direction for distinct LOV based facets.

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New and Updated Components

Template Component Updates

- Template Components render faster and support any number of attributes, enabling developers to build even more sophisticated UI components.
- Developers can now create Template Component plug-ins without the constraint of only 25 attributes.
- With improvements to compilation time, Template Components now render even faster, creating the optimal user experience.
- Several updates to the Template Components shipped with Universal Theme provide developers with more versatility in how to use Template Component across their applications.

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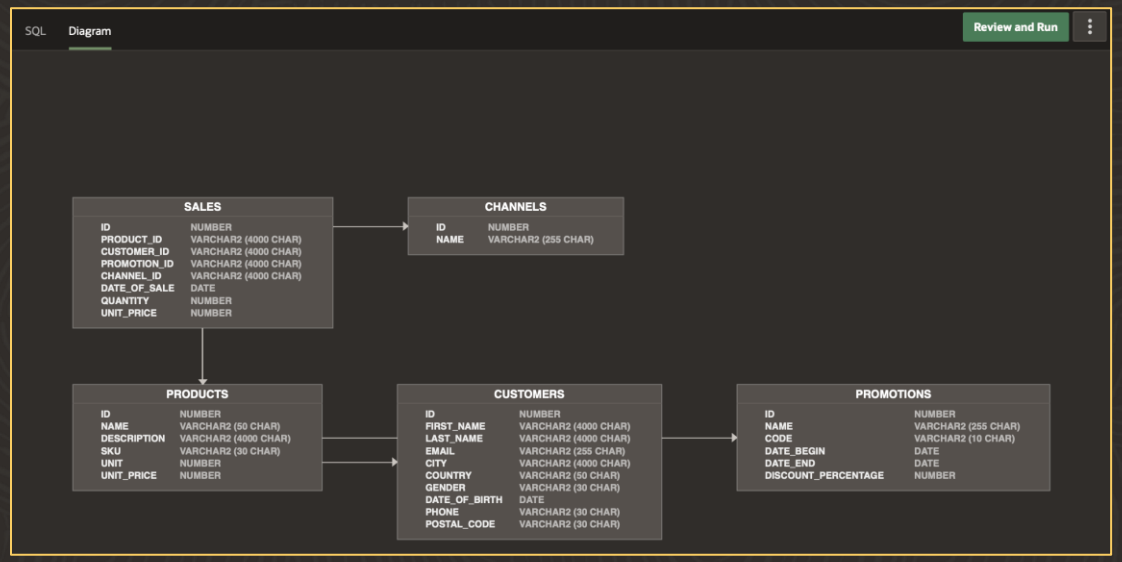
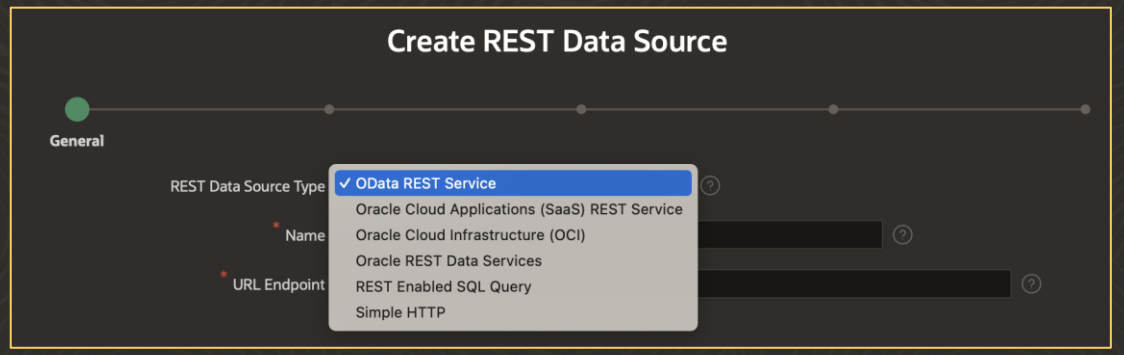
Developer Experience





