

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

Speaker: / Notebook: Django Project: Car Listing



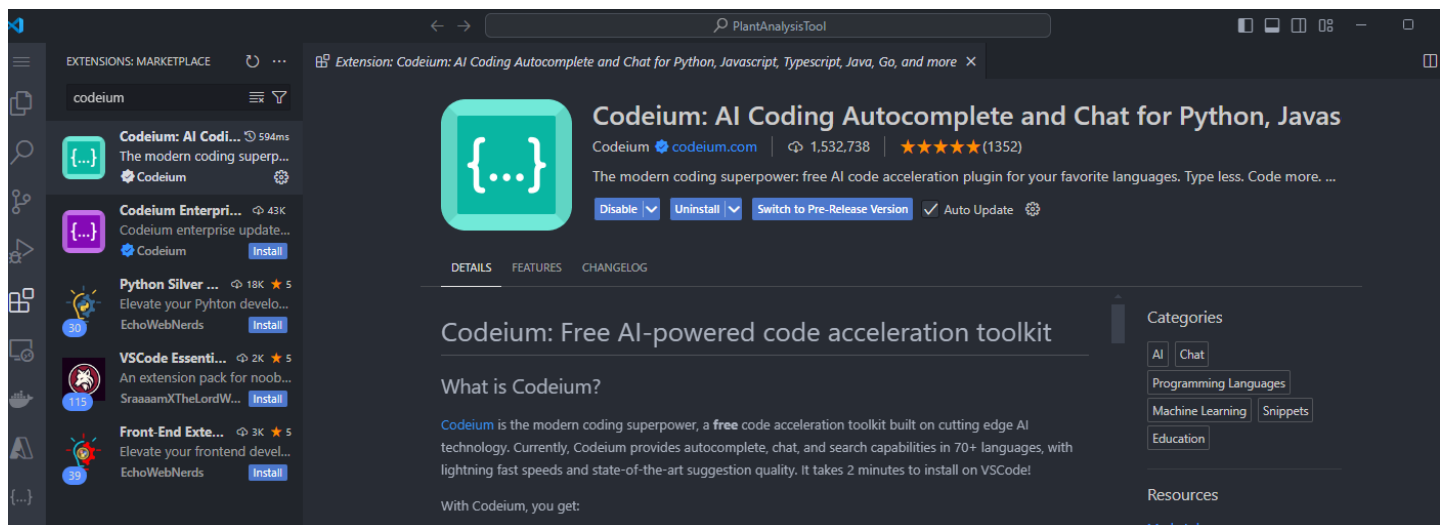
We installed the NODE.JS (Javascript) for this project. You need to [download from here](#).

