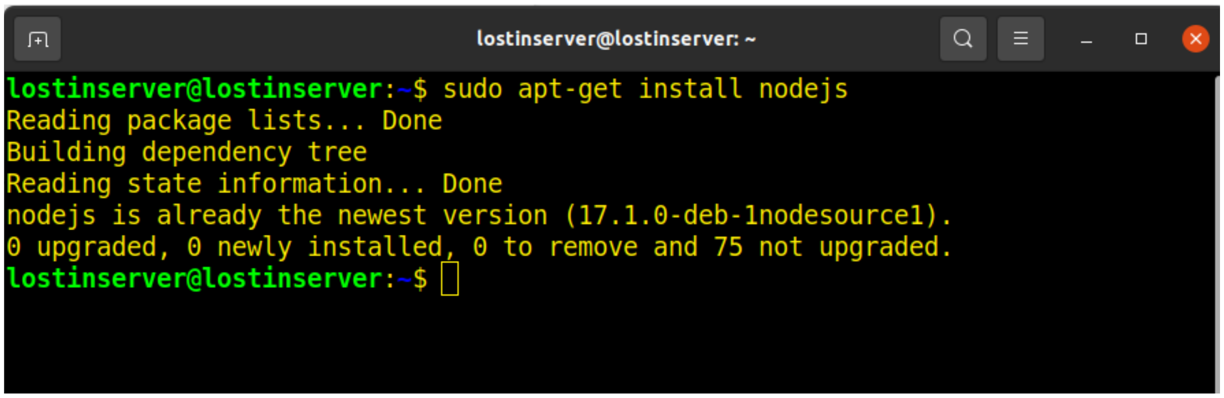
Node JS

Node.js is an open-source, cross-platform, back-end JavaScript runtime environment that runs on the V8 engine and executes JavaScript code outside a web browser.

Installing Node.js in our system

We curl to the latest node from the Node.js website and install it as;

$ curl -sL https://deb.nodesource.com/setup_17.x | sudo -E bash
$ sudo apt-get install -y nodejs



```
lostinserver@lostinserver:~$ sudo apt-get install nodejs
Reading package lists... Done
Building dependency tree
Reading state information... Done
nodejs is already the newest version (17.1.0-deb-1nodesource1).
0 upgraded, 0 newly installed, 0 to remove and 75 not upgraded.
lostinserver@lostinserver:~$
```

As we can see, we have our newest version installed on our system.

