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Oracle CPQ JET Best Practices

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REVSION HISTORY

This document will continue to evolve as existing sections change and new information is added. All updates appear in the following table:

DATE	FEATURE	NOTES
January 2020		Created initial document

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Due to the nature of the product architecture, it may not be possible to safely include all features described in this document without risking significant destabilization of the code.

TABLE OF CONTENTS

Revsion History	1
Disclaimer	1
Purpose	3
Applies To	3
Details	3
What is the JET UI?	3
What is involved in adopting Oracle CPQ JET UIs?	3
Behavioral differences in Oracle CPQ JET UI	3
Enable JET for a limited group of users to start	
Optimizing Transaction screen layouts for JET	
Line Item Size and Actions	5
Optimize Line Item Grid column widths	5
Use only one set of panel columns per panel	5
Add 'toolbars' to contain sub-header labels and actions	7
Use custom class to create fixed columns as needed	7
Optimizing Configuration screens for JET	
Choose the right display type	
Select menu (Dropdown)	9
Radio buttons / checkbox groups	10
Filmstrips	10
Cards	11
Select Menu – with Images	11
Slider	11
Switch	11
Number Spinner	
Coexistence of JET UI with CPQ Mobile-only UI	
Create your JET CSS definitions	
Refactor JavaScript Customizations	
Important considerations:	
Using the CPQJS API	14
References	14

PURPOSE

The following information will aid existing Oracle CPQ customers in adopting the new JET UIs, particularly for those transitioning from Legacy to JET. This article provides Best Practices and tips for getting the most out of the JET UI.

APPLIES TO

Oracle CPQ – Version 19D or later

DETAILS

What is the JET UI?

Oracle CPQ's JET UI uses the Oracle JavaScript Extension Toolkit (JET), a modular open source toolkit based on modern JavaScript, CSS3, and HTML5 design and development principles.

The JET UI provides a modernized and fully responsive user experience for viewing and editing quotes and sales orders on any device and in any language. The JET UI supports virtually every feature available in the Legacy UI combined with extensibility and improved usability.

Over the next years the JET UI will replace all Legacy UIs as CPQ's modern standard for UIs.

What is involved in adopting Oracle CPQ JET UIs?

New features mean a new experience. It's important to understand that people will use Oracle CPQ differently with the JET UI. This may require some training and change management.

To make the transition as smooth as possible:

- It is best to start by enabling the JET UI for a limited group of test users only.
- Administrators will need to optimize the layouts to make the most out of this new UI technology.
- Any CSS files used to customize the styling of your Legacy UI will not apply automatically to the JET UI. There is now a single stylesheet in the Stylesheet Manager that applies specifically to all JET UIs.
- JavaScript customizations will need to be refactored. The HTML Document Object Model (DOM) has changed with the JET UI. Oracle CPQ Release 19D improved how the JET UI handles custom JavaScript, making some customizations easier. Future updates may affect <u>custom JavaScript</u>, so it is important to review the release notes and re-test any such customizations.

Behavioral differences in Oracle CPQ JET UI

Users should expect to see behavioral differences between the Legacy UI and JET UI. While our goal is to maintain all of the functionality of the Legacy UI, there are improvements and new functionality that replace some Legacy behaviors. New features are continually added to improve our product, so the new experience will go above and beyond the Legacy user experience. For this reason, you will often hear us describe the new JET UI as having *virtual* parity with Legacy.

Some of the changes in the JET UI;

- Line Item Grid column header labels do not wrap. If they are truncated, the full label displays on hover. Administrators should define default widths appropriate for the content to fully display.
- New filters are available in most tables, including Line Item Grid. Filtering allows users to refine the display of lines to match their criteria.
- Line Item Grid Checkboxes and Select All Lines are currently not supported.
- Action lcons do not display on the LIG lines (ex. reconfigure). Actions are taken via LIG toolbar actions after selection of single or multiple lines.
- Drag and drop of LIG lines is not supported. LIG lines can be re-sequenced by editing the line Sequence Number.
- Concurrent access requires the new REFRESH Action be added to the layout.
- File Attachment Merge sequencing no longer uses the shuttle interaction.
- Previous and Next navigation is not available in Line Details.
- Paginated display of Line Items is not optional.
- Multiple Main Documents in a Commerce Process are not supported.

Enable JET for a limited group of users to start

Enable the new JET UI while maintaining the existing Legacy UI. Assign user access to the layouts based on user type and user group.

