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A&T Edutech is democratizing access to high-quality education at an affordable price. We are playing our part in helping the country meet the growing demand for talent across segments. We follow an outcome-oriented approach while not compromising on either quality or affordability. Our emphasis is to become a bridge and fill the employment gap in our country by increasing the employment quotient of students and enabling them to access premium jobs.

About the Program

A&T Edutech Full Stack Web Development Program prepares you to get job-ready and enhance your skills to match the industry standards. This program will help you build an end-to-end full-fledged functional website using MERN stack technologies. This program starts with the basics of website designing using HTML and CSS, guides you to make it functional using the most popular JS library React, and finally helps you implement APIs & enables you to connect to a database. You will be learning complete MERN stack technologies like MongoDB, Express, React, and Node, which would help you develop dynamic and interactive websites efficiently while increasing your employability multifold.

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JavaScript

Node JS

MongoDB

ReactJS

Version Control and GIT

Professional Development

Day 1: Introduction to Web Development

Topics

- Introduction to web development
- Who is a full-stack developer?
- Overview of the five stack technologies and their importance
- Understanding the basics of web development
- Introduction to the MERN Stack and its components

Day 2: Overview of HTML

Topics

- Setting up development environments (Node.JS, MongoDB, code editors)
- What is HTML?
- HTML Page Structure
- Understanding HTML
- Introduction to HTML
- Purpose of Using HTML
- Structure of an HTML Page

Day 3: Exploring Fundamental HTML Tags - I

Topics

- <head>
- <body>
- <title>
- <meta>
-
- Div (<div></div>) Tag

Day 4: Exploring Fundamental HTML Tags - II

Topics

- Span () Tag
- Div Tag vs Span Tag
- <select> Tag
- <option> Tag
- <input> Tag
- <textarea> Tag
- <button> Tag

Day 5: HTML Container Tags

Topics

- <form> Tag
- Table Tags
- List Tags
- Links and Container Tags

Day 6: Introduction to HTML5

Topics

- Understanding HTML5
- HTML4 VS HTML5
- HTML5 Tags
- HTML5 APIs
- HTML5 DOM
- HTML5 SVG

Day 7: Introduction to CSS

Topics

- Introduction to CSS
- Advantages of CSS
- Adding CSS to an HTML page
- Inline CSS
- Internal CSS
- External CSS
- Selectors in CSS
- Element Name Selector
- Element ID Selector
- Element Class Selector
- Universal Selector
- Grouping Selector

Day 8: Properties in CSS

Topics

- CSS Background Property
- CSS Dimensions
- CSS Display Property
- Understanding CSS Box Model
- Border Property in CSS
- Margin Property in CSS
- Padding Property in CSS

Day 9: Layouts in CSS

Topics

- CSS Position Property
- Z-Index
- Grid system and Flexbox
- Font Styles in CSS

Day 10: Adding Styling and Responsiveness

Topics

- Responsive Web Design Using CSS
- Breakpoints in CSS
- Media Queries in CSS
- Debug CSS over Browser

Day 11: SASS

Topics

- Introduction to Sass
- Working of Sass
- Installing Sass
- Variables in Sass
- Operators in Sass
- Nesting in Sass
- Mixins in Sass
- Parameters in Sass
- Functions in Sass

Bootstrap

Day 12: Bootstrap

Topics

- Introduction to Bootstrap
- Understanding Bootstrap
- How to Use Bootstrap
- Bootstrap vs. Media Queries
- Bootstrap Breakpoints

Day 13: Working with Bootstrap Containers

Topics

Topics

- Bootstrap Components (Buttons, Card, Carousel, Dropdowns, Modal, Navbar, Toast)
- Bootstrap Content (Typography, Images, Tables, and more.)
- Bootstrap Layout (Containers, Grid, CSS Grid, Utilities, etc.)
- Bootstrap Utilities (Borders, Colors, Spacing, Position, etc.)

Day 15: Interview Preparation - HTML, CSS, and Bootstrap

Topics

- Interview Preparation on HTML, CSS, and Bootstrap
- Assessment on HTML, CSS, and Bootstrap

Day 16: Project - Netflix Homepage

A static homepage replica of Netflix created using HTML for structure, CSS for styling, and Bootstrap for responsive design, showcasing a user-friendly interface with navigation and media elements.

