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# Complete Web Development Bootcamp

BATCH 13

৬ মাসের সুপার গাইডেড Bootcamp, যেকোনো সমস্যায় ক্রেজি  
লেভেলের ২৪/৭ Support, ৩০+ প্রজেক্ট, ও প্রিমিয়াম জব প্লেসমেন্ট  
সাপোর্ট, যার মাধ্যমে গত ৫ বছরে ৫৪০০+ শিক্ষার্থী সফলভাবে  
ক্যারিয়ার শুরু করেছে।



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**MILESTONE****WELCOME TO THE WEB COURSE****Module 0: Welcome to the Course**

- 0-1: Welcome Message

**MILESTONE****0****WHAT MATTERS IN THIS COURSE?****Module 0: Orientation - Install Necessary Tools**

- 0-1 How to access the course
- 0-2 Time management and building your own routine
- 0-3 Everything you need to know about assignments
- 0-5 Install Visual Studio Code, Node, Git, GitHub
- 0-7 How to use Helpdesk
- 0-8 Actionable Dashboard, Certificate, and AI Integration
- 0-9 How to get the best out of this course and SCIC

**Module 0.5: Warm-Up Module**

- 0\_5-1 File organisation, its type, and taskbar
- 0\_5-2 Video Conferencing Tools- Zoom
- 0\_5-3 Get Support with Google Meet

**MILESTONE****1****WEB FOUNDATION  
(HTML, CSS) AND GITHUB****যা যা করতে পারবে**

- ওয়েব পেজের গঠন কীভাবে হয়
- কন্টেন্ট ফর্ম্যাটিং
- ফর্ম বানাতে পারবে
- বক্স এবং লেআউট ফর্ম্যাটিং

- Flexbox দিয়ে রেস্পন্সিভ ডিজাইন
- Git দিয়ে প্রজেক্ট সেভ করা
- GitHub এ প্রজেক্ট লাইভ করা
- নিজের পোর্টফোলিও ডিজাইন করা



**MILESTONE****1**

# WEB FOUNDATION (HTML, CSS) AND GITHUB

## **Module 1: Learn and Explore HTML**

- 1-0 Roadmap of Milestone-1
- 1-1 [HTML] Explore VSCode and what is HTML
- 1-2 HTML Text: Creating paragraphs, Text formatting (b, i, strong, em)
- 1-3 HTML Text: Headings, small, and inline vs block (div, span)
- 1-4 HTML List: Container tag, list tags (ol, ul, li), line break, button
- 1-5 HTML Link: Creating links with the anchor tag and its attributes (href, target)
- 1-6 HTML Image: Display online image, local image, folder image
- 1-7 HTML Form: input types, buttons, select, option, login form
- 1-8 HTML Structure: Doctype, html, head, meta, title, body
- 1-9 HTML Overview: Basic HTML concepts and practice task
- 1-10 HTML Lists (Animated)
- Quiz

## **Module 2: Learn and Explore CSS**

- Text\_Instruction
- 2-1 Introduction to CSS and CSS types (inline, internal, external)
- 2-2 CSS Text: text color, inline and embedded style, CSS measuring units
- 2-3 CSS Selectors (basic) id, class, universal, tags, grouping, attribute, id vs class
- 2-4 Mixed Selectors: multiple classes, combined selectors, attribute, div, span
- 2-5 CSS Sizing: Border, border-radius, Margin, and different ways to set margin
- 2-6 CSS Box model: Padding, border, content, height, width
- 2-7 CSS Display: none, hidden, inline, block, inline-block, box-shadow
- 2-8 CSS Background: color, image, repeat, position, size, relative image path
- 2-9 CSS Overview: Module Summary and Practice Task
- 2-10 CSS Selector (Animated)
- Quiz

**MILESTONE****1**

# WEB FOUNDATION (HTML, CSS) AND GITHUB

## **Module 3: Git, Source Control, GitHub and Hosting**

- Text\_Instruction
- 3-1 What is version control system, Git vs GitHub
- 3-2 Create a GitHub repository and explore GitHub
- 3-3 Introduction to basic commands: git init, git add, git commit
- 3-3-2 (Mac and Linux only) set GitHub account for the
- 3-4 (Optional) VS Code terminal to set up basic GitHub and GitHub Desktop
- 3-5 Send small incremental changes to GitHub with git push
- 3-6 Common GitHub-related issues for beginners
- 3-7 Module Summary and basic git workflow
- Text instruction: Disclaimer for advanced topics.
- 3-8 [Advanced] Multiple developer workflow contributor on Private Repo
- 3-9 [Advanced ] git branch, pull request, merge
- Quiz

## **Module 4: More about HTML & CSS**

- Text\_Instruction
- 4-1 HTML5 vs HTML, Audio, video, YouTube video, embed iframe
- 4-2 Explore HTML5: nav, main, header, footer, section, article,
- 4-3 HTML Form: label fieldset legend radio checkbox textarea reset submit
- 4-4 HTML Table: Table, tr, th, td, caption, colspan, thead, tbody, tfoot
- 4-5 CSS Flex Layout Basic Overview
- 4-6 Recap CSS Box Model & auto property
- 4-7 Navigation: Simple navbar and internal navigation among files
- 4-8 Hero: Create a Simple Banner with flexbox
- 4-9 Card: Create Some Card sections and style [ Design]
- 4-10 HTML Overview: Summary, practice task
- Quiz

