

NodeJS

Installing nodejs 16

```
curl -sL https://deb.nodesource.com/setup_16.x | sudo -E bash -  
sudo apt-get install -y nodejs
```

We can verify the installation checking the version

node --version

npm --version

```
bibek@bibek-lfTechnology:~$ node --version  
v16.13.0  
bibek@bibek-lfTechnology:~$ npm --version  
8.1.0
```

To create api

npm init

And **set the variables** (Enter for default value)

package name: (nodejs) api

version: (1.0.0)

description: creating api

entry point: (index.js) main.js

test command: npm test

git repository:

keywords:

author: Bibek Mishra

license: (ISC) We can see package.json file in the current directory.

Create file main.js

vi main.js

And paste the following lines (adjust as per your requirement)

```
var http = require('http');  
http.createServer(function(req,res){  
  res.writeHead(200, { 'Content-Type': 'text/plain' });  
  res.end('Hello Node JS || From DevOps Internship');  
}).listen(6080);  
console.log('Hello Node JS From DevOps Internship');
```

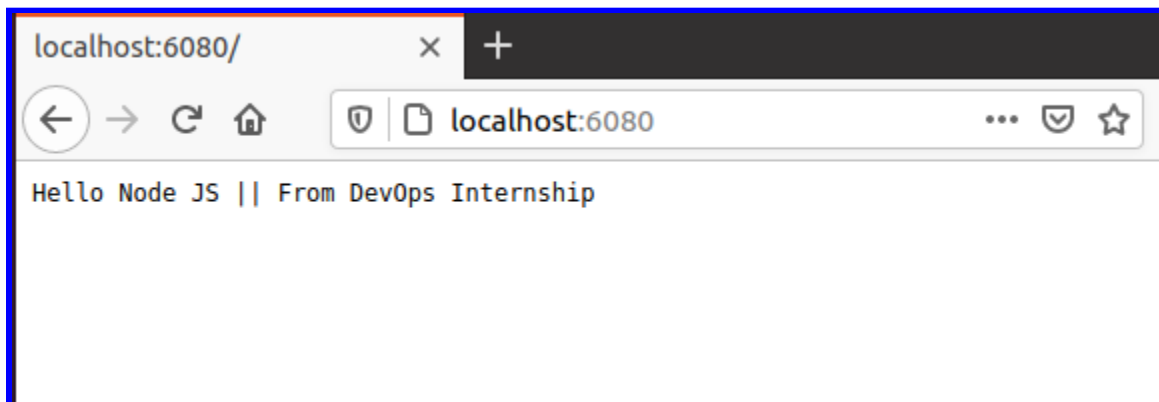
```
var http = require('http');
http.createServer(function(req,res){
  res.writeHead(200, { 'Content-Type': 'text/plain' });
  res.end('Hello Node JS || From DevOps Internship');
}).listen(6080);
console.log('Hello Node JS From DevOps Internship');
```

Save and exit

To serve the application

node main.js

```
bibek@bibek-lfTechnology:~/nodejs$ node main.js
"Hello Node JS From DevOps Internship"
```



For 2nd api

We can create another .js file and make changes in package.json to serve that .js file. **But,**

Followed the same procedure creating another directory

mkdir ../nodejs1

cd ../nodejs1

npm init

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: (nodejs1) api2

version: (1.0.0)

description: createing 2nd api

entry point: (index.js)

test command: npm test

git repository:

keywords:

author: Bibek Mishra

license: (ISC)

About to write to /home/bibek/nodejs1/package.json:

```
{
  "name": "api2",
  "version": "1.0.0",
  "description": "createing 2nd api",
  "main": "index.js",
  "scripts": {
    "test": "npm test"
  },
  "author": "Bibek Mishra",
  "license": "ISC"
}
```

