

This specification defines the web developer rules (author conformance requirements) for the use of [[[wai-aria-1.1]]] and [[[dpub-aria-1.0]]] attributes on [[HTML]] elements. It also defines requirements for Conformance Checking tools.

ARIA in HTML is a [[HTML]] specification module. Any HTML features, conformance requirements, or terms that this specification module makes reference to, but does not explicitly define, are defined in the [[HTML|HTML specification]].

This is a draft document and its contents are subject to change without notice.

## Web developer requirements for use of ARIA in HTML

Web developers MAY use the ARIA `role` and `aria-\*` attributes on HTML elements, in accordance with the requirements described in [[wai-aria-1.1]], except where these conflict with the *strong native semantics* or are equal to the *implicit ARIA semantics* of a given HTML element. These constraints are intended to prevent developers from making assistive technology products report nonsensical user interface (UI) information that does not represent the actual UI of the document.

Web developers MUST NOT use the ARIA `role` and `aria-\*` attributes in a manner that conflicts with the semantics described in the [[[#docconformance]]] table. It is NOT RECOMMENDED for web developers to set the ARIA `role` and `aria-\*` attributes to values that match the implicit ARIA semantics defined in the table. Doing so is unnecessary and can potentially lead to unintended consequences.

The following uses a `role=heading` on a `button` element. This is not allowed, because the `button` element has default characteristics that conflict with the heading role.

```
<button role="heading">search</button>
```

The following uses a `role=button` on a `button` element. This is unnecessary, as "button" is already exposed as the implicit role for the element. In practice this redundancy will likely not have any unforeseen side effects, other than unnecessarily making the markup more verbose, and incorrectly signaling to other developers that this practice is useful.

```
<button role="button">...</button>
```

The following uses a `role=group` on a `fieldset` element. This is unnecessary, because the `fieldset` element is implicitly exposed as a `role=group`. Again, in practice this will likely not have any unforeseen side effects.

```
<fieldset role="group">...</fieldset>
```

The following uses a `role=list` on an `ul` element. This is generally unnecessary, because the `ul` element is implicitly exposed as a `role=list`. However, some user agents suppress a list's implicit ARIA semantics if list markers are removed. Authors can use `role=list` to reinstate the role if necessary, though this practice would generally not be recommended, otherwise.

```
<ul role="list">...</ul>
```

The following uses a `role=button` on a `summary` element. This is unnecessary and can result in cross-platform issues, For instance, preventing the element from correctly exposing its state, and forcing the role of `button`, when it might otherwise be exposed with a different role.

```
<details>
  <summary role="button">more information</summary>
  ...
</details>
```

# Document conformance requirements for use of ARIA attributes in HTML

The following table provides normative per-element document-conformance requirements for the use of ARIA markup in HTML documents and describes the implicit ARIA semantics that apply to HTML elements as defined in the [[html-aam-1.0] HTML Accessibility API Mappings 1.0]] specification.

Each language feature (element or attribute) in a cell in the first column implies the ARIA semantics (any role, states, and properties) given in the cell in the second column of the same row. The third cell in each row defines which ARIA role values and `aria-\*` attributes which MAY be used. Where a cell in the third column includes the term *Any `role`* it indicates that any `role` value apart from the implicit ARIA semantics `role` value, MAY be used. If a cell in the third column includes the term *No `role`* it indicates that authors MUST NOT overwrite the implicit ARIA semantics, or native semantics of the HTML element.

While setting an ARIA `role` and/or `aria-\*` attribute that matches the implicit ARIA semantics is NOT RECOMMENDED, in some situations explicitly setting these attributes can be helpful. For instance, in user agents which lack specific implicit semantics.

## Rules of ARIA attribute usage by HTML feature

HTML feature	Implicit ARIA semantics (explicitly assigning these in markup is NOT RECOMMENDED)	ARIA roles, states and properties which MAY be used
[ <sup>a</sup> ] with `href`	role= <a href="#">link</a>	<p>Roles: <a href="#">`button`</a>, <a href="#">`checkbox`</a>, <a href="#">`menuitem`</a>, <a href="#">`menuitemcheckbox`</a>, <a href="#">`menuitemradio`</a>, <a href="#">`option`</a>, <a href="#">`radio`</a>, <a href="#">`switch`</a>, <a href="#">`tab`</a> or <a href="#">`treeitem`</a></p> <p>DPub Roles: <code>`doc-backlink`</code>, <code>`doc-biblioref`</code>, <code>`doc-glossref`</code>, <code>`doc-noteref`</code></p> <p><a href="#">Global `aria-*` attributes</a> and any `aria-*` attributes applicable to the allowed roles and implied role (if any).</p>
[ <sup>a</sup> ] without `href`	<a href="#">No corresponding role</a>	<p><i>Any `role`</i></p> <p><a href="#">Global `aria-*` attributes</a> and any `aria-*` attributes applicable to the allowed roles and implied role (if any).</p>
[ <sup>abbr</sup> ]	No corresponding role	<p><i>Any `role`</i></p> <p><a href="#">Global `aria-*` attributes</a> and any `aria-*` attributes applicable to the allowed roles and implied role (if any).</p>
[ <sup>address</sup> ]	No corresponding role	<p><i>Any `role`</i></p> <p><a href="#">Global `aria-*` attributes</a> and any `aria-*` attributes applicable to the allowed roles and implied role (if any).</p>

[^area^] with `href`	role= <a href="#">link</a>	<p><b>No `role`</b></p> <p><a href="#">Global `aria-*` attributes</a> and any `aria-*` attributes applicable to the <a href="#">`link`</a> role.</p>
[^area^] without `href`	No corresponding role	<p><b>No `role`</b></p> <p><a href="#">Global `aria-*` attributes</a> and any `aria-*` attributes applicable to the allowed roles and implied role (if any).</p>
[^article^]	role= <a href="#">article</a>	<p>Roles: <a href="#">`feed`</a>, <a href="#">`presentation`</a>, <a href="#">`none`</a>, <a href="#">`document`</a>, <a href="#">`application`</a>, <a href="#">`main`</a> or <a href="#">`region`</a>.</p> <p><a href="#">Global `aria-*` attributes</a> and any `aria-*` attributes applicable to the allowed roles and implied role (if any).</p>
[^aside^]	role= <a href="#">complementary</a>	<p>Roles: <a href="#">`feed`</a>, <a href="#">`note`</a>, <a href="#">`presentation`</a>, <a href="#">`none`</a>, <a href="#">`region`</a> or <a href="#">`search`</a>.</p> <p>DPub Roles: <a href="#">`doc-dedication`</a>, <a href="#">`doc-example`</a>, <a href="#">`doc-footnote`</a>, <a href="#">`doc-pullquote`</a>, <a href="#">`doc-tip`</a></p> <p><a href="#">Global `aria-*` attributes</a> and any `aria-*` attributes applicable to the allowed roles and implied role (if any).</p>
[^audio^]	No corresponding role	<p>Role: <a href="#">`application`</a></p> <p><a href="#">Global `aria-*` attributes</a> and any `aria-*` attributes applicable to the <a href="#">`application`</a> role.</p>
autonomous custom element	No corresponding role	<p><b>Any `role`</b></p> <p><a href="#">Global `aria-*` attributes</a> and any `aria-*` attributes applicable to the allowed roles and implied role (if any).</p>
[^b^]	No corresponding role	<p><b>Any `role`</b></p> <p><a href="#">Global `aria-*` attributes</a> and any `aria-*` attributes applicable to the allowed roles and implied role (if any).</p>
[^base^]	No corresponding role	<b>No `role` or `aria-*` attributes</b>
[^bdi^]	No corresponding role	<b>Any `role`</b>

