14.0.0-next.11 (2022-04-06)

animations

Commit	Type	Description
29d3891782	fix	handle structured AnimateTimings ([#31107](#))

migrations

Commit	Type	Description
d56a537196	feat	Add migration to add explicit `Route`/`Routes` type ([#45084](#))

router

Commit	Type	Description
1c11a57155	fix	merge interited resolved data and static data ([#45276](#))

Special Thanks

Alan Agius, Andrew Kushnir, Andrew Scott, Chabbey François, Christoph Guttandin, Cédric Exbrayat, Dylan Hunn, George Kalpakas, Martin Sikora, mgechev and piyush132000

13.3.2 (2022-04-06)

animations

Commit	Type	Description
b46b25c562	fix	handle structured AnimateTimings ([#31107](#))

Special Thanks

Alan Agius, Andrew Kushnir, Christoph Guttandin, Cédric Exbrayat, mgechev and piyush132000

13.3.1 (2022-03-30)

bazel

Commit	Type	Description
960e42b2ac	fix	ng module compilation workers are subject to linker race-conditions ([#45393](#))

compiler

Commit	Type	Description
3714305f84	fix	scope css rules within `@layer` blocks ([#45396](#))

compiler-cli

Commit	Type	Description
7f53c0f4ac	fix	handle inline type-check blocks in nullish coalescing extended check ([#45478](#))

Special Thanks

AlirezaEbrahimkhani, Andrew Kushnir, Andrew Scott, Ben Brook, Dylan Hunn, George Kalpakas, JiaLiPassion, Joey Perrott, JoostK, Mike, Paul Gschwendtner, Willian Corrêa, arturovt, dario-piotrowicz, khai and mgechev

14.0.0-next.10 (2022-03-30)

Breaking Changes

compiler

- Keyframes names are now prefixed with the component's "scope name". For example, the following keyframes rule in a component definition, whose "scope name" is host-my-cmp:

  @keyframes foo { ... }

  will become:

  @keyframes host-my-cmp_foo { ... }

  Any TypeScript/JavaScript code which relied on the names of keyframes rules will no longer match.

  The recommended solutions in this case are to either:

  - change the component's view encapsulation to the `None` or `ShadowDom`
  - define keyframes rules in global stylesheets (e.g styles.css)
  - define keyframes rules programmatically in code.

http

- JSONP will throw an error when headers are set on a request

  JSONP does not support headers being set on requests. Before when a request was sent to a JSONP backend that had headers set the headers were ignored. The JSONP backend will now throw an error if it receives a request that has any headers set. Any uses of JSONP on requests with headers set will need to remove the headers to avoid the error.

compiler

Commit	Type	Description
f03e313f24	fix	scope css keyframes in emulated view encapsulation ([#42608](#))

compiler-cli

Commit	Type	Description
2142ffd295	feat	propagate `standalone` flag to runtime ([#44973](#))
6f653e05f9	feat	standalone types imported into NgModule scopes ([#44973](#))
3d13343975	fix	better error messages for NgModule structural issues ([#44973](#))
06050ac2b4	fix	handle inline type-check blocks in nullish coalescing extended check ([#45454](#))

core

Commit	Type	Description
d36fa111eb	fix	avoid Closure Compiler error in restoreView ([#45445](#))

forms

Commit	Type	Description
b36dec6b5b	fix	not picking up disabled state if group is swapped out and disabled ([#43499](#))

http

Commit	Type	Description
d43c0e973f	fix	Throw error when headers are supplied in JSONP request ([#45210](#))

Special Thanks

Alex Rickabaugh, AlirezaEbrahimkhani, Andrew Kushnir, Andrew Scott, Dylan Hunn, JiaLiPassion, JoostK, Kristiyan Kostadinov, Maddie Klein, Michael-Doner, Paul Gschwendtner, Willian Corrêa, arturovt, dario-piotrowicz and zverbeta

14.0.0-next.9 (2022-03-25)

Special Thanks

Paul Gschwendtner

14.0.0-next.8 (2022-03-25)

Breaking Changes

core

- TypeScript versions older than 4.6 are no longer supported.

zone.js

- in TaskTrackingZoneSpec track a periodic task until it is cancelled

The breaking change is scoped only to the plugin `zone.js/plugins/task-tracking`. If you used `TaskTrackingZoneSpec` and checked the pending macroTasks e.g. using `(this.ngZone as any)._inner`
`._parent._properties.TaskTrackingZone.getTasksFor('macroTask')`, then its behavior slightly changed for periodic macrotasks. For example, previously the `setInterval` macrotask was no longer tracked after its callback was executed for the first time. Now it's tracked until the task is explicitly cancelled, e.g with `clearInterval(id)`.

fixes 45350

animations

Commit	Type	Description
[79d334b138](#)	feat	provide warnings for non-animatable CSS properties ([#45212](#))
[2a75754ee8](#)	fix	apply default params when resolved value is null or undefined ([#45339](#))

bazel

Commit	Type	Description
[dc72f3007a](#)	fix	ng module compilation workers are subject to linker race-conditions ([#45393](#))

compiler

Commit	Type	Description
[fffa023803](#)	fix	scope css rules within `@layer` blocks ([#45396](#))

compiler-cli

Commit	Type	Description
[27b4af7240](#)	fix	full side-effectful registration of NgModules with ids ([#45024](#))
[8155428ba6](#)	perf	ignore the module.id anti-pattern for NgModule ids ([#45024](#))

core

Commit	Type	Description
[c9d566ce4b](#)	feat	drop support for TypeScript 4.4 and 4.5 ([#45394](#))

be161bef79	fix	memory leak in event listeners inside embedded views ([#43075](#))	

forms

Commit	Type	Description
fe0e42a996	fix	Make UntypedFormBuilder assignable to FormBuilder, and vice versa. ([#45421](#))

Special Thanks

Alan Agius, Alex Rickabaugh, AlirezaEbrahimkhani, Ben Brook, Dylan Hunn, George Kalpakas, Joey Perrott, JoostK, Kristiyan Kostadinov, Krzysztof Platis, Mike, Paul Gschwendtner, Tobias Speicher, alirezaghey, arturovt, dario-piotrowicz, khai and mgechev

14.0.0-next.7 (2022-03-16)

core

Commit	Type	Description
225e4f2dbe	feat	triggerEventHandler accept optional eventObj ([#45279](#))

forms

Commit	Type	Description
9db9091349	fix	improve error message for invalid value accessors ([#45192](#))

Special Thanks

Alan Agius, Alistair Kane, Amer Yousuf, Andrew Kushnir, Andrew Scott, Derek Cormier, Jessica Janiuk, JiaLiPassion, Lee Cooper, Paul Gschwendtner, alirezaghey and why520crazy

13.3.0-rc.0 (2022-03-16)

core

Commit	Type	Description
b5bb614c74	feat	support TypeScript 4.6 ([#45190](#))

Special Thanks

Alistair Kane, Andrew Scott and Kristiyan Kostadinov

13.2.7 (2022-03-16)

forms

Commit	Type	Description
eac94f0945	fix	improve error message for invalid value accessors ([#45192](#))

Special Thanks

Alistair Kane, Amer Yousuf, Andrew Scott, Jessica Janiuk, Lee Cooper, alirezaghey and why520crazy

13.3.0-rc.0 (2022-03-10)

core

Commit	Type	Description
b5bb614c74	feat	support TypeScript 4.6 (#45190)

Special Thanks

Alistair Kane, Andrew Scott and Kristiyan Kostadinov

14.0.0-next.6 (2022-03-09)

Breaking Changes

core

- Support for Node.js v12 has been removed as it will become EOL on 2022-04-30. Please use Node.js v14.15 or later.

compiler

Commit	Type	Description
2b7553db6f	fix	compute correct offsets when interpolations have HTML entities (#44811)

core

Commit	Type	Description
6eaaefd22e	feat	drop support for Node.js 12 (#45286)
94bba76a4a	feat	support TypeScript 4.6 (#45190)
9fa6f5a552	fix	incorrectly inserting elements inside `<template>` element (#43429)

forms

Commit	Type	Description
4332897baa	fix	Add UntypedFormBuilder (#45268)
aa7b857be8	fix	Property renaming safe code (#45271)
d336ba96d9	fix	Update the typed forms migration. (#45281)

language-service

Commit	Type	Description
be220fa683	fix	Prioritize Angular-specific completions over DOM completions (#45293)

service-worker

Commit	Type	Description
bd04fbc05b	feat	emit a notification when the service worker is already up to date after check (#45216)
3ecf93020c	fix	file system hash in batch of 500 elements (#45262)

Special Thanks

Alan Agius, Andrew Kushnir, Andrew Scott, Anner Visser, Aristeidis Bampakos, Dylan Hunn, George Kalpakas, JiaLiPassion, Joey Perrott, JoostK, Kristiyan Kostadinov, Luca, Mladen Jakovljević, Paul Gschwendtner, Srikanth Kolli, ananyahs96 and nanda18

13.2.6 (2022-03-09)

compiler

Commit	Type	Description
[6efa366e2c](#)	fix	compute correct offsets when interpolations have HTML entities ([#44811](#))

language-service

Commit	Type	Description
[9bce9ce89e](#)	fix	Prioritize Angular-specific completions over DOM completions ([#45293](#))

service-worker

Commit	Type	Description
[cff1c5622f](#)	fix	file system hash in batch of 500 elements ([#45262](#))

Special Thanks

Andrew Scott, Anner Visser, Aristeidis Bampakos, JiaLiPassion, Joey Perrott, Kristiyan Kostadinov, Luca, Mladen Jakovljević, Paul Gschwendtner, Srikanth Kolli and nanda18

14.0.0-next.5 (2022-03-02)

Breaking Changes

router

- The type of `Route.pathMatch` is now more strict. Places that use `pathMatch` will likely need to be updated to have an explicit `Route` / `Routes` type so that TypeScript does not infer the type as `string`.

