

Install Node.js on Ubuntu

1. Update package list

\$ sudo apt-get update

```
sharoncao0802@Sharon:~$ sudo apt-get update
Hit:1 https://deb.nodesource.com/node_18.x jammy InRelease
Hit:2 http://archive.ubuntu.com/ubuntu jammy InRelease
Hit:3 http://archive.ubuntu.com/ubuntu jammy-updates InRelease
Hit:4 http://security.ubuntu.com/ubuntu jammy-security InRelease
Hit:5 http://archive.ubuntu.com/ubuntu jammy-backports InRelease
Reading package lists... Done
```

\$ sudo apt-get upgrade

```
sharoncao0802@Sharon:~$ sudo apt-get upgrade
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
Calculating upgrade... Done
The following packages will be upgraded:
  apport apt apt-utils base-files bind9-dnsutils bind9-host bind9-libs binutils binutils-common
  binutils-x86-64-linux-gnu ca-certificates distro-info distro-info-data dpkg git git-man iptables libapt-pkg6.0
  libbinutils libc2 libcap2-bin libctf-nobfd0 libctf0 libcurl3-gnutls libglib2.0-0 libglib2.0-bin libglib2.0-data
  libgssapi-krb5-2 libip4tc2 libip6tc2 libjson-c5 libk5crypto3 libkrb5-3 libkrb5support0 libldap-2.5-0 libldap-common
  libncurses6 libncursesw6 libpam-cap libperl5.34 libssh-4 libssl3 libtinfo6 libunwind8 libx11-6 libx11-data
  libxtables12 motd-news-config ncurses-base ncurses-bin openssh-client openssl perl perl-base perl-modules-5.34
  python-apt-common python3-apport python3-apt python3-distro-info python3-distupgrade python3-gdbm
  python3-problem-report python3-software-properties snapd software-properties-common tzdata ubuntu-advantage-tools
  ubuntu-minimal ubuntu-release-upgrader-core ubuntu-standard ubuntu-wsl ufw vim vim-common vim-runtime vim-tiny xxd
77 upgraded, 0 newly installed, 0 to remove and 0 not upgraded.
Need to get 66.2 MB of archives.
```

2. Install Node.js

\$ sudo apt-get install nodejs

```
sharoncao0802@Sharon:~$ sudo apt-get install nodejs
[sudo] password for sharoncao0802:
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
The following NEW packages will be installed:
  nodejs
0 upgraded, 1 newly installed, 0 to remove and 0 not upgraded.
Need to get 28.9 MB of archives.
After this operation, 188 MB of additional disk space will be used.
Get:1 https://deb.nodesource.com/node_18.x jammy/main amd64 nodejs amd64 18.17.1-deb-1nodesource1 [28.9 MB]
Fetched 28.9 MB in 4s (8225 kB/s)
(Reading database ... 32075 files and directories currently installed.)
Preparing to unpack .../nodejs_18.17.1-deb-1nodesource1_amd64.deb ...
Unpacking nodejs (18.17.1-deb-1nodesource1) ...
Setting up nodejs (18.17.1-deb-1nodesource1) ...
Processing triggers for man-db (2.10.2-1) ...
```

3. Verify Installation

\$ node -v

\$ npm -v

```
sharoncao0802@Sharon:~$ node -v
v18.17.1
sharoncao0802@Sharon:~$ npm -v
8.19.2
sharoncao0802@Sharon:~$ |
```

Quickstart_node

1. Make directory for project

```
sharoncao0802@Sharon:~/CS589_Projects$ mkdir quickstart_nodejs
sharoncao0802@Sharon:~/CS589_Projects$ cd quickstart_nodejs
sharoncao0802@Sharon:~/CS589_Projects/quickstart_nodejs$
```

