	Platform as a Service configuration using Heroku

Aim:

To implement the Platform as a Service using Heroku by deploying the Web Application

Procedure:

1. Initializing a node project.

```
PS C:\Users\dayaa\OneDrive\Desktop\19IT019-PaaS> npm init -y
Wrote to C:\Users\dayaa\OneDrive\Desktop\19IT019-PaaS\package.json:

{
  "name": "19IT019-PaaS",
  "version": "1.0.0",
  "description": "",
  "main": "index.js",
  "scripts": {
    "test": "echo \"Error: no test specified\" && exit 1"
  },
  "keywords": [],
  "author": "",
  "license": "ISC"
}


PS C:\Users\dayaa\OneDrive\Desktop\19IT019-PaaS> []
```

2. Installing required node dependencies.

```
PS C:\Users\dayaa\OneDrive\Desktop\19IT019-PaaS> npm install express --save
npm notice created a lockfile as package-lock.json. You should commit this file.
npm WARN 19IT019-PaaS@1.0.0 No description
npm WARN 19IT019-PaaS@1.0.0 No repository field.

+ express@4.18.1
added 57 packages from 42 contributors and audited 57 packages in 10.878s

7 packages are looking for funding
  run `npm fund` for details

found 0 vulnerabilities

PS C:\Users\dayaa\OneDrive\Desktop\19IT019-PaaS> []
```
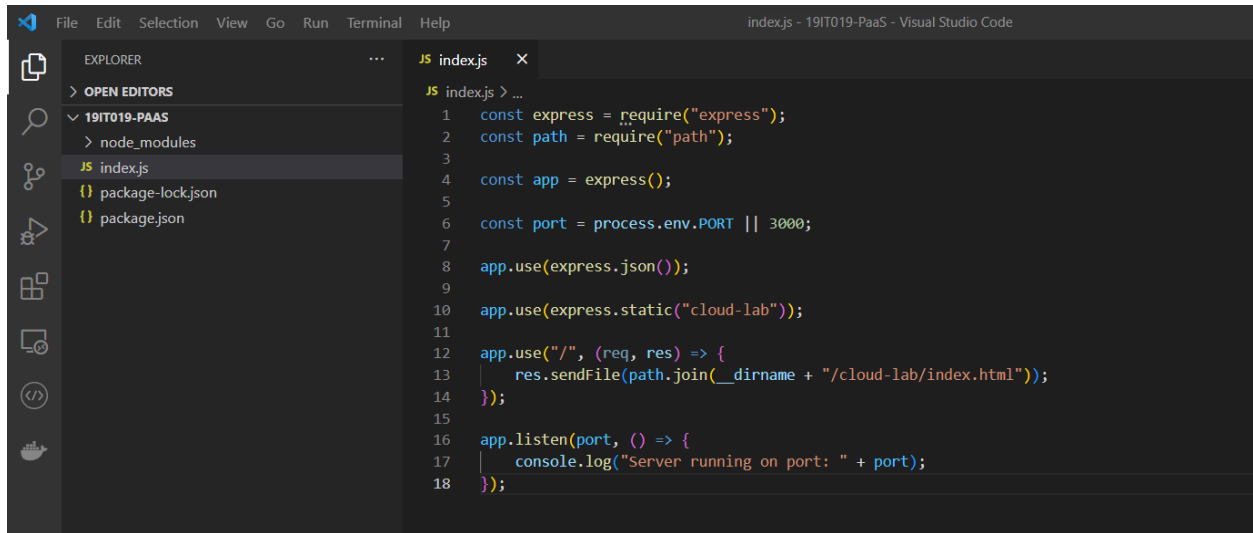
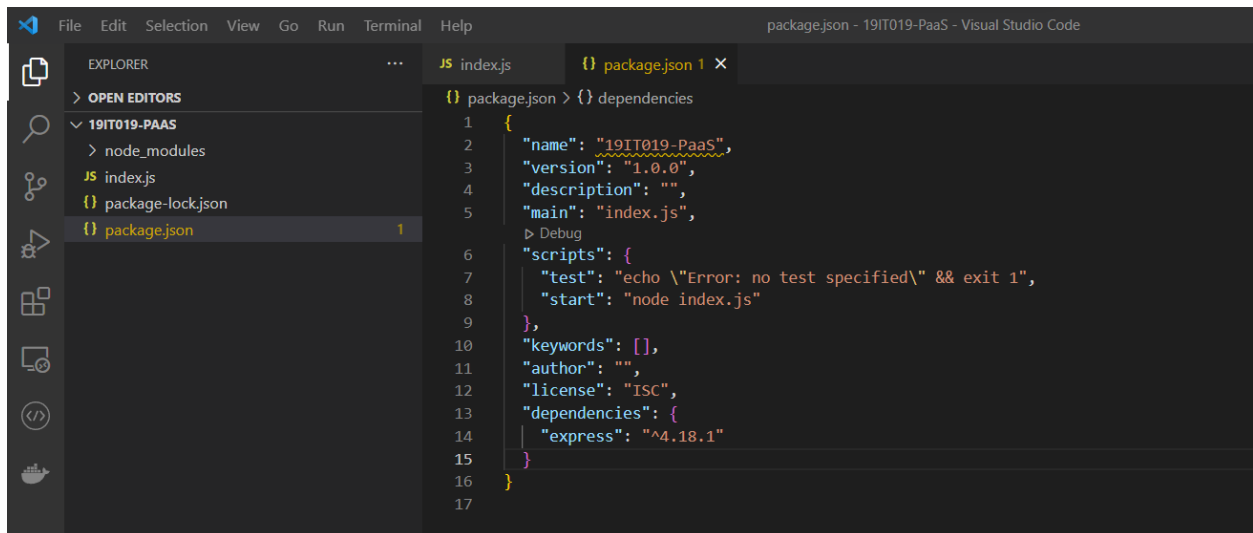3. The server code to run the backend.


```js
const express = require("express");
const path = require("path");

const app = express();

const port = process.env.PORT || 3000;

app.use(express.json());

app.use(express.static("cloud-lab"));

app.use("/", (req, res) => {
    res.sendFile(path.join(__dirname + "/cloud-lab/index.html"));
});

app.listen(port, () => {
    console.log("Server running on port: " + port);
});
```