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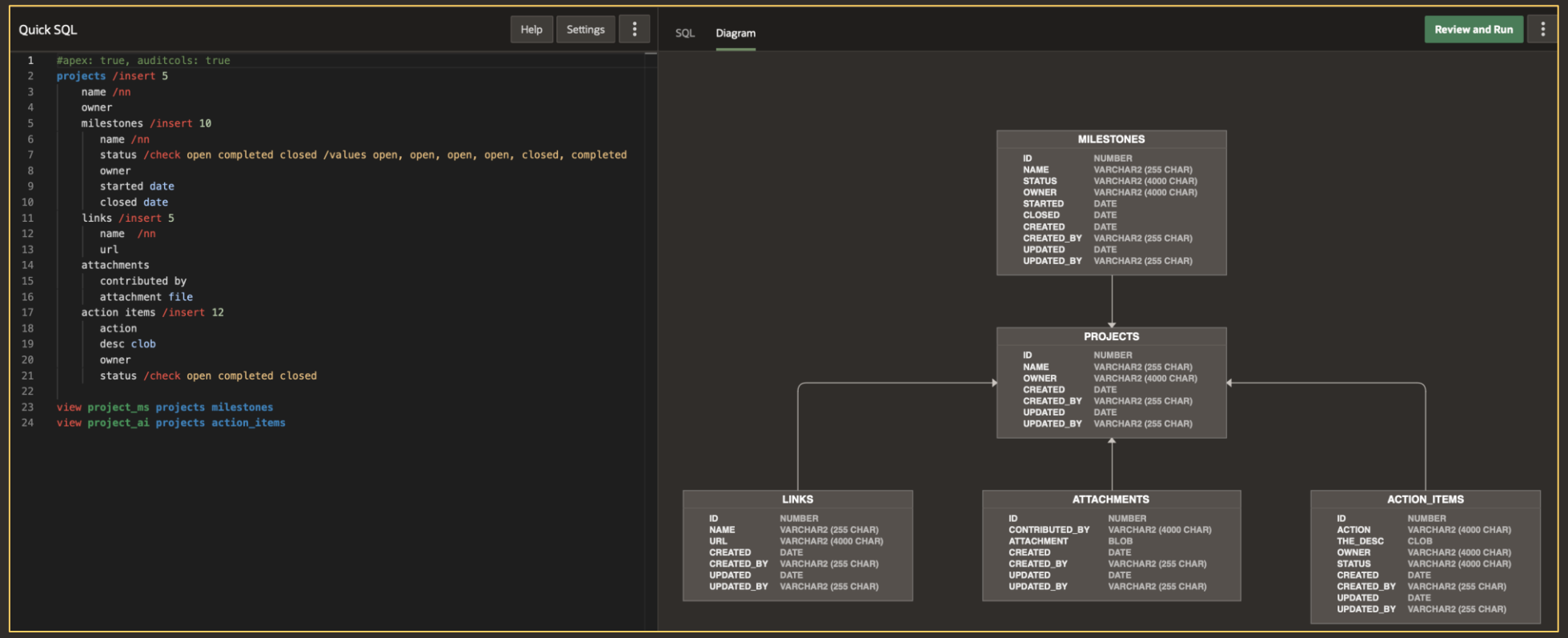
Developer Experience

Quick SQL Updates

- Visualize your data model's tables, columns, datatypes, and relationships in an intuitive entity relationship diagram accessible via the new Diagram tab.
- The generated SQL script and ER diagram refresh instantly whenever you pause your typing.
- Save time and cognitive cycles with the revamped review and run, simpler saving, and streamlined help.



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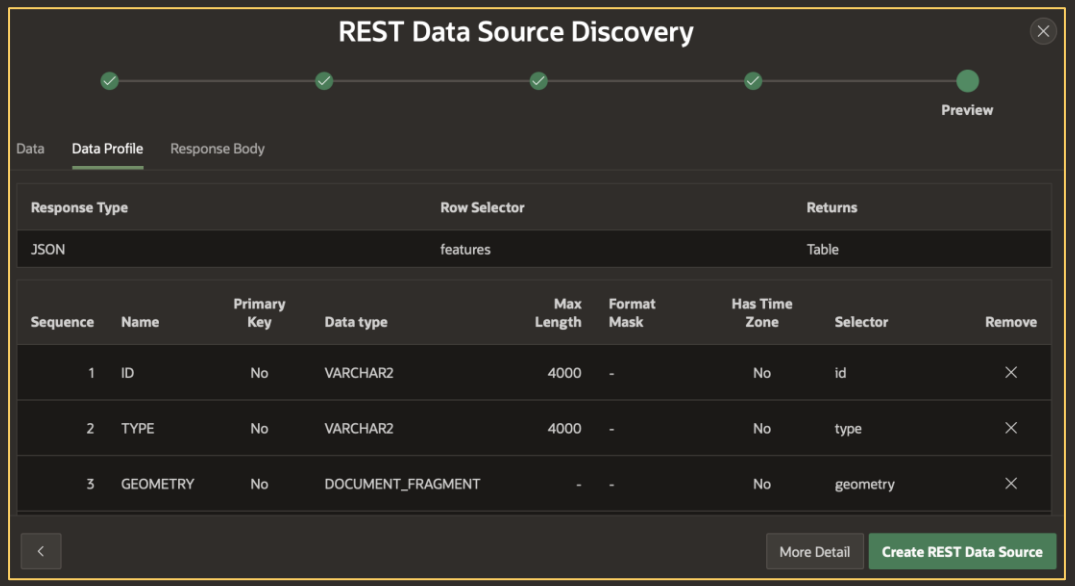
Developer Experience

REST Data Source Enhancements

- Data-type aware REST Source Parameters
- Regular expression validation for REST Source Parameters and Data Profile columns
- You can now create a REST Data Source Catalog which contains all of the endpoints based on an OpenAPI definition.
- REST Source Plug-in enhancements

- Native OData REST Source Type: The OData Connector has now been integrated as a native component within APEX, allowing developers to incorporate data from REST services that adhere to the OData protocol without the need to install any plug-ins.



