Auditing Web Content with Web Inspector

Jonathan Davis, Web Technologies Evangelist
Audit
Using Audits
Using Audits
Working with Tests
Using Audits
Working with Tests
Creating Custom Audits
Smart Search Field:  ✔ Show full website address

Accessibility:   □ Never use font sizes smaller than 9
               □ Press Tab to highlight each item on a webpage
                         Option-Tab highlights each item.

Reading List:   ✔ Save articles for offline reading automatically

Internet plug-ins:   ✔ Stop plug-ins to save power

Style sheet:  None Selected

Default encoding:  Western (ISO Latin 1)

Proxies:     Change Settings...

☐ Show Develop menu in menu bar
Smart Search Field: Show full website address

Accessibility:
- Never use font sizes smaller than 9
- Press Tab to highlight each item on a webpage Option-Tab highlights each item.

Reading List: Save articles for offline reading automatically

Internet plug-ins: Stop plug-ins to save power

Style sheet: None Selected

Default encoding: Western (ISO Latin 1)

Proxies: Change Settings...

Show Develop menu in menu bar
Smart Search Field: Show full website address

Accessibility:
- Never use font sizes smaller than [9]
- Press Tab to highlight each item on a webpage

Reading List:
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Internet plug-ins:
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Style sheet: [None Selected]

Default encoding: Western (ISO Latin 1)

Proxies:
- Change Settings...

Show Develop menu in menu bar
A fast, open source web browser engine.

WebKit is the web browser engine used by Safari, Mail, App Store, and many other apps on macOS, iOS, and Linux. Get started contributing code, or reporting bugs.

Web developers can follow development, check feature status, download Safari Technology Preview to try out the latest web technologies, and report bugs.
No audit selected

Press Import to import a test or result file
No audit selected

Press 🛠️ Import to import a test or result file
No audit selected

Press ✎ Import to import a test or result file
No audit selected

Press Import to import a test or result file
No audit selected

Press **Import** to import a test or result file
No audit selected

Press Import to import a test or result file
No audit selected

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Press import to import a test or result file
Demo Audit

These tests serve as a demonstration of the functionality and structure of audits.

Result Levels
These are all of the different test result levels.

- **level-pass**
  This is what the result of a passing test with no data looks like.
  5/20/2019, 8:34:50 PM  4.00ms

- **level-warn**
  This is what the result of a warning test with no data looks like.
  5/20/2019, 8:34:50 PM  2.00ms

- **level-fail**
  This is what the result of a failing test with no data looks like.
  5/20/2019, 8:34:50 PM  2.00ms

- **level-error**
  This is what the result of a test that threw an error with no data looks like.
  5/20/2019, 8:34:50 PM  2.00ms

- **level-unsupported**
  This is what the result of an unsupported test with no data looks like.
  5/20/2019, 8:34:50 PM  15.00ms

Result Data
These are all of the different types of data that can be returned with the test result.

- **data-domNodes**
  This is an example of how result DOM nodes are shown. It will pass with the `<body>` element.
  DOM Nodes:
  
  ```html
  <body class="home page-template-default page page-id-4118"><a></a>
  ```
  5/20/2019, 8:34:50 PM  15.00ms

- **data-domAttributes**
  This is an example of how result DOM nodes are shown. It will pass with all elements with an id attribute.
  DOM Nodes:
  
  ```html
  <link rel="stylesheet" id="wp-block-library-css" href="https://webkit.org/wp-includes/dists/block-library/style.min.css?ver=5.1.1" type="text/css" media="all"/>
  ```
  5/20/2019, 8:34:50 PM  3.00ms
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- **level-pass**
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Result Data

These are all of the different types of data that can be returned with the test result.

- **data-domNodes**
  This is an example of how result DOM nodes are shown. It will pass with the `<body>` element.

  DOM Nodes:
  ```
  <body class="home page-template-default page page-id-4118">...
  </body>
  ```

- **data-domAttributes**
  This is an example of how result DOM nodes are shown. It will pass with all elements with an id attribute.

