

JAVASCRIPT ARRAY REDUCE METHOD

http://www.tutorialspoint.com/javascript/array_reduce.htm

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Description

JavaScript array **reduce** method applies a function simultaneously against two values of the array *from left to right* as to reduce it to a single value.

Syntax

Its syntax is as follows –

```
array.reduce(callback[, initialValue]);
```

Parameter Details

- **callback** – Function to execute on each value in the array.
- **initialValue** – Object to use as the first argument to the first call of the callback.

Return Value

Returns the reduced single value of the array.

Compatibility

This method is a JavaScript extension to the ECMA-262 standard; as such it may not be present in other implementations of the standard. To make it work, you need to add the following code at the top of your script.

```
if (!Array.prototype.reduce)
{
    Array.prototype.reduce = function(fun /*, initial*/)
    {
        var len = this.length;

        if (typeof fun != "function")
            throw new TypeError();

        // no value to return if no initial value and an empty array
        if (len == 0 && arguments.length == 1)
            throw new TypeError();

        var i = 0;
        if (arguments.length >= 2)
        {
            var rv = arguments[1];
        }
        else
        {
            do
            {
                if (i in this)
                {
                    rv = this[i++];
                    break;
                }
            }

            // if array contains no values, no initial value to return
            if (++i >= len)
                throw new TypeError();
        }
        while (true);
    }
}
```

```

    }
    for (; i < len; i++)
    {
        if (i in this)
            rv = fun.call(null, rv, this[i], i, this);
    }
    return rv;
};
}

```

Example

Try the following example.

```

<html>
<head>
<title>JavaScript Array reduce Method</title>
</head>

<body>

<script type="text/javascript">
    if (!Array.prototype.reduce)
    {
        Array.prototype.reduce = function(fun /*, initial*/)
        {
            var len = this.length;

            if (typeof fun != "function")
                throw new TypeError();

            // no value to return if no initial value and an empty array
            if (len == 0 && arguments.length == 1)
                throw new TypeError();

            var i = 0;
            if (arguments.length >= 2)
            {
                var rv = arguments[1];
            }
            else
            {
                do
                {
                    if (i in this)
                    {
                        rv = this[i++];
                        break;
                    }
                    // if array contains no values, no initial value to return
                    if (++i >= len)
                        throw new TypeError();
                }
                while (true);
            }

            for (; i < len; i++)
            {
                if (i in this)
                    rv = fun.call(null, rv, this[i], i, this);
            }
            return rv;
        };
    }
    var total = [0, 1, 2, 3].reduce(function(a, b){ return a + b; });
    document.write("total is : " + total );
</script>

```

```
</body>  
</html>
```

Output

```
total is : 6
```

```
Loading [Mathjax]/jax/output/HTML-CSS/jax.js
```