torilo ACADEMY

SOFTWARE DEVELOPMENT
(Full-Stack Python)

SYLLABUS

Build your tomorrow today

Introduction

The current growth in the adoption of technology has also led to the rise in demand for functional applications that address or solve challenges.

In this course you will learn about architectures, frameworks and how to maintain and test an application successfully using NODE, an in-demand programming language. You will also learn about powerful ways to develop web applications while storing and manipulating complex data.

At Torilo Academy Training Centre, you will learn this with practical application, at the end of the course, you would have an application that addresses a specific need.

Course Introduction

1. How the internet works
2. Setting up your Integrated Development Enviroment(IDE)
3. Technologies to use

Dive into HTML

The main tool that will be used is Visual Studio Code
1. What is HTML?
2. The structure of an HTML document
3. Starting to fill the structure
4. Images & attributes
5. URLs, Links & iframing
6. Practice Exercise

Formatting with CSS

1. Getting started with CSS
2. Starting to make our webpage beautiful: text
3. Colors
4. Classes and ID's
5. The CSS box model
6. Building a simple layout
7. Polishing our blog post
8. Relative vs Absolute
9. Practice Exercise

Responsive Web Design with media queries &bootstrap 4

1. Bootstrap Installation
2. Responsive Navbar & nav colours
3. Containers, media breakpoint & grid in
   Bootstrap 4
4. Styling your pages with Icons

Killer Web Projects

1. The Steps in Analysing & Designing
   Web pages
2. Git
3. Project 1: Landing Page
4. Project 2: Facebook Clone

Modern Javascript

1. A brief introduction to Javascript
2. Variables & Data Types
3. Basic Operators
4. DOM Manipulations & events
5. If/else Statements
6. Boolean Logic
7. Arrays
8. Functions (Arrow functions)
9. Practice Exercise

Course Objectives

- Understand the JavaScript and technical concepts behind Node JS
- Structure a Node application in modules
- Understand and use the Event Emitter
- Understand Buffers, Streams, and Pipes
- Build a Web Server in Node and understand how it really works
- Use npm and manage node packages
- Build a web application and API more easily using Express
- Connect to a SQL or Mongo database in Node
- Understand how the MERN stack works
- Prerequisite / Target Audience:
- Basic Knowledge of JavaScript and OOPS
- Knowledge in async programming will be added advantage

Introduction to Node JS

In this module, you learn What is Node JS and advantages of Node JS and How Node JS Works and the difference between the traditional web server and what are the limitations of the traditional web server model.

Setup Dev Environment

- In this chapter, you will learn about the tools required and steps to setup development environment to develop a
- Node.js application and to work with the REPL to work with the Console.
- Install Node.js on Windows
- Installing in mac os
- Working in REPL
- Node JS Console

Node JS Modules

In this chapter, you will know what a module is, functions and examples. And achieving modularity and separation of concern with the NodeJS Modules.
Functions
- Buffer
- Module
- Module Types
- Core Modules
- Local Modules
- Module.Exports

Node Package Manager

This deals with working with npm to install and update packages and Updating your package to the NPM and managing and updating your current Packages.

- What is NPM
- Installing Packages Locally
- Adding dependency in package.json
- Installing packages globally
- Updating packages

File System

In this module, we will work with files, reading, writing, updating files, and the concept of chunks, buffers, and uploading files synchronously and asynchronously.
Fs.readFile

- Writing a File
- Writing a file asynchronously
- Opening a file
- Deleting a file
- Other IO Operations

Events

In this chapter you work with the events in Node JS, and the significance of the events, writing your own events because Node is an event driven framework.

- EventEmitter class
- Returning event emitter
- Inhering events

Express.JS

In this chapter you will learn how to use express framework to create web applications. Express is the most popular framework to build efficient web applications with minimum coding.

- Configuring routes
- Creating and working with express API

Database connectivity

In this chapter you will learn how to connect to SQL Server and perform CRUD operations. It is like ADO.net for MS.NET applications and JDBC for java. We will use different Node JS modules to

- connect with the database.
- Connection string
- Configuring
- Working with select command
- Updating records
- Deleting records

Creating Web server

In this chapter we will learn creating web server,
handling GET, POST,PUT and Delete requests and
listening to
certain port numbers and handling routing with
- basic web servers.
- Creating web server
- Handling http requests
- Sending requests

Debugging Node JS Application

In this chapter you will learn how to debug node js
application. Debugging is a process of tracing the
bugs and
performance issues to optimise your code.
- Core Node JS debugger
- Debugging with Visual Studio

Serving Static Resources

In this chapter you will learn how to serve static
html pages to the browser, and serving other file
formats and restricting certain files.
In this you will serve static resources with built in
middleware.
- Serving static files
- Working with middle ware

Creating Web server

In this chapter you learn how use template engines to perform 2 way data binding and appending dynamic data to the webpage and different view engines and their syntax.

- Why Template Engine
- What is Jade
- What is vash