  DOM Nodes:
  ```
  <link rel="stylesheet" id="wp-block-library-css" href="https://webkit.org/wp/includes/css/dist/block-library/stylesheet.css" media="all">
  ```
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  </body>
  ```

- **data-domAttributes**
  This is an example of how result DOM nodes are shown. It will pass with all elements with an id attribute.
  
  **DOM Nodes:**
  ```
  <link rel="stylesheet" id="wp-block-library-css" href="https://webkit.org/wp-includes/css/dist/block-library/styles.min.css?ver=4.9.6" type="text/css" media="all">
  ```
Editing audits

Press Done to stop editing

Audit version: 2
Editing audits

Press **Done** to stop editing
Editing audits

Press Done to stop editing
Editing audits

Press Done to stop editing
Editing audits

Press Done to stop editing
Editing audits

Press Done to stop editing
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Audit version: 2
Demo Audit

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  DOM Nodes:
  
  ```html
  <body class="home page-template-default page page-id-4118">…</body>
  ```

  5/20/2019, 8:34:50 PM 15.0ms

- **data-domAttributes**: This is an example of how result DOM nodes are shown. It will pass with all elements with an id attribute.
  
  DOM Nodes:
  
  ```html
  <link rel="stylesheet" id="wp-block-library-css" href="https://webkit.org/wp/wp-includes/css/dist/block-library/style.min.css?ver=5.1.2" type="text/css" media="all"/>
  ```

  5/20/2019, 8:34:50 PM 3.00ms

Showing: 3 Passed 1 Warning 1 Failed 2 Errors 1 Unsupported 37%

Showing: 2 Passed 1 Error 66%
No audit selected

Press import to import a test or result file
No audit selected

Press **import** to import a test or result file
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  </body>
  ```

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  ```
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  DOM Nodes:
  ```html
  <link rel="stylesheet" id="wp-block-library-css" href="https://webkit.org/wp/wp-includes/css/dist/block-library/"
  media="all">
  ```
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  </body>
  ```

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  This is an example of how result DOM nodes are shown. It will pass with all elements with an id attribute.

  DOM Nodes:

  ```
  <link rel="stylesheet" id="wp-block-library-css" href="https://webkit.org/wp/wp-includes/css/dist/block-library/stylesheets/core.min.css" media="all">
  ```
Demo Audit

These tests serve as a demonstration of the functionality and structure of audits.

No Result

Press ▶ Start to start running the audit
Demo Audit

These tests serve as a demonstration of the functionality and structure of audits.

No Result

Press [Start] to start running the audit
Accessibility

Diagnoses common accessibility problems affecting screen readers and other assistive technology.

No Result

Press ➤ Start to start running the audit
Accessibility
Diagnoses common accessibility problems affecting screen readers and other assistive technology.

No Result
Press [Start] to start running the audit
Accessibility

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No Result

Press Start to start running the audit
Accessibility
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- **testMenuRoleForRequiredChildren**
  Ensure that element of role "menu" and "menubar" have required owned elements in accordance with WAI-ARIA.
  DOM Nodes:
  ```html
  <ul id="menu-main-menu" class="menu" role="menubar">
  </ul>
  ```
  Time: 5.00ms

- **testGridRoleForRequiredChildren**
  Ensure that elements of role "grid" have required owned elements in accordance with WAI-ARIA.
  Time: 2.00ms

- **testForAriaLabelledBySpelling**
  Ensure that "aria-labelledby" is spelled correctly.
  Time: 2.00ms

- **testForMultipleBanners**
  Ensure that only one banner is used on the page.
  Time: 26.0ms

- **testForLinkLabels**
  Ensure that links have accessible labels for assistive technology.
  Time: 19.0ms

- **testUploadRoleForRequiredChildren**
  Ensure that element of role "upload" has required owned elements in accordance with WAI-ARIA.
  Time: 3.00ms

- **testTableRoleForRequiredChildren**
  Ensure that elements of role "table" have required owned elements in accordance with WAI-ARIA.
  Time: 24.0ms

- **testForMultipleLiveRegions**
  Ensure that only one live region is used on the page.
  Time: 20.0ms

- **testListBoxRoleForRequiredChildren**
  Ensure that elements of role "listbox" have required owned elements in accordance with WAI-ARIA.
  Time: 2.00ms

- **testImageLabels**
  Ensure that elements of role "img" have accessible labels for assistive technology.
  Time: 20.0ms
WebKit

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Accessibility

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testMenuRoleForRequiredChildren

Ensure that element of role "menu" and "menubar" have required owned elements in accordance with WAIA-RRIA.

DOM Nodes:

6/30/19, 10:49:54 AM 5.00ms

5/30/19, 10:49:54 AM 2.00ms

5/30/19, 10:49:54 AM 2.00ms
WebKit is a fast, open source web browser engine. It is the web browser engine used by Safari, Mail, App Store, and many other apps on macOS, iOS, and Linux. Get started contributing code, or reporting bugs.

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Accessibility

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testMenuRoleForRequiredChildren

Ensure that element of role "menu" and "menubar" have required owned elements in accordance with WAIR-ARIA.

DOM Nodes:

