Node JS and Express

What is Node ?

Node is a "JavaScript runtime".

When JavaScript was first created, it was designed to run in the browser. This means that it was impossible to use JavaScript to write any kind of program that was not a website.

Node brings JavaScript out of browser-land. This allows developers to use JavaScript to accomplish pretty much anything that other popular server-side languages such as Ruby, PHP, C# and Python can do. So, at its most basic level, Node allows you to run JavaScript code on a machine such as your local computer or a server without having to go through a web browser.

Express

Express is the most popular Node.js web framework, and is the underlying library for a number of other popular Node.js frameworks. It provides mechanisms to:

- Write handlers for requests with different HTTP verbs at different URL paths (routes).
- Integrate with "view" rendering engines in order to generate responses by inserting data into templates.
- Set common web application settings like the port to use for connecting, and the location of templates that are used for rendering the response.
- Add additional request processing "middleware" at any point within the request handling pipeline.

Why do we need Express ?

- Express allows us to create the same application faster than node.js
- We need to write less code to achieve the same thing
- Complexity is less than that of Node.js

Creating a Web Server in Node.JS

```javascript
import http from 'http'
import url from 'url'

const app = http.createServer((request, response) => {

    const parseUrl = url.parse(request.url, true)
    const pathname = parseUrl.pathname

    if(pathname == '/' && request.method === 'GET'){
        response.end('<h1>Hello World</h1>')
        response.writeHead(200, {'Content-Type': 'text/html'})
    } else if( pathname === '/about' && request.method === 'GET'){
        response.writeHead(200, {'Content-Type': 'text/html'})
        response.end('<h1>About</h1>')
    }
})

app.listen(3000, () => {
    console.log("Server is running on port 3000")
})
```

Creating the same Web Server using Express

```
1   import express from 'express'
2
3   const app = express()
4
5   app.get('/', (request, response) => {
6       response.send('<h1>Hello World</h1>')
7   })
8
9   app.get('/about', (request, response) => {
10      response.send('<h1>About</h1>')
11  })
12
13  app.listen(3000, () => {
14      console.log("Server is running on port 3000")
15  })
```