



# PROGRAMMER

A W D I Z F U L L S T A C K D E V E L O P E R P R O G R A M

MEAN MERN  
STACK SYLLABUS



**98%**  
*Placement Success*

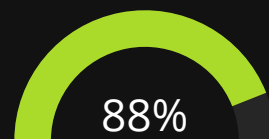
# WELCOME TO FULL STACK PROGRAM

Over the past five years, AWDIZ has achieved an impressive 98% success ratio in placing students trained in the MERN stack. This remarkable accomplishment highlights our commitment to providing high-quality education and preparing students for successful careers in the field of web development. Our comprehensive MERN stack program equips students with the necessary skills and knowledge to excel in the industry

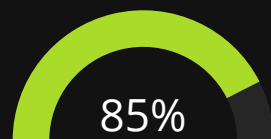
Through a combination of rigorous training, hands-on projects, and industry-relevant curriculum, we have consistently produced skilled professionals who are in high demand by employers



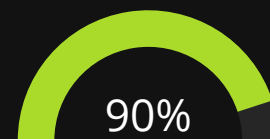
# MASTERING MEAN MERN STACK SKILLS AT AWDIZ



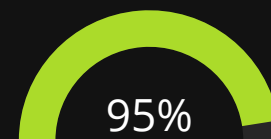
MongoDB



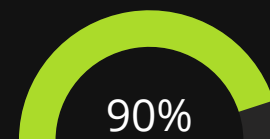
Javascript &  
Typescript



React.js



Node.js



Angular

Mastering these skills in the MEARN stack empowers students to become proficient full-stack developers capable of building modern, scalable, and efficient web applications using the four technologies that comprise the stack.



# HANDS-ON LEARNING OVER 10+ LIVE PROJECTS

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REAL-TIME CHAT APPLICATION  
LIKE WHATSAPP

JOB PORTAL  
LIKE NAUKRI

TASK MANAGEMENT SYSTEM  
LIKE TRELLO

RECIPE FINDER APPLICATION  
LIKE FOOD NETWORK

E-COMMERCE STORE  
LIKE AMAZON

NEWS AGGREGATOR LIKE  
GOOGLE NEWS

SOCIAL MEDIA PLATFORM  
LIKE FACEBOOK

MUSIC STREAMING PLATFORM  
LIKE SPOTIFY

BLOGGING PLATFORM  
LIKE MEDIUM

ONLINE LEARNING PLATFORM  
LIKE COURSERA



# FULL STACK DEVELOPER COURSE SYLLABUS

## HTML / HTML5

Applying Designs to WireFrames with HTML5 and CSS3

Introduction To Web And Basic HTML Tags

Building our Own HTML5 Video Player

Building Responsive Websites with HTML5 and CSS3

HTML5 and CSS3 Site Design our website project

Working with Forms

Deeper Understanding of Client-Server Communication

Understanding HTML5 Input Types

## CSS / CSS3

Introduction to CSS, CSS Inheritance and Various Selectors

The Cascade, Specificity and Style Resolution

Important CSS Properties

Website Wireframing with HTML5 and CSS3

Structuring Content Using HTML Tags

Explaining Bootstrap latest version 4

Using various components to make UI

Making complete pages





## TypeScript Module 1

Introduction to TypeScript  
Why TypeScript? & Setting up TypeScript  
Using Types for a better Code  
Understanding the TypeScript Compiler  
TypeScript and ES6  
Using Classes to create Objects  
Namespaces and Modules

## TypeScript Module 2

Doing Contract Work with Interfaces  
Generics  
Behind the Scenes with Decorators  
Using JavaScript Libraries (like jQuery) with TypeScript  
TypeScript Workflows  
Example: Using TypeScript together with ReactJS

## TypeScript Module 3

JavaScript vs TypeScript  
Type annotations, variable declarations, basic datatypes, type inference  
Advanced types, type erasure and error behavior  
Classes, constructors & methods, inheritance & polymorphism, access modifiers



## JS Language Fundamentals

What Is Javascript  
Internal Vs. External  
document.write()  
Alert & Confirm, Prompting Info  
Prompting For Info  
Conjugation & Arithmetic  
Redirecting And New Windows  
Empty Links & String Manipulation  
Comparisons, Functions & Events  
If Else, Else If, Switch Statements  
getElementById()  
Escaping, Arrays  
For Loops, While Loops  
Breaking Out Of Loops  
Skipping A Loop Cycle

