



# MERN Full Stack Curriculum

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Become a full stack developer with expertise on MERN Stack. Build strong web development fundamentals and problem solving skills. Architect end-to-end web applications using emerging frameworks and create a portfolio of projects.

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# Programming with Python

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You will learn the fundamental concepts of programming and gain the confidence to code in Python. You will learn to write programs and use the right data structures to solve problems and build modular software with Object-Oriented Principles.

## Functions & Data Structures

- Recursion
- Lists
- Tuple
- Sets
- Dictionaries

## Object-Oriented Programming

- Classes & Objects in Python
- Attributes & Methods
- Inheritance & Polymorphism

## Working with Python Standard Library

- Collections
- Random
- Datetime
- Math

# Developer Foundations

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You will learn the essentials of Operating Systems, Networks and use some essential developer tools like Command-Line and Git. You'll learn to version your software with Git and push your code to GitHub.

## Introduction to OS & Networks

- Overview of OS Concepts
- Networks & Internet
- Network Layer
- Application Layer
- Web Servers

## Working with Command Line

- Files & File System
- Managing System Packages
- Environment Variables
- Network

## Collaborating with Git

- VCS & Git Repositories
- Staging Area & Commits

# Build Your Own Dynamic Web Application

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## Introduction to JavaScript

- Data Types
- Variables
- Basic Operators
- Conditionals
- Loops
- Functions
- Arrays
- Objects
- Control Flow
- Comments
- Math Function

## DOM Manipulation

- The JavaScript Console
- Introduction to the DOM
- Select and Manipulate
- Important Selector Methods
- Manipulating Style
- Manipulating Text and Content
- Manipulating Attributes
- Local Storage



### Course Project

Todos Application

Build a Todos Application using  
HTML5, CSS3 and JS

## Forms

- The form element
- The label element
- The input element
- The option element
- The button element
- The select element
- The textarea element
- Form validations and Input

## Array Methods

- Push
- unshift
- splice
- pop
- shift
- Find
- indexOf
- Concat

## Events, Fetch & Callbacks

- How to add Event Listeners
- Callbacks
- Schedulers
- setTimeout
- clearTimeout
- setInterval
- clearInterval
- Hypertext Transfer Protocol (HTTP)
- HTTP Requests using Fetch
- HTTP Responses
- Working with JSON data



### Course Project

Wikipedia Search  
Application

Build a Wikipedia Search Application  
using HTML5, CSS3, JS

# JavaScript Essentials

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In this course, you will learn the concepts like Events, Scope, Hoisting, this, ES6 Classes, Error handling, More about Objects and how to handle Asynchronous JavaScript.

## Rest parameters and spread syntax

- Destructuring Arrays
- Destructuring Objects

## this

- this in methods
- window scope
- this in function declarations
- this in events

## Prototypes & ES6 Classes

- Built-in Constructor Functions
- Constructor Property
- Inheritance
- this in classes

## Asynchronous JS

- Async/Await
- Promises

## Array Methods

- map
- filter
- reduce

## String Manipulations

- trim & split Methods
- toUpperCase & toLowerCase Methods
- includes Method

# Responsive Web Design using Flexbox

This course will help you to develop responsive layouts using CSS Flexbox and CSS Media Queries.

## CSS Layouting

- CSS Flexbox
  - Display
  - Flex-direction
  - Justify-content
  - Align-items
  - Flex-wrap
  - Flex-row
  - Align-content
  - Align-self
  - Flex-grow
  - Flex-shrink
  - Order
- Sizing Elements
- Overflow
- Box Sizing
- Content Box
- Border Box

## CSS Media Queries

- Media Query
- Media Types
- Media Features
  - Width, min-width, max-width
  - Height, min-height, max-height
  - Orientation
- Combining Multiple Media Features in a single Media Query.
  - Logical Operators (and)
  - Logical Operators (not)
  - Logical Operators (,)

# Node JS

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Learn about the incredibly prevalent databases today. Through this course, you'll develop strong fundamentals and be proficient in concepts related to Databases and DBMS. Most importantly, you'll also be able to perform powerful queries on databases using SQL.

## Introduction to NodeJS

- Node REPL
- Modules
- NPM CLI
- Aggregations
  - Usage of NPM Packages

## Introduction to Express Web Application Framework

- HTTP Server
- Routes
- Handling HTTP Request
- Preparing HTTP Response

## Fundamentals of Application Building in Express

- Integration with Database
- CRUD Operations
- Error Handling
- Middlewares

## Securing APIs

- Json Web Token(JWT)
- Authentication vs Authorization
- Building Secure Web API with Express



### Course Project

Twitter  
Web Application

Build your rest web application,  
A Social Networking platform similar  
to Twitter using ExpressJS.



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# React JS

In this course, you will learn how to build stateful web applications with the ReactJS library. When you finish this course, you will be comfortable creating an application in ReactJS, from scratch.

## Introduction to React JS

- Why React?
- Stateful + Stateless components
- Introducing JSX
- Rendering Elements
- Components and Props
- State and Lifecycle
- Handling Events
- Conditional Rendering
- Lists and Keys
- Forms

## CSS in JS

- Styled Components
- Emotion

## Routing

- Query parameters
- Path parameters

## Authentication and Authorization



### Course Project

**Ecommerce  
Application**

Build an Ecommerce application  
using React JS

# MongoDB

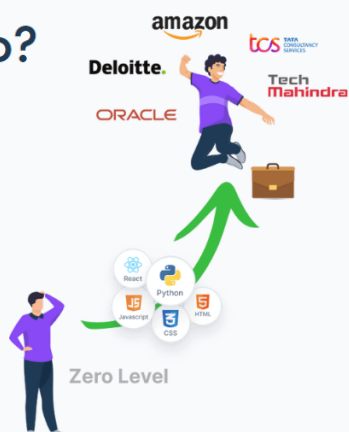
Dive into MongoDB, one of the leading NoSQL databases. This course will help you build a strong foundation and proficiency in concepts related to MongoDB. Most importantly, you'll learn how to execute powerful queries, manipulate data, and manage complex data structures in MongoDB.

## Non Relational Databases (MongoDB)

- Introduction to MongoDB
- CRUD operations
- Querying Documents
- Aggregations
- Nested Documents

### Why attend the Demo?

- ✓ **Know current opportunities** in the Tech Industry
- ✓ **How to start from zero level** and get high-paid tech jobs
- ✓ **How to overcome barriers** of degree, branch or college
- ✓ **How 1000s are transforming** into software professionals in just few months



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# Capstone Project - Movies App

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In this project, we will be building a Movies App, where users can log in, view account details, browse movies, including trending ones, and view movie details.

## Tools and Technologies used

- HTML
- CSS
- JS
- React JS

# Capstone Project - Tasty Kitchens

In this project, we will be building a Tasty Kitchens Restaurant App. Users will be able to log in, select recipes, add them to their cart, and place orders.

## Tools and Technologies used

- HTML
- CSS
- JS
- React JS

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