Is this OK? (yes) yes

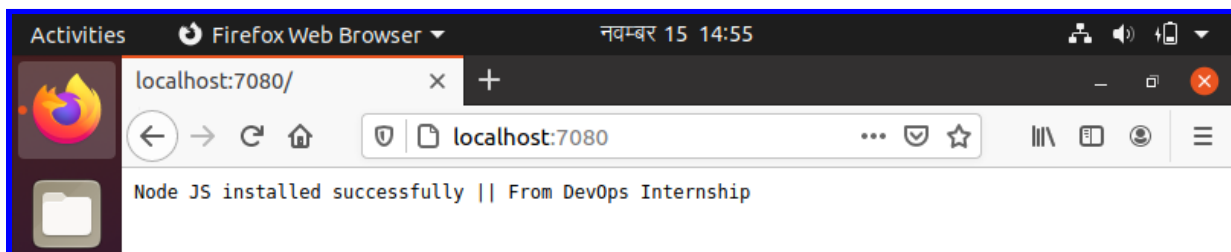
bibek@bibek-lfTechnology:~/nodejs1\$

vi index.js

```
var http = require('http');
http.createServer(function(req,res){
  res.writeHead(200, { 'Content-Type': 'text/plain' });
  res.end('Node JS installed successfully || From DevOps Internship');
}).listen(7080);
console.log('listening...');
```

node index.js

```
bibek@bibek-lfTechnology:~/nodejs1$ node index.js
listening...
```



To install pm2

`sudo npm i -g pm2`

```
bibek@bibek-lfTechnology:~/nodejs1$ sudo npm i -g pm2
[sudo] password for bibek:
npm WARN deprecated uuid@3.4.0: Please upgrade to version 7 or higher. 0
versions may use Math.random() in certain circumstances, which is known to
be problematic. See https://v8.dev/blog/math-random for details.

added 180 packages, and audited 181 packages in 25s

10 packages are looking for funding
  run `npm fund` for details

found 0 vulnerabilities
npm notice
npm notice New patch version of npm available! 8.1.0 -> 8.1.3
npm notice Changelog: https://github.com/npm/cli/releases/tag/v8.1.3
npm notice Run npm install -g npm@8.1.3 to update!
npm notice
```

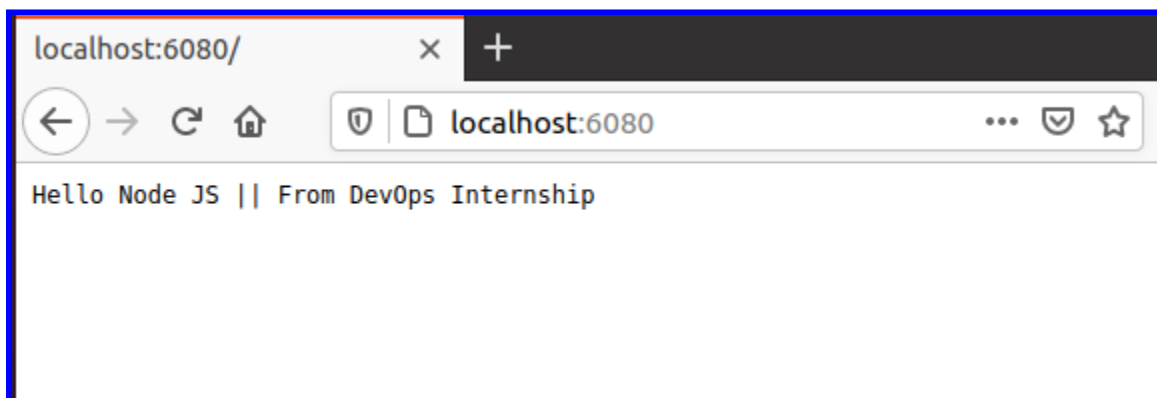
To start through four cluster with PM2 tool

For Main.js

`pm2 start main.js -i 4`

```
bibek@bibek-lfTechnology:~/nodejs$ pm2 start main.js -i 4
[PM2] Starting /home/bibek/nodejs/main.js in cluster_mode (4 instances)
[PM2] Done.
```

id	name	mode	u	status	cpu	memory
0	main	cluster	0	online	0%	43.3mb
1	main	cluster	0	online	0%	39.4mb
2	main	cluster	0	online	0%	36.0mb
3	main	cluster	0	online	0%	30.3mb