		<a href="#">Global `aria-*` attributes</a> and any `aria-*` attributes applicable to the allowed roles and implied role (if any).
		<b>Any `role`</b>
[^bdo^]	No corresponding role	<a href="#">Global `aria-*` attributes</a> and any `aria-*` attributes applicable to the allowed roles and implied role (if any).
		<b>Any `role`</b>
[^blockquote^]	No corresponding role	<a href="#">Global `aria-*` attributes</a> and any `aria-*` attributes applicable to the allowed roles and implied role (if any).
		<b>No `role`</b>
[^body^]	role= <a href="#">document</a>	<a href="#">Global `aria-*` attributes</a> and any `aria-*` attributes applicable to the <a href="#">`document`</a> role.
		Roles: <a href="#">`presentation`</a> or <a href="#">`none`</a> .
[^br^]	No corresponding role	<a href="#">Global `aria-*` attributes</a> and any `aria-*` attributes applicable to the allowed roles and implied role (if any).
		Roles: <a href="#">`checkbox`</a> , <a href="#">`link`</a> , <a href="#">`menuitem`</a> , <a href="#">`menuitemcheckbox`</a> , <a href="#">`menuitemradio`</a> , <a href="#">`option`</a> , <a href="#">`radio`</a> , <a href="#">`switch`</a> or <a href="#">`tab`</a> .
[^button^]	role= <a href="#">button</a>	<a href="#">Global `aria-*` attributes</a> and any `aria-*` attributes applicable to the allowed roles and implied role (if any).
		<b>Any `role`</b>
[^canvas^]	No corresponding role	<a href="#">Global `aria-*` attributes</a> and any `aria-*` attributes applicable to the allowed roles and implied role (if any).
		<b>No `role`</b>
[^caption^]	No corresponding role	<a href="#">Global `aria-*` attributes</a>
[^cite^]	No corresponding role	<b>Any `role`</b>

		<a href="#">Global `aria-*` attributes</a> and any `aria-*` attributes applicable to the allowed roles and implied role (if any).
[^code^]	No corresponding role	<b>Any `role`</b>  <a href="#">Global `aria-*` attributes</a> and any `aria-*` attributes applicable to the allowed roles and implied role (if any).
[^col^]	No corresponding role	<b>No `role` or `aria-*` attributes</b>
[^colgroup^]	No corresponding role	<b>No `role` or `aria-*` attributes</b>
[^data^]	No corresponding role	<b>Any `role`</b>  <a href="#">Global `aria-*` attributes</a> and any `aria-*` attributes applicable to the allowed roles and implied role (if any).
[^datalist^]	role= <a href="#">listbox</a>	<b>No `role`</b>  <a href="#">Global `aria-*` attributes</a> and any `aria-*` attributes applicable to the <a href="#">`listbox`</a> role.
[^dd^]	role= <a href="#">definition</a>	<b>No `role`</b>  <a href="#">Global `aria-*` attributes</a> and any `aria-*` attributes applicable to the <a href="#">`definition`</a> role.
[^del^]	No corresponding role	<b>Any `role`</b>  <a href="#">Global `aria-*` attributes</a> and any `aria-*` attributes applicable to the allowed roles and implied role (if any).
[^dfn^]	role= <a href="#">term</a>	<b>Any `role`</b>  <a href="#">Global `aria-*` attributes</a> and any `aria-*` attributes applicable to the allowed roles and implied role (if any).
[^details^]	role= <a href="#">group</a>	<b>No `role`</b>  <a href="#">Global `aria-*` attributes</a> and any `aria-*` attributes applicable to the <a href="#">`group`</a> role.

[^dialog^]	role= <a href="#">dialog</a>	<p>Role: <a href="#">`alertdialog`</a></p> <p><a href="#">Global `aria-*` attributes</a> and any `aria-*` attributes applicable to the `dialog` role.</p>
[^div^]	No corresponding role	<p><b>Any `role`</b></p> <p><a href="#">Global `aria-*` attributes</a> and any `aria-*` attributes applicable to the allowed roles and implied role (if any).</p>
[^dl^]	No corresponding role	<p>Roles: <a href="#">`group`</a>, <a href="#">`list`</a>, <a href="#">`presentation`</a> or <a href="#">`none`</a>.</p> <p><a href="#">Global `aria-*` attributes</a> and any `aria-*` attributes applicable to the allowed roles and implied role (if any).</p>
[^dt^]	role= <a href="#">term</a>	<p>Role: <a href="#">`listitem`</a></p> <p><a href="#">Global `aria-*` attributes</a> and any `aria-*` attributes applicable to the allowed roles and implied role (if any).</p>
[^em^]	No corresponding role	<p><b>Any `role`</b></p> <p><a href="#">Global `aria-*` attributes</a> and any `aria-*` attributes applicable to the allowed roles and implied role (if any).</p>
[^embed^]	No corresponding role	<p>Roles: <a href="#">`application`</a>, <a href="#">`document`</a>, <a href="#">`img`</a>, <a href="#">`presentation`</a> or <a href="#">`none`</a>.</p> <p><a href="#">Global `aria-*` attributes</a> and any `aria-*` attributes applicable to the allowed roles and implied role (if any).</p>
[^fieldset^]	role= <a href="#">group</a>	<p>Roles: <a href="#">`none`</a>, <a href="#">`presentation`</a> or <a href="#">`radiogroup`</a>.</p> <p><a href="#">Global `aria-*` attributes</a> and any `aria-*` attributes applicable to the allowed roles and implied role (if any).</p>
[^figcaption^]	No corresponding role	<p>Roles: <a href="#">`group`</a>, <a href="#">`presentation`</a> or <a href="#">`none`</a>.</p> <p><a href="#">Global `aria-*` attributes</a> and any `aria-*` attributes applicable to the allowed roles and implied role (if any).</p>

[ <sup>figure</sup> ]	role= <a href="#">figure</a>	<p>If the <code>figure</code> has no <code>figcaption</code> descendant: Roles: <b>Any</b> <code>role</code></p> <p>If the <code>figure</code> has a <code>figcaption</code> descendant: <b>No <code>role</code></b>.</p> <p><a href="#">Global <code>aria-*</code> attributes</a> and any <code>aria-*</code> attributes applicable to the allowed roles and implied role (if any).</p>
[ <sup>footer</sup> ]	<p>If not a descendant of an <code>article</code>, <code>aside</code>, <code>main</code>, <code>nav</code> or <code>section</code> element, or an element with <code>role=article</code>, <code>complementary</code>, <code>main</code>, <code>navigation</code> or <code>region</code> then role=<a href="#">contentinfo</a>. Otherwise no corresponding role.</p>	<p>Roles: <a href="#">group</a>, <a href="#">none</a> or <a href="#">presentation</a>.</p> <p>Dpub Roles: <code>doc-footnote</code>.</p> <p><a href="#">Global <code>aria-*</code> attributes</a> and any <code>aria-*</code> attributes applicable to the allowed.</p>
[ <sup>form</sup> ]	role= <a href="#">form</a> if the [ <sup>form</sup> ] element has an accessible name. Otherwise, no corresponding role.	<p>Roles: <a href="#">search</a>, <a href="#">none</a> or <a href="#">presentation</a>.</p> <p><a href="#">Global <code>aria-*</code> attributes</a> and any <code>aria-*</code> attributes applicable to the allowed roles and implied role (if any).</p>
form-associated custom element	No corresponding role	<p>Roles: <a href="#">application</a>, <a href="#">button</a>, <a href="#">checkbox</a>, <a href="#">combobox</a>, <a href="#">group</a>, <a href="#">listbox</a>, <a href="#">progressbar</a>, <a href="#">radio</a>, <a href="#">radiogroup</a>, <a href="#">searchbox</a>, <a href="#">slider</a>, <a href="#">spinbutton</a>, <a href="#">switch</a> or <a href="#">textbox</a>.</p> <p><a href="#">Global <code>aria-*</code> attributes</a> and any <code>aria-*</code> attributes applicable to the allowed roles and implied role (if any).</p>
<code>h1</code> to <code>h6</code>	role= <a href="#">heading</a> , with the <code>aria-level</code> = positive integer.	<p>Roles: <a href="#">none</a>, <a href="#">presentation</a> or <a href="#">tab</a>.</p> <p>Dpub Role: <code>doc-subtitle</code></p> <p><a href="#">Global <code>aria-*</code> attributes</a> and any <code>aria-*</code> attributes applicable to the allowed roles and implied role (if any).</p>
[ <sup>head</sup> ]	No corresponding role	<b>No <code>role</code> or <code>aria-*</code> attributes</b>
[ <sup>header</sup> ]	<p>If not a descendant of an <code>article</code>, <code>aside</code>, <code>main</code>, <code>nav</code> or <code>section</code> element, or an element with <code>role=article</code>, <code>complementary</code>, <code>main</code>, <code>navigation</code> or <code>region</code> then role=<a href="#">banner</a>. Otherwise no corresponding role</p>	<p>Roles: <a href="#">group</a>, <a href="#">none</a> or <a href="#">presentation</a>.</p> <p>Dpub Role: <code>doc-footnote</code></p> <p><a href="#">Global <code>aria-*</code> attributes</a> and any <code>aria-*</code> attributes applicable to the allowed roles and implied role (if any).</p>