2. Clone project from Github

\$ git clone https://github.com/openai/openai-quickstart-node.git

```
sharoncao0802@Sharon:~/CS589_Projects/quickstart_nodejs$ git clone https://github.com/openai/openai-quickstart-node.git
Cloning into 'openai-quickstart-node'...
remote: Enumerating objects: 120, done.
remote: Counting objects: 100% (59/59), done.
remote: Compressing objects: 100% (31/31), done.
remote: Total 120 (delta 40), reused 32 (delta 28), pack-reused 61
Receiving objects: 100% (120/120), 93.61 KiB | 871.00 KiB/s, done.
Resolving deltas: 100% (52/52), done.
sharoncao0802@Sharon:~/CS589_Projects/quickstart_nodejs$ |
```

3. Go to project folder

```
sharoncao0802@Sharon:~/CS589_Projects/quickstart_nodejs$ cd openai-quickstart-node
sharoncao0802@Sharon:~/CS589_Projects/quickstart_nodejs/openai-quickstart-node$ ls -al
total 76
drwxr-xr-x 6 sharoncao0802 sharoncao0802 4096 Aug 30 11:14 .
drwxr-xr-x 3 sharoncao0802 sharoncao0802 4096 Aug 30 11:14 ..
-rw-r--r-- 1 sharoncao0802 sharoncao0802  91 Aug 30 11:14 .env.example
drwxr-xr-x 8 sharoncao0802 sharoncao0802 4096 Aug 30 11:14 .git
drwxr-xr-x 3 sharoncao0802 sharoncao0802 4096 Aug 30 11:14 .github
-rw-r--r-- 1 sharoncao0802 sharoncao0802  377 Aug 30 11:14 .gitignore
-rw-r--r-- 1 sharoncao0802 sharoncao0802 1063 Aug 30 11:14 LICENSE
-rw-r--r-- 1 sharoncao0802 sharoncao0802 1374 Aug 30 11:14 README.md
-rw-r--r-- 1 sharoncao0802 sharoncao0802 29234 Aug 30 11:14 package-lock.json
-rw-r--r-- 1 sharoncao0802 sharoncao0802  338 Aug 30 11:14 package.json
drwxr-xr-x 3 sharoncao0802 sharoncao0802 4096 Aug 30 11:14 pages
drwxr-xr-x 2 sharoncao0802 sharoncao0802 4096 Aug 30 11:14 public
sharoncao0802@Sharon:~/CS589_Projects/quickstart_nodejs/openai-quickstart-node$ |
```

4. Create .env file using example.

```
sharoncao0802@Sharon:~/CS589_Projects/quickstart_nodejs/openai-quickstart-node$ cp .env.example .env
sharoncao0802@Sharon:~/CS589_Projects/quickstart_nodejs/openai-quickstart-node$ ls -al
total 80
drwxr-xr-x 6 sharoncao0802 sharoncao0802 4096 Aug 30 11:17 .
drwxr-xr-x 3 sharoncao0802 sharoncao0802 4096 Aug 30 11:14 ..
-rw-r--r-- 1 sharoncao0802 sharoncao0802 91 Aug 30 11:17 .env
-rw-r--r-- 1 sharoncao0802 sharoncao0802 91 Aug 30 11:14 .env.example
drwxr-xr-x 8 sharoncao0802 sharoncao0802 4096 Aug 30 11:14 .git
drwxr-xr-x 3 sharoncao0802 sharoncao0802 4096 Aug 30 11:14 .github
-rw-r--r-- 1 sharoncao0802 sharoncao0802 377 Aug 30 11:14 .gitignore
-rw-r--r-- 1 sharoncao0802 sharoncao0802 1063 Aug 30 11:14 LICENSE
-rw-r--r-- 1 sharoncao0802 sharoncao0802 1374 Aug 30 11:14 README.md
-rw-r--r-- 1 sharoncao0802 sharoncao0802 29234 Aug 30 11:14 package-lock.json
-rw-r--r-- 1 sharoncao0802 sharoncao0802 338 Aug 30 11:14 package.json
drwxr-xr-x 3 sharoncao0802 sharoncao0802 4096 Aug 30 11:14 pages
drwxr-xr-x 2 sharoncao0802 sharoncao0802 4096 Aug 30 11:14 public
sharoncao0802@Sharon:~/CS589_Projects/quickstart_nodejs/openai-quickstart-node$ vi .env
sharoncao0802@Sharon:~/CS589_Projects/quickstart_nodejs/openai-quickstart-node$ |
```