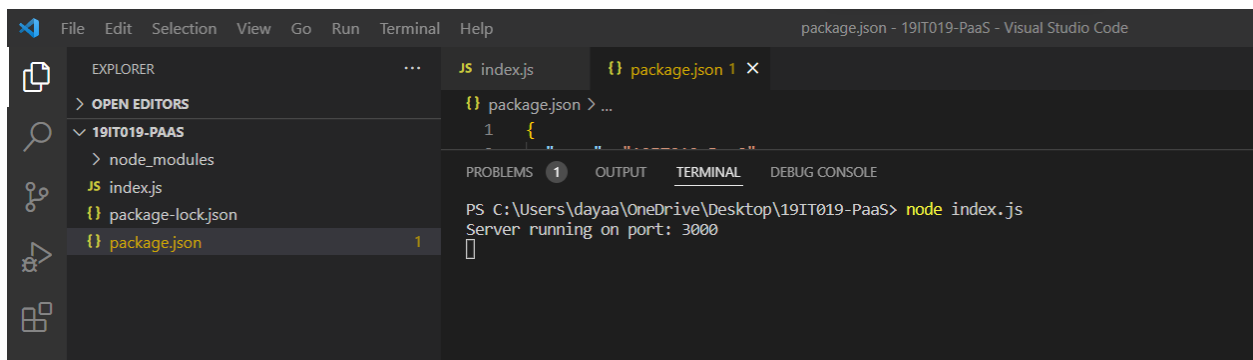4. Adding tags to package.json to run the code


```json
{
    "name": "19IT019-PaaS",
    "version": "1.0.0",
    "description": "",
    "main": "index.js",
    "scripts": {
        "test": "echo \"Error: no test specified\" && exit 1",
        "start": "node index.js"
    },
    "keywords": [],
    "author": "",
    "license": "ISC",
    "dependencies": {
        "express": "^4.18.1"
    }
}
```
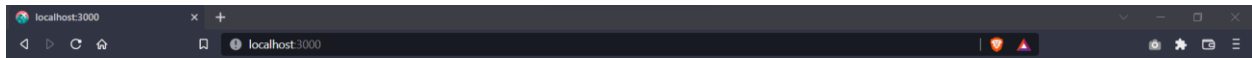
5. Testing out in local environment


```
PS C:\Users\dayaa\OneDrive\Desktop\19IT019-PaaS> node index.js
Server running on port: 3000
```
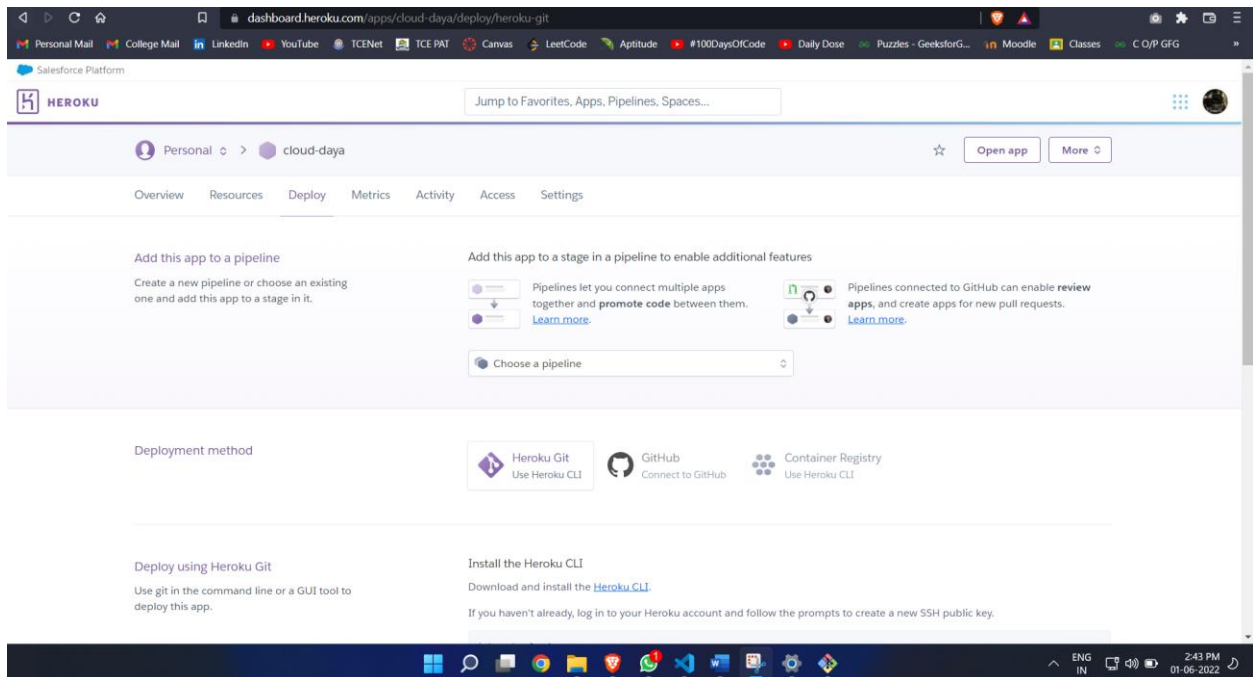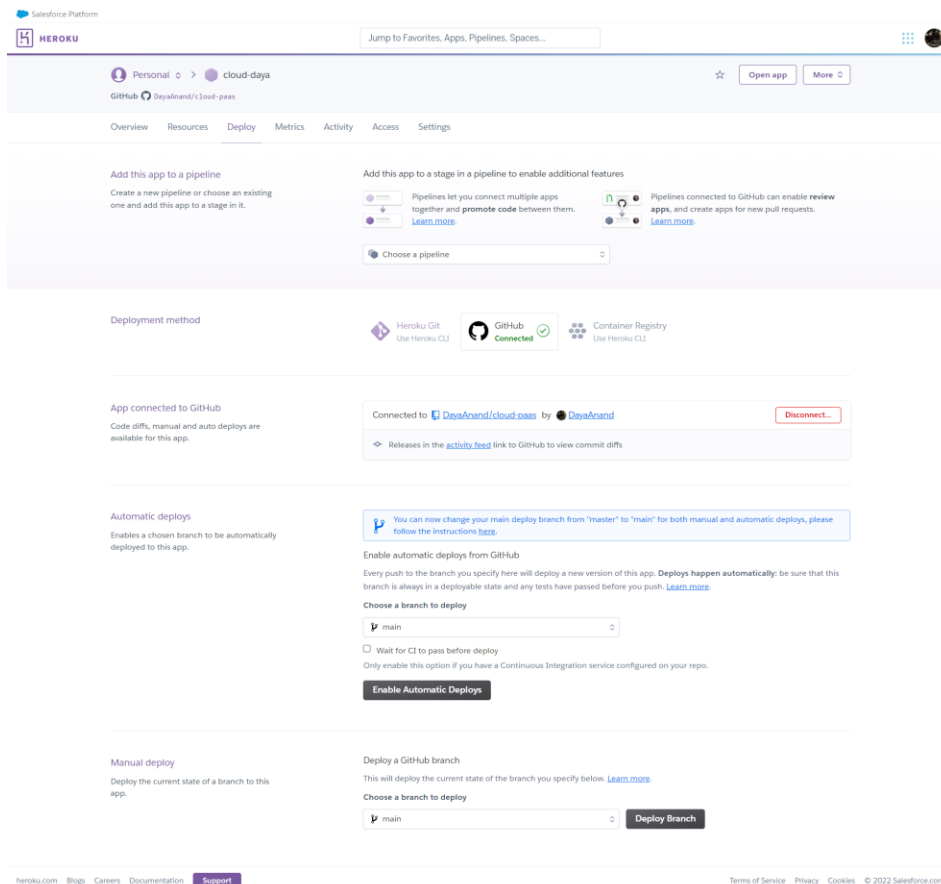
6. Pushing the code to GitHub.

```
PS C:\Users\dayaa\OneDrive\Desktop\19IT019-PaaS> git init
Initialized empty Git repository in C:/Users/dayaa/OneDrive/Desktop/19IT019-PaaS/.git/
PS C:\Users\dayaa\OneDrive\Desktop\19IT019-PaaS> git add .
warning: LF will be replaced by CRLF in package-lock.json.
The file will have its original line endings in your working directory
warning: LF will be replaced by CRLF in package.json.
The file will have its original line endings in your working directory
PS C:\Users\dayaa\OneDrive\Desktop\19IT019-PaaS> git commit -m "commit"
