

Topic: Creating Plant Analysis Tools Using Gemini AI and Express.js

Speaker: / Notebook: Django Project: Car Listing



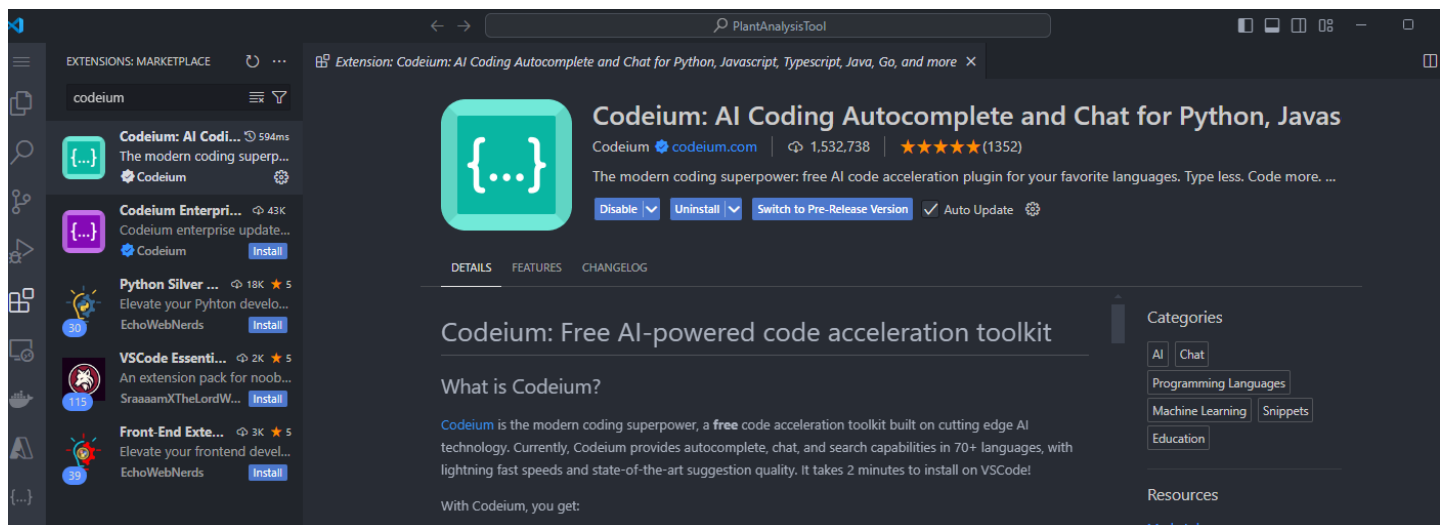
We installed the NODE.JS (Javascript) for this project. You need to [download from here](#).

Node.js for Javascript and Django for Python are 2 different platforms.

Project's Main Resource Page: [YouTube video here](#).

