





Oracle APEX 21.1

New Features

Name

Presenter's Title

Organization, Division or Business Unit

Month 00, 2021



Maps Region



New Application Data Loading



Faceted Search Enhancements



UI and Theme Roller Updates



Improvements to REST Data Sources



Native Markdown Support



New Data Picker Item Type



Security Improvements



Developer Experience



Reporting Improvements



Additional Features

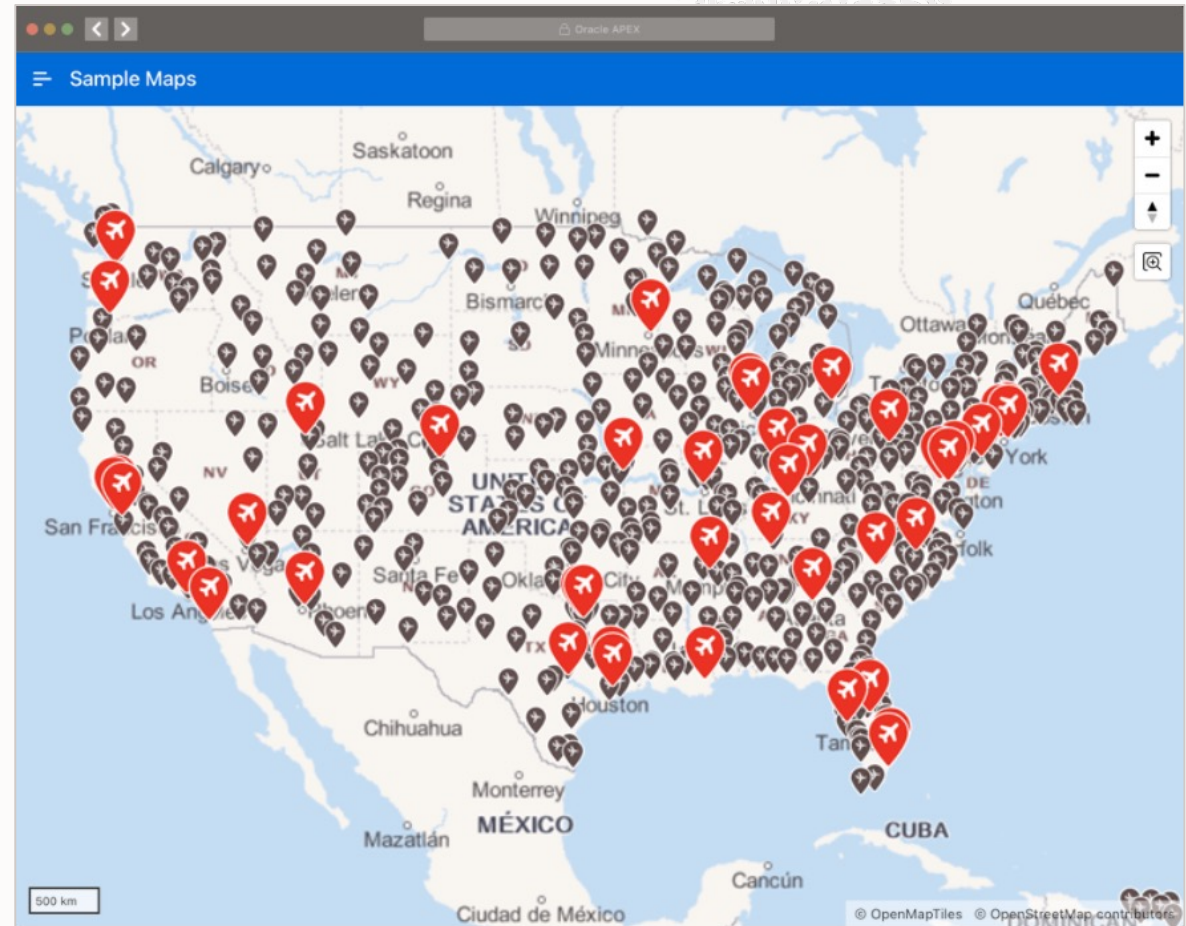


JavaScript Library Upgrades

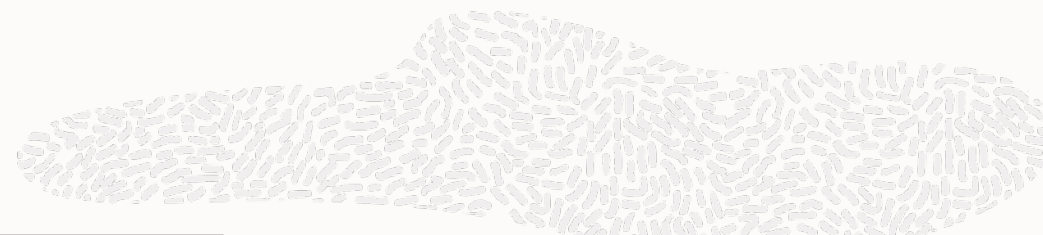
Native Map Region Type

You can now visualize location data on a map with the new native Map Component in APEX 21.1.

- Point, Line, Polygon, Heat Map and "3D Polygon" (Extruded Polygon) layer types.
- Background maps from the [Oracle Elocation Service](#). Ready to use, no API Key required.
- Fully Interactive: Drag and Zoom, show details about objects on the map.
- Oracle Spatial (SDO_GEOMETRY), GeoJSON and simple numeric columns.



Native Map Region Type



Create Page

Lines Polygons **Heat Map**

Column Type **Geometry Column** Two Numeric Columns

Geometry Column GEOMETRY (Sdo_Geometry) ?

Value Column MAG (Number) ?

Search Page ☒ ?

