



Updating to Angular version 10



This guide contains information related to updating to version 10 of Angular.

For information on upgrading to Angular version 9, see [Updating to Angular version 9](#).

Updating CLI Apps

For step-by-step instructions on how to update to the latest Angular release (and leverage our automated migration tools to do so), use the interactive update guide at [update.angular.io](#).

If you're curious about the specific migrations being run by the CLI, see the [automated migrations section](#) for details on what code is changing and why.

Changes and Deprecations in Version 10

For information about Angular's deprecation and removal practices, see [Angular Release Practices](#).

New Breaking Changes

- Typescript 3.6, 3.7, and 3.8 are no longer supported. Please update to Typescript 3.9.
- Input fields of type number fire the `valueChanges` event only once per value change (as opposed to twice in some cases). See [PR 36087](#).
- The `minLength` and `maxLength` validators only validate values that have a numeric `length` property. See [PR 36157](#).
- Templates with unknown property bindings or unknown element names now log errors instead of warnings. See [PR 36399](#).
- `UrlMatcher` can now return `null` values. See [PR 36402](#).
- Transplanted views now refresh at insertion point only. See [PR 35968](#).
- Formatting times with the `b` or `B` format codes now supports time periods that cross midnight. See [PR 36611](#).
- Navigation is canceled for routes with at least one empty resolver. See [PR 24621](#).

New Deprecations

AREA	API OR FEATURE	MAY BE REMOVED IN
@angular/core	WrappedValue	v12
browser support	IE 9, 10, and IE Mobile	v11

New Removals of Deprecated APIs

The following APIs have been removed starting with version 10.0.0*:

PACKAGE	API	REPLACEMENT	NOTES
@angular/core	Undecorated base classes that use Angular features	Add Angular decorator	See migration guide for more info
@angular/core	ModuleWithProviders without a generic	ModuleWithProviders with a generic	See migration guide for more info
@angular/core	Style Sanitization	no action needed	See style sanitization API removal for more info
@angular/bazel	Bazel builder and schematics	bazelbuild/rules_nodejs	More info

*To see APIs removed in version 9, check out this guide on the [version 9 docs site](#).

Ivy features and compatibility

Since version 9, Angular Ivy is the default rendering engine. If you haven't heard of Ivy, you can read more about it in the [Angular Ivy guide](#).

- Among other features, Ivy introduces more comprehensive type-checking within templates. For details, see [Template Type-checking](#).
- For general guidance on debugging and a list of minor changes associated with Ivy, see the [Ivy compatibility guide](#).
- For help with opting out of Ivy, see the instructions [here](#).

Automated Migrations for Version 10

Read about the migrations the CLI handles for you automatically:

- [Migrating missing @Directive\(\)/@Component\(\) decorators](#)
- [Migrating ModuleWithProviders](#)
- [Solution-style tsconfig.json migration](#)
- [tslib direct dependency migration](#)
- [Update module and target compiler options migration](#)