Day 17: JavaScript Essentials

Topics

- Introduction to JavaScript
- Adding JavaScript to HTML file
- Adding <script> tag in <head> section
- Adding <script> tag in <body> section
- Adding JavaScript using an external JavaScript file
- Benefits of JavaScript
- Variables in JavaScript
- Scope of variables in JavaScript
- Data Types in JavaScript
- var keyword in JavaScript

Day 18: Data Types & Operators in JavaScript

Topics

- Primitive Data Types
- Reference Data Types - Objects and Functions (it's different types)
- JavaScript Operators
- Conditional Statements
- Looping Statements

Day 19: I/O in JavaScript

Topics

- Input / Output Statements
- The String Object and its Functions
- Array and its Operations

Day 20: OOPs in JavaScript

Topics

- Classes and Objects
- OOPS in JS
- Date and Maths Objects

Day 21: Document Object Model

Topics

- DOM Manipulation and BOM
- Methods of DOM Manipulation

Day 22: Event Handling

Topics

- Browser Event and Types
- Events Listeners
- Event Object
- Event Propagation
- Browser Compatibility

Day 23: Modernize JavaScript with ES6 Features

Topics

- Form Validation
- ES5 Vs ES6
- JavaScript ES6
- ES6 Features
- var vs let vs const
- Arrow functions
- Concise Arrow Functions

Day 24: Strict Mode in JavaScript

Topics

- JavaScript use strict
- Context of use strict keyword
- Default param

Day 25: Callbacks in JavaScript

Topics

- Async Programming
- Callbacks
- Callback Hell
- Pyramid of Doom

Day 26: Promises in JavaScript

Topics

- Introduction to Promise
- Promise Chaining
- Attaching Multiple Handlers

Day 27: Promise APIs

Topics

- Promise API

Day 28: Async and Await in JavaScript

Topics

- Async and Await
- Promise API

Day 29: Working of this keyword

Topics

- Modules in JavaScript
- this keyword
- Context of this keyword

Day 30: Browser Storage in JavaScript

Topics

- Browser Storage
- Scheduling Functions

Day 31: Debugging in JavaScript

Topics

- Introduction to Debugging
- How to debug code in JavaScript?
- Function Currying and Borrowing
- Internal working on JavaScript

Day 32: Advance JavaScript

Topics

- Debounce, Throttling, Async, and Defer
- Additional Resources - JavaScript Frameworks

Day 33: Interview Preparation - JavaScript

Topics

- Interview Preparation on JavaScript
- Assessment on JavaScript

Day 34: Mini Project - II Weather Forecasting Application

A JavaScript-based weather application that provides real-time climate updates, forecasts, and atmospheric conditions using geolocation and API integration.

Day 45: Sets and Heap

Topics

- Fundamental of Sets and Heap
- Set Definitions
- Set Operations
- Inserting a node into the Binary Heap
- Removing a node from the Binary Heap
- Binomial Heaps
- Operations on Binomial Heaps
- Comparison between Binary and Binomial Heaps

Day 46: Graphs

Topics

- Graphs Basics
- Undirected Graphs (Adding & Removing of Edges and Vertices)
- Directed Graphs
- Graph Traversal (Breadth First Search & Depth First Search)
- Greedy Algorithm (Self-paced)
- Brute Force Algorithm (Self-paced)
- Recursive Algorithm (Self-paced)
- Dynamic Programming (Self-paced)
- Randomized Algorithms (Self-paced)
- Backtracking (Self-paced)

Day 47: Digital Backstage: Backend Basics

Topics

- Introduction to Backend Development
- Introduction to Node.JS
- Installation of Node.JS
- Working on Node.JS
- How different tech giants use Node.JS

Day 48: NPM - Streamlined Workflow

Topics

- Introduction to npm
- Modules
- Packages in Node.JS

Day 49: Using Node.JS Packages

Topics

- Packages (OS, HTTP, FTP)
- Significance of using nodemon

Day 50: Setting up Backend

Topics

- Introduction to Postman
- Express in Node.JS
- Routing in Node.JS

Day 51: Navigating Backend Infrastructure

Topics

- Node.JS Express Rest API
- Nginx Server
- Introduction to CORS

Day 52: Understanding MVC

Topics

- Introduction to MVC Architecture
- Role of Backend in MVC

Day 53: Databases: A Brief Introduction

Topics

- Introduction to Database
- Relational vs. non-relational database
- Introduction to MongoDB
- Data Modelling and its different approaches

Day 54: Database Management with NOSQL

Topics

- Types of Data Models
- MongoDB Architecture

Day 55: Operation on MongoDB

Topics

- Instances in MongoDB
- MongoDB Compass
- CRUD operations

Day 56: Backend-Database Connection

Topics

- Introduction to Mongoose
- Models
- Introduction to MVC Architecture
- Creating API's

Day 57: Interview Preparation - Node.JS and MongoDB

Topics

- Interview Preparation on Node.JS and MongoDB

- Assessment on Node.JS and MongoDB

Day 58: Mini Project-III Netflix Backend

This project involves building a robust backend for a video streaming application using Node.JS for server-side logic and MongoDB for storing and managing video content and user data.