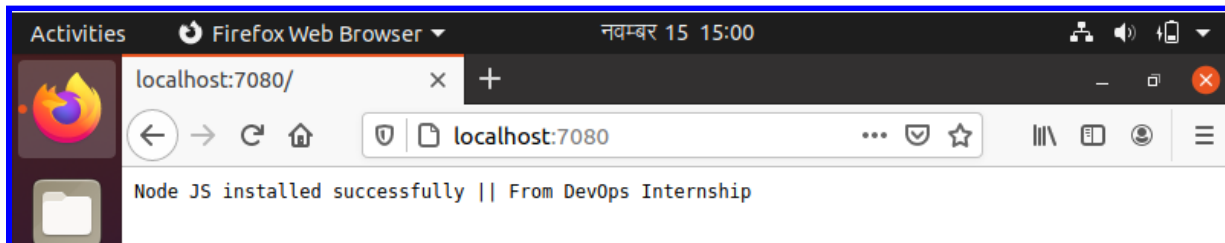


For index.js

pm2 start index.js -i 4

```
bibek@bibek-lfTechnology:~/nodejs$ cd ../nodejs1
bibek@bibek-lfTechnology:~/nodejs1$ pm2 start index.js -i 4
[PM2] Starting /home/bibek/nodejs1/index.js in cluster_mode (4 instances)
[PM2] Done.
```

id	name	mode	u	status	cpu	memory
4	index	cluster	0	online	0%	41.1mb
5	index	cluster	0	online	0%	40.2mb
6	index	cluster	0	online	0%	39.0mb
7	index	cluster	0	online	0%	31.1mb
0	main	cluster	0	online	2.5%	41.9mb
1	main	cluster	0	online	0%	41.9mb
2	main	cluster	0	online	0%	41.7mb
3	main	cluster	0	online	0%	42.1mb



To delete four cluster one by one

Delete 0th processID of Index

pm2 delete 0

```
bibek@bibek-lfTechnology:~/nodejs1$ pm2 delete 0
[PM2] Applying action deleteProcessId on app [0](ids: [ '0' ])
[PM2] [main](0) ✓
```

id	name	mode	u	status	cpu	memory
4	index	cluster	0	online	0%	42.2mb
5	index	cluster	0	online	7.1%	42.6mb
6	index	cluster	0	online	0%	41.8mb
7	index	cluster	0	online	0%	42.7mb
1	main	cluster	0	online	0%	41.8mb
2	main	cluster	0	online	0%	41.7mb
3	main	cluster	0	online	0%	42.0mb

```
bibek@bibek-lfTechnology:~/nodejs1$
```

Delete **7th processID** of Main

pm2 delete 7 and so on...

```
bibek@bibek-lfTechnology:~/nodejs1$ pm2 delete 7
[PM2] Applying action deleteProcessId on app [7](ids: [ '7' ])
[PM2] [index](7) ✓
```

id	name	mode	u	status	cpu	memory
4	index	cluster	0	online	0%	42.9mb
5	index	cluster	0	online	0%	43.8mb
6	index	cluster	0	online	0%	43.3mb
1	main	cluster	0	online	0%	44.0mb
2	main	cluster	0	online	0%	42.9mb
3	main	cluster	0	online	0%	43.9mb

```
bibek@bibek-lfTechnology:~/nodejs1$ pm2 delete 4
[PM2] Applying action deleteProcessId on app [4](ids: [ '4' ])
[PM2] [index](4) ✓
```

id	name	mode	u	status	cpu	memory
5	index	cluster	0	online	0%	44.0mb
6	index	cluster	0	online	0%	43.8mb
1	main	cluster	0	online	0%	43.4mb
2	main	cluster	0	online	0%	43.4mb
3	main	cluster	0	online	0%	44.0mb

```
bibek@bibek-lfTechnology:~/nodejs1$ pm2 delete 5
[PM2] Applying action deleteProcessId on app [5](ids: [ '5' ])
[PM2] [index](5) ✓
```

id	name	mode	u	status	cpu	memory
6	index	cluster	0	online	0%	43.5mb
1	main	cluster	0	online	0%	44.2mb
2	main	cluster	0	online	0%	43.2mb
3	main	cluster	0	online	0%	44.5mb

To delete remaining all at once

pm2 delete all

```
bibek@bibek-lfTechnology:~/nodejs1$ pm2 delete all
[PM2] Applying action deleteProcessId on app [all](ids: [ 1, 2, 3 ])
[PM2] [main](1) ✓
[PM2] [main](3) ✓
[PM2] [main](2) ✓
```

id	name	mode	u	status	cpu	memory
----	------	------	---	--------	-----	--------

```
bibek@bibek-lfTechnology:~/nodejs1$ █
```

