CSS3 2D Transforms

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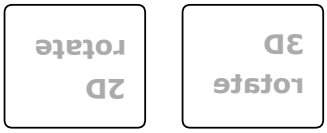
CSS3 Transforms

CSS3 transforms allow you to translate, rotate, scale, and skew elements.

A transformation is an effect that lets an element change shape, size and position.

CSS3 supports 2D and 3D transformations.

Mouse over the elements below to see the difference between a 2D and a 3D transformation:



Browser Support for 2D Transforms

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

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

Property					
transform	36.0 4.0 -webkit-	10.0 9.0 -ms-	16.0 3.5 -moz-	9.0 3.2 -webkit-	23.0 15.0 -webkit- 12.1 10.5 -o-
transform-origin (two-value syntax)	36.0 4.0 -webkit-	10.0 9.0 -ms-	16.0 3.5 -moz-	9.0 3.2 -webkit-	23.0 15.0 -webkit- 12.1 10.5 -o-

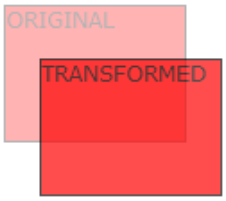
CSS 2D Transforms

In this chapter you will learn about the following 2D transformation methods:

- translate()
- rotate()
- scale()
- skewX()
- skewY()
- matrix()

> **Tip:** You will learn about 3D transformations in the next chapter.

The translate() Method



The translate() method moves an element from its current position (according to the parameters given for the X-axis and the Y-axis).

The following example moves the element 50 pixels to the right, and 100 pixels down from its current position:

Example

```
div {
    -ms-transform: translate(50px, 100px); /* IE 9 */
    -webkit-transform: translate(50px, 100px); /* Safari */
    transform: translate(50px, 100px);
}
```

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The `rotate()` method rotates an element clockwise or counter-clockwise according to a given degree.

The following example rotates the element clockwise with 20 degrees:

Example

```
div {
    -ms-transform: rotate(20deg); /* IE 9 */
    -webkit-transform: rotate(20deg); /* Safari */
    transform: rotate(20deg);
}
```

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Using negative values will rotate the element counter-clockwise.

The following example rotates the element counter-clockwise with 20 degrees:

Example

```
div {
    -ms-transform: rotate(-20deg); /* IE 9 */
    -webkit-transform: rotate(-20deg); /* Safari */
    transform: rotate(-20deg);
}
```

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The scale() Method

The following example increases the element to be two times of its original width, and three times of its original height:

Example

```
div {
    -ms-transform: scale(2, 3); /* IE 9 */
    -webkit-transform: scale(2, 3); /* Safari */
    transform: scale(2, 3);
}
```

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The following example decreases the element to be half of its original width and height:

Example

```
div {
    -ms-transform: scale(0.5, 0.5); /* IE 9 */
    -webkit-transform: scale(0.5, 0.5); /* Safari */
    transform: scale(0.5, 0.5);
}
```

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The skewX() Method

The `skewX()` method skews an element along the X-axis by the given angle.

The following example skews the element 20 degrees along the X-axis:

Example

```
div {
    -ms-transform: skewX(20deg); /* IE 9 */
    -webkit-transform: skewX(20deg); /* Safari */
    transform: skewX(20deg);
}
```

Try it Yourself »

The skewY() Method

The `skewY()` method skews an element along the Y-axis by the given angle.

The following example skews the element 20 degrees along the Y-axis:

Example

```
div {
    -ms-transform: skewY(20deg); /* IE 9 */
    -webkit-transform: skewY(20deg); /* Safari */
    transform: skewY(20deg);
}
```

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The skew() Method

The `skew()` method skews an element along the X and Y-axis by the given angles.

The following example skews the element 20 degrees along the X-axis, and 10 degrees along the Y-axis:

Example

```
div {
    -ms-transform: skew(20deg, 10deg); /* IE 9 */
    -webkit-transform: skew(20deg, 10deg); /* Safari */
    transform: skew(20deg, 10deg);
}
```

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If the second parameter is not specified, it has a zero value. So, the following example skews the element 20 degrees along the X-axis:

Example

```
div {
    -ms-transform: skew(20deg); /* IE 9 */
    -webkit-transform: skew(20deg); /* Safari */
```

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The matrix() Method

The `matrix()` method combines all the 2D transform methods into one.

The matrix() method take six parameters, containing mathematic functions, which allows you to rotate, scale, move (translate), and skew elements.

The parameters are as follow: matrix(scaleX(),skewY(),skewX(),scaleY(),translateX(),translateY())

Example

```
div {
    -ms-transform: matrix(1, -0.3, 0, 1, 0, 0); /* IE 9 */
    -webkit-transform: matrix(1, -0.3, 0, 1, 0, 0); /* Safari */
    transform: matrix(1, -0.3, 0, 1, 0, 0);
}
```

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Test Yourself with Exercises!

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CSS3 Transform Properties

The following table lists all the 2D transform properties:

Property	Description
transform	Applies a 2D or 3D transformation to an element
transform-origin	Allows you to change the position on transformed elements

Function	Description
matrix(*n,n,n,n,n,n*)	Defines a 2D transformation, using a matrix of six values
translate(*x,y*)	Defines a 2D translation, moving the element along the X- and the Y-axis
translateX(*n*)	Defines a 2D translation, moving the element along the X-axis
translateY(*n*)	Defines a 2D translation, moving the element along the Y-axis
scale(*x,y*)	Defines a 2D scale transformation, changing the elements width and height
scaleX(*n*)	Defines a 2D scale transformation, changing the element's width
scaleY(*n*)	Defines a 2D scale transformation, changing the element's height
rotate(*angle*)	Defines a 2D rotation, the angle is specified in the parameter
skew(*x-angle,y-angle*)	Defines a 2D skew transformation along the X- and the Y-axis
skewX(*angle*)	Defines a 2D skew transformation along the X-axis
skewY(*angle*)	Defines a 2D skew transformation along the Y-axis

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