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JavaScript Object Accessors

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JavaScript Accessors (Getters and Setters)

ECMAScript 5 (2009) introduced Getter and Setters.

Getters and setters allow you to define Object Accessors (Computed Properties).

JavaScript Getter (The get Keyword)

This example uses a lang property to get the value of the language property.



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```
// Create an object:
var person = {
 firstName: "John",
 lastName : "Doe",
 language : "en",
 get lang() {
    return this.language;
};
// Display data from the object using a getter:
document.getElementById("demo").innerHTML = person.lang;
```

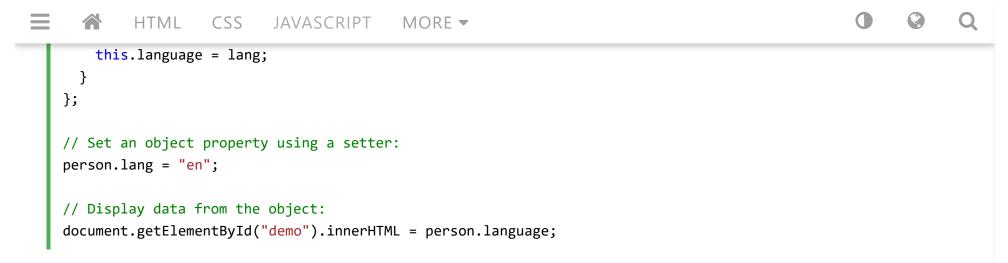
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JavaScript Setter (The set Keyword)

This example uses a lang property to set the value of the language property.

Example

```
var person = {
  firstName: "John",
  lastName : "Doe",
```



JavaScript Function or Getter?

What is the differences between these two examples?

Example 1

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```
var person = {
  firstName: "John",
```



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```
return this.firstName + " " + this.lastName;
}
};

// Display data from the object using a method:
document.getElementById("demo").innerHTML = person.fullName();

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```

Example 2

```
var person = {
  firstName: "John",
  lastName : "Doe",
  get fullName() {
    return this.firstName + " " + this.lastName;
  }
};

// Display data from the object using a getter:
document.getElementById("demo").innerHTML = person.fullName;

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```

Example 1 access fullName as a function: person.fullName().





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The second example provides simpler syntax.

Data Quality

JavaScript can secure better data quality when using getters and setters.

Using the lang property, in this example, returns the value of the language property in upper case:

Example

```
// Create an object:
var person = {
  firstName: "John",
  lastName : "Doe",
  language : "en",
  get lang() {
    return this.language.toUpperCase();
  }
};

// Display data from the object using a getter:
document.getElementById("demo").innerHTML = person.lang;
```

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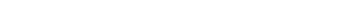
Using the lang property, in this example, stores an upper case value in the language property:





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```
var person = {
  firstName: "John",
  lastName : "Doe",
  language : "",
  set lang(lang) {
    this.language = lang.toUpperCase();
  }
};

// Set an object property using a setter:
person.lang = "en";

// Display data from the object:
document.getElementById("demo").innerHTML = person.language;
```

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Why Using Getters and Setters?

- It gives simpler syntax
- It allows equal syntax for properties and methods
- It can secure better data quality
- It is useful for doing things behind-the-scenes





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The Object.defineProperty() method can also be used to add Getters and Setters:

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Example

```
// Define object
var obj = {counter : 0};
// Define setters
Object.defineProperty(obj, "reset", {
  get : function () {this.counter = 0;}
});
Object.defineProperty(obj, "increment", {
  get : function () {this.counter++;}
});
Object.defineProperty(obj, "decrement", {
  get : function () {this.counter--;}
});
Object.defineProperty(obj, "add", {
  set : function (value) {this.counter += value;}
});
Object.defineProperty(obj, "subtract", {
  set : function (value) {this.counter -= value;}
});
// Play with the counter:
obj.reset;
obj.add = 5;
obj.subtract = 1;
```







Q

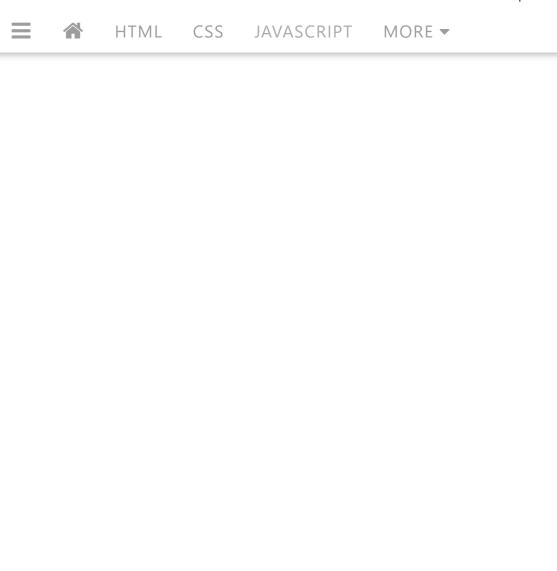
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Browser Support

Getters and Setters are not supported in Internet Explorer 8 or earlier:

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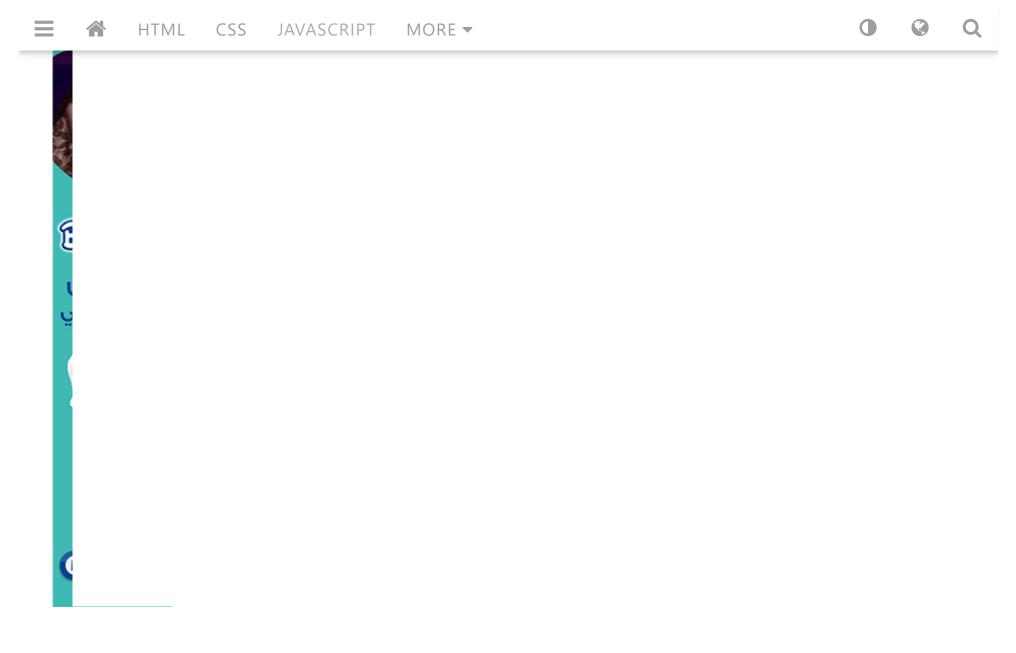
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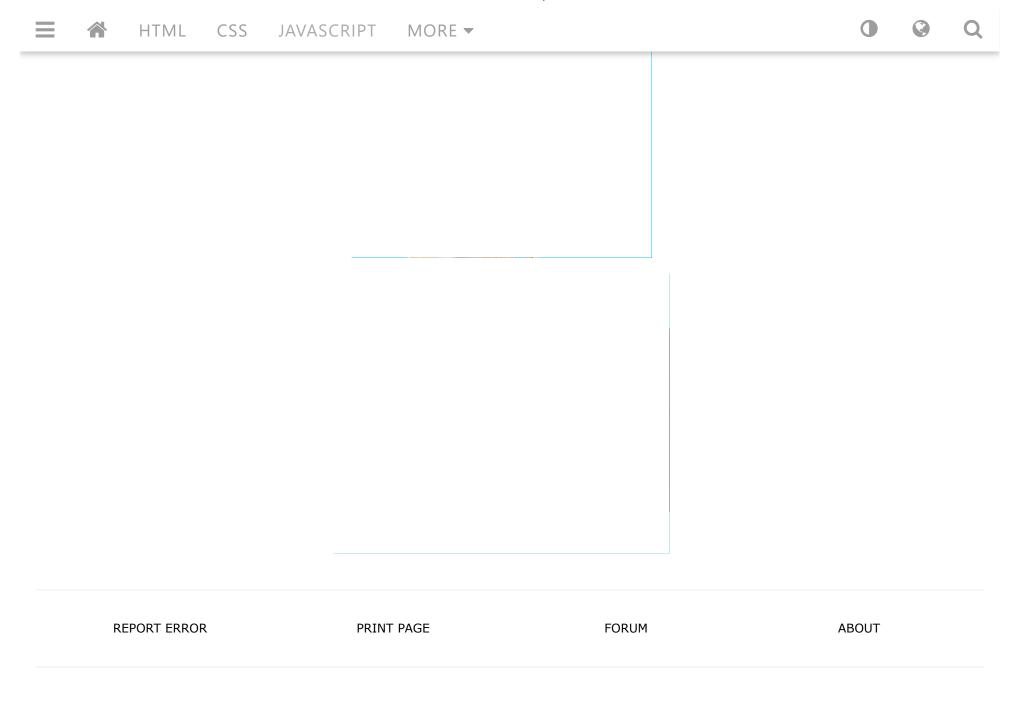
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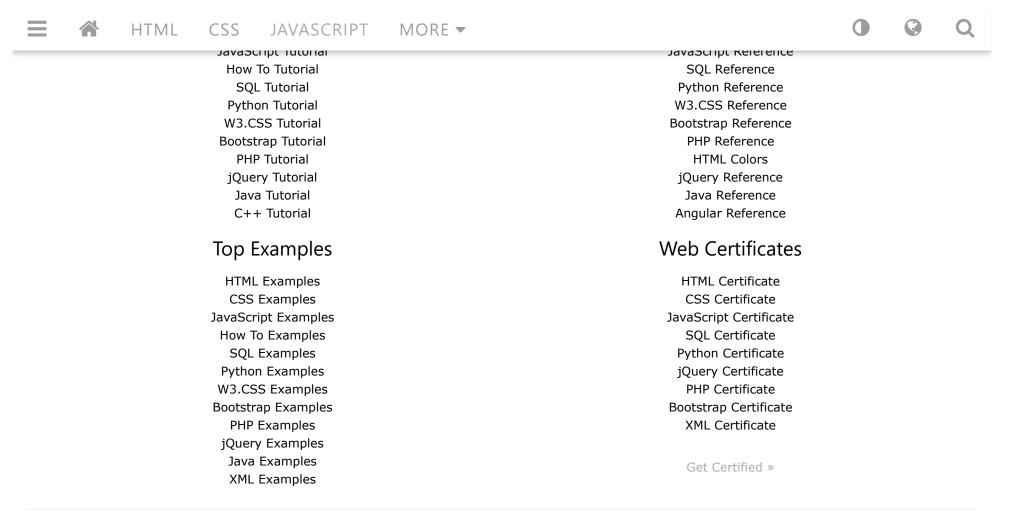
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