Identification

Countries

Points

Points

Lines

Polygons

Heat Map

Extruded Polygons

Source

Local Database

Table / View

Parsing Schema

Owner

Name

ROWID ☐

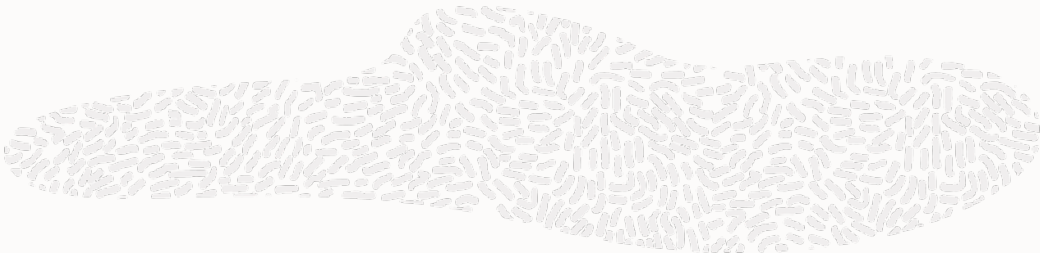
- Leverages Oracle Spatial (Indexes, Coordinate Transformations), if available.
- Visualize data from local SQL queries, REST Enabled SQL or from REST Data Sources.
- Rich set of built-in marker icons and SVG shapes.
- Built-in color schemes for thematic visualizations.
- *Faceted Search* integration.
- Dynamic Action support and JavaScript API.



New Application Data Loading

New Application Data Loading functionality, which supports CSV, XLSX, XML and JSON formats.

- *Column Mapping* at design time; no burden for end users any more.
- Flexible column mappings based on simple names or regular expressions.
- Data Conversion with Transformation Rules or Lookup Queries.
- Super-Easy flow for end users: Just upload the file, verify the preview and load data.



Data Profile

Data Profiles describe how Data Source format are being parsed and converted to rows and columns. For XML or JSON data format, the **Row Selector** attribute stores an XML or JSON path expression pointing to the node containing the collection of rows. **Data Profile Columns** determine how one row is parsed and converted to multiple columns.

Data Profile

NameEmployees

FormatCSV

Columns

Resequence ColumnsAdd Column >

Search: All Text ColumnsGoEdit

			Sequence ↑	Name	Column Type	Data Type	Selector Type	Selector
✓			1	EMPNO	Data	Number	Name	EMPNO
			2	ENAME	Data	Varchar2	Name	ENAME
			3	JOB	Data	Varchar2	Name	JOB
			4	MGR	Data	Number	Name	MGR
			5	HIREDATE	Data	Date	Name	HIREDATE
			6	SAL	Data	Number	Name	SAL

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[Date]

New Application Data Loading

- CSV, XLSX, XML, and JSON data formats can be loaded to Tables or Collections.
- Configure data loading to Append, Merge or Replace data, with or without Error Handling.
- Simple new Process Type **Data Loading**: Customize Data Loading pages as you wish.
- PL/SQL API **APEX_DATA_LOADING** available for custom processing.

New Data Loading

shlayel

Clear

Load Data

Loaded File

emp.csv

Preview

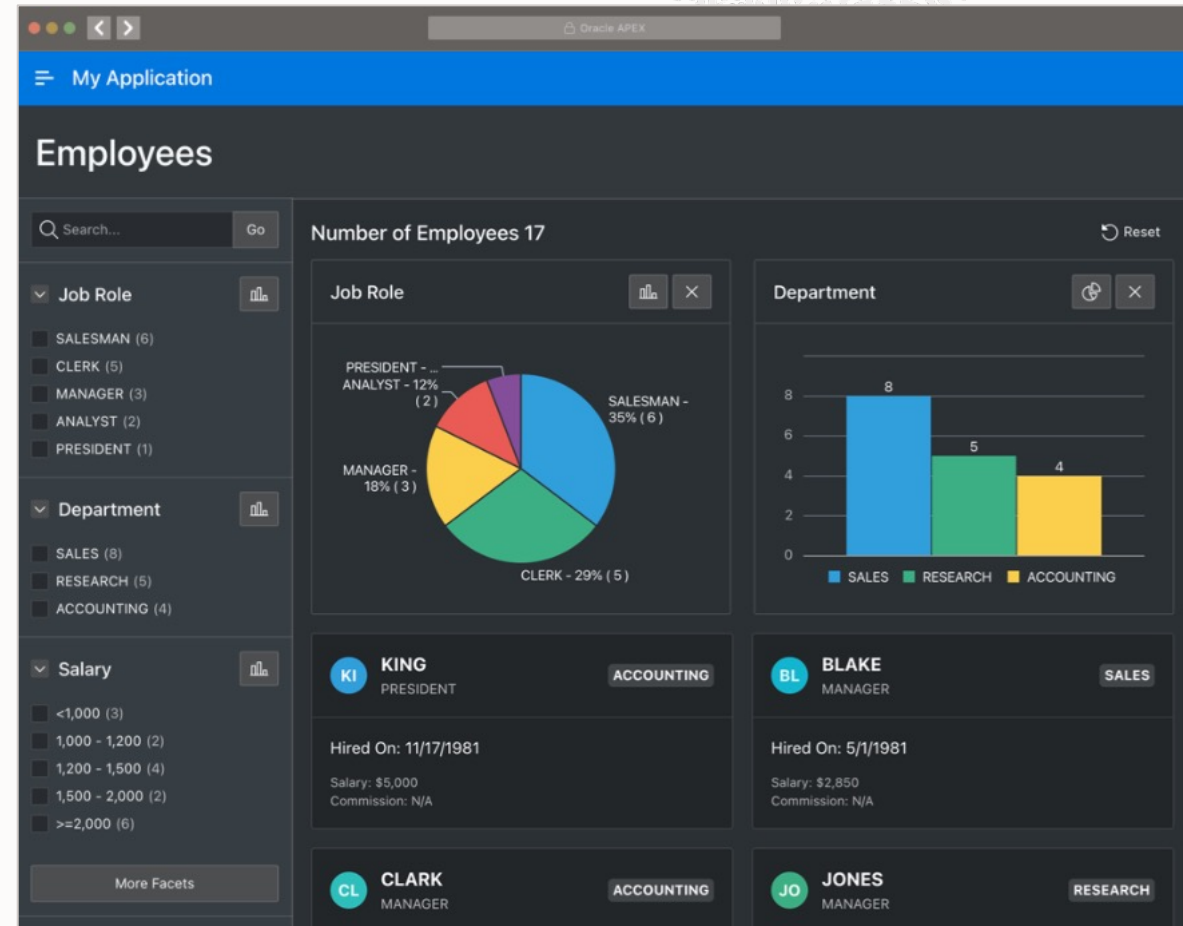
	EMPNO	ENAME	JOB	MGR	HIREDATE	SAL	COMM	DEPTNO
1	7839	KING	PRESIDENT		11/17/1981	5000		10
2	7698	BLAKE	MANAGER	7839	05/01/1981	2850		30
3	7782	CLARK	MANAGER	7839	06/09/1981	2450		10
4	7566	JONES	MANAGER	7839	04/02/1981	2975		20
5	7788	SCOTT	ANALYST	7566	12/09/1982	3000		20
6	7902	FORD	ANALYST	7566	12/03/1981	3000		20
7	7369	SMITH	CLERK	7902	12/17/1980	800		20
8	7499	ALLEN	SALESMAN	7698	02/20/1981	1600	300	30
9	7521	WARD	SALESMAN	7698	02/22/1981	1250	500	30

