Complete Angular Tutorial For Beginners

⟵ Best Angular Books

Introduction to Angular ⟶

This **Angular Tutorial** helps you to learn the concepts of Angular. You will learn to create Angular Applications and Adding Components, Directives, pipes, etc. Learn how to organize Applications using Modules, Navigate Using Routers, etc. The tutorial also covers advanced topics like component communications, Services, Forms, routers, HTTP communications, observable, SEO, etc. This Tutorial takes a simple, step-by-step approach and includes many examples and codes.

This Tutorial covers all versions of Angular, Starting from Angular 2 to the latest editions, i.e., Angular 15.

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What is Angular

Angular is a development platform for building a Single Page Application for mobile and

Angular is a development platform for building a Single Page Application for mobile and desktop. It uses Typescript & HTML to build Apps. The Angular itself is written using Typescript. It now comes with every feature you need to develop a complex and sophisticated web or mobile application. Angular is loaded with features like components, Directives, Forms, Pipes, HTTP Services, Dependency Injection, etc.

Angular Versions

The early version of Angular was named Angular 2. Then later, it was renamed to just Angular. You can learn about Angular Versions

Prerequisites

This tutorial requires a working knowledge of Javascript, TypeScript, HTML & CSS. It also requires the concept of OOP.

We are going to use **Typescript** as our language. You will find it very easy if you know C# or Java. You can learn Typescript from Typescript Tutorial.

Angular Tutorial

Introduction to Angular

This Introduction to Angular gives you a glimpse of Angular. Angular is a UI framework for building mobile and desktop web applications. It is built using Javascript. You can build amazing client-side applications using HTML, CSS, and Typescript using Angular. Knowing how the Angular framework works are essential before you start using it. The following tutorials introduce you to Angular, and you will learn Angular's architecture

following tutorials introduce you to Angular, and you will learn Angular's architecture.

1. Introduction to Angular
2. Angular Architecture Overview & Concepts
3. Install Angular

Getting Started With Angular

Angular has undergone many changes since the version of Angular 2. From the Angular 7 version, installing and creating a new project in angular has become very simple. You only need to install and Visual Studio code, NPM Package manager & Angular CLI. Once you install the required dependencies, creating a new project is as easy as running a simple command ng new. Angular CLI takes care of the Configuration & initialization of various libraries.

You can read the following step-by-step tutorial to learn how to create an Angular application and get started.

1. How to Create a new project in Angular
2. Bootstrapping in Angular

Components

The Component is the main building block of an Angular Application. A Component contains the definition of the View and the data that defines how the View looks and behaves. The Angular Components are plain javascript classes and defined using. @component Decorator. This Decorator provides the component with the View to display & Metadata about the class.

The Component passes the data to the view using a process called Data Binding. This is done by Binding the DOM Elements to component properties. Binding can display component class property values to the user, change element styles, respond to a user

event, etc.

1. Introduction to Angular Components
2. Data Binding in Angular
3. Interpolation in Angular
4. Property Binding in Angular
5. Event Binding in Angular
6. Two-way Binding & ngModel in Angular
7. ngModelChange & Change Event
8. Adding Child Component in Angular

Directives

The Angular directive helps us to manipulate the DOM. You can change a DOM element's appearance, behavior, or layout using the directives. They help you to extend HTML. The Angular directives are classified into three categories based on how they behave. They are Component, Structural, and Attribute Directives

The `ngFor` is an Angular structural directive that repeats a portion of the HTML template once per each item from an iterable list (Collection). The ngSwitch allows us to Add/Remove DOM elements. It is similar to the switch statement of Javascript. The ngIf allows us to Add/Remove DOM elements.

The ngClass Directive is an Angular Attribute Directive, which allows us to add or remove CSS classes to an HTML element. The ngStyle directive allows you to modify the style of an HTML element using the expression. Using the ngStyle, you can dynamically change the style of your HTML element.

1. Angular Directives
2. ngFor

3. ngSwitch
4. ngIf
5. ngClass
6. ngStyle
7. ngFor Trackby
8. Custom Directive

Pipes

The Angular pipes are used to Transform the Data. For Example, the Date pipe formats the date according to locale rules. We can pass arguments to pipe and chain pipes. Angular also allows us to create the Custom Pipe.

1. Angular Pipes
2. Angular Custom Pipes
3. Date Pipe
4. Async Pipe
5. KeyValue Pipe
6. Using Pipes in Components & Services

Component Communication

1. Angular Component Communication
2. Passing data from Parent to child component
3. Passing Data from Child to Parent Component

Component Life Cycle Hook

The life cycle hooks are the methods that angular invokes on directives and components as it creates, changes, and destroys them. Using life cycle hooks, we can

components as it creates, changes, and destroys them. Using life-cycle hooks, we can fine-tune the behavior of our components during creation, update, and destruction.