[^hgroup^]	No corresponding role	<p><b>Any</b> `role`.</p> <p><a href="#">Global `aria-*` attributes</a> and any `aria-*` attributes applicable to the allowed roles and implied role (if any).</p> <p>Roles: <a href="#">`none`</a> or <a href="#">`presentation`</a>.</p>
[^hr^]	role= <a href="#">separator</a>	<p>Dpub Role: `doc-pagebreak`</p> <p><a href="#">Global `aria-*` attributes</a> and any `aria-*` attributes applicable to the `separator` role.</p>
[^html^]	No corresponding role	<b>No `role` or `aria-*` attributes</b>
[^i^]	No corresponding role	<p><b>Any</b> `role`</p> <p><a href="#">Global `aria-*` attributes</a> and any `aria-*` attributes applicable to the allowed roles and implied role (if any).</p> <p>Roles: <a href="#">`application`</a>, <a href="#">`document`</a>, <a href="#">`img`</a>, <a href="#">`none`</a> or <a href="#">`presentation`</a>.</p>
[^iframe^]	No corresponding role	<p><a href="#">Global `aria-*` attributes</a> and any `aria-*` attributes applicable to the allowed roles and implied role (if any).</p> <p>Roles: <a href="#">`button`</a>, <a href="#">`checkbox`</a>, <a href="#">`link`</a>, <a href="#">`menuitem`</a>, <a href="#">`menuitemcheckbox`</a>, <a href="#">`menuitemradio`</a>, <a href="#">`option`</a>, <a href="#">`progressbar`</a>, <a href="#">`scrollbar`</a>, <a href="#">`separator`</a>, <a href="#">`slider`</a>, <a href="#">`switch`</a>, <a href="#">`tab`</a> or <a href="#">`treeitem`</a></p> <p>Dpub Role: `doc-cover`.</p> <p><a href="#">Global `aria-*` attributes</a> and any `aria-*` attributes applicable to the allowed roles and implied role (if any).</p>
img with alt="some text"	role= <a href="#">img</a>	<p>Roles: <a href="#">`none`</a> or <a href="#">`presentation`</a>.</p> <p><b>No `aria-*` attributes</b> except `aria-hidden`.</p> <p>If no author-defined accessible name is provided by other methods: <b>No `role`</b>, and <b>no `aria-*` attributes</b> except `aria-hidden`.</p> <p>Otherwise, if the `img` has an author defined accessible name, see <a href="#">`img alt="some text"`</a>.</p>
img with alt=""	No corresponding role	
img without alt attribute	role= <a href="#">img</a>	



<code>`input type=button`</code>	role= <a href="#">button</a>	<p>Roles: <a href="#">`link`</a>, <a href="#">`menuitem`</a>, <a href="#">`menuitemcheckbox`</a>, <a href="#">`menuitemradio`</a>, <a href="#">`option`</a>, <a href="#">`radio`</a>, <a href="#">`switch`</a> or <a href="#">`tab`</a>.</p> <p><a href="#">Global `aria-*` attributes</a> and any <code>`aria-*`</code> attributes applicable to the allowed roles and implied role (if any).</p>
<code>`input type=checkbox`</code>	role= <a href="#">checkbox</a>	<p>Roles: <a href="#">`button`</a> (when used with <code>`aria-pressed`</code>), <a href="#">`menuitemcheckbox`</a>, <a href="#">`option`</a> or <a href="#">`switch`</a>.</p> <p><a href="#">Global `aria-*` attributes</a> and any <code>`aria-*`</code> attributes applicable to the allowed roles and implied role (if any).</p> <p><b>Note:</b> the HTML <code>`checked`</code> attribute may be used instead of the <code>`aria-checked`</code> attribute for <code>`menuitemcheckbox`</code>, <code>`option`</code> or <code>`switch`</code> when used on <code>`type=checkbox`</code>.</p>
<code>`input type=color`</code>	No corresponding role	<p><b>No `role`</b></p> <p><a href="#">Global `aria-*` attributes</a></p>
<code>`input type=date`</code>	No corresponding role	<p><b>No `role`</b></p> <p><a href="#">Global `aria-*` attributes</a></p>
<code>`input type=datetime-local`</code>	No corresponding role	<p><b>No `role`</b></p> <p><a href="#">Global `aria-*` attributes</a></p>
<code>`input type=email`</code> with no <code>`list`</code> attribute	role= <a href="#">textbox</a>	<p><b>No `role`</b></p> <p><a href="#">Global `aria-*` attributes</a> and any <code>`aria-*`</code> attributes applicable to the <code>`textbox`</code> role.</p>
<code>`input type=file`</code>	No corresponding role	<p><b>No `role`</b></p> <p><a href="#">Global `aria-*` attributes</a></p>
<code>`input type=hidden`</code>	No corresponding role	<b>No `role` or `aria-*` attributes</b>
<code>`input type=image`</code>	role= <a href="#">button</a>	<p>Roles: <a href="#">`link`</a>, <a href="#">`menuitem`</a>, <a href="#">`menuitemcheckbox`</a>, <a href="#">`menuitemradio`</a>, <a href="#">`radio`</a> or <a href="#">`switch`</a>.</p> <p><a href="#">Global `aria-*` attributes</a> and any <code>`aria-*`</code> attributes applicable to the allowed roles and implied role (if any).</p>

<code>`input type=month`</code>	No corresponding role	<p><b>No `role`</b></p> <p><a href="#">Global `aria-*` attributes</a></p>
<code>`input type=number`</code>	role= <a href="#">spinbutton</a>	<p><b>No `role`</b></p> <p><a href="#">Global `aria-*` attributes</a> and any `aria-*` attributes applicable to the `spinbutton` role.</p>
<code>`input type=password`</code>	No corresponding role	<p><b>No `role`</b></p> <p><a href="#">Global `aria-*` attributes</a> and `aria-required`</p>
<code>`input type=radio`</code>	role= <a href="#">radio</a>	<p>Role: <a href="#">`menuitemradio`</a></p> <p><a href="#">Global `aria-*` attributes</a> and any `aria-*` attributes applicable to the `menuitemradio` role.</p> <p><b>Note:</b> the HTML `checked` attribute may be used instead of the `aria-checked` attribute for `menuitemradio` when used on `type=radio`.</p>
<code>`input type=range`</code>	role= <a href="#">slider</a>	<p><b>No `role`</b></p> <p><a href="#">Global `aria-*` attributes</a> and any `aria-*` attributes applicable to the `slider` role.</p>
<code>`input type=reset`</code>	role= <a href="#">button</a>	<p><b>No `role`</b></p> <p><a href="#">Global `aria-*` attributes</a> and any `aria-*` attributes applicable to the `button` role.</p>
<code>`input type=search`, with no `list` attribute</code>	role= <a href="#">searchbox</a>	<p><b>No `role`</b></p> <p><a href="#">Global `aria-*` attributes</a> and any `aria-*` attributes applicable to the `searchbox` role.</p>
<code>`input type=submit`</code>	role= <a href="#">button</a>	<p><b>No `role`</b></p> <p><a href="#">Global `aria-*` attributes</a> and any `aria-*` attributes applicable to the `button` role.</p>
<code>`input type=tel`, with no `list` attribute</code>	role= <a href="#">textbox</a>	<p><b>No `role`</b></p>

		<a href="#">Global `aria-*` attributes</a> and any `aria-*` attributes applicable to the `textbox` role.
`input type=text`, with no `list` attribute	role= <a href="#">textbox</a>	Roles: <a href="#">`combobox`</a> , <a href="#">`searchbox`</a> or <a href="#">`spinbutton`</a> .  <a href="#">Global `aria-*` attributes</a> and any `aria-*` attributes applicable to the allowed roles.
`input type=text`, `search`, `tel`, `url`, or `email` with a `list` attribute	role= <a href="#">combobox</a>	<b>No `role`</b>  <a href="#">Global `aria-*` attributes</a> and any `aria-*` attributes applicable to the `combobox` role.
`input type=time`	No corresponding role	<b>No `role`</b>  <a href="#">global `aria-*` attributes</a>
`input type=url` with no `list` attribute	role= <a href="#">textbox</a>	<b>No `role`</b>  <a href="#">Global `aria-*` attributes</a> and any `aria-*` attributes applicable to the `textbox` role.
`input type=week`	No corresponding role	<b>No `role`</b>  <a href="#">global `aria-*` attributes</a>
[^ins^]	No corresponding role	<b>Any `role`</b>  <a href="#">Global `aria-*` attributes</a> and any `aria-*` attributes applicable to the allowed roles and implied role (if any).
[^kbd^]	No corresponding role	<b>Any `role`</b>  <a href="#">Global `aria-*` attributes</a> and any `aria-*` attributes applicable to the allowed roles and implied role (if any).
[^label^]	No corresponding role	<b>No `role`</b>  <a href="#">global `aria-*` attributes</a>
[^legend^]	No corresponding role	<b>No `role`</b>

