

Frontend - Web Development

➤ **HTML5**

Module 1

- Introduction HTML
- Structure
- Elements
- Headings
- Paragraph

Exercises

Run html file in the browser with containing heading and paragraph tag in it.

Module 2

- Title Tag
- Comments
- Indentation
- HTML5 Semantic Tags, ex-(header, footer, aside, main etc)
- Attributes (class, Id)
- Style Attribute
- Web layout

Exercises

- Create an index.html file
- Added your document Name
- Create a web layout using semantic tags.
- Add a Person name and description using relevant tags in main section.

- Highlight sections using style attribute.
- Also make sure to add comments and code indented properly.
- Give relevant class names to every tag.

Module 3

- Buttons
- Links
- Form
- Input Tag and Types
- Form elements

Exercises

- ✓ Create a form using fieldset with below fields:-
 - ✓ Name
 - ✓ Choose Gender
 - ✓ Email
 - ✓ Phone Number
 - ✓ Suggested Item Field
 - ✓ Select Categories
 - ✓ Your Message
 - ✓ Add check for (I Agreed, Term & Condition)
 - ✓ Submit

Module 4

- Image Tag
- Video Tag
- Audio Tag
- Iframe

Exercises

1. Create a small collage using image tag
2. Embed a YouTube video
3. Add your local video to your html file.
4. Add a mp3 file.

Module 5

- Table and its elements
- Lists and its elements
- Symbols and entities

Exercises

1. Create an employee details table.
2. Create a shopping ordered list with unordered list items with symbols.

Module 6

- Favicon
- Meta tags
- Script tag
- Style tag
- CDN

Exercises

1. Add favicon in html file
2. Add Meta content into it.
3. Add style tag for styling
4. Add script tag for JavaScript
5. Add third party icons using CDN Link.

➤ CSS3

Module 1

- Introduction CSS

- Syntax
- Types
- Selectors
- Color
- Background-color
- Margin
- Padding
- Border
- Height / Width
- Box Model

Exercises

- Create style.css file and import in html
- Create a box model diagram using html tags and css for styling.

Module 2

- Links
- List
- Table

Exercises

1. Create List of top 10 website containing links of mentioned website.
2. Create a dark theme table with highlighted head.

Module 3

- Display
- Max-width / Max-height
- Overflow

Exercises

Create a grid box layout and make it center also added content into it with fixed size.

Module 4

- Position
- Z-index
- Opacity
- Font size
- Units

Exercises

Create a frame having image with content on it at center position, with including Tile, Description and Button on it. And button will be half transparent. Also the title size is greater than description.

Module 5

- Pseudo-class
- Pseudo-element
- Specificity
- Important
- Math function

Exercises

Create Card having title, description and button.

Button with hover effect on it. And give card width with Math function.

➤ JavaScript

Module 1

- Introduction
- Syntax
- Comments
- Statements
- Variables
- Data types
- Operators
- Arithmetic
- Output

Exercises

Create main.js file and declare a two variable and assign a value into it and show addition of both variable in console and alert.

Module 2

- String
- String methods
- String search
- String template

Exercises

1. Write a student details paragraph and replace the student name and roll no. and pass, age & roll no. by using template literals.
2. And find the index of student name and log in console.
3. Capitalize student name, school name, class, subject and roll no.

Module 3

- Arrays
- Arrays methods
- Array sort
- Array iteration
- JavaScript OOPs
- JavaScript Events
- JavaScript ES6 concepts

Exercises

1. Stopwatch
2. To-do list

BackEnd-Web Development

Node Concepts

- Introduction of Node.js
- Installation Node.js and NPM
- Node.js NPM
- Node.js Global Objects
- Node.js Timer
- Node.js Error
- Node.js Crypto

- Node.js Buffers
- Node.js Streams
- Node.js File System(FS)
- Node.js Path
- Node.js Query string
- Node.js Web Module
- Node.js Callback
- Node.js Mongoose
- Installation
- Connect to MongoDB
- Define a Model
- Insert single Document to MongoDB
- Insert multiple Document to MongoDB
- Express
 - a) Express.js
 - b) Install Express.js
 - c) Express.js Request
 - d) Express.js Response
 - e) Express.js Get
 - f) Express.js Post
 - g) Express.js Routing
 - h) Express.js Cookies
 - i) Express.js File Upload
 - j) Express.js Middleware
 - k) Express.js Scaffolding
 - l) Express.js Template

Node JS with MongoDB

- Node.js Create Connection with MongoDB
- Node.js MongoDB Create Database
- Node.js MongoDB Create Collection

- Node.js MongoDB Insert Record
- Node.js MongoDB Select Record
- Node.js MongoDB Filter Query
- Node.js MongoDB Sorting
- Node.js MongoDB Remove

Exercise 1:

Create in CRUD Operation -

User Section -

- ✓ Create Register API
- ✓ Create Login API used in token and send in mail .
- ✓ Create Update API particular selected fields updated.
- ✓ Create Details List API used in pagination, searching, sorting by show list
- ✓ Create Delete API.

2) **File Section -**

- ✓ Create single Image upload and multiple image upload,
- ✓ Create Update image API
- ✓ Create Delete API.

Exercise 2:-

➤ Authentication flow:

Currently, we are creating only one token after successful login, now you have to create two tokens one will be an access token other will be refresh token. The access token will be valid for a few mins and the refresh token will be valid for few days.

Users can generate new access token with the help of that refresh token.

Exercise 3: -

- Create in E-commerce website.