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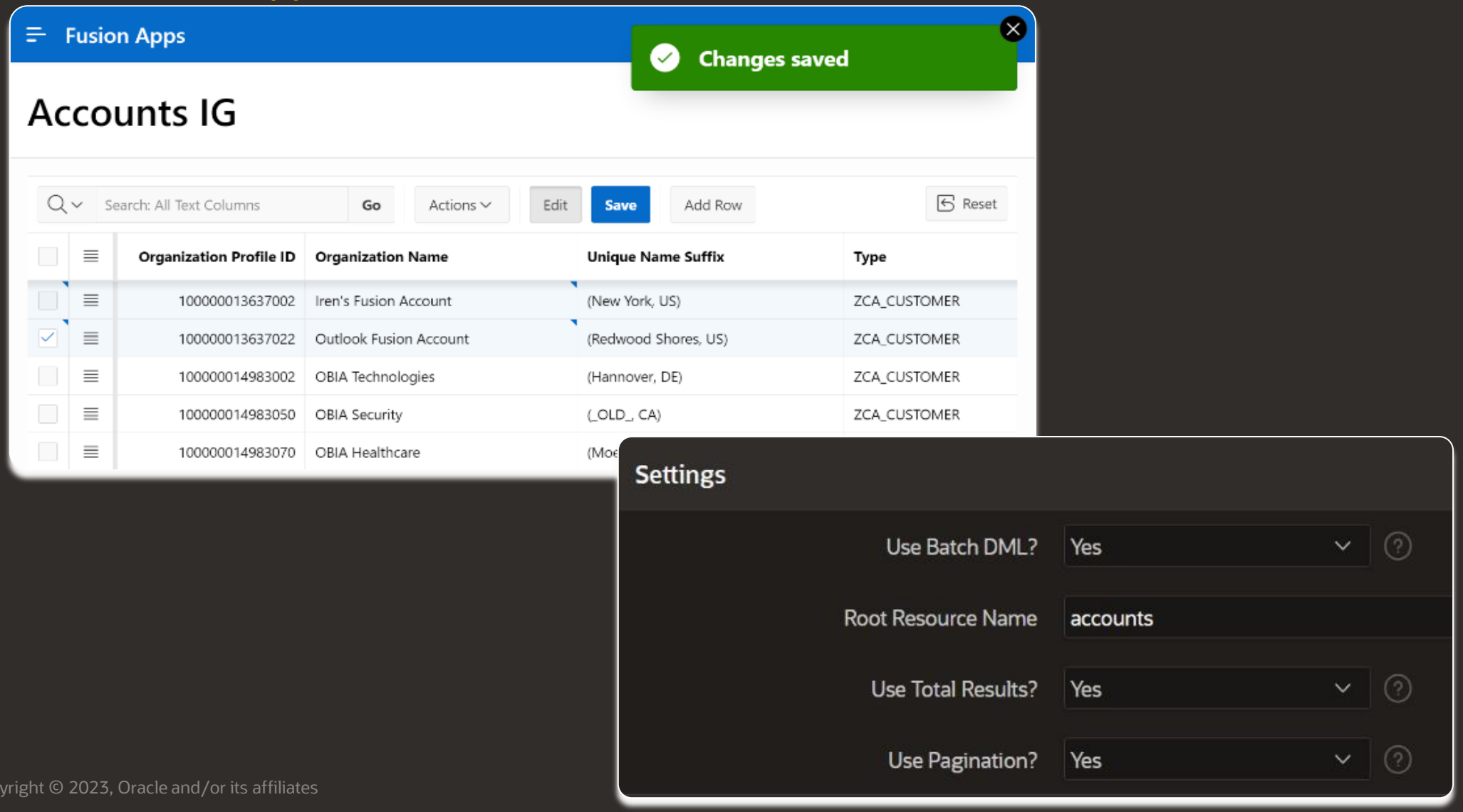
Developer Experience

Support for Fusion Apps Extensions



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Developer Experience

Improved Share Components Subscriptions

- Extend subscription functionality to all shared components
- Subscribed components are now read-only
- Automatic dependency resolution
- New Subscription Status column available across Shared Components reports
- Bulk refresh and deletion – Easily view subscribed shared components that are out of sync and refresh them

Workflow and Approvals Enhancements

- Action Tasks: Define human tasks that require a participant's input or acknowledgement without an explicit approval outcome.
- Optionally allow parameters to change value during a human task and react to the event using the Update Parameter action and new APIs.
- Business administrators can now remove task participants in addition to adding new ones.

