

**Building Business Applications with Angular**

**Course Number:** ANG-178
**Duration:** 2 days

**Overview**

This Business Applications with Angular training teaches attendees how to build rich client-side business web applications using HTML, CSS, JavaScript, and Angular. Students then take their skills to the next level by using workspaces and libraries, creating NPM packages to reuse content, coding synchronous and asynchronous custom validators for controls, and more.

**Note**: An extra day may be added to cover NgRx or NgXs.

**Prerequisites**

Students must have taken [Introduction to Angular](file:////training/angular-introduction) or have equivalent experience.

**Materials**

All Angular training attendees receive comprehensive courseware.

**Software Needed on Each Student PC**

* Google Chrome
* Other modern browsers as desired
* IDE/development environment of your choice
* Other free software and lab files that Accelebrate would specify

**Objectives**

* Develop real-world JavaScript business applications with Angular
* Manage larger Angular projects with workspaces and libraries
* Distribute custom Angular libraries as NPM packages
* Go deeper into Angular Forms with complex validation scenarios and custom controls
* Construct custom form controls that seamlessly integrate with the Reactive Forms module
* Incorporate routing into business applications to lazy load modules
* Implement UI security with an emphasis on user experience
* Preload data through resolvers
* Manage application through Angular services and RxJS

**Outline**

* Introduction
* Angular and Business Applications
	+ Why is Angular well-suited for building traditional web-based applications?
	+ Which parts of the Angular eco-system are geared for business web application development?
* Angular Project Structures
	+ Angular Workspaces
	+ Angular Libraries
	+ Incorporate Libraries into Angular Application Development
	+ Developing Applications and Libraries Simultaneously
	+ Packaging and Distributing Angular Libraries
* Angular Reactive Forms
	+ Reactive Forms compared to Template Forms
	+ Using Form Controls, Groups and Arrays
	+ What is form validation?
	+ Built-in Validators
	+ Coding Custom Validators
	+ Validating Form Controls
	+ Validating Form Groups
	+ Validating Form Arrays
	+ Synchronous Validators
	+ Asynchronous Validators
	+ Using Promises and Observables in Validators
	+ Validating from a REST API
	+ Distributing Custom Validators in Angular Libraries
	+ Displaying Validation Errors
	+ Distributing Validation Message Components in Angular Libraries
	+ Custom Form Controls
	+ Integrating Custom Form Controls into the Validation System
	+ Distributing Custom Form Controls in Angular Libraries
* Routing
	+ Organizing Applications into Lazy Loaded Modules
	+ Lazy Loading with Angular Router
	+ Distributing Angular Modules with Angular Libraries
	+ Nesting Routes
	+ Sibiling Routes
	+ Using Route Guard to Improve User Experience
	+ How Route Guards Help Application Security
	+ How Route Guards do not Help Application Security
	+ Handling Guard Errors
	+ Preloading Data with Resolvers
	+ Handling Resolver Errors
	+ Distributing Guards and Resolvers via Angular Libraries
* Application State
	+ What is Application State?
	+ Persistent State vs. Temporal State
	+ Avoiding Component State
	+ Managing State with Angular Services
	+ The Service as a Store
	+ Single Store vs. Multiple Stores
	+ Common Store Patterns in Modern UI Development
	+ Using RxJS to Select Data from a Store
	+ Async Pipe and RxJS
	+ Integrating REST APIs into a Store
	+ Integrating Stores with Form Validation
	+ Integrating Stores with Route Resolvers
* Conclusion