Oracle APEX 20.2: New Features

Name
Presenter’s Title
Organization, Division or Business Unit
Month 00, 2020
New Cards Region
Automations
Faceted Search Enhancements
Report Printing
REST Data Source Synchronization
REST Data Source Connector Plug-ins
New Web Credential Types
Redwood UI
Developer Experience
New and Improved Items
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JavaScript Library Upgrades
New Cards Region

• New Native Report Region Type
• Useful for presenting a variety of information in small blocks
• Can be displayed in three styles, with icons or initials, images as part of the body or as the background
• Can embed images from BLOB column, URL or video in iFrame
• Actions can be added to each card's image, title, subtitle, as new buttons or even using the entire card
• Fully declarative, but still flexible to customize
• Can be used with Faceted Search
## New Cards Region

<table>
<thead>
<tr>
<th>Before APEX 20.2</th>
<th>APEX 20.2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Classic Report with Cards Template</td>
<td>Native Region Type</td>
</tr>
<tr>
<td>SQL Query with specific column alias required</td>
<td>Declarative Table, SQL Query, REST Source</td>
</tr>
<tr>
<td>Declarative from Create App wizard</td>
<td>Declarative from Create App, Create Page and Page Designer</td>
</tr>
<tr>
<td>Server-side Rendering</td>
<td>Client-side Rendering</td>
</tr>
<tr>
<td>Hard to Customize</td>
<td>Declarative Customizations</td>
</tr>
<tr>
<td>N/A</td>
<td>Badge, Media, conditional Actions</td>
</tr>
</tbody>
</table>
Automations

• Conditional set of actions that are automatically triggered by changes that occur within database tables or remote data sources
• Used to monitor data and then perform the appropriate action
  ✓ Examples: Auto-approving specific requests, and sending email alerts
• Can be triggered on Schedule or on Demand, by invoking the APEX_AUTOMATION package
• Query results can be derived from :
  ✓ Table or View, SQL Query or a PL/SQL function returning a SQL Query
  ✓ Local Database or REST Enabled SQL
  ✓ REST Data Source
Faceted Search Enhancements

- Visualization of current facet value counts as a bar or pie chart in a dialog or 'dashboard' area.
Faceted Search Enhancements

- Groups of checkbox facets for Boolean columns
- Input Field facet type supports user-entered value with the facet column
Report Printing

- Built-in PDF printing and Native Excel download for Interactive Reports, Interactive Grids and Classic Reports
- Built-in PDF printing now supports Chinese, Japanese, and Korean languages
Report Printing

- Interactive Report – **Send as Email**: All download formats can now be attached
- Export **Data Only** for Interactive Reports and Interactive Grids
- Enhanced integration with BI Publisher:
  - Workspace-level configuration of new BI Publisher API that supports authentication
  - Allows for configuring the Oracle Analytics Cloud Service as a print server when using APEX on the Autonomous Database
- New `APEX_REGION.EXPORT_DATA` and `APEX_DATA_EXPORT` APIs
REST Data Source Synchronization

• Web Source Module is renamed as REST Data Source
• APEX declaratively supports data synchronization from a REST Data Source to a local table
  ✓ Generates local target table automatically
  ✓ Allows Append, Merge and Replace synchronization types
• APEX components using the REST Data Source can use the local table instead
• You can configure HTTP request limits, commit intervals or delete methods for the Replace mode
REST Data Source Connector Plug-ins

- APEX now supports Connector Plug-Ins for external REST APIs
- Enable APEX to fully leverage REST API features like result pagination or server-side filtering
- Allow 3rd Party REST Services which are not ORDS or Oracle Fusion SaaS Services
1. Developer creates a Plug-In of the REST Data Source type
2. Plug-In code handles REST service-specific implementation details like the pagination style or how filters are passed to the REST API
3. When APEX invokes a REST Data Source, the engine invokes the Plug-In code and passes all relevant context information
4. Plug-In code executes one or multiple HTTP requests and passes results back to the APEX engine
5. APEX processes the REST response received from the Plug-In
New Web Credential Types

- Use the secure and encrypted credential storage for more credential types
- New **URL Query String** and **HTTP Header types** for Web Credentials
- A web credential can now be protected by providing a URL pattern
  - APEX will only use the web credential for URLs starting with the given pattern; otherwise an error message will be raised.
Redwood UI

- Universal Theme now supports a new Redwood Light theme style, available via Theme Roller
- Refresh your existing apps to uptake the latest version of Universal Theme and this new theme style
Developer Experience

- Page Designer now supports multiple tabs in the Property Editor pane, making it more efficient to access the attributes of a region.
- Select the region, and then the Attributes and Printing (if appropriate) tabs will appear in the Property Editor next to the Region tab.

Page Designer in Oracle APEX 20.1
Page Designer in Oracle APEX 20.2
Developer Experience

• A new code editor, **Monaco Editor** has been implemented throughout the development environment, resulting in a greatly improved code editing experience
  ✓ Includes enhanced code completion, syntax highlighting and vastly improved accessibility

• Quick SQL has been enhanced to support the saving of a model, and the automatic population of a Primary Key using column default
Developer Experience

- New **Embedded Code** utility allows you to inspect the SQL, PL/SQL and JavaScript contained within your app
  - Convenient for code reviews, security evaluations or application tuning
  - You can save code to the file system from the App Builder, or using the APEXExport utility.
New and Improved Items

- New single Checkbox item type
  - Works in Interactive Grid as well, even when not in edit mode
- File Browse item type has been enhanced to support rendering as a drop zone
- Rich Text Editor item type has been upgraded to use CKEditor 5 and now supports markdown output
- Text Field item type has a new Text Case setting
- The Text Field Trim Spaces and Text Case settings and Textarea Trim Spaces settings are now applied on the client as well as the server
Miscellaneous

- Tree region type has been enhanced to support lazy loading and refresh without having to reload the full page
- New Interactive Grid Saved Report Static ID Support
- APEX_WEB_SERVICE API has been enhanced to support sending the payload of a REST request in multipart/form-data format
JavaScript Library Upgrades

- Oracle JET 9.1.0
- jQuery 3.5.1
- CKEditor 5
- Monaco Editor 0.20.0
Desupported Features

- Oracle HTTP server (mod_plsql) and the Embedded PL/SQL Gateway web listeners are no longer supported
- Oracle REST Data Services (ORDS) is the only supported web listener now
- Internet Explorer (IE) 11 is no longer supported
Thank You
Our mission is to help people see data in new ways, discover insights, unlock endless possibilities.