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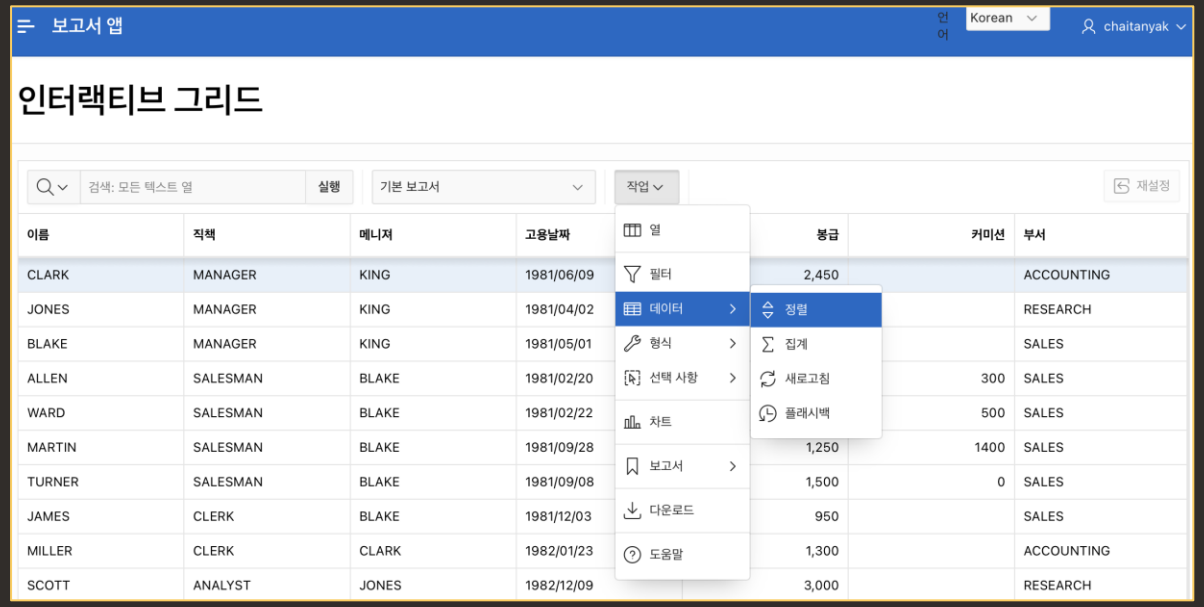
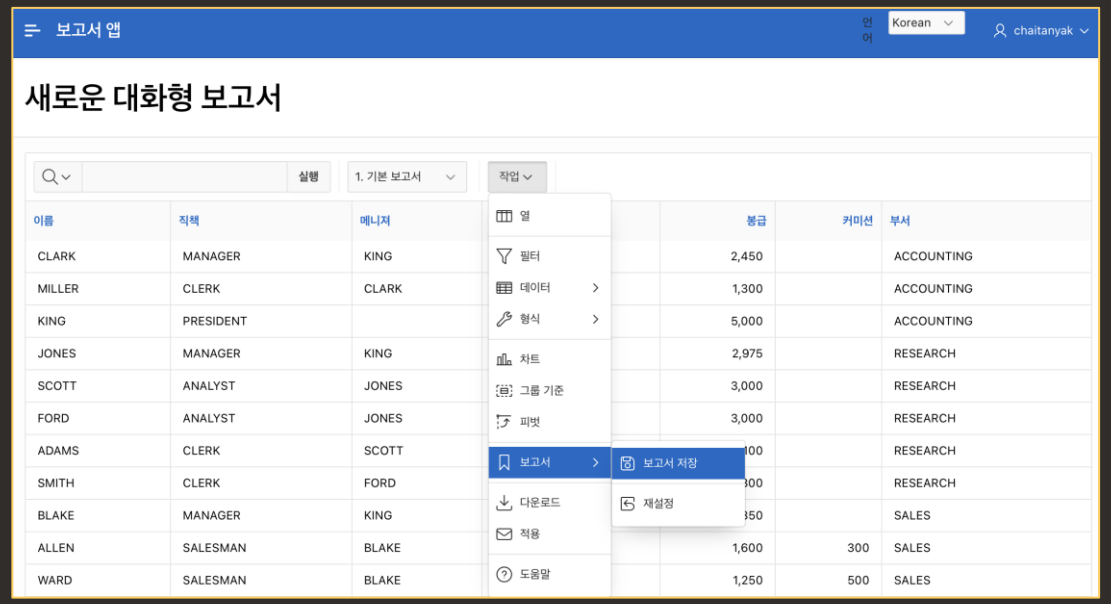
Developer Experience

Translating Default Reports

- You can now translate Default reports (Primary Default or Alternative Report) for interactive report and interactive grid regions.
- Saved default reports can be translated via application translation process. The translatable XLIFF file includes translating default report settings.