MILESTONE

1

# WEB FOUNDATION (HTML, CSS) AND GITHUB

## **Module 5: Build a beautiful portfolio website**

- Text\_Instruction
- 5-1 Module Introduction, project overview, and git setup
- 5-2 Set Google fonts and set navbar and primary colour
- 5-3 Banner content and portfolio image using flex
- 5-4 Simple image background, and about section
- 5-5 Use Flexbox for about info and start what I am section
- 5-6 Technical skills, flex gap and how to apply flex
- 5-7 Resume section Education and Experience area
- 5-8 Style contact form and GitHub page hosting, live link
- 5-9 Module summary and Font Awesome
- Quiz

## **Module 6: Assignment 1**

- Text Instruction
- Video Instruction
- 6\_1: Rules and Requirement Explanation
- 6\_2 : Deadline & Submission Guideline

## **Module 6.5: (Bonus) Pseudo-class, Elements, Position**

- 6\_5-1 Pseudo-class hover, visited, focus
- 6\_5-2 First child, nth child, pseudo-element before after
- 6\_5-3 Position static relative absolute fixed sticky z-index

[Go to the next page]

**MILESTONE****2**

## RESPONSIVE DESIGN, LAYOUTS & FRAMEWORKS

**যা যা করতে পারবে**

 মোবাইল-কম্পিউটার রেস্পন্সিভ ডিজাইন

 Flexbox দিয়ে প্রফেশনাল লেআউট

 Grid দিয়ে পেজ সাজানো

 ট্যাবলেট ভিট তৈরি

 Responsive মেনু তৈরি করতে পারবে

 Tailwind দিয়ে দ্রুত ডিজাইন

 লেআউট বানাবে



### Module 7: Responsive Website Layout

- 7-0 Roadmap of Milestone 2
- 7-1 CSS measuring units and responsive design explanation
- 7-2 Flexbox, flex-direction, justify-content, align-items
- 7-3 Create login form and flexible nav using Flexbox
- 7-4 CSS Grid layout template columns grid-gap
- 7-5 Create a calendar using CSS grid and flexbox
- 7-6 Explore Basic Responsiveness using Simple Media query
- 7-7 Responsive Media Query for small, medium, and large devices
- 7-8 Seven things you need to do to make a website responsive
- 7-9 Module Summary & Practice: Responsive CSS Layout Summary & Practice task
- 7-10 CSS Grid (Animated Video)

[Go to the next page]

**MILESTONE****2****RESPONSIVE DESIGN, LAYOUTS & FRAMEWORKS****Module 8: More Responsive Layout and Responsive Portfolio**

- Text Instruction \_ Module\_08 quiz
- 8-1 Simple layout design with CSS flex, media query
- 8-2 Create a Complex Flexbox and grid with a media query
- 8-3 Responsive Flex and CSS grid span
- 8-4 Practical Grid area layout and media query
- 8-5 (Recap) Media Query and Responsive Web Developer Portfolio
- 8-6 Make What I Do and Footer section Responsive
- 8-7 Make Header banner and About section responsive
- 8-8 Explore the dev tool element tab for style debugging
- 8-9 Practice: Practice with devchallenges.io
- 8-10 Media Query (Animated video)

**Module 9: HTML CSS only Landing Page – G3 Architects**

- Quiz
- 9-1 G3 Architects Project and Google Fonts setup
- 9-2 Add banner content and styles
- 9-3 Responsive Banner for mobile and medium devices
- 9-4 Set Teams sections with flex and grid layout
- 9-5 Make Teams section responsive and shared CSS class
- 9-6 Add Facts contents and apply flex
- 9-7 Make Facts and sponsors responsive
- 9-8 Create features section content and badge
- 9-9 Module Summary and GitHub pages deploy

**NO MODULE DAY -01 + Conceptual Session**

[Go to the next page]

**MILESTONE****2**

## RESPONSIVE DESIGN, LAYOUTS & FRAMEWORKS



### Module 10: More CSS, Animation & Image Optimization

- Quiz
- 10-1 Rules to follow and things to avoid while designing a website
- 10-2 Websites and resources to find pictures & more for your website
- 10-3 CSS3 features and CSS overflow, text-overflow, ellipsis
- 10-4 Transform element using rotate, scale, translate
- 10-5 Introduction to CSS Animation Transition
- 10-6 (optional) Cricket match animation: transform, translate, Transition
- 10-7 (optional) CSS animation and bounce effect with balls
- 10-8 (advanced) CSS Custom property and use var, calc
- 10-9 Module Summary and Optimise and resize images
- 10-10 Practice: Practice Responsive Influencer Gear
- 10-11 Interview Video



### Module 11: CSS Design Techniques, Class & Tailwind Intro

- 11-1 Component Based Design vs Utility based Design
- 11-2 Utility/Class based Design Technique & Practical Example
- 11-3 Getting Started with tailwind [ What , Why , How ] & Extension setup
- 11-4 Tailwind Typography, background, text & border
- 11-5 Tailwind Spacing, Box Model Properties
- 11-6 Tailwind Flex layout and responsive flex
- 11-7 Explore Grid layout and responsive grid
- 11-8 Explore State-Based Class hover, focus, active, blur, \*- & Dynamic
- 11-9 Module Summary and Practice
- 11-10 How to Implement Responsive Design with Tailwind (Animated)

