

Interaction Design  
Thomas Owens



# CSS3 Animation II

SESSION TYPE : LESSON with WORKSHOP  
WBD4400

CSS3 Animation II

Animation-delay

Fill-mode

Direction

Timing

Easing

Keyframes

# CSS3 Animation II



w3schools.com

HTML CSS JAVASCRIPT SQL PHP BOOTSTRAP JQUERY ANGULAR W3.CSS XML

- CSS Selectors
- CSS Functions
- CSS Reference Aural
- CSS Web Safe Fonts
- CSS Animatable
- CSS Units
- CSS PX-EM Converter
- CSS Colors
- CSS Color Values
- CSS Default Values
- CSS Entities

## CSS Properties

- align-content
- align-items
- align-self
- all
- animation**
- animation-delay
- animation-direction
- animation-duration
- animation-fill-mode

## CSS animation Property

[< Previous](#)

[Complete CSS Reference](#)

### Example

Binding an animation to a <div> element, using the shorthand property:

```
div {  
  animation: mymove 5s infinite;  
}
```

[Try it Yourself »](#)

# CSS Animation Delay

Result Size: 668 x 464

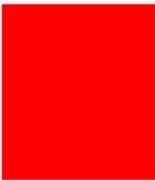
```
<!DOCTYPE html>
<html>
<head>
<style>
div {
  width: 100px;
  height: 100px;
  background: red;
  position: relative;
  -webkit-animation: mymove 5s infinite; /* Safari 4.0 - 8.0 */
  -webkit-animation-delay: 2s; /* Safari 4.0 - 8.0 */
  animation: mymove 5s infinite;
  animation-delay: 2s;
}

/* Safari 4.0 - 8.0 */
@-webkit-keyframes mymove {
  from {left: 0px;}
  to {left: 200px;}
}

@keyframes mymove {
  from {left: 0px;}
  to {left: 200px;}
}
```

## The animation-delay Property

Start the animation after 2 seconds:



**Note:** The animation-delay property is not supported in Internet Explorer 9 and earlier versions.

# Fill mode

Home Menu Refresh Run »Result Size: 668 x 464

```
<html>
<head>
<style>
div {
  width: 100px;
  height: 100px;
  background: red;
  position: relative;
  -webkit-animation: mymove 3s; /* Safari 4.0 - 8.0 */
  -webkit-animation-fill-mode: forwards; /* Safari 4.0 - 8.0 */
  animation: mymove 3s;
  animation-fill-mode: forwards;
}

/* Safari 4.0 - 8.0 */
@-webkit-keyframes mymove {
  from {top: 0px;}
  to {top: 200px; background-color: blue;}
}

@keyframes mymove {
  from {top: 0px;}
  to {top: 200px; background-color: blue;}
}
</style>
</head>
```

## The animation-fill-mode Property

Let the div element retain the style values from the last keyframe when the animation ends:

**Note:** The animation-fill-mode property is not supported in Internet Explorer 9 and earlier versions.



# Direction

Home Menu Refresh Run »Result Size: 744 x 532

```
<style>
div {
  width: 100px;
  height: 100px;
  background: red;
  position: relative;
  -webkit-animation: myfirst 5s 2; /* Safari 4.0 - 8.0 */
  -webkit-animation-direction: alternate; /* Safari 4.0 - 8.0 */
  animation: myfirst 5s 2;
  animation-direction: alternate;
}

/* Safari 4.0 - 8.0 */
@-webkit-keyframes myfirst {
  0% {background: red; left: 0px; top: 0px;}
  25% {background: yellow; left: 200px; top: 0px;}
  50% {background: blue; left: 200px; top: 200px;}
  75% {background: green; left: 0px; top: 200px;}
  100% {background: red; left: 0px; top: 0px;}
}

@keyframes myfirst {
  0% {background: red; left: 0px; top: 0px;}
  25% {background: yellow; left: 200px; top: 0px;}
  50% {background: blue; left: 200px; top: 200px;}
  75% {background: green; left: 0px; top: 200px;}
  100% {background: red; left: 0px; top: 0px;}
}
</style>
</head>
<body>
```

## The animation-direction Property

Play the animation forwards first, then backwards:



**Note:** The animation-direction property is not supported in Internet Explorer 9 and earlier versions.

# CSS Timing

https://www.w3schools.com/cssref/css3\_pr\_animation-timing-function.asp

W3SCHOOLS.COM

THE WORLD'S LARGEST V

HTML CSS JAVASCRIPT SQL PHP BOOTSTRAP JQUERY ANGULAR W3.CSS XML MORE REFERENCES

CSS Color Values  
CSS Default Values  
CSS Entities

CSS Properties

align-content  
align-items  
align-self  
all  
animation  
animation-delay  
animation-direction  
animation-duration  
animation-fill-mode  
animation-iteration-count  
animation-name  
animation-play-state  
**animation-timing-function**  
backface-visibility  
background  
background-attachment  
background-blend-mode



TESCO Direct

£ 299.00

£ 19.99

Subject to availability. Whilst stocks last. Delivery charges may apply.

