Events in Node.js

Every action on a computer is an event. Like when a connection is made or a file is opened.

Objects in Node.js can fire events, like the readStream object fires events when opening and closing a file:

Example

var fs = require('fs');  
var rs = fs.createReadStream('./demofile.txt');  
rs.on('open', function () {  
  console.log('The file is open');  
});

[Run example »](https://www.w3schools.com/nodejs/shownodejs_cmd.asp?filename=demo_events_open)

Events Module

Node.js has a built-in module, called "Events", where you can create-, fire-, and listen for- your own events.

To include the built-in Events module use the require() method. In addition, all event properties and methods are an instance of an EventEmitter object. To be able to access these properties and methods, create an EventEmitter object:

var events = require('events');  
var eventEmitter = new events.EventEmitter();

The EventEmitter Object

You can assign event handlers to your own events with the EventEmitter object.

In the example below we have created a function that will be executed when a "scream" event is fired.

To fire an event, use the emit() method.

var events = require('events');

var eventEmitter = new events.EventEmitter();

//Create an event handler:

var myEventHandler = function () {

console.log('I hear a scream!');

}

//Assign the eventhandler to an event:

eventEmitter.on('scream', myEventHandler);

//Fire the 'scream' event:

eventEmitter.emit('scream');

What is NPM?

NPM is a package manager for Node.js packages, or modules if you like.

[www.npmjs.com](https://www.npmjs.com/) hosts thousands of free packages to download and use.

The NPM program is installed on your computer when you install Node.js

NPM is already ready to run on your computer!

What is a Package?

A package in Node.js contains all the files you need for a module.

Modules are JavaScript libraries you can include in your project.

Download a Package

Downloading a package is very easy.

Open the command line interface and tell NPM to download the package you want.

I want to download a package called "upper-case":

Download "upper-case":

C:\Users\*Your Name*>npm install upper-case

Now you have downloaded and installed your first package!

NPM creates a folder named "node\_modules", where the package will be placed. All packages you install in the future will be placed in this folder.

My project now has a folder structure like this:

C:\Users\*My Name*\node\_modules\upper-case

Using a Package

Once the package is installed, it is ready to use.

Include the "upper-case" package the same way you include any other module:

var uc = require('upper-case');

Create a Node.js file that will convert the output "Hello World!" into upper-case letters:

Example

var http = require('http');  
var uc = require('upper-case');  
http.createServer(function (req, res) {  
    res.writeHead(200, {'Content-Type': 'text/html'});  
    res.write(**uc("Hello World!")**);  
    res.end();  
}).listen(8080);

Save the code above in a file called "demo\_uppercase.js", and initiate the file:

Initiate demo\_uppercase:

C:\Users\*Your Name*>node demo\_uppercase.js

If you have followed the same steps on your computer, you will see the same result as the example: [http://localhost:8080](http://localhost:8080/)