To delete all 4 clusters of main.js at once

pm2 delete main

```
main.js package.json
bibek@bibek-lfTechnology:~/nodejs$ pm2 start main.js -i 4
[PM2] Starting /home/bibek/nodejs/main.js in cluster_mode (4 instances)
[PM2] Done.
```

id	name	mode	u	status	cpu	memory
0	main	cluster	0	online	0%	44.1mb
1	main	cluster	0	online	0%	41.0mb
2	main	cluster	0	online	0%	37.1mb
3	main	cluster	0	online	0%	30.2mb

```

bibek@bibek-lfTechnology:~/nodejs$ pm2 delete main
[PM2] Applying action deleteProcessId on app [main](ids: [ 0, 1, 2, 3 ])
[PM2] [main](2) ✓
[PM2] [main](0) ✓
[PM2] [main](1) ✓
[PM2] [main](3) ✓
```

id	name	mode	u	status	cpu	memory
----	------	------	---	--------	-----	--------

```

bibek@bibek-lfTechnology:~/nodejs$
```

ReactJS

*We have already installed **npm** and **node** in our vms.*

We have to install **create-react-app** utility tool.

sudo npm -g install create-react-app

```

bibek@bibek-lfTechnology:~/react$ sudo npm -g install create-react-app
[sudo] password for bibek:
npm WARN deprecated tar@2.2.2: This version of tar is no longer supported, and will not receive security updates. Please upgrade asap.

added 67 packages, and audited 68 packages in 5s

4 packages are looking for funding
  run `npm fund` for details

2 high severity vulnerabilities

Some issues need review, and may require choosing
a different dependency.

Run `npm audit` for details.
bibek@bibek-lfTechnology:~/react$ create-react-app devops-assignment
```

To create a sample of react app

create-react-app devops-assignment

```
bibek@bibek-lfTechnology:~/react$ create-react-app devops-assignment

Creating a new React app in /home/bibek/react/devops-assignment.

Installing packages. This might take a couple of minutes.
Installing react, react-dom, and react-scripts with cra-template...

[Progress bar] : idealTree:devops-assignment: sill idealTree buildDeps
```

```
Success! Created devops-assignment at /home/bibek/react/devops-assignment
Inside that directory, you can run several commands:
```

```
npm start
  Starts the development server.
```

```
npm run build
  Bundles the app into static files for production.
```

```
npm test
  Starts the test runner.
```

```
npm run eject
  Removes this tool and copies build dependencies, configuration files
  and scripts into the app directory. If you do this, you can't go back!
```

We suggest that you begin by typing:

```
cd devops-assignment
npm start
```

Happy hacking!

```
bibek@bibek-lfTechnology:~/react$
```

We can see the directory and all the packages

```
Happy hacking!
bibek@bibek-lfTechnology:~/react$ ls
devops-assignment
bibek@bibek-lfTechnology:~/react$ cd devops-assignment/
bibek@bibek-lfTechnology:~/react/devops-assignment$ ls
node_modules  package.json  package-lock.json  public  README.md  src
bibek@bibek-lfTechnology:~/react/devops-assignment$
```


