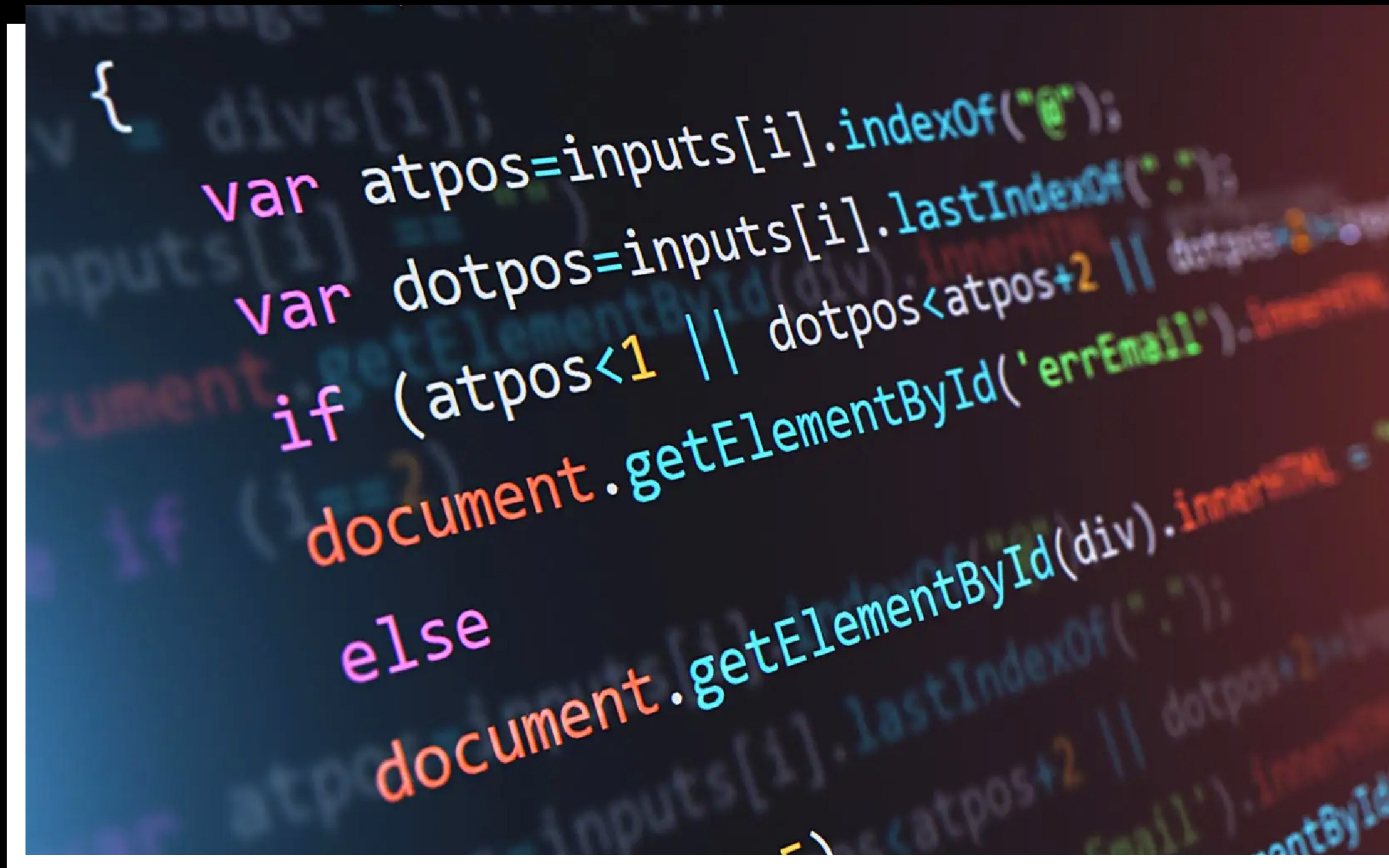


BACKEND WEB PROGRAMMING & DEVELOPMENT





A **Backend Web Developer** is responsible for server-side web application logic and integration of the work front-end developers do. Back-end developers are usually writing the web services and APIs used by front-end developers and mobile application developers.



COURSE OBJECTIVES

- The Course enable participants to develop a complete backend web application from the scratch that includes Backend logic, Database integration and Data-exchange technologies in just 5 Months.
- Build strong foundations (ex: OOP) in entry level engineers thereby making them job ready as per industry requirements. Enable them to learn new technologies by applying foundation paradigms.
- By the end of the program participants will be become an industry-ready engineer who can be readily deployed in a full web development project.