5. Update your API Key in .env file

```
sharoncao0802@Sharon: ~/C: x + v
# Do not share your OpenAI API key with anyone! It should remain a secret.
OPENAI_API_KEY=sk-s7JRyyMRbCN9g9eLKfAgT3B1bkFJFr2WopcRL05JW7W8aiIw|
~
~
```

6. Install dependencies with npm

```
sharoncao0802@Sharon:~/CS589_Projects/quickstart_nodejs/openai-quickstart-node$ npm install
up to date, audited 27 packages in 577ms
3 packages are looking for funding
  run 'npm fund' for details
found 0 vulnerabilities
sharoncao0802@Sharon:~/CS589_Projects/quickstart_nodejs/openai-quickstart-node$ |
```

7. Run project

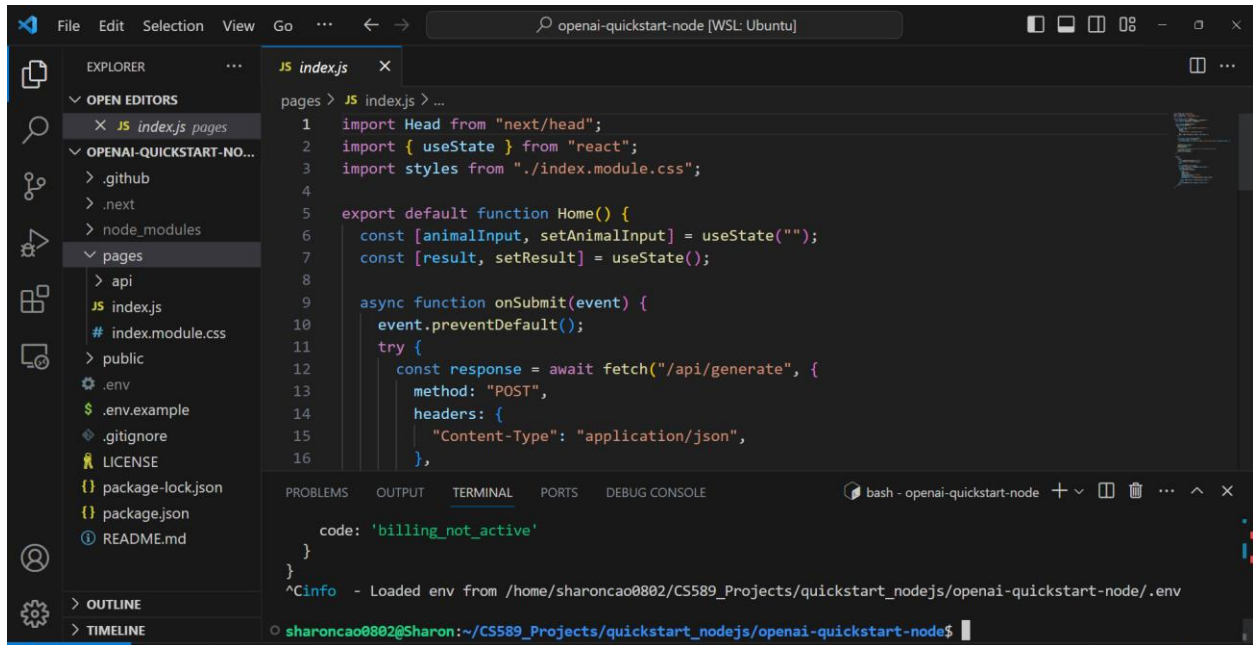
```
sharoncao0802@Sharon:~/CS589_Projects/quickstart_nodejs/openai-quickstart-node$ npm run dev
> openai-quickstart-node@0.1.0 dev
> next dev

'\\wsl.localhost\Ubuntu\home\sharoncao0802\CS589_Projects\quickstart_nodejs\openai-quickstart-node'
CMD.EXE was started with the above path as the current directory.
UNC paths are not supported. Defaulting to Windows directory.
ready - started server on 0.0.0.0:3000, url: http://localhost:3000
Error: > Couldn't find a 'pages' directory. Please create one under the project root
    at Object.findPagesDir (C:\\wsl.localhost\Ubuntu\home\sharoncao0802\CS589_Projects\quickstart_nodejs\openai-quickstart-node\node_modules\next\dist\lib\find-pages-dir.js:86:19)
    at new DevServer (C:\\wsl.localhost\Ubuntu\home\sharoncao0802\CS589_Projects\quickstart_nodejs\openai-quickstart-node\node_modules\next\dist\server\dev\next-dev-server.js:110:59)
    at NextServer.createServer (C:\\wsl.localhost\Ubuntu\home\sharoncao0802\CS589_Projects\quickstart_nodejs\openai-quickstart-node\node_modules\next\dist\server\next.js:140:20)
    at \\wsl.localhost\Ubuntu\home\sharoncao0802\CS589_Projects\quickstart_nodejs\openai-quickstart-node\node_modules\next\dist\server\next.js:155:42
    at async NextServer.prepare (C:\\wsl.localhost\Ubuntu\home\sharoncao0802\CS589_Projects\quickstart_nodejs\openai-quickstart-node\node_modules\next\dist\server\next.js:130:24)
    at async \\wsl.localhost\Ubuntu\home\sharoncao0802\CS589_Projects\quickstart_nodejs\openai-quickstart-node\node_modules\next\dist\cli\next-dev.js:336:17
```