```html
<ui id="menu-main-menu" class="menu" role="menubar">
  <li id="menu-item-4278" class="menu-item menu-item-type-custom menu-item-object-page menu-item-4278"></li>
  <li id="menu-item-4277" class="menu-item menu-item-type-post_type menu-item-object-page menu-item-4277"></li>
  <li id="menu-item-4276" class="menu-item menu-item-type-post_type menu-item-object-page menu-item-4276"></li>
</ui>
```

5/30/2019, 10:49:54 AM  5.00ms

95%

95%

5/30/2019, 10:49:54 AM  5.00ms
Accessibility
Diagnoses common accessibility problems affecting screen readers and other assistive technology.

- **testMenuRoleForRequiredChildren**
  Ensure that element of role "menu" and "menubar" have required owned elements in accordance with WAI-ARIA.
  5/30/2019, 10:51:04 AM 46.0ms

- **testGridRoleForRequiredChildren**
  Ensure that elements of role "grid" have required owned elements in accordance with WAI-ARIA.
  5/30/2019, 10:51:04 AM 2.00ms

- **testForAriaLabelledBySpelling**
  Ensure that "aria-labelledby" is spelled correctly.
  5/30/2019, 10:51:04 AM 3.00ms

- **testForMultipleBanners**
  Ensure that only one banner is used on the page.
  5/30/2019, 10:51:04 AM 27.0ms

- **testForLinkLabels**
  Ensure that links have accessible labels for assistive technology.
  5/30/2019, 10:51:04 AM 31.0ms

- **testRowGroupRoleForRequiredChildren**
  Ensure that element of role "rowgroup" have required owned elements in accordance with WAI-ARIA.
  5/30/2019, 10:51:04 AM 30.0ms

- **testTableRoleForRequiredChildren**
  Ensure that elements of role "table" have required owned elements in accordance with WAI-ARIA.
  5/30/2019, 10:51:04 AM 2.00ms

- **testForMultipleLiveRegions**
  Ensure that only one live region is used on the page.
  5/30/2019, 10:51:04 AM 29.0ms

- **testListBoxRoleForRequiredChildren**
  Ensure that elements of role "listbox" have required owned elements in accordance with WAI-ARIA.
  5/30/2019, 10:51:04 AM 2.00ms

- **testImageLabels**
  Ensure that elements of role "img" have accessible labels for assistive technology.
  5/30/2019, 10:51:04 AM 28.0ms

- **testForAriaHiddenFalse**
  Ensure aria-hidden "false" is not used.
  5/30/2019, 10:51:04 AM 27.0ms
Accessibility

Diagnoses common accessibility problems affecting screen readers and other assistive technology.

- **testMenuRoleForRequiredChildren**
  Ensure that element of role "menu" and "menubar" have required owned elements in accordance with WAI-ARIA.

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  Ensure that elements of role "grid" have required owned elements in accordance with WAI-ARIA.

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  Ensure that only one banner is used on the page.

- **testForLinkLabels**
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  Ensure that elements of role "rowgroup" have required owned elements in accordance with WAI-ARIA.

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  Ensure that elements of role "table" have required owned elements in accordance with WAI-ARIA.

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  Ensure that only one live region is used on the page.

- **testListBoxRoleForRequiredChildren**
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- **testMenuRoleForRequiredChildren**
  Ensure that element of role "menu" and "menubar" have required owned elements in accordance with WAI-ARIA.
  5/30/2019, 10:51:04 AM  46.0ms

- **testGridRoleForRequiredChildren**
  Ensure that elements of role "grid" have required owned elements in accordance with WAI-ARIA.
  5/30/2019, 10:51:04 AM  2.00ms

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  Ensure that only one banner is used on the page.