To start react app

npm start -- in root directory

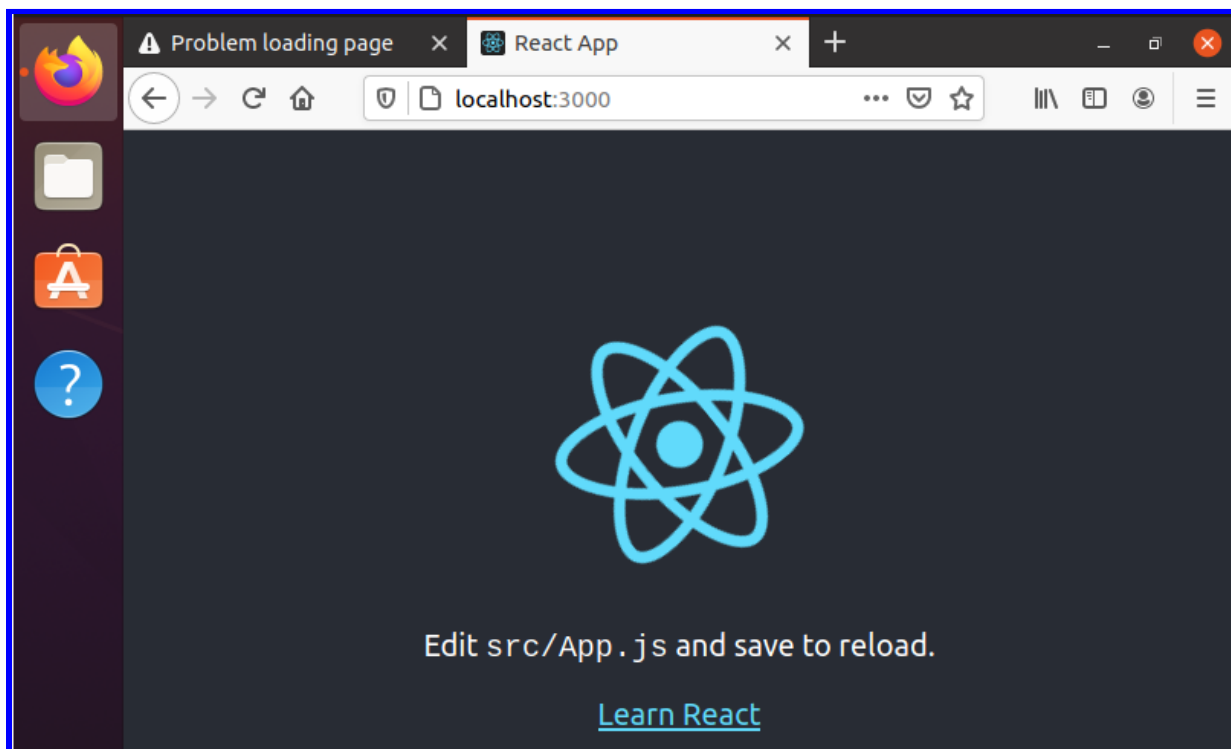
```
bibek@bibek-lfTechnology:~/react/devops-assignment/public$ cd ..  
bibek@bibek-lfTechnology:~/react/devops-assignment$ npm start  
  
> devops-assignment@0.1.0 start  
> react-scripts start
```

Compiled successfully!

You can now view devops-assignment in the browser.

Local: <http://localhost:3000>
On Your Network: <http://192.168.1.145:3000>

Note that the development build is not optimized.
To create a production build, use `npm run build`.



To change the port and the message

Make .env file in the root directory where package.json are situated

vi .env

And define **PORT=3001**

Save and exit

For message

Edit App.js in src directory

vi src/App.js

```
import logo from './logo.svg';
import './App.css';

function App() {
  return (
    <div className="App">
      <header className="App-header">
        <img src={logo} className="App-logo" alt="logo" />
        <p>
          Hello React.js || Devops Internship Assignment
        </p>
        <a
          className="App-link"
          href="https://reactjs.org"
          target="_blank"
          rel="noopener noreferrer"
        >
          Learn React
        </a>
      </header>
    </div>
  );
}

export default App;
```