Release 1.0

Faceted Search Enhancements

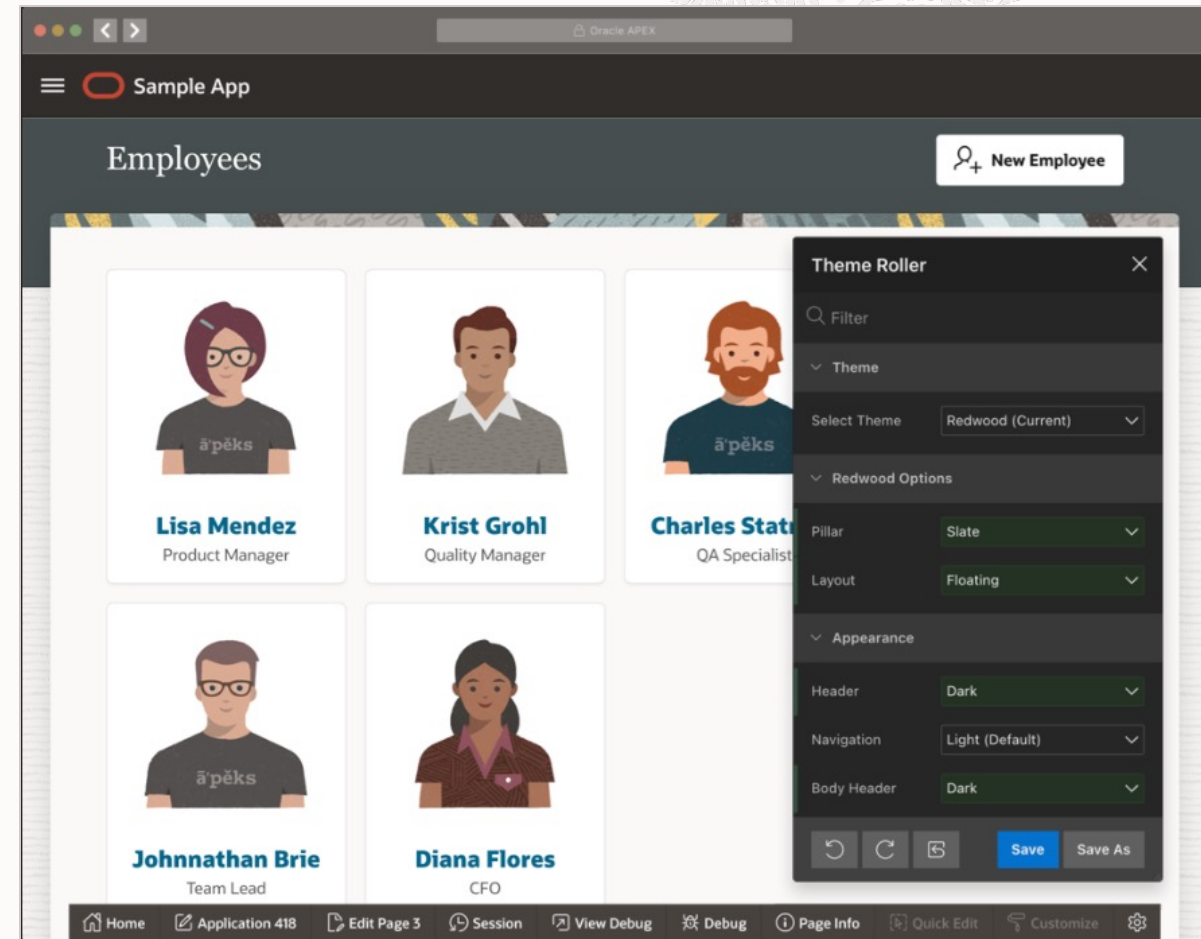
Optional Facets with end user customization

- Facet and Facet Groups now have two new Page Designer attributes under 'Advanced' called 'Display Toggling' and 'Initially Displayed'.
- If 'Display Toggling' = On, End-Users can Show or Hide that facet from a new "More Facets" popup.
- Use case: Hide some advanced and rarely used Facets out-of-the-box, but make them available on-demand.
- Your faceted search now supports Calendar and Map regions.