[Go to the next page]

**MILESTONE****2****RESPONSIVE DESIGN, LAYOUTS & FRAMEWORKS****Module 12: Responsive Website Assignment 2**

- Instructions
- 12-1 Assignment\_Video

**Module 12.5: [Bonus] UI UX, Future Strategy about HTML, CSS**

- Guideline on Facebook Private Group
- 12\_5-1 All CSS properties, everything you need to know about CSS
- 12\_5-2 Your Future strategy for HTML(HTML5) and CSS(CSS3)

**MILESTONE****3****HELLO JAVASCRIPT**

যা যা করতে পারবে

JS দিয়ে পেজ ডায়নামিক করা

ডেটা সেভ-চেঞ্জ করা

লজিক দিয়ে সিন্ধান্ত নেয়া

লুপ দিয়ে রিপিট কাজ সহজে করা

অ্যারেতে লিস্ট বানিয়ে কাজ করা

স্ট্রিং কাটতে-বদলাতে পারবে

অবজেক্টে ডেটা অর্গানাইজ করা

Problem Solving করবে

**MILESTONE****3**

# HELLO JAVASCRIPT

 **Module 13: Introduction to JavaScript**

- 13-0 Roadmap of milestone 4
- 13-1 Introduction to JavaScript, Run JavaScript in VSCode
- 13-2 Maths Needed to start learning Programming Language
- 13-3 What is a variable? Five things you need to declare a variable
- 13-4 Variable (Animated Video)
- 13-5 Variable data types, Numeric, String, Boolean
- 13-6 JavaScript Keyword, Variable name, naming convention
- 13-7 Know the fundamentals of JS Numbers
- 13-8 Introduction to arithmetic operators [Animation]
- 13-9 (Advanced) Mathematical operation shorthand
- 13-10 Module Summary and Practice Task
- Quiz

 **Module 14: Fundamental Concepts of Conditionals**

- 14\_1 Compare variables and Comparison operator
- 14\_2 Introduction to Conditionals,
- 14\_3 If\_else statement animated
- 14\_4 Conditional branching if Else Condition
- 14\_5 Multiple condition Logical Operators(&&, ||)
- 14\_6 Multi-level If-else if-else condition
- 14\_7 (optional) Nested if-else condition
- 14\_8 (advanced )If-else shorthand Ternary Operator
- 14\_9 (advanced) Logical Not Operator
- 14\_10 Homework and Making Decisions in your code

 **Module 14.5: Fundamental Concepts of Array [Part-1]**

- 14-1 Store more than one value in a variable using Array
- 14-2 Array Animated video
- 14-3 Array length, index, Get and set by index
- 14-4 Add/remove elements from arrays using push, pop shift & unshift
- 14-5 All about basic array methods, isArray

[Go to the next page]

**MILESTONE****3**

# HELLO JAVASCRIPT



## **Module 15: Fundamental Concepts of Loops**

- 15\_1 What is a Loop, explore for loop
- 15\_2 Introduction to While Loop
- 15\_3 Problem solving with While Loop
- 15\_4 Introduction to For Loop
- 15\_5 Problem solving with For Loop (task)
- 15\_6 Different ways to use loop
- 15\_7 When to use a break and continue
- 15\_8 (optional) Introduction to Do While Loop
- 15\_9 Difference between types of loops Module Summary

## **Module 16: Fundamentals of String & Objects**

- Quiz
- 16\_1 Introduction to string and string vs array
- 16\_2 String Comparison lowercase uppercase and trip
- 16\_3 String Slice, Join, Concat and includes
- 16\_4 Reverse a String in Three different ways
- 16\_5 Introduction to Objects properties and values
- 16\_6 What is Object Animated video
- 16\_7 Multiple ways to get & set object properties slide: [11-13]
- 16\_8 Keys, Values, nested objects and delete
- 16\_9 Loop an object and Ways to declare an Object
- 16\_10 Module Summary and Practice Tasks

## **Module 16.5: Fundamental Concepts of Array [Part-2]**

- 16.5\_1 Array Traversal using for and while Loop
- 16.5\_2 Reversing an array with/without reverse method
- 16.5\_3 Sort an array problems and solution
- 16.5\_4 Module Summary and Practice Tasks

[Go to the next page]

**MILESTONE****3**

# HELLO JAVASCRIPT

## **Module 17: Fundamentals of Functions**

- Quiz
- 17-1 What are function and function syntax
- 17-2 Function Intro with animation
- 17-3 Function parameter, handle multiple parameters
- 17-4 How Function works and argument vs parameters
- 17-5 Function return and set return value to a variable
- 17-6 Recap and conditional return of odd and even
- 17-7 Different types of parameters for a function
- 17-8 Sum of all numbers in an array using function
- 17-9 Return all the even numbers of an array
- 17-10 Function Summary and Practice Tasks

## **Module 18: JavaScript Simple Coding Problems (P-1)**

- Quiz
- 18-1 JS Concepts recap and var, let, and const
- 18-2 Unit Convert Inch to Feet, miles to kilometers
- 18-3 Check whether a year is a Leap Year or not
- 18-4 Calculate the average of the odd numbers in an array
- 18-5 Remove duplicate items from an array
- 18-6 Math, abs, round, ceil, floor, and random number
- 18-7 A Simple introduction to JS Date and time
- 18-8 Swap variable, swap without temp, destructing
- 18-9 Module Summary and practice tasks