		<a href="#">global `aria-*` attributes</a>
		Roles: <a href="#">`menuitem`</a> , <a href="#">`menuitemcheckbox`</a> , <a href="#">`menuitemradio`</a> , <a href="#">`option`</a> , <a href="#">`none`</a> , <a href="#">`presentation`</a> , <a href="#">`radio`</a> , <a href="#">`separator`</a> , <a href="#">`tab`</a> or <a href="#">`treeitem`</a>
[^li^]	role= <a href="#">listitem</a>	DPub Roles: `doc-biblioentry`, `doc-endnote`.  <a href="#">Global `aria-*` attributes</a> and any `aria-*` attributes applicable to the allowed roles and implied role (if any).
[^link^] element with a `href`	role= <a href="#">link</a>	<b>No `role` or `aria-*` attributes</b>
[^main^]	role= <a href="#">main</a>	<b>No `role`</b>  <a href="#">Global `aria-*` attributes</a> and any `aria-*` attributes applicable to the `main` role.
[^map^]	No corresponding role	<b>No `role` or `aria-*` attributes</b>
`math`	role= <a href="#">math</a>	<b>No `role`</b>  <a href="#">Global `aria-*` attributes</a> and any `aria-*` attributes applicable to the `math` role.
[^mark^]	No corresponding role	<b>Any `role`</b>  <a href="#">Global `aria-*` attributes</a> and any `aria-*` attributes applicable to the allowed roles and implied role (if any).
[^menu^]	role= <a href="#">list</a>	Roles: <a href="#">`directory`</a> , <a href="#">`group`</a> , <a href="#">`listbox`</a> , <a href="#">`menu`</a> , <a href="#">`menubar`</a> , <a href="#">`none`</a> , <a href="#">`presentation`</a> , <a href="#">`radiogroup`</a> , <a href="#">`tablist`</a> , <a href="#">`toolbar`</a> or <a href="#">`tree`</a> .  <a href="#">Global `aria-*` attributes</a> and any `aria-*` attributes applicable to the allowed roles and implied role (if any).
[^meta^]	No corresponding role	<b>No `role` or `aria-*` attributes</b>
[^meter^]	No corresponding role	<b>No `role`</b>  <a href="#">global `aria-*` attributes</a>
[^nav^]	role= <a href="#">navigation</a>	

		<p>Roles: <a href="#">`group`</a>, <a href="#">`menu`</a>, <a href="#">`menubar`</a>, <a href="#">`none`</a>, <a href="#">`presentation`</a> or <a href="#">`tablist`</a>.</p> <p>DHTML Roles: <a href="#">`doc-index`</a>, <a href="#">`doc-pagelist`</a>, <a href="#">`doc-toc`</a>.</p> <p><a href="#">Global `aria-*` attributes</a> and any <a href="#">`aria-*`</a> attributes applicable to the allowed roles and implied role (if any).</p>
<a href="#">`noscript`</a>	No corresponding role	<b>No `role` or `aria-*` attributes</b>
		<p>Roles: <a href="#">`application`</a>, <a href="#">`document`</a> or <a href="#">`img`</a>.</p> <p><a href="#">Global `aria-*` attributes</a> and any <a href="#">`aria-*`</a> attributes applicable to the allowed roles and implied role (if any).</p>
<a href="#">`object`</a>	No corresponding role	<b>No `role` or `aria-*` attributes</b>
		<p>Roles: <a href="#">`directory`</a>, <a href="#">`group`</a>, <a href="#">`listbox`</a>, <a href="#">`menu`</a>, <a href="#">`menubar`</a>, <a href="#">`none`</a>, <a href="#">`presentation`</a>, <a href="#">`radiogroup`</a>, <a href="#">`tablist`</a>, <a href="#">`toolbar`</a> or <a href="#">`tree`</a>.</p> <p><a href="#">Global `aria-*` attributes</a> and any <a href="#">`aria-*`</a> attributes applicable to the allowed roles and implied role (if any).</p>
<a href="#">`ol`</a>	role= <a href="#">`list`</a>	<b>No `role`</b>
		<p><a href="#">Global `aria-*` attributes</a> and any <a href="#">`aria-*`</a> attributes applicable to the <a href="#">`list`</a> role.</p>
<a href="#">`optgroup`</a>	role= <a href="#">`group`</a>	<b>No `role`</b>
		<p><a href="#">Global `aria-*` attributes</a> and any <a href="#">`aria-*`</a> attributes applicable to the <a href="#">`group`</a> role.</p>
<a href="#">`option`</a> element that is in a list of options or that represents a suggestion in a <a href="#">`datalist`</a>	role= <a href="#">`option`</a>	<b>No `role`</b>
		<p><a href="#">Global `aria-*` attributes</a> and any <a href="#">`aria-*`</a> attributes applicable to the <a href="#">`option`</a> role.</p>
<a href="#">`output`</a>	role= <a href="#">`status`</a>	<b>Any `role`</b>
		<p><a href="#">Global `aria-*` attributes</a> and any <a href="#">`aria-*`</a> attributes applicable to the allowed roles and implied role (if any).</p>
<a href="#">`p`</a>	No corresponding role	<b>Any `role`</b>
		<p><a href="#">Global `aria-*` attributes</a> and any <a href="#">`aria-*`</a> attributes applicable to the allowed roles and implied role (if any).</p>
<a href="#">`param`</a>	No corresponding role	<b>No `role` or `aria-*` attributes</b>

[^picture^]	No corresponding role	<p><b>No `role` or `aria-*` attributes</b></p> <p><b>Any `role`</b></p>
[^pre^]	No corresponding role	<p><a href="#">Global `aria-*` attributes</a> and any `aria-*` attributes applicable to the allowed roles and implied role (if any).</p>
[^progress^]	role= <a href="#">progressbar</a>	<p><b>No `role`</b></p> <p><a href="#">Global `aria-*` attributes</a> and any `aria-*` attributes applicable to the `progressbar` role.</p> <p><b>Any `role`</b></p>
[^q^]	No corresponding role	<p><a href="#">Global `aria-*` attributes</a> and any `aria-*` attributes applicable to the allowed roles and implied role (if any).</p> <p><b>Any `role`</b></p>
[^rp^]	No corresponding role	<p><a href="#">Global `aria-*` attributes</a> and any `aria-*` attributes applicable to the allowed roles and implied role (if any).</p> <p><b>Any `role`</b></p>
[^rt^]	No corresponding role	<p><a href="#">Global `aria-*` attributes</a> and any `aria-*` attributes applicable to the allowed roles and implied role (if any).</p> <p><b>Any `role`</b></p>
[^ruby^]	No corresponding role	<p><a href="#">Global `aria-*` attributes</a> and any `aria-*` attributes applicable to the allowed roles and implied role (if any).</p> <p><b>Any `role`</b></p>
[^s^]	No corresponding role	<p><a href="#">Global `aria-*` attributes</a> and any `aria-*` attributes applicable to the allowed roles and implied role (if any).</p> <p><b>Any `role`</b></p>
[^samp^]	No corresponding role	<p><b>Any `role`</b></p>