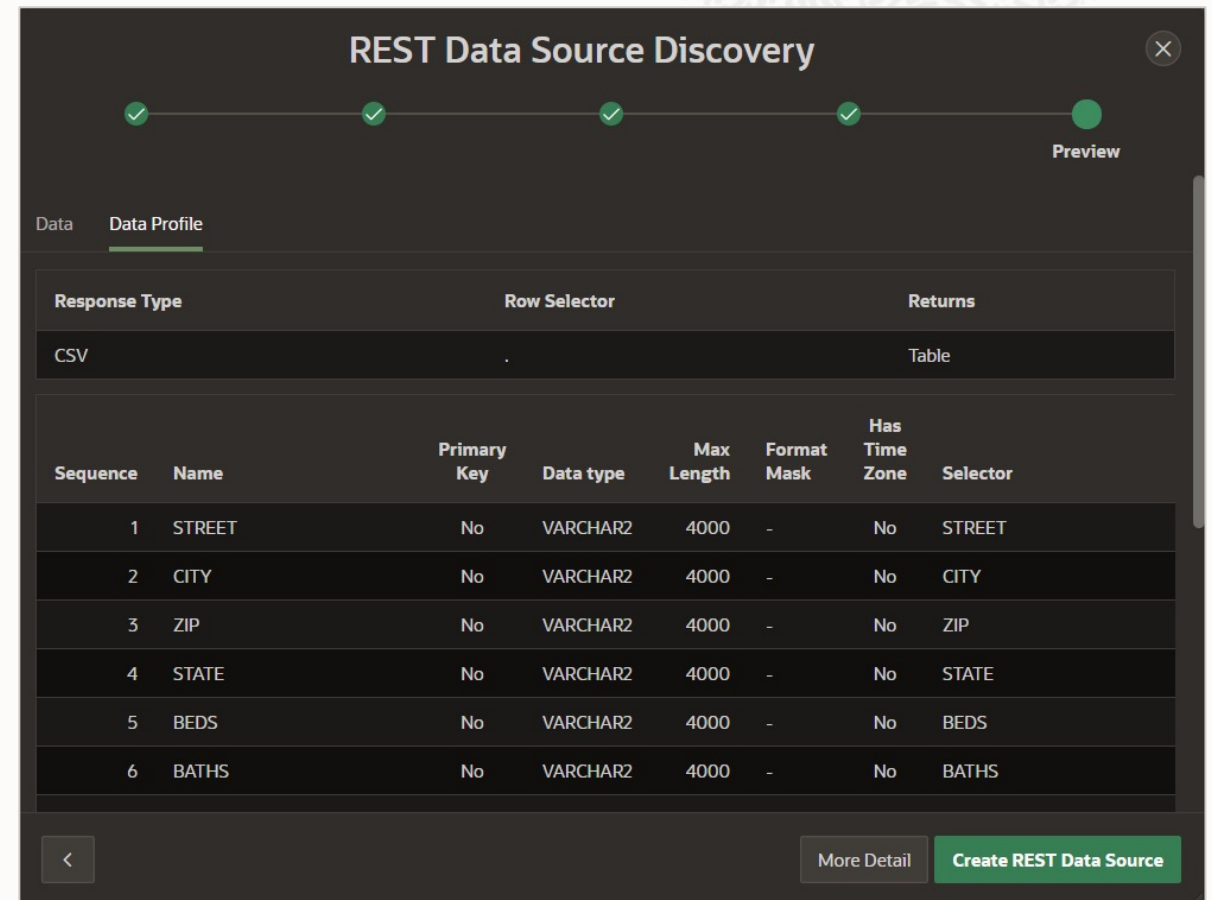
UI and Theme Roller Updates

- Enhanced "Redwood Light" Theme Style which is more inline with the Redwood Design System.
- New "Row CSS Classes" Page Designer attribute added to Region, Page Item, and Item Buttons.
- New "Theme Style Page CSS Classes" attribute added to Theme Styles (see Shared Components -> Theme -> Theme Styles).



Improvements to REST Data Sources

- Support for CSV data:
Use *Synchronization* to schedule frequent loading of CSV data from the web to a local table.
- Data conversions using Transformation Rules and Lookup Queries.
- New Overview report on defined REST Data *Synchronizations* in Shared Components, REST Data Sources.



The screenshot displays the 'REST Data Source Discovery' window. At the top, a progress bar shows five steps, with the final step 'Preview' highlighted. Below the progress bar, there are two tabs: 'Data' and 'Data Profile', with 'Data Profile' currently selected. The main content area is divided into two sections. The top section has three columns: 'Response Type' (containing 'CSV'), 'Row Selector' (containing a dot), and 'Returns' (containing 'Table'). The bottom section is a table with the following columns: 'Sequence', 'Name', 'Primary Key', 'Data type', 'Max Length', 'Format Mask', 'Has Time Zone', and 'Selector'. The table contains six rows of data.

