

# WebGL

WebGL Report(Version): <https://webglreport.com/?v=1>

<canvas> element in HTML: [https://www.w3schools.com/html/html5\\_canvas.asp](https://www.w3schools.com/html/html5_canvas.asp)

References: [https://developer.mozilla.org/en-US/docs/Web/API/WebGL\\_API/Tutorial](https://developer.mozilla.org/en-US/docs/Web/API/WebGL_API/Tutorial)

# Node.js

Node.js is an open source server environment

Node.js allows you to run JavaScript on the server

Node.js uses asynchronous programming, eliminates the waiting and simply continues with the next request.

Download Node.js: <https://nodejs.org/en/>

Complete downloading test: [https://www.w3schools.com/nodejs/nodejs\\_get\\_started.asp](https://www.w3schools.com/nodejs/nodejs_get_started.asp)

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

[www.npmjs.com](http://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

Downloading packages command: `npm install package_name`

Reference: <https://www.w3schools.com/nodejs/default.asp>

# Three.js

Three components: scene, camera, renderer

Installation guideline: <https://threejs.org/docs/index.html#manual/en/introduction/Installation>

`npm install --prefix . three`

Node.js http-server commands:

`npm install http-server -g`

`http-server . -p 8000`

Search all processes running on a specific port: `lsof -i :{port}`

Kill -9 {pid}

Geometry Components:

Cylinder: <https://threejs.org/docs/#api/en/geometries/CylinderGeometry>

Dodecahedron: <https://threejs.org/docs/#api/en/geometries/DodecahedronGeometry>

Sphere: <https://threejs.org/docs/#api/en/geometries/SphereGeometry>

Box: <https://threejs.org/docs/#api/en/geometries/BoxGeometry>

Torus: <https://threejs.org/docs/#api/en/geometries/TorusGeometry>

Reference: <https://threejs.org/docs/index.html#manual/en/introduction/Creating-a-scene>

## **Dat GUI**

`npm install --prefix . dat.gui`

Reference: <https://sbcode.net/threejs/dat-gui/>