

simplilearn

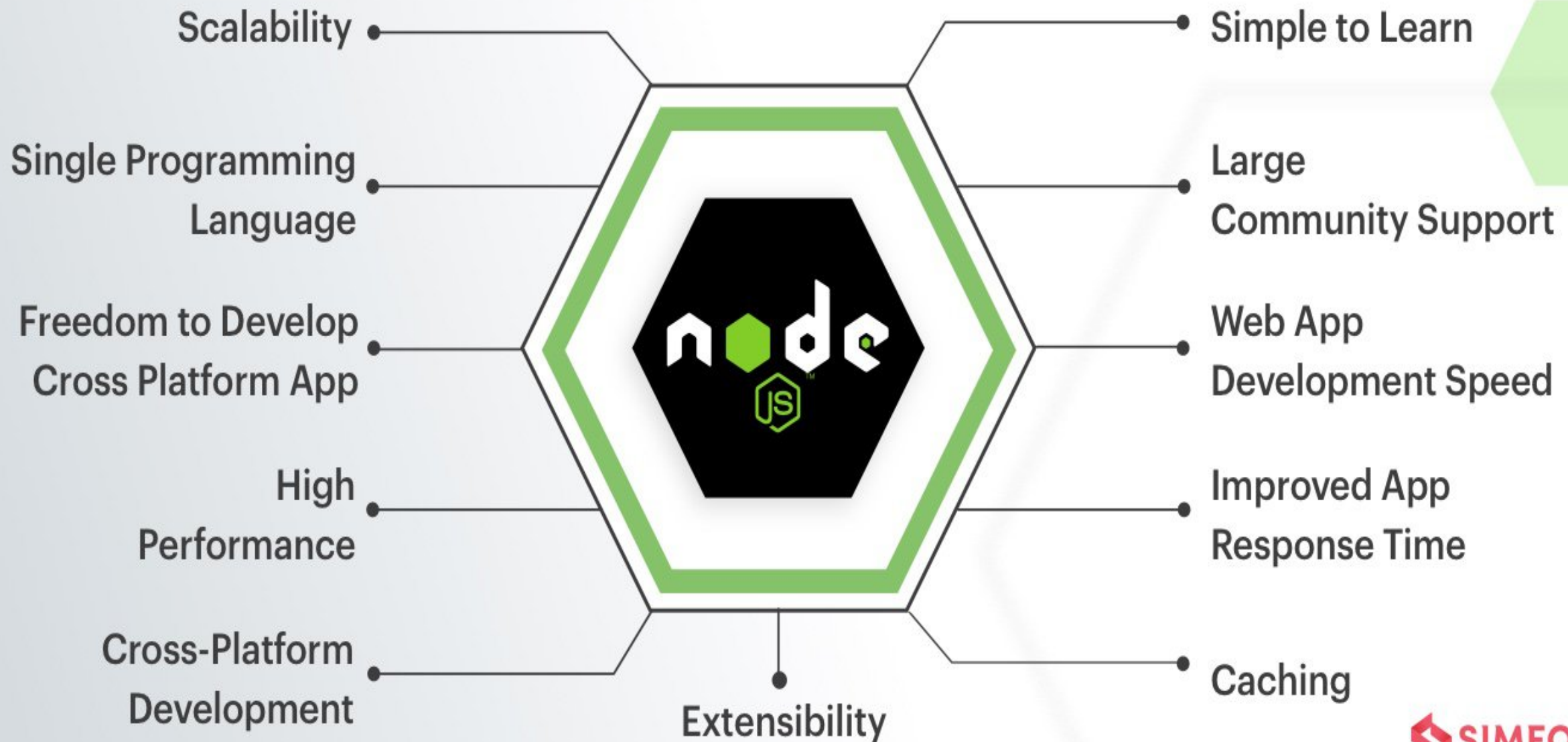


# NODE.JS TUTORIAL

## what is node js?

Node.js is an open-source, cross-platform JavaScript runtime environment that allows developers to execute JavaScript code outside of a web browser. Built on Chrome's V8 JavaScript engine, it enables server-side development with JavaScript, unifying front-end and back-end development under a single language.

# Node.js Advantages



# Node Js installation

Or get a prebuilt Node.js® for  Windows  running a  x64  architecture.



**Windows Installer (.msi)**



**Standalone Binary (.zip)**

Read the [changelog](#) or [blog post](#) for this version.

Learn more about [Node.js releases](#), including the release schedule and LTS status.

Learn how to verify [signed SHASUMS](#).

Looking for Node.js source? Download a signed [Node.js source](#) tarball.

Check out our [nightly](#) binaries or all [previous releases](#) or the [unofficial](#) binaries for other platforms.

# Node Js – npm init

```
PS E:\MERN INTERN\nodejs> npm init
```

This utility will walk you through creating a package.json file.

It only covers the most common items, and tries to guess sensible defaults.

See `npm help init` for definitive documentation on these fields and exactly what they do.