## DOM Manipulation & Events

Project Setup and Details  
First DOM Access and Manipulation  
Events and Event Handling: Rolling the Dice  
Updating Scores and Changing the Active Player  
Implementing Our 'Hold' Function  
The DRY Principle  
Creating a Game Initialization Function  
Finishing Touches: State Variables

## Modern JavaScript 1

Using ES6 NPM Babel Webpack  
Installing Node.js & NPM  
Note: Tooling Changes  
Modern Setup: Configuring Webpack  
Webpack Dev Server  
Setup: Babel  
Planning Project Architecture with MVC  
ES6 Modules, Introduction, setting up, running ES6  
code, JS transpilers  
Template literals, default parameters  
Destructuring arrays & objects, Rest & spread

## Modern JavaScript 2

Project Setup and Details  
Building the Search Model, Controller, Search View  
Implementing Persistent Data with localStorage  
Building the Recipe Model, Controller, View  
Building the Search Model, Controller, Search View  
Rendering an AJAX Loading Spinner  
Try Catch And Throw  
Date & Math & Regular Expressions  
Primitives vs. Objects  
Navigator & Creating Objects: Object.create  
setInterval And setTimeout  
Inheritance and the Prototype Chain  
Creating Objects: Function Constructors  
Closures, Bind, Call and Apply

## Asynchronous JavaScript

Promises, Async/Await and AJAX  
Understanding Asynchronous JavaScript: The Event Loop  
The Old Way: Asynchronous JavaScript with Callbacks  
From Callback Hell to Promises  
From Promises to Async/Await  
AJAX and APIs  
Making AJAX Calls with Fetch and Promises  
Making AJAX Calls with Fetch and Async/Await  
What Is Ajax  
How To Execute Ajax  
Requests & Response  
readyStates And Status  
Putting It Together  
Ajax Search Suggest Tutorial  
Ajax Database Select Menu Tutorial

## Fundamentals of jQuery

What Is jQuery & Installing jQuery  
Syntax Selectors Events  
When A Key Is Pressed Effects & Callbacks  
.html() & Changing CSS  
Animations & Attributes  
jQuery.Ajax & Finishing jQuery  
The Prototype Chain in the Console  
First Class Functions: Passing Functions as Arguments  
First Class Functions: Functions Returning Functions  
Immediately Invoked Function Expressions (IIFE)



Angular vs Angular 2 vs Angular 8  
CLI Deep Dive & Troubleshooting  
Project Setup and First App Editing  
What is TypeScript?  
A Basic Project Setup using Bootstrap for Styling  
Debugging  
Components & Databinding Deep Dive  
Live Course Project Components & Databinding  
Directives Deep Dive  
Live Course Project Directives  
Using Services & Dependency Injection  
Live Course Project Services & Dependency Injection  
Changing Pages with Routing  
Live Course Project Routing  
Understanding Observables  
Live Course Project Observables

Handling Forms in Angular Apps  
Live Course Project Forms  
Using Pipes to Transform Output  
Making Http Requests  
Live Course Project Http  
Authentication & Route Protection in Angular  
Dynamic Components  
Angular Modules & Optimizing Angular Apps  
Deploying an Angular App  
Working with NgRx in our Project\*  
Angular Universal\*  
Angular Animations  
Adding Offline Capabilities with Service Workers  
A Basic Introduction to Unit Testing in Angular Apps  
Angular Changes & New Features  
Custom Project & Workflow Setup  
TypeScript for Angular 2 Usage

```
state={
  products: storeProducts
}
render() {
  return (
    <React.Fragment>
      <div className="py-5">
        <div className="container">
          <Title name="our" title="prod
          <div className="row">
            <ProductConsumer>
              {(value) => {
                console.log(value)
              }}
            </ProductConsumer>
          </div>
        </div>
      </div>
    </React.Fragment>
  )
}
```



