



FULL STACK WEB DEVELOPMENT



OVERVIEW

This course will help you to learn the concepts of Full Stack Web Development with a server-side application - Node.js from the best faculties with the placement assistance. You'll learn how to integrate sockets and create chatting engines.By the end of this course you will be capable of creating a social media website from scratch with all it's perks and facilities.

FEATURES











COMPANIES HIRING





PRODUCTS THAT HAVE BEEN BUILT USING WEB DEVELOPMENT NODE.JS





COURSE OFFERINGS



- Front end web development
- Backend web development with Node.js



- Introduction to Programming
- Data structures and algorithms
- Front end web development
- Backend web development with Node.js



- Front end web development
- Backend web development with Node.js
 - 10 industry mentor sessions
 - Resume Building Workshops
 - Help in profile building
 - 100+ curated interview problems
 - DSA mock test series to crack product companies





- Introduction to Programming
- Data structures and Algorithms
- Front end web development
- Backend web development with Node.js
 - 10 industry mentor sessions
 - Resume Building Workshops
 - Help in profile building
 - 100+ curated interview problems
 - DSA mock test series to crack product companies



INTRODUCTION TO PROGRAMMING

Learn the basics of the most popular programming languages (C++/Java / Python) and become an expert in the core fundamentals of programming.

DATA STRUCTURES AND ALGORITHMS

Data structures and algorithms is all about organizing the information and finding the most efficient approach to solve a problem. Learning these concepts will in turn help you to improve your problem-solving skills and solve any real-world problems using technology.

FRONT END WEB DEVELOPMENT

Learn the best practices of converting data to a graphical interface, through the use of HTML, CSS, and JavaScript.

BACKEND WEB DEVELOPMENT WITH NODE.JS

Learn the basics of adding server-side logic to any web application using Node.js



INTRODUCTION TO PROGRAMMING

TOPIC	SUB-TOPICS	DETAILS
MING	Flowcharts	Introduction to flow- charts, Decision making using flowcharts, Loops, Example problems
BASICS OF PROGRAMMING	Variables and Data types	First program, Variables and data types, Taking input, How data is stored in memory, Arith- metic Operators
BASICS	Conditional statements	Introduction to If else, Relational and logical operators, Nested conditionals
SHOIL	While loops	While loops, Flow of execution of statements in while loop, Example problems using while loop
LOOPS AND FUNCTIO	Patterns	Introduction to patterns, Basic Patterns, Square Patterns, Triangular Patterns, Character Patterns, Reverse Triangle, Inverted patterns, Isosceles triangles



TOPIC	SUB-TOPICS	DETAILS
NCTIONS	For loops	For loops, Break and Continue, increment - decrement operators
LOOPS AND FUNCTIONS	Functions	Introduction to functions, Working of function calling, Variables and its scope, Pass by value
ARRAYS	Introduction to arrays	Introduction to arrays, How arrays are stored in memory, Passing arrays to functions
	Searching and Sorting	Understanding Binary Search, Selection sort, Bubble sort, Insertion sort, Merging two sorted arrays
2D ARRAYS	Strings	Introduction to strings, storage of strings and their inbuilt functions
STRINGS AND 2D ARRAYS	2D Arrays	2D arrays, Storage of 2D arrays, Example problems using 2D Arrays



DATA STRUCTURES AND ALGORITHMS

TOPIC	SUB-TOPICS	DETAILS
PROBLEM SOLVING TECHNIQUES	Recursion	Introduction to recursion, Principle of mathematical induction, Fibonacci numbers, Recursion using arrays, Recursion using strings, Recursion using 2D arrays
	Time and space complexity	Order complexity analysis, Theoretical complexity analysis, Time complexity analysis of searching and recursive algrithms, Theoretical space complexity, Space complexity analysis of merge sort
		1
OBJECT-ORIENTED PROGRAMMING	Basics of OOP	Introduction to oops, Creating objects, Getters, and setters, Constructors and related concepts, Inbuilt constructor and destructor, Example classes
	Advance concepts of OOP	Static members, Function overloading and related concepts, Abstraction, Encapsula- tion, Inheritance, Poly- morphism, Virtual func- tions, Abstract classes, Exception handling



TOPIC	SUB-TOPICS	DETAILS
LINEAR DATA STRUCTURES	Linkedlists	Introduction to linked list, Inserting node in linked list, Deleting node from linked list, Midpoint of linked list, Merge two sorted linked lists, merge sort of a linked list, Reversing a linked list
	Stacks and Queues	Introduction to stacks, Stack using arrays, Dynamic Stack class, Stack using linked list, Inbuilt stack, Queue using arrays, Dynamic queue class, Queue
TREES	Generic Trees	Introduction to Trees, Making a tree node class, Taking a tree as input and printing, Tree traversals, Destructor for tree node class
	Binary Trees	Introduction to Binary Trees, Taking a binary tree as input and printing, Binary Tree traversals, Diameter of binary tree



