ARIA

STATES & PROPERTIES

We are now going to look in more detail at the **different state and property attributes**.

We'll start by reviewing this chart showing how the categories of states and properties have **changed over time**:

https://russmaxdesign.github.io/aria-states-properties/

As with `role` attributes, it's not possible to cover all of these attributes today, so I'm going to **highlight some attributes that are important to know about**.

Widget attributes

ARIA Attributes

Roles (role)	States and Properties (aria-*)
Abstract	Widget
Widget	Live Region
Document Structure	Drag-and-Drop
Landmark	Relationship
Live Region	Global
Window	

Widget attributes are specific to common user interface elements **which receive user input and process user actions**.

- aria-autocomplete
- aria-checked (state)
- aria-disabled (state)
- aria-errormessage (1.1)
- aria-expanded (state)
- aria-haspopup
- aria-hidden (state)
- aria-invalid (state)
- aria-label
- aria-level
- aria-modal (1.1)
- aria-multiline
- aria-multiselectable
- aria-orientation
- aria-placeholder (1.1)
- aria-pressed (state)
- aria-readonly
- aria-required
- aria-selected (state)
- aria-sort
- aria-valuemax
- aria-valuemin
- aria-valuenow
- aria-valuetext

Exercise 9: Disabled, Invalid, Hidden

Open **exercise09-disabled-invalid/start.html** in a browser and also in a text editor.

Review your work against **exercise09-disabled-invalid/finish.html**

To make a disabled form control be **announced as “disabled” or “dimmed”** we can add the `aria-disabled` attribute.

```
<input
  class="input input__disabled"
  id="email"
  type="text"
  disabled
  aria-disabled="true"
>
```

Keep in mind that the boolean `disabled` attribute **defines the input as disabled**, the `aria-disabled` attribute is only used to **tell screen reader users of it's state**.

To make an invalid form control be **announced as “invalid”** we can add the `aria-invalid` attribute.

```
<input
  class="input input__invalid"
  id="address"
  type="text"
  invalid
  aria-invalid="true"
>
```

Keep in mind that the boolean `invalid` attribute **defines the input as invalid**, the `aria-invalid` attribute is only used to **tell screen reader users of it's state**.

To **hide an element and all of it's child elements** from screen readers, you can apply the `aria-hidden` attribute.

```
<p aria-hidden="true">This content is hidden from
Screen Readers.</p>

<p hidden>This content is hidden.</p>

<p aria-hidden="false">This content is not hidden
from Screen Readers.</p>
```

Keep in mind that the boolean `hidden` attribute **means that the element is not displayed to anyone**, the `aria-hidden` attribute is only used to **hide the element from screen readers**.

Live region attributes

ARIA Attributes

Roles (role)	States and Properties (aria-*)
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These attributes indicate to Assistive Technologies **that content changes may occur** without the element having focus, and to provide assistive technologies with information on how to process those content updates.

- aria-atomic
- aria-busy (state)
- aria-live
- aria-relevant

aria-live

We can apply the `aria-live` attribute to **any HTML element**.

```
<div aria-live="polite">
  ...
</div>
```

If anything dynamically changes inside that element after the initial page load, screen readers will be **made aware of these changes**.

The aria-live attribute can be used for any page regions that are **likely to get updates** after the initial page is loaded.