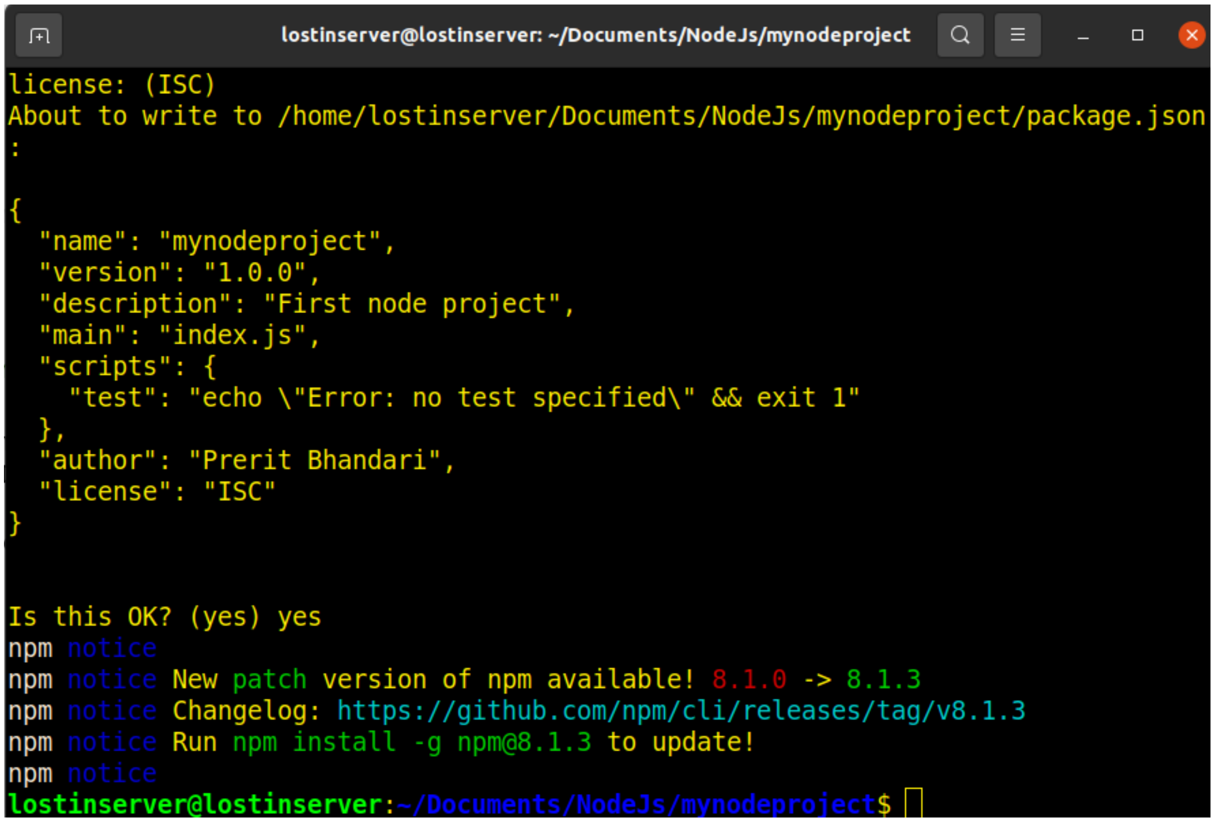
To check the version we can do,
$ nodejs --version

For more native addons for our system,
$ sudo apt-get install -y build-essential

Creating 2 API's running on ports 6080 and 7080

We start initially by creating a directory for our project. Let's create it as **mynodeproject** inside **~/Documents/NodeJs** directory and ,

$ sudo mkdir mynodeproject
$ cd mynodeproject
$ sudo npm init



```
license: (ISC)
About to write to /home/lostinserver/Documents/NodeJs/mynodeproject/package.json
:

{
  "name": "mynodeproject",
  "version": "1.0.0",
  "description": "First node project",
  "main": "index.js",
  "scripts": {
    "test": "echo \"Error: no test specified\" && exit 1"
  },
  "author": "Prerit Bhandari",
  "license": "ISC"
}


Is this OK? (yes) yes
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
lostinserver@lostinserver:~/Documents/NodeJs/mynodeproject$
```

Thus after few answers given, we have successfully initialized our npm.

Creating api1 running on port 6080

We give our api name as **api1.js** and we create it as,

a) Create a js file first,

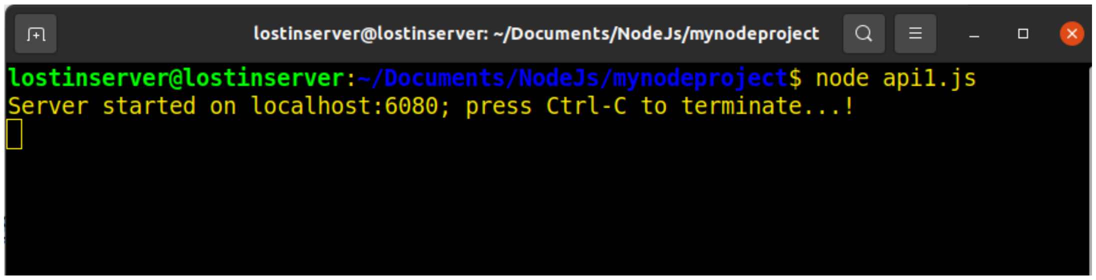
```
$ sudo nano api1.js
```

b) Put the code in it,

```
var http = require('http');
http.createServer(function(req,res){
res.writeHead(200, { 'Content-Type': 'text/plain' });
res.end('Hello Node JS');
}).listen(6080);
console.log('Server started on localhost:6080; press Ctrl-C to terminate...!');
```

