Oracle® JavaScript Extension Toolkit (Oracle JET)

What's New in Oracle JET

16.0.0

F87913-02

February 2024

New Features Described in Oracle JET's Documentation for Release 16.0.0

Here are updates to the documentation for Oracle JET to describe new features and enhancements added to Release 16.0.0.

For other changes in this release, see the product Release Notes.

Oracle JET

Documentation updates for this release of Oracle JET.

- End-to-end testing

  A new learning path describes how to use Oracle JET's Component WebElements UI automation library to write Selenium WebDriver-based test scripts to test the UI of both MVVM and virtual DOM-based Oracle JET web apps. To get started, see Set up an environment to create UI automation tests for Oracle JET web apps.

- Function-based VComponent tutorial

  A new tutorial describes how to create function-based VComponent. See Oracle JET Function-Based VComponent Tutorial.

- TypeScript

  This release of JET uses version `5.3.2` of TypeScript. For more detail about TypeScript in Oracle JET apps, see Configure Oracle JET Apps for TypeScript Development.

Migration Information

Note the following change that affect JET apps that you migrate to Release 16.0.0:

See the following sections for step-by-step information about migrating your app to this release of Oracle JET.

- Migrate Alta-themed Applications from Releases Prior to 8.3.0 to Release 16.0.0 describes migration steps from releases prior to release 8.3.0 that allow migrating apps to the latest release.

- Migrate to the Redwood Theme CSS updated to describe how to migrate an Alta-themed app to the Redwood theme. As the topic describes, starting in release 9.0.0 it is possible to migrate to the Redwood theme.
- Migrate Redwood-themed Apps from Releases 9.x.0 or Later to Release 16.0.0 describes migration steps for Oracle JET app sources from version 9.x.0 or newer to the latest release.

Oracle JET Audit Framework

Version `8.13.5` of the Oracle JET Audit Framework (JAF) is included in this release of Oracle JET.

Using and Extending the Oracle JET Audit Framework has been updated in the following ways.

New and changed JAF audit features:

- JAF includes changes to existing rules:
  - `Rule: oj-html-alta-deprecated Severity: blocker[1] Message ID's: jet-0510, 5825`

    This rule no longer performs JET version age checks and its severity is now `blocker`. Its previous severity was `major`.

  - `Rule: oj-ts-ojcomp-deprecated Severity: major Message ID: jet-3400`
    `Deprecated JET component classes should not be instantiated`

    The message produced by this rule now includes the *since* value to identify the release that deprecated the class, and also adds the alternative(s) to use for the deprecated class if the developer has not included a description in the metadata.

  - Extended message information for `oj-html-slot-pref-content` and `oj-tsx-slot-pref-content` rules

    If the output format is non-prose, the `oj-html-slot-pref-content` and `oj-tsx-slot-pref-content` rules now provide extended message information parsed from the audit diagnostic message. The extended information can be found in the output object or JSON entry as the `msgEx` property. Refer to a rule description for the format of `msgEx` for that rule.

  - The `jetwc-require-paths` rule now allows for the definition of an `additionalPaths` array int he configuration to supplement the standard set (JET-60512) Addition of the oj-c path for JET core pack to the standard set (JET-60499)
- JAF includes new rules:

- Rules that identify anti-pattern usage for themes.

  Rule: oj-html-wctag-anti-pattern Severity: info Message ID: jet-2220
  Some components, or component features, may be present but are not applicable for use in all design
  systems and as such may be flagged as anti-patterns in the content of a particular theme. In these
  cases, the feature should not be used if targeting the design system in question.

  Rule: oj-tsx-wctag-anti-pattern Severity: info Message ID: jet-7175
  Some components, or component features, may be present but are not applicable for use in all design
  systems and as such may be flagged as anti-patterns in the content of a particular theme. In these
  cases, the feature should not be used if targeting the design system in question.

  Rule: oj-html-prop-anti-pattern Severity: info[1] Message ID's: jet-2225, 2226
  Some components, or component features, may be present but are not applicable for use in all design
  systems and as such may be flagged as anti-patterns in the content of a particular theme. In these
  cases, the feature should not be used if targeting the design system in question.
  [1] Possibility of more than 1 severity since there are 2 message ID's

  Rule: oj-tsx-prop-anti-pattern Severity: info[1] Message ID's: jet-7180, 7181
  Some components, or component features, may be present but are not applicable for use in all design
  systems and as such may be flagged as anti-patterns in the content of a particular theme. In these
  cases, the feature should not be used if targeting the design system in question.
  [1] Possibility of more than 1 severity since there are 2 message ID's

- Rules to check for actionable content in an `<oj-tree-view>` template

  Rule: oj-html-treeview-actionable-content Severity: blocker Message ID: jet-5835
  <oj-tree-view> does not support actionable/interactive content (i.e. buttons, links, Inputs, etc)
  inside templated content.

  Rule: oj-tsx-treeview-actionable-content Severity: blocker
  Message ID: jet-7185

```
<oj-tree-view> does not support actionable/interactive content
(i.e. buttons, links, Inputs, etc)
inside templated content.
```

- Rule to check for the usage of a slot attribute on a binding tag and to check a binding tag that is the direct child of a component with a default slot.