		<a href="#">Global `aria-*` attributes</a> and any `aria-*` attributes applicable to the allowed roles and implied role (if any).
[^script^]	No corresponding role	<b>No `role` or `aria-*` attributes</b>
		Roles: <a href="#">`alert`</a> , <a href="#">`alertdialog`</a> , <a href="#">`application`</a> , <a href="#">`banner`</a> , <a href="#">`complementary`</a> , <a href="#">`contentinfo`</a> , <a href="#">`dialog`</a> , <a href="#">`document`</a> , <a href="#">`feed`</a> , <a href="#">`log`</a> , <a href="#">`main`</a> , <a href="#">`marquee`</a> , <a href="#">`navigation`</a> , <a href="#">`none`</a> , <a href="#">`note`</a> , <a href="#">`presentation`</a> , <a href="#">`search`</a> , <a href="#">`status`</a> or <a href="#">`tabpanel`</a>  DPub Roles: <a href="#">`doc-abstract`</a> , <a href="#">`doc-acknowledgments`</a> , <a href="#">`doc-afterword`</a> , <a href="#">`doc-appendix`</a> , <a href="#">`doc-bibliography`</a> , <a href="#">`doc-chapter`</a> , <a href="#">`doc-colophon`</a> , <a href="#">`doc-conclusion`</a> , <a href="#">`doc-credit`</a> , <a href="#">`doc-credits`</a> , <a href="#">`doc-dedication`</a> , <a href="#">`doc-endnotes`</a> , <a href="#">`doc-epigraph`</a> , <a href="#">`doc-epilogue`</a> , <a href="#">`doc-errata`</a> , <a href="#">`doc-example`</a> , <a href="#">`doc-foreword`</a> , <a href="#">`doc-glossary`</a> , <a href="#">`doc-index`</a> , <a href="#">`doc-introduction`</a> , <a href="#">`doc-notice`</a> , <a href="#">`doc-pagelist`</a> , <a href="#">`doc-part`</a> , <a href="#">`doc-preface`</a> , <a href="#">`doc-prologue`</a> , <a href="#">`doc-pullquote`</a> , <a href="#">`doc-qna`</a> , <a href="#">`doc-toc`</a>  <a href="#">Global `aria-*` attributes</a> and any `aria-*` attributes applicable to the allowed roles and implied role (if any).
[^section^]	role= <a href="#">region</a> if the [^section^] element has an accessible name. Otherwise, no corresponding role.	
[^select^] (with NO `multiple` attribute and NO `size` attribute having value greater than `1`)	role= <a href="#">combobox</a>	Role: <a href="#">`menu`</a>  <a href="#">Global `aria-*` attributes</a> and any `aria-*` attributes applicable to the `combobox` or `menu` role.
[^select^] (with a `multiple` attribute or a `size` attribute having value greater than `1`)	role= <a href="#">listbox</a>	<b>No `role`</b>  <a href="#">Global `aria-*` attributes</a> and any `aria-*` attributes applicable to the `listbox` role.
[^slot^]	No corresponding role	<b>No `role` or `aria-*` attributes</b>
		<b>Any `role`</b>
[^small^]	No corresponding role	<a href="#">Global `aria-*` attributes</a> and any `aria-*` attributes applicable to the allowed roles and implied role (if any).
[^source^]	No corresponding role	<b>No `role` or `aria-*` attributes</b>
[^span^]	No corresponding role	<b>Any `role`</b>

		<a href="#">Global `aria-*` attributes</a> and any `aria-*` attributes applicable to the allowed roles and implied role (if any).
		<b>Any `role`</b>
[^strong^]	No corresponding role	<a href="#">Global `aria-*` attributes</a> and any `aria-*` attributes applicable to the allowed roles and implied role (if any).
[^style^]	No corresponding role	<b>No `role` or `aria-*` attributes</b>
		Roles: <a href="#">`application`</a> , <a href="#">`document`</a> or <a href="#">`img`</a>
`SVG`	No corresponding role	<a href="#">Global `aria-*` attributes</a> and any `aria-*` attributes applicable to the allowed roles and implied role (if any).
		<b>Any `role`</b>
[^sub^]	No corresponding role	<a href="#">Global `aria-*` attributes</a> and any `aria-*` attributes applicable to the allowed roles and implied role (if any).
		<b>No `role`</b>
[^summary^]	role= <a href="#">button</a>	<a href="#">Global `aria-*` attributes</a> and any `aria-*` attributes applicable to the `button` role.
		<b>Any `role`</b>
[^sup^]	No corresponding role	<a href="#">Global `aria-*` attributes</a> and any `aria-*` attributes applicable to the allowed roles and implied role (if any).
		<b>Any `role`</b>
[^table^]	role= <a href="#">table</a>	<a href="#">Global `aria-*` attributes</a> and any `aria-*` attributes applicable to the allowed roles and implied role (if any).
		<b>Any `role`</b>
[^tbody^]	role= <a href="#">rowgroup</a>	<a href="#">Global `aria-*` attributes</a> and any `aria-*` attributes applicable to the allowed roles and implied role (if any).



[^template^]	No corresponding role	No <b>`role`</b> or <b>`aria-*`</b> attributes
[^textarea^]	role= <a href="#">textbox</a>	No <b>`role`</b>  <a href="#">Global `aria-*` attributes</a> and any <b>`aria-*`</b> attributes applicable to the <b>`textbox`</b> role.
[^tfoot^]	role= <a href="#">rowgroup</a>	Any <b>`role`</b>  <a href="#">Global `aria-*` attributes</a> and any <b>`aria-*`</b> attributes applicable to the allowed roles and implied role (if any).
[^thead^]	role= <a href="#">rowgroup</a>	Any <b>`role`</b>  <a href="#">Global `aria-*` attributes</a> and any <b>`aria-*`</b> attributes applicable to the allowed roles and implied role (if any).
[^time^]	No corresponding role	Any <b>`role`</b>  <a href="#">Global `aria-*` attributes</a> and any <b>`aria-*`</b> attributes applicable to the allowed roles and implied role (if any).
[^title^]	No corresponding role	No <b>`role`</b> or <b>`aria-*`</b> attributes
[^td^]	role= <a href="#">cell</a> if a descendant of a <b>`table`</b> element.  role= <a href="#">gridcell</a> if a descendant of a <b>`table`</b> element with <b>`role=grid`</b> or <b>`treegrid`</b> .	No <b>`role`</b> if the ancestor <b>`table`</b> element has <b>`role=table`</b> , <b>`grid`</b> , or <b>`treegrid`</b> ; otherwise <b>any</b> <b>`role`</b> .  <a href="#">Global `aria-*` attributes</a> and any <b>`aria-*`</b> attributes applicable to the allowed roles and implied role (if any).
[^th^]	If a descendant of a <b>`table`</b> element, role= <a href="#">columnheader</a> or <a href="#">rowheader</a> or <a href="#">cell</a> (if not a header).  If a descendant of a <b>`table`</b> element with <b>`role=grid`</b> or <b>`treegrid`</b> , role= <a href="#">columnheader</a> or <a href="#">rowheader</a> or <a href="#">gridcell</a> (if not a header).	No <b>`role`</b> if the ancestor <b>`table`</b> element has <b>`role=table`</b> , <b>`grid`</b> , or <b>`treegrid`</b> ; otherwise <b>any</b> <b>`role`</b> .  <a href="#">Global `aria-*` attributes</a> and any <b>`aria-*`</b> attributes applicable to the allowed roles and implied role (if any).
[^tr^]	<a href="#">`role=row`</a>	No <b>`role`</b> if the ancestor <b>`table`</b> element has <b>`role=table`</b> , <b>`grid`</b> , or <b>`treegrid`</b> ; otherwise <b>any</b> <b>`role`</b> .

		<a href="#">Global `aria-*` attributes</a> and any `aria-*` attributes applicable to the allowed roles and implied role (if any).
[^track^]	No corresponding role	<b>No `role` or `aria-*` attributes</b>
		<b>Any `role`</b>
[^u^]	No corresponding role	<a href="#">Global `aria-*` attributes</a> and any `aria-*` attributes applicable to the allowed roles and implied role (if any).
		Roles: <a href="#">`directory`</a> , <a href="#">`group`</a> , <a href="#">`listbox`</a> , <a href="#">`menu`</a> , <a href="#">`menubar`</a> , <a href="#">`none`</a> , <a href="#">`presentation`</a> , <a href="#">`radiogroup`</a> , <a href="#">`tablist`</a> , <a href="#">`toolbar`</a> or <a href="#">`tree`</a> .
[^ul^]	role= <a href="#">list</a>	<a href="#">Global `aria-*` attributes</a> and any `aria-*` attributes applicable to the allowed roles and implied role (if any).
		<b>Any `role`</b>
[^var^]	No corresponding role	<a href="#">Global `aria-*` attributes</a> and any `aria-*` attributes applicable to the allowed roles and implied role (if any).
		Role: <a href="#">`application`</a>
[^video^]	No corresponding role	<a href="#">Global `aria-*` attributes</a> and any `aria-*` attributes applicable to the `application` role.
		<b>Any `role`</b>
[^wbr^]	No corresponding role	<a href="#">Global `aria-*` attributes</a> and any `aria-*` attributes applicable to the allowed roles and implied role (if any).
Element with a `disabled` attribute	`aria-disabled="true"`	Use the `disabled` attribute on any element that is allowed the `disabled` attribute in HTML.  Only use the `aria-disabled` attribute for elements that are <b>not allowed</b> to have a `disabled` attribute in HTML.
Element with a `placeholder` attribute	`aria-placeholder=""`	Use the `placeholder` attribute on any element that is allowed the `placeholder` attribute in HTML.