- Previously, resolvers were waiting to be completed before proceeding with the navigation and the Router would take the last value emitted from the resolver. The router now takes only the first emitted value by the resolvers and then proceeds with navigation. This is now consistent with `Observables` returned by other guards: only the first value is used.

common

Commit	Type	Description
[7671a1e40d](#)	fix	canceled JSONP requests won't throw console error with missing callback function ([#36807](#))
[05d50b849b](#)	perf	make `NgLocalization` token tree-shakable ([#45118](#))

core

Commit	Type	Description
[69018c9f42](#)	feat	allow for injector to be specified when creating an embedded view ([#45156](#))
[c5df474c7c](#)	fix	remove individual commands for updating gold files ([#45198](#))
[88f1168506](#)	perf	only track LViews that are referenced in **ngContext** ([#45172](#))

forms

Commit	Type	Description
[7ee121f595](#)	feat	Add untyped versions of the model classes for use in migration. ([#45205](#))

localize

Commit	Type	Description
[ca5603b09b](#)	fix	avoid imports into `compiler-cli` package ([#45180](#))

router

Commit	Type	Description
7fd416d060	fix	Fix type of Route.pathMatch to be more accurate ([#45176](#))
c9679760b2	refactor	take only the first emitted value of every resolver to make it consistent with guards ([#44573](#))

Special Thanks

Andrew Kushnir, Andrew Scott, Charles Lyding, Dmitrij Kuba, Dylan Hunn, Guillaume Bonnet, Jessica Janiuk, JiaLiPassion, JoostK, Kristiyan Kostadinov, Martin Sikora, Paul Gschwendtner, Theodore Brown and dario-piotrowicz

13.2.5 (2022-03-02)

animations

Commit	Type	Description
6c61d20476	fix	allow animations with unsupported CSS properties ([#45185](#))

common

Commit	Type	Description
64da1daa78	fix	canceled JSONP requests won't throw console error with missing callback function ([#36807](#))
56ca7d385b	perf	make `NgLocalization` token tree-shakable ([#45118](#)) ([#45226](#))

compiler-cli

Commit	Type	Description
6c906a5bb9	fix	Support resolve animation name from the DTS ([#45169](#))

core

Commit	Type	Description
e8fd452bd2	fix	remove individual commands for updating gold files ([#45198](#))
82d772857c	perf	make `Compiler`, `ApplicationRef` and `ApplicationInitStatus` tree-shakable ([#45102](#)) ([#45222](#))
71ff12c1cc	perf	make `LOCALE_ID` and other tokens from `ApplicationModule` tree-shakable ([#45102](#)) ([#45222](#))

localize

Commit	Type	Description
d388522745	fix	avoid imports into `compiler-cli` package ([#45180](#))

Special Thanks

Andrew Kushnir, Andrew Scott, Charles Lyding, Guillaume Bonnet, Jessica Janiuk, JoostK, Martin Sikora, Paul Gschwendtner, Theodore Brown, dario-piotrowicz and ivanwonder

14.0.0-next.4 (2022-02-23)

Breaking Changes

animations

- The `AnimationDriver.getParentElement` method has become required, so any implementors of this interface are now required to provide an implementation for this method. This breakage is unlikely to affect application developers, as `AnimationDriver` is not

expected to be implemented in user code.

animations

Commit	Type	Description
f8dc660605	fix	allow animations with unsupported CSS properties ([#44729](#44729))
59559fdbac	refactor	make `AnimationDriver.getParentElement` required ([#45114](#45114))

compiler-cli

Commit	Type	Description
c0778b4dfc	fix	Support resolve animation name from the DTS ([#45107](#45107))

core

Commit	Type	Description
071c8af8ba	perf	avoid storing LView in **ngContext** ([#45051](#45051))
a96c4827c4	perf	make `Compiler`, `ApplicationRef` and `ApplicationInitStatus` tree-shakable ([#45102](#45102))
1e60fe0a3e	perf	make `LOCALE_ID` and other tokens from `ApplicationModule` tree-shakable ([#45102](#45102))

Special Thanks

Alan Cohen, AlirezaEbrahimkhani, Andrew Kushnir, Andrew Scott, Daniele Maltese, David Wolf, JiaLiPassion, JoostK, Kristiyan Kostadinov, Paul Gschwendtner, arturovt, dario-piotrowicz, ivanwonder and manuelkroiss

13.2.4 (2022-02-23)

animations

Commit	Type	Description
1a4b489692	perf	improve algorithm to balance animation namespaces ([#45113](#45113))

core

Commit	Type	Description
cbd23ee0de	perf	make `IterableDiffers` and `KeyValueDiffers` tree-shakable ([#45094](#45094)) ([#45115](#45115))

Special Thanks

Alan Cohen, AlirezaEbrahimkhani, Andrew Kushnir, Daniele Maltese, David Wolf, JoostK, Paul Gschwendtner, dario-piotrowicz and manuelkroiss

14.0.0-next.3 (2022-02-17)

animations

Commit	Type	Description
5c7c56bc85	perf	improve algorithm to balance animation namespaces ([#45057](#45057))
4c778cdb28	perf	made errors in the animations package tree shakeable ([#45004](#45004))

common

Commit	Type	Description
bedb257afc	fix	cleanup URL change listeners when the root view is removed ([#44901](#44901))

compiler

Commit	Type	Description
1b91e1049e	perf	chain element start/end instructions (#44994)

core

Commit	Type	Description
e461f716d4	feat	move ANIMATION_MODULE_TYPE injection token into core (#44970)
822439fddd	fix	`ViewContainerRef.createComponent` should consult module injector when custom one is provided (#44966)
45d98e7ca5	perf	make `IterableDiffers` and `KeyValueDiffers` tree-shakable (#45094)

Special Thanks

Alan Cohen, AlirezaEbrahimkhani, Amer Yousuf, Andrew Kushnir, Aristeidis Bampakos, Dario Piotrowicz, Dylan Hunn, Esteban Gehring, George Kalpakas, Jessica Janiuk, JiaLiPassion, Joey Perrott, JoostK, Kristiyan Kostadinov, Mina Hosseini Moghadam, Patrick Cameron, Srdjan Milic, Yousaf Nawaz, arturovt, dario-piotrowicz, markostanimirovic, mgechev and zuckjet

13.2.3 (2022-02-16)

animations

Commit	Type	Description
0050b01b62	perf	made errors in the animations package tree shakeable (#45079)

compiler

Commit	Type	Description
09f0254bdd	perf	chain element start/end instructions (#44994)

core

Commit	Type	Description
92cf9fbebe	fix	`ViewContainerRef.createComponent` should consult module injector when custom one is provided (#44966)

Special Thanks

AlirezaEbrahimkhani, Amer Yousuf, Andrew Kushnir, Aristeidis Bampakos, Dario Piotrowicz, Esteban Gehring, Jessica Janiuk, JiaLiPassion, Kristiyan Kostadinov, Mina Hosseini Moghadam, Patrick Cameron, Srdjan Milic, Yousaf Nawaz, dario-piotrowicz, markostanimirovic, mgechev and zuckjet

13.2.2 (2022-02-08)

compiler

Commit	Type	Description
37af6abb49	fix	allow banana-in-a-box bindings to end with non-null assertion (#37809)

forms

Commit	Type	Description
b75e90f809	fix	incorrectly keeping track of ngModel with ngFor inside a form (#40459)

http

Commit	Type	Description
3fae6637e7	perf	remove IE special status handling ([#44354](#))

upgrade

Commit	Type	Description
b9aab0c87b	fix	Do not trigger duplicate navigation events from Angular Router ([#43441](#))

Special Thanks

Alan Agius, Alan Cohen, Andrew Kushnir, Andrew Scott, Daniel Díaz, Dario Piotrowicz, Doug Parker, Jayson Acosta, Joey Perrott, JoostK, Kristiyan Kostadinov, Olivier Capuozzo, Ramzan, Shai Reznik, TANMAY SRIVASTAVA, dario-piotrowicz, iRealNirmal, jhonyeduardo, mgechev and zuckjet

14.0.0-next.2 (2022-02-07)

Breaking Changes

forms

- Forms [email] input coercion: forms [email] input value will be considered as true if it is defined with any value rather than false and 'false'.
- Objects with a length key set to zero will no longer validate as empty. This is technically a breaking change, since objects with a key `length` and value `0` will no longer validate as empty. This is a very minor change, and any reliance on this behavior is probably a bug anyway.

platform-browser

- This change may cause a breaking change in unit tests that are implicitly depending on a specific number and sequence of change detections in order for their assertions to pass.
- This tightens parameter types of `TransferState` usage, and is a minor breaking change which may reveal existing problematic calls. This may break invalid calls to `TransferState` methods.

router

- The type of `initialUrl` is set to `string|UrlTree` but in reality, the `Router` only sets it to a value that will always be `UrlTree`. `initialUrl` is documented as "The target URL passed into the `Router#navigateByUrl()` call before navigation" but the value actually gets set to something completely different. It's set to the current internal `UrlTree` of the Router at the time navigation occurs. With this change, there is no exact replacement for the old value of `initialUrl` because it was enver intended to be exposed. `Router.url` is likely the best replacement for this. In more specific use-cases, tracking the `finalUrl` between successful navigations can also be used as a replacement.

animations

Commit	Type	Description
e46b379204	fix	implement missing transition delay ([#44799](#))

common

Commit	Type	Description
38c03a2035	feat	support years greater than 9999 ([#43622](#))

compiler

Commit	Type	Description
db6cf7e7c1	fix	allow banana-in-a-box bindings to end with non-null assertion ([#37809](#))

compiler-cli

Commit	Type	Description

[0072eb48ba](#)	feat	initial implementation of standalone components ([#44812](#))

core

Commit	Type	Description
[d5719c2e0f](#)	fix	input coercion ([#42803](#))

forms

Commit	Type	Description
[8dd3f82f94](#)	fix	Correct empty validator to handle objects with a property `length: 0`. ([#33729](#))
[ebf2fc5224](#)	fix	incorrectly keeping track of ngModel with ngFor inside a form ([#40459](#))

http

Commit	Type	Description
[28393031b1](#)	perf	remove IE special status handling ([#44354](#))

platform-browser

Commit	Type	Description
[a01bcb8e7e](#)	fix	do not run change detection when loading Hammer ([#44921](#))
[b32647dc68](#)	fix	Make transfer state key typesafe. ([#23020](#))

router

Commit	Type	Description
[791bd31424](#)	feat	set stricter type for Route.title ([#44939](#))
[64f837d2c0](#)	fix	Update `Navigation#initialUrl` to match documentation and reality ([#43863](#))

upgrade

Commit	Type	Description
[202a1a5631](#)	fix	Do not trigger duplicate navigation events from Angular Router ([#43441](#))

Special Thanks

Alan Agius, Alex Rickabaugh, Andrew Kushnir, Andrew Scott, Daniel Díaz, Dario Piotrowicz, Doug Parker, Jayson Acosta, Joey Perrott, JoostK, Kristiyan Kostadinov, Olivier Capuozzo, Payam Shahidi, Pusztai Tibor, Ramzan, Ruslan Lekhman, Sergej Grilborzer, Shai Reznik, TANMAY SRIVASTAVA, arturovt, dario-piotrowicz, iRealNirmal, jhonyeduardo, markostanimirovic, mgechev and zuckjet

14.0.0-next.1 (2022-02-02)