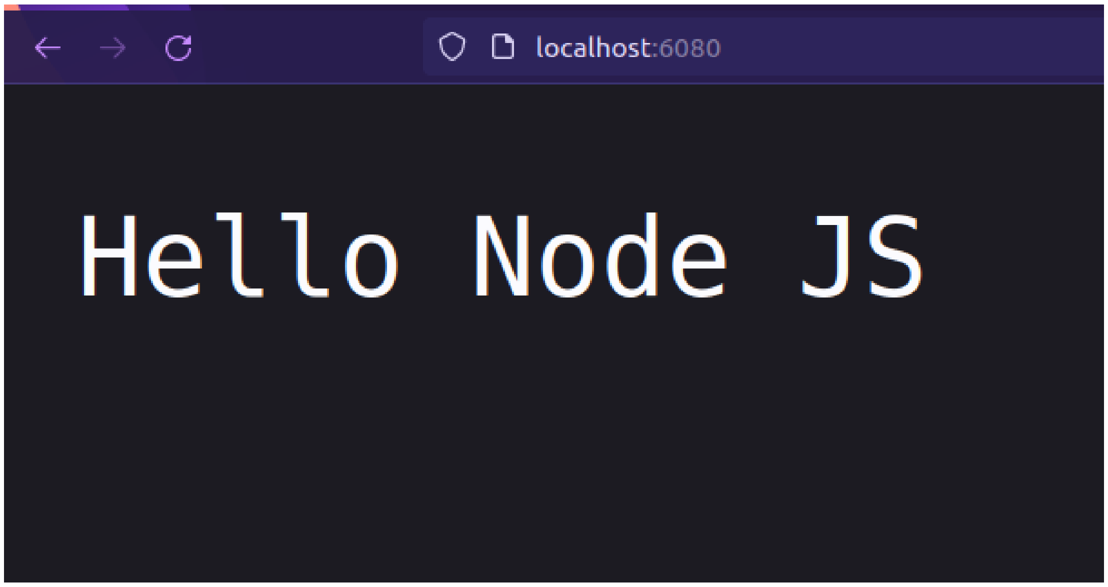
c) Start the application **ap1** to run on port 6080,

```
$ node api1.js
```



```
lostinserver@lostinserver:~/Documents/NodeJs/mynodeproject$ node api1.js
Server started on localhost:6080; press Ctrl-C to terminate...!
```

As we can see our server has started. Let’s check it in the browser:



```
Hello Node JS
```