		Only use the `aria-placeholder` attribute on elements that are <b>not allowed</b> to have a `placeholder` attribute in HTML.
Element with a `required` attribute	`aria-required="true"`	Use the `aria-required` attribute on any element that is allowed the `required` attribute in HTML. <b>MUST NOT</b> be set to `false` if the `required` attribute is set.  MAY also be used for elements that have an ARIA role which allows the `aria-required` attribute.
Element with a `readonly` attribute	`aria-readonly="true"`	Use the `readonly` attribute on any element that is allowed the `readonly` attribute in HTML.  Only use the `aria-readonly` attribute for elements that are <i>not allowed</i> to have a `readonly` attribute in HTML.
Element with a `hidden` attribute	`aria-hidden="true"`	Use the `aria-hidden` attribute on any HTML element.  <b>Note:</b> If an element has a `hidden` attribute, an `aria-hidden` attribute is not required.
Element that is a candidate for constraint validation but that does not satisfy its constraints	`aria-invalid="true"`	The `aria-invalid` attribute may be used on any HTML element that allows <a href="#">global `aria-*` attributes</a> except for a submittable element that does not satisfy its validation constraints.
Element with `contenteditable="true"`; or Element without `contenteditable` attribute whose closest ancestor with a `contenteditable` attribute has `contenteditable="true"`.	`aria-readonly="false"`	Do not set `aria-readonly="true"` on an element that has `isContentEditable="true"`.
Note: this is equivalent to the `isContentEditable` IDL attribute.		

The elements marked with *No corresponding role*, in the second column of the table do not have any implicit ARIA semantics, but they do have meaning and this meaning may be represented in roles, states and properties not provided by ARIA, and exposed to users of assistive technology via accessibility APIs. It is therefore recommended that web developers add a `role` attribute to a semantically neutral element such as a `div` or `span`, rather than overriding the semantics of the listed elements.

Authors are encouraged to make use of the following documents for guidance on using ARIA in HTML beyond that which is provided here:

```
<figure>  
  <pre role="img">  
    o  
      /  
0   / ( )  
    / (o)  
    | \ ))>< <  
    _ \ )  
jgs  \_ \ )  
  </pre>  
  <figcaption id="fish-captio<br/>  
Joan G. Stark, "<cite>fis<br/>  
October 1997. ASCII on el<br/>  
</figcaption>  
</figure>
```

```
<div role="radiogroup">...</div>

<a href="home/" aria-current="page">home</a>
```

```
<!-- DO NOT DO THIS -->
<div role="radioGroup">...</div>

<div role="RADIOGROUP">...</div>

<a href="home/" aria-current="Page">home</a>
```

## Examples of non-conforming descendants

<!-- conformance checkers will report an error -->

```
<button>
<div role="button">...</div>
</button>
```

```
<div role="button">
<button>...</button>
</div>
```

```
<div role="link">
<textarea>...</textarea>
</div>
```

ARIA Roles, States and Properties					
Role	Description	Required Properties	Supported Properties	Kind of content	Descendant restrictions
any	ARIA <i>global states and properties</i> can be used on any HTML element.	none	<ul style="list-style-type: none"> <li>`aria-atomic`</li> <li>`aria-busy` (state)</li> <li>`aria-controls`</li> <li>`aria-current` (state)</li> <li>`aria-describedby`</li> <li>`aria-details`</li> <li>`aria-disabled` (state)</li> <li>`aria-dropeffect`</li> <li>`aria-errormessage`</li> <li>`aria-flowto`</li> <li>`aria-grabbed` (state)</li> <li>`aria-haspopup`</li> <li>`aria-hidden` (state)</li> <li>`aria-invalid` (state)</li> <li>`aria-keyshortcuts`</li> <li>`aria-label`</li> <li>`aria-labelledby`</li> <li>`aria-live`</li> <li>`aria-owns`</li> <li>`aria-relevant`</li> <li>`aria-roledescription`</li> </ul>	n/a	n/a
`alert`	A type of live region with important, and usually time-sensitive, information. See related `alertdialog` and `status`.	none	`aria-expanded` (state)	Flow content	Flow content

Role	Description	Required Properties	Supported Properties	Kind of content	Descendant restrictions
`alertdialog`	A type of dialog that contains an alert message, where initial focus goes to an element within the dialog. See related `alert` and `dialog`.	none	<ul style="list-style-type: none"> <li>• `aria-expanded` (state)</li> <li>• `aria-modal`</li> </ul>	Flow content	Flow content
`application`	A structure containing one or more focusable elements requiring user input, such as keyboard or gesture events, that do not follow a standard interaction pattern supported by a widget role.	none	<ul style="list-style-type: none"> <li>• `aria-activedescendant`</li> <li>• `aria-expanded` (state)</li> </ul>	Flow content	Flow content
`article`	A section of a page that consists of a composition that forms an independent part of a document, page, or site.	none	`aria-expanded` (state)	Flow content	No main element descendants.
`banner`	A region that contains mostly site-oriented content, rather than page-specific content.	none	`aria-expanded` (state)	Document region	no main element descendants, or header, footer elements that are not descendants of sectioning content which is a descendant of the header.
`button`	An input that allows for user-triggered actions when clicked or pressed. See related `link`.	none	<ul style="list-style-type: none"> <li>• `aria-expanded` (state)</li> <li>• `aria-pressed` (state)</li> </ul>	Interactive content	Flow content, but there must be no interactive content descendant.
`checkbox`	A checkable input that has three possible values:	`aria-checked` (state)	`aria-readonly`	Interactive content	Flow content, but there must

Role	Description	Required Properties	Supported Properties	Kind of content	Descendant restrictions
	true, false, or mixed.				be no interactive content descendant.
`cell`	A cell in a tabular container.	none	<ul style="list-style-type: none"> <li>• `aria-colspan`</li> <li>• `aria-colindex`</li> <li>• `aria-rowindex`</li> <li>• `aria-rowspan`</li> </ul>	Flow content	Flow content
`columnheader`	A cell containing header information for a column.	none	<ul style="list-style-type: none"> <li>• `aria-sort`</li> <li>• `aria-readonly`</li> <li>• `aria-required`</li> <li>• `aria-selected` (state)</li> <li>• `aria-expanded` (state)</li> <li>• `aria-colspan`</li> <li>• `aria-colindex`</li> <li>• `aria-rowindex`</li> <li>• `aria-rowspan`</li> </ul>	Flow content	Flow content
`combobox`	A presentation of a select; usually similar to a textbox where users can type ahead to select an option, or type to enter arbitrary text as a new item in the list. See related `listbox`.	<ul style="list-style-type: none"> <li>• `aria-controls`</li> <li>• `aria-expanded` (state)</li> </ul>	<ul style="list-style-type: none"> <li>• `aria-autocomplete`</li> <li>• `aria-required`</li> <li>• `aria-activedescendant`</li> <li>• `aria-orientation`</li> </ul>	Interactive content	Flow content
`complementary`	A supporting section of the document, designed to be complementary to the main content at a similar level in the DOM hierarchy, but remains meaningful when separated from the main content.	none	`aria-expanded` (state)	Flow content	Flow content, but with no main element descendants.
`contentinfo`	A large perceivable region that contains information about the parent document.	none	`aria-expanded` (state)	Flow content	Flow content, but with no main element descendants,