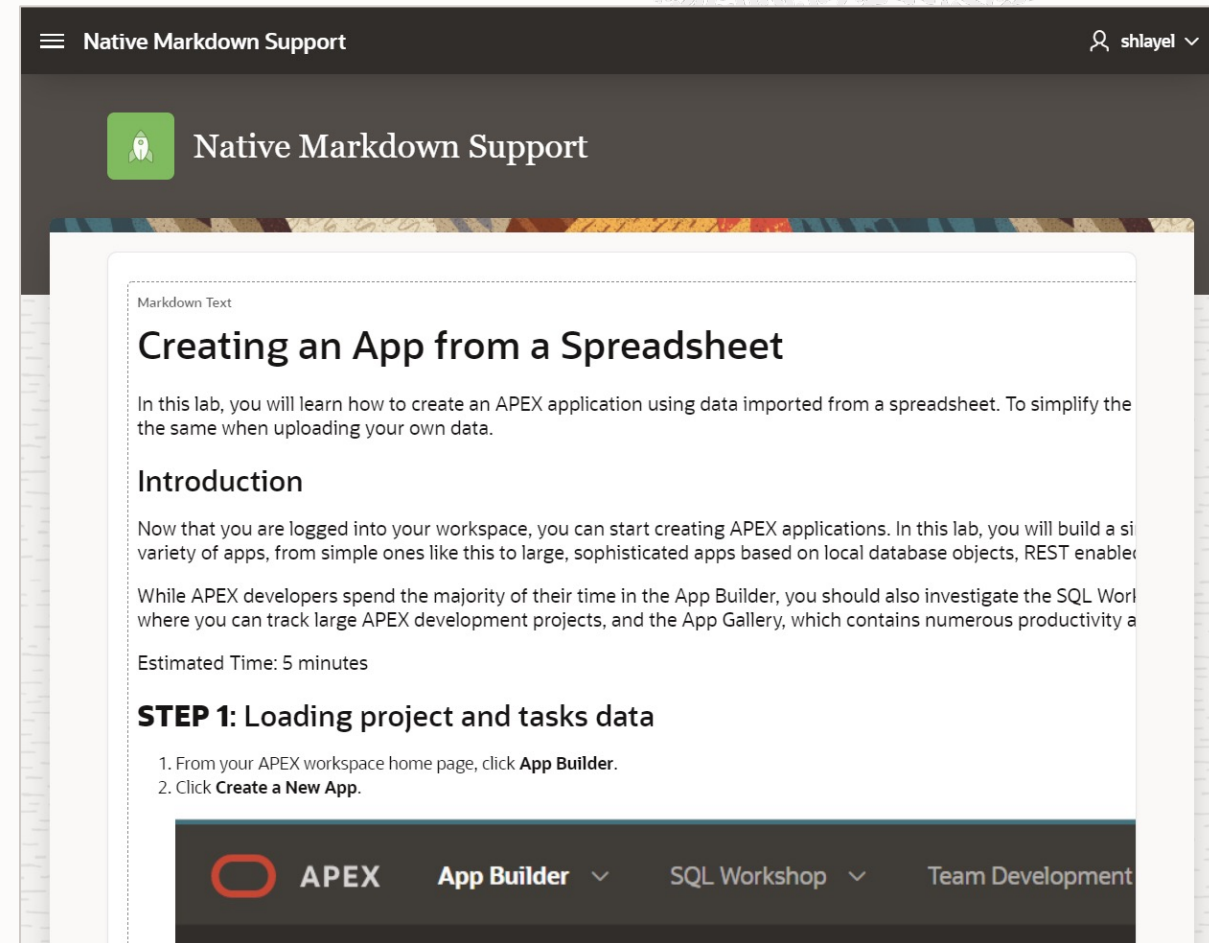
Sequence	Name	Primary Key	Data type	Max Length	Format Mask	Has Time Zone	Selector
1	STREET	No	VARCHAR2	4000	-	No	STREET
2	CITY	No	VARCHAR2	4000	-	No	CITY
3	ZIP	No	VARCHAR2	4000	-	No	ZIP
4	STATE	No	VARCHAR2	4000	-	No	STATE
5	BEDS	No	VARCHAR2	4000	-	No	BEDS
6	BATHS	No	VARCHAR2	4000	-	No	BATHS

At the bottom of the window, there is a navigation bar with a back arrow, a 'More Detail' button, and a green 'Create REST Data Source' button.



Native Markdown Support

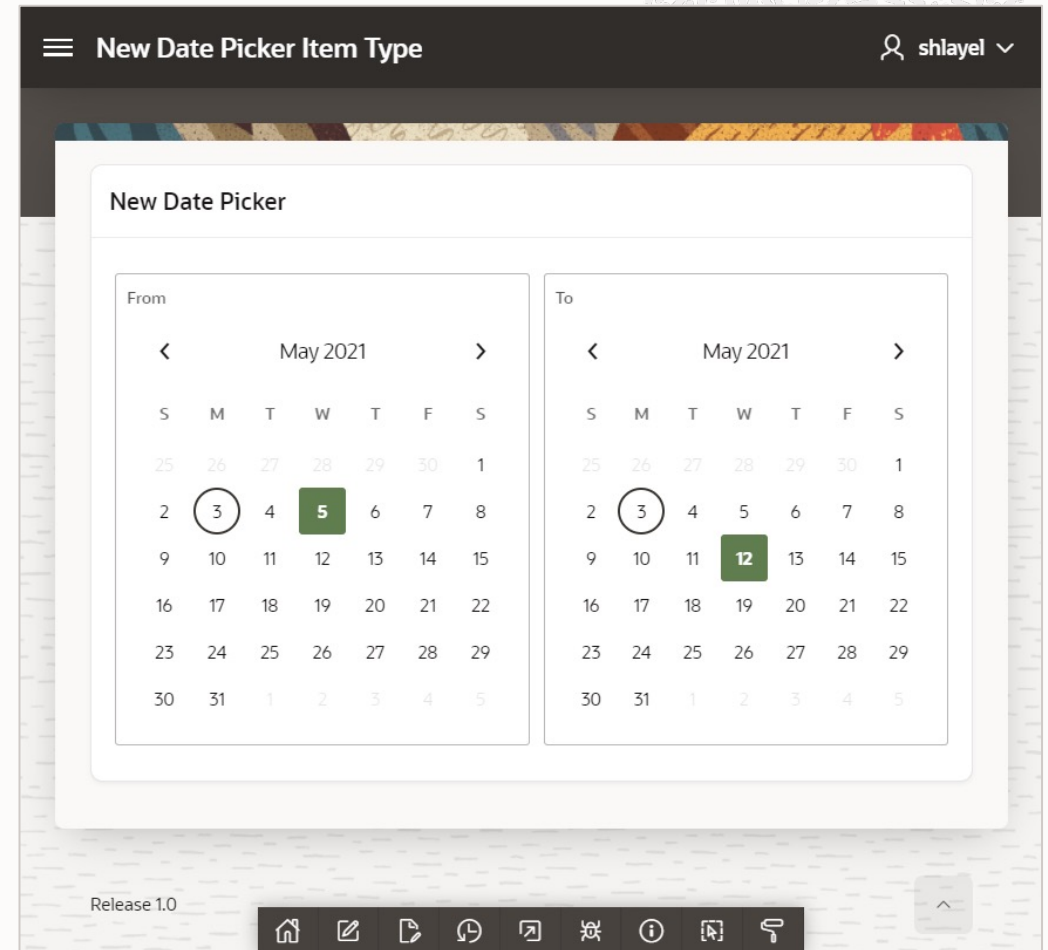
- New public PL/SQL API, **APEX_MARKDOWN**, to convert Markdown into HTML.
- Enhanced 'Display Only' item type which supports Markdown. Added new 'Format' attribute and removed 'Escape Special Characters' flag.
- Renamed 'Markdown' Classic Report Column Type to 'Rich Text'.
- New 'Rich Text' Interactive Report column type.
- Markdown support added to HTML format of Data Export.
- Changed default of Rich Text Editor, Rich Text to use Markdown as secure out-of-the-box default