With both layouts enabled, existing customers can make the transition to the JET UI at their own pace.

• For example: Customers may decide to gradually transition the sales team and initially enable the JET UI for select sales users and sales managers in limited scenarios, such as when reviewing and approving quotes.

Optimizing Transaction screen layouts for JET

When the JET UI is enabled for Transaction screens, the JET layout is cloned from the existing Desktop layout. From this point on, modifications made to the JET layout will not affect the Legacy layout. The Layout editor for the JET Transaction has some differences from the Legacy Layout editor.

Once enabled, the JET layout is retained even if JET is disabled for a commerce process. Upon re-enabling the JET UI, a dialog will show that gives you the option of discarding the previously created JET UI Layout and starting over with a freshly cloned layout.



Line Item Size and Actions

The Line Item Grid now has toolbar at the top. The toolbar contains a view menu that allows users to manage visibility of columns. Filters, Freeze columns, and standard Line Item actions are also available. All of your Line Item Grid-related actions should be moved into the Line Item table-specific toolbar so that users will not have to search around the page to find relevant actions.

Set Line Item Grid table height to the minimum necessary.

- Depending on your users' average screen size, they should be able to see 15-20 line items, plus pagination controls.
- For large models, anticipate user interactions. If users are expected to commonly modify Line Items directly, the table height should display more lines for each page.
- Remember that users can filter to view a subset of line items. Basic and Advanced filters allow users to refine the content to match their criteria, making the line items more manageable so users can focus on only content relevant to their needs.

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Optimize Line Item Grid column widths

Set columns wide enough to show the header text.

- Text does not wrap, so try to abbreviate or shorten labels. Remember that the JET layout editor allows you to change the labels separately from the attribute's display name in the Administration screens. This lets you use labels that are concise and clear when viewed in context.
- Start with a width that suits the content for each column.
- Set default widths (in pixels) -- especially for columns with a large amount of content or long labels.

Use only one set of panel columns per panel.

- JET layout is responsive. Panel columns will wrap and redistribute on smaller screens.
- Design the layout for wide screens. Let the responsive behavior adapt the content for smaller screens. Use 3-5 columns of form inputs when possible.
- Keep related attributes grouped by placing them in a single column together. Anticipate how the layout will display as a single column (mobile) and many columns (desktop/widescreen).
- More than one set of panel columns in a single panel can result in a jumbled layout. Common practice in Legacy UI was to divide panels into many rows of column groups with spacers placed as needed. JET UI's responsive behavior can produce unexpected results with these arrangements.

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Add 'toolbars' to contain sub-header labels and actions

- In the Layout Editor, drag a Toolbar from the Layout Elements container onto the layout where you want a sub-header. In most cases, you will need to place this toolbar in the same panel column as the content that it pertains to.
- In the Toolbar settings, type your desired subheader as the Label and be sure that the Hide Label checkbox is not checked. Set the Toolbar width to 100% and the Toolbar alignment to Right. This will cause the Toolbar to stretch across the entire Panel Column, with the buttons displayed on the right side of the toolbar (Label will display at left side).
- Move any buttons from content area to these toolbars. If there are more than two buttons here, you may wish to select the Button Display as 'Actions menu' to conserve space.
- For details on styling the toolbars as subheaders, see <u>Oracle CPQ JET CSS: Branding and Styling</u> [2462711.1

Use custom class to create fixed columns as needed

Column	
😣 Label Alignment:	Start 👻
😡 Width (%):	33
😡 Label Width (%):	50
😡 Field Width (%):	50
	Collapse Label
😣 CSS Class:	FixedColumn
	V Ok Cancel

- In the Layout Editor, in the Column settings the administrator can assign a CSS Class to any Column in the layout. These custom classes can be reused as much as desired, or can be used only for a single column.
- Additional information can be found in <u>Oracle CPQ JET CSS: Branding and Styling [2462711.1]</u>

Optimizing Configuration screens for JET

Initially, when JET is enabled for a Product Family configuration, one Layout is used to generate both JET and Legacy UI. The Layout editor and Attribute definitions now will display additional options that may apply only to JET, only to Legacy or to both.