8. Error occur

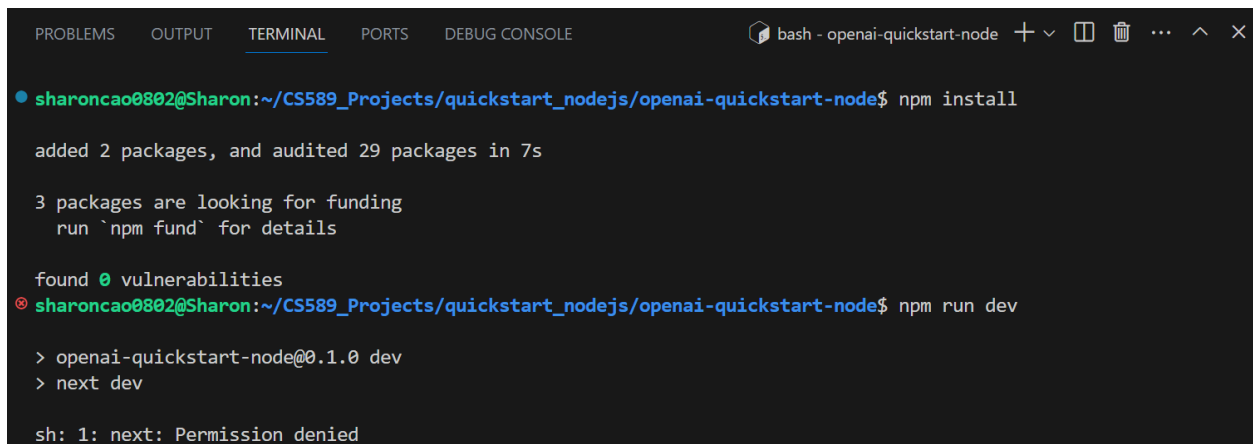
To fix the error => Use VS code terminal to run application

\$ code .