Role	Description	Required Properties	Supported Properties	Kind of content	Descendant restrictions or header, footer elements that are not descendants of sectioning content which is a descendant of the header.
`definition`	A definition of a term or concept.	none	`aria-expanded` (state)	Phrasing content	Phrasing content
`dialog`	A dialog is an application window that is designed to interrupt the current processing of an application in order to prompt the user to enter information or require a response. See related `alertdialog`.	none	<ul style="list-style-type: none"> <li>`aria-expanded` (state)</li> <li>`aria-modal`</li> </ul>	Flow content	Flow content
`directory`	A list of references to members of a group, such as a static table of contents.	none	`aria-expanded` (state)	Flow content	Flow content
`document`	A region containing related information that is declared as document content, as opposed to a web application.	none	`aria-expanded` (state)	Flow content	Flow content
`feed`	A scrollable list of articles where scrolling may cause articles to be added to or removed from either end of the list.	none	`aria-expanded` (state)	Flow content	Flow content
`figure`	A perceivable section of content that typically	none	`aria-expanded` (state)	Flow content	Flow content



Role	Description	Required Properties	Supported Properties	Kind of content	Descendant restrictions
	contains a graphical document, images, code snippets, or example text.				
`form`	A landmark region that contains a collection of items and objects that, as a whole, combine to create a form. See related `search`.	none	`aria-expanded` (state)	Flow content	Flow content
`grid`	A grid is an interactive control which contains cells of tabular data arranged in rows and columns, like a table.	none	<ul style="list-style-type: none"> <li>• `aria-level`</li> <li>• `aria-multiselectable`</li> <li>• `aria-readonly`</li> <li>• `aria-activedescendant`</li> <li>• `aria-expanded` (state)</li> <li>• `aria-colcount`</li> <li>• `aria-rowcount`</li> </ul>	Flow content Interactive content	Flow content
`gridcell`	A cell in a `grid` or `treegrid`.	none	<ul style="list-style-type: none"> <li>• `aria-readonly`</li> <li>• `aria-required`</li> <li>• `aria-selected` (state)</li> <li>• `aria-expanded` (state)</li> <li>• `aria-colindex`</li> <li>• `aria-cols`</li> <li>• `aria-rowindex`</li> <li>• `aria-rowspan`</li> </ul>	Flow content Interactive content	Flow content
`group`	A set of user interface objects which are not intended to be included in a page summary or table of contents by assistive technologies.	none	<ul style="list-style-type: none"> <li>• `aria-activedescendant`</li> <li>• `aria-expanded` (state)</li> </ul>	Flow content	Flow content
`heading`	A heading for a section of the page.	none	<ul style="list-style-type: none"> <li>• `aria-level`</li> <li>• `aria-expanded` (state)</li> </ul>	Heading content	Flow content, but with no Heading content, Sectioning content,

Role	Description	Required Properties	Supported Properties	Kind of content	Descendant restrictions Sectioning roots.
`img`	A container for a collection of elements that form an image.	none	`aria-expanded` (state)	Flow content	Flow content
`link`	An interactive reference to an internal or external resource that, when activated, causes the user agent to navigate to that resource. See related `button`.	none	`aria-expanded` (state)	Flow content	Flow content, but with no interactive content or a element descendants.
`list`	A group of non-interactive list items. See related `listbox`.	none	`aria-expanded` (state)	Flow content	Flow content
`listbox`	A widget that allows the user to select one or more items from a list of choices. See related `combobox` and `list`.	none	<ul style="list-style-type: none"> <li>• `aria-required`</li> <li>• `aria-multiselectable`</li> <li>• `aria-expanded` (state)</li> <li>• `aria-activedescendant`</li> <li>• `aria-orientation`</li> </ul>	Flow content  Interactive content	Flow content
`listitem`	A single item in a `list` or `directory`.	none	<ul style="list-style-type: none"> <li>• `aria-level`</li> <li>• `aria-posinset`</li> <li>• `aria-setsize`</li> <li>• `aria-expanded` (state)</li> </ul>	Flow content	Flow content
`log`	A type of live region where new information is added in meaningful order and old information may disappear. See related `marquee`.	none	`aria-expanded` (state)	Flow content	Flow content
main	The main content of a document.	none	`aria-expanded` (state)	Flow content	Flow content, but with no main element descendants

Role	Description	Required Properties	Supported Properties	Kind of content	Descendant restrictions
`marquee`	A type of live region where non-essential information changes frequently. See related `log`.	none	`aria-expanded` (state)	Flow content	Flow content
`math`	Content that represents a mathematical expression.	none	`aria-expanded` (state)	Flow content	Flow content
`menu`	A type of widget that offers a list of choices to the user.	none	<ul style="list-style-type: none"> <li>• `aria-expanded` (state)</li> <li>• `aria-activedescendant`</li> <li>• `aria-orientation`</li> </ul>	Flow content Interactive content	Flow content
`menubar`	A presentation of menu that usually remains visible and is usually presented horizontally.	none	<ul style="list-style-type: none"> <li>• `aria-expanded` (state)</li> <li>• `aria-activedescendant`</li> <li>• `aria-orientation`</li> </ul>	Flow content Interactive content	Flow content
`menuitem`	An option in a group of choices contained by a `menu` or `menubar`.	none	<ul style="list-style-type: none"> <li>• `aria-posinset`</li> <li>• `aria-setsize`</li> </ul>	Interactive content	Flow content, but with no interactive content descendants.
`menuitemcheckbox`	A checkable menuitem that has three possible values: true, false, or mixed.	`aria-checked` (state)	<ul style="list-style-type: none"> <li>• `aria-posinset`</li> <li>• `aria-setsize`</li> </ul>	Interactive content	Flow content, but with no interactive content descendants.
`menuitemradio`	A checkable `menuitem` in a group of `menuitemradio` roles, only one of which can be checked at a time.	`aria-checked` (state)	<ul style="list-style-type: none"> <li>• `aria-posinset`</li> <li>• `aria-setsize`</li> </ul>	Interactive content	Flow content, but with no interactive content descendants.
`navigation`	A collection of navigational elements (usually links) for navigating the document or related documents.	none	`aria-expanded` (state)	Flow content	Flow content, but with no main element descendants

Role	Description	Required Properties	Supported Properties	Kind of content	Descendant restrictions
`none`	An element whose implicit native role semantics will not be mapped to the accessibility API. See synonym <a href="#">`presentation`</a>	none		Flow content	Flow content
`note`	A section whose content is parenthetical or ancillary to the main content of the resource.	none	`aria-expanded` (state)	Flow content	Flow content
`option`	A selectable item in a select list.	none	<ul style="list-style-type: none"> <li>• `aria-checked` (state)</li> <li>• `aria-posinset`</li> <li>• `aria-selected` (state)</li> <li>• `aria-setsize`</li> </ul>	Interactive content	Flow content, but with no interactive content descendants.
`presentation`	An element whose implicit native role semantics will not be mapped to the accessibility API.	none		Flow content	Flow content
`progressbar`	An element that displays the progress status for tasks that take a long time.	none	<ul style="list-style-type: none"> <li>• `aria-valuemax`</li> <li>• `aria-valuemin`</li> <li>• `aria-valuenow`</li> <li>• `aria-valuetext`</li> </ul>	Flow content	Flow content
`radio`	A checkable input in a group of radio roles, only one of which can be checked at a time.	`aria-checked` (state)	<ul style="list-style-type: none"> <li>• `aria-posinset`</li> <li>• `aria-selected` (state)</li> <li>• `aria-setsize`</li> </ul>	Interactive content	Flow content, but with no interactive content descendants.
`radiogroup`	A group of radio buttons.	none	<ul style="list-style-type: none"> <li>• `aria-required`</li> <li>• `aria-activedescendant`</li> <li>• `aria-expanded` (state)</li> <li>• `aria-orientation`</li> </ul>	Flow content	Flow content
`region`	A large perceivable section of a web page or document, that the author	none	`aria-expanded` (state)	Flow content	Flow content