Creating api2 running on port 6080

Similarly as above, we give our api name as **api2.js** and we create it as,

a) Create a js file first,

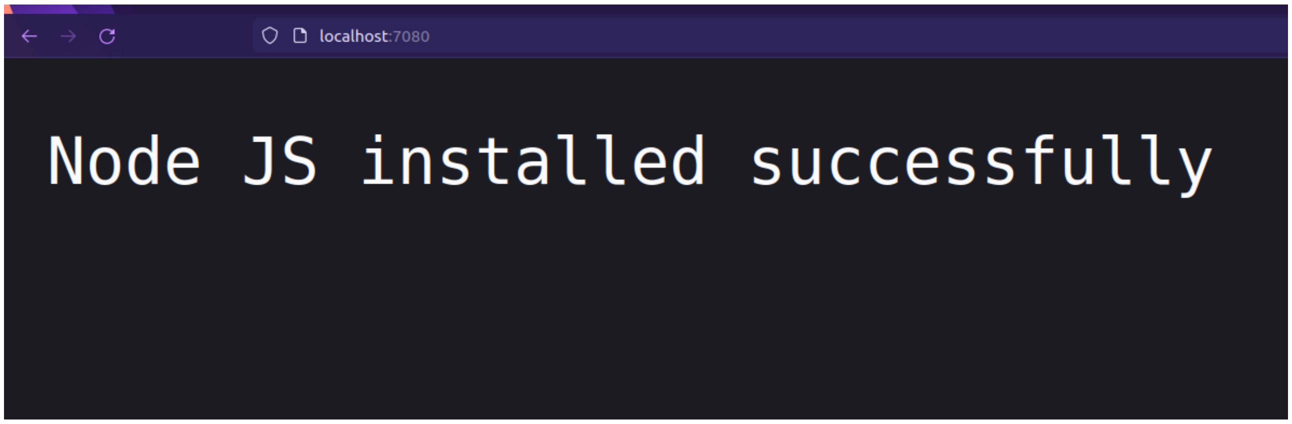
   ```
   $ sudo nano api2.js
   ```

b) Put the code in it,

   ```
   var http = require('http');
   http.createServer(function(req,res){
   res.writeHead(200, { 'Content-Type': 'text/plain' });
   res.end('Node JS installed successfully');
   }).listen(7080);
   console.log('Server started on localhost:7080; press Ctrl-C to terminate...!');
   ```

c) Start the application **ap2** to run on port 7080,

   ```
   $ node api2.js
   ```


localhost:7080

```
Node JS installed successfully
```

Installing pm2 tool and Creating 4 clusters of both nodes

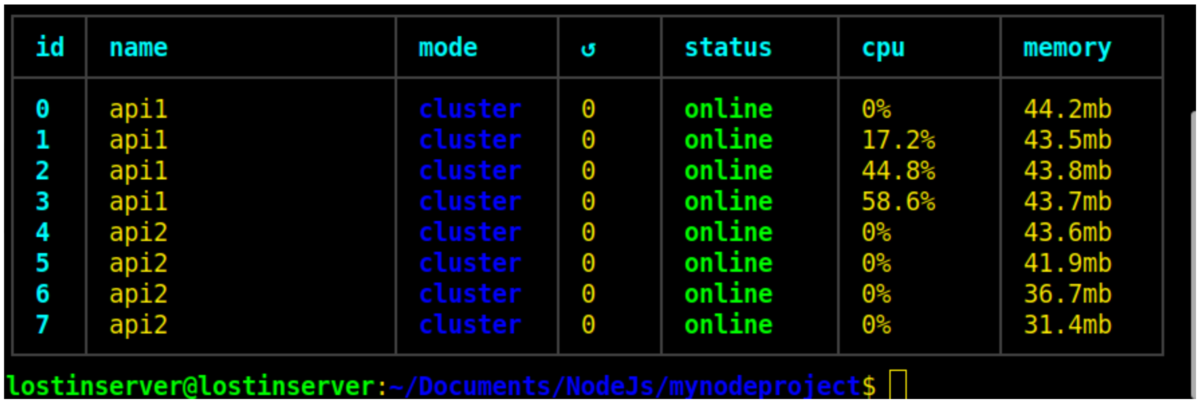
PM2 is a free open source, advanced, efficient and cross-platform production-level process manager for Node.js with a built-in load balancer.