Layout Properties				
				1
Processing Event:	Action		*	
Stylesheet:	Default		*	
Alternate Stylesheet:	None		•	0
Tab Loading Behavior:	All		*]
Template:	Default		~	
Tab Display:	Vertical		~	
Item List Display:	Right Sidebar		*	
JET Price Table Display:	Right Sidebar		*]
Sidebar Behavior:	Overlay	O Push Content		
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Whenever possible, set attribute display options in the Attribute Definitions screen rather than overriding this with the Layout specific definitions.

tribute Properties												
Co	re El	ements	Supporting Elements	Behavior Properties								
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#		Attribute		Admin	Layout	Override	Admin	Layout	Override	Admin		
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2	0	Memory		Radio Button Vertical	Radio Button Vertical		Radio Button Vertical	Radio Button Vertical	E	None		
3	0	Storage		Radio Button Vertical	Radio Button Vertical	[77]	Radio Button Vertical	Radio Button Vertical		None		
4	0	Battery		Radio Button Vertical	Radio Button Vertical		Radio Button Vertical	Radio Button Vertical		None		
5	0	Camera		Radio Button Vertical	Radio Button Vertical	(m)	Radio Button Vertical	Radio Button Vertical	[[^m]	None		

Choose the right display type

JET UI introduces some new display type options for attributes in both Configuration and Transaction screens. By default, when a JET layout is generated, each attribute will be set to the JET equivalent display type of what it was in Legacy. This is a good time to reconsider the display type for each attribute.



Select menu (Dropdown)

- Select menus work best as the display type for SSM and MSM attribute that contain a large number of choices. This is because the user is able to see the single selected item when not directly interacting with the menu, so the UI isn't cluttered with a large amount of text.
- Select menus with too many choices (more than 20) can be difficult to use. Break the choices into multiple menus whenever possible.
- JET select menus have built in filters available. The user can simply type to see only choices that contain the typed criteria. Many users will not know of this capability, so be sure to communicate this to your users when you first introduce them to JET UI.
- Select menus can be challenging for users on a touch-screen. Keep this in mind if you expect many of your users will be using mobile devices.

Radio buttons / checkbox groups

- When the SSM/MSM attribute contains 5 or fewer options, then a Radio button group/ Checkbox group is a good option.
- The user is able to see all available options without having to click anything, making it easier to make a decision when choosing from a small set of options.
- Tapping a radio button/checkbox is relatively easy for users on a touch-screen.
- When the choices are all short in length, horizontal layout may be preferable.
- When the labels are long, vertical layout may be preferable.

Filmstrips

- A filmstrip displays options within a carousel-style container. The Filmstrip displays as many of the options as can fit on the screen, while remaining options are easily available with a click, tap, or swipe. This helps when space is limited, such as for mobile users.
- A filmstrip can be an excellent option when the menu attribute contains a large number of options.
- Filmstrips work equally well for Single and Multi-Select Menus.
- Filmstrips can be used for menu attributes even when not displaying an image. Text-only Filmstrips can be a great option for mobile users and also for spotlighting important selections, as the Filmstrip is an eye-catching, appealing interaction.
- For layouts with many columns of attributes, a Vertical display is more convenient and allows the admin to set the number of options to display per 'page'. Horizontal display works best when it can take up a wider area and show more of the options.



Cards

- Card display is essentially the same as a Filmstrip, except that all options are visible at all times, so there is no need for the user to swipe/click through the carousel.
- Like the Filmstrip, Cards can be used with or without images, and for Single and Multi-Select Menus.
- It is strongly recommended that any Images are consistent in size and style so that the options all look to be related and aligned with each other.

Select Menu – with Images

• When UI space is limited, the Select menu is a good option. This component shows images in the dropdown box during selection. Once the user has finished, only the label is displayed. This is particularly valuable for Multi-Select Menus because it frees up screen space for other content.

elect Menu SSM	Select Menu MSM	
	▼ Network × Software ×	
Servers	Servers	
Laptops	Laptops	
Desktop	Desktop	
Support	Support	

Slider

- This is a new option only available in JET Configuration UI. It is only usable for numeric attributes that have a set minimum and maximum value.
- This is an excellent way for the user to instantly visualize their selection in the context of the available range.
- This is also an easy interaction for users on a touch-screen.

Switch

- The switch is no different in functionality than a basic checkbox. Users simply tap to toggle their selection.
- This is an appealing component that adds a modernized look to the UI. It is the recommended display type for Boolean attributes.
- This is also an easy interaction for users on a touch-screen.