## React.js Module 1

Introduction to React.js and the React ecosystem

Setting up a React development environment

Creating and rendering React components

JSX syntax and its usage in React

Managing component state

Handling events in React

Conditional rendering and rendering lists

Styling React components

Component composition and reusability

Props and prop types in React

React forms and form handling

React Router for client-side routing

React lifecycle methods

Fetching data from APIs in React

Handling asynchronous operations with Promises and async/await

Error handling in React

## React.js Module 2

State management in React using Redux

Redux middleware and asynchronous actions

Working with React hooks

Context API for state management

React performance optimization techniques

React and CSS-in-JS libraries

Unit testing React components

Deployment strategies for React applications

Building responsive and mobile-friendly UIs with React

Animations and transitions in React

Internationalization and localization in React

Accessibility best practices in React

Server-side rendering with React

Building progressive web applications (PWAs) with React

Integration with backend frameworks (e.g., Node.js, Express)



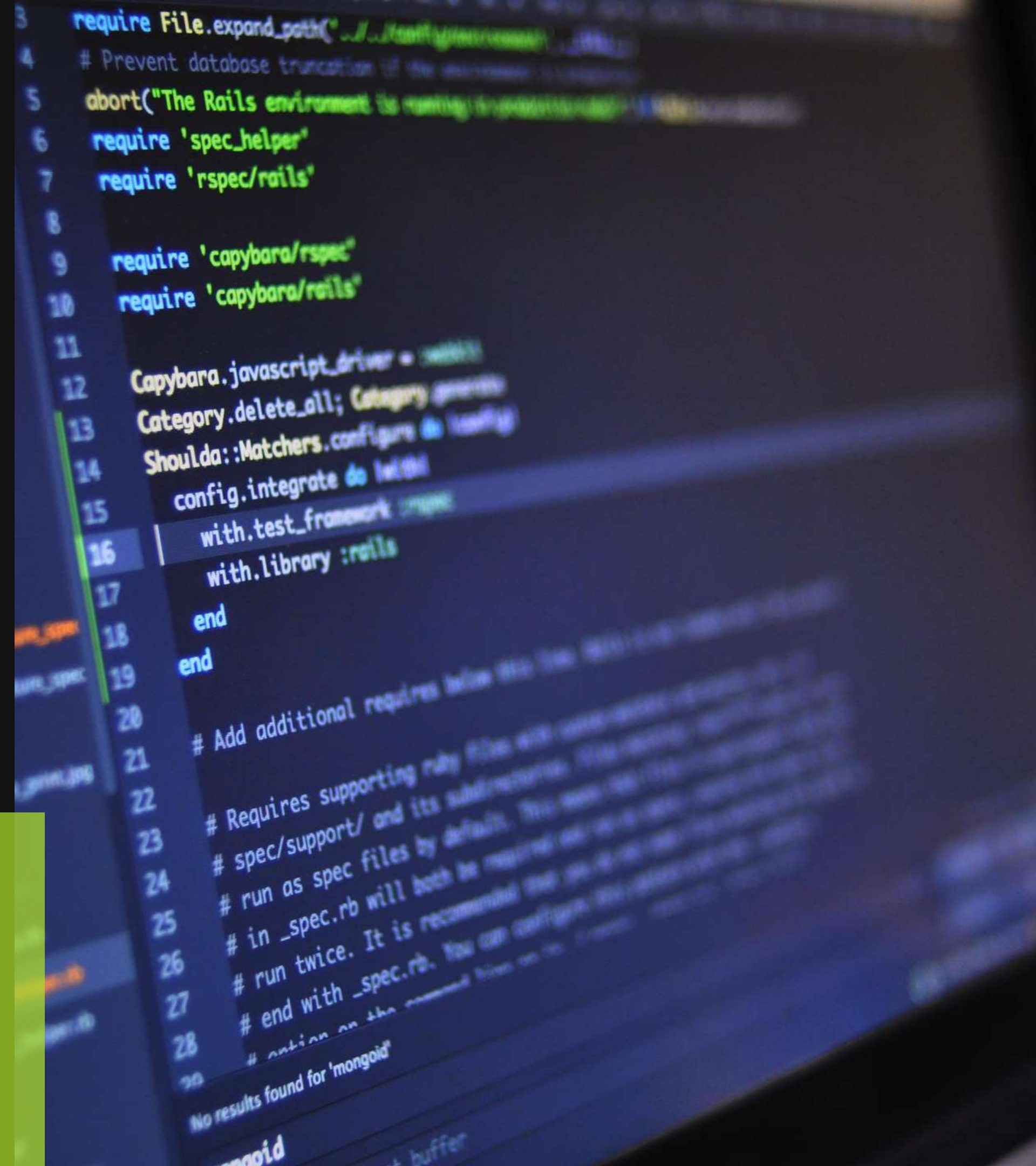


## MongoDB Developer Module 1

NoSQL databases & Key value pair  
Understanding the Basics & CRUD Operations  
Schemas & Relations: How to Structure Documents  
Exploring Shell & Server  
Using MongoDB Compass Explore Data Visually  
MongoDB with Node and Express  
Diving Into Create Operations  
Read Operations - A Closer Look  
Windows Setup