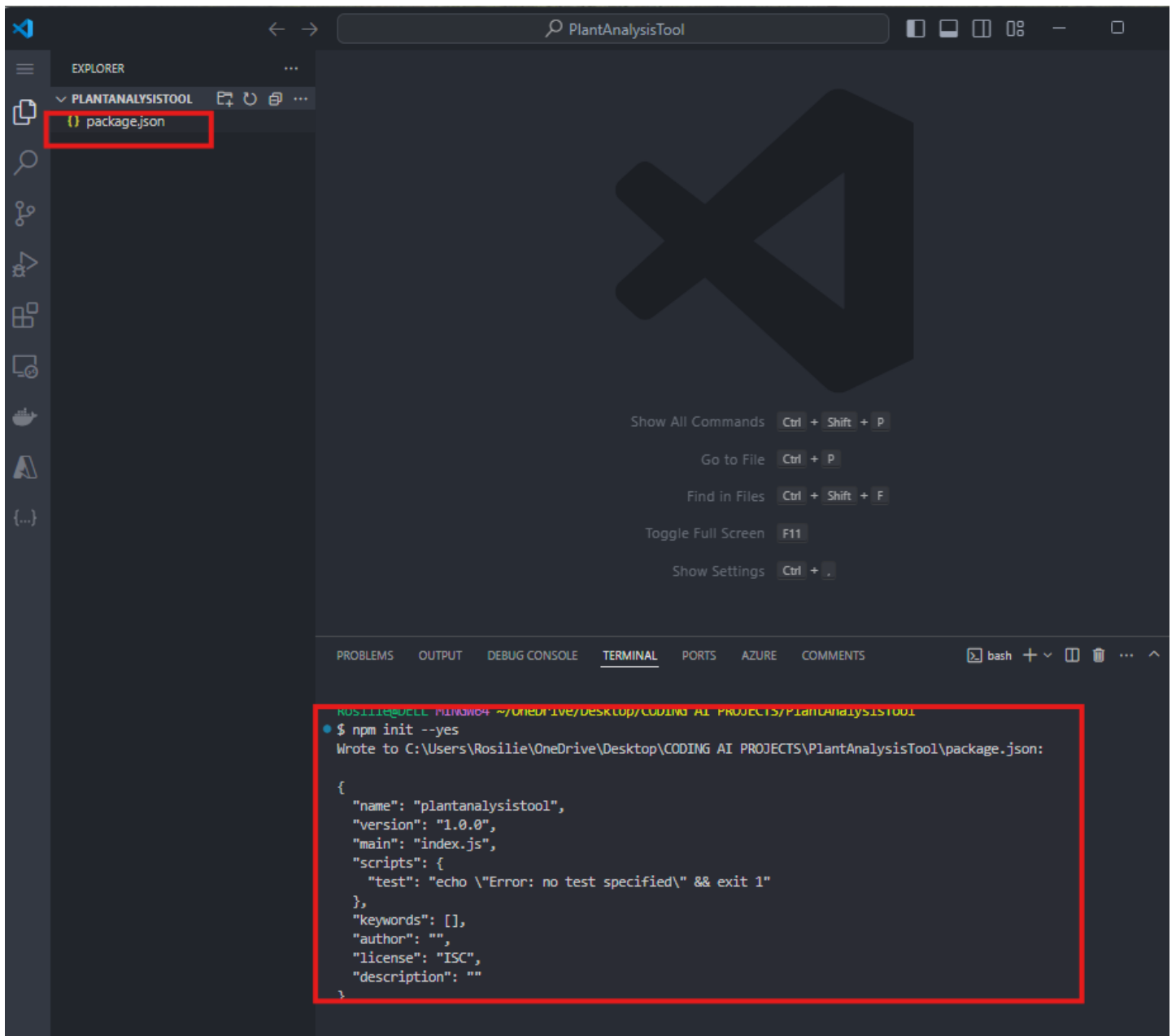
1. Open a new folder, PLANTANALYSISTOOL. Open a new Git bash terminal, and we issue the command, CODE . (code dot) to open the folder in VS Code.

We install the extension CODEIUM AI.



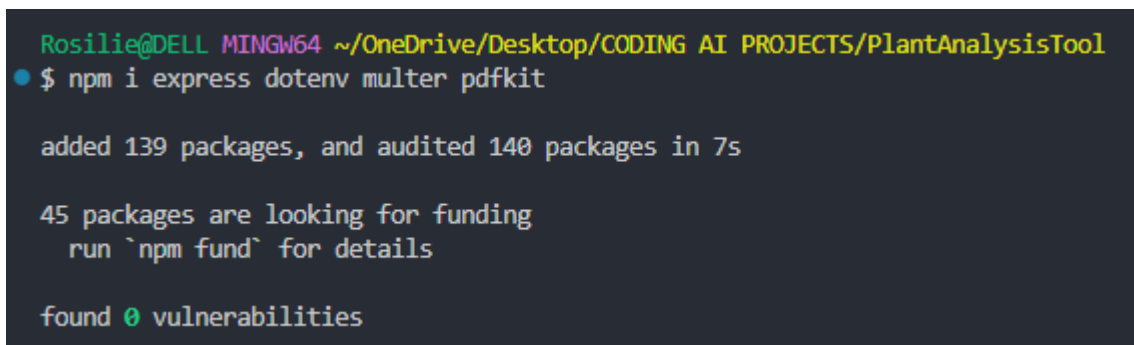
2. We issue the command for Node.js the NPM (which is PIP in Django) to create the PACKAGE.JSON file.

```
$ npm init --yes
```