Deprecations

common

- The `ngModuleFactory` input of the `NgComponentOutlet` directive is deprecated in favor of a newly added `ngModule` input. The `ngModule` input accepts references to the NgModule class directly, without the need to resolve module factory first.

animations

Commit	Type	Description
[7a81481fb2](#)	perf	Remove generic objects in favor of Maps ([#44482](#))
[6642e3c8fd](#)	perf	remove no longer needed CssKeyframes classes ([#44903](#))

common

Commit	Type	Description
c89cf63059	feat	support NgModule as an input to the NgComponentOutlet ([#44815](#))
a2cbffc06f	fix	include query parameters for open HTTP requests in `verify` ([#44917](#))

compiler-cli

Commit	Type	Description
73c97aea9e	fix	accept nullish coalescing operator for any and unknown types ([#44862](#))
366e424a73	fix	enable nullish coalescing check only with `strictNullChecks` ([#44862](#))
d82c957a26	fix	ensure casing of logical paths is preserved ([#44798](#))

core

Commit	Type	Description
5686f68fde	fix	Add back support for namespace URIs in createElement of dom renderer ([#44914](#))
39c614c438	fix	flush delayed scoping queue while setting up TestBed ([#44814](#))

forms

Commit	Type	Description
f490c2de4e	feat	support negative indices in FormArray methods. ([#44848](#))
889de8276d	fix	ensure OnPush ancestors are marked dirty when the promise resolves ([#44886](#))
deb9531a31	fix	Update the typed forms migration schematic to find all files. ([#44881](#))
cae1e44608	fix	Update the typed forms migration to use FormArray instead of FormArray<T[]>. ([#44933](#))

router

Commit	Type	Description
910de8bc33	feat	Add `Route.title` with a configurable `TitleStrategy` ([#43307](#))

Special Thanks

Alan, Alan Agius, AleksanderBodurri, Amir Rustamzadeh, Andrew Kushnir, Andrew Scott, Aristeidis Bampakos, Arjen, Daan De Smedt, Daniel Díaz, David Shevitz, Doug Parker, Dylan Hunn, Emma Twersky, Esteban Gehring, George Kalpakas, Jessica Janiuk, JimMorrison723, JoostK, Juri Strumpflohner, Lee Robinson, Maarten Tibau, Mark Whitfeld, Minko Gechev, Paul Gschwendtner, Ricardo Mattiazzi Baumgartner, Sumit Arora, Theodore Brown, arturovt, dario-piotrowicz, fru2, kamikopi, markostanimirovic, markwhitfeld, mgechev, renovate[bot] and twerske

13.2.1 (2022-02-02)

animations

Commit	Type	Description
4644886aaf	perf	remove no longer needed CssKeyframes classes ([#44903](#)) ([#44919](#))

common

Commit	Type	Description
b4e4617807	fix	include query parameters for open HTTP requests in `verify` ([#44917](#))

compiler-cli

Commit	Type	Description
0778e6f7d7	fix	accept nullish coalescing operator for any and unknown types ([#44862](#))
07185f4ed1	fix	enable nullish coalescing check only with `strictNullChecks` ([#44862](#))
4a5ad1793f	fix	ensure casing of logical paths is preserved ([#44798](#))

core

Commit	Type	Description
7ec482d9c2	fix	Add back support for namespace URIs in createElement of dom renderer ([#44914](#))
250dc40a46	fix	flush delayed scoping queue while setting up TestBed ([#44814](#))

forms

Commit	Type	Description
1aebbf8714	fix	ensure OnPush ancestors are marked dirty when the promise resolves ([#44886](#))
6b7fffcbeb	fix	Update the typed forms migration schematic to find all files. ([#44881](#))

Special Thanks

Alan, Andrew Kushnir, Andrew Scott, Aristeidis Bampakos, Arjen, Daniel Díaz, David Shevitz, Doug Parker, Dylan Hunn, Esteban Gehring, George Kalpakas, Jessica Janiuk, JoostK, Juri Strumpflohner, Lee Robinson, Maarten Tibau, Paul Gschwendtner, Theodore Brown, arturovt, dario-piotrowicz, fru2, markostanimirovic and mgechev

14.0.0-next.0 (2022-01-26)

language-service

Commit	Type	Description
9d4af65e34	feat	Provide plugin to delegate rename requests to Angular ([#44696](#))

service-worker

Commit	Type	Description
ec0a0e0669	feat	add `cacheOpaqueResponses` option for data-groups ([#44723](#))

Special Thanks

Andrew Kushnir, Dylan Hunn, George Kalpakas, JiaLiPassion, Joey Perrott and ivanwonder

13.2.0 (2022-01-26)

Deprecations

- The `CachedResourceLoader` and `RESOURCE_CACHE_PROVIDER` symbols were previously necessary in some cases to test AOT-compiled components with View Engine, but they are no longer needed since Ivy.

- The `ComponentFactory` and `ComponentFactoryResolver` classes are deprecated. Since Ivy, there is no need to resolve Component factories. Please use other APIs where you Component classes can be used directly (without resolving their factories).

- Since Ivy, the `CompilerOptions.useJit` and `CompilerOptions.missingTranslation` config options are unused, passing them has no effect.

Commit	Type	Description
9c11183e74	docs	deprecate `CachedResourceLoader` and `RESOURCE_CACHE_PROVIDER` symbols ([#44749](#))
9f12e7fea4	docs	deprecate `ComponentFactory` and `ComponentFactoryResolver` symbols ([#44749](#))
4e95a316ce	docs	deprecate unused config options from the `CompilerOptions` interface ([#44749](#))

compiler

Commit	Type	Description
a4ab6d6b72	feat	add support for safe calls in templates ([#44580](#))
abd1bc8039	fix	correct spans when parsing bindings with comments ([#44785](#))
ed67a074ce	fix	properly compile DI factories when coverage reporting is enabled ([#44732](#))

compiler-cli

Commit	Type	Description
fa835b5a29	feat	enable extended diagnostics by default ([#44712](#))
73424def13	feat	provide the animations for `DirectiveMeta` ([#44630](#))
fe3e4d6865	fix	Handle `ng-template` with structural directive in indexer ([#44788](#))
7316e72ec5	fix	properly index
100091ebf0	fix	remove leftover `_extendedTemplateDiagnostics` requirements ([#44777](#))
d2ae96f742	fix	skip `ExtendedTemplateCheckerImpl` construction if there were configuration errors ([#44778](#))

core

Commit	Type	Description
5626b34264	fix	consistently use namespace short name rather than URI ([#44766](#))
94bfcdd9de	fix	error if NgZone.isInAngularZone is called with a noop zone ([#44800](#))

forms

Commit	Type	Description
72092ebd26	feat	Allow a FormControl to use initial value as default. ([#44434](#))
f7aa937cac	fix	Make some minor fixups for forward-compatibility with typed forms. ([#44540](#))

router

Commit	Type	Description
5a4ddfd4f5	feat	Allow symbol keys for `Route data` and `resolve` properties ([#44519](#))

Special Thanks

Alex Rickabaugh, Andrew Kushnir, Andrew Scott, Dario Piotrowicz, Derek Cormier, Doug Parker, Douglas Parker, Dylan Hunn, George Kalpakas, Jessica Janiuk, JoostK, Kristiyan Kostadinov, Martin Probst, Oleg Postoev, Stephanie Tuerk, Tim Bowersox, Wiley Marques, Yousaf Nawaz, dario-

piotrowicz, iRealNirmal, ivanwonder and shejialuo

13.1.3 (2022-01-19)

animations

Commit	Type	Description
af0a152a2c	fix	apply setStyles to only rootTimelines ([#44515](#))

compiler-cli

Commit	Type	Description
626f3f230b	perf	reduce analysis work during incremental rebuilds ([#44731](#))

ngcc

Commit	Type	Description
f9ca4d8499	fix	support element accesses for export declarations ([#44669](#))

Special Thanks

13.1.2 (2022-01-12)

animations

Commit	Type	Description
abc217b28e	fix	retain triggers values for moved tracked list items ([#44578](#))

compiler

Commit	Type	Description
59eef29a6c	fix	correct spans when parsing bindings with comments ([#44678](#))

compiler-cli

Commit	Type	Description
08049fa23f	fix	enable narrowing of using type guard methods ([#44447](#))
a26afce68c	fix	fix crash during type-checking of library builds ([#44587](#))
1e918b6f31	fix	handle property reads of `ThisReceiver` in the indexer ([#44678](#))
63c8e56a3a	fix	incorrectly interpreting $any calls with a property read ([#44657](#))
60fb27f12d	fix	properly index

language-service

Commit	Type	Description
f5addee488	fix	revert the test files for Ivy ([#44528](#))

Special Thanks

Abdurrahman Abu-Hijleh, Adam Plumer, Alex Rickabaugh, AlirezaEbrahimkhani, Andrew Kushnir, Andrew Scott, Borja Paz Rodríguez, Chihab Otmani, Chris Mancini, Dario Piotrowicz, Doug Parker, George Kalpakas, Joey Perrott, JoostK, Kristiyan Kostadinov, Kyoz, Patrick Prakash, Paul Gschwendtner, Serhey Dolgushev, Yousaf Nawaz, Yuchao Wu, alkavats1, dario-piotrowicz, huangqing, ivanwonder, shejialuo, twerske, wszgrcy and zuckjet

13.1.1 (2021-12-15)

animations

Commit	Type	Description
bb1d4ff315	fix	don't consume instructions for animateChild ([#44357](#))
d8b6adb7bc	fix	should not invoke disabled child animations ([#37724](#))

forms

Commit	Type	Description
bce108ab49	fix	`_reduceValue` arrow function now has correct types. ([#44483](#))
998c1e63fe	fix	I introduced a minor error in a previous PR: pendingValue is a value not a boolean flag. ([#44450](#))

Special Thanks

Aristeidis Bampakos, Dylan Hunn, George Kalpakas, JoostK, Kristiyan Kostadinov, Paul Gschwendtner, Spej, Yousaf Nawaz, dario-piotrowicz, faso-dev, jaybell and zuckjet

13.1.0 (2021-12-09)

Deprecations

- The `downgradeModule` function calls with NgModule factories are deprecated. Please use NgModule class based `downgradeModule` calls instead.

common

- `TestRequest` from `@angular/common/http/testing` no longer accepts `ErrorEvent` when simulating XHR errors. Instead instances of `ProgressEvent` should be passed, matching with the native browser behavior.