TOPIC	SUB-TOPICS	DETAILS
TREES	Binary Search Trees	Introduction to Binary Search Trees, Searching a node in BST, BST class, Inserting and Deleting nodes in BST, Types of balanced BSTs
STRUCTURES	Priority Queues	Introduction to Priority Queues, Ways to implement priority queues, Introduction to heaps, Introduction to Complete Binary Trees and its implementation, Insert and Delete operations in heaps, Implementing priority queues, Heap sort, Inbuilt Priority Queue
ADVANCED DATA STR	Hashmaps	Introduction to Hash- maps, Inbuilt Hashmap, Hash functions, Collision handling, Insert and Delete operation implementation in hashmap, Load factor, Rehashing
	Tries	Introduction to Tries, Making a Trie Node class, Insert, Search and Remove operation implementation in Tries, Types of Tries, Huffman Coding



TOPIC	SUB-TOPICS	DETAILS
ADVANCED DATA STRUCTURES	Graphs	Introduction to Graphs, Graph Terminology, Graph implementation, Graph Traversals (DFS and BFS), Weighted and Directed Graphs, Mini- mum Spanning Trees, Cycle Detection in Graphs, Kruskal's algo- rithm, Prim's Algorithm, Dijkstra's algorithm
		Introduction to Mem-

oization, Introduction to Introduction to Dynamic Programming, **Dynamic Programming** Fibonacci numbers using recursion, **DYNAMIC PROGRAMMING** memoization and dynamic programming Longest Common Subsequence (LCS) using recursion, memoization and dynamic programming, **Applications of** Edit distance using **Dynamic Programming** recursion, memoization and dynamic programming, Knapsack problem using recursion, memoization and dynamic programming



FRONTEND MODULE:

TOPIC	SUB-TOPICS	DETAILS
TOPIC		
<u>e</u>	History of Web	Understanding how and who built the web
ETTING STAR ITH BASICS	Client server architecture	General architecture used by websites
5	What happens when you visit a website	Learning what happens behind the scenes while opening a website
N TO HTML	HTML structure	How to create the structure of a web page
INTRODUCTION	Tags in HTML	Learning about various tags in HTML like <a>,



TOPIC	SUB-TOPICS	DETAILS
4	More tags	Practice creating HTML with more tags
MORE ON HTMI	Block v/s Inline elements	Understand the difference between inline and block HTML elements
٤	Table	Learn to create tables in HTML
NS N	Form	What is an HTML form
FORMS	Form fields	Discussing various form elements like <input/> , <textarea> etc</td></tr><tr><th></th><th></th><th></th></tr><tr><th>TO CSS</th><th>CSS Introduction</th><th>What is CSS and
how to use it in
HTML</th></tr><tr><th>INTRO TO CSS</th><td>Blog page</td><td>Building and styling the blog project</td></tr></tbody></table></textarea>



TOPIC	SUB-TOPICS	DETAILS
STARTING WITH RESUME PROJECT	Starting the project	Start building the Resume project by creating the HTML structure
	Intro to Flex	Learning what flex is and how it works
FLEX	Flex properties	Discovering various flex properties used to style HTML elements
	Using flex in Resume	Utilising flex to style the Resume project
COMPLETING RESUME	Pseudo elements	What are pseudo ele- ments and where to use them
COMP	Finishing up	Finish building the Resume project



TOPIC	SUB-TOPICS	DETAILS
RESPONSIVE DESIGNS	Media queries	What is responsive design and how to use media queries to build a responsive web app that works with multiple devices
ANIMATIONS AND 3D SPACE	Animation properties	Basics of CSS animation and how to animate HTML elements using animate.css
BOOTSTRAP	Frontend frameworks	What are frontend frameworks and how to use one
	Grid system	Learning about grid system of bootstrap
	Bootstrap components	Using various other boot- strap elements like Navbar, Jumbotron etc



ТОРІС	SUB-TOPICS	DETAILS
MAJOR PROJECT	Assignment	Build a music player project with your newly gained skill set

IG WITH RIPT	Intro to JS	What is JS and history of JS
STARTIN	Variables, operators, loops	Learning the basics of the language

JAVASCRIPT: FUNCTIONS AND ARRAYS	Scope	Understanding scope in JS
	Hoisting	What is hoisting and its application.
	Functions expressions v/s Function declaration	Difference between function expression and declaration
	Arrays and its usage	What are arrays and using array functions like splice, slice etc.



