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1. **Task: Create and Run a Next.js Project**
   1.1. Setup Development Environment
      1.1.1. **Install Node.js and npm on your machine.**
      1.1.2. **Use Create Next App to initialize a new Next.js project.**

2. Project Structure Exploration

2.1. Open the newly created project in your code editor.

2.1.1. Identify and describe the purpose of the following files
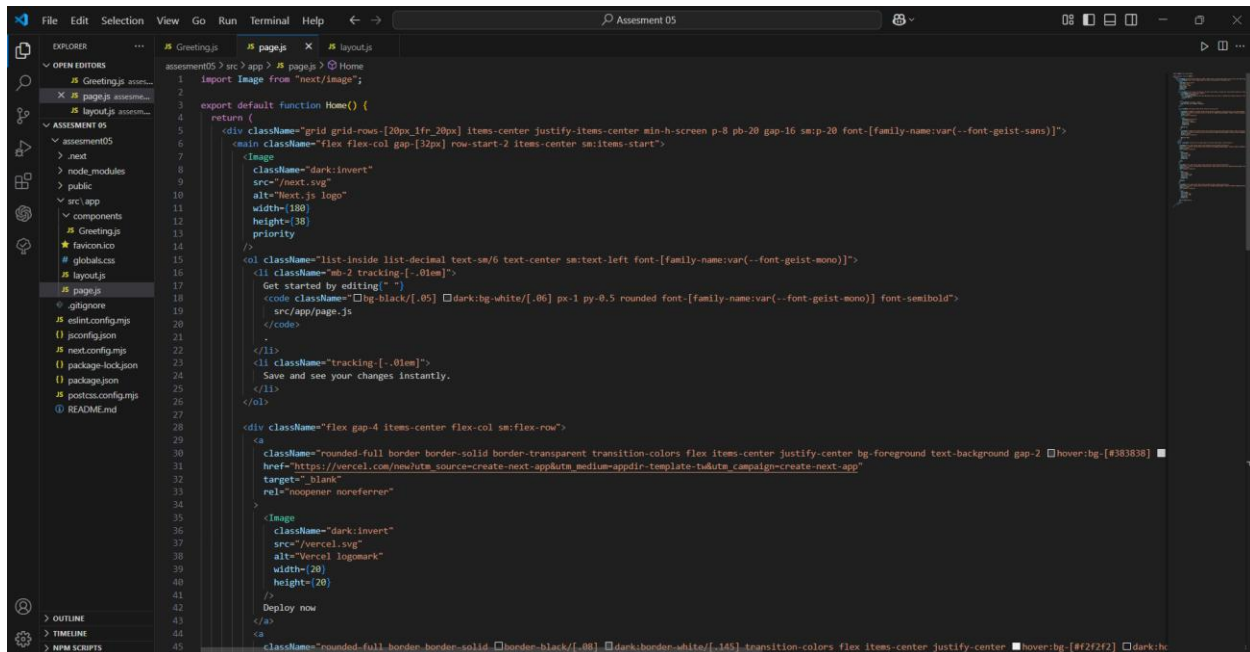
- package.json
- package-lock.json

```json
{
  "name": "mflix-dashboard",
  "version": "0.1.0",
  "private": true,
  "scripts": {
    "dev": "next dev --turbopack",
    "build": "next build",
    "start": "next start",
    "lint": "next lint"
  },
  "dependencies": {
    "react": "^19.0.0",
    "react-dom": "^19.0.0",
    "next": "15.2.1"
  },
  "devDependencies": {
    "@tailwindcss/postcss": "^4",
    "tailwindcss": "^4",
    "eslint": "^9",
    "eslint-config-next": "15.2.1",
    "@eslint/eslintrc": "^3"
  }
}
```

```json
{
  "name": "mflix-dashboard",
  "version": "0.1.0",
  "lockfileVersion": 3,
  "requires": true,
  "packages": {
    "": {
      "name": "mflix-dashboard",
      "version": "0.1.0",
      "dependencies": {
        "next": "15.2.1",
        "react": "^19.0.0",
        "react-dom": "^19.0.0"
      },
      "devDependencies": {
        "@eslint/eslintrc": "^3",
        "@tailwindcss/postcss": "^4",
        "eslint": "^9",
        "eslint-config-next": "15.2.1",
        "tailwindcss": "^4"
      }
    },
    "node_modules/@alloc/quick-lru": {
      "version": "5.2.0",
      "resolved": "https://registry.npmjs.org/@alloc/quick-lru/-/quick-lru-5.2.0.tgz",
      "integrity": "sha512-UrcABB+4bUrFABwbluTIBErXwvbsU/V7TZWfmbgJfbkwiBuziS9gxdODUyuiecfdGQ85jg1MW6juS3+z5TsKLw==",
      "dev": true,
      "license": "MIT",
      "engines": {
        "node": ">=10"
      },
      "funding": {
        "url": "https://github.com/sponsors/sindresorhus"
      }
    },
    "node_modules/@emnapi/runtime": {
      "version": "1.3.1",
      "resolved": "https://registry.npmjs.org/@emnapi/runtime/-/runtime-1.3.1.tgz",
      "integrity": "sha512-kEBmG8KyqtxJZv+ygbEim+KCGtIq1fC22Ms3S4ziXmYKm8uyoLX0MHONVKwp+9opg390VaKRNt4a7A9NwmpNhw==",
      "license": "MIT",
      "optional": true,
      "dependencies": {
        "tslib": "^2.4.0"
      }
    },
```

3. JSX Implementation (Optional)

    3.1. Create a new component using JSX.

    3.2. Integrate the component into the main page of your Next.js project.

4. Node.js and npm Usage

    4.1. Explain the role of Node.js in your project.

- Runs JavaScript outside the browser.
- Helps manage dependencies and execute server-side code in Next.js.