Commit	Type	Description
dbc46d68b9	docs	deprecate factory-based signature of the `downgradeModule` function ([#44090](#))

common

Commit	Type	Description
489cf42cd0	fix	incorrect error type for XHR errors in `TestRequest` ([#36082](#))
13362972bb	perf	code size reduction of `ngFor` directive ([#44315](#))

compiler

Commit	Type	Description
c85bcb0c63	feat	reference ICU message IDs from their placeholders ([#43534](#))

core

Commit	Type	Description
5dff077d50	feat	add migration to remove entryComponents ([#44308](#))
e65a245a0b	feat	add migration to remove entryComponents ([#44322](#))
d56e3f43a1	feat	support TypeScript 4.5 ([#44164](#))

http

Commit	Type	Description
d452b388bd	feat	add `has()` method to `HttpContext` class ([#43887](#))

localize

Commit	Type	Description
d3cf222a81	feat	support "associated message ids" for placeholders ([#43534](#))

ngcc

Commit	Type	Description
41265919aa	fix	correctly resolve UMD dependencies ([#44381](#))

upgrade

Commit	Type	Description
34f990986c	feat	support NgModule class as an argument of the `downgradeModule` function ([#43973](#))

Special Thanks

Alex Rickabaugh, Andrew Kushnir, Andrew Scott, Doug Parker, Dustin M. Eastway, Dylan Hunn, George Kalpakas, HyperLife1119, Jelle Bruisten, Jessica Janiuk, Joey Perrott, JoostK, Kristiyan Kostadinov, Markus Doggweiler, Paul Gschwendtner, Pei Wang, Pete Bacon Darwin and dario-piotrowicz

13.0.3 (2021-12-01)

compiler-cli

Commit	Type	Description
6cdbfdbe6e	fix	downlevel transform incorrectly extracting constructor parameters for nested classes ([#44281](#))
305b76b45f	fix	interpret string concat calls ([#44167](#))

core

Commit	Type	Description
0ca5c5bd09	fix	add missing info about a component in the "pipe could not be found" error message ([#44081](#))
907da3977a	fix	destroy hooks not set up for `useClass` provider using `forwardRef` ([#44281](#))
bcd3b4959b	fix	support cyclic metadata in TestBed overrides ([#44215](#))

forms

Commit	Type	Description
96fedd249e	fix	make the `FormControlStatus` available as a public API ([#44183](#))

language-service

Commit	Type	Description
cabc1786de	fix	Correctly parse inputs and selectors with dollar signs ([#44268](#))

ngcc

Commit	Type	Description
b68994d20a	fix	correctly report error when collecting dependencies of UMD module ([#44245](#))
6f5c0c1515	fix	ensure that ngcc does not write a lock-file into node_modules package directories ([#44228](#))
bf5f734e9c	fix	support the UMD wrapper function format emitted by Webpack ([#44245](#))

router

Commit	Type	Description
d265d0d241	fix	prevent componentless routes from being detached ([#44240](#))

Special Thanks

Alan Agius, Alex Rickabaugh, Andrew Kushnir, Andrew Scott, Artur, Christian-E, David Shevitz, Doug Parker, Douglas Parker, Dylan Hunn, George Kalpakas, Jessica Janiuk, Joey Perrott, JoostK, Kristiyan Kostadinov, Marc Redemske, Paul Gschwendtner, Pei Wang, Pete Bacon Darwin, Ramesh Thiruchelvam, Ravi Chandra, Rohan Pednekar, Ruslan Usmanov, dario-piotrowicz, profanis and unknown

13.0.2 (2021-11-17)

This release contains various API docs improvements.

Special Thanks

Andrew Kushnir, Armen Vardanyan, Dylan Hunn, Joey Perrott, Martin von Gagern, Paul Gschwendtner, Pete Bacon Darwin, Ramesh Thiruchelvam, dario-piotrowicz and fusho-takahashi

13.0.1 (2021-11-10)

compiler

Commit	Type	Description
ee2031d9f4	fix	ensure that partially compiled queries can handle forward references ([#44113](#))
e5a960b159	fix	generate correct code for safe method calls ([#44088](#))

compiler-cli

Commit	Type	Description
dede29e4f3	fix	ensure literal types are retained when `strictNullInputTypes` is disabled ([#38305](#))
04df3a0b92	fix	handle pre-release versions when checking version ([#44109](#))

core

Commit	Type	Description
4c700b6244	fix	do not use Function constructors in development mode to avoid CSP violations ([#43587](#))

platform-browser

Commit	Type	Description

| 30a27adf9a | fix | use correct parent in animation removeChild callback ([#44033](#)) |

Special Thanks

A. Singh, Alan Agius, Alex Rickabaugh, Andrew Kushnir, Andrew Scott, Aristeidis Bampakos, George Kalpakas, Joe Martin (Crowdstaffing), Joel Lefkowitz, Joey Perrott, JoostK, Kristiyan Kostadinov, Michael Urban, Paul Gschwendtner, Pavan Kumar Jadda, Pei Wang, Pete Bacon Darwin, Roman Frołow, dario-piotrowicz, iRealNirmal, ileil, kreuzerk, mgechev, profanis and raman

13.1.0-next.0 (2021-11-03)

compiler

Commit	Type	Description
c85bcb0c63	feat	reference ICU message IDs from their placeholders ([#43534](#))

localize

Commit	Type	Description
d3cf222a81	feat	support "associated message ids" for placeholders ([#43534](#))

Special Thanks

Alex Rickabaugh, Andrew Kushnir, Andrew Scott, Doug Parker, Dylan Hunn, George Kalpakas, Jessica Janiuk, Joey Perrott, Paul Gschwendtner and Pete Bacon Darwin

13.0.0 (2021-11-03)

[Blog post "Angular v13 is now available"](#).

Breaking Changes

common

- The behavior of the `SpyLocation` used by the `RouterTestingModule` has changed to match the behavior of browsers. It no longer emits a 'popstate' event when `Location.go` is called. In addition, `simulateHashChange` now triggers *both* a `hashchange` and a `popstate` event. Tests which use `location.go` and expect the changes to be picked up by the `Router` should likely change to `simulateHashChange` instead. Each test is different in what it attempts to assert so there is no single change that works for all tests. Each test using the `SpyLocation` to simulate browser URL changes should be evaluated on a case-by-case basis.

core

- TypeScript versions older than 4.4.2 are no longer supported.

- NodeJS versions older than `v12.20.0` are no longer supported due to the Angular packages using the NodeJS package exports feature with subpath patterns.

- The `WrappedValue` class can no longer be imported from `@angular/core`, which may result in compile errors or failures at runtime if outdated libraries are used that are still using `WrappedValue`. The usage of `WrappedValue` should be removed as no replacement is available.

forms

- A new type called `FormControlStatus` has been introduced, which is a union of all possible status strings for form controls. `AbstractControl.status` has been narrowed from `string` to `FormControlStatus`, and `statusChanges` has been narrowed from `Observable<any>` to `Observable<FormControlStatus>`. Most applications should consume the new types seamlessly. Any breakage caused by this change is likely due to one of the following two problems: (1) the app is comparing `AbstractControl.status` against a string which is not a valid status; or, (2) the app is using `statusChanges` events as if they were something other than strings.

router

- The default url serializer would previously drop everything after and including a question mark in query parameters. That is, for a navigation to `/path?q=hello?&other=123` , the query params would be parsed to just `{q: 'hello'}` . This is incorrect because the URI spec allows for question mark characers in query data. This change will now correctly parse the params for the above example to be `{v: 'hello?', other: '123'}` .

- Previously `null` and `undefined` inputs for `routerLink` were equivalent to empty string and there was no way to disable the link's navigation. In addition, the `href` is changed from a property `HostBinding()` to an attribute binding (`HostBinding('attr.href')`). The effect of this change is that `DebugElement.properties['href']` will now return the `href` value returned by the native element which will be the full URL rather than the internal value of the `RouterLink` `href` property.

- When storing and retrieving a `DetachedRouteHandle` , the Router traverses the `Route` children in order to correctly allow storing a parent route when there are several possible child `Route` configs that can be stored. This allows a `RouteReuseStrategy` to store a parent `Route` *and* a child, while preserving the ability to change the child route while restoring the parent. Some implementations of `RouteReuseStrategy` will need to be updated to correctly store and retrieve the `DetachedRouteHandle` of descendants as well as the stored parent `ActivatedRouteSnapshot` . Previously, the `Router` would only store the parent, making it impossible to change descendant paths when a stored parent was retrieved. See #20114.

- The router will no longer replace the browser URL when a new navigation cancels an ongoing navigation. This often causes URL flicker and was only in place to support some AngularJS hybrid applications. Hybrid applications which rely on the `navigationId` being present on initial navigations that were handled by the Angular router should instead subscribe to `NavigationCancel` events and perform the `location.replaceState` themselves to add `navigationId` to the Router state. In addition, tests which assert `urlChanges` on the `SpyLocation` may need to be adjusted to account for the `replaceState` which is no longer triggered.

- It is no longer possible to use `Route.loadChildren` using a string value. The following supporting classes were removed from `@angular/core` :

- `NgModuleFactoryLoader`

- `SystemJsNgModuleFactoryLoader`

The `@angular/router` package no longer exports these symbols:

- `SpyNgModuleFactoryLoader`
- `DeprecatedLoadChildren`

The signature of the `setupTestingRouter` function from `@angular/core/testing` has been changed to drop its `NgModuleFactoryLoader` parameter, as an argument for that parameter can no longer be created.

service-worker

- The return type of `SwUpdate#activateUpdate` and `SwUpdate#checkForUpdate` changed to `Promise<boolean>` .

Although unlikely, it is possible that this change will cause TypeScript type-checking to fail in some cases. If necessary, update your types to account for the new return type.

Deprecations

core

- Angular no longer requires component factories to dynamically create components. The factory-based signature of the `ViewContainerRef.createComponent` function is deprecated in favor of a different signature that allows passing component classes instead.

- The `getModuleFactory` function is deprecated in favor of the `getNgModuleById` one. With Ivy it's possible to work with NgModule classes directly, without retrieving corresponding factories, so the `getNgModuleById` should be used instead.

- Ivy made it possible to avoid the need to resolve Component and NgModule factories. Framework APIs allow to use Component and NgModule Types directly. As a result, the `PlatformRef.bootstrapModuleFactory` and a factory-based signature of the `ApplicationRef.bootstrap` method are now obsolete and are now deprecated. The `PlatformRef.bootstrapModuleFactory` calls can be replaced with `PlatformRef.bootstrapModule` ones. The `ApplicationRef.bootstrap` method allows to provide Component Type, so this can be used a replacement for the factory-based calls.