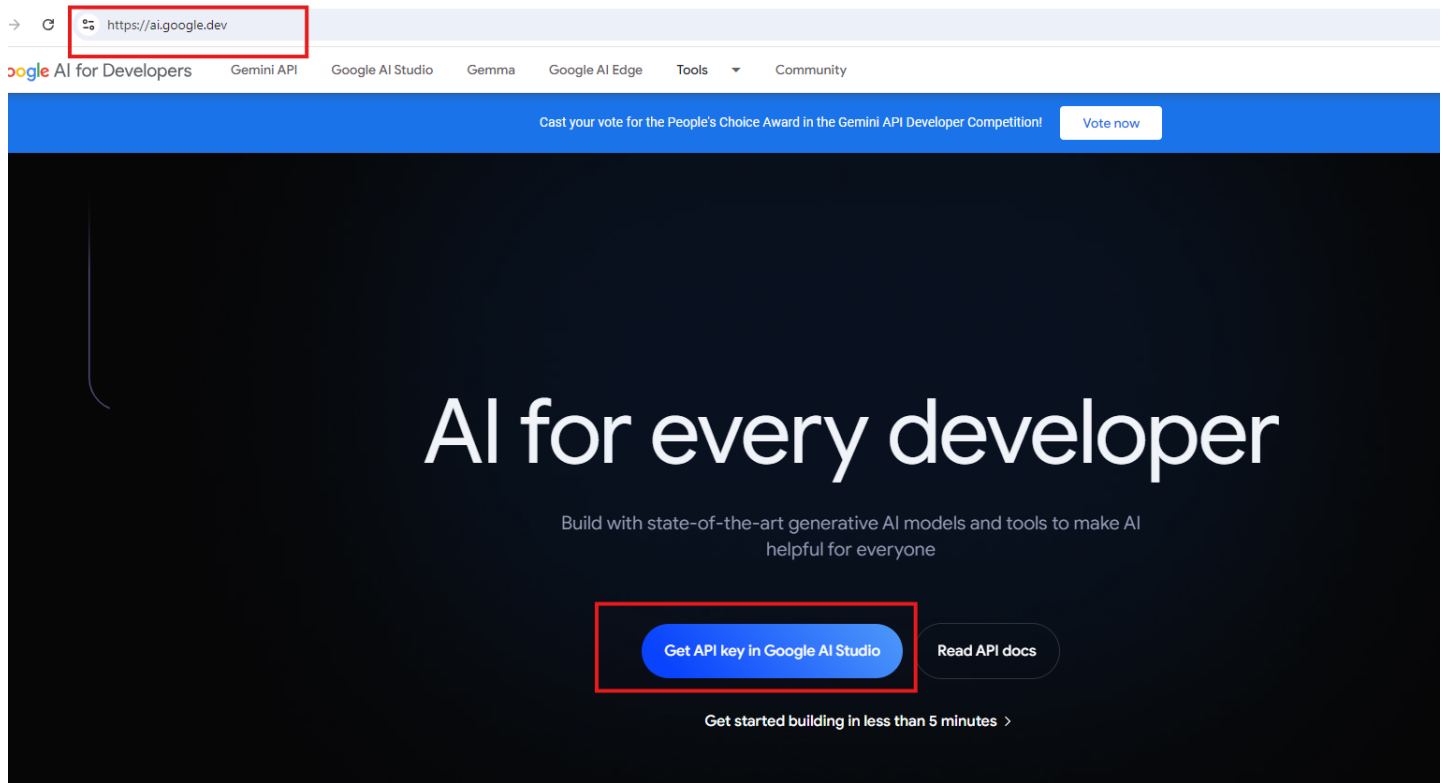


3. We install the packages we need.

```
$ npm i express dotenv multer pdfkit
```



4. Get GEMINI API KEY. Simply in the Google search, type GEMINI API.



5. Update the PACKAGE.JSON:

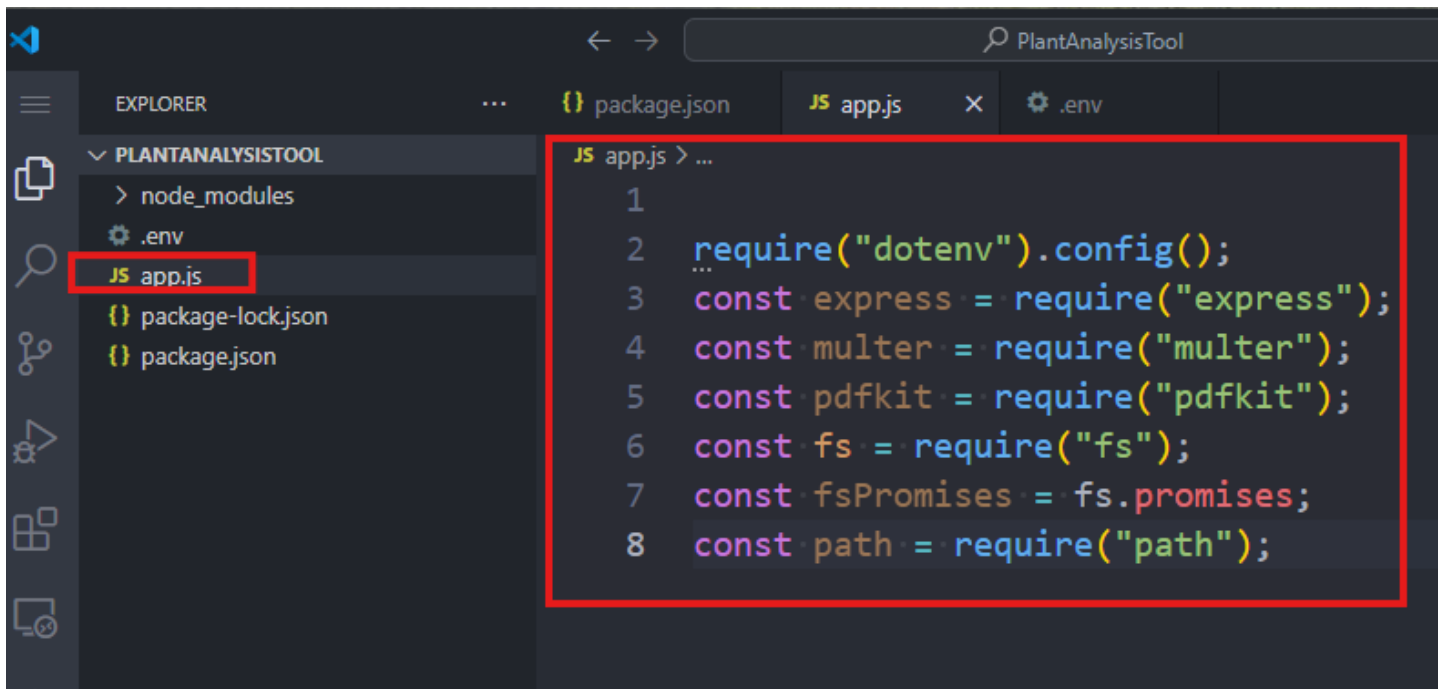
FROM:

```
1 {
2   "name": "plantanalysisistool",
3   "version": "1.0.0",
4   "main": "index.js",
5   "scripts": {
6     "test": "echo \\\"Error: no test specified\\\" && exit 1"
7   },
8   "keywords": [],
9   "author": "",
10  "license": "ISC",
11  "description": "",
12  "dependencies": {
13    "dotenv": "^16.4.5",
14    "express": "^4.21.0",
15    "multer": "^1.4.5-lts.1",
16    "pdfkit": "^0.15.0"
17  }
18 }
19
```