1. Component Life Cycle
2. OnInit & OnDestroy
3. Onchanges
4. DoCheck

Angular Forms

The data entry forms can be very simple to very complex. The Forms contain a large no of input fields, a variety of fields like Text boxes, Dates, Numbers, Emails, Passwords, Check Boxes, Option boxes, etc. These fields can Span multiple tabs or multiple pages. Forms may also contain complex validation logic interdependent on multiple fields.

The Angular forms modules are designed to handle the above and more. Angular Forms now supports the Reactive forms approach to Forms development. The older way of Template-based approach is also supported.

1. Angular Forms Tutorial: Fundamental & Concepts
2. Template-Driven Forms in Angular
3. Set Value in Template Driven forms in Angular
4. Reactive Forms in Angular
5. FormBuilder in Reactive Forms
6. SetValue & PatchValue in Angular
7. StatusChanges in Angular Forms
8. ValueChanges in Angular Forms
9. FormControl
10. FormGroup
11. FormArray Example

12. Build Dynamic or Nested Forms using FormArray
13. SetValue & PatchValue in FormArray
14. Select Options Dropdown

Services & Dependency Injection

Services allow us to create reusable code and use it for every component that needs it. The Services can be injected into components and other services using the dependency injection system. The dependencies are declared in the Module using the Provider's metadata. The Angular creates a tree of injectors & Providers that resembles the Component Tree. This is called the hierarchical pattern.

1. Services
2. Dependency injection
3. Injector, @Injectable & @Inject
4. Providers
5. Injection Token
6. Hierarchical Dependency Injection
7. Angular Singleton Service
8. ProvidedIn root, any & platform
9. @Self, @SkipSelf & @Optional Decorators
10. @Host Decorator in Angular
11. ViewProviders

Angular Forms Validation

One of the common tasks that is performed while building a form is Validation. The Forms Validation is built into the Angular Forms Module. Angular provides several Built-in validators out of the box. If those validators do not fit your needs, you can create your own custom validator.

your own custom validator.

1. Validations in Reactive Forms in Angular
2. Custom Validator in Reactive Forms
3. Passing Parameter to Custom Validator in Reactive Forms
4. Inject Service into Custom Validator
5. Validation in Template-Driven Forms
6. Custom Validator in Template-Driven Forms
7. Angular Async Validator
8. Cross Field Validation
9. Adding Validators Using SetValidators

HTTP

The newly designed HttpClient Module allows us to query the Remote API source to get data into our Application. It requires us to Subscribe to the returned response using RxJs observables.

1. Angular HTTP Client Tutorial
2. HTTP GET Example
3. HTTP POST Example
4. Passing URL Parameters (Query strings)
5. HTTP Headers Example
6. HTTP Interceptor

Angular Router

The Router module handles the navigation & Routing in Angular. The Routing allows you to move from one part of the application to another part or one View to another View.

1. Angular Router
2. Location Strategies in Angular Router
3. Passing Parameters to Route
4. Child Routes / Nested Routes
5. Query Parameters
6. Navigation between Routes
7. Angular Route Guards
8. CanActivate Guard
9. CanActivateChild Guard
10. CanDeactivate Guard
11. Angular Resolve Guard
12. Angular Pass data to route
13. RouterLinkActive
14. Router Events
15. ActivatedRoute

Angular Module

The Angular Modules help us to organize our code into manageable parts or blocks. Each block implements a specific feature. The Components, Templates, Directives, Pipes, and Services which implement that feature becomes part of the module. The following tutorial explains how best you can create an Angular Module, The folder structure you can use, etc. We can also load the Modules lazily or Preload them, thus improving the application's performance.

1. Introduction to Angular Modules
2. Routing Between Angular Modules
3. Angular folder structure: Best Practices

4. Lazy Loading in Angular
5. Preloading Strategy
6. CanLoad Guard

Advanced Components

The Components in Angular are very powerful features. The following tutorials take you through some of the important features of the Angular Component.

1. Ng-Content & Content Projection in Angular
2. Angular @input, @output & EventEmitter
3. Template Reference Variable in Angular
4. ng-container in Angular
5. ng-template & TemplateRef in angular
6. ngtemplateoutlet in angular
7. HostBinding & HostListener
8. ViewChild, ViewChildren & QueryList
9. ElementRef
10. Renderer2
11. ContentChild & ContentChildren
12. AfterViewInit, AfterViewChecked, AfterContentInit & AfterContentChecked
13. Angular Decorators

Observable in Angular

Angular uses the Observable Pattern extensively. The following tutorials give you an introduction to observable and how to use it in an Angular Application.

