

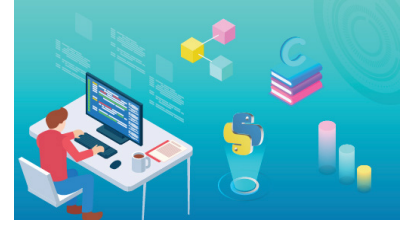


# Full Stack Developer

(MERN Specialization)

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.

# Programming Foundations with Python



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

## Fundamentals of Programming

- Operators, Datatypes & Variables
- Strings & Numbers
- Conditional Statements
- Loops
- String Methods

## Functions & Data Structures

- Functions & Recursion
- Lists and List Methods
- Tuples & Sequences
- Sets & Dictionaries

## Object-Oriented Programming

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

## Working with Python Standard Library

# Developer Fundamentals

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 & SSH

## Collaborating with Git

- VCS & Git Repositories
- Staging Area & Commits
- Working with Branches
- Issues & Pull Requests

# Static Website Design

This course helps you build a strong foundation on web technologies such as HTML, CSS. With this, you will create and publish simple and beautiful websites from scratch.



## Software Development Fundamentals

- Importance of Frontend
- Fundamentals
  - Syntax
  - Debugging
  - Tweaking Code

## HTML Basics

- Getting Started
- HTML Elements
- HTML Headings
- HTML Paragraphs
- HTML Button
- HTML Attributes
- HTML Images
- HTML Hyperlinks
- HTML Containers
- HTML Lists

## CSS Basics

- CSS Rulesets
- CSS Properties
- CSS Colors
- CSS Units
- CSS Box Model
  - CSS Margins
  - CSS Paddings
  - CSS Borders

## Bootstrap Components

- Carousel
- Embedding Videos

 **Course Project**  
Tourism Website

Build your Tourism Website by using HTML5, CSS3 and Bootstrap

# Responsive Website Design

This course helps you build a strong foundation on web technologies such as HTML, CSS, Media Queries, and Flexbox. With this, you can create a responsive web application which runs smoothly across all the devices like desktop, tablet, and mobile.



## Intermediate CSS

- Block vs inline elements
- CSS Selectors
  - Class Selector
  - Id Selector
  - Type Selector
- CSS Specificity
- CSS Inheritance
- CSS Cascading



### Course Project Food Munch

Build a responsive Food Munch website using HTML5, CSS3 and Bootstrap Grid System.

## Bootstrap

- Bootstrap Grid System
  - Container
  - Row
  - Column
- Bootstrap Utilities
  - Display Utilities
  - Flex Utilities
  - Sizing Utilities
  - Spacing Utilities
- Navbar
- Buttons
- Colors



### Course Project Ecommerce Website

Build a responsive Ecommerce website using HTML5, CSS3 and Bootstrap Grid System.

# Dynamic Web Applications

In this course, you will understand the fundamental concepts in JavaScript and apply them to build dynamic and interactive web projects. You will also learn scope, hoisting and the fundamentals necessary to use modern frameworks like React, Angular and Vue. You'll master key functional methods like map, reduce and filter plus promises and ES6+ asynchronous JavaScript!



## Introduction to JavaScript

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

## DOM Manipulation

- The JavaScript Console
- Introduction to the DOM
- Defining 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 optgroup element
- The button element
- The select element
- The textarea element
- Form validations and Input validations

## Array Methods

- Adding & Removing Elements
  - push
  - unshift
  - splice
  - pop
  - shift
- Finding Elements
  - 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.

# Intermediate JavaScript

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

## More Objects

- Constructor Functions
- Constructor Method
- Factory Functions
- new keyword

## this

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

## Prototypes & ES6 Classes

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

## Asynchronous JS

- Async/Await
  - Promises
- 

## Scope & Hoisting in JavaScript

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## Array Methods

- map
  - filter
  - reduce
- 

## String Manipulations

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

# Intermediate Responsive Web Design

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



## CSS Layouting

- CSS Flexbox
  - display
  - flex-direction
  - justify-content
  - align-items
  - flex-wrap
  - flex-flow
  - align-content
  - align-self
  - flex-grow
  - flex-shrink
  - order
- Sizing Elements
- Overflow
- Box Sizing
  - Content Box
  - Border Box