For installation,

$ sudo npm i -g pm2

Now to create 4 clusters for both we can do as,

$ sudo pm2 start api1.js api2.js -i 4 // for api1.js and api2.js

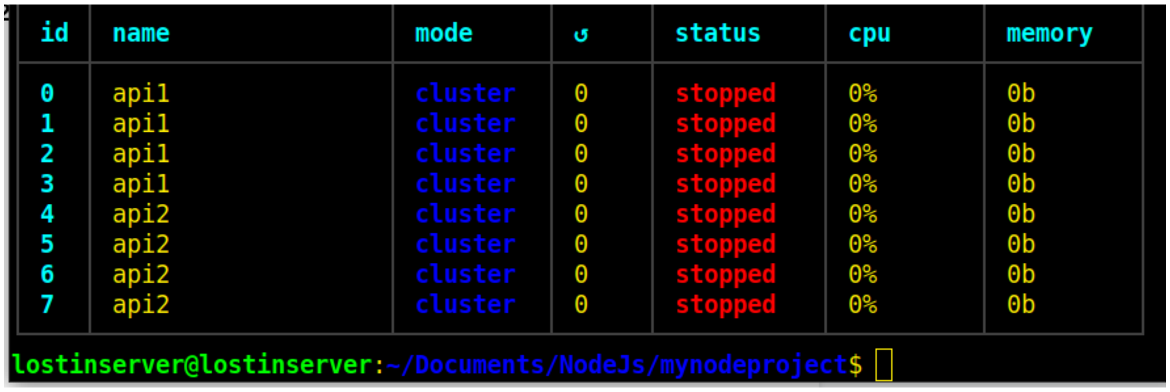


```
│ id │ name     │ mode    │ ↺ │ status │ cpu   │ memory │
│ 0  │ api1     │ cluster │ 0 │ online │ 0%    │ 44.2mb │
│ 1  │ api1     │ cluster │ 0 │ online │ 17.2% │ 43.5mb │
│ 2  │ api1     │ cluster │ 0 │ online │ 44.8% │ 43.8mb │
│ 3  │ api1     │ cluster │ 0 │ online │ 58.6% │ 43.7mb │
│ 4  │ api2     │ cluster │ 0 │ online │ 0%    │ 43.6mb │
│ 5  │ api2     │ cluster │ 0 │ online │ 0%    │ 41.9mb │
│ 6  │ api2     │ cluster │ 0 │ online │ 0%    │ 36.7mb │
│ 7  │ api2     │ cluster │ 0 │ online │ 0%    │ 31.4mb │
lostinserver@lostinserver:~/Documents/NodeJs/mynodeproject$
```

Deleting all 4 cluster

For deletion of cluster first we need to stop the running cluster by,

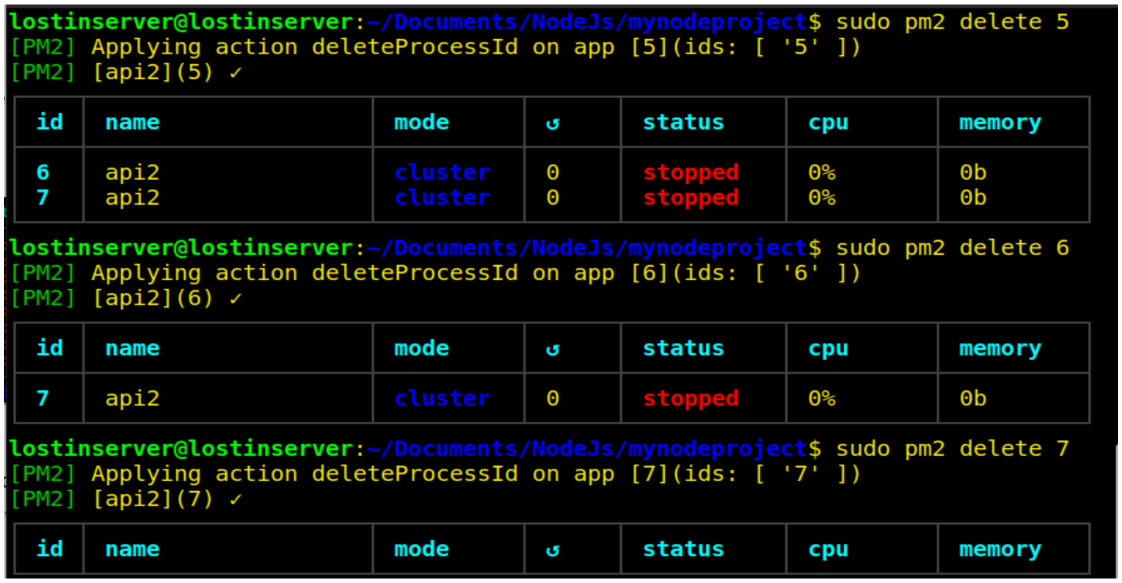
# sudo pm2 stop api1.js api2.js



```
│ id │ name  │ mode    │ ↺ │ status  │ cpu │ memory │
├────┼───────┼─────────┼───┼─────────┼─────┼────────┤
│ 0  │ api1  │ cluster │ 0 │ stopped │ 0%  │ 0b     │
│ 1  │ api1  │ cluster │ 0 │ stopped │ 0%  │ 0b     │
│ 2  │ api1  │ cluster │ 0 │ stopped │ 0%  │ 0b     │
│ 3  │ api1  │ cluster │ 0 │ stopped │ 0%  │ 0b     │
│ 4  │ api2  │ cluster │ 0 │ stopped │ 0%  │ 0b     │
│ 5  │ api2  │ cluster │ 0 │ stopped │ 0%  │ 0b     │
│ 6  │ api2  │ cluster │ 0 │ stopped │ 0%  │ 0b     │
│ 7  │ api2  │ cluster │ 0 │ stopped │ 0%  │ 0b     │
lostinserver@lostinserver:~/Documents/NodeJs/mynodeproject$
```