TOPIC	SUB-TOPICS	DETAILS
OBJECTS AND TIMING EVENTS	Intro to Objects	What are objects, how to create them and using different notations to access object's data
OBJE	Object functions	Learn to iterate over objects, delete object properties, creating nested objects
JNDERSTANDING SOM	DOM	Understanding DOM, what it is, how to access elements from the DOM
UNDER	Events	How to manipulate DOM events in JS
CALCULATOR PROJECT	Assignment	Creating a mini calculator with basic functionality
TS	let v/s var	Learning different ways to create variable
MINI PROJECTS USING JAVASCR	Catch me if you can	Build a game using vanilla Javascript



Class

TOPIC	SUB-TOPICS	DETAILS
	Revision	Revising some old concepts like Scope, window object etc
RES	IIFE	What are immediately invoked function expressions
CLOSURES	Closures	What are closures and its application
	Arrow functions	Learning about arrow functions and bindings in arrow functions
<u> </u>	"this" keyword	How does the "this" keyword works in JS
CONSTRUCTORS AN PROTOTYPES	Prototypes	Discussing what are prototypes in JS, why do we use them and its application
CON		Learning about using

classes in JS and how to

in JS

deal with class inheritance



TOPIC	SUB-TOPICS	DETAILS
PROJECT: PING PONG GAME	Assignment	Building the famous ping pong game with Javascript
	Intro to jQuery	What is jQuery and what is the need for it
JQUERY	Event handling in jQuery	Handling various JS events with jQuery and exploring the library
	Intro to AJAX	What are async requests, what is API and JSON
AJAX	Ajax requests with jQuery	Making ajax requests with jQuery and handling errors



TOPIC	SUB-TOPICS	DETAILS
PROMISES	Intro to promises	What is a promise, how do we use promises and chaining promises

GIT	Intro to Git	What is git and why it's helpful
	Branches	Discussing what are prototypes in JS, why do we use them and its application
	Git workflow	Understanding push, commits, pull requests and using git for teams and individual



BACKEND MODULE:

TOPIC	SUB-TOPICS	DETAILS
IS: CINNING	Intro to Node	Introduction to the course, hello world with nodejs
NODE.JS: THE BEGIN	Setting up	Setting up tools and the project
TING OUR	Intro to servers	What are servers and how one can use them
NODE.JS:WRITING FIRST SERVER	Setting up node server	Beginning the project by setting up the very first node server
	Nodemon	Introducing nodemon to monitor changes made to the server
APP::	MVC	MVC architecture for our server
MY FIRST EXPRESS APP :: A LIST OF CONTACTS	Express	What are frameworks, using express with node
	Ejs	What are template engines, setting up and working with Ejs



TOPIC	SUB-TOPICS	DETAILS
(PRESS APP ::	Creating the contact list	Building the contact list, sending data to server, parsing the data
	Middleware	What is a middleware and how to use one
MY FIRST CONTIN	Query parameters	Using query parameters in our app for deleting contact
S APP ::	Intro to Databases	What are databases, SQL and NoSQL data- bases
RST EXPRESS O TO DATABA	MongoDB	What is MongoDB, how to use it and setting up MongoDB for the project
MY FI	DB operations	CRUD operations for MongoDB
THE JECT 1	Directory structure and setup	Setting up the MVC directory structure, router and ejs setup
BEGINNING THE MAJOR PROJEC	Controllers	Creating controllers and router for handling incoming requests to the server



TOPIC	SUB-TOPICS	DETAILS
MAJOR PROJECT - 1	Assignment	Build a Todo list app using Nodejs and Mon- goDB
HE JECT - 2	Partials, Layouts	Understanding and creating Partials and layouts in views
BEGINNING THE MAJOR PROJEC	Static files	Setting up static file access
BEGIN	Mongoose	Linking MongoDB using Mongoose
z	User schema	Setting up user schema for out app
MANUAL AUTHENTICATION	Cookies	What are cookies and how to use them in the app
MANUAL	User sign up and sign in	Build user sign in and sign up flow and learn how to authenticate users manually



TOPIC	SUB-TOPICS	DETAILS
SPORT JS	Intro to passportjs	What is passportjs, set- ting up passportjs for the project
AUTHENTICATION	MongoStore setup	Setting up MongoStore for session cookies
SASS	Intro to SASS	Introducing SASS, setting up SASS for our project
IONS (TS)	DB relations	Explaining 1:1, 1:M and M:M DB relations
DATABASE RELATI (POSTS, COMMEN	Relationship for Post and Comments	Understanding the rela- tionship between Post and Comments, creating schemas for both
DAT/ (POS	SQL storage	Learning storage in SQL databases