Use `npm install <pkg>` afterwards to install a package and save it as a dependency in the package.json file.

Press ^C at any time to quit.

package name: (nodejs) nodejs-basic

version: (1.0.0)

description: learning node

entry point: (index.js)

test command:

git repository:

keywords: NodeJs

author: sk

license: (ISC)

About to write to E:\MERN INTERN\nodejs\package.json:

```
{
  "name": "nodejs-basic",
  "version": "1.0.0",
  "description": "learning node",
  "main": "index.js",
  "scripts": {
    "test": "echo \"Error: no test specified\" && exit 1"
  },
  "keywords": [
    "NodeJs"
  ],
  "author": "sk",
  "license": "ISC"
}
```

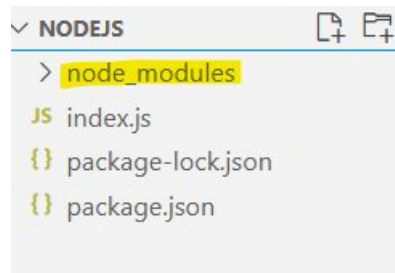
```
{
  "name": "nodejs-basic",
  "version": "1.0.0",
  "description": "learning node",
  "main": "index.js",
  "scripts": {
    "test": "echo \"Error: no test specified\" && exit 1"
  },
  "keywords": [
    "NodeJs"
  ],
  "author": "sk",
  "license": "ISC"
}
```

Is this OK? (yes)

# Node Js – nodemon

npm i nodemon -D

```
"license": "ISC",  
"devDependencies": {  
  "nodemon": "^3.1.10"  
}
```



```
"scripts": {  
  "server": "nodemon index.js"  
},
```

# Node Js – modules

//understanding modules in nodejs

```
const { add, subtract, multiply, divide } = require('./math');
```

```
const num1 = 10;
```

```
const num2 = 5;
```

```
console.log(`Addition: ${add(num1, num2)}`);
```

```
console.log(`Subtraction: ${subtract(num1, num2)}`);
```

```
console.log(`Multiplication: ${multiply(num1, num2)}`);
```

```
console.log(`Division: ${divide(num1, num2)}`);
```

```
function add(a, b) {
```

```
    return a + b;
```

```
}
```

```
function subtract(a, b) {
```

```
    return a - b;
```

```
}
```

```
function multiply(a, b) {
```

```
    return a * b;
```

```
}
```

```
function divide(a, b) {
```

```
    if (b === 0) {
```

```
        throw new Error("Cannot divide by zero");
```

```
    }
```

```
    return a / b;
```

```
}
```

```
module.exports = { add, subtract, multiply, divide };
```

//global variables in nodejs

```
console.log(__dirname); // Directory name of the current module
```

```
console.log(__filename); // File name of the current module
```

# Node Js – modules

```
//File System Module
const fs = require('fs');

// Create a new file and write data to it
fs.writeFile('./example.txt', 'Hello, this is a sample text file.', (err) => {
  if (err) throw err;
  console.log('File created and data written successfully.');
```

```
});

// Read the data from the file
fs.readFile('example.txt', 'utf8', (err, data) => {
  if (err) throw err;
  console.log('File content:', data);
});

//rename the file
fs.rename('example.txt', 'sample.txt', (err) => {
  if (err) throw err;
  console.log('File renamed successfully.');
```

```
});

//delete the file
fs.unlink('sample.txt', (err) => {
  if (err) throw err;
  console.log('File deleted successfully.');
```

```
};
```



