

async function expression

The `async function` keyword can be used to define `async` functions inside expressions.

You can also define async functions using an [async function statement](#).

Syntax

```
async function [name]([param1[, param2[, ..., paramN]]]) {  
  statements  
}
```

As of ES2015, you can also use [arrow functions](#).

Parameters

name

The function name. Can be omitted, in which case the function is *anonymous*. The name is only local to the function body.

paramN

The name of an argument to be passed to the function.

statements

The statements which comprise the body of the function.

Description

An `async function` expression is very similar to, and has almost the same syntax as, an [async function statement](#). The main difference between an `async function` expression and an `async function` statement is the *function name*, which can be omitted in `async function` expressions to create *anonymous* functions. An `async function` expression can be used as an IIFE (Immediately Invoked Function Expression) which runs as soon as it is defined. See also the chapter about [functions](#) for more information.

Examples

Simple example

```
1 function resolveAfter2Seconds(x) {
2   return new Promise(resolve => {
3     setTimeout(() => {
4       resolve(x);
5     }, 2000);
6   });
7 };
8
9
10 var add = async function(x) { // async function expression assigned to a v
11   var a = await resolveAfter2Seconds(20);
12   var b = await resolveAfter2Seconds(30);
13   return x + a + b;
14 };
15
16 add(10).then(v => {
17   console.log(v); // prints 60 after 4 seconds.
18 });
19
20
21 (async function(x) { // async function expression used as an IIFE
22   var p_a = resolveAfter2Seconds(20);
23   var p_b = resolveAfter2Seconds(30);
24   return x + await p_a + await p_b;
25 })(10).then(v => {
26   console.log(v); // prints 60 after 2 seconds.
27 });
```

Specifications

Specification	Status	Comment
✍ ECMAScript Latest Draft (ECMA-262) The definition of 'async function' in that specification.	LS Living Standard	Initial definition in ES2017.

Browser compatibility

Desktop	Mobile					
Feature	Chrome	Edge	Firefox	Internet Explorer	Opera	Safari
Basic Support	55	?	52	No	42	10.1

See also

- async function
- AsyncFunction object
- await