

## 15 Days (Introduction to Angular + Node.js)

### Objective:

- Gain a basic understanding of Angular and Node.js, and their roles in full-stack development.

### Syllabus:

1. **Day 1-2:** Introduction to Full-Stack Development
  - a. Overview of Angular and Node.js.
  - b. Setting up development environments (Node.js, Angular CLI, VS Code).
2. **Day 3-6:** HTML, CSS, and JavaScript Basics
  - a. Core concepts of HTML, CSS, and JavaScript.
  - b. Responsive design basics.
3. **Day 7-9:** Introduction to Angular
  - a. Angular fundamentals (components, modules).
  - b. Basic project structure and Angular CLI commands.
4. **Day 10-12:** Introduction to Node.js
  - a. Basics of Node.js and npm.
  - b. Simple server creation with Node.js.
5. **Day 13-15:** Hands-On Practice
  - a. Create a simple Angular form and connect it with a Node.js API.

## 30 Days (Beginner-Level Angular + Node.js Development)

### Objective:

- Build a basic understanding of Angular for frontend development and Node.js for backend API creation.

### Syllabus:

1. **Week 1:** Angular Basics
  - a. Components, directives, and templates.
  - b. Angular module structure and data binding.
2. **Week 2:** Node.js Basics
  - a. Express.js and routing basics.
  - b. RESTful API creation.
3. **Week 3:** Database Integration
  - a. Introduction to MongoDB and CRUD operations.

- b. Connecting Node.js to MongoDB.
- 4. **Week 4:** Angular Forms and Basic Project
  - a. Template-driven and reactive forms in Angular.
  - b. Build a simple CRUD application using Angular and Node.js.

## 45 Days (Intermediate-Level Angular + Node.js Development)

### *Objective:*

- Develop interactive, full-stack applications with Angular and Node.js.

### *Syllabus:*

1. **Week 1-2:** Advanced Angular Features
  - a. Angular services and dependency injection.
  - b. Routing and navigation in Angular.
2. **Week 3:** Advanced Node.js Features
  - a. Middleware and error handling in Express.js.
  - b. User authentication with JWT.
3. **Week 4:** Backend-Frontend Integration
  - a. API consumption in Angular using HttpClient.
  - b. Build a task manager with Angular frontend and Node.js backend.
4. **Week 5:** Deployment Basics
  - a. Deploying Angular and Node.js apps (Netlify, Heroku).

## 60 Days (Advanced Angular + Node.js Development)

### *Objective:*

- Build robust, scalable, and dynamic web applications.

### *Syllabus:*

1. **Week 1-2:** Advanced Angular Concepts
  - a. State management with RxJS.
  - b. Angular Material and advanced UI/UX design.
2. **Week 3-4:** Advanced Node.js Concepts
  - a. Role-based authentication and authorization.
  - b. Advanced API design (pagination, filtering).
3. **Week 5:** Backend-Frontend Integration
  - a. Real-time data with WebSocket and Socket.IO.

- b. Full-stack integration with Angular consuming live data.
- 4. **Week 6: Real-World Project**
  - a. Build a dynamic blogging platform or e-commerce app.

## 90 Days (Comprehensive Angular + Node.js Development)

### *Objective:*

- Master Angular and Node.js with real-world project implementation and deployment.

### *Syllabus:*

1. **Week 1-4: Advanced Angular Features**
  - a. Lazy loading and modular architecture.
  - b. Angular animations and testing with Jasmine/Karma.
2. **Week 5-6: Advanced Node.js Features**
  - a. File uploads, data validation, and caching.
  - b. Connecting multiple databases and handling relationships.
3. **Week 7: Testing and Debugging**
  - a. Unit testing Node.js APIs with Mocha/Chai.
  - b. Debugging and performance optimization.
4. **Week 8-9: Final Project**
  - a. Build a fully functional enterprise-grade application.
  - b. Cloud deployment with CI/CD pipelines.