Notes CSS Transitions and Animation

<https://www.w3schools.com/css/css3_transitions.asp>

<https://thoughtbot.com/blog/transitions-and-transforms>

CSS Transitions

CSS transitions allows you to change property values smoothly, over a given duration.

**Mouse over the element below to see a CSS transition effect:**

**CSS**

In this chapter you will learn about the following properties:

* transition
* transition-delay
* transition-duration
* transition-property
* transition-timing-function

Browser Support for Transitions

The numbers in the table specify the first browser version that fully supports the property.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Property |  |  |  |  |  |
| transition | 26.0 | 10.0 | 16.0 | 6.1 | 12.1 |
| transition-delay | 26.0 | 10.0 | 16.0 | 6.1 | 12.1 |
| transition-duration | 26.0 | 10.0 | 16.0 | 6.1 | 12.1 |
| transition-property | 26.0 | 10.0 | 16.0 | 6.1 | 12.1 |
| transition-timing-function | 26.0 | 10.0 | 16.0 | 6.1 | 12.1 |

How to Use CSS Transitions?

To create a transition effect, you must specify two things:

* the CSS property you want to add an effect to
* the duration of the effect

**Note:** If the duration part is not specified, the transition will have no effect, because the default value is 0.

The following example shows a 100px \* 100px red <div> element. The <div> element has also specified a transition effect for the width property, with a duration of 2 seconds:

Example

div {  
  width: 100px;  
  height: 100px;  
  background: red;  
  transition: width 2s;  
}

The transition effect will start when the specified CSS property (width) changes value.

Now, let us specify a new value for the width property when a user mouses over the <div> element:

Example

div:hover {  
  width: 300px;  
}

[Try it Yourself »](https://www.w3schools.com/css/tryit.asp?filename=trycss3_transition1)

Notice that when the cursor mouses out of the element, it will gradually change back to its original style.

Change Several Property Values

The following example adds a transition effect for both the width and height property, with a duration of 2 seconds for the width and 4 seconds for the height:

Example

div {  
  transition: width 2s, height 4s;  
}

[Try it Yourself »](https://www.w3schools.com/css/tryit.asp?filename=trycss3_transition2)

Specify the Speed Curve of the Transition

The transition-timing-function property specifies the speed curve of the transition effect.

The transition-timing-function property can have the following values:

* ease - specifies a transition effect with a slow start, then fast, then end slowly (this is default)
* linear - specifies a transition effect with the same speed from start to end
* ease-in - specifies a transition effect with a slow start
* ease-out - specifies a transition effect with a slow end
* ease-in-out - specifies a transition effect with a slow start and end
* cubic-bezier(n,n,n,n) - lets you define your own values in a cubic-bezier function

The following example shows some of the different speed curves that can be used:

Example

#div1 {transition-timing-function: linear;}  
#div2 {transition-timing-function: ease;}  
#div3 {transition-timing-function: ease-in;}  
#div4 {transition-timing-function: ease-out;}  
#div5 {transition-timing-function: ease-in-out;}

[Try it Yourself »](https://www.w3schools.com/css/tryit.asp?filename=trycss3_transition_speed)

Delay the Transition Effect

The transition-delay property specifies a delay (in seconds) for the transition effect.

The following example has a 1 second delay before starting:

Example

div {  
  transition-delay: 1s;  
}

[Try it Yourself »](https://www.w3schools.com/css/tryit.asp?filename=trycss3_transition_delay)

Transition + Transformation

The following example adds a transition effect to the transformation:

Example

div {  
  transition: width 2s, height 2s, transform 2s;  
}

[Try it Yourself »](https://www.w3schools.com/css/tryit.asp?filename=trycss3_transition_transform)

More Transition Examples

The CSS transition properties can be specified one by one, like this:

Example

div {  
  transition-property: width;  
  transition-duration: 2s;  
  transition-timing-function: linear;  
  transition-delay: 1s;  
}

[Try it Yourself »](https://www.w3schools.com/css/tryit.asp?filename=trycss3_transition4)

or by using the shorthand property transition:

Example

div {  
  transition: width 2s linear 1s;  
}

[Try it Yourself »](https://www.w3schools.com/css/tryit.asp?filename=trycss3_transition5)

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Test Yourself With Exercises

Exercise:

Add a 2 second transition effect for width changes of the <div> element.

* <style>
* div {
* width: 100px;
* height: 100px;
* background: red;
* : ;
* }
* div:hover {
* width: 300px;
* }
* </style>
* <body>
* <div>This is a div</div>
* </body>

Submit Answer »

[Start the Exercise](https://www.w3schools.com/css/exercise.asp?filename=exercise_css3_transitions1)

* Bottom of Form

CSS Transition Properties

The following table lists all the CSS transition properties:

|  |  |
| --- | --- |
| **Property** | **Description** |
| [transition](https://www.w3schools.com/cssref/css3_pr_transition.asp) | A shorthand property for setting the four transition properties into a single property |
| [transition-delay](https://www.w3schools.com/cssref/css3_pr_transition-delay.asp) | Specifies a delay (in seconds) for the transition effect |
| [transition-duration](https://www.w3schools.com/cssref/css3_pr_transition-duration.asp) | Specifies how many seconds or milliseconds a transition effect takes to complete |
| [transition-property](https://www.w3schools.com/cssref/css3_pr_transition-property.asp) | Specifies the name of the CSS property the transition effect is for |
| [transition-timing-function](https://www.w3schools.com/cssref/css3_pr_transition-timing-function.asp) | Specifies the speed curve of the transition effect |