  Rule: oj-html-binding-as-slot-child Severity: blocker[1] Message ID's: jet-5840, 5841

  ```
  JET binding components such as <oj-bind-if> are not present in
  the final browser DOM at runtime, and
  as such will not function correctly when directly assigned to a
  slot. They should always be wrapped
  in another element such as a <div> or which has the slot
  attribute applied.

  [1] Possibility of more than 1 severity since there are 2 message
  ID's
  ```

- **Rule: jetwco-validate-applied-audits Severity: blocker Message ID: jetwco-0050**

  ```
  This rule checks that any applied-audits defined by a component
  are actually valid in the context of
  the available rule-packs
  ```

- Checks for use of a popup-type component that has a sibling. Since both Preact and the components themselves perform reparenting of the popup DOM, a conflict can occur. Popup components should be wrapped in their own wrapper element.

  ```
  Rule: oj-tsx-popup-sibling  Severity: major  Message ID: jet-7190
  Due to an integration issue between Preact and the JET popup
  components (such as <oj-popup>,
  <oj-dialog> and <oj-drawer-popup>) where both Preact and the
  components themselves perform
  reparenting of the popup DOM, the popup component should be
  wrapped in its own wrapper element.
  e.g. replace

  <div>
    <oj-dialog>Hello</oj-dialog>
    <oj-button>Open Popup</oj-button>
  </div>

  with:

  <div>
    <div>
      <oj-dialog>Hello</oj-dialog>
    </div>
  ```

```
  <oj-button>Open Popup</oj-button>
</div>
```

- Checks for use of write-back syntax

```
Rule: oj-html-attr-expr-writeback  Severity: minor  Message ID:
jet-2235
An attribute expression uses write-back syntax ("{{...}}" but
the attribute
metadata does not support write-back. Note that although
technically incorrect,
functionally there is no harm incurred by using the wrong style
of
binding notation for a read-only property except for a
theoretical performance
penalty (minimal).
```

- Checks description text for component metadata

```
Rule: jetwc-well-formed-description  Severity: info  Message ID:
jetwc-0240
This rule checks that any description text defined as part of a
components metadata is expressed as
well formed sentences with a leading capital and terminating
period / full stop
```

- Checks for use of on-focus and on-blur events in HTML when used on a JET Core Pack component.

```
Rule: oj-html-event-focus-blur  Severity: minor  Message ID:
jet-2240
JET Core-Pack components do not dispatch focus or blur events.
Listen for focusin and focusout
events instead.
```

- Check that the default slot of <oj-c-button> is not used

Rule: ojc-html-button-defslot Severity: blocker[1] Message ID's: ojc-0010, 0011

```
There is no default slot for <oj-c-button>. If it has been used
to label the button, the 'label'
attribute should be used.
```

Rule: ojc-tsx-button-defslot Severity: blocker[1] Message ID's: ojc-0015, 0016

```
<oj-c-button> does not have a default slot defined for it. (To
label a button the 'label' property
should be used.
```

  - Checks for usage of unknown events in TSX files

    ```
    Rule: oj-tsx-event  Severity: major  Message ID: jet-7195
    JSX component event attributes (e.g. "onojXxx" or onYyyChanged)
    must be defined events for the
    component.
    ```

  - ```
    Rule: oj-html-slot-default  Severity: major  Message ID: jet-0530
    A child component is defined in a component parent's default
    slot, but the parent does not support
    default slots.
    ```

- JAF removed these rules:
  - The `oj-html-combo-converter` and `oj-tsx-combo-converter` (and their corresponding messages JET-0380 and JET-7045) have been retired. These rules alerted developers to a change in behaviour introduced in JET 9.2.0 where converter no longer formatted the labels in the drop down for the combo.

Changes for rule writers:

- The Oracle JAF Issue class includes a new method, `setMsgEx()`, that you can use to add additional information to the output object. See Rule Issue Class Methods.
- New `MetaLib` methods

  The `getTagStatus()`, `getPropStatus()`, and `isTagStatus()` methods provide a quick check for component or property status of `deprecated`, `antiPattern`, `maintenance`, or `supersedes`. See Oracle JET Audit Metadata Interface Library Metadata Methods.
- `MetaLib.hasTagDynamicSlot()`

  This method now returns `true` for legacy JET components (`oj-*`) in addition to user and JET Core Pack components. See Oracle JET Audit Metadata Interface Library Tag Methods.
- New TSX rule listener types

  `TsxEvent` allows a rule to listen for event properties in TSX renderable content while `TsxFunction` is called for each function declaration in the .tsx file before any of the other TsxXxx listeners are called. See Listener Types for TSX Rules.
- New `JafLib` methods

  Two new release count methods (`getMajorReleaseCount(`*`string`* **`semver`** `|` *`number`* **`major`**`)` and `getJafReleaseCount()`) return the estimated number of JET major releases. See JafLib: JAF Core Access Methods.
- JET version aging policy for deprecated web components

  This policy has changed. Previously, JAF raised the severity of the emitted message to blocker if more than two major JET releases had passed since deprecation. This applied to all web components. The aging check now applies to JET components only, and not user-defined components. JAF differentiates
    ```

between JET components and user-defined components. Previously some components did not adhere to this. The following rules have been updated.

```
oj-html-ojtag-deprecated
oj-html-ojattr-deprecated
oj-html-ojattr-enum-deprecated
oj-html-slot-deprecated
oj-tsx-ojtag-deprecated
oj-tsx-slot-deprecated
oj-tsx-ojattr-deprecated
oj-tsx-ojattr-enum-deprecated
```

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