Info alerts! Some info to be aware of

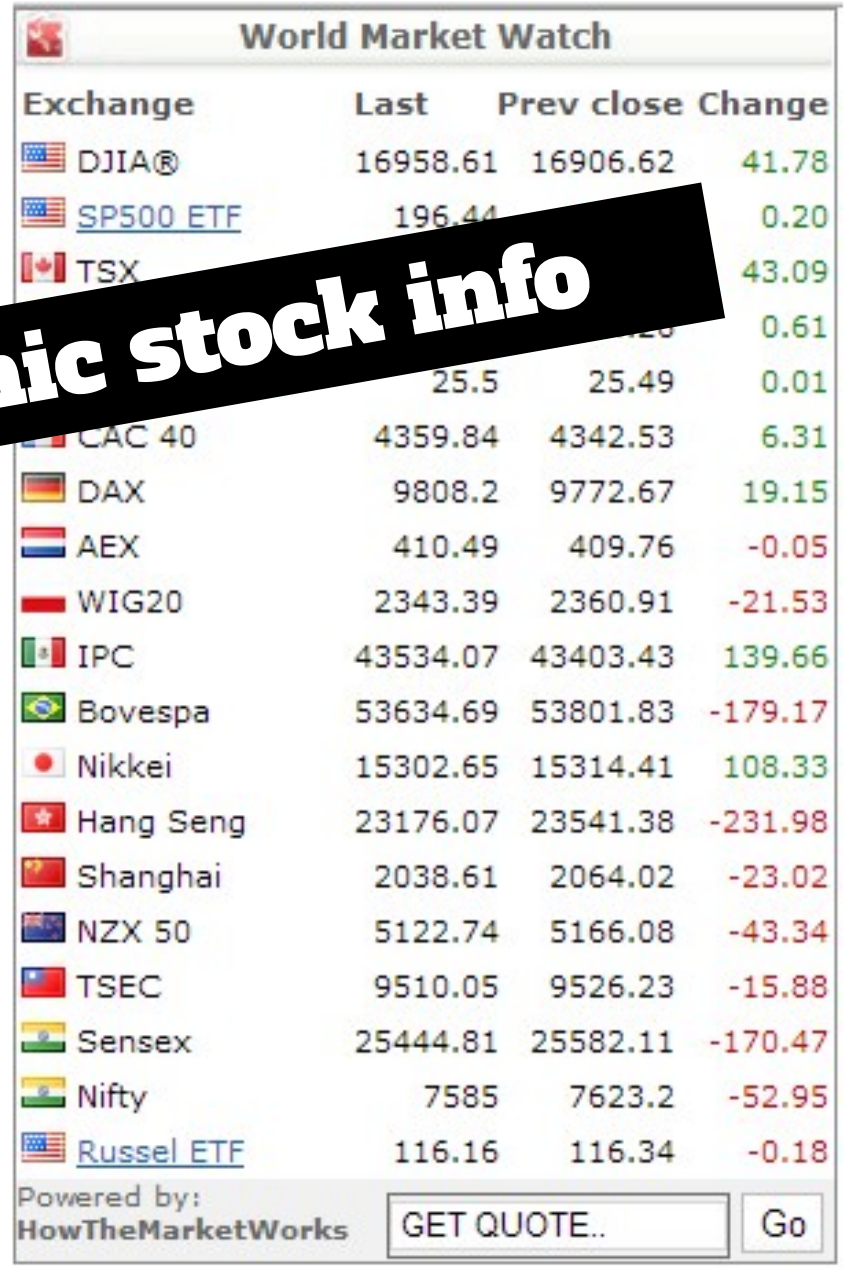
Success alerts! Your changes are saved

Warning alerts! Something has changed

Error alerts! Fix the error and try agai

Alert messages

Dynamic stock info



World Market Watch

Exchange	Last	Prev close	Change
DJIA®	16958.61	16906.62	41.78
SP500 ETF	196.44		0.20
TSX			43.09
			0.61
	25.5	25.49	0.01
CAC 40	4359.84	4342.53	6.31
DAX	9808.2	9772.67	19.15
AEX	410.49	409.76	-0.05
WIG20	2343.39	2360.91	-21.53
IPC	43534.07	43403.43	139.66
Bovespa	53634.69	53801.83	-179.17
Nikkei	15302.65	15314.41	108.33
Hang Seng	23176.07	23541.38	-231.98
Shanghai	2038.61	2064.02	-23.02
NZX 50	5122.74	5166.08	-43.34
TSEC	9510.05	9526.23	-15.88
Sensex	25444.81	25582.11	-170.47
Nifty	7585	7623.2	-52.95
Russel ETF	116.16	116.34	-0.18

Powered by: HowTheMarketWorks

GET QUOTE..

Go

mR aNdRoiD MaD TuToRiAL
Android RSS Feed Reader Example
Fri, 08 Jun 2012 13:55:00 +0000
Android Turn ON wifi
matically
Android
Tue, 29 May 2012 06:13:00 +0000
Pull to Refresh ListView in Android.
Mon, 21 May 2012 07:25:00 +0000
Always show zoom controls on a MapView in Android
Wed, 14 Mar 2012 06:38:00 +0000
Change Sorting Mode
Dynamic RSS feeds

Date:
January 2011
Su Mo Tu We Th Fr Sa
1
2 3 4 5 6 7 8
9 10 11 12 13 14 15
16 17 18 19 20 21 22
23 24 25 26 27 28 29
30 31
Date pickers

The Person List
Name
City
Birth date
Status
Record date
Andy More
Trabzon
1971-03-10
Passive
2013-01-16
Andy Pugy
Volos
1973-06-25
Active
2013-01-16
Adana
1948-10-05
Active
2013-01-16
1957-08-10
Active
2013-01-16
Active
2013-01-16
Arda More
London
Active
2013-01-16
Audrey Brown
Berlin
1975-05-21
Active
2013-01-16
Audrey Brown
İstanbul
1960-11-21
Active
2013-01-16
Audrey Kalkan
London
1994-06-14
Active
2013-01-16
Austin Anar
Paris
1969-11-27
Active
2013-01-16
|< < 1 2 3 ... 11 12 13 > >|
Showing 11 to 20 of 128 records
+ Add new record
Sortable tables

There are **three possible values** for aria-live:

`aria-live="off"`

Assistive technologies **should not announce updates** unless the assistive technology is currently focused on that region.

The `off` value can be used for information that is **not critical** for users to know about immediately.

```
<div aria-live="off">
  ...
</div>
```

`aria-live="polite"`

Assistive technologies should announce updates at the **next graceful opportunity** (eg end of current sentence).

The `polite` value can be used for **warning notifications** that users may need to know.

```
<div aria-live="polite">
  ...
</div>
```

`aria-live="assertive"`

Assistive technologies should **announce updates immediately**.