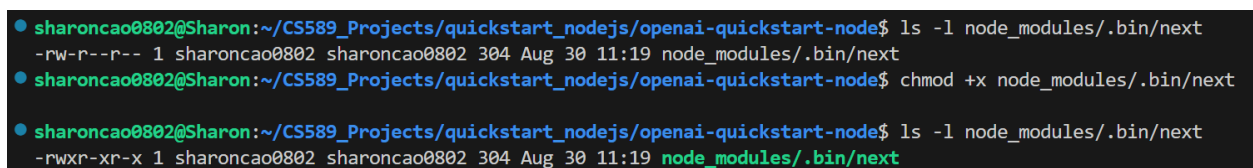
The screenshot shows the VS Code interface with a file explorer on the left and a code editor in the center. The file explorer shows the project structure, including a 'pages' directory with an 'index.js' file. The code editor displays the content of 'index.js', which is a Next.js page component. The terminal window at the bottom shows the command 'code .' being executed, and the output displays the error message: 'code: 'billing_not_active''. The terminal also shows the command 'npm run dev' being executed, and the output displays the error message: 'sh: 1: next: Permission denied'.

Run the command again



The screenshot shows the VS Code terminal window with the command 'npm install' being executed. The output displays the message: 'added 2 packages, and audited 29 packages in 7s'. The terminal also shows the command 'npm run dev' being executed, and the output displays the error message: 'sh: 1: next: Permission denied'.

Check permissions and fix



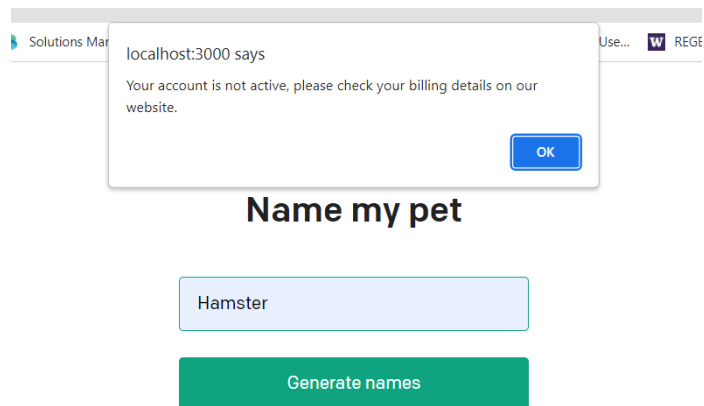
The screenshot shows the VS Code terminal window with the command 'ls -l node_modules/.bin/next' being executed. The output displays the permissions for the file: '-rw-r--r-- 1 sharoncao0802 sharoncao0802 304 Aug 30 11:19 node_modules/.bin/next'. The terminal also shows the command 'chmod +x node_modules/.bin/next' being executed, and the output displays the message: 'sh: 1: next: Permission denied'.

```
sharoncao0802@Sharon:~/CS589_Projects/quickstart_nodejs/openai-quickstart-node$ npm run dev

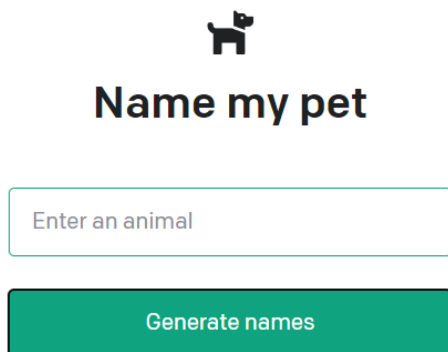
> openai-quickstart-node@0.1.0 dev
> next dev

ready - started server on 0.0.0.0:3000, url: http://localhost:3000
info - Loaded env from /home/sharoncao0802/CS589_Projects/quickstart_nodejs/openai-quickstart-node/.env
event - compiled client and server successfully in 366 ms (150 modules)
wait - compiling / (client and server)...
event - compiled client and server successfully in 182 ms (170 modules)
█
```

