Oracle APEX 20.2: New Features

Name
Presenter’s Title
Organization, Division or Business Unit
Month 00, 2020
Name of speaker

Title
Company
Date
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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

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<th>Before APEX 20.2</th>
<th>APEX 20.2</th>
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<tr>
<td>Classic Report with Cards Template</td>
<td>Native Region Type</td>
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<tr>
<td>SQL Query with specific column alias required</td>
<td>Declarative Table, SQL Query, REST Source</td>
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<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>
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</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
REST Data Source Connector Plug-ins

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.
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
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Oracle APEX Application Development Service
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