New Date Picker Item Type

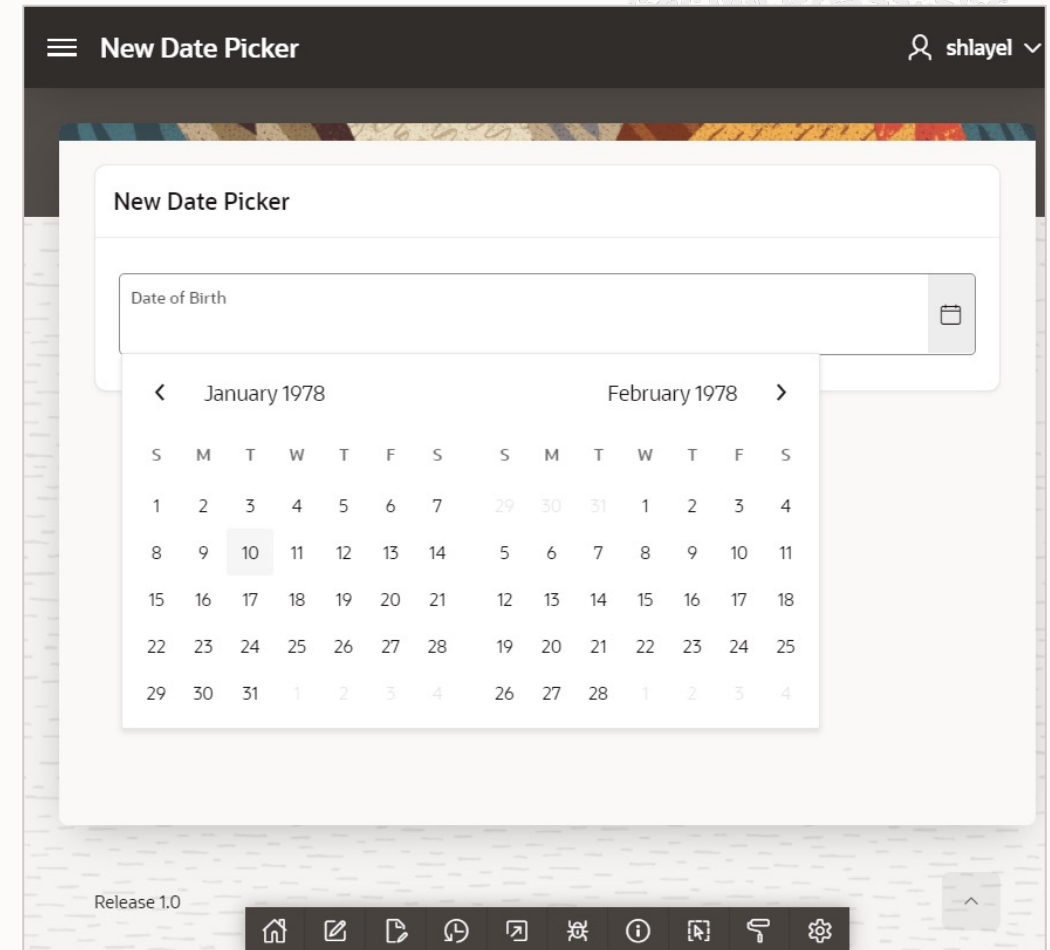
New Date Picker item type. This new modern, accessible item type is based on the Oracle JET Input Date Time, featuring.

- Supports different display modes: JET-based Popup and Inline, and also Native HTML (no-JET, and better mobile UX)
- All display modes support both Date, and Date and Time (time enabled through new dedicated attribute 'Show Time')



New Date Picker Item Type

- Includes ability to define dynamic Minimum / Maximum dates (for defining date ranges between items, eg 'From' and 'To')
- Other new features include: Improved UX (especially around year and month selection), additional appearance options for example 'Show Week' and 'Days Outside Month', and a few other new attributes (check out the samples below)



Security Improvements

Escape Special Characters in Application Items

There is now an attribute for Application Items that allows you to escape special characters. This setting is applied when accessing application items via substitution syntax.

Referrer-Policy HTTP Header

APEX now sends a default Referrer-Policy HTTP header so session IDs are no longer sent with the Referrer header on external links.

Markdown Format Default for Rich Text Editor

The Rich Text Editor now defaults to output in Markdown format to provide the best out-of-the-box security.

Maximum Session Idle Timeout

The maximum session idle timeout has been increased from 12 hours to 24 hours.



Developer Experience

Import Application Exports as ZIP

You can now import zip files of application exports, including zips of applications split using the APEXExport utility.