## **Module 19: JavaScript Simple Coding Problems (P-2)**

- Quiz
- 19-1 Can you find out who will get the max reward?
- 19-2 Who is the tallest? Find the max number in an array
- 19-3 Use add and multiplication to calculate wood requirements
- 19-4 Find the cheapest phone from an array of phone objects
- 19-5 Calculate the total cost of the products in a shopping cart
- 19-6 (Advanced) Multi-layer discount price calculation
- 19-7 Simple calculator to call function inside a function
- 19-8 Handle unexpected function input parameter error
- 19-9 Module Summary and Practice Tasks

**MILESTONE****3****HELLO JAVASCRIPT****Module 20: Assignment 3**

- 20-1 Basic JavaScript Problem-Solving assignment
- 20-2 Assignment bonus and how to submit

**Module 20.5: Basic JavaScript Bonus Module**

- 20\_5-1 (optional) Explore what you can do with JavaScript Object
- 20\_5-2 (advanced) Find the matching product by searching products
- 20\_5-3 Problem-solving priority and get the best out of this course

**MILESTONE****4****INTERACTIVE JAVASCRIPT, DOM****ঘা ঘা করতে পারবে**

ওয়েবের বিভিন্ন জিনিস কন্ট্রোল



ক্লিক-ইভেন্ট দিয়ে জিনিস বদলাবে



নতুন জিনিস যোগ-বাদ দিতে পারবে



স্টাইল-টেক্সট পরিবর্তন করবে



ইভেন্ট দিয়ে কাজ শিখবে



ডাইনামিক কার্ড-লিস্ট বানাবে



ছোট ইন্টারঅ্যাক্টিভ প্রজেক্ট বানাবে

[Go to the next page]

**MILESTONE****4****INTERACTIVE JAVASCRIPT, DOM****Module 21: Recap - Web Design, Tailwind & Responsiveness**

- Quiz
- 21-0 Roadmap of Milestone 5 (Animated Video)
- 21-1 Tea house project overview and project setup
- 21-2 Set Banner with rating badge and layout
- 21-3 Create a featured section for tea positions
- 21-4 Create Green tea and basic grid layout
- 21-5 Implement grid layout with gradient
- 21-6 Create Customer review and relative positions
- 21-7 Relative and absolute positioning of reviews
- 21-8 Combine multiple footer styles
- 21-9 Module Summary and button gradient

**Module 22: Tour of DOM (Document Object Model)**

- Quiz
- 22-1 What is dom, Connect your JS file with HTML file
- 22-2 Traversing dom - getElementsByTagName
- 22-3 Traversing dom - getElementByClass VS getElementById
- 22-4 Traversing dom - getElementByQuerySelector, querySelectorAll
- 22-5 Dynamic style, getAttribute, setAttribute, innerText, innerHTML
- 22-6 Styling dom properties, add and remove CSS class using JS
- 22-7 NodeList, htmlcollection, parentNode, childnodes, createElement
- 22-8 Create HTML elements using Javascript and appendChild
- 22-9 Module summary (DOM Review)

**Module 23: Events and Event Handling**

- Quiz
- 23-0 Basic of DOM all in one
- 23-1 What is Event, different types of event in web
- 23-2 Add onclick handler directly or via javascript
- 23-3 Different ways to use addEventListener on a button
- 23-4 Most common ways to set Event Handlers

**MILESTONE****4****INTERACTIVE JAVASCRIPT, DOM**

- 23-5 Create a comment box and display comment
- 23-6 Simple GitHub like delete confirmation button
- 23-7 (semi-advanced) Event bubble and Stop propagating
- 23-8 (advanced) Event delegate and benefit of Event bubble
- 23-9 All about Events (Module Summary)
- 23-10 Basic JS Events all in One

 **Module 24: Let's Create Payooo Mobile Bank (Part 1)**

- Quiz
- 24-1 Project and Login Form Setup
- 24-2 Add Login Event Handler and Prevent Form Default Behavior
- 24-3 Handle Login and Redirect to the Home Page
- 24-4 Created Add Money Button and Add Money Form
- 24-5 Handle Add Money Event Handler on the Button Click
- 24-6 Verify Pin Number and Add Money to the Balance
- 24-7 (Recap) Add Money to the Balance After Pin Verification
- 24-8 Implement Cash Out Feature

 **Module 25: Payooo Project with Reusability (Part 2)**

- Quiz
- 25-1 Recap Basic Structure and Adding Event Handler
- 25-2 Recap Add Money and New Files for Function-Based Payoo
- 25-3 Recap Add Money Layout Handler and Reasons for Shared Code
- 25-4 Create Reusable Function to Get Input Field Value
- 25-5 Use Shared Function to Get Input Value
- 25-6 Features Toggle Button
- 25-7 Implement Cashout Using Function
- 25-8 Show Transactions
- 25-9 Dynamic DOM and Data Validation

 **Module 26: Assignment - DOM & Event-Based Application 4** **Module 26.5 Bonus Content**

- 26\_5-1 When to use getElementById and querySelector
- 26\_5-2 (advanced) Get confused by isNaN