Role	Description	Required Properties	Supported Properties	Kind of content	Descendant restrictions
	feels is important enough to be included in a page summary or table of contents, for example, an area of the page containing live sporting event statistics.				
`row`	A row of cells in a tabular container.	none	<p>If child of `role=grid`, `rowgroup`, `table` or `treegrid`:</p> <ul style="list-style-type: none"> <li>• `aria-colindex`</li> <li>• `aria-rowindex`</li> <li>• `aria-selected` (state)</li> <li>• `aria-activedescendant`</li> </ul> <p>Also, if child of `role=treegrid`:</p> <ul style="list-style-type: none"> <li>• `aria-expanded` (state)</li> <li>• `aria-level`</li> <li>• `aria-posinset`</li> <li>• `aria-setsize`</li> </ul>	none	Flow content
`rowgroup`	A group containing one or more row elements in a grid.	none		none	Flow content
`rowheader`	A cell containing header information for a row in a grid.	none	<ul style="list-style-type: none"> <li>• `aria-readonly`</li> <li>• `aria-required`</li> <li>• `aria-selected` (state)</li> <li>• `aria-expanded` (state)</li> <li>• `aria-colspan`</li> <li>• `aria-colindex`</li> <li>• `aria-rowindex`</li> <li>• `aria-rowspan`</li> </ul>	none	Flow content
`scrollbar`	A graphical object that controls the scrolling of content within a viewing area, regardless of whether the content is fully	<ul style="list-style-type: none"> <li>• `aria-controls`</li> <li>• `aria-orientation`</li> <li>• `aria-valuemax`</li> <li>• `aria-valuemin`</li> </ul>	<ul style="list-style-type: none"> <li>• `aria-expanded` (state)</li> <li>• `aria-valuetext`</li> </ul>	<p>Flow content</p> <p>Interactive content</p>	Flow content

Role	Description	Required Properties	Supported Properties	Kind of content	Descendant restrictions
	displayed within the viewing area.	<ul style="list-style-type: none"> <li>`aria-valuenow`</li> </ul>			
`search`	A landmark region that contains a collection of items and objects that, as a whole, combine to create a search facility. See related `form`.	none	`aria-expanded` (state)	Flow content	Flow content
`searchbox`	A type of textbox intended for specifying search criteria.	none	<ul style="list-style-type: none"> <li>`aria-activedescendant`</li> <li>`aria-autocomplete`</li> <li>`aria-multiline`</li> <li>`aria-placeholder`</li> <li>`aria-readonly`</li> <li>`aria-required`</li> </ul>	Interactive content	Flow content, but with no interactive content descendants.
`separator`	A divider that separates and distinguishes sections of content or groups of menuitems.	<ul style="list-style-type: none"> <li>`aria-valuemax` (if focusable)</li> <li>`aria-valuemin` (if focusable)</li> <li>`aria-valuenow` (if focusable)</li> </ul>	<ul style="list-style-type: none"> <li>`aria-valuetext` (if focusable)</li> <li>`aria-orientation`</li> </ul>	Interactive content (if focusable)	Flow content
`slider`	A user input where the user selects a value from within a given range.	<ul style="list-style-type: none"> <li>`aria-valuemax`</li> <li>`aria-valuemin`</li> <li>`aria-valuenow`</li> </ul>	<ul style="list-style-type: none"> <li>`aria-orientation`</li> <li>`aria-valuetext`</li> </ul>	Interactive content	Flow content
`spinbutton`	A form of range that expects the user to select from among discrete choices.	<ul style="list-style-type: none"> <li>`aria-valuemax`</li> <li>`aria-valuemin`</li> <li>`aria-valuenow`</li> </ul>	<ul style="list-style-type: none"> <li>`aria-required`</li> <li>`aria-readonly`</li> <li>`aria-valuetext`</li> </ul>	Flow content  Interactive content	Flow content
`status`		none			

Role	Description	Required Properties	Supported Properties	Kind of content	Descendant restrictions
	A container whose content is advisory information for the user but is not important enough to justify an alert, often but not necessarily presented as a status bar. See related <code>`alert`</code> .		<code>`aria-expanded`</code> (state)	Flow content	Flow content
<code>`switch`</code>	A type of checkbox that represents on/off values, as opposed to checked/unchecked values.	<code>`aria-checked`</code> (state)	<code>`aria-readonly`</code>	Interactive content	Flow content, but with no interactive content descendants.
<code>`tab`</code>	A grouping label providing a mechanism for selecting the tab content that is to be rendered to the user.	none	<ul style="list-style-type: none"> <li><code>`aria-selected`</code> (state)</li> <li><code>`aria-posinset`</code></li> <li><code>`aria-setsize`</code></li> <li><code>`aria-expanded`</code> (state)</li> </ul>	Interactive content	Flow content
<code>`table`</code>	A section containing data arranged in rows and columns. The table role is intended for tabular containers which are not interactive.	none	<ul style="list-style-type: none"> <li><code>`aria-colcount`</code></li> <li><code>`aria-rowcount`</code></li> </ul>	Flow content	Flow content
<code>`tablist`</code>	A list of <code>`tab`</code> elements, which are references to <code>`tabpanel`</code> elements.	none	<ul style="list-style-type: none"> <li><code>`aria-level`</code></li> <li><code>`aria-activedescendant`</code></li> <li><code>`aria-orientation`</code></li> <li><code>`aria-multiselectable`</code></li> </ul>	Flow content	Flow content
<code>`tabpanel`</code>	A container for the resources associated with a <code>`tab`</code> , where each <code>`tab`</code> is contained in a <code>`tablist`</code> .	none	<code>`aria-expanded`</code> (state)	Flow content	Flow content
<code>`term`</code>	A word or phrase with a corresponding	none	<code>`aria-expanded`</code> (state)	Phrasing content	Phrasing content

Role	Description	Required Properties	Supported Properties	Kind of content	Descendant restrictions
	definition. See related <a href="#">`definition`</a> .				
<code>`textbox`</code>	Input that allows free-form text as its value.	none	<ul style="list-style-type: none"> <li><code>`aria-activedescendant`</code></li> <li><code>`aria-autocomplete`</code></li> <li><code>`aria-multiline`</code></li> <li><code>`aria-placeholder`</code></li> <li><code>`aria-readonly`</code></li> <li><code>`aria-required`</code></li> </ul>	Interactive content	Flow content, but with no interactive content descendants.
<code>`timer`</code>	A type of live region containing a numerical counter which indicates an amount of elapsed time from a start point, or the time remaining until an end point.	none	<code>`aria-expanded`</code> (state)	Flow content	Flow content
<code>`toolbar`</code>	A collection of commonly used function buttons represented in compact visual form.	none	<ul style="list-style-type: none"> <li><code>`aria-activedescendant`</code></li> <li><code>`aria-expanded`</code> (state)</li> <li><code>`aria-orientation`</code></li> </ul>	Flow content	Flow content
<code>`tooltip`</code>	A contextual pop-up that displays a description for an element.	none	<code>`aria-expanded`</code> (state)	Flow content	Flow content
tree	A type of list that may contain sub-level nested groups that can be collapsed and expanded.	none	<ul style="list-style-type: none"> <li><code>`aria-multiselectable`</code></li> <li><code>`aria-required`</code></li> <li><code>`aria-activedescendant`</code></li> <li><code>`aria-expanded`</code> (state)</li> <li><code>`aria-orientation`</code></li> </ul>	Flow content	Flow content
<code>`treegrid`</code>	A grid whose rows can be expanded and collapsed in the same manner as for a tree.	none	<ul style="list-style-type: none"> <li><code>`aria-level`</code></li> <li><code>`aria-multiselectable`</code></li> <li><code>`aria-readonly`</code></li> <li><code>`aria-activedescendant`</code></li> <li><code>`aria-expanded`</code> (state)</li> <li><code>`aria-required`</code></li> </ul>	Flow content	Flow content



Role	Description	Required Properties	Supported Properties	Kind of content	Descendant restrictions
			<ul style="list-style-type: none"> <li>• `aria-orientation`</li> <li>• `aria-colcount`</li> <li>• `aria-rowcount`</li> </ul>		
`treeitem`	An option item of a tree. This is an element within a tree that may be expanded or collapsed if it contains a sub-level group of treeitems.	none	<ul style="list-style-type: none"> <li>• `aria-level`</li> <li>• `aria-posinset`</li> <li>• `aria-setsize`</li> <li>• `aria-expanded` (state)</li> <li>• `aria-checked` (state)</li> <li>• `aria-selected` (state)</li> </ul>	Interactive content	Flow content

Conformance checkers that claim support for checking of ARIA in HTML, MUST implement checks for the document conformance requirements for use of the ARIA `role` and `aria-\*` attributes on HTML elements as defined in this specification.

Documents MUST NOT use any `role` values with elements in the [[[#docconformance]]] table, other than the corresponding role value (if any) as listed for that element in the third column, other than those indicated in the second column (whose explicit use in markup is NOT RECOMMENDED).