- In ViewEngine, [JIT compilation](#) required special providers (like `Compiler`, `CompilerFactory`, etc) to be injected in the app and corresponding methods to be invoked. With Ivy, JIT compilation takes place implicitly if the Component, NgModule, etc have not already been [AOT compiled](#). Those special providers were made available in Ivy for backwards-compatibility with ViewEngine to make the transition to Ivy smoother. Since ViewEngine is deprecated and will soon be removed, those symbols are now deprecated as well:

  - `ModuleWithComponentFactories`

  - `Compiler`

  - `CompilerFactory`

  - `JitCompilerFactory`

  - `NgModuleFactory`

Important note: this deprecation doesn't affect JIT mode in Ivy (JIT remains available with Ivy).

- In Ivy, AOT summary files are unused in TestBed. Passing AOT summary files in TestBed has no effect, so the `aotSummaries` usage in TestBed is deprecated and will be removed in a future version of Angular.

platform-server

- The `renderModuleFactory` symbol in `@angular/platform-server` is no longer necessary as of Angular v13.

The `renderModuleFactory` calls can be replaced with `renderModule`.

service-worker

- The `SwUpdate#activated` observable is deprecated.

The `SwUpdate#activated` observable only emits values as a direct response to calling `SwUpdate#activateUpdate()` and was only useful for determining whether the call resulted in an update or not. Now, the return value of `SwUpdate#activateUpdate()` can be used to determine the outcome of the operation and therefore using `SwUpdate#activated` does not offer any benefit.

- The `SwUpdate#availalbe` observable is deprecated.

The new `SwUpdate#versionUpdates` observable provides the same information and more. Therefore, it is possible to rebuild the same behavior as `SwUpdate#availalbe` using the events emitted by `SwUpdate#versionUpdates` and filtering for `VersionReadyEvent` events. As a result, the `SwUpdate#availalbe` observable is now redundant. ###

Commit	Type	Description
[747553dd68](#)	docs	deprecate ViewEngine-based `renderModuleFactory` ([#43757](#))

bazel

Commit	Type	Description
[62d7005a52](#)	feat	add `strict_templates` and `experimental_extended_template_diagnostics` to `ng_module()` rule ([#43582](#))
[d977701a43](#)	feat	allow for custom conditions to be set in `ng_package` targets ([#43764](#))
[4886585875](#)	feat	create transition for enabling partial compilation ([#43431](#))
[cd1b52483e](#)	feat	expose `esm2020` and `es2020` conditions in APF package exports ([#43740](#))
[49b82ae561](#)	feat	implement partial compilation APF v13 for `ng_package` rule ([#43431](#))
[274cb38e0b](#)	feat	switch prodmode output to ES2020 ([#43431](#))
[73ac50c447](#)	feat	wire up partial compilation build setting in `ng_module` ([#43431](#))
[e0a72857cc](#)	fix	construct a manifest file even when warnings are emitted ([#43582](#))
[dbe656d1e0](#)	fix	ngc-wrapped should not rely on linker for external workspaces ([#43690](#))

common

Commit	Type	Description
[adf4481211](#)	feat	add injection token for default date pipe timezone ([#43611](#))

Commit	Type	Description
c6a93001eb	fix	synchronise location mock behavior with the navigators ([#41730](#41730))

compiler

Commit	Type	Description
14b492df26	fix	do not error if $any is used inside a listener ([#43866](#43866))

compiler-cli

Commit	Type	Description
bed121c34f	feat	inline resources when generating class metadata calls ([#43178](#43178))
263feba5c2	fix	handle nullable expressions correctly in the nullish coalescing extended template diagnostic ([#43572](#43572))
8f7fdc59af	fix	not evaluating new signature for __spreadArray ([#43618](#43618))
426a3ecae7	fix	updates `ngc` to pass the build when only warnings are emitted ([#43673](#43673))

core

Commit	Type	Description
a3960846da	feat	add `createNgModuleRef` function to create `NgModuleRef` based on NgModule class ([#43580](#43580))
fe1f6421d2	feat	add `getNgModuleById` function to retrieve loaded NgModules by id ([#43580](#43580))
81c7eb813c	feat	add migration to opt out existing apps from new test module teardown behavior ([#43353](#43353))
e57691c9c5	feat	Add migration to update empty routerLinks in templates ([#43176](#43176))
7dccbdd27b	feat	add support for Types in ViewContainerRef.createComponent ([#43022](#43022))
c14085e434	feat	drop support for TypeScript 4.2 and 4.3 ([#43642](#43642))
94ba59bc9d	feat	enable test module teardown by default ([#43353](#43353))
ea61ec2562	feat	support TypeScript 4.4 ([#43281](#43281))
e0a0d05d45	feat	update node version support range to support v16 ([#43740](#43740))
7396021e4b	fix	avoid duplicating comments in TestBed teardown migration ([#43776](#43776))
7fd0428aae	fix	don't rethrow errors if test teardown has been disabled ([#43635](#43635))
66fb311d20	fix	incorrect signature for initTestEnvironment ([#43615](#43615))
8ae99821d6	fix	support `InjectFlags` argument in `NodeInjector.get()` ([#41592](#41592))
8878183521	perf	remove support for the deprecated `WrappedValue` ([#43507](#43507))

elements

Commit	Type	Description
a468213f34	fix	remove `ng-add` schematic ([#43975](#43975))
f544a53f5f	fix	remove incorrect `@angular/platform-browser` peer dependency ([#43975](#43975))

forms

Commit	Type	Description
d9d8f950e9	feat	allow disabling min/max validators dynamically (by setting the value to `null`) ([#42978](#42978))
e49fc96ed3	feat	Make Form Statuses use stricter types. ([#42952](#42952))

language-service

Commit	Type	Description
b10d90bef6	feat	Add method for retrieving the component template at the cursor location (#43208)
d5f9890c92	feat	auto-apply optional chaining on nullable symbol (#42995)
69957f72e2	feat	provide snippets for attribute (#43590)
fc3b50e427	fix	exclude the `SafePropertyRead` when applying the optional chaining (#43321)

migrations

Commit	Type	Description
95a68c5dc3	fix	account for CRLF characters in template migrations (#44013)
77bd2538cb	fix	apply individual expression edits to preserve newline characters (#43519)
d849350c7b	fix	Ensure routerLink migration doesn't update unrelated files (#43519)
2efc18e675	fix	migration failed finding tsconfig file (#43343)
b6f2a55147	fix	prevent migrations from updating external templates multiple times (#44013)

router

Commit	Type	Description
4f3beffdbf	feat	emit activate/deactivate events when an outlet gets attached/detached (#43333)
faf9f5a3bc	feat	new output that would notify when link is activated (#43280)
3c6b653089	feat	Option to correctly restore history on failed navigation (#43289)
784671597e	fix	Allow question marks in query param values (#31187)
796da641f0	fix	Do not modify parts of URL excluded from with 'eager' updates (#43421)
772e08d14e	fix	fix Router's public API for canceledNavigationResolution (#43842)
ccb09b4558	fix	null/undefined routerLink should disable navigation (#43087)
9e039ca68b	fix	Only trigger router navigation on `popstate` events from `Location` subscription (#43328)
c5d0bd4966	fix	Prevent URL flicker when new navigations cancel ongoing ones (#43496)
adc68b100b	fix	reuse route strategy fix (#43791)
361273fad5	refactor	remove support for `loadChildren` string syntax (#43591)

service-worker

Commit	Type	Description
59225f5586	feat	`SwUpdate#activeUpdate` and `SwUpdate#checkForUpdate` should have a meaningful outcome (#43668)
0dc45446fe	feat	expose more version update events (#43668)

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12.2.15 (2021-12-08)

ngcc

Commit	Type	Description
b6554d75cd	fix	correctly resolve UMD dependencies ([#44382](#))

Special Thanks

George Kalpakas

12.2.14 (2021-12-01)

compiler

Commit	Type	Description
e3db0385b6	fix	ensure that partially compiled queries can handle forward references ([#44124](#))

ngcc

Commit	Type	Description
a8be244113	fix	correctly report error when collecting dependencies of UMD module ([#44245](#))
fc072935ee	fix	support the UMD wrapper function format emitted by Webpack ([#44245](#))

Special Thanks

George Kalpakas, Pete Bacon Darwin and iRealNirmal

12.2.13 (2021-11-03)

compiler-cli

Commit	Type	Description
9a89db790f	fix	avoid broken references in .d.ts files due to @internal markers ([#43965](#))

core

Commit	Type	Description
8f402c9d06	fix	support `InjectFlags` argument in `NodeInjector.get()` ([#41592](#))

Special Thanks

Alan Agius, George Kalpakas, Jochen Kraushaar, Joe Martin (Crowdstaffing), JoostK and vthinkxie

12.2.12 (2021-10-27)

compiler-cli

Commit	Type	Description
112557497c	fix	avoid broken references in .d.ts files due to @internal markers ([#43527](#))

ngcc

Commit	Type	Description
067ae54d46	fix	support alternate UMD layout when adding new imports ([#43931](#))

Special Thanks

Alan Agius, Andrew Kushnir, George Kalpakas, Jessica Janiuk, Joey Perrott, JoostK, Mladen Jakovljević, Virginia Dooley, amayer42, dirk diebel and ericcheng2005

12.2.11 (2021-10-20)

ngcc

Commit	Type	Description
cab21cea7a	fix	support alternate wrapper function layout for UMD ([#43879](#))

router

Commit	Type	Description
58c11865ac	fix	Do not clear currentNavigation if already set to next one ([#43852](#))

Special Thanks

Alan Agius, Andrew Kushnir, Andrew Scott, David Shevitz, George Kalpakas, Joe Martin (Crowdstaffing), Natalia Venditto, Pete Bacon Darwin, Younes Jaaidi and dario-piotrowicz

12.2.10 (2021-10-13)

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12.2.9 (2021-10-06)

core

Commit	Type	Description
b4b441077a	fix	handle invalid constructor parameters in partial factory declarations ([#43619](#))

router

Commit	Type	Description
7f6050587d	fix	unset attachRef when router-outlet is destroyed to avoid mounting a destroyed component ([#43697](#))

service-worker

Commit	Type	Description
c4ecc07838	fix	make `ngsw.json` generation deterministic and correct ([#43679](#))

Special Thanks

Alan Agius, Daniel Díaz, George Kalpakas, JoostK, Kristiyan Kostadinov, Pete Bacon Darwin, Wey-Han Liaw, dario-piotrowicz, iRealNirmal, little-pinecone, mgechev, ultrasonicsoft and xiaohanxu-nick