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

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

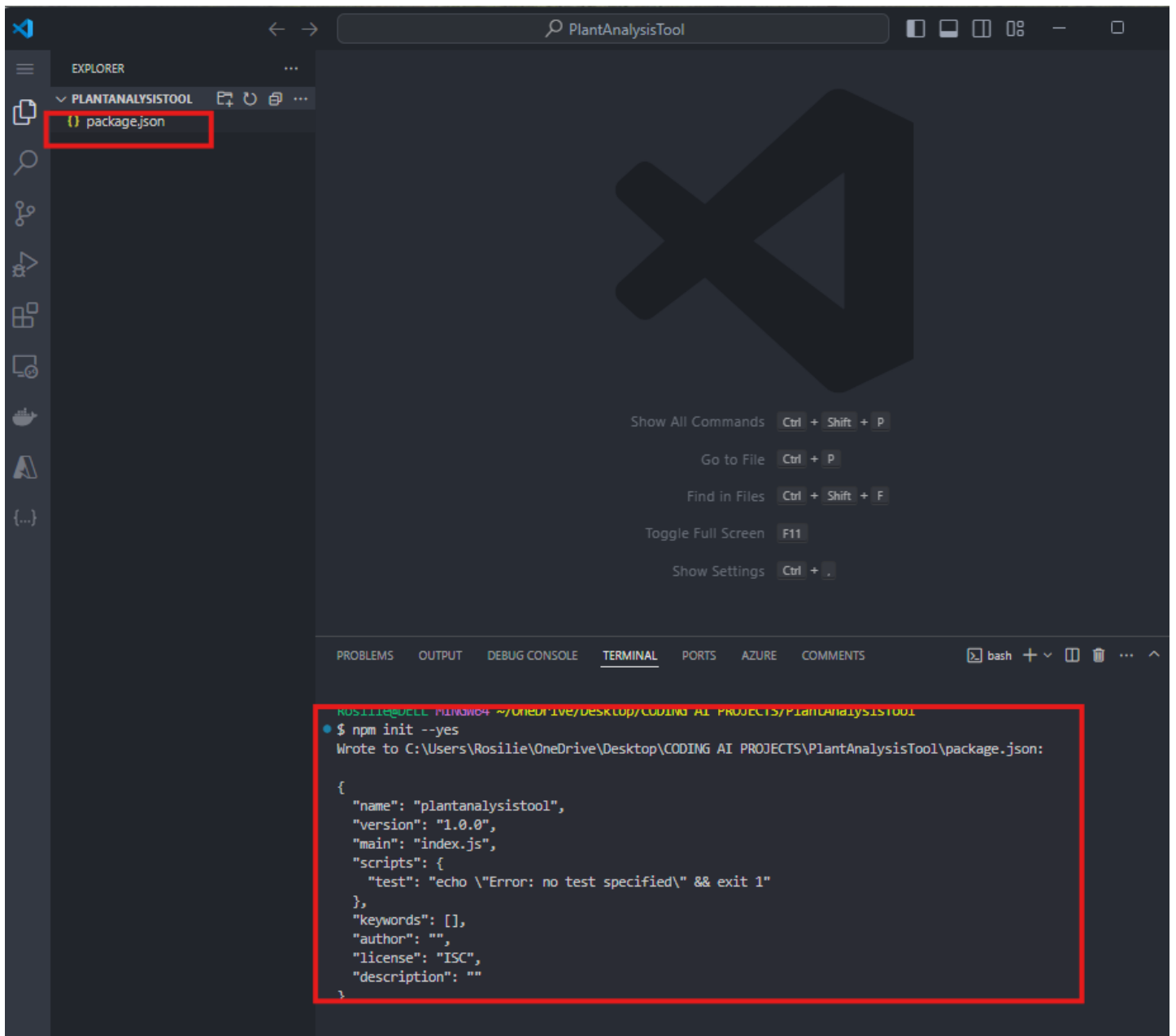
1. Open a new folder, PLANTANALYSISTOOL. Open a new Git bash terminal, and we issue the command, CODE . (code dot) to open the folder in VS Code.

We install the extension CODEIUM AI.



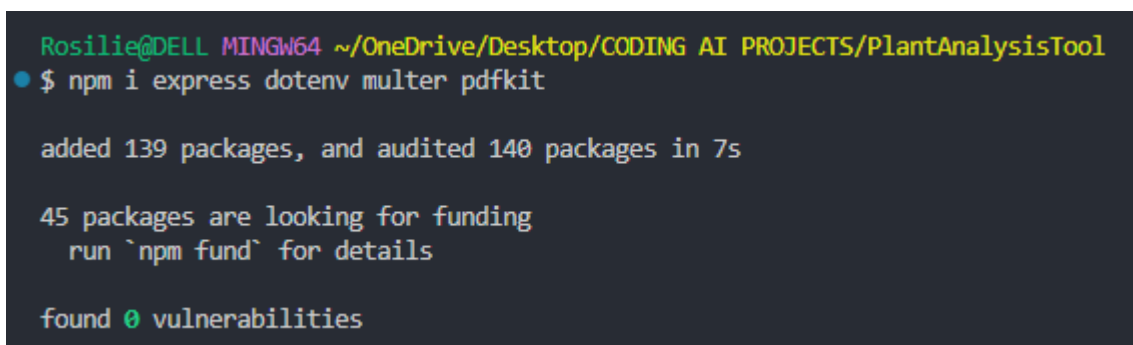
2. We issue the command for Node.js the NPM (which is PIP in Django) to create the PACKAGE.JSON file.