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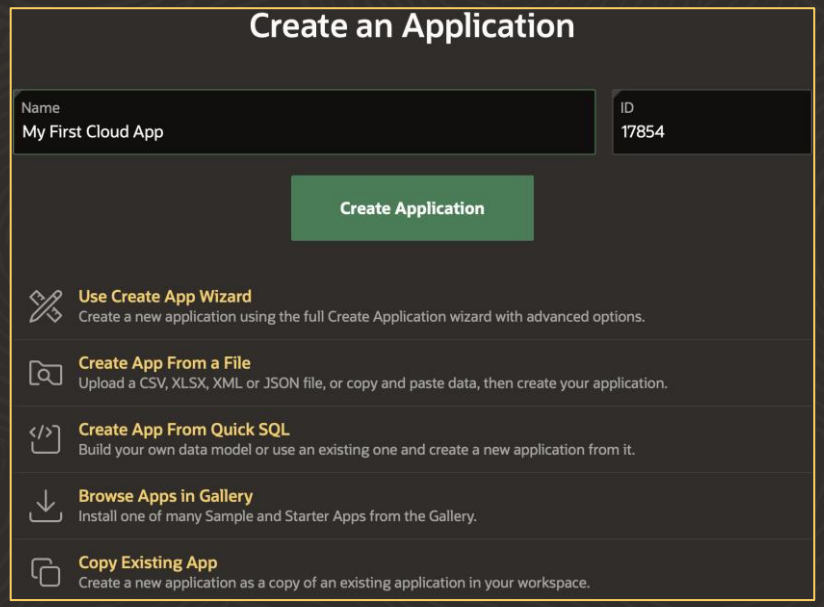
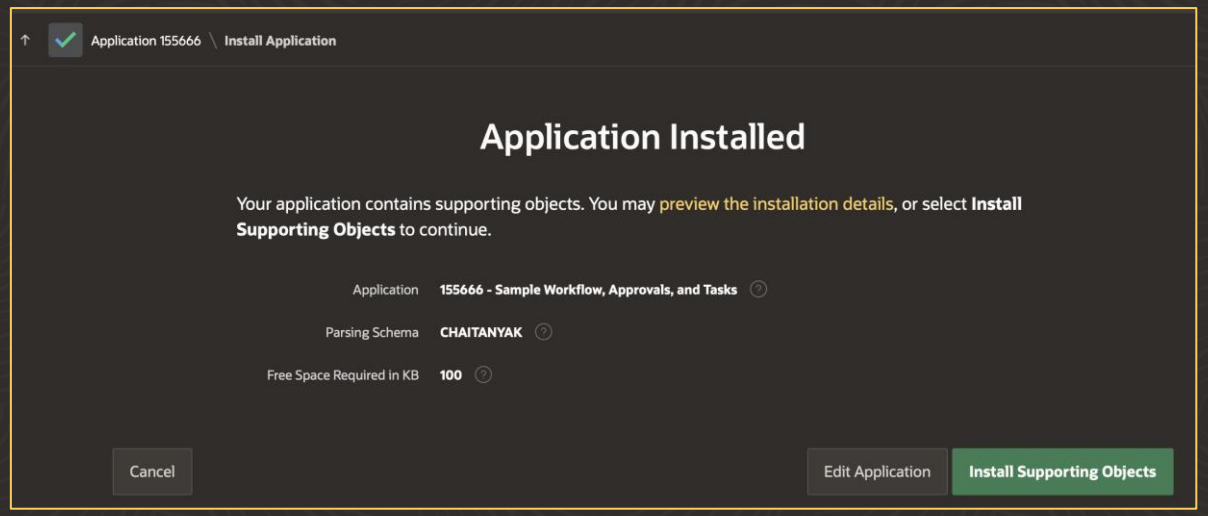
General Builder Improvements





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General Builder Improvements

Simplified Create App Wizard

- Enter an app name and use the Create Application button on the first page of the Create App process without having to go through the whole wizard
- The list of additional create options now have a new look, and there are options to use the full Create App wizard or Quick SQL in addition to the existing entries

Improved UX of App Export and Import

- The import and export wizards have been simplified to create a more intuitive, enhanced user experience.
- Export apps, pages, or components using the new, standardized navigation system for different types of exports, then import them into your workspaces and applications in just a few steps.

Builder Extension Links

- Add additional menu entries to the Builder UI for your workspace
- All entries/URLs will be opened in a new browser tab

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General Builder Improvements

Comment and Uncomment from Context Menu in Page Designer

- New Comment and Uncomment options in the Rendering Tree Context Menu in Page Designer allows toggling any component's Build Option attribute directly from the Context Menu in Page Designer, saving many clicks during the development process.

Application Gallery Improvements

- Install an app without using the Install dialog, and configure background app installations for an instance so you can do other tasks while an app installs or so you can install multiple apps in sequence.
- A new update option allows you to get the most recent version of a previously installed app already without needing to remove it.

Accessibility Improvements across the Builder

- General accessibility enhancements to the development environment and numerous accessibility-focused bug fixes have been made to create a better user experience for all users.