1. Angular Observable Tutorial

2. Create an Observable from a string, array, object, collection
3. Observable from events using fromEvent
4. Observable pipe
5. Map Operator
6. Filter Operator
7. Tap Operator
8. SwitchMap
9. MergeMap
10. ConcatMap
11. ExhaustMap
12. take, takeUntil, takeWhile, takeLast
13. First, last & Single
14. Skip, SkipWhile, SkipUntil & SkipLast
15. Scan & Reduce
16. DebounceTime & Debounce
17. Delay & DelayWhen
18. ThrowError
19. CatchError
20. Retry & ReTryWhen
21. Unsubscribe from an observable
22. Subjects in Angular
23. ReplaySubject, BehaviorSubject & AsyncSubject
24. Angular Subject Example

Styling the Application

Angular uses several different ways to style the Application. You can style the app globally and then override it locally in the component very easily. The component styles

globally and then override it locally in the component very easily. The component styles have local scope, which is achieved using the various View Encapsulation strategies. Learn all these in the section

1. Angular Global Styles
2. View Encapsulation
3. Style binding in Angular
4. Class Binding in Angular
5. Component Styles
6. How to Install & Use Angular FontAwesome
7. How to Add Bootstrap to Angular

Others

1. Location Service

Configuration

The apps usually need some Run-time configuration information like URL endpoint etc., which it needs to load at startup. Also, different environments like development, production & testing require different environments, etc.

1. How to use APP_INITIALIZER
2. Run time configuration
3. Environment Variables

Handling Errors

In the following Angular tutorials, we look at how Angular handles errors. We handle errors by setting up a Global Error handler or custom error handler. Also,.whenever the error occurs in an HTTP operation, Angular wraps it in an `httpErrorResponse` Object.

Learn how to handle HTTP Errors also.

1. Error Handling in Angular
2. HTTP Error Handling

Angular CLI

Learn how to use Angular CLI to speed up the development of Angular Application

1. Angular CLI Tutorial
2. ng new
3. Upgrading Angular App to the latest version
4. Multiple Apps in One Project

SEO & Angular

Your Website is useless if the Search Engines do not find it. There are many things you must consider to make your App SEO-friendly. You need to set up Title & Meta Tags for each page. Ensure that the search engines can crawl and read your page. Set the correct Canonical URL for each page etc. Also, ensure that the app loads quickly, etc. The Following Angular Tutorials guide you through some of the important SEO features.

1. Title Service Example
2. Dynamic Title based on Route
3. Meta Service
4. Dynamic Meta Tags
5. Canonical URL
6. Lazy Load Images in Angular

Angular Universal

Angular Universal

The following Angular Universal Tutorial explains how to achieve Server Side Rendering using Angular Universal. The App's rendering on the server side makes it load quickly and ensures that the search engines can crawl the content.

1. Server-Side Rendering Angular Universal Tutorial

Building & Hosting

1. The Requested URL is not found on this server

Angular Resources

1. Angular Examples & Projects
2. The Angular Learning Resources

Angular how-to guides

1. How to get the current Route
2. ExpressionChangedAfterItHasBeenCheckedError in Angular
3. Angular CLI Check Version
4. Property 'value' does not exist on type 'EventTarget' Error in Angular

Module Loaders

The Angular application can use either SystemJs or Webpack module loader. We will demonstrate how to use both loaders by building a small application.

1. Create Angular Application using SystemJS
2. Create Angular Application using Webpack

40 thoughts on “Complete Angular Tutorial For Beginners”

MADHUSUDHAN
MARCH 21, 2023 AT 4:36 PM

Can you please ad component and service test cases implementation.

Reply

ENSIEH
FEBRUARY 14, 2023 AT 12:11 PM

Excellent !

Reply

SANTOSH
FEBRUARY 9, 2023 AT 2:29 PM

can you please add promise tutorial

Reply

ANIL
FEBRUARY 1, 2023 AT 2:03 PM

Hi tektutorialshub,

Could you please share link promises for Angular observable?

Reply

AKSHAY
JANUARY 14, 2023 AT 5:49 PM

This is very nice and properly explained tutorial. Just a suggestion, can we please have all detailed index for topics. Like when we click on right and left arrow for navigation which topic and subtopic will come, if that we can get in index page on Angular tutorial home page it will be helpful. Thank you for your great work.

Reply

DEV
DECEMBER 27, 2022 AT 9:33 AM

Nice tutorials on Angular.

Reply

ANONYMOUS
NOVEMBER 5, 2022 AT 8:55 PM

Good tutorial. Thanks for sharing this to us.