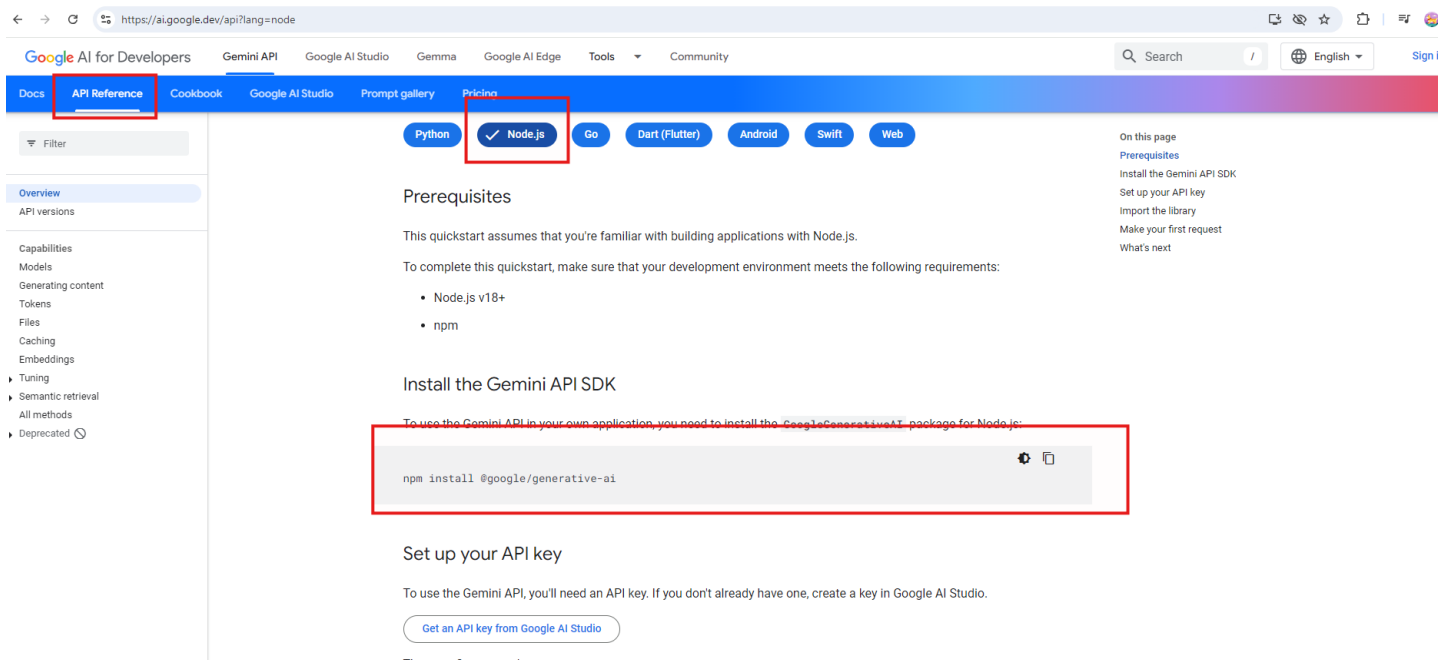
TO:

6. We created files APP.JS and .ENV files in the root directory.

In the APPS.JS:

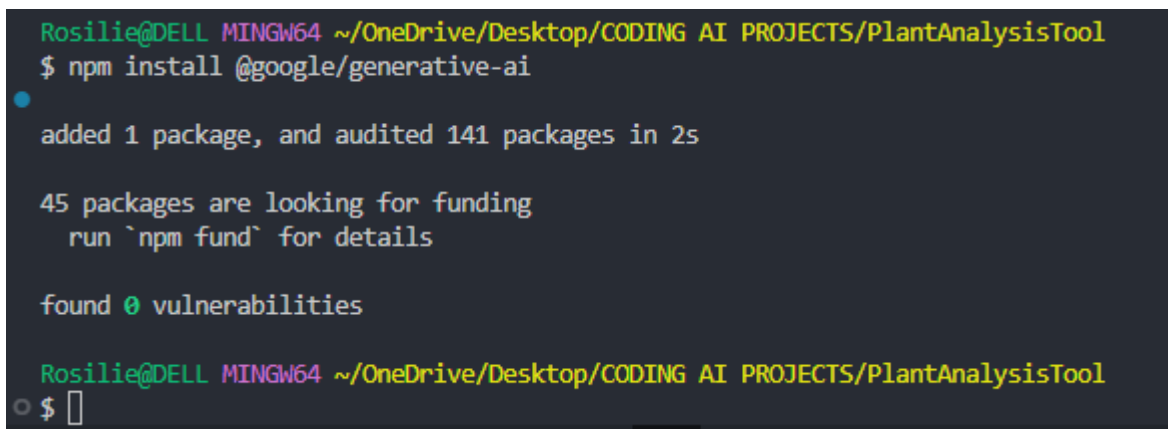


7. On Google AI Dashboard, select API REFERENCE, choose NODE.JS and get the code to install GEMINI API



8. Install the GEMINI API SDK in the terminal:

```
$ npm install @google/generative-ai
```



9. We copy this from the GEMINI API REFERENCE into our APPS.JS

Import the library

Import the Google Generative AI library.

```
const { GoogleGenerativeAI } = require("@google/generative-ai");
```

A screenshot of the Visual Studio Code editor. The Explorer sidebar on the left shows a project named 'PLANTANALYSISTOOL' with files: 'node_modules', '.env', 'js app.js' (highlighted with a red box), 'package-lock.json', and 'package.json'. The main editor window shows the content of 'app.js' with line numbers 1 through 10. The code is as follows:

```
1
2 require("dotenv").config();
3 const express = require("express");
4 const multer = require("multer");
5 const pdfkit = require("pdfkit");
6 const fs = require("fs");
7 const fsPromises = fs.promises;
8 const path = require("path");
9 const { GoogleGenerativeAI } = require("@google/generative-ai");
10
```