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

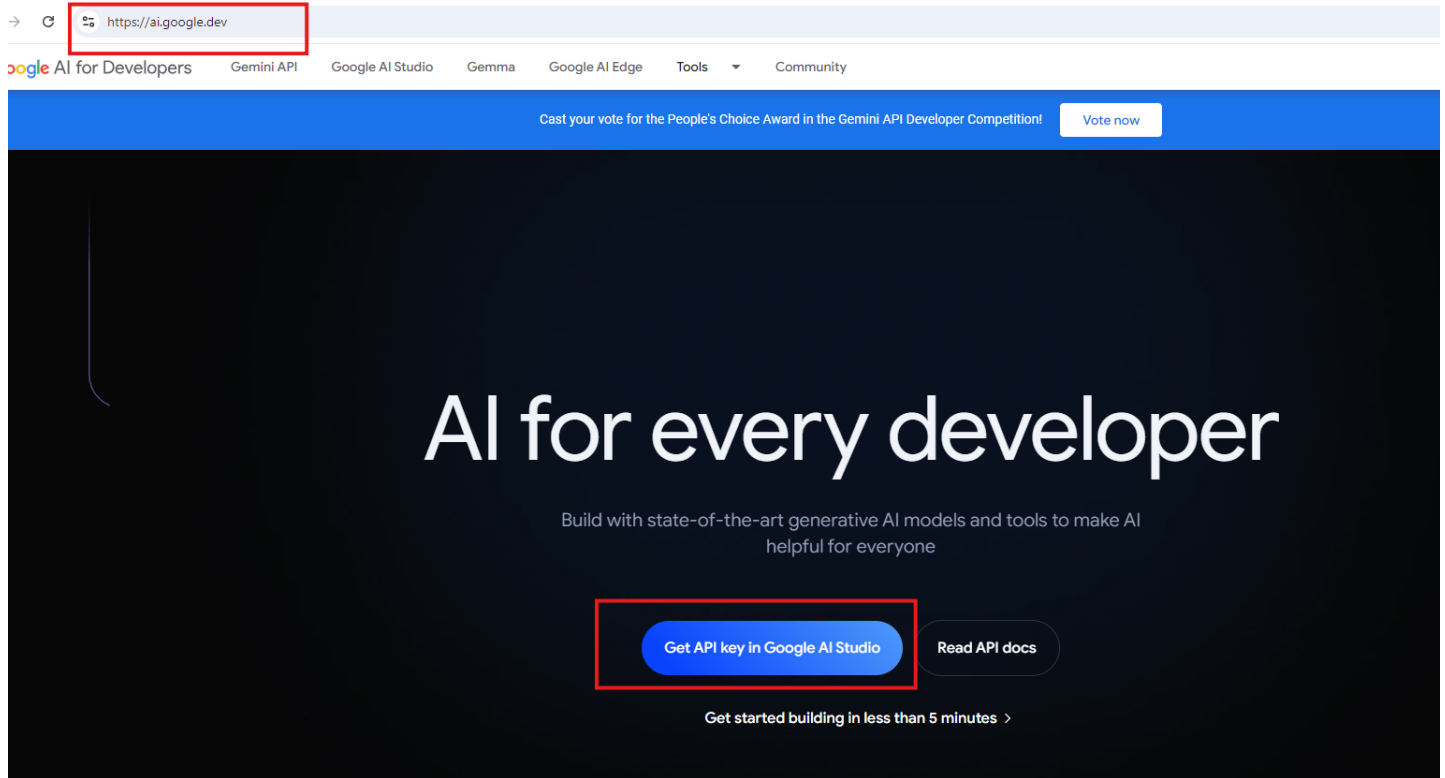


3. We install the packages we need.

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