12.2.8 (2021-09-30)

compiler-cli

Commit	Type	Description
c1338bf837	fix	correctly interpret token arrays in @Injectable `deps` ([#43226](#))

language-service

Commit	Type	Description
c8f8d7d3b1	fix	provide dom event completions ([#43299](#))

ngcc

Commit	Type	Description
69299f7d4d	fix	do not fail for packages which correspond with `Object` members ([#43589](#))

service-worker

Commit	Type	Description
3cf41354ae	fix	do not unassign clients from a broken version ([#43518](#))

Special Thanks

Adrien Crivelli, Alex Rickabaugh, Andrew Scott, Bobby Galli, Chris, Daniel Díaz, Dario Piotrowicz, George Kalpakas, Joe Martin (Crowdstaffing), JoostK, Pete Bacon Darwin, Rafael Santana, Raj Sekhar, Ricardo Chavarria, Teri Glover, Virginia Dooley, dario-piotrowicz, enisfr and wszgrcy

12.2.7 (2021-09-22)

common

Commit	Type	Description
2bb4bf1468	fix	titlecase pipe incorrectly handling numbers ([#43476](#))

compiler

Commit	Type	Description
9c8a1f8a71	fix	include leading whitespace in source-spans of i18n messages ([#43132](#))

compiler-cli

Commit	Type	Description
defb02f11e	fix	handle directives that refer to a namespaced class in a type parameter bound ([#43511](#))

platform-browser

Commit	Type	Description
adc7c56ede	fix	improve error message for missing animation trigger ([#41356](#))

Special Thanks

Andrew Scott, Daniel Díaz, George Kalpakas, JoostK, Kristiyan Kostadinov, Mwiku, Pete Bacon Darwin, Teri Glover, Virginia Dooley, Xiaohanxu1996, dario-piotrowicz and kirjs

12.2.6 (2021-09-15)

animations

Commit	Type	Description
141fde1632	fix	emit pure annotations to static property initializers ([#43344](#))

core

Commit	Type	Description
ca510c87c5	fix	emit pure annotations to static property initializers ([#43344](#))

router

Commit	Type	Description
4034f252c9	fix	Allow renavigating to failed URLs ([#43424](#))

service-worker

Commit	Type	Description
a102b27641	fix	clear service worker cache in safety worker ([#43324](#))

Special Thanks

Alan Agius, Amadou Sall, Andrew Kushnir, Andrew Scott, Aristeidis Bampakos, Bjarki, David Shevitz, George Kalpakas, Joe Martin (Crowdstaffing), Michele Stieven, Naveed Ahmed, dario-piotrowicz, mezhik91 and mgechev

12.2.5 (2021-09-08)

router

Commit	Description
a0bd6e90f9	fix: add more context to `Unhandled Navigation Error` ([#43291](#))

Special Thanks:

Alan Agius, Charles Barnes, Enea Jahollari, George Kalpakas, Ikko Ashimine, Paul Gschwendtner, Pete Bacon Darwin, William Sedlacek and dario-piotrowicz

12.2.4 (2021-09-01)

compiler-cli

Commit	Description
8233906be2	fix: Emit type annotations for synthesized decorator fields ([#43021](#))

Special Thanks:

Andrew Scott, Daniel Trevino, George Kalpakas, Joey Perrott, Kristiyan Kostadinov, nickreid and segunb

12.2.3 (2021-08-25)

service-worker

Commit	Description
fc7f92159d	fix: NPE if onActionClick is undefined ([#43210](#))

Special Thanks:

Daniel Trevino, Erik Slack, George Kalpakas, dario-piotrowicz and shlasouski

12.2.2 (2021-08-18)

animations

Commit	Description
bb6555979d	fix: add pure annotations to static property initializers ([#43064](#))

core

Commit	Description
738b23347e	fix: add pure annotations to static property initializers ([#43064](#))

platform-browser

Commit	Description
535837e617	perf: avoid intermediate arrays in server transition ([#43145](#))

router

Commit	Description
6449590ec8	fix: eagerly update internal state on browser-triggered navigations ([#43102](#))

Special Thanks:

Andrew Scott, Aristeidis Bampakos, Charles Lyding, Edoardo Dusi, George Kalpakas, Joe Martin (Crowdstaffing), Joey Perrott, Kirk Larkin, Kristiyan Kostadinov, Pete Bacon Darwin, TIffany Davis, Theoklitos Bampouris, ali, dario-piotrowicz and pichuser

12.2.1 (2021-08-11)

router

Commit	Description
dd3abdb9d9	fix(router): ensure check for match options is compatible with property renaming ([#43086](#))

Special Thanks:

Amadou Sall, Andrew Kushnir, Andrew Scott, Daniel Trevino, Erik Slack, Fabien BERNARD, George Kalpakas, Jeroen van Warmerdam, Joey Perrott, Tim Gates and Vugar_Abdullayev

12.2.0 (2021-08-04)

core

Commit	Description
bd7f0d8b70	fix(core): incorrect error reported when trying to re-create view which had an error during creation ([#43005](#))

language-service

Commit	Description
aace1e71d8	fix(language-service): global autocomplete doesn't work when the user tries to modify the symbol ([#42923](#))

Special Thanks:

Alex Rickabaugh, Joe Martin, Joey Perrott, Kristiyan Kostadinov, Nichola Alkhouri, Paul Gschwendtner, Pete Bacon Darwin, atscott, dario-piotrowicz and ivanwonder

12.1.5 (2021-08-04)

This release contains various API docs improvements.

12.2.0-rc.0 (2021-07-28)

compiler-cli

Commit	Description
ed9cfb674f	fix(compiler-cli): use correct module resolution context for absolute imports in .d.ts files ([#42879](#42879))
5fb23eccea	perf(compiler-cli): skip analysis in incremental builds for files without Angular behavior ([#42562](#42562))

core

Commit	Description
eefe1682e8	fix(core): correctly handle `null` or `undefined` in `ErrorHandler#handleError()` ([#42881](#42881))

forms

Commit	Description
1d9d02696e	feat(forms): add hasValidators, addValidators, and removeValidators methods (for both sync and async) ([#42838](#42838))
a502279592	feat(forms): allow minLength/maxLength validator to be bound to `null` ([#42565](#42565))

language-service

Commit	Description
7c35ca0e00	feat(language-service): support autocomplete string literal union types in templates ([#42729](#42729))

router

Commit	Description
0d81b007e4	fix(router): add missing outlet events to RouterOutletContract ([#42431](#42431))
dbae00195e	feat(router): ability to provide custom route reuse strategy via DI for `RouterTestingModule` ([#42434](#42434))

Special Thanks:

Andrew Scott, Daniel Trevino, Dmitrij Kuba, Dylan Hunn, George Kalpakas, Joey Perrott, JoostK, Paul Gschwendtner, Pete Bacon Darwin, Steven Masala, Teri Glover, Vladyslav, Yuvaraj, codebriefcase, iRealNirmal and ivanwonder

12.1.4 (2021-07-28)

compiler-cli

Commit	Description
77ae4459d3	fix(compiler-cli): use correct module resolution context for absolute imports in .d.ts files ([#42879](#42879))
f589b01672	perf(compiler-cli): skip analysis in incremental builds for files without Angular behavior ([#42562](#42562))

core

Commit	Description
a779a1029b	fix(core): correctly handle `null` or `undefined` in `ErrorHandler#handleError()` ([#42881](#42881))

12.2.0-next.3 (2021-07-21)

animations

Commit	Description
f12c53342c	fix(animations): normalize final styles in buildStyles ([#42763](#))

compiler-cli

Commit	Description
70c3461be3	fix(compiler-cli): use correct module import for types behind a `forwardRef` ([#42887](#))
07d7e6034f	perf(compiler-cli): optimize cycle detection using a persistent cache ([#41271](#))

core

Commit	Description
307dac67bc	fix(core): use correct injector when resolving DI tokens from within a directive provider factory ([#42886](#))

12.1.3 (2021-07-21)

animations

Commit	Description
3cddc3d6bc	fix(animations): normalize final styles in buildStyles ([#42763](#))

compiler-cli

Commit	Description
d207ea06d1	fix(compiler-cli): use correct module import for types behind a `forwardRef` ([#42887](#))
e6d520f3d9	perf(compiler-cli): optimize cycle detection using a persistent cache ([#41271](#))

core

Commit	Description
a6db152c78	fix(core): use correct injector when resolving DI tokens from within a directive provider factory ([#42886](#))

12.2.0-next.2 (2021-07-14)

bazel

Commit	Description
[7e04116d15](#)	fix(bazel): enable dts bundling for Ivy packages ([#42728](#))

common

Commit	Description
[e42aa6c13b](#)	fix(common): re-sort output of `KeyValuePipe` when `compareFn` changes ([#42821](#))

compiler

Commit	Description
[b33665ab2c](#)	fix(compiler): add mappings for all HTML entities ([#42818](#))
[404c8d0d88](#)	fix(compiler): incorrect context object being referenced from listener instructions inside embedded views ([#42755](#))

compiler-cli

Commit	Description
[81dce5c664](#)	fix(compiler-cli): check split two way binding ([#42601](#))
[4c482bf3f1](#)	fix(compiler-cli): properly emit literal types when recreating type parameters in a different file ([#42761](#))
[30c82cd177](#)	fix(compiler-cli): inline type checking instructions no longer prevent incremental reuse ([#42759](#))
[4c78984ad2](#)	fix(compiler-cli): support reflecting namespace declarations ([#42728](#))
[74350a5cf1](#)	fix(compiler-cli): return directives for an element on a microsyntax template ([#42640](#))

core

Commit	Description
[cd2d82a91a](#)	fix(core): associate the NgModule scope for an overridden component ([#42817](#))
[51156f3f07](#)	fix(core): allow proper type inference when `ngFor` is used with a `trackBy` function ([#42692](#))
[0f23f7343e](#)	fix(core): error in TestBed if module is reset mid-compilation in ViewEngine ([#42669](#))

language-service

Commit	Description
[ffeea63f43](#)	fix(language-service): Do not override TS LS methods not supported by VE NgLS ([#42727](#))

service-worker

Commit	Description
[cb2ca9a66e](#)	fix(service-worker): correctly handle unrecoverable state when a client no longer exists ([#42736](#))
[f592a12005](#)	fix(service-worker): avoid storing redundant metadata for hashed assets ([#42606](#))

Special Thanks:

Alan Agius, Andrew Kushnir, Andrew Scott, Arthur Ming, Bastian, Borislav Ivanov, Daniel Trevino, David Gilson, David Shevitz, Gabriele Franchitto, George Kalpakas, Joey Perrott, JoostK, Kristiyan Kostadinov, Mark Goho, Meir Blumenfeld, Paul Gschwendtner, Pete Bacon Darwin, Ryan Andersen, Theoklitos Bampouris, behrooz bozorg chami, dario-piotrowicz, ivanwonder and mgechev