## MongoDB Developer Module 2

Update Operations  
Understanding Delete Operations  
Working with Indexes  
Working with Geospatial Data  
Understanding the Aggregation Framework  
Working with Numeric Data  
MongoDB & Security  
From Shell to Driver  
Introducing Stitch  
Roundup





Installing and Exploring Node.js

Node.js Module System

File System and Command Line Args

Improved Development Workflow and Debugging

Asynchronous Node.js

Accessing API from Browser

API Authentication and Security

Real-Time Web Applications with Socket.io

Improved Development Workflow and Debugging

Working with Express.js

Express JS with MongoDB and Sqlite

Working with Dynamic Content &amp; Adding Templating Engines

The Model View Controller (MVC)

Dynamic Routes &amp; Advanced Models

SQL Introduction

Understanding Sequelize

Working with NoSQL &amp; Using MongoDB

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```

var iiObject = Class.create({
  initialize: function(pos, y){
    if (typeof(y) == 'undefined')
      this.pos = pos || new iiVec2();
    else this.pos = new iiVec2(pos,y);
    this.drawCenter = true;
  },
  setPos: function(v,y){
    if(typeof(y) == 'undefined')
      this.pos = v;
    else {
      this.pos.x = v;
      this.pos.y = y;
    }
  },
  move: function(v,y){
    this.pos.add(v,y);
  },
  draw: function(ctx){
    if (this.drawCenter){
      //draw middle dot
      ctx.fillStyle = '#fff';
      ctx.fillRect(this.pos.x-2, this.pos.y-2, 4, 4);
    }
  }
});

var iiShape = Class.create(iiObject, {
  initialize: function($super, pos, y, vel, velY){
    $super(pos, y);
    if (typeof(velY) == 'undefined')
      this.vel = vel || new iiVec2();
    else this.vel = new iiVec2(vel,velY);
  },
  update: function($super, dt){
    if (typeof(this.drawables) != 'undefined')
      for (var i=0;i<this.drawables.length;i++){
        if (typeof(this.drawables[i].update) != 'undefined')
          if(!this.drawables[i].update())
            return false;
        this.move(new iiVec2(this.vel.x*dt, this.vel.y*dt));
        if (typeof(this.torque) != 'undefined') this.rotation+=this.torque;
        if (this.bounds != null && ((this.bounds.top != null && this.pos.y <
          this.bounds.top) || (this.bounds.right != null && this.pos.x > this
            .bounds.right) || (this.bounds.bottom != null && this.pos.y > this
              bounds.bottom) || (this.bounds.left != null && this.pos.x < this
                bounds.left)))
          return false;
        return true;
      }
  },
});

```

```

function SpaceSh
  var player;
  var playerHS
  var playerVS
  var playerM
  var spaceDo
  var backgro

  var asteroid

  var playerB
  var asteroid

  var score =
  var scoreTe

  var backgro
  img/png
  'img/pn

  var asteroid

  var iio;
  this.init =
  iio = i
  iio.set
  iio.cre
  iio.cre
  iio.cre
  iio.cre
  iio.cre
  iio.cre
  iio.run

  var src
  img
  player
  player.
  iio.add
  //playe

  runBgCr

  iio.cre

  scoreTe
  Ari

  setColl

```



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Working with Mongoose

Sessions & Cookies

Adding & Advanced Authentication

Understanding Validation

Sending Emails & Error Handling

File Upload & Download

Sorting, Pagination, and Filtering

Understanding Async Requests

Adding Payments

Working with REST APIs - The Practical Application

Understanding Async Await in Node.js

Understanding Websockets & Socket.io

Working with GraphQL

Testing Node.js Applications

Node.js as a Build Tool & Using npm





# BECOME A TRUE PROGRAMMER

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# THANK YOU