COURSE FLOW

This is a 5 Months based course whereas a student you will spend 3 Months of intensive training learning the overall Web concepts, engage in Practical Programming Exercise, Labs, Case study and Assignments.

After that you will spend 2 Months Project Based Learning where you will learn the fundamentals of participating in a real-life project.

DELIVERY METHODS

This Program Consist of Classes, Mentorship, Workshops, Modularized lessons managed by Learning Management System with Assignments, Lab exercise, Practical case study, Downloadable study resources and Video lectures to fully engage the student.

Student will be involved in practical lab Exercise and Assignment after each key concept is taught, the lab work shall be in the form of practical with guide from instructors, each assignment and lab work shall be used as part of performance and assessment grading.

PREREQUISITE

This program requires no prerequisite courses. It's designed for beginners learning from scratch. Our goal is to help you go from 0% to 100% and learn enough to do more.



COURSE OUTCOME

The expected learning outcome for each student participating in the Backend Web Application Development Course are listed below.

1. Student should have a complete overview of web technologies as it applies in the industry today.
2. Student should be able to develop detailed knowledge on Object Oriented Programming (OOP) as well as Model-View-Controller (MVC) Architecture.
3. Student should be able to develop backend logic using Backend Frameworks e.g Node JS or PHP-Laravel.
4. Student should be able to integrate backend logic to database and implement CRUD (Create, Read, Update, and Delete).
5. Student should develop understanding of REST API and should be able to develop and expose backend logic as API endpoints for consumption by 3rd party application e.g Frontend & Mobile Apps.
6. Student Should be able to feature in any Web Application development project after learning the industry base concept involved in a project by taking part in the project outline for the course with intensive guide from an industry mentor. Some key concept to learn during this phase will be
 - Understanding Product Requirement Elicitation.
 - Web Application Structure, Architecture & Workflow.
 - Web Application Segregation e.g Databases, Frontend, Backend.
 - Version Control.
 - Testing.
 - Hosting & Continuous Integration & Deployment (CI & CD).

MODULES

1. **Module 1** -- Introduction to Backend Web Fundamentals (OOP, MVC, Middleware's)
2. **Module 2** -- Databases
3. **Module 3** - Backend Frameworks (Laravel, Node.js)
4. **Module 4** - Data Exchange (HTTPS, Web Socket, REST API, API Management)
5. **Final Project**



Course Syllabus

INTRODUCTION TO BACKEND WEB FUNDAMENTALS- MODULE 1

MODULE OBJECTIVES

Building Strong expertise in Model-View-Controller (MVC) Architecture

Become proficient in Object Oriented Programming (OOP).

Understand the fundamentals of HTTPs and Rest API's and Middlewares.

DETAILED COURSE CONTENT

Lesson 1

Introduction to Object Oriented Programming (OOP).

Lesson 2

Introduction to Model-View-Controller (MVC) Architecture

Lesson 3

HTTPs and Rest API's Fundamentals

DATABASES- MODULE 2

MODULE OBJECTIVES

Building strong expertise in Relational Database Management System.

Understanding the Fundamentals of effective Database Design.

DETAILED COURSE CONTENT

Lesson 1

Introduction to Database Design

Lesson 2

Database Design with MySQL



Course Syllabus

| BACKEND FRAMEWORK - MODULE 3 | |
|--|--|
| MODULE OBJECTIVES | DETAILED COURSE CONTENT |
| <p>Building Strong expertise on Backend Frameworks to develop web application</p> <p>Implement frontend and backend scenarios to read, write and update data stored in MySQL.</p> <p>Building Strong Logical thinking capabilities for Backend related activities.</p> | <p>Lesson 1 Node JS – JavaScript Framework</p> <p>Lesson 2 Laravel – PHP Framework</p> |

| DATA EXCHANGE - MODULE 4 | |
|--|---|
| MODULE OBJECTIVES | DETAILED COURSE CONTENT |
| <p>Building strong expertise in REST API</p> <p>Understand the Implementation and use cases of APIs</p> <p>Connect application frontends to server backends using APIs</p> | <p>Lesson 1 Introduction to Data Exchange Protocol (HTTPS, Web Socket)</p> <p>Lesson 2 REST API</p> <p>Lesson 3 API Management</p> |



Course Syllabus

FINAL PROJECT

Some of the learning outcome for the final projects are,

- Understanding Product Requirement Elicitation
- Web Application Structure, Architecture & Workflow
- Web Application Segregation e.g Database, Frontend, Backend
- Version Control
- Testing
- Hosting & Continuous Integration & Deployment (CI & CD)



Ready To Take The Next Step?

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