Again Start the react app

npm start

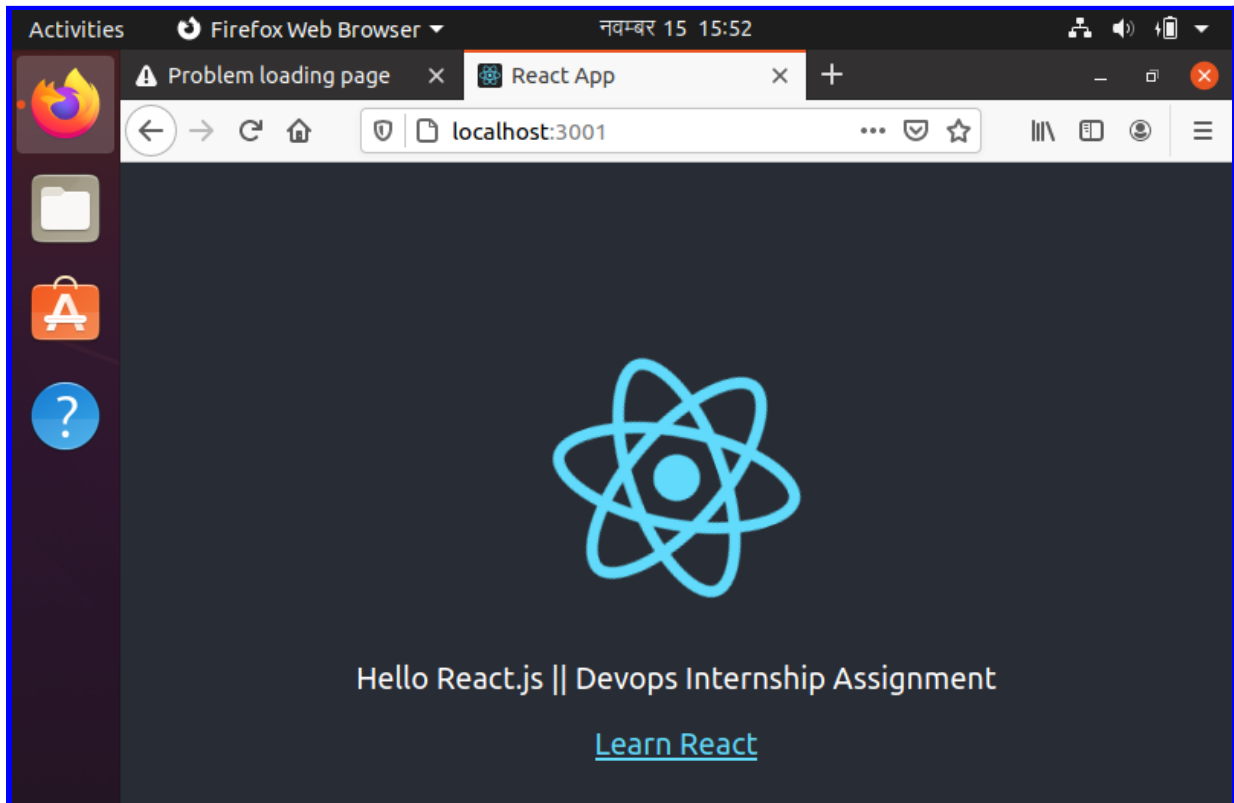
```
Compiled successfully!

You can now view devops-assignment in the browser.

Local:      http://localhost:3001
On Your Network: http://192.168.1.145:3001

Note that the development build is not optimized.
To create a production build, use npm run build.
```

Now it opens at port 3001 with message changed



Findings:

Curl was not present initially

```
bibek@bibek-lfTechnology:~$ curl -sL https://deb.nodesource.com/setup_16.x | sudo -E bash -  
[sudo] password for bibek:  
Command 'curl' not found, but can be installed with:  
  
sudo snap install curl # version 7.80.0, or  
sudo apt install curl # version 7.68.0-1ubuntu2.7  
  
See 'snap info curl' for additional versions.
```

Install curl using

sudo apt install -y curl

Npm start didn't work

```
bibek@bibek-lfTechnology:~/nodejs$ npm start
npm ERR! Missing script: "start"
npm ERR!
npm ERR! Did you mean one of these?
npm ERR!   npm star # Mark your favorite packages
npm ERR!   npm stars # View packages marked as favorites
npm ERR!
npm ERR! To see a list of scripts, run:
npm ERR!   npm run

npm ERR! A complete log of this run can be found in:
npm ERR!   /home/bibek/.npm/_logs/2021-11-15T08_49_02_305Z-debug.log
bibek@bibek-lfTechnology:~/nodejs$
```

Used “**node main.js**” command instead and it worked

```
bibek@bibek-lfTechnology:~/nodejs$ node main.js
"Hello Node JS From DevOps Internship"
```

In order to install the start-script module, simply run the following command within your app's directory:

npm install --save start-script

NPM INIT in the same directory

npm init in the same directory automatically assigns **description, main entry point, author and test script**.

I created **another directory for 2nd API** and followed the same procedure to create api to give another entry point index.js, and and serve the application creating index.js file