As we can see now all the clusters are stopped. Now for deletion, we use the cluster **id** to do the deletion one-by-one as,

# sudo pm2 delete 0
# sudo pm2 delete 1
# sudo pm2 delete 2
# sudo pm2 delete 3
# sudo pm2 delete 4
# sudo pm2 delete 5
# sudo pm2 delete 6
# sudo pm2 delete 7



```
lostinserver@lostinserver:~/Documents/NodeJs/mynodeproject$ sudo pm2 delete 5
[PM2] Applying action deleteProcessId on app [5](ids: [ '5' ])
[PM2] [api2](5) ✓
┌────┬────────────────────┬──────────┬──────┬───────────┬──────────┬──────────┐
│ id │ name               │ mode     │ ↺    │ status    │ cpu      │ memory   │
├────┼────────────────────┼──────────┼──────┼───────────┼──────────┼──────────┤
│ 6  │ api2               │ cluster  │ 0    │ stopped   │ 0%       │ 0b       │
│ 7  │ api2               │ cluster  │ 0    │ stopped   │ 0%       │ 0b       │
└────┴────────────────────┴──────────┴──────┴───────────┴──────────┴──────────┘
lostinserver@lostinserver:~/Documents/NodeJs/mynodeproject$ sudo pm2 delete 6
[PM2] Applying action deleteProcessId on app [6](ids: [ '6' ])
[PM2] [api2](6) ✓
┌────┬────────────────────┬──────────┬──────┬───────────┬──────────┬──────────┐
│ id │ name               │ mode     │ ↺    │ status    │ cpu      │ memory   │
├────┼────────────────────┼──────────┼──────┼───────────┼──────────┼──────────┤
│ 7  │ api2               │ cluster  │ 0    │ stopped   │ 0%       │ 0b       │
└────┴────────────────────┴──────────┴──────┴───────────┴──────────┴──────────┘
lostinserver@lostinserver:~/Documents/NodeJs/mynodeproject$ sudo pm2 delete 7
[PM2] Applying action deleteProcessId on app [7](ids: [ '7' ])
[PM2] [api2](7) ✓
┌────┬────────────────────┬──────────┬──────┬───────────┬──────────┬──────────┐
│ id │ name               │ mode     │ ↺    │ status    │ cpu      │ memory   │
└────┴────────────────────┴──────────┴──────┴───────────┴──────────┴──────────┘
```

All the clusters have been successfully deleted.