**MILESTONE****5****INTERMEDIATE JAVASCRIPT AND API****যা যা করতে পারবে** ES6 দিয়ে মডার্ন কোড লেখা লিস্ট থেকে ডেটা বাছাই করতে পারবে জটিল কোড সহজভাবে করা API থেকে ডেটা আনতে পারবে ডেটা দিয়ে ডাইনামিক UI বানাবে Async-await দিয়ে কাজ করা API দিয়ে প্রজেক্ট করবে বাগ ফিল্ড করতে পারবে**Module 27: JS Recap and Basic ES6**

- Quiz
- 29-0 Milestone Roadmap [ New Animated ]
- 29-1 ES6 Intro difference between var, Let, and const
- 29-2 Function default parameter for not provided values
- 29-3 Template string, multiple-line string, dynamic string
- 29-4 Arrow function, multiple parameters, function body
- 29-5 More Arrow functions and arrow functions
- 29-6 Spread operator, array max, copy arrays
- 29-7 (advanced) Object and Array Destructuring
- 29-8 Keys, values, entries, delete, seal, freeze,
- 29-9 Loop through an object using for in, for of, object entries
- 29-10 Module Summary and ES6 Practice Problems

[\[Go to the next page\]](#)

**MILESTONE****5****INTERMEDIATE JAVASCRIPT AND API** **Module 28: (Advanced) More ES6**

- Quiz
- 30-0 Basic ES6 Concept
- 30-1 Module Introduction and Basic ES6 Recap
- 30-2 Access Value, nested object, Optional chaining, Dot notation vs bracket notation
- 30-3 Array map to do one-line loop magic
- 30-4 foreach, filter, find, and the differences between them
- 30-5 (Recap) Map, forEach, filter, find, reduce
- 30-6 (optional) Introduction to Class and Objects
- 30-7 (optional) Inheritance, prototypical inheritance
- 30-8 (optional) Encapsulation & this keyword
- 30-9 Module summary and ES6 topics

 **Module 29: Understand Common JavaScript Concepts**

- Quiz
- 31-0 Module Overview, Primitive and non-primitive data type
- 31-1 Null Vs Undefined, different ways you will get undefined
- 31-2 Different Truthy and Falsy Values in JavaScript
- 31-3 double equal (==) vs triple equal (===), implicit conversion
- 31-4 Block scope global scope simple understanding of Hoisting
- 31-5 (advanced) Explore about Closure
- 31-6 (optional) Callback function and pass different functions
- 31-7 (advanced) function arguments pass by reference pass by value
  - 31-7-1 Pass by value and pass by reference
- 31-8 Pre Increment, Post Increment, Pre decrement, Post decrement
- 31-9 Module summary and interview questions

 **Module 30: API, JSON, Data load, dynamic website**

- Quiz
- 32-1 How does Internet work, HTTP Vs HTTPS and What is an API
- 32-2 Intro to JSON, JSON Structure, parse, stringify
- 32-3 JSON placeholder, GET data, display data on UI

**MILESTONE****5****INTERMEDIATE JAVASCRIPT AND API**

- 32-4 Load more data, more APIs, send data to function
- 32-5 Dynamically display loaded data on your website
- 32-6 Load posts and display on the website with CSS
- 32-7 GET, POST, PATCH, DELETE, CRUD, GET Vs POST
- 32-8 Debug API, Network tab, Status code, headers, bad API
- 32-9 async await and interview Question

 **Module 31: API Recap with English Janala**

- Quiz
- 33-1 Project overview and Design Navbar and Banner
- 33-2 Load all levels API and show levels data
- 33-3 Load all words based on levels and show words
- 33-4 no content found message based on levels
- 33-5 Implement search functionality and toggle spinner
- 33-6 load dynamic word data using API
- 33-7 Show word Details data on a Modal
- 33-8 Implement pronounce function for word pronunciation
- 33-9 Module Summary and Recap
- 33-10 API ES6 and practice with AI universe HUB

 **Module 32: ES6 and API-Related Assignment 5**

- 34-1 Assignment

 **Module 32\_5 More about JavaScript**

- 34\_5-0 What really is JavaScript?
- 34\_5-1 JavaScript Engine V8 Internal mechanism
- 34\_5-2 JavaScript Execution Context and Call Stack
- 34\_5\_-2-1 Learn Event Loop in Animated Way
- 34\_5-3 Single-threaded, Asynchronous vs Synchronous
- 34\_5-4 Promise, Promise All
- 34\_5-4-1 Learn Promise in Animated way
- 34\_5-5 Async/Await in details
- 34\_5-5-1 Learn Async await in Animated Way
- 34\_5-6 setInterval and clearInterval
- 34\_5-6-1 Learn setTimeOut in Animated Way
- 34\_5-7 JavaScript event loop and concurrency
- 34\_5-8 module summary and Interview questions