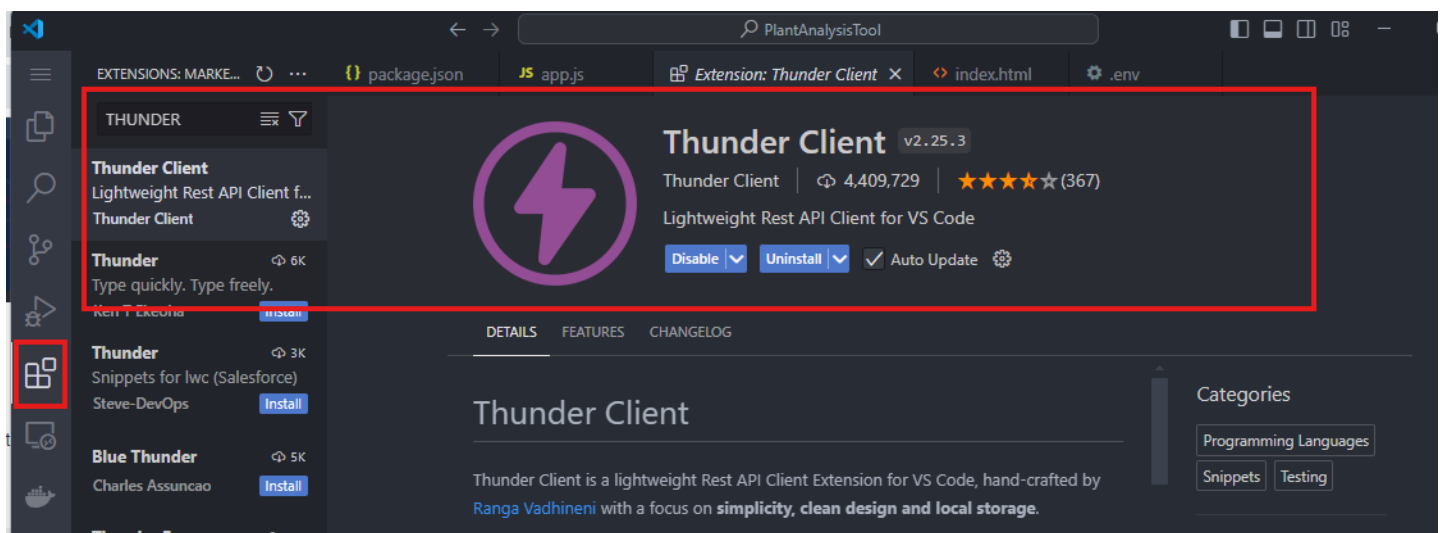
The line 9 is highlighted with a red box. The bottom right corner of the editor shows the text 'Ctrl+I Codeium'.

10. We updated our APPS.JS AS:

```
1 require("dotenv").config();
2 const express = require("express");
3 const multer = require("multer");
4 const pdfkit = require("pdfkit");
5 const fs = require("fs");
6 const fsPromises = fs.promises;
7 const path = require("path");
8 const { GoogleGenerativeAI } = require("@google/generative-ai");
9
10
11 const app = express();
12 const port = process.env.PORT || 5000;
13
14 //configure multer: save uploaded files to /upload folder & limit file file sizes
15 const upload = multer({ dest: "upload/" });
16 app.use(express.json({ limit: "10mb" }));
17
18 //initialize Google Generative AI
19 const genAI = new GoogleGenerativeAI(process.env.GEMINI_API_KEY);
20 app.use(express.static("public"));
21
22 //routes
23 app.post("/analyze", async () => {
24   ... res.json({ success: true });
25 });
26
27 //route for download pdfs
28 app.post("/download", async (req, res) => {
29   ... res.json({ success: true });
30 });
31
32
33 //start the server
34 app.listen(port, () => {
35   ... console.log(`Server started on port ${port}`);
36 });
37
38
```

11. To test our work, run `NODE --WATCH APP` (where app is our APP.JS)

Then use POSTMAN (or INSOMNIA) or add an extension THUNDER CLIENT as a VSCODE extension to test the ENDPOINT WITHIN VS CODE.



12.