TOPIC	SUB-TOPICS	DETAILS
D UPDATING ATABASE + S VIEWS	Deleting Posts/Comments/Users	Understanding how de- letion works with Posts and Comments
DELETING ANI OBJECTS IN D DISTRIBUTING	User profile	Working on user profile and updating SCSS for other pages
IT + ERROR	Async await	What is async await and converting our code to async await
ASYNC AWA HANDLING	Flash messages	How to create flash messages, using Noty to show flash messages
CONVERTING TO AJAX	Using AJAX	Learn how to use AJAX for post creation, delet-ing post etc



TOPIC	SUB-TOPICS	DETAILS
LOAD	Intro to file upload	Learning how to handle file uploads
FILE UPLOAD	Multer	Using multer to handle profile picture upload in the project
is ITICATION)	Intro to APIs	What are APIs and why do we use them
APIS (MAKING APIS AND JWT AUTHENTICATION)	JWT	Understand what is JWT, how does authentication and authorization works, build some APIs for the same
SOCIAL AUTHENTICATION (MINI LECTURE)	Social auth with Google	What is social authenti- cation and how does it actually works
SOCIAL AUTHEI (MINI LECTURE)	Using passport for Google auth	Setting up passport for google social auth



TOPIC	SUB-TOPICS	DETAILS
PARALLEL JOBS + MAILER	Nodemailer	Intro to mailers, setting up Nodemailer for sending emails
	Sending mails	Learn how to setup and send emails for your project
	Delayed jobs	Understand what are delayed jobs and how they can be helpful using the Kue library
FRIENDS + LIKES	Polymorphic relation	Intro to a new DB relationship i.e. Polymor-phic relations
	Making friends	Using Polymorphic rela- tionship to create add a friend functionality
CHATTING ENGINE	Sockets	What are sockets and how to use them
	Socket.io	Setting up Socket.io and using it to send messages



TOPIC	SUB-TOPICS	DETAILS
GULP :: GETTING DEPLOYMENT READY	Introduction to production environments	Learn how to create a production environment for the project using environment variables
	Gulp	What is gulp, using gulp to automate certain tasks
DEPLOYMENT	AWS	Learning how to deploy apps on AWS, SSH to set up the server, under- stand and setup Nginx
BEGINNING THE MAJOR PROJECT - 2	Starting to build a new project	Setting up to build the major project assignment
MAJOR PROJECT	Assignment	Build the major project



TOPIC	SUB-TOPICS	DETAILS
ANGULAR	All about Angular	Intro to frontend frame- works, creating a basic app
REACT	All about React	Intro to React and build- ing basic components
VUE	All about Vue	Intro to React and build- ing basic components

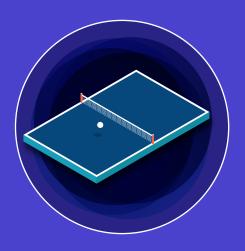


PROJECTS



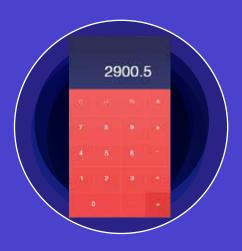
Static Blog

Build the UI of a basic blog using HTML.



Ping Pong Game

Build a vintage game, ping pong, using vanilla Javascript.



Mini Calculator

Build a calculator web app with Javascript as the core and style it with CSS.





Music Player

Build and style a music player like Spotify /Youtube Music using HTML and CSS.



Chatting Engine

Build a basic chat engine using sockets, which enables the users to chat with each other on the website



Social Media Website

Create a social media website with popular features like post, comment etc using Node.js, Mongo DB and more





Mini Contact List

Understand how the backend works and create a contact list by storing the data in a DB



Todo List App

Build a todo list app using Node.js and express.js



TOOLS AND TECHNIQUES





TESTIMONIALS



ANKIT SINGLA

"The Web Development course gave me a taste of actually developing apps, because of which I was able to make some projects, and also polish my resume, which helped a lot during the internship process. Coding Ninjas helped me get an internship during my second year."





VINAYAK KUMAR

"Coding Ninjas helped me explore various opportunities when I was in doubt during my 4th semester. Ankush sir is the best mentor I've come across in my life, gradually I moved on to Web Development and Competitive Programming courses which helped me sharpen my skills and achieve an offer at Amazon."



SUSOBHIT

"Courses at Coding Ninjas helped me a lot. Coding Ninjas gave me enough confidence, I was just not taught how to code but also to build something productive. Gradually I upgraded my skills and started developing web apps. During the pandemic I utilised my time and developed an E-Commerce store. The site did so well that till now I have generated a revenue of about 9 Lakhs in 8 months."