**MILESTONE****6****REACT FUNDAMENTALS****যা যা করতে পারবে**

 React দিয়ে কম্পোনেন্ট বানাবে

 Props দিয়ে ডেটা পাঠাবে

 State দিয়ে পেইজ আপডেট করবে

 API ডেটা লোড করবে

 কার্ড-লিস্ট React দিয়ে তৈরি করবে

 প্যাকেজ ব্যাবহার করে প্রজেক্ট আপডেট

 চার্ট দিয়ে ডেটা ভিজুয়ালাইজ করতে পারবে

### **Module 33: React Core Concepts & Environment**

- 33-1 Why React? Library vs Framework & Virtual DOM
- 33-2 Installing React with Vite & Understanding Folder Structure
- 33-3 Introduction to JSX: Syntax, Rules, and Expressions
- 33-4 Creating Functional Components and Reusability
- 33-5 Understanding Props: Passing Data Parent to Child
- 33-6 Destructuring Props for cleaner code
- 33-7 Conditional Rendering: Ternary, && Operator, and If-Else
- 33-8 Rendering Lists: Using .map() and Unique Keys
- 33-9 Module Summary & Practice Task

### **Module 34: State, Effects & Data Fetching**

- 34-1 Introduction to State: The useState Hook
- 34-2 Handling Events: onClick, onChange & Parameters
- 34-3 Updating State: Counter and Toggle Examples
- 34-4 The useEffect Hook: Managing Side Effects
- 34-5 Fetching Data from API inside useEffect
- 34-6 Understanding Dependency Array & Re-rendering
- 34-7 Handling Loading State and API Errors
- 34-8 Introduction to the new use() Hook (React 19 Data Fetching)
- 34-9 Module Summary & Practice Task

**MILESTONE****6****REACT FUNDAMENTALS****Module 35: Basic React Project - 01 (Countries)**

- 38-1 Module Introduction, load countries using promise and use API
- 38-2 Display countries in a simple way
- 38-3 Show flags, conditional text and handle data error
- 38-4 Use style in react and 3-column layout
- 38-5 Conditional CSS and Toggle state based on click
- 38-6 Lift up the state to handle child component event
- 38-7 (advanced) Lift up state in arrays by comparing reference
- 38-8 (Recap) Lift up state for flags and handle immutable array
- 38-9 Deploy rest countries to surge or netlify
- 38-10 Let AI Guide You about React

**Module 36: React Ecosystem (NPM, Tailwind & Recharts)**

- 36-1 Understanding NPM and package.json in React
- 36-2 Installing and Configuring Tailwind CSS in React
- 36-3 Introduction to DaisyUI: Using Component Libraries
- 36-4 Building a Responsive Navbar and Hero Section with DaisyUI
- 36-5 Introduction to Recharts: Data Visualization
- 36-6 Implementation of Line Chart and Bar Chart
- 36-7 Customizing Recharts Axis and Tooltips
- 36-8 Using React Icons and other external packages
- 36-9 Module Summary & Practice Task

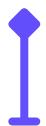
**Module 37: Simple React SPA with BPL-DREAM**

- Text Instruction
- 40-1 BPL Dream project setup and include Tailwind and daisiUI
- 40-2 Create navbar and Create Fake Data for the players and load data
- 40-3 Set Layout and make react responsive
- 40-4 Building Player Card Component
- 40-5 State Management & Toggle Functionality
- 40-6 Player Selection & Validation System
- 40-7 Selected Players Component & Remove Functionality
- 40-8 React Toastify Integration and deploy to Surge/netlify
- Quiz

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6

## REACT FUNDAMENTALS



### Module 38: Assignment 6

- 38-1 Assignment Briefing: React Single Page Application

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7

## REACT ADVANCED & HELLO NEXT.JS

যা যা করতে পারবে

React hooks সহজভাবে ব্যবহার করবে

নিজের reusable কোড তৈরি শিখবে

Context API দিয়ে ডেটা শেয়ার

React Router দিয়ে পেজ চেঞ্জ

ডাইনামিক রাউটিং করা

Next.js কেন দরকার বুববে

Error Boundary দিয়ে ভুল ধরা

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**MILESTONE****7****REACT ADVANCED & HELLO NEXT.JS****Module 39: Context API & Custom Hooks**

- 39-1 Understanding the "Prop Drilling" Problem
- 39-2 Introduction to Context API: Create, Provide, Consume
- 39-3 Managing Global State
- 39-4 Introduction to Custom Hooks: Why and How?
- 39-5 Creating a useCart Hook for Shopping Logic
- 39-6 Creating a useAuth Hook for User Management
- 39-7 The "Rules of Hooks" and Common Mistakes
- 39-8 Efficient Form Handling with React Hook Form
- 39-9 (Optional) Context API vs Redux: When to use what?

**Module 40: React Router Dom (Advanced)**

- 40-1 Why we need Routing? SPA vs MPA Architecture
- 40-2 Setting up React Router Dom and Basic Routes
- 40-3 Nested Routes and Layouts using <Outlet />
- 40-4 Dynamic Routing with useParams (Reading IDs)
- 40-5 Accessing Query Parameters with useLocation
- 40-6 Programmatic Navigation using useNavigate
- 40-7 Handling 404 Pages and Active Link Styling
- 40-8 Data Loading with Router (Loaders concept)
- 40-9 Protecting Routes (Basic Private Route Logic)

**Module 41: React Final Project – Dragon News/Estate**

- 41-1 Project Architecture, Folder Structure & Git Setup
- 41-2 Setting up the Auth Context Provider
- 41-3 Integrating Firebase Authentication (Google/Email)
- 41-4 Creating the Main Layout and Shared Components (Navbar/Footer)
- 41-5 Building the Home Page with News/Estate Feeds
- 41-6 Creating the Details Page (Dynamic Data Rendering)
- 41-7 Implementing Private Routes for User Profile
- 41-8 Handling Loading States and Error Boundaries
- 41-9 Deployment to Netlify/Surge and Testing