12.1.2 (2021-07-14)

bazel

Commit	Description

Commit	Description
4a8ab4f149	fix(bazel): enable dts bundling for Ivy packages ([#42728](#42728))

common

Commit	Description
d654c7933a	fix(common): re-sort output of `KeyValuePipe` when `compareFn` changes ([#42821](#42821))

compiler

Commit	Description
2566cbb48c	fix(compiler): add mappings for all HTML entities ([#42818](#42818))
65330f03a9	fix(compiler): incorrect context object being referenced from listener instructions inside embedded views ([#42755](#42755))

compiler-cli

Commit	Description
17d3de25da	fix(compiler-cli): properly emit literal types when recreating type parameters in a different file ([#42761](#42761))
0a17e98ae2	fix(compiler-cli): inline type checking instructions no longer prevent incremental reuse ([#42759](#42759))
45116097c1	fix(compiler-cli): support reflecting namespace declarations ([#42728](#42728))
df5cc1fbbf	fix(compiler-cli): return directives for an element on a microsyntax template ([#42640](#42640))

core

Commit	Description
63013546e1	fix(core): associate the NgModule scope for an overridden component ([#42817](#42817))
9ebd41e39c	fix(core): allow proper type inference when `ngFor` is used with a `trackBy` function ([#42692](#42692))
41c6877c01	fix(core): error in TestBed if module is reset mid-compilation in ViewEngine ([#42669](#42669))

language-service

Commit	Description
97c18f4527	fix(language-service): Do not override TS LS methods not supported by VE NgLS ([#42727](#42727))

service-worker

Commit	Description
d87917542a	fix(service-worker): correctly handle unrecoverable state when a client no longer exists ([#42736](#42736))
f2523a8fef	fix(service-worker): avoid storing redundant metadata for hashed assets ([#42606](#42606))

Special Thanks:

Alan Agius, Andrew Kushnir, Andrew Scott, Arthur Ming, Bastian, Borislav Ivanov, David Gilson, David Shevitz, Gabriele Franchitto, George Kalpakas, Joey Perrott, JoostK, Kristiyan Kostadinov, Mark Goho, Meir Blumenfeld, Paul Gschwendtner, Pete Bacon Darwin, Ryan Andersen, Theoklitos Bampouris, behrooz bozorg chami, dario-piotrowicz, ivanwonder and mgechev

12.2.0-next.1 (2021-06-30)

compiler

Commit	Description
9f5cc7c808	feat(compiler): support number separators in templates ([#42672](#42672))

compiler-cli

Commit	Description
[37a740c659](#)	fix(compiler-cli): add support for partially evaluating types ([#41661](#))

platform-browser

Commit	Description
[234b5edcc7](#)	fix(platform-browser): in `Meta.addTag()` do not add duplicate meta tags ([#42703](#))

Special Thanks:

Alan Agius, Alex Rickabaugh, Dario Piotrowicz, George Kalpakas, George Looshch, Joey Perrott, Kristiyan Kostadinov, Lars Gyrup Brink Nielsen, Paul Gschwendtner, Pete Bacon Darwin, Zach Arend, codebriefcase, dario-piotrowicz, marvinbeckert, mgechev and pavlenko

12.1.1 (2021-06-30)

compiler-cli

Commit	Description
[f6b828e292](#)	fix(compiler-cli): add support for partially evaluating types ([#41661](#))

platform-browser

Commit	Description
[d19ddd1a87](#)	fix(platform-browser): in `Meta.addTag()` do not add duplicate meta tags ([#42703](#))

Special Thanks:

Alan Agius, Dario Piotrowicz, George Kalpakas, George Looshch, Lars Gyrup Brink Nielsen, Paul Gschwendtner, Pete Bacon Darwin, Zach Arend, codebriefcase, dario-piotrowicz, marvinbeckert, mgechev and pavlenko

12.2.0-next.0 (2021-06-24)

This release contains the same set of changes as 12.1.0.

12.1.0 (2021-06-24)

compiler

Commit	Description
[9de65dbdce](#)	fix(compiler): should not break a text token on a non-valid start tag ([#42605](#))
[c873440ad2](#)	fix(compiler): do not allow unterminated interpolation to leak into later tokens ([#42605](#))
[cc672f05bf](#)	feat(compiler): add support for shorthand property declarations in templates ([#42421](#))
[f52df99fe3](#)	fix(compiler): generate view restoration for keyed write inside template listener ([#42603](#))

compiler-cli

Commit	Description
[874de59d35](#)	fix(compiler-cli): change default ngcc hash algorithm to be FIPS compliant ([#42582](#))
[729eea5716](#)	fix(compiler-cli): transform type references in generic type parameter default ([#42492](#))

core

Commit	Description
873229f24b	feat(core): add opt-in test module teardown configuration ([#42566](#42566))

router

Commit	Description
07c1ddc487	fix(router): error if module is destroyed before location is initialized ([#42560](#42560))

service-worker

Commit	Description
cc30dc0713	fix(service-worker): ensure obsolete caches are always cleaned up ([#42622](#42622))
01128f5b5d	fix(service-worker): ensure caches are cleaned up when failing to load state ([#42622](#42622))
73b0275dc2	fix(service-worker): improve ServiceWorker cache names ([#42622](#42622))
7507ed2e54	fix(service-worker): use correct names when listing `CacheDatabase` tables ([#42622](#42622))
53fe557da7	feat(service-worker): include ServiceWorker version in debug info ([#42622](#42622))
d546501ab5	feat(service-worker): add `openWindow`, `focusLastFocusedOrOpen` and `navigateLastFocusedOrOpen` ([#42520](#42520))
9498da1038	fix(service-worker): correctly determine client ID on navigation requests ([#42607](#42607))

Special Thanks:

Alex Rickabaugh, Dale Harris, George Kalpakas, Joey Perrott, JoostK, Kristiyan Kostadinov, Németh Tamás, Paul Gschwendtner, Pete Bacon Darwin, Renovate Bot, Umair Hafeez, codingnuclei and mgechev

12.1.0-next.6 (2021-06-16)

compiler

Commit	Description
8c1e0e6ad0	fix(compiler): always match close tag to the nearest open element ([#42554](#42554))

compiler-cli

Commit	Description
22bda2226b	fix(compiler-cli): prevent prior compilations from being retained in watch builds ([#42537](#42537))

core

Commit	Description
3961b3c360	fix(core): ensure that autoRegisterModuleById registration in ɵɵdefineNgModule is not DCE-ed by closure ([#42529](#42529))

forms

Commit	Description
7180ec9e7c	fix(forms): changes to status not always being emitted to statusChanges observable for async validators. ([#42553](#42553))

language-service

Commit	Description
4001e9d808	fix(language-service): 'go to defininition' for objects defined in template ([#42559](#42559))
228beeabd1	fix(language-service): Use last child end span for parent without close tag ([#42554](#42554))

12.0.5 (2021-06-16)

compiler

Commit	Description
[89fc131ef8](#)	fix(compiler): always match close tag to the nearest open element ([#42554](#))

compiler-cli

Commit	Description
[60dbf017fb](#)	fix(compiler-cli): prevent prior compilations from being retained in watch builds ([#42537](#))

core

Commit	Description
[785da0f1bf](#)	fix(core): ensure that autoRegisterModuleById registration in ɵɵdefineNgModule is not DCE-ed by closure ([#42529](#))

forms

Commit	Description
[6f1b907b79](#)	fix(forms): changes to status not always being emitted to statusChanges observable for async validators. ([#42553](#))

language-service

Commit	Description
[8192f1e1c2](#)	fix(language-service): 'go to defininition' for objects defined in template ([#42559](#))
[11e0f53352](#)	fix(language-service): Use last child end span for parent without close tag ([#42554](#))

12.1.0-next.5 (2021-06-09)

common

Commit	Description
[85c7f7691e](#)	fix(common): infer correct type when `trackBy` is used in `ngFor` ([#41995](#))
[374fa2c26f](#)	fix(common): initialize currencyCode in currencyPipe ([#40505](#))

compiler

Commit	Description
[afd68e5674](#)	feat(compiler): emit diagnostic for shadow dom components with an invalid selector ([#42245](#))
[ba084857ea](#)	feat(compiler): support safe keyed read expressions ([#41911](#))

compiler-cli

Commit	Description
bd1836b999	fix(compiler-cli): exclude type-only imports from cycle analysis (#42453)

core

Commit	Description
25f763cff8	feat(core): support TypeScript 4.3 (#42022)

forms

Commit	Description
47270d9e63	feat(forms): add `ng-submitted` class to forms that have been submitted. (#42132)
751cd83ae3	fix(forms): the `min` and `max` validators should work correctly with `0` as a value (#42412)

language-service

Commit	Description
a493ea9bcb	fix(language-service): fix autocomplete info display for some cases (#42472)
fe22c2b0b6	fix(language-service): Correct rename info for pipe name expressions (#41974)

router

Commit	Description
c44ab4f6da	fix(router): fix `serializeQueryParams` logic (#42481)

Special Thanks:

Alex, Alex Inkin, Andrew Kushnir, Andrew Scott, Chris, David Shevitz, Dylan Hunn, George Kalpakas, Gourav102, Igor Minar, Jessica Janiuk, Joey Perrott, JoostK, Kapunahele Wong, Kristiyan Kostadinov, MarsiBarsi, MrJithil, Paul Gschwendtner, Pete Bacon Darwin, Renovate Bot, Sam Severance, Santosh Yadav, Teri Glover, Tiago Temporin, Vahid Mohammadi, anups1, cindygk, iRealNirmal, kuncevic and mgechev

12.0.4 (2021-06-09)

common

Commit	Description
200cc31df4	fix(common): infer correct type when `trackBy` is used in `ngFor` (#41995)
0dad375de7	fix(common): initialize currencyCode in currencyPipe (#40505)

compiler-cli

Commit	Description
b6d6a34eef	fix(compiler-cli): exclude type-only imports from cycle analysis (#42453)

forms

Commit	Description
50c87e86b6	fix(forms): the `min` and `max` validators should work correctly with `0` as a value (#42412)

language-service

Commit	Description

Commit	Description
34dd3c360b	fix(language-service): fix autocomplete info display for some cases ([#42472](#42472))

router

Commit	Description
a77ec5bcab	fix(router): fix `serializeQueryParams` logic ([#42481](#42481))

Special Thanks:

Alex, Alex Inkin, Andrew Kushnir, Andrew Scott, Chris, David Shevitz, George Kalpakas, Gourav102, Igor Minar, Joey Perrott, JoostK, Kapunahele Wong, Kristiyan Kostadinov, MarsiBarsi, MrJithil, Paul Gschwendtner, Pete Bacon Darwin, Sam Severance, Santosh Yadav, Teri Glover, Tiago Temporin, Vahid Mohammadi, anups1, cindygk, iRealNirmal, kuncevic and mgechev