SQL Workshop Enhancements

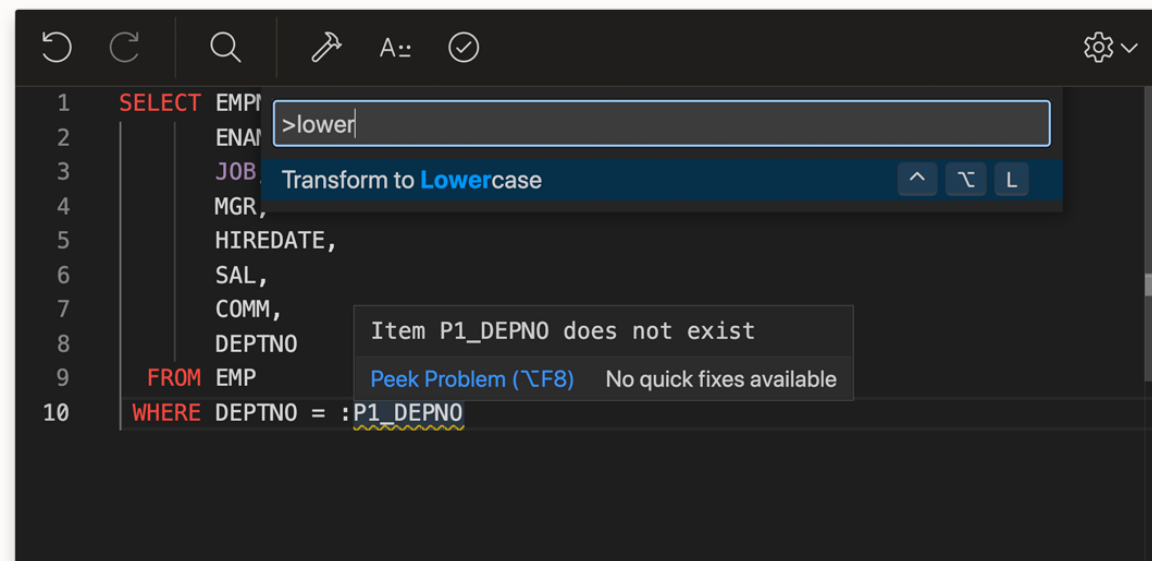
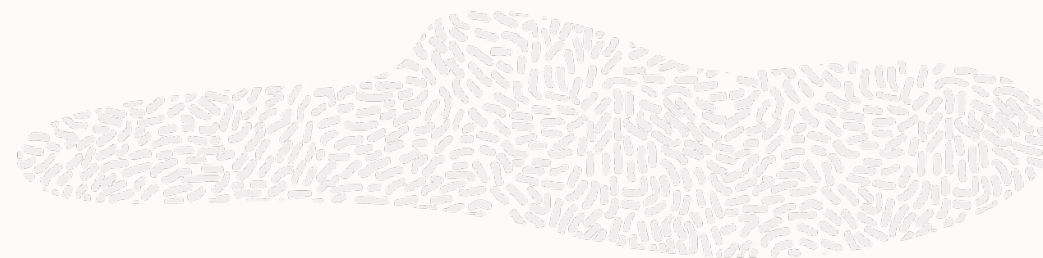
SQL Workshop now includes a new Create Spatial Index wizard.

Application and Page Checksums

You can now find application and page checksums for easy comparisons across different environments.

Code Editor Improvements

There are numerous improvements to the code editor within the App Builder, including toggling between upper and lower case using Ctrl-Alt-C, marking of non-existent page items, and several additional editor options for Minimap, Show Suggestions, Show Line Numbers, Show Whitespace, Accessibility Mode, and more.



Reporting Improvements

Lazy Loading

Classic and Interactive Reports now support Lazy Loading, where report data is not loaded until the page has been rendered, or the current tab has been activated improving initial page load speed, primarily for pages containing reports with long-running queries.

Report Printing in Arabic and Hebrew

Report printing supports complex text layout languages, such as Arabic and Hebrew, when exporting to PDF.

Variable Height Rows in Interactive Grids

Interactive Grids now support variable height rows by setting the 'Appearance: Fixed Row Height' property to Off.

اللغة العربية

سليم هليل

روائع الشعر العربي

الأبيات

دَعِ الْأَيَّامَ تَفْعَلْ مَا تَشَاءُ وَطِبْ نَفْسًا إِذَا حَكَمَ الْقَضَاءُ
وَكُنْ رَجُلًا عَلَى الْأَهْوَالِ جُلْدًا وَشِيْمَتِكَ السَّمَاةُ وَالْوَفَاءُ
وَلَا تَجْزَعْ لِحَادِثَةِ اللَّيَالِي فَمَّا لِحَوَادِثِ الدُّنْيَا بَقَاءُ

طباعة

من شعر الإمام الشافعي

الأبيات
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روائع الشعر العربي

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Additional Features

Dynamic Action Enhancements

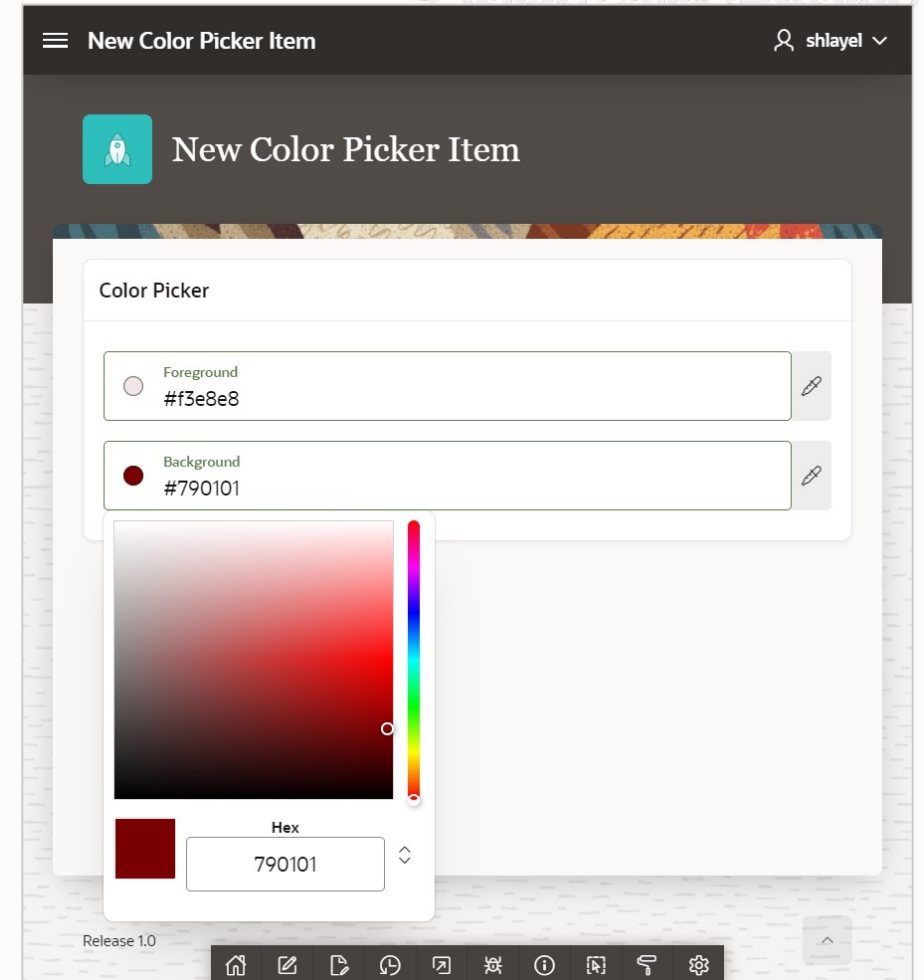
You can now define Client-Side Conditions, Server-Side Conditions, Authorizations, and Build Options for Actions of Dynamic Actions.