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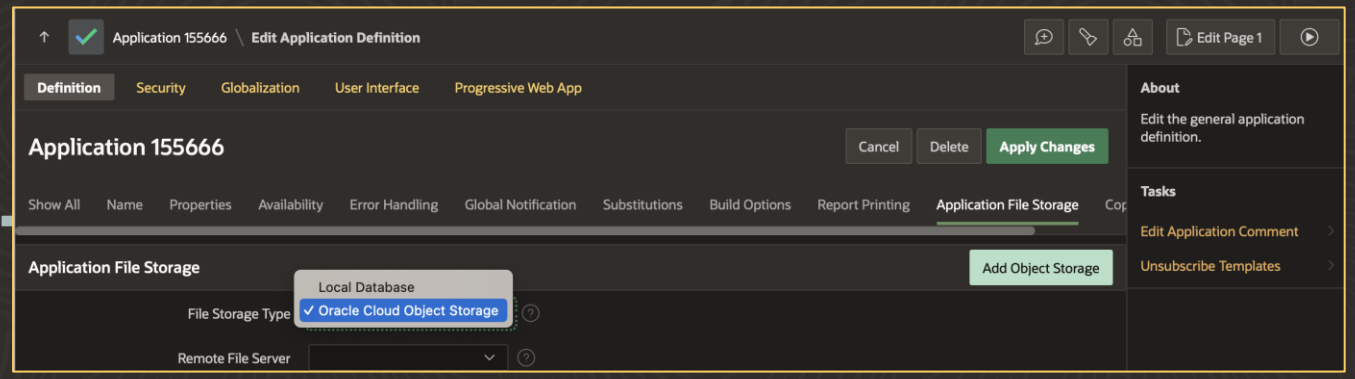
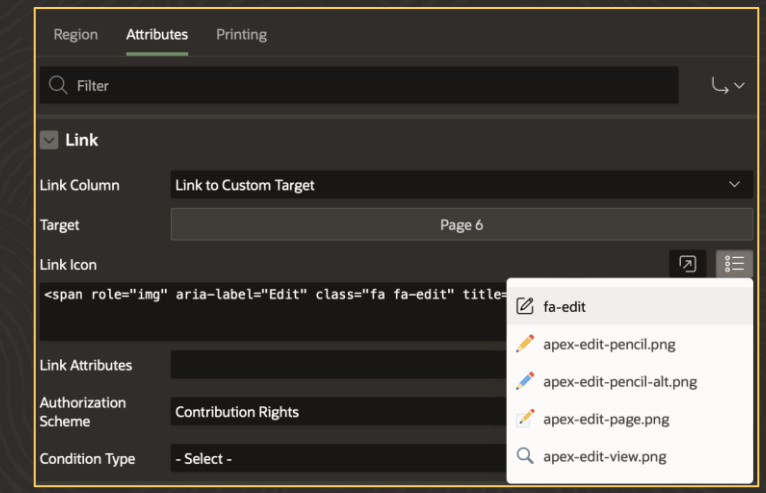
Additional Updates and Enhancements





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Additional Updates and Enhancements

Show Success Messages After Close Dialog

The Close Dialog process has a new attribute called Show Success Messages. When switched on, success messages are shown in the top level frame of the page.

Store Static Resources in Object Storage

A new Application File Storage option in Application Definition makes Object Storage available as the location for storing application static resources such as images, CSS, and JavaScript.

Default Interactive Report Link Edit Icon

When choosing a custom target for an interactive report attributes, the link icon will default to fa-edit if the application contains Font APEX. fa-edit is also added to the quick pick list.

Ubiquitous Database Search for Oracle Database 23c

A new search type in the APEX Search Configuration wizard provides support for the new Oracle Database 23c feature, Ubiquitous Database Search.

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Additional Updates and Enhancements

Background Execution Chain Context

Associate a context value with a background execution chain and optionally serialize execution based on it.

Disable and Restrict Apps with new Instance Parameters

New parameters in the APEX_INSTANCE_ADMIN API makes it possible to disable and restrict apps in your APEX workspace. Disable some or all apps with the DISABLE_APPS_LOGIN parameter, or restrict access to back-office apps with the RESTRICT_APPS_HEADER parameter, which identifies the HTTP request header and determines which apps are permitted for public use.

New Dataset for Arabic and Italian Languages

The EMP and DEPT dataset has been added for both the Arabic and Italian languages, accompanied by a blueprint for easily building sample applications on the underlying dataset.

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Additional Updates and Enhancements

Populate List Item Sub Entries with List Reference

Child Items of a Static List Item can now be populated by a reference a List, with the ability to nest lists up to 10 levels. The referenced List can be static or Dynamic, and identifying List and Sublist relations can easily be done in the List Utilization report.

Enhancements to Template Directives

Template Directives are now available for use inside the Text, Textarea, and HTML Template Component attributes in Page Designer, as well as in assignments of a {with/} and {apply/} block.

Improvements to Background Processing

Background page processing just got better with improved serialization, better integration with APEX error handling, and allowing transactional and non-transactional submissions.

Refreshed Redwood Light

Tweaks to colors, backgrounds, textures, padding, and additional styling give the Redwood Light theme a refreshed look and feel.

