



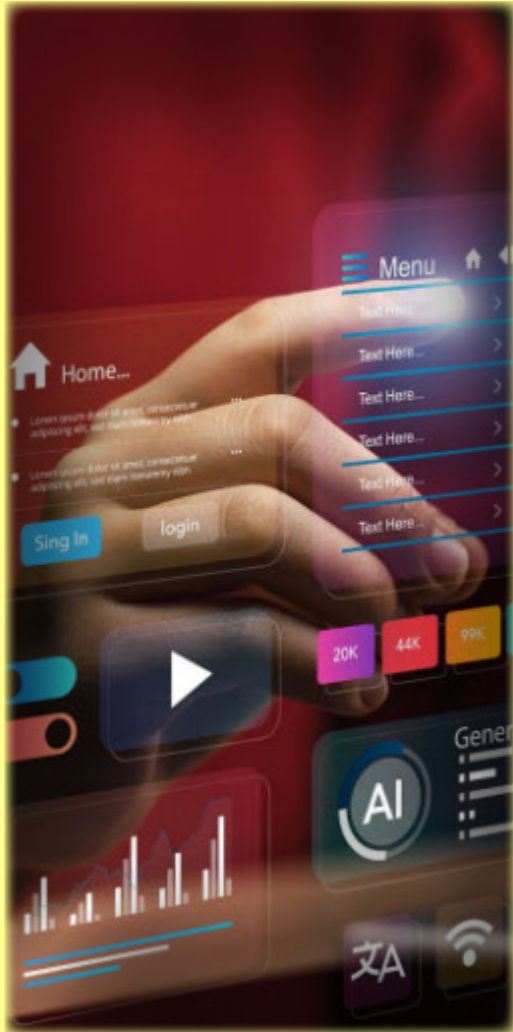
Web Development (Full Stack)

Course Length
12 Weeks

Course Fee
₹ 16000

SYLLABUS

THE COMPLETE WEB
DEVELOPMENT
COURSE



Panaji

**Kamat Towers Office 205
Patto Center**

Vasco Da Gama

**2nd Floor Pereira Buiding
Joxi Chowk Near Railway Station
+91 9665998574**

WEB DEVELOPMENT FUNDAMENTALS

- * Understand how websites work and how HTML, CSS and JavaScript contribute.
- * Understand how the internet works and how websites are served.
- * Learn to use git, GitHub and version control.
- * Learn key troubleshooting and debugging skills to apply to your projects

HTML 5

- * Learn the anatomy of HTML syntax to structure your websites.
- * Understand the HTML boilerplate and HTML doctypes.
- * Understand indentation and nesting in HTML code.
- * Learn to use HTML tags to structure headings, paragraphs
- * How to structure HTML lists to create unordered and ordered lists.
- * How to insert images using HTML
- * How to create hyperlinks using anchor tags.
- * Create multi-page websites.
- * Learn HTML best practices.

CSS 3

- * Understand what are cascading style sheets and how you can use it to style your website.
- * How to use CSS selectors and properties.
- * Learn about how to use inline, internal and external CSS.
- * Understand CSS coding best practices.
- * Learn about
- * CSS specificity and inheritance.
- * Learn and understand the CSS Box Model.
- * Learn to use developer tools to inspect and diagnose CSS.
- * Learn about CSS positioning and display properties.
- * Learn about font styling using CSS and web safe fonts.
- * Implement responsiveness using CSS media queries.
- * How to use CSS float and clear properties.
- * How combine CSS selectors and understand selector priority.

FLEXBOX

- * Learn about why flexbox was introduced to CSS.
- * Understand what happens when display is set as flex.
- * Understand flex direction and how it affects layout.
- * Learn to use align and justify for layout of child items
- * Understand how child items are sized and distributed in a flexbox and use the flex shorthand property.

GRID

- * Learn about how grid is different to flexbox and their strengths and weaknesses.
- * Understand what happens when display is set as grid.
- * Learn how grid sizing is done and how to create and arrange a grid.
- * Learn to position items in a grid and how placement across rows and columns is done.
- * Learn to use grid in combination with flexbox to create complex layout using native CSS.