Reply

CHRISTIAN
OCTOBER 22, 2022 AT 7:46 PM

You are the best to explain concepts
I'm addict to this website
Thanks

Reply

CHRISTIAN
OCTOBER 22, 2022 AT 7:35 PM

The best angular content I ever seen in my 5-year work experience

Reply

DANIEL FEREDE
OCTOBER 16, 2022 AT 8:16 PM

The best tutorial ever seen in my Angular study.

Reply

MUKESH PRAJAPATI
SEPTEMBER 21, 2022 AT 2:25 PM

I didn't find any website better than this.
How well structured and well self explainary this course is.

Reply

ANONYMOUS
SEPTEMBER 26, 2022 AT 3:27 PM

ekdam sachi vat…

Reply

HIMANSHU
JANUARY 11, 2023 AT 10:19 AM

Satya Vachan

Reply

ANONYMOUS

SEPTEMBER 7, 2022 AT 12:29 PM

extremely excellent. Thank u so much my friend!

Reply

ANONYMOUS

JULY 30, 2022 AT 2:38 PM

Very good content of angular i found on net. Nicely and easily explained each thing.

Reply

DEVAL

JULY 28, 2022 AT 6:27 AM

Hello Admin,

So far, this is one of the best content and most easy way tutorial I have found on net. Is there any PDF available for this tutorial? I really want to print it and study it.

Reply

NARENDAR

JUNE 8, 2022 AT 11:45 AM

Best tutorial easy to understand and given excellent exaamples

Reply

KEERTHI

MAY 14, 2022 AT 10:28 PM

Hi. This tutorial is great! Its easy to understand.
Please put tutorial on node.js and React

Reply

ANONYMOUS

MARCH 25, 2022 AT 12:20 PM

Please provide interview questions angular

Reply

ANONYMOUS
MARCH 24, 2022 AT 11:58 AM

Please provide Node Js tutorial

Reply

JOHN
MARCH 21, 2022 AT 2:32 AM

is there any changes in angular 13?? These docs are valid for version 13??

Reply

ANONYMOUS
APRIL 21, 2022 AT 9:43 PM

As long as I am studying it, looks like it is pretty much the same.

Reply

ANONYMOUS
FEBRUARY 6, 2022 AT 8:45 AM

Excellent!

Reply

ANONYMOUS

FEBRUARY 6, 2022 AT 8:44 AM

Excellent tutorial & very well explained!

Reply

ANONYMOUS

JANUARY 24, 2022 AT 5:53 PM

Great website for beginner,
Extremely good tutorial! Thank you!
Great! very simple. Beginner to advanced level

Reply

ALAMZAIB FAROOQ

DECEMBER 30, 2021 AT 2:47 PM

Great! very simple. Beginner to advanced.

Reply

GOURAV BHARDWAJ
DECEMBER 28, 2021 AT 1:42 PM

best site for learn angular —fresher

Reply

HADI
DECEMBER 27, 2021 AT 10:41 PM

The best of the best!!

Reply

ANNADURAI
NOVEMBER 15, 2021 AT 5:18 PM

Excellent site to learn angular.

Reply

ANONYMOUS
OCTOBER 10, 2021 AT 1:52 PM

I bookmarked it when I need good information about the ngModule annotation, when I started my work on angular, I started going through this tutorial.
It is really helping me to understand very well about the angular.
Thank you very much for sharing the knowledge in a better crafted story to grab the knowledge very well.

Reply

ANONYMOUS
AUGUST 16, 2021 AT 4:52 PM

ytddytd

Reply

ANONYMOUS
AUGUST 14, 2021 AT 10:08 PM

Great!!

Reply

SAI VARA PRASADA

JULY 29, 2021 AT 12:40 PM

Excellent Tutorial , Many Thanks for sharing the knowledge.
God bless you!

Reply

ANONYMOUS

JUNE 18, 2021 AT 11:08 AM

Best site to learn Angular. Nicely explained and easy to understand.

Reply

ANONYMOUS

JUNE 14, 2021 AT 6:29 PM

Best Tutorial in Web for Angular.

Reply

VINEET CHAUDHARY

JUNE 2, 2021 AT 2:14 PM

No any tutorial can be better from this one. Thanks a lot !

Reply

TECHITOP

MARCH 26, 2021 AT 9:11 PM

This is the best angular tutorial which i have ever read.simply and understandable keep it up.

Reply

KHALANDER

NOVEMBER 22, 2020 AT 5:20 PM

Can i get this entire tutorial in PDF format ?

Reply

REB

JUNE 10, 2021 AT 10:44 AM

Same request, I would be happy to pay for it. Thanks!

Reply

Reply

YOGESH

SEPTEMBER 20, 2018 AT 11:10 AM

Easily Understandable. Thanks, Can you please provide a good example of making complete app from start to end like: Step by step of making Header, Navigation, Content area and Footer so that one can easily make a app after seeing that.

Reply

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