[Go to the next page]

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7

## REACT ADVANCED & HELLO NEXT.JS

### **Module 42: Next.js Foundation**

- 42-1 What is Next.js? Framework vs Library Explained
- 42-2 Creating a Next.js App (App Router) & Folder Structure
- 42-3 Server Components vs Client Components ("use client")
- 42-4 The page.js, layout.js, and template.js files
- 42-5 Navigation in Next.js: <Link> vs useRouter
- 42-6 Styling in Next.js: Global CSS, Tailwind, and Modules
- 42-7 Optimizing Images with the next/image Component
- 42-8 Handling Fonts efficiently with next/font
- 42-9 Deployment to Vercel (The Native Platform)

### **Module 43: Next.js Routing**

- 43-1 Understanding File-System Based Routing
- 43-2 Creating Nested Routes and Route Groups (folder)
- 43-3 Dynamic Routes: Working with [id] folders
- 43-4 Catch-all Segments [...slug] and Optional Catch-all
- 43-5 Customizing 404 Not Found Page (not-found.js)
- 43-6 Loading UI and Streaming (loading.js)
- 43-7 Error Handling in Routes (error.js)
- 43-8 Parallel Routes and Intercepting Routes (Conceptual)
- 43-9 Active Links Logic in Next.js

### **Module 44: Assignment 7**

- 44-1 Assignment Briefing

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**MILESTONE****8****MORE NEXT.JS & AUTHENTICATION****যা যা করতে পারবে**

 Next.js দিয়ে ফুল-স্ট্যাক অ্যাপ তৈরি

 File-based Routing দিয়ে পেজ তৈরি

 SEO অপটিমাইজড পেজ ডিজাইন

 Image Optimization করে দ্রুত ইমেজ লোড

 Next Auth দিয়ে লগইন-লগআউট সিস্টেম

 পেইজের লেআউট এর গঠন জানবে

### **Module 45: Next.js Data Fetching & SEO**

- 45-1 Data Fetching Strategies: SSR vs SSG vs CSR
- 45-2 Fetching Data on the Server (Direct Database/Fetch)
- 45-3 Static Data Fetching (Default Caching Behavior)
- 45-4 Dynamic Data Fetching ({ cache: 'no-store' })
- 45-5 Incremental Static Regeneration (ISR) with revalidate
- 45-6 Generating Static Params (generateStaticParams)
- 45-7 Metadata API: Setting Dynamic Titles and Descriptions
- 45-8 Open Graph Images and SEO Best Practices
- 45-9 Sitemap.xml and Robots.txt generation

### **Module 46: Server Actions & Optimization (Replaces API Routes)**

- 46-1 Introduction to Server Actions (Mutations without API)
- 46-2 Creating your first Server Action for Form Submission
- 46-3 Handling Pending States with useFormStatus
- 46-4 Optimistic UI Updates with useOptimistic
- 46-5 Revalidating Paths and Tags after Mutations
- 46-6 Error Handling in Server Actions
- 46-7 Lazy Loading Components (next/dynamic)
- 46-8 Script Optimization (next/script)
- 46-9 Module Summary: When to use Server Actions?

**MILESTONE****8****MORE NEXT.JS & AUTHENTICATION** **Module 47: Authentication in Next.js**

- 47-1 Auth Challenges: Server vs Client Side Auth
- 47-2 Introduction to NextAuth.js
- 47-3 Configuring Social Login (Google/GitHub Providers)
- 47-4 Accessing Session in Client Components (useSession)
- 47-5 Accessing Session in Server Components (getServerSession)
- 47-6 Protecting Routes using Middleware (middleware.js)
- 47-7 Handling Redirects based on User Role
- 47-8 Customizing the Login and Error Pages
- 47-9 Logout Flow and Session Cleanup

 **Module 48: Next.js Project - Part 1 (UI & Structure)**

- 48-1 Project Analysis (Blog/Dashboard) & Database Setup
- 48-2 Installing UI Libraries (Shadcn/UI or DaisyUI)
- 48-3 Designing the Root Layout and Sidebar Navigation
- 48-4 Creating the Home Page with Static/Cached Data
- 48-5 Designing the "Post Details" Dynamic Page
- 48-6 Building the User Profile Layout
- 48-7 Implementing Theme Toggle (Dark Mode)
- 48-8 Responsive Design Check (Mobile vs Desktop)

 **Module 49: Next.js Project - Part 2 (Logic & Auth)**

- 49-1 Integrating NextAuth for User Authentication
- 49-2 Creating Server Actions to Add New Posts
- 49-3 Displaying User-Specific Data (My Posts)
- 49-4 Implementing "Delete Post" with Server Actions
- 49-5 Adding Comments functionality (Form & Action)
- 49-6 Loading Skeletons for Better UX
- 49-7 Handling Empty States and Errors
- 49-8 Final Deployment to Vercel & Environment Variables
- 49-9 Testing Live Functionality