[master (root-commit) 5ff05cc] commit
 5 files changed, 484 insertions(+)
 create mode 100644 cloud-lab/.gitignore
 create mode 100644 cloud-lab/index.html
 create mode 100644 index.js
 create mode 100644 package-lock.json
 create mode 100644 package.json
PS C:\Users\dayaa\OneDrive\Desktop\19IT019-PaaS> git branch -M main
PS C:\Users\dayaa\OneDrive\Desktop\19IT019-PaaS> git remote add origin https://github.com/DayaAnand/cloud-paas.git
PS C:\Users\dayaa\OneDrive\Desktop\19IT019-PaaS> git push -u origin main
Enumerating objects: 8, done.
Counting objects: 100% (8/8), done.
Delta compression using up to 8 threads
Compressing objects: 100% (7/7), done.
Writing objects: 100% (8/8), 6.86 KiB | 1.14 MiB/s, done.
Total 8 (delta 0), reused 0 (delta 0), pack-reused 0
To https://github.com/DayaAnand/cloud-paas.git
 * [new branch]      main -> main
Branch 'main' set up to track remote branch 'main' from 'origin'.
PS C:\Users\dayaa\OneDrive\Desktop\19IT019-PaaS>
```
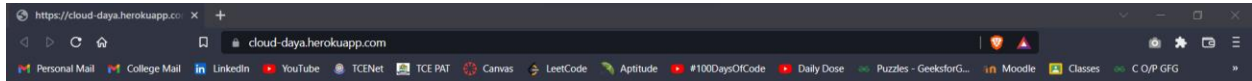
7. Creating an app in Heroku platform.

8. Once we connect it with GitHub, we are able to deploy it from there.

9. The deployed URL looks like this:

Cloud Lab

Result:

Thus, the concept of Platform as a Service in Heroku by deploying Web application is implemented Successfully