Day 59: Overview of React

Topics

- Introduction to Web Applications
- Frontend Technologies
- Introduction to React
- Frameworks of React and their comparison
- Bundlers of React
- Features of React

Day 60: React Features Unveiled - I

Topics

- Transpiler in React - Babel, Webpack
- Single Page Application vs. Multi Page Application
- Role of React in MVC

Day 61: React Features Unveiled - II

Topics

- React Architecture
- Client-side Architecture
- Advantages and Disadvantages of React.JS
- React, and its competitors

Day 62: JSX and DOM

Topics

- Introduction to JSX
- Document Object Model

Day 63: Virtual DOM

Topics

- VDOM
- Working of VDOM

Day 64: React Bundlers

Topics

- Role of npm in React
- Introduction to Vite Bundlers

Day 65: React Essentials

Topics

- Installation of React
- Introduction to React Element
- Importance of Render Function

Day 66: Exploring React Components

Topics

- Understanding React Components and constructor function
- Exploring Multiple Components

Day 67: Variables in React

Topics

- States and Props

Day 68: React Lifecycle

Topics

- Lifecycle of React and its Methods

Day 69: React Bootstrap

Topics

- Introduction to React Bootstrap Typeahead
- Implementation of Typeahead in React

Day 70: Event Handling

Topics

- Introduction to React Events
- Conditional Handling
- Passing values between components

Day 71: Create Dynamic UI: React

Topics

- Introduction to React Forms
- Introduction to JSX and employ iteration in JSX

Day 72: Implementing Routing in React

Topics

- Implement API
- Rest API
- Routing
- React Router

Day 73: Dynamic Routing Exploration

Topics

- Navigation using links
- URL parameters
- Dynamic Routing
- Query String

Day 74: Styling in React

Topics

- Applying style in React components
- Working with POSTMAN
- Callbacks

Day 75: Connecting Frontend with Backend

Topics

- Promises
- Mockable
- CORS
- React Modals

Day 76: Introduction with Hooks

Topics

- Limitation of JavaScript Classes
- Need of Hooks
- Exploring Basic Hooks

Day 77: Types of Hooks

Topics

- Exploring different Hooks
- Custom Hooks

Day 78: Web Payment and Deployment

Topics

- Payment Integration using Stripe or Paytm
- Deployment of Backend and Frontend

Day 79: Interview Preparation – ReactJS

Topics

- Interview Preparation on ReactJS
- Assessment on ReactJS

Day 80: Project– Netflix Frontend

This project involves developing the frontend of a video streaming application using React, leveraging Hooks for state management and lifecycle features to create a dynamic user interface.

Version Control and GIT (Self-paced)

Introduction to Version Control

Topics

- Introduction to Version Control
- Understanding the need for version control in software development

Fundamentals of Version Control

Topics

- Key concepts: repository, commit, branch, merge, and more

Introduction to GIT

Topics

- Different types of version control systems (e.g., Git, SVN)
- Git Basics

Setup GIT

Topics

- Setting up Git: Installation and Configuration
- Creating a local repository

GIT Basics

Topics

- Tracking changes and creating commits
- Basic Git commands: add, commit, status, log, diff, etc.

Branching in GIT

Topics

- Branching and Merging
- Creating and Managing branches
- Merging branches: fast-forward, recursive, and conflict resolution

Branching Strategies

Topics

- Branching strategies: feature branching, release branching, and Gitflow

Professional Development

Day 81 and 82: Capstone Project – Build a Movie Recommender System like Netflix

Day 83: Mock Exam and Real-world Use Cases

Day 84: Final Assessment

Day 85 and 86: Profile Building

Day 87 and 88: Logical Reasoning

Day 89 and 90: Aptitude

Day 91 and 92: Communication Skills

Day 93 to 96: Mock Interviews

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