

Angular (3 Months)

Duration: 3 Months (~120 Hours)

Mode: Live Online / Classroom

Role after completion: Angular Frontend Developer

Certifications prepared: Angular Developer (academy/vendor), RxJS Practitioner (optional)

Tools & Technologies: Angular CLI, TypeScript, RxJS, Angular Router, Forms, Angular Material, NgRx (intro), REST APIs, Git & GitHub

Syllabus

Week 1: Angular & TypeScript Essentials

- Angular CLI setup, project structure, tsconfig
- Components, templates, data binding (interpolation, property, event)
- TypeScript: types, interfaces, classes, generics
- Assignment

Week 2: Directives & Pipes

- Structural directives: *ngIf, *ngFor, ngSwitch
- Attribute directives: ngClass, ngStyle
- Built-in pipes and custom pipes (pure/impure)
- Assignment

Week 3: Services & Dependency Injection

- Creating services, DI providers & hierarchy
- Sharing state via RxJS subjects/behavior subjects
- Environment configs and configuration patterns
- Assignment

Week 4: Routing & Modules

- RouterModule, child routes, params, query params
- Guards (AuthGuard, CanDeactivate) and resolvers
- Feature/shared modules, lazy loading strategy
- Assignment
- Mock Interview 1

Week 5: Forms & Validation

- Template-driven vs reactive forms
- FormBuilder, Validators, async validation
- Error UX patterns & accessibility

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- Assignment

Week 6: HTTP & APIs with RxJS

- HttpClient: interceptors, headers, error handling
- RxJS: map, switchMap, catchError, retry
- Global loading & error patterns
- Assignment

Week 7: Angular Material & NgRx

- Material design components, theming, tables, dialogs
- NgRx store, actions, reducers, selectors, effects (basics)
- ChangeDetectionStrategy and performance tips
- Assignment

Week 8: Testing, Build & Deploy

- Unit tests (Jasmine/Karma), testable components
- E2E testing overview (Cypress/Playwright)
- Production builds, environment configs, deployment
- Assignment
- Mock Interview 2

Projects

- Employee Management System (CRUD, reactive forms, Material UI)
- Admin Dashboard (routing, guards, tables, pagination)
- Task Manager with NgRx (actions, reducers, effects)