The `assertive` value should only be used if the interruption is **imperative for users to know immediately** such as error alerts.

```
<div aria-live="assertive">
  ...
</div>
```

aria-atomic

The `aria-atomic` attribute indicates whether assistive technologies will present **all, or only parts of**, the changed region based on the change notifications defined by the aria-relevant attribute.

```
<!-- The true attribute will present the region as a whole when changes are detected. -->

<div aria-live="off" aria-atomic="true">
</div>
```

```
<!-- The false attribute will present only the
changed regions. This is the default. -->

<div aria-live="off" aria-atomic="false">
</div>
```

aria-relevant

The `aria-relevant` attribute describes **semantically meaningful changes**, as opposed to merely presentational ones.

`additions` are **insertion of nodes** within the live region. These should be considered relevant and announced to screen readers.

```
<!-- additions attribute -->

<div aria-live="off" aria-relevant="additions">
</div>
```

`removals` are **deletion of nodes** within the live region. These should be considered relevant and announced to screen readers.

```
<!-- removals attribute -->

<div aria-live="off" aria-relevant="removals">
</div>
```

`text` are **changes to the textual content of existing nodes** within the live region. These should be considered relevant and announced to screen readers.

```
<!-- text attribute -->

<div aria-live="off" aria-relevant="text">
</div>
```

`all` are **insertion of deletion of nodes** within the live region. These should be considered relevant and announced to screen readers.

```
<!-- all attribute -->

<div aria-live="off" aria-relevant="all">
</div>
```

Multiple, **comma-separated values** can be used with the `aria-relevant` attribute.

```
<!-- multiple attributes -->

<div aria-live="off" aria-relevant="text, removals">
</div>
```

The `removals` and `all` values **should be used sparingly**. Assistive technologies only need to be informed of important change.

aria-busy

The `aria-busy` state indicates whether an element, and its subtree, are **currently being updated**.

If multiple parts of the same element need to be loaded or modified, the live region can be set to `true` **while the loading is in progress**.

```
<!-- true attribute -->

<div aria-live="off" aria-busy="true">
</div>
```

When **the last part has been loaded**, the live region can be set to `false`.

```
<!-- false attribute -->

<div aria-live="off" aria-busy="false">
</div>
```

role=alert

Elements with the `role="alert"` have an implicit `aria-live` value of **“assertive”**, and an implicit `aria-atomic` value of **“true”**.

For this reason there is **no need to use** the `aria-live` attribute as well as `role="alert"` on the same element.

```
<!-- Not needed -->

<div aria-live="assertive" role="alert">
</div>
```

Exercise 10: Live regions

Open **exercise10-live-regions/start/** files in a browser and also in a text editor.

Review your work against **exercise10-live-regions/finished/**

```
<div id="message" class="error" aria-
live="assertive"></div>
```

```
<div id="message" class="error" aria-live="off"></
div>
```

```
<div id="message" class="error" aria-live="polite"></
div>
```

Drag-and-drop attributes

ARIA Attributes

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These attributes indicate **information about drag-and-drop interface elements**, such as draggable elements and their drop targets.

- aria-dropeffect
- aria-grabbed (state)

Relationship attributes

ARIA Attributes

Roles (role)

- Abstract
- Widget
- Document Structure
- Landmark
- Live Region
- Window

States and Properties (aria-*)

- Widget
- Live Region
- Drag-and-Drop
- Relationship
- Global

Relationship attributes **indicate relationships or associations between elements** which cannot be readily determined from the document structure.

- aria-activedescendant
- aria-colcount (1.1)
- aria-colindex (1.1)
- aria-colspan (1.1)
- aria-controls
- aria-describedby
- aria-details (1.1)
- aria-errormessage (1.1)
- aria-flowto
- aria-labelledby
- aria-owns
- aria-posinset
- aria-rowcount (1.1)
- aria-rowindex (1.1)
- aria-rowspan (1.1)
- aria-setsize

Exercise 11: Menubar

Open **exercise11-menubar/start.html** in a browser and also in a text editor.

Review your work against **exercise11-menubar/finish.html**

```
<nav role="navigation" aria-label="Main menu">
```

```
<ul id="menubar1" role="menubar">
```

```
<li>
  <a role="menuitem" aria-haspopup="true" aria-expanded="false"
href="#">About</a>
</li>
<li>
  <a role="menuitem" aria-haspopup="true" aria-expanded="false"
href="#">Admissions</a>
</li>
<li>
  <a role="menuitem" aria-haspopup="true" aria-expanded="false"
href="#">Academics</a>
</li>
```

```
<ul role="menu" aria-label="About">
<ul role="menu" aria-label="Admissions">
<ul role="menu" aria-label="Academics">
```

```
<li role="none">
<li role="none">
<li role="none">
<li role="none">
<li role="none">
<li role="none">
<li role="none">
<li role="none">
<li role="none">
<li role="none">
```

```
<a role="menuitem" href="#">Overview</a>
```