Introduction to Node JS (LFW -111x)

Module 1: Introduction to Node.js

- Overview of Node.js and its key features.
- Use cases and advantages of Node.js.
- The Node.js ecosystem.
- Installing Node.js and npm on Linux.
- Using package.json for project management.
- Choosing an integrated development environment (IDE).

Module 2: JavaScript Fundamentals for Node.js

- How Node.js utilizes JavaScript.
- Event-driven, non-blocking I/O.
- The role of the V8 JavaScript engine.
- Understanding callbacks and the callback pattern.
- Introduction to Promises and async/await.
- Error handling in Node.js applications.

Module 3: Core Modules and File I/O

- Overview of built-in Node.js modules (e.g., fs, http, path).
- How to use them in your Linux-based applications.
- Reading and writing files.
- Managing directories and file streams.
- Using buffers for efficient data manipulation.

Module 4: Building Web Applications with Node.js

- Building a basic HTTP server using Node.js.
- Handling HTTP requests and responses.
- Routing and serving static files in a Linux environment.
- Understanding REST architecture.
- Creating RESTful APIs using Node.js and Express.js.
- Handling HTTP methods (GET, POST, PUT, DELETE) in a Linux context.

Module 5: Working with Databases

- Connecting to databases (e.g., MySQL, Mongo DB) with Node.js.
- Performing database operations (CRUD).

Module 6: Modular Programming in Node.js on Linux

- Creating and using custom modules.
- Organizing and structuring Node.js applications.
- The CommonJS module system in a Linux context.