Improved Number Field Page Item Type

The Number Field page item type now does automatic formatting according to its format mask and client side validation.

Updated Color Picker Page Item Type

The Color Picker page item type has been updated with different display modes, color presets, contrast checking, and multiple value return formats. (HEX, RGB/RGBA, HSL/HSLA, or any CSS color value).



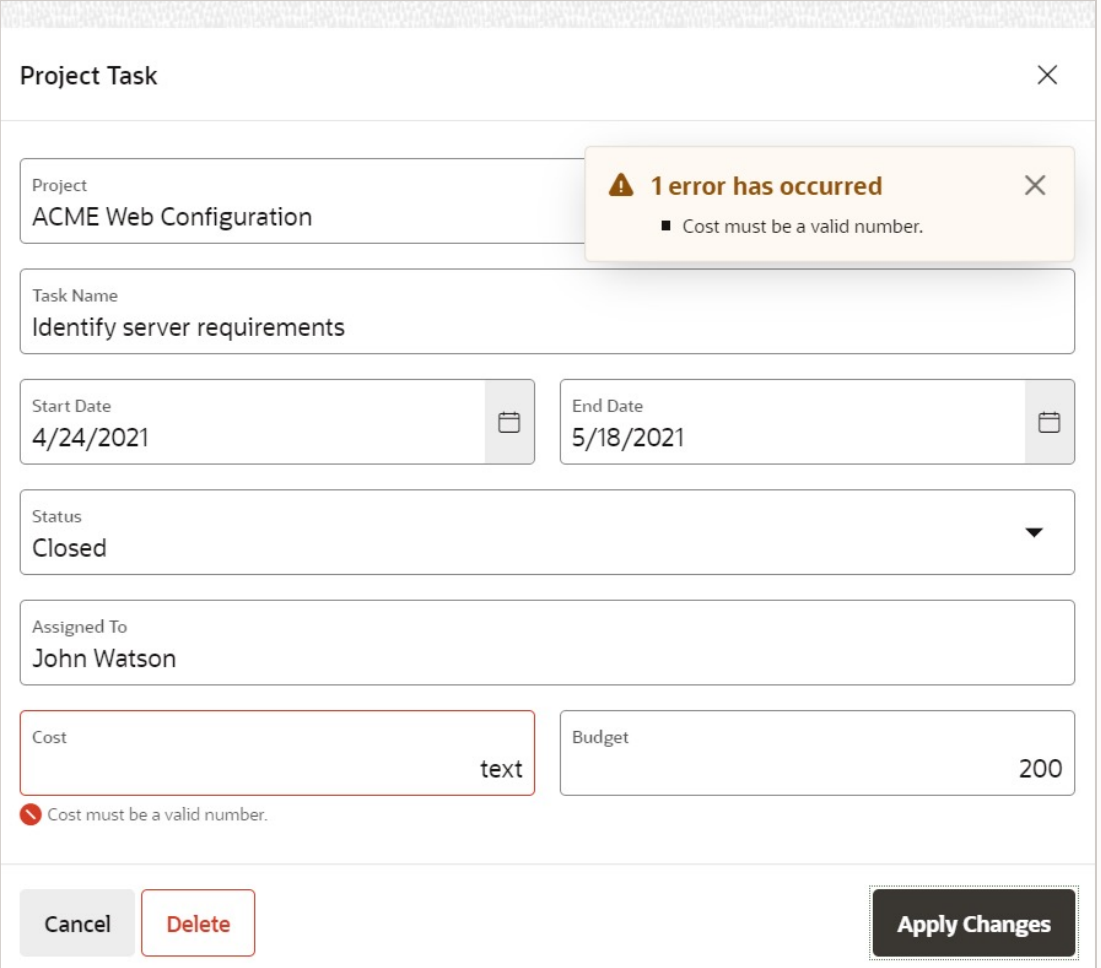
Additional Features

Client-side Validation Improvements

The client-side validation messaging is more consistent with server validation messaging, and no longer displays the error pop-up.

APEX API Enhancements

There's now GeoJSON and SDO_GEOMETRY support in the APEX_JSON and APEX_EXEC packages.



Project Task

Project
ACME Web Configuration

Task Name
Identify server requirements

Start Date
4/24/2021

End Date
5/18/2021

Status
Closed

Assigned To
John Watson

Cost
text

Budget
200

1 error has occurred
■ Cost must be a valid number.

Cost must be a valid number.

Cancel Delete Apply Changes

JavaScript Library Upgrades

- Oracle JET 10.0.0
- FullCalendar 5.5.1
- CKEditor5 27.1.0
- Monaco Editor 0.22.3



Desupported Features



- Websheets are no longer supported
- Migration Workbench
- REST Administration Interface
- AnyChart, AnyMap, and AnyGantt charts
- Productivity and Sample Applications
- WWV_FLOW_EPG_INCLUDE_LOCAL for Web Entry Points
- Download Interactive Report as RTF

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data in new ways, discover insights,
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