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Playground



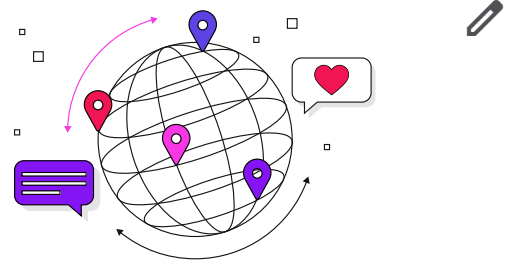
Reference



☰ Docs

Introduction

# What is Angular?



Angular is a web framework that empowers developers to build fast, reliable applications.

Maintained by a dedicated team at Google, Angular provides a broad suite of tools, APIs, and libraries to simplify and streamline your development workflow. Angular gives you a solid platform on which to build fast, reliable applications that scale with both the size of your team and the size of your codebase.

**Want to see some code?** Jump over to our [Essentials](#) for a quick overview of what it's like to use Angular, or get started in the [Tutorial](#) if you prefer following step-by-step instructions.

## On this page

# Features that power your development

**Keep your codebase organized with an opinionated component model and flexible dependency injection system**

Angular components make it easy to split your code into well-encapsulated parts.

The versatile dependency injection helps you keep your code modular, loosely-coupled, and testable.

**Get fast state updates with fine-grained reactivity based on Signals**

Our fine-grained reactivity model, combined with compile-time optimizations, simplifies development and helps build faster apps by default.

Granularly track how and where state is used throughout an application, giving the framework the power to render fast updates via highly optimized instructions.

**Meet your performance targets with SSR, SSG, hydration, and next-generation deferred loading**

Angular supports both server-side rendering (SSR) and static site generation (SSG) along with full DOM hydration.   
Blocks in templates make it simple to declaratively divide your templates into lazy-loadable parts.

**Guarantee everything works together with Angular's first-party modules for forms, routing, and more**

[Angular's router](#) provides a feature-rich navigation toolkit, including support for route guards, data resolution, lazy-loading, and much more.

[Angular's forms module](#) provides a standardized system for form participation and validation.

# Develop applications faster than ever

**Effortlessly build, serve, test, deploy with Angular CLI**

**Visually debug, analyze, and optimize your code with the Angular DevTools**

Angular CLI gets your project running in under a minute with the commands you need to grow into a deployed production application.

### browser extension

Angular DevTools sits alongside your browser's developer tools. It helps debug and analyze your app, including a component tree inspector, dependency injection tree view, and custom performance profiling flame chart.

### Never miss a version with ng update

Angular CLI's `ng update` runs automated code transformations that automatically handle routine breaking changes, dramatically simplifying major version updates. Keeping up with the latest version keeps your app as fast and secure as possible.

### Stay productive with IDE integration in your favorite editor

Angular's IDE language services powers code completion, navigation, refactoring, and real-time diagnostics in your favorite editor.

## Ship with confidence

### Verified commit-by-commit against Google's colossal monorepo

Every Angular commit is checked against *hundreds of thousands* of tests in Google's internal code repository, representing countless real-world scenarios.

Angular is committed to stability for some of Google's largest products, including Google Cloud. This commitment ensures changes are well-tested, backwards

### Clear support policies and predictable release schedule

Angular's predictable, time-based release schedule gives your organization confidence in the stability and backwards compatibility of the framework. Long Term Support (LTS) windows make sure you get critical security fixes when you need them. First-party update tools, guides and automated migration schematics help keep your apps up-to-date with the latest

compatible, and include migration tools whenever possible.

advancements to the framework and the web platform.

## Works at any scale

### Reach users everywhere with internationalization support

Angular's internationalization features handle message translations and formatting, including support for unicode standard ICU syntax.

### Protect your users with security by default

In collaboration with Google's world-class security engineers, Angular aims to make development safe by default. Built-in security features, including HTML sanitization and trusted type support, help protect your users from common vulnerabilities like cross-site scripting and cross-site request forgery.

### Keep large teams productive with Vite and esbuild

Angular CLI includes a fast, modern build pipeline using Vite and ESBuild. Developers report building projects with hundreds of thousands of lines of code in less than a minute.

### Proven in some of Google's largest web apps

Large Google products build on top of Angular's architecture and help develop new features that further improve Angular's scalability, from [Google Fonts](#) to [Google Cloud](#).

## Open-source first

### Made in the open on GitHub

Curious what we're working on? Every PR and commit is available on our GitHub. Run into an issue or bug? We triage GitHub issues regularly to ensure we're responsive and engaged with our community, and solving the real world problems you're facing.

### Built with transparency

Our team publishes a public roadmap of our current and future work and values your feedback. We publish Request for Comments (RFCs) to collect feedback on larger feature changes and ensure the community voice is heard while shaping the future direction of Angular.

## A thriving community

### Courses, blogs and resources

Our community is composed of talented developers, writers, instructors, podcasters, and more. The Google for Developers library is just a sample of the high quality resources available for new and experienced developers to continue developing.

### Open Source

We are thankful for the open source contributors who make Angular a better framework for everyone. From fixing a typo in the docs, to adding major features, we encourage anyone interested to get started on our GitHub.

### Community partnerships

Our team partners with individuals, educators, and enterprises to ensure we consistently are supporting developers. Angular Google Developer Experts (GDEs) represent community leaders around the world educating, organizing, and developing with Angular. Enterprise partnerships help ensure that Angular

### Partnering with other Google technologies

Angular partners closely with other Google technologies and teams to improve the web.

Our ongoing partnership with Chrome's Aurora actively explores improvements to user experience across the web,

scales well for technology industry leaders.

developing built-in performance optimizations like NgOptimizedImage and improvements to Angular’s Core Web Vitals.

We are also working with [Firebase](#), [Tensorflow](#), [Flutter](#), [Material Design](#), and [Google Cloud](#) to ensure we provide meaningful integrations across the developer workflow.



- [Read Angular's roadmap](#)
- [Try out our playground](#)
- [Learn with tutorials](#)
- [Watch our YouTube course](#)
- [Reference our APIs](#)

Social Media

- Blog
- X (formerly Twitter)
- Bluesky
- YouTube
- Discord
- GitHub
- Stack Overflow

Community

- Contribute
- Code of Conduct
- Report Issues
- Google's DevLibrary
- Angular Google Developer Experts

Resources

- Press Kit
- Roadmap

Languages

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