    4.2. List and describe at least three npm commands you used during the setup and development process.

- npm install → Installs dependencies.
- npm run dev → Starts the development server.
- npm install <package> → Installs third-party libraries.

5. Dependencies Management

5.1. Identify the dependencies and devDependencies in your package.json.

- Dependencies: Required for running the app (e.g., react, next).
- devDependencies: Only needed during development (e.g., eslint).

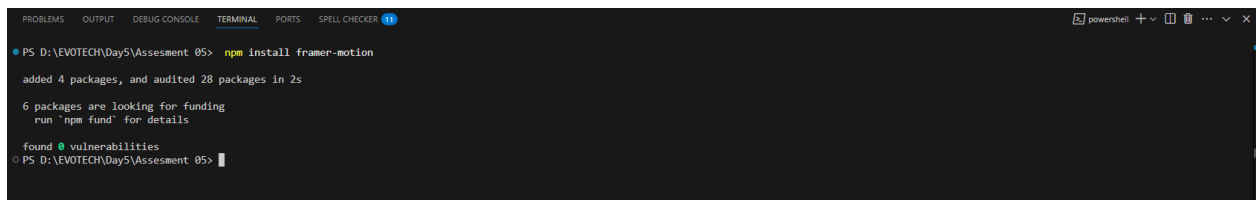**5.2. Explain the difference between dependencies and devDependencies.**

- dependencies → Needed for production.
- devDependencies → Only needed for development.

5.3. Research and provide a brief history of React.js and Next.js, including key contributors and milestones.

➢ React.js (2013),
- Created by Facebook (Meta).
- Key contributor: Jordan Walke.
- Introduced Virtual DOM for faster UI updates.

➢ Next.js (2016),
- Created by Vercel (formerly Zeit).
- Adds server-side rendering (SSR) and static site generation (SSG) to React.

5.4. Install a third-party library that will be useful. (Ex: ky, clsx, framer-motion)
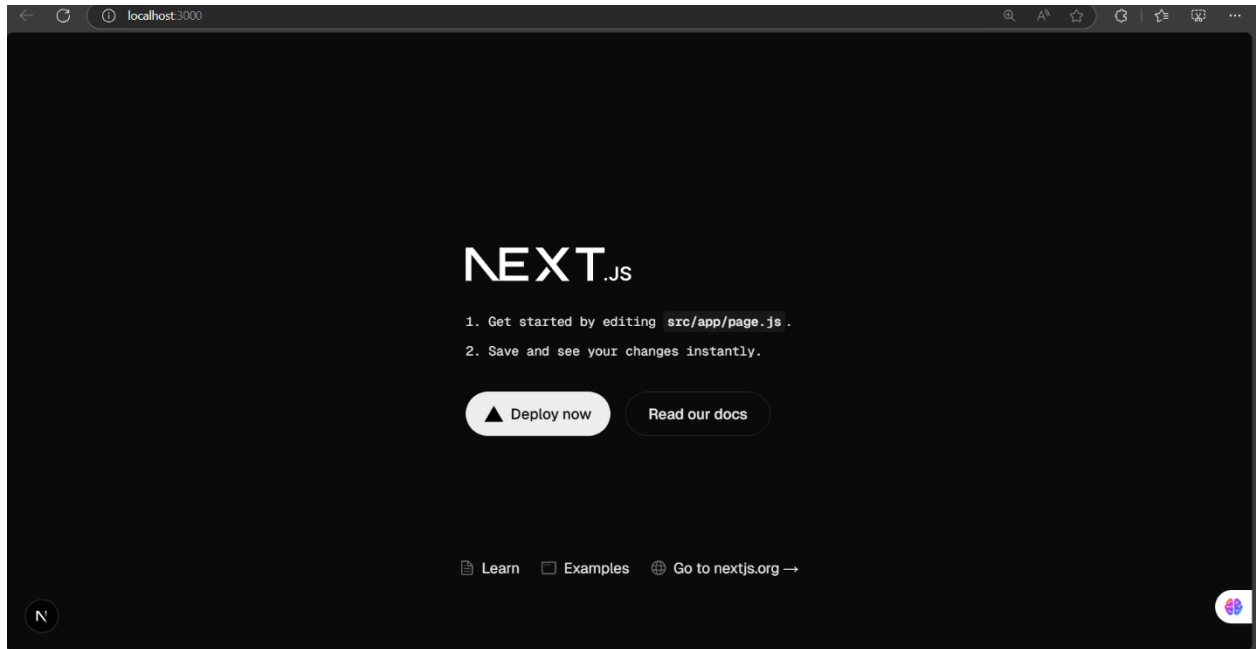
➢ npm install framer-motion

6. **Running the Project**

   6.1. Start the development server using the appropriate npm command.
   - npm run dev

   6.2. Access your project in the browser and verify it runs correctly.
   - Open http://localhost:3000 in a browser.

   6.3. Document any issues you encountered and how you resolved them.
   - Error: Port 3000 in use → Stop other running apps (npx kill-port 3000).
   - Module not found → Run npm install.