

JavaScript Async

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"async and await make promises easier to write"

async makes a function return a Promise

await makes a function wait for a Promise

Async Syntax

The keyword **async** before a function makes the function return a promise:

Example

```
async function myFunction() {  
  return "Hello";  
}
```

Is the same as:

```
function myFunction() {  
  return Promise.resolve("Hello");  
}
```

Here is how to use the Promise:

```
function(error) { // Code if some error // }  
};
```

Example

```
async function myFunction() {  
  return "Hello";  
}  
myFunction().then(  
  function(value) {myDisplayer(value);},  
  function(error) {myDisplayer(error);}  
);
```

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Or simpler, since you expect a normal value (a normal response, not an error):

Example

```
async function myFunction() {  
  return "Hello";  
}  
myFunction().then(  
  function(value) {myDisplayer(value);}  
);
```

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Await Syntax

The **await** keyword can only be used inside an **async** function.

```
let value = await promise;
```

Example

Let's go slowly and learn how to use it.

Basic Syntax

```
async function myDisplay() {  
  let myPromise = new Promise(function(resolve, reject) {  
    resolve("I love You !!");  
  });  
  document.getElementById("demo").innerHTML = await myPromise;  
}  
  
myDisplay();
```

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The two arguments (resolve and reject) are pre-defined by JavaScript.

We will not create them, but call one of them when the executor function is ready.

Very often we will not need a reject function.

Example without reject

```
async function myDisplay() {  
  let myPromise = new Promise(function(resolve) {
```

```
myDisplay();
```

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Waiting for a Timeout

```
async function myDisplay() {
  let myPromise = new Promise(function(resolve) {
    setTimeout(function() {resolve("I love You !!");}, 3000);
  });
  document.getElementById("demo").innerHTML = await myPromise;
}

myDisplay();
```

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Waiting for a File

```
async function getFile() {
  let myPromise = new Promise(function(resolve) {
    let req = new XMLHttpRequest();
    req.open('GET', "mycar.html");
    req.onload = function() {
      if (req.status == 200) {
        resolve(req.response);
      } else {
        resolve("File not Found");
      }
    };
    req.send();
  });
  document.getElementById("demo").innerHTML = await myPromise;
}
```

Browser Support

ECMAScript 2017 introduced the JavaScript keywords `async` and `await`.

The following table defines the first browser version with full support for both:

Chrome 55	Edge 15	Firefox 52	Safari 11	Opera 42
Dec, 2016	Apr, 2017	Mar, 2017	Sep, 2017	Dec, 2016

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