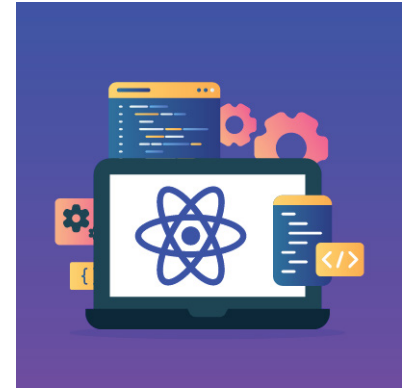
## CSS Media Queries

- 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 (,)

# React JS - Getting started

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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
- Hello World
- Introducing JSX
- Rendering Elements
- Components and Props
- State and Lifecycle
- Handling Events
- Conditional Rendering
- Lists and Keys
- Forms
- Composition vs Inheritance
- Thinking In React


## CSS in JS

- Styled Components
- Emotion

## Routing

- Query parameters
- Path parameters

## Authentication and Authorization

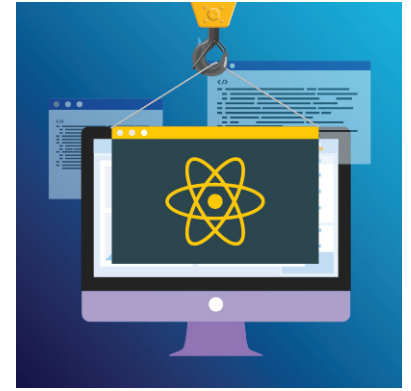
 **Course Project**  
Ecommerce  
Application

Build an Ecommerce application using React JS.




# React JS Hooks

In this course, you will learn how to build stateful web applications with the React JS Hooks.



## Introduction to Hooks

- Introducing Hooks
- useState
- useEffect
- useContext
- Hooks with Local Storage
- Hooks with React Router
- Data fetching using Hooks
- Writing Custom Hooks

 **Course Project**  
Ecommerce  
Application

Build an Ecommerce application using React JS Hooks.

# State Management using Redux

In this course, you will learn how to build advanced stateful web applications with React JS and Redux.



## Redux Toolkit

- Introducing Redux
- createAction
- dispatch
- Using createSlice
- Setting up our store via configureStore
- Asynchronous Logic and Data Fetching

### Course Project Twitter Clone

Build a Twitter Clone using React JS Hooks and Redux

# Relational and Non Relational Databases



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.

## Relational Databases

- Introduction
- SQL
- Aggregation, Relationships, Join
- Normalisation & Advanced SQL Querying
- ACID Properties

## Non Relational Databases (MongoDB)

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



### Course Project

Analyzing Data &  
Generating Business  
Insights

Generate insights from raw data by applying various complex aggregations and advanced queries.

# Backend Development with Node and Express

In this course, you'll learn how to build a backend web application using one of the most popular and mature Javascript web development frameworks, Express. It lets you build better web apps quicker, and with less code. This course covers various aspects of web application development like database routing, urls etc.



## Introduction to NodeJS

- Node REPL
- Modules
- NPM CLI
  - 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



## Course Project

### Content Management Portal

Build your first web application, A Q&A platform similar to StackOverflow using ExpressJS.

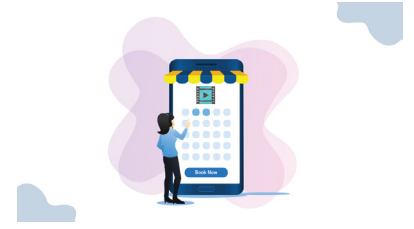
## Securing APIs

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

## Debugging

- node inspect
- Visual Debugging

# Capstone Project - Slot Booking Application like BookMyShow



In this project you will be developing a Slot Booking Application that provides a user an easy way of booking movie tickets online. Users can view various booking slots available and select the preferred date and time.

## Tools and Technologies used

- HTML
- CSS
- JS
- AWS
  - S3
  - Route53
  - Cloudfront
- Django Web Application Framework
  - Using ORM
  - Django Templates
- Designing & Querying Relational Database

# Capstone Project - Build a social networking web app



In this project you will be developing a Social networking web app with popular features like post, comment.

## Tools and Technologies used

- HTML
- CSS
- JS
- AWS
  - S3
  - Route53
  - Cloudfront
- ReactJS