SYLLABUS

THE COMPLETE WEB
DEVELOPMENT
COURSE



Panaji

**Kamat Towers Office 205
Patto Center**

Vasco Da Gama

**2nd Floor Pereira Buiding
Joxi Chowk Near Railway Station
+91 9665998574**

BOOTSTRAP

- * Understand the difference between native CSS tooling and external frameworks.
- * Learn to install the Bootstrap framework into your website.
- * Understand the Bootstrap 12 column layout system.
- * Learn to use Bootstrap components such as buttons, carousels, cards and navigation bars.
- * Accessing and incorporating designer icons from Bootstrap.
- * Find and use bootstrap code snippets, examples and pre-built templates to quickly create beautiful mobile-first websites.

WEB DESIGN

- * Learn the fundamental principles of web design, UI and UX.
- * Understand colour theory and how to choose and use modern colour palettes to make your website look professional.
- * Understand modern typography and choose free-for-commercial use typefaces to make your website user friendly and stylish.
- * Learn to manage user attention using the key principles of User Interface (UI) design.
- * Learn to design user friendly websites by understanding User Experience (UX) design.

DOCUMENT OBJECT MODEL (DOM)

- * Learn the tree structure of HTML based websites.
- * Traverse through the document using object notation.
- * Separation of concerns and coding best practices.
- * Manipulate and change the HTML elements using your understanding of the DOM.

JAVASCRIPT ES6

- * Compare programming languages like JS with scripting and markup/styled sheet languages.
- * Overview of JavaScript and its uses.
- * Understand how to work with a code editor and IDEs.
- * Basic syntax and data types in JavaScript, including:
 - * Variables and their scope (let, const)
 - * Data types (string, number, boolean, null, undefined, symbol)
 - * Operators and expressions, including arithmetic, comparison, and logical operators
- * Control structures like if/else statements and loops, including:
 - * The for loop and while loop
 - * The for...of loop to iterate over arrays
 - * The for...in loop to iterate over object properties
- * Functions and their importance in JavaScript, including:
 - * Function declaration and expression
 - * Function scope and closures
 - * Arrow functions and their syntax
 - * Higher-order functions, including:
 - * Passing functions as arguments to other functions
 - * Returning functions from other functions
 - * The map, filter, and reduce methods on arrays and their use with higher-order functions
- * Arrays and their methods, including:
 - * Creating and accessing arrays
 - * Adding and removing elements from arrays
 - * The slice method for slicing arrays
 - * The concat method for concatenating arrays

SYLLABUS

THE COMPLETE WEB
DEVELOPMENT
COURSE



Panaji

**Kamat Towers Office 205
Patto Center**

Vasco Da Gama

**2nd Floor Pereira Buiding
Joxi Chowk Near Railway Station
+91 9665998574**

- * The indexOf and lastIndexOf methods for finding elements in arrays
- * The map, filter, and reduce methods for manipulating arrays
- * The spread syntax ... to spread the elements of an array into a new array or function call
- * Object-oriented programming in JavaScript, including:
 - * Creating objects with object literals
 - * Creating objects with constructor functions and the new keyword
 - * Creating objects with classes and the class keyword
 - * Adding and accessing properties and methods on objects
 - * The this keyword and how it works in object methods
 - * The super keyword for accessing parent class methods and properties
 - * Manipulating objects and arrays using methods and iteration, including:
 - * The Object.keys and Object.values methods for getting the keys and values of an object as arrays
 - * The for...in loop for iterating over object properties
 - * The Object.assign method for copying properties from one object to another

REACT.JS

- * Learn front-end development with React.
- * Understand when and how to use React Components
- * Learn to pass Props and work with them.
- * Learn to write JSX and understand JSX syntax.
- * Learn about the React DOM
- * Learn State Management in React
- * Learn about React Hooks
- * Learn about conditional rendering in React.
- * Understand the difference between class and functional components.