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Image Upload item

Feature comparison of “Display As” options

	Native File Browse	Inline File Browse	Icon Dropzone	Inline Dropzone	Block Dropzone
Cropping	√	√	√	√	√
Resize	√	√	√	√	√
Multiple Files*	√	√	√	√	√
Camera Capture	√	√	√	√	√
Preview**		√	√	√	√
Set Preview Size			√		
Remove		√	√	√	√

** Multiple files cannot be used with Allow Cropping.*

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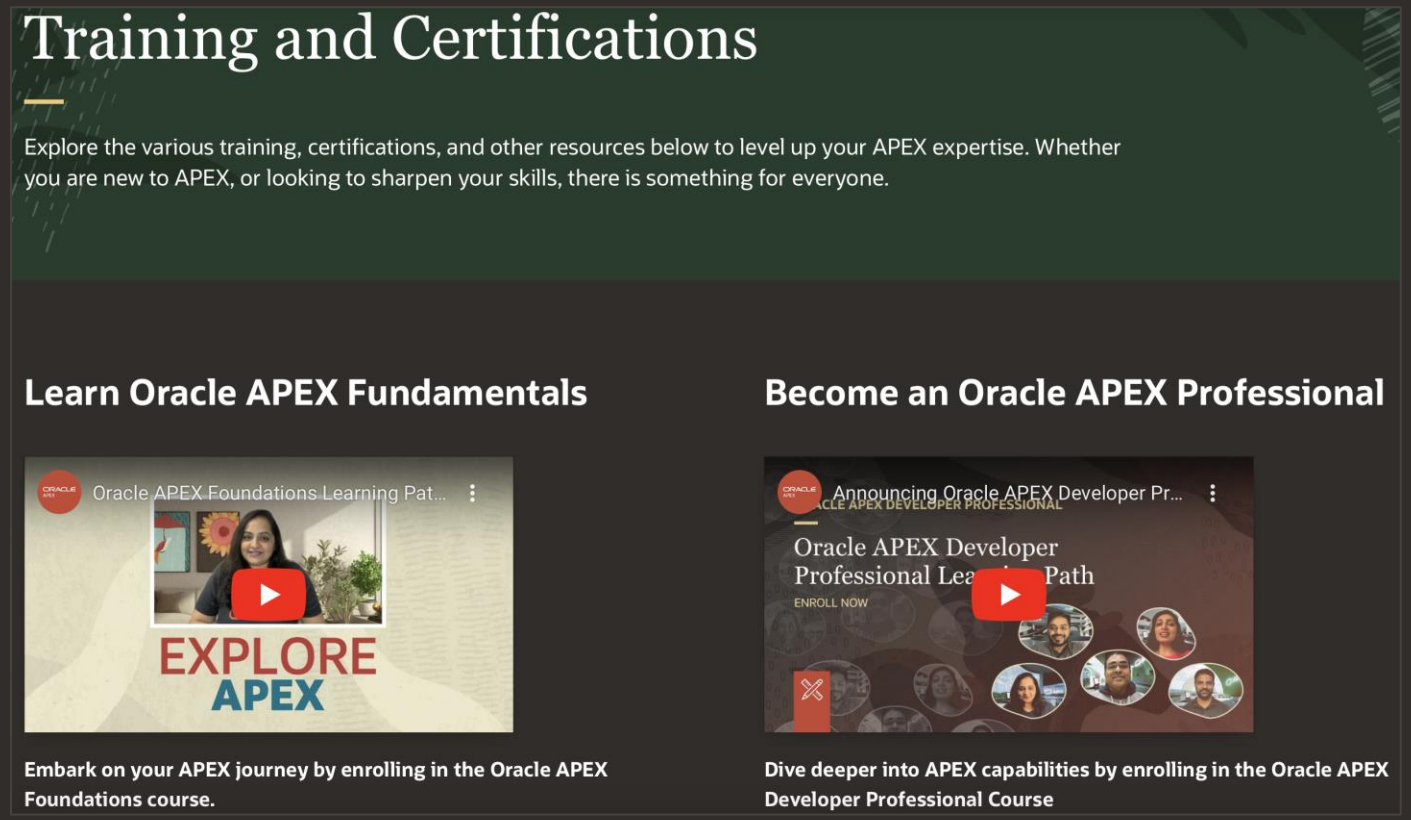