## CSS animation-timing-function Property

< Previous

Complete CSS Reference

Next >

### Example

Play an animation with the same speed from beginning to end:

```
div {  
  animation-timing-function: linear;  
}
```

Try it Yourself »

# CSS Easing

← → ↻ Secure | [https://www.w3schools.com/cssref/css3\\_pr\\_animation-timing-function.asp](https://www.w3schools.com/cssref/css3_pr_animation-timing-function.asp)

HTML CSS JAVASCRIPT SQL PHP BOOTSTRAP JQUERY ANGULAR W3.CSS XML MORE ▾ REFERENCES ▾

- CSS Color Values
- CSS Default Values
- CSS Entities
- CSS Properties
  - align-content
  - align-items
  - align-self
  - all
  - animation
  - animation-delay
  - animation-direction
  - animation-duration
  - animation-fill-mode
  - animation-iteration-count
  - animation-name
  - animation-play-state
  - animation-timing-function**
  - backface-visibility
  - background
  - background-attachment
  - background-blend-mode
  - background-clip
  - background-color
  - background-image

Value	Description	Play it
linear	The animation has the same speed from start to end	<a href="#">Play it »</a>
ease	Default value. The animation has a slow start, then fast, before it ends slowly	<a href="#">Play it »</a>
ease-in	The animation has a slow start	<a href="#">Play it »</a>
ease-out	The animation has a slow end	<a href="#">Play it »</a>
ease-in-out	The animation has both a slow start and a slow end	<a href="#">Play it »</a>
step-start	Equivalent to <code>steps(1, start)</code>	
step-end	Equivalent to <code>steps(1, end)</code>	
<code>steps(int,start end)</code>	Specifies a stepping function, with two parameters. The first parameter specifies the number of intervals in the function. It must be a positive integer (greater than 0). The second parameter, which is optional, is either the value "start" or "end", and specifies the point at which the change of values occur within the interval. If the second parameter is omitted, it is given the value "end"	
<u><code>cubic-bezier(n,n,n,n)</code></u>	Define your own values in the cubic-bezier function Possible values are numeric values from 0 to 1	
initial	Sets this property to its default value. <a href="#">Read about <i>initial</i></a>	
inherit	Inherits this property from its parent element. <a href="#">Read about <i>inherit</i></a>	



# CSS Keyframes

← → ↻ 🔒 Secure [https://www.w3schools.com/cssref/css3\\_pr\\_animation-keyframes.asp](https://www.w3schools.com/cssref/css3_pr_animation-keyframes.asp)

HTML CSS JAVASCRIPT SQL PHP BOOTSTRAP JQUERY ANGULAR W3.CSS XML MORE ▾ REFERENCES ▾ EXA

- grid-column
- grid-column-end
- grid-column-gap
- grid-column-start
- grid-gap
- grid-row
- grid-row-end
- grid-row-gap
- grid-row-start
- grid-template
- grid-template-areas
- grid-template-columns
- grid-template-rows
- hanging-punctuation
- height
- @import
- justify-content
- @keyframes**
- left
- letter-spacing
- line-height
- list-style
- list-style-image
- list-style-position
- list-style-type

## Definition and Usage

The `@keyframes` rule specifies the animation code.

The animation is created by gradually changing from one set of CSS styles to another.

During the animation, you can change the set of CSS styles many times.

Specify when the style change will happen in percent, or with the keywords "from" and "to", which is the same as 0% and 100%. 0% is the beginning of the animation, 100% is when the animation is complete.






**Tip:** For best browser support, you should always define both the 0% and the 100% selectors.

**Note:** Use the animation properties to control the appearance of the animation, and also to bind the animation to selectors.

## Browser Support

The numbers in the table specifies the first browser version that fully supports the rule.

Numbers followed by `-webkit-`, `-moz-` or `-o-` specify the first version that worked with a prefix.

Property					
@keyframes	43.0 4.0 -webkit-	10.0	16.0 5.0 -moz-	9.0 4.0 -webkit-	30.0 15.0 -webkit- 12.0 -o-