GIT GITHUB AND VERSION CONTROL

- * Using git for version control and collaboration
- * Git forking, branching and cloning
- * Using GitHub as a remote repository
- * Checkout and rolling back changes with git
- * Using git and GitHub with Xcode

NODE.JS

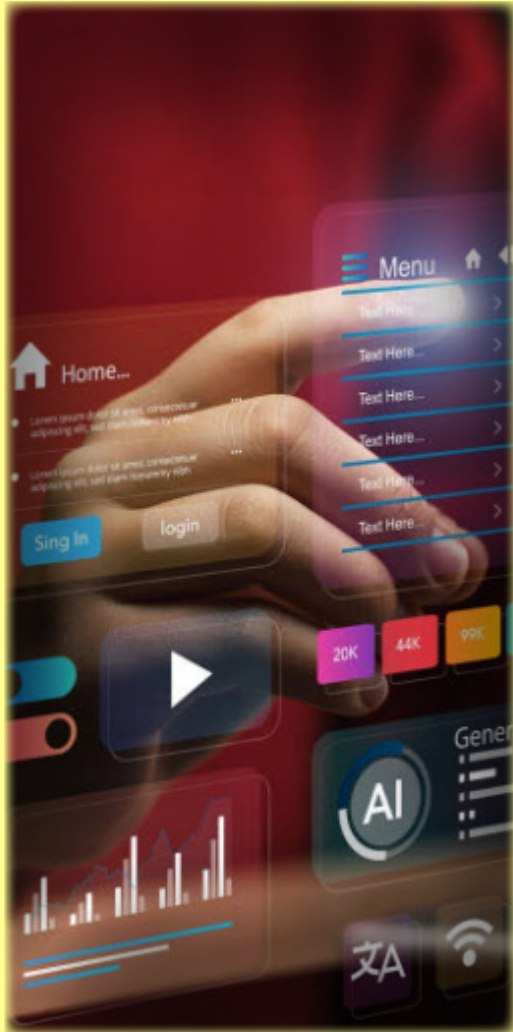
- * Explore the components of back-end development, working with an MVC framework
- * Apply concepts like data types, objects, methods, object-oriented programming, and classes in the context of back-end development.
- * Server-Side JavaScript
- * Using Node on the command line
- * NPM
- * JavaScript Build Processes
- * Event Loop and Emitters
- * File System Interaction
- * Modules
- * Native Node drivers

EXPRESS.JS

- * Understand how to install and use express in Node applications
- * Creating Node and Express based servers
- * RESTful Rout
- * ing with Express
- * Understand and use middle ware for Node applications

SYLLABUS

THE COMPLETE WEB
DEVELOPMENT
COURSE



Panaji

**Kamat Towers Office 205
Patto Center**

Vasco Da Gama

**2nd Floor Pereira Buiding
Joxi Chowk Near Railway Station
+91 9665998574**

APPLICATION PROGRAM INTERFACES (APIS)

- * Understand what APIs are and how they work.
- * HTTP in Depth
- * Calling APIs
- * Reading API documentation
- * Basic API Authentication
- * Server to server communication
- * JSON vs. XML, sending data over the wire.

EJS

- * Understand what EJS does and how to use it with Node and Express.
- * Templating with EJS
- * Running code in EJS templates
- * Passing data from server to template and vice versa
- * Creating layouts/partials with EJS

DATABASE FUNDAMENTALS

- * Data Relationships
- * Designing a Data Model
- * Relational Databases
- * Alternative Databases
- * Entity Relationship Modelling (ERM) and Object Relational Mapping (ORM)

SQL DATABASES

- * Working with Database Schemas
- * Create-Read-Update-Destroy (CRUD)
- * Database Joins
- * Querying SQL databases

POSTGRES DATABASES

- * PostgreSQL queries
- * Create-Read-Update-Destroy (CRUD)
- * Postgres
- * Best Practices
- * Installing Postgres
- * Relational Databases
- * Implementing One to Many, One to One and Many to Many Relationships.
- * Working with Postgres in Node with the pg Package.