 **Module 50: Assignment 8**

- 50-1 Assignment Briefing: Next.js App with Next Auth

**MILESTONE****9****EXPRESS + MONGODB + JWT ( PROJECT )****যা যা করতে পারবে**

 নিজের API সার্ভার বানানো

 ডেটাবেস ডেটা সেভ করা

 JWT দিয়ে সিকিউর লগইন

 Frontend-Backend কনেক্ট করা

 ডাটা এড, ডিলিট, আপডেট ও খুজে নিতে পারবে

 প্রোজেক্ট স্টোর ও শেয়ার করবে

### **Module 51: Getting Started with Node, Express & API**

- 51-1 Milestone Roadmap: Introduction to Backend Development
- 51-2 Client-Server Architecture: Request & Response Cycle
- 51-3 Node.js Internal: How it works vs Other Languages
- 51-4 Introduction to Express.js: Why use a Framework?
- 51-5 Database Fundamentals: SQL vs NoSQL & MongoDB
- 51-6 Environment Setup: Installing Node, Express, and Nodemon
- 51-7 Creating your first API: GET method & fetch data
- 51-8 Creating a POST API: Sending Client Data to Server
- 51-9 Recap: Displaying Server Data on the Client Side
- 51-10 Module Summary & Quiz Discussion

### **Module 52: Node Express with MongoDB & Basic CRUD**

- 52-1 Database Setup: Creating a MongoDB Atlas Account
- 52-2 Connection Logic: Async/Await & Try-Catch Block
- 52-3 Create Operation: Inserting Single User Data (POST)
- 52-4 Read Operation: Finding & Displaying Multiple Users
- 52-5 Delete Operation: Removing Data via UI Interaction
- 52-6 Recap: The Create, Read, and Delete Flow
- 52-7 Read Operation: Loading Single Item by ID
- 52-8 Update Operation: PUT vs PATCH & Updating Data
- 52-9 (Optional) Running MongoDB Locally (No Internet)
- 52-10 Module Summary & Best Practices

**MILESTONE****9****EXPRESS + MONGODB + JWT ( PROJECT )****Module 53: Queries, Operators & Auth (Project Setup)**

- 53-1 Tools Setup: Postman/Thunder Client & Bulk Upload
- 53-2 Database Design: Keys, Relationships & Foreign Keys
- 53-3 Advanced Queries: Params, Headers, and Body
- 53-4 Pagination Basics: Limit, Skip, and Projection
- 53-5 MongoDB Operators: \$or, \$in, \$lt, \$gt, \$not
- 53-6 Middleware Concepts: Creating a Logger
- 53-7 Project Setup: Frontend (Tailwind + DaisyUI) & Routes
- 53-8 Auth Strategy: Introduction to NextAuth.js Integration
- 53-9 Route Protection: Private Routes logic in Next.js
- 53-10 Types of Websites: Public vs Private vs Hybrid

**Module 54: Recap CRUD & Marketplace Logic**

- 54-1 Project Structure: Designing Home Page & Nav
- 54-2 Feature: Create "Add Product" Form & Store in DB
- 54-3 Feature: GET All Products & Display Publicly
- 54-4 Feature: "My Products" (Filter by User Email from Session)
- 54-5 Feature: Update Product Data (Put/Patch)
- 54-6 Feature: Delete Product with Confirmation
- 54-7 Feature: Bid System Structure (Relational Data)
- 54-8 Feature: Storing Bids in Database
- 54-9 Recap: Managing Data Flow in a Marketplace App

**Module 55: JWT & NextAuth Backend Integration**

- 55-1 Introduction to JWT (JSON Web Token) & Structure
- 55-2 Generating Tokens using jsonwebtoken (Sign & Verify)
- 55-3 NextAuth Flow: Credentials Provider vs Social Providers
- 55-4 Backend Logic: Creating the Login Endpoint for NextAuth
- 55-5 Security: Storing Tokens (HttpOnly Cookie vs Session)
- 55-6 Middleware: Creating verifyToken for Express
- 55-7 Syncing Users: Saving Google/GitHub Users to MongoDB
- 55-8 Protecting APIs: Verifying Requests from Next.js Client
- 55-9 Recap: The Complete Auth Flow (Next.js <-> Express)
- 55-10 Module Summary & Security Best Practices

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9

## EXPRESS + MONGODB + JWT ( PROJECT )



### Module 56: Axios Interceptors & Final Polish

- 56-1 Project Setup Recap for Authentication
- 56-2 Why Interceptors? Handling Requests Globally
- 56-3 Request Interceptor: Attaching Token/Session Automatically
- 56-4 Response Interceptor: Handling Errors Globally
- 56-5 Handling 401 (Unauthorized) & 403 (Forbidden)
- 56-6 Automatic Logout on Token Expiry
- 56-7 Securing Secrets: Environment Variables (`NEXTAUTH_SECRET`)
- 56-8 Deployment Guide: Server (Render) & Client (Vercel)
- 56-9 Final Project Review & Troubleshooting



### Module 57: Assignment 9

- 57-1 Assignment Briefing: Full Stack Application

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10

## FULL STACK PROJECT



### Module 57: Final Project Part-1



### Module 58: Final Project Part-2



### Module 59: Final Project Part-3



### Module 60: Final Project Part-4



### Module 61: Final Project Part-5



### Module 62: Final Project Part-6



### Module 63: Final Assignment (Assignment 10)

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