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



5. Update the PACKAGE.JSON:

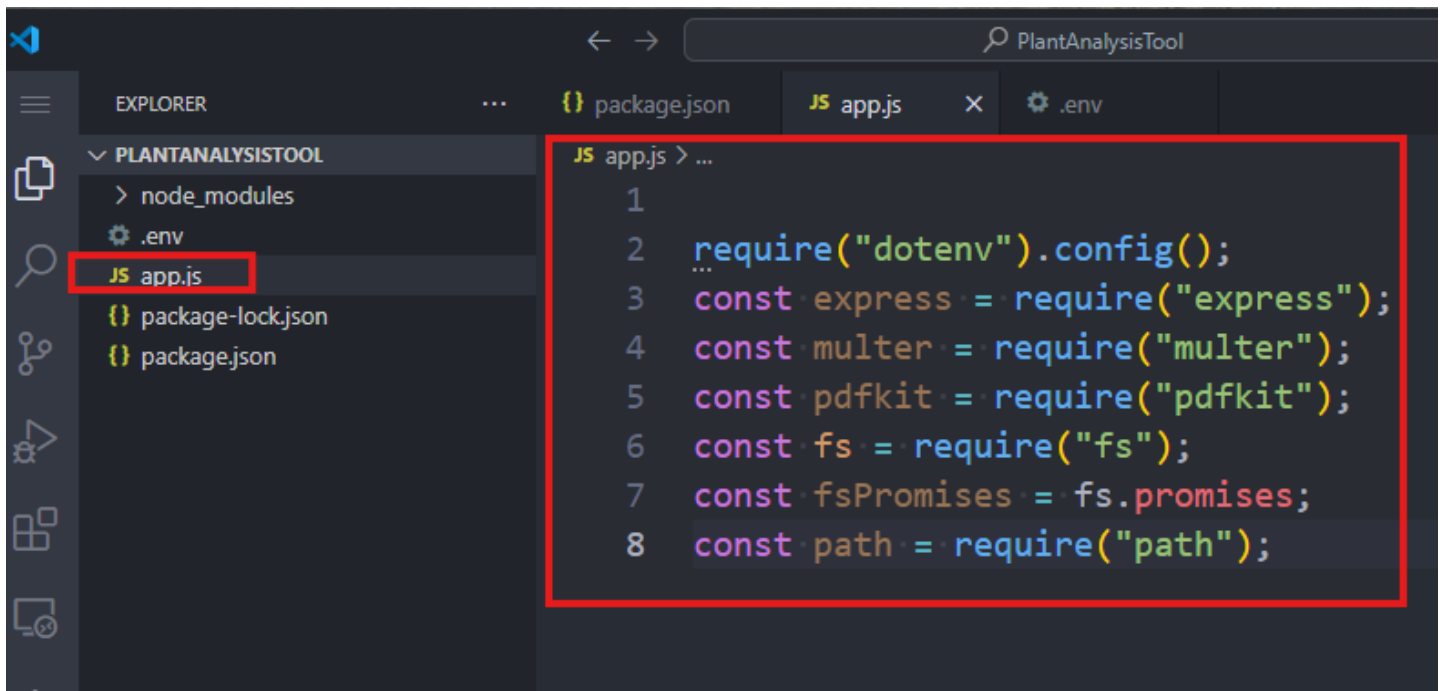
FROM:

```
1 {
2   "name": "plantanalysistool",
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 }
```