Number Spinner

- The Number Spinner is no different in functionality than a text box, except that it also allows the user to simply tap to increase/decrease the number.
- This is recommended especially for integers.
- This is also an easy interaction for users on a touch-screen.

Slider	
	14
Switch	
Off	
Number Spinner	
0 ^ ~	

Coexistence of JET UI with CPQ Mobile-only UI

If the CPQ Mobile-only UI has been enabled for Transaction screens, this UI will override the JET Transaction UI. Mobile device users will see the older CPQ Mobile UI and not the JET UI. To prevent this, administrators must delete the Mobile Layout for Commerce when ready to enable JET for all users on all devices.

CPQ JET Configuration UI can be set to override the Mobile Layout if desired. This is set in the same place that JET Configuration UI is enabled -- the Layout Access Control for each Product Family.

Layout Acces	ss Control		Product	Family : Var	io Tablets
Enabled	Layout UI	Override Mobile	User Definition		
	JET Responsive	No ~	<u>Access Rights</u> Back to Top		
			Apply	Update	Back

It is important to test how the JET UI will behave for your mobile users. To test this on a desktop browser, use an emulator.

JET is tested and supported on the following mobile devices. See release notes for updated information on the versions supported.

- IOS : Safari
- Android : Chrome
- Windows : Chrome, Firefox

Create your JET CSS definitions

A new JET CSS file can be uploaded on the Stylesheet administration page. This file applies to all JET UIs in CPQ. This makes it easier than ever to create a branded, custom-styled UI that is seamless across all CPQ sales user screens.

As with Legacy UI, you can apply styling to Classes, IDs, and HTML elements.

The ID tags created by CPQ for each attribute, action, product families, product lines, models, and custom classes all remain the same in the JET HTML structure.

However, the HTML structure itself is very different from the Legacy UI because of the new framework used to create the HTML.

Classes in JET are distinctly different from Legacy classes. Classes in JET for the different UI components and content are prefixed with the 'oj' for Oracle JET.

Additional information can be found in Oracle CPQ JET CSS: Branding and Styling [2462711.1]

Refactor JavaScript Customizations

We **strongly** advise minimizing custom JavaScript in your implementation! JavaScript is not warrantied to work with CPQ, especially on upgrade. However, we know our customers do use it. Administrators need to be aware of the following:

- HTML DOM has changed.
- Attributes hidden from the user are directly accessible by JS as of Release 2019D.
- Modifications to the CPQ JavaScript Framework files bm-framework.js and commerce.js will no longer work.
- Include JavaScript in a Commerce HTML attribute or in the Header or Footer.

Important considerations:

- Be aware of timing. To run scripts after the layout is fully loaded, call scripts from an HTML attribute that appears on the layout. This must be on a panel/tab that is visible by default.
- Use setTimeout to defer a script until current threads are completed.
- Avoid overuse of JavaScript, as it can affect performance.

Enlist an experienced JavaScript developer to implement customizations on the JET Uls.

Additional information can be found in <u>Oracle CPQ JET Transaction UI: Refactoring Existing JavaScript</u> <u>Customizations [2490016.1</u>

Using the CPQJS API

When implementing JavaScript in an HTML attribute, best practice is to store the script in File Manager and reference this in an HTML attribute directly or in a default BML function for the HTML attribute. This simplifies discovery and search for JavaScript implemented on a site.

For improved performance, UI components are only rendered when the user opens the containing panel or tab. However, values can be set or retrieved even for non-rendered attributes using the CPQJS API.

Additionally, UI components are rendered progressively after the DOM Ready event has been fired. Because of this, scripting may need to be called after elements are rendered, or deferred using setTimeout.

Administrators may access these methods using custom JavaScript contained in a separate file or in a readonly HTML attribute.

Reference the methods with the namespace "CPQJS" as in the examples below:

- CPQJS.setAttributeVal('myAttributeVarName', 'New Value');
- CPQJS.onTableLoaded('lineItemGrid', setRowColors);

REFERENCES

- Oracle CPQ JET CSS: Branding and Styling (Doc ID 2462711.1)
- Oracle CPQ Release Documentation (Doc ID 1674718.1)
- Oracle CPQ JET Transaction UI: Planning for Adoption (Doc ID 2455080.1)
- Oracle CPQ JET Uls: Refactoring Existing JavaScript Customization (Doc ID 2490016.1)

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