**EC7020: COMPUTER AND NETWORK SECURITY**

**LABORATORY EXPERIMENT: 03**

**WEB SECURITY**

Reg No: 15/11/2023, from 13:00 to 16:00

**AIM**: Students will learn the fundamental principles of computer and network security by studying attacks on computer systems, networks, and the Web. Students will learn how those attacks work and how to prevent and detect them.

**OBJECTIVES:**

* To understand Hypertext Transfer Protocol Secure.
* To understand the cryptograph usage in the secure protocol.
* To understand the fundamental principles of API

**Following are the tasks for this lab session.**

* + 1. You are requested to implement a NodeJS application with HTTP endpoints and recreate the application with HTTPS endpoints.
    2. You have to analyze HTTP and HTTPS using Wireshark.

**References**

1. Node.js tutorial in Visual Studio Code
   1. https://code.visualstudio.com/docs/nodejs/nodejs-tutorial
2. How to create a REST API with Node.js and Express
   1. <https://blog.postman.com/how-to-create-a-rest-api-with-node-js-and-express/>
3. Routing ExpressJs
   1. <https://expressjs.com/en/guide/routing.html>
4. Creating HTTPS endpoint
   1. <https://adamtheautomator.com/https-nodejs/>
5. How to Secure Your NodeJS App with HTTPS and SSL Certificates
   1. <https://medium.com/@anandam00/how-to-secure-your-nodejs-app-with-https-and-ssl-certificates-e3afcd4533e9>
6. How to Create an HTTPS NodeJS Web Service with Express
   1. <https://adamtheautomator.com/https-nodejs/>
7. HTTP/HTTPS Analysis Using Wireshark
   1. <https://medium.com/devops-world/http-https-analysis-using-wireshark-cbe07c23520>

**Discussion** (Write the analysis of this lab experiment)

**Conclusion** (Include the concise summary of those which have already been presented in the report)

**This is individual work. Write your answers in this Lab Instruction sheet with the file name EC7020\_L1\_YourRegNo. Submit it as a pdf document and archive all files and upload to the teams. Same name conversion applies for the Zip.**