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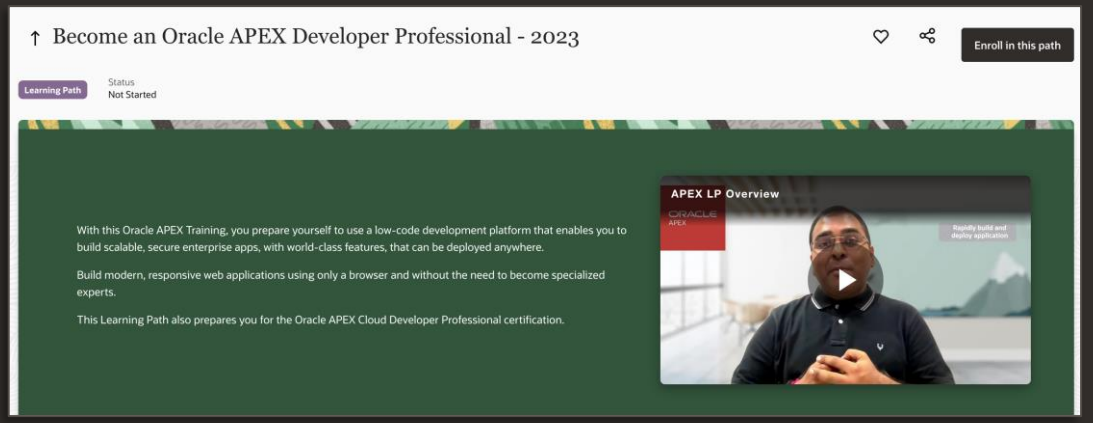

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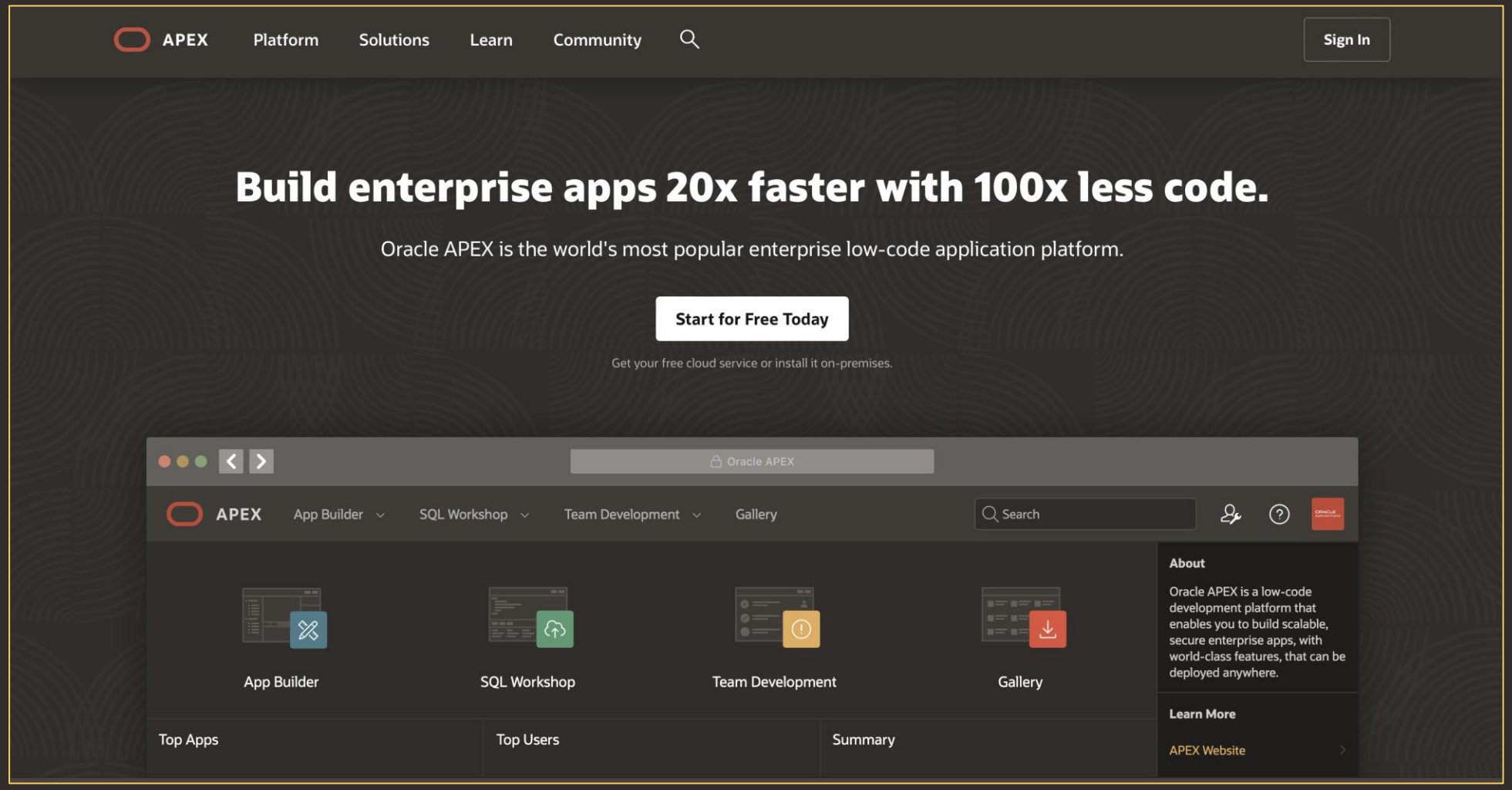

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