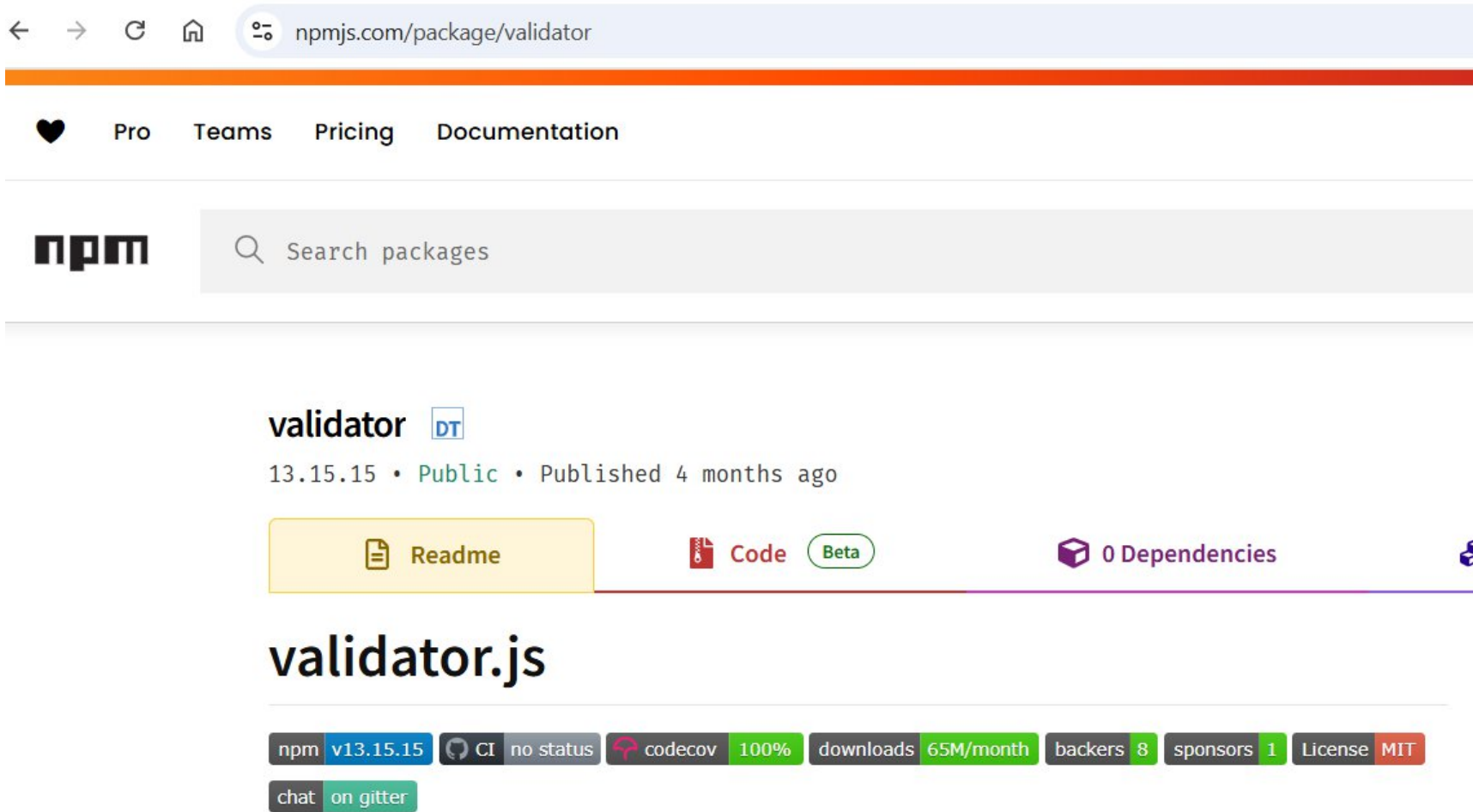
# Node Js – modules

```
//http module
const http = require('http');
const server = http.createServer((req, res) => {
  res.statusCode = 200;
  res.setHeader('Content-Type', 'text/plain');
  res.end('Hello, World! This is a response from the server.\n');
});
const PORT = 3000;
server.listen(PORT, () => {
  console.log(`Server is running at http://localhost:${PORT}/`);
});
```

```
//url module
const http = require('http');
const server = http.createServer((req, res) => {
  const url = require('url');
  const myURL = new URL(req.url, 'http://localhost:3000/');
  console.log(myURL);
  res.statusCode = 200;
  res.setHeader('Content-Type', 'text/plain');
  res.end('Hello, World! This is a response from the server.\n');
});
const PORT = 3000;
server.listen(PORT, () => {
  console.log(`Server is running at http://localhost:${PORT}/`);
});
```

```
URL {
  href: 'http://localhost:3000/favicon.ico',
  origin: 'http://localhost:3000',
  protocol: 'http:',
  username: '',
  password: '',
  host: 'localhost:3000',
  hostname: 'localhost',
  port: '3000',
  pathname: '/favicon.ico',
  search: '',
  searchParams: URLSearchParams {},
  hash: ''
```

# Node Js – npm modules



The screenshot shows the npm website interface for the 'validator' package. At the top, there's a navigation bar with links for Pro, Teams, Pricing, and Documentation. Below this is a search bar with the npm logo and the text 'Search packages'. The main content area displays the package name 'validator' with a 'DT' icon, its version '13.15.15', and its status 'Public'. It also shows it was published '4 months ago'. Below this, there are buttons for 'Readme', 'Code', and 'Beta', along with '0 Dependencies'. The package name 'validator.js' is prominently displayed. At the bottom, there's a row of statistics: npm v13.15.15, CI no status, codecov 100%, downloads 65M/month, backers 8, sponsors 1, and License MIT. A 'chat on gitter' button is also present.





← → ↻ 🏠 npmjs.com/package/validator

♥ Pro Teams Pricing Documentation







**npm** 🔍 Search packages



**validator** DT

13.15.15 • Public • Published 4 months ago

 **Readme**  **Code** Beta  **0 Dependencies** 

**validator.js**

npm **v13.15.15**  **CI** no status  **codecov** **100%**  **downloads** **65M/month**  **backers** **8**  **sponsors** **1**  **License** **MIT**

 **chat**  **on gitter**

```
//npm modules
var validator = require('validator');
console.log(validator.isEmail('foo@bar.com')); //=> true
```

Thank you!!