9. OpenAI account set up problem



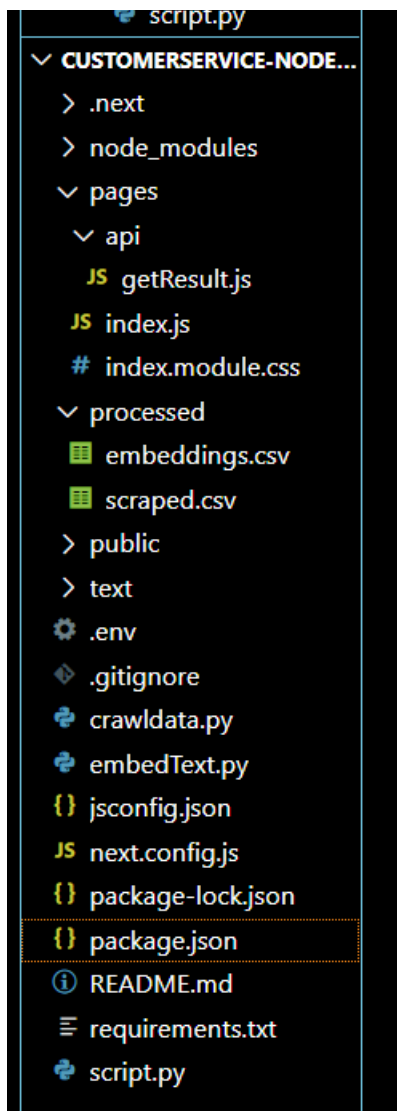
10. Reload the OpenAI Balance and run successfully



Super Hamster, Dynamo Rodent, Mighty Nibbler

Integrate for Customer Service Using NodeJS (Call python from NodeJS)

1. Project Structure: using Next.js



2. Update scripts to run project

```
{ } package.json > ...
1  {
2    "name": "simpletrynode",
3    "version": "0.1.0",
4    "private": true,
5    "scripts": {
6      "dev": "next dev",
7      "build": "next build",
8      "start": "next start",
9      "lint": "next lint",
10     "install": "pip install -r requirements.txt",
11     "crawl": "python3 crawldata.py ",
12     "embedding": "python3 embedText.py"
13   },
14   "dependencies": {
15     "child_process": "^1.0.2",
16     "next": "13.4.19",
17     "react": "18.2.0",
18     "react-dom": "18.2.0"
19   }
20 }
21
```

3. Install needed packages

```
$ npm install
```

```
$ npm run install → install required python packages
```

4. Modify code to call python script and pass parameters

pages/api/getResult.js

```
1. // pages/api/getResult.js
2. import { exec } from 'child_process';
3.
4. // Set your OpenAI API key as an environment variable
5. const OPENAI_API_KEY = process.env.OPENAI_API_KEY;
6. if (!OPENAI_API_KEY) {
7.   console.error('OPENAI_API_KEY is not set. Please set your API key.');
```

```

12.
13.  if (req.method === 'GET') {
14.    const question = req.query.question || ''; // Default to 0 if
        parameter is not provided
15.
16.    // Execute the Python script with the provided parameter
17.    exec(`python3 script.py ${question}`, (error, stdout, stderr) => {
18.      if (error) {
19.        console.error(`Error executing Python script: ${error}`);
20.        res.status(500).json({ result: 'Internal Server Error' });
21.        return;
22.      }
23.
24.      const result = stdout.trim();
25.      console.log(result) // log the result in console
26.
27.      // Send the result as JSON
28.      res.status(200).json({ result });
29.    });
30.  } else {
31.    res.status(405).end(); // Method Not Allowed for non-GET requests
32.  }
33.};

```

5. Test and run project

I keep crawling data and embedding separate from the main program to avoid TIMEOUT error and save cost on embedding.

1) Part 1: Crawl

```
$ npm run crawl
```

2) Part 2: Embedded

```
$ export OPENAI_API_KEY=<YOUR_API_KEY>
```

```
$ npm run embedding
```

3) Part 3: Run

```
$ npm run dev
```


Result:



OpenAI Q&A

who invested in openai?

Generate Answer

Jed McCaleb, Gabe Newell, Michael Seibel, Jaan Tallinn, Ashton Eaton, Brianne Theisen-Eaton, Reid Hoffman, Pieter Abbeel, Julia Galef, Maran Nelson, Greg Brockman, Ilya Sutskever, Holden Karnofsky, Sam Altman, Adam D'Angelo, Shimon Zilis, and Tasha McCauley.