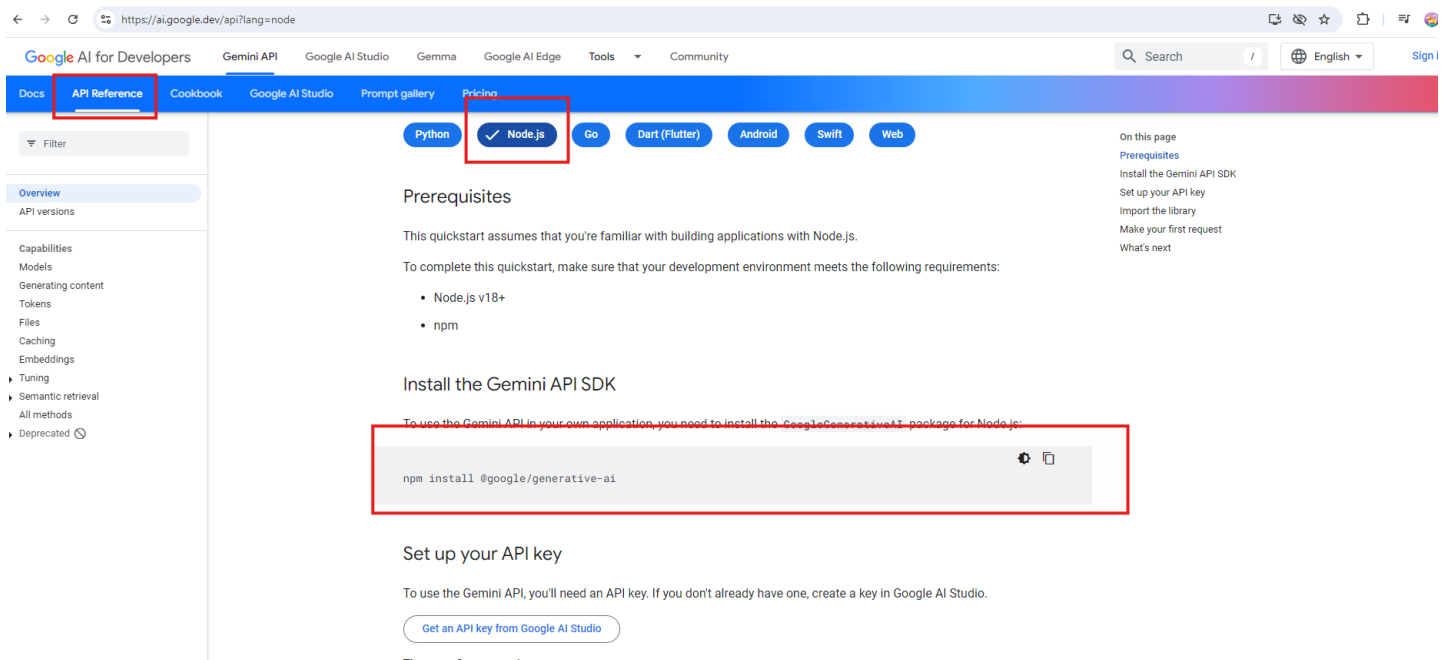
TO:

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

In the APPS.JS:

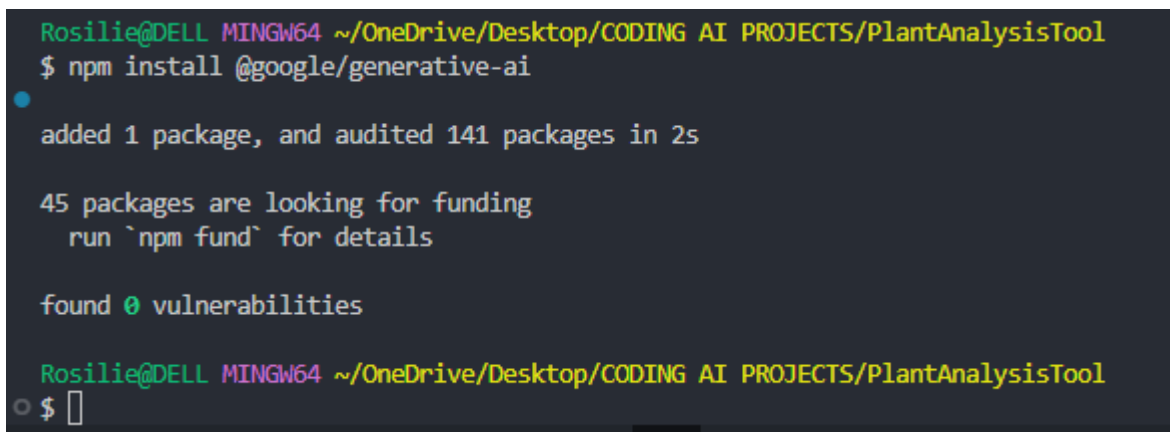


7. On Google AI Dashboard, select API REFERENCE, choose NODE.JS and get the code to install GEMINI API



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

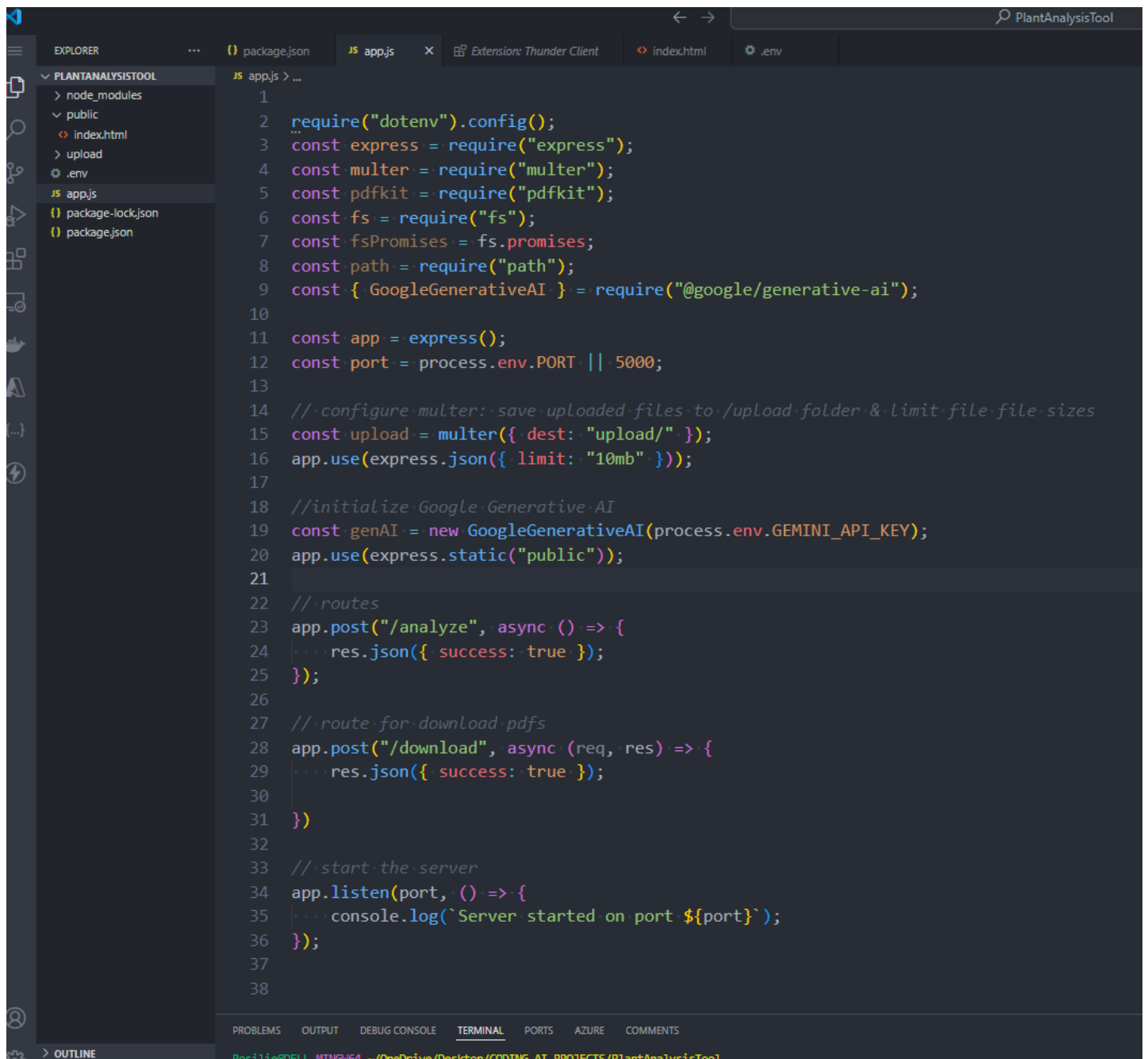
Import the library

Import the Google Generative AI library.

