Installing Node.js on Ubuntu and Node.Js - HTTP JSON API Time Server

This document shows how to install Node.js and npm on Ubuntu 20.04 and create a json api time server by using Node.js.

Basically, the time server gets a request from the client side and sends the current time in Json format to the client.

> **Request**: http://localhost:8000/api/currenttime
>
> **Response :** {"year":2022,"month":1,"date":9,"hour":1,"minute":53}

Installing Node.js and npm on Ubuntu 20.04

We need to follow the given steps below to install Node.js and npm.

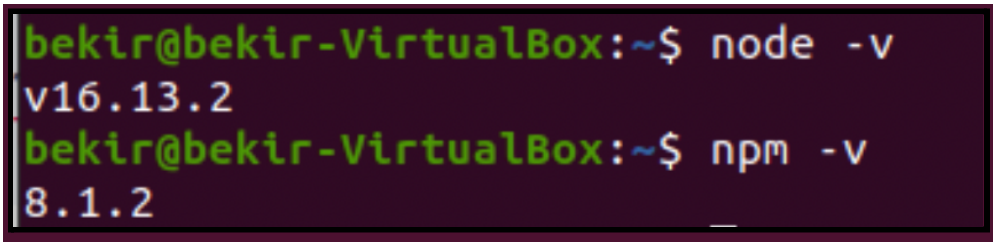
1. To install a later version of Node.js, we can use PPA (personal package archive) maintained by NodeSource. PPA has later versions of Node.js than Ubuntu repositories. If we install Node.js by using `sudo apt install nodejs` the version is v10.19.0 but the latest version of the node is 16.13.2 currently. To get the latest version we need to use `setup_16.x` in the link below:

   ```
   curl -sL https://deb.nodesource.com/setup_16.x | sudo -E bash -
   ```

2. Install Node.js and npm. We need to also install npm, the Node.js package manager. npm simply allows us to install modules and packages to use with Node.js.

   ```
   sudo apt-get update && sudo apt-get install -y nodejs
   ```

3. Check the installed node version by `node -v` and npm version by `npm -v`

HTTP Json API Node.Js Time Server

Here is the node.js code to support **http://localhost:8000/api/currenttime** request. The code simply searches **/api/currenttime** by using Regex in the url and if it matches, sends the current time in json format, if there is no match it sends an error message.

```
var http = require('http')
var url = require('url')

function get_time(){
  var now = new Date();
  return {
        year : now.getFullYear(),
        month : now.getMonth() + 1,
        date : now.getDate(),
        hour : now.getHours(),
        minute : now.getMinutes()}
}
var server = http.createServer(function (request, response) {
   if (/^\/api\/currenttime/.test(request.url)){
      var result = get_time()
      response.writeHead(200, {'Content-Type': 'text/plain'});
      response.end(JSON.stringify(result));
   }else{
      response.writeHead(404 , {'Content-Type': 'text/plain'})
      response.end("URL does not matched the pattern of
                  /api/currenttime");
   }
});

server.listen(Number(process.argv[2]));
console.log('Node server running on http://localhost:'+
process.argv[2]);
```

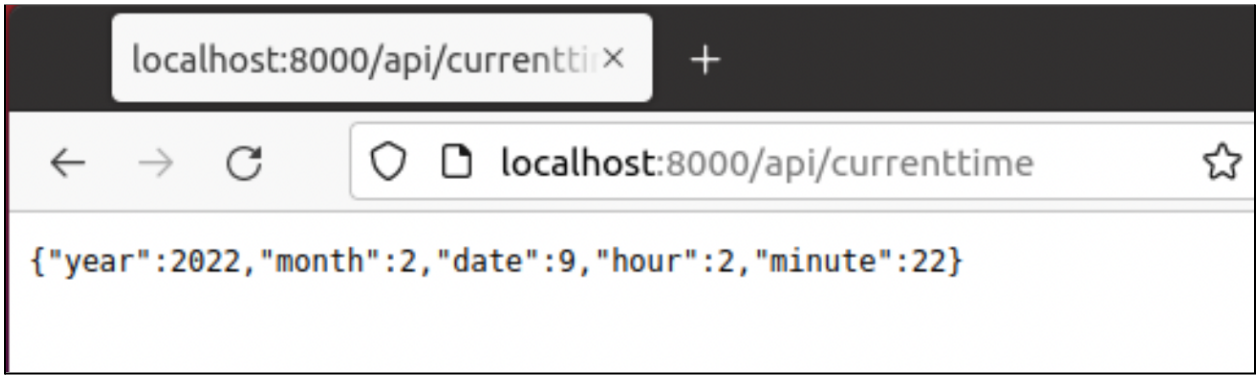
The http_json_api_time_server.js files includes code above and we can run the code on terminal

```
node  http_json_api_time_server.js 8000
```

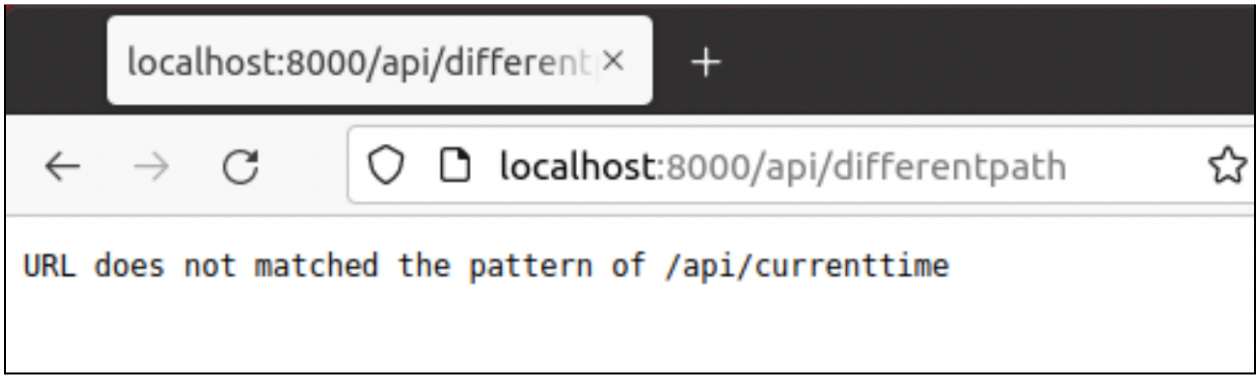
In this command 8000 indicates the port number. If everything goes right we should get an output on the terminal: **Node server running on http://localhost:[Given Port Number]** in this case 8000.

```
bekir@bekir-VirtualBox:~$ node http_json_api_time_server.js 8000
Node server running on http://localhost:8000
```

If we go to **http://localhost:8000/api/currenttime** address on the browser, we can see the current date and time in Json format.



In case of given path is different than **/api/currenttime** it will prompt an error message like below:



Note: getmonth() function starts from 0. We need to add one (now.getMonth() + 1) to get the current month.