  5/30/2019, 10:51:04 AM  27.0ms

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  Ensure that links have accessible labels for assistive technology.
  5/30/2019, 10:51:04 AM  31.0ms

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  Ensure that element of role "rowgroup" have required owned elements in accordance with WAI-ARIA.
  5/30/2019, 10:51:04 AM  30.0ms

- **testTableRoleForRequiredChildren**
  Ensure that elements of role "table" have required owned elements in accordance with WAI-ARIA.
  5/30/2019, 10:51:04 AM  2.00ms

- **testForMultipleLiveRegions**
  Ensure that only one live region is used on the page.
  5/30/2019, 10:51:04 AM  29.0ms

- **testListBoxRoleForRequiredChildren**
  Ensure that elements of role "listbox" have required owned elements in accordance with WAI-ARIA.
  5/30/2019, 10:51:04 AM  2.00ms
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- **testForMultipleBanners**
  Ensure that only one banner is used on the page.

- **testForLinkLabels**
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- **testRowGroupRoleForRequiredChildren**
  Ensure that element of role "rowgroup" have required owned elements in accordance with WAI-ARIA.

- **testTableRoleForRequiredChildren**
  Ensure that elements of role "table" have required owned elements in accordance with WAI-ARIA.

- **testForMultipleMainContentSections**
  Ensure that only one live region is used on the page.

- **testListBoxRoleForRequiredChildren**
  Ensure that elements of role "listbox" have required owned elements in accordance with WAI-ARIA.
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- **testMenuRoleForRequiredChildren**
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- **testForMultipleMainContentSections**
  Ensure that only one live region is used on the page.

- **testListBoxRoleForRequiredChildren**
  Ensure that elements of role "listbox" have required owned elements in accordance with WAI-ARIA.
// Example Audit JSON Format

{
  "type": "test-group",
  "name": "Test Group Name",
  "description": "Description of the test group",
  "tests": [
    {
      "type": "test-case",
      "name": "testName",
      "description": "Your description of the test."
    }
  ]
}
// Example Audit JSON Format

{
  "type": "test-group",
  "name": "Test Group Name",
  "description": "Description of the test group",
  "tests": [
    {
      "type": "test-case",
      "name": "testName",
      "description": "Your description of the test.",
      "supports": 1,
      "test": "function (){ return {level: 'pass'}; }"
    }
  ]
}
Creating Web Inspector Audits

This post is a followup to the Audits in Web Inspector post, and explains the capabilities of and how to write an Audit.

Test Case Format

The actual test that is run in the page is just a stringified JavaScript function. async functions are allowed, as well as non-async functions that return a Promise. The only requirement is that the return value of the function (or Promise) conforms to the following rules:

- Returning true/false will translate to a Pass/Fail result with no additional data.
- Returning a string value will translate to the corresponding result (e.g. "pass" is a Pass result)

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No Result

Press [Start] to start running the audit.
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No Result

Press [Start] to start running the audit
Summary
Summary

Use the Audit tab to check your web content
Summary

Use the Audit tab to check your web content

Develop custom audits for your development work
Summary

Use the Audit tab to check your web content
Develop custom audits for your development work
File bug reports and share feedback