DEPLOYMENT

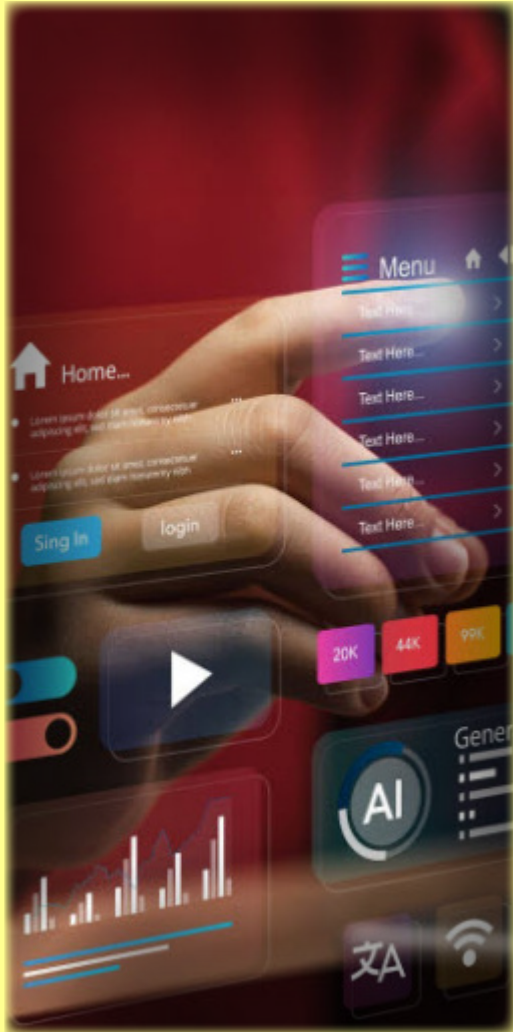
- * Understand hosting and deployment.
- * Hosting static websites with GitHub Pages.
- * Deploying server based applications with Heroku.
- * Deploying Databases with Mongo Atlas.

BUILDING RESTful APIs

- * Understand REST and guiding principles behind API design.
- * Learn to work with a MongoDB GUI Robo 3T
- * Implementing GET, POST, PUT, PATCH and DELETE by creating a public API from scratch.
- * Understand and use chained route handlers from Express.

SYLLABUS

THE COMPLETE WEB
DEVELOPMENT
COURSE



Panaji

**Kamat Towers Office 205
Patto Center**

Vasco Da Gama

**2nd Floor Pereira Buiding
Joxi Chowk Near Railway Station
+91 9665998574**

AUTHENTICATION and SECURITY

- * Understand the need for authentication and keeping user details secure.
- * Learn about Encryption and use encryption to keep your database secure.
- * Learn and implement Hashing and Salting with bcrypt
- * Using Sessions and Cookies to persist user log in sessions.
- * Setting up local authentication from scratch.
- * Implementing Passport to authenticate users quickly and effectively.
- * Understand and use environment variables to keep secret keys secure.
- * Understand and use OAuth 2.0 to log in users using Google and Facebook.

WEB3 BASICS AND BLOCKCHAIN DEVELOPMENT

- * Understand Web3 and blockchain development.
- * Understand a Canister
- * Understand a Motoko actor

DEPLOY YOUR CV WEBSITE ONTO A BLOCK-CHAIN

- * Set up a cycles wallet
- * Obtain free cycles from Dfinity
- * Understand how to manage the cycles balance of a canister
- * Build and deploy a static, personal CV website to the Internet Computer
- * Check how many cycles were used

WORK WITH A REACT FRONTEND AND BLOCK-CHAIN BACKEND

- * Use a React frontend in combination with the Internet Computer
- * Allow users to create their own notes and persist these in a canister
- * Learn to use CRUD style operations on a canister from the front end
- * Learn to use the Candid interface to test the app

CREATE YOUR OWN CRYPTO TOKEN

- * Understand the role of tokens in dapps and open internet services
- * Create a token modelled on Ethereum's ERC-20 and deploy it on the Internet Computer
- * Create a faucet contract that dispenses small amounts of the token.
- * Understand and work with principal IDs to identify users and smart contracts
- * Use the Plug wallet to track token balances
- * Learn how to transfer the token between user accounts.

CREATE AN NFT AND MARKETPLACE

- * Create a non-fungible token modelled on ERC-721 and deploy it to the Internet Computer
- * Build a marketplace website like OpenSea to allow users to mint, buy and sell NFTs.
- * The owner of the NFT can interact with the canister to transfer the ownership of the .jpeg to another account.