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

A screenshot of a Visual Studio Code editor window. The Explorer sidebar on the left shows a project named 'PLANTANALYSISTOOL' with files like '.env', 'app.js', 'package-lock.json', and 'package.json'. The 'app.js' file is selected and highlighted with a red box. The main editor area shows the content of 'app.js', which includes imports for 'dotenv', 'express', 'multer', 'pdfkit', 'fs', and 'path'. The line 'const { GoogleGenerativeAI } = require("@google/generative-ai");' is highlighted with a red box. The file explorer at the top shows 'package.json', 'app.js', and '.env'. The search bar at the top right contains 'PlantAnalysisTool'. The bottom right corner shows 'Ctrl+I Codeium'.

10. We updated our APPS.JS AS:

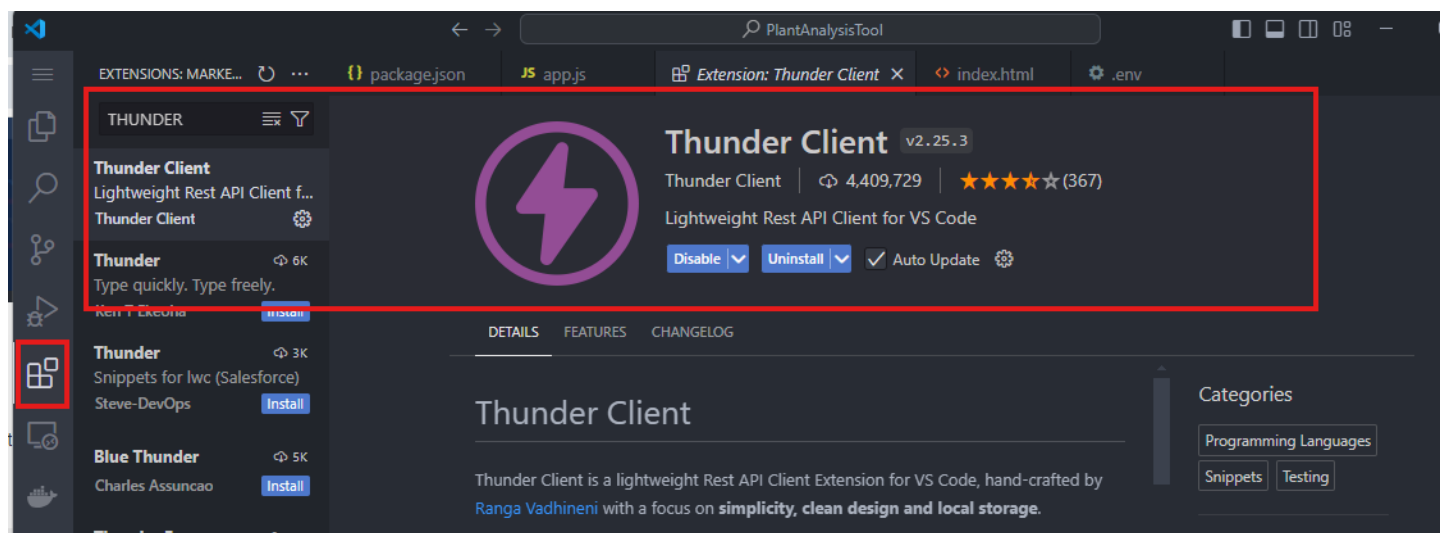


The screenshot shows a VS Code editor with a file named `app.js` open. The file contains JavaScript code for an Express.js application. The code includes dependencies for `dotenv`, `express`, `multer`, `pdfkit`, `fs`, `path`, and `@google/generative-ai`. It sets up an Express app, configures multer for file uploads, initializes the Google Generative AI client, and defines two routes: `/analyze` and `/download`. The server is started on port 5000.

```
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.