12.1.0-next.4 (2021-06-02)

compiler-cli

Commit	Description
e039075a28	fix(compiler-cli): better detect classes that are indirectly exported ([#42207](#42207))

Special Thanks:

AleksanderBodurri, Alex Rickabaugh, Andrew Kushnir, Andrew Scott, David Pfeiffer, David Shevitz, Doug Parker, Dylan Hunn, George Kalpakas, Igor Minar, Joey Perrott, JoostK, Kristiyan Kostadinov, Renovate Bot, Sam Severance, Serguei Cambour, Suguru Inatomi, Teri Glover, Wagner Maciel, Zach Arend, mgechev and 不肖・高橋

12.0.3 (2021-06-02)

compiler-cli

Commit	Description
8bdcca1e08	fix(compiler-cli): better detect classes that are indirectly exported ([#42207](#42207))

Special Thanks:

AleksanderBodurri, Alex Rickabaugh, Andrew Kushnir, Andrew Scott, David Pfeiffer, David Shevitz, Doug Parker, Dylan Hunn, George Kalpakas, Igor Minar, Joey Perrott, JoostK, Kristiyan Kostadinov, Sam Severance, Serguei Cambour, Suguru Inatomi, Teri Glover, Wagner Maciel, Zach Arend, mgechev and 不肖・高橋

12.0.2 (2021-05-26)

forms

Commit	Description
19d7bf4162	fix(forms): Add float number support for min and max validator ([#42223](#42223))

migrations

Commit	Description
11c7bec065	fix(migrations): add migration to replace `/deep/` with `::ng-deep` ([#42214](#42214))

platform-browser

Commit	Description
84ab81c286	fix(platform-browser): update started state on reset ([#41608](#41608))

12.1.0-next.3 (2021-05-26)

forms

Commit	Description
3d9062dad7	fix(forms): Add float number support for min and max validator ([#42223](#))

migrations

Commit	Description
7f6213a2f4	fix(migrations): add migration to replace `/deep/` with `::ng-deep` ([#42214](#))

platform-browser

Commit	Description
3a6af8e629	fix(platform-browser): update started state on reset ([#41608](#))

12.1.0-next.2 (2021-05-19)

common

Commit	Description
4bc3cf216d	feat(common): add URLSearchParams to request body ([#37852](#))

language-service

Commit	Description
1be5d659a5	fix(language-service): fully de-duplicate reference and rename results ([#40523](#))
a86ca4fe04	feat(language-service): Enable renaming of pipes ([#40523](#))

12.0.1 (2021-05-19)

benchpress

Commit	Description

[28ee9864a4](#)	fix(benchpress): update the check for start and end events ([#42085](#))

compiler

Commit	Description
[52c07e403e](#)	fix(compiler): unclear lexer error when using private identifier in expressions ([#42027](#))

core

Commit	Description
[3a46ad96ea](#)	fix(core): global listeners not being bound on non-node host elements ([#42014](#))

forms

Commit	Description
[9b90c03a9f](#)	fix(forms): registerOnValidatorChange should be called for ngModelGroup. ([#41971](#))

Special Thanks:

Alex Rickabaugh, Daniel Díaz, David Shevitz, Dylan Hunn, Front-end developer, George Kalpakas, Joey Perrott, Kristiyan Kostadinov, Lars Gyrup Brink Nielsen, MrJithil, Paul Gschwendtner, Renovate Bot, Sam Severance, Sumit Arora, iRealNirmal, iron, mgechev, rachid Oussanaa and wagnermaciel

12.0.0 (2021-05-12)

[Blog post "Angular v12 is now available".](#)

Bug Fixes

- **animations:** ensure consistent transition namespace ordering ([#19854](#)) ([01cc995](#))
- **animations:** update supported range of node versions to only include LTS versions ([#41822](#)) ([e918250](#))
- **animations:** cleanup DOM elements when the root view is removed ([#41059](#)) ([c49b280](#))
- **animations:** allow animations on elements in the shadow DOM ([#40134](#)) ([dad42c8](#)), closes [#25672](#)
- **animations:** cleanup DOM elements when the root view is removed ([#41001](#)) ([a31da48](#))
- **bazel:** update supported range of node versions to only include LTS versions ([#41822](#)) ([8503246](#))
- **bazel:** update build tooling for latest changes in rules_nodejs ([#40710](#)) ([696f7bc](#))
- **bazel:** update integration test to use [rules_nodejs@3.1.0](#) ([#40710](#)) ([34de89a](#))
- **bazel:** update type castings for JSON.parse usage ([#40710](#)) ([2c90391](#))
- **benchpress:** update type castings for JSON.parse usage ([#40710](#)) ([e721a5d](#))
- **common:** add right ContentType for boolean values with HttpClient request body([#38924](#)) ([#41885](#)) ([922a602](#))
- **common:** update supported range of node versions to only include LTS versions ([#41822](#)) ([f2b6fd8](#))
- **common:** viewport scroller not finding elements inside the shadow DOM ([#41644](#)) ([c0f5ba3](#)), closes [#41470](#)
- **common:** temporarily re-export and deprecate `XhrFactory` ([#41393](#)) ([7dfa446](#))
- **common:** cleanup location change listeners when the root view is removed ([#40867](#)) ([38524c4](#)), closes [#31546](#)
- **common:** allow number or boolean as http params ([#40663](#)) ([91cdc11](#)), closes [#23856](#)
- **common:** avoid mutating context object in NgTemplateOutlet ([#40360](#)) ([d3705b3](#)), closes [#24515](#)
- **compiler:** preserve @page rules in encapsulated styles ([#41915](#)) ([3e365ba](#)), closes [#26269](#)
- **compiler:** strip scoped selectors from `@font-face` rules ([#41815](#)) ([2a11cda](#)), closes [#41751](#)
- **compiler:** update supported range of node versions to only include LTS versions ([#41822](#)) ([bae8126](#))
- **compiler:** non-literal inline templates incorrectly processed in partial compilation ([#41583](#)) ([ab257b3](#))
- **compiler:** not generating update instructions for ng-template inside alternate namespaces ([#41669](#)) ([2bcbbda](#)), closes [#41308](#)
- **compiler:** avoid parsing EmptyExpr with a backwards span ([#41581](#)) ([e1a2930](#))
- **compiler:** handle case-sensitive CSS custom properties ([#41380](#)) ([e112e32](#)), closes [#41364](#)
- **compiler:** include used components during JIT compilation of partial component declaration ([#41353](#)) ([ff9470b](#)), closes [#41104](#) [#41318](#)
- **compiler:** support multiple `:host-context()` selectors ([#40494](#)) ([07b7af3](#)), closes [#19199](#)
- **compiler:** update type castings for JSON.parse usage ([#40710](#)) ([f728490](#))
- **compiler-cli:** use '' for the source map URL of indirect templates ([#41973](#)) ([7a4d980](#)), closes [#40854](#)
- **compiler-cli:** expose the linker as a Babel plugin ([#41918](#)) ([8fdac8f](#))
- **compiler-cli:** prefer non-aliased exports in reference emitters ([#41866](#)) ([75bb931](#)), closes [#41443](#) [#41277](#)

- **compiler-cli:** allow linker to process minified booleans ([#41747](#)) ([1fb6724](#)), closes [#41655](#)
- **compiler-cli:** match string indexed partial declarations ([#41747](#)) ([f885750](#)), closes [#41655](#)
- **compiler-cli:** update supported range of node versions to only include LTS versions ([#41822](#)) ([5b463f4](#))
- **compiler-cli:** autocomplete literal types in templates. ([#41456](#)) ([#41645](#)) ([8b2b5ef](#))
- **compiler-cli:** do not error with prepocessing if component has no inline styles ([#41602](#)) ([a5fe8b9](#))
- **compiler-cli:** ensure the compiler tracks `ts.Program`s correctly ([#41291](#)) ([deacc74](#))
- **compiler-cli:** prevent eliding default imports in incremental recompilations ([#41557](#)) ([7f16515](#)), closes [#41377](#)
- **compiler-cli:** resolve `rootDirs` to absolute ([#41359](#)) ([3e0fda9](#)), closes [#36290](#)
- **compiler-cli:** add `useInlining` option to type check config ([#41043](#)) ([09aefd2](#)), closes [#40963](#)
- **compiler-cli:** `readConfiguration` existing options should override options in tsconfig ([#40694](#)) ([b7c4d07](#))
- **compiler-cli:** extend `angularCompilerOptions` in tsconfig from node ([#40694](#)) ([5eb1954](#)), closes [#36715](#)
- **compiler-cli:** update ngcc integration tests for latest changes in rules_nodejs ([#40710](#)) ([d7f5755](#))
- **compiler-cli:** update type castings for JSON.parse usage ([#40710](#)) ([b75d7cb](#))
- **core:** do not retain dynamically compiled components and modules ([#42003](#)) ([1449c5c](#)), closes [#19997](#)
- **core:** invoke profiler around ngOnDestroy lifecycle hooks ([#41969](#)) ([e9ddc57](#))
- **core:** AsyncPipe now compatible with RxJS 7 ([#41590](#)) ([9759bca](#))
- **core:** handle multiple i18n attributes with expression bindings ([#41882](#)) ([73c6c64](#)), closes [#41869](#)
- **core:** update supported range of node versions to only include LTS versions ([#41822](#)) ([f9c1f08](#))
- **core:** detect synthesized constructors that have been downleveled using TS 4.2 ([#41305](#)) ([274dc15](#)), closes [#41298](#)
- **core:** Switch `emitDistinctChangesOnlyDefaultValue` to true ([#41121](#)) ([7096246](#))
- **core:** remove duplicated EMPTY_OBJ constant ([#41066](#)) ([bf158e7](#))
- **core:** remove duplicated EMPTY_ARRAY constant ([#40991](#)) ([e12d9de](#))
- **core:** allow EmbeddedViewRef context to be updated ([#40360](#)) ([a3e1719](#)), closes [#24515](#)
- **core:** make DefaultIterableDiffer keep the order of duplicates ([#23941](#)) ([a826926](#)), closes [#23815](#)
- **core:** NgZone coaleascing options should trigger onStable correctly ([#40540](#)) ([22f9e45](#))
- **elements:** update supported range of node versions to only include LTS versions ([#41822](#)) ([4f5d094](#))
- **elements:** update type castings for JSON.parse usage ([#40710](#)) ([efd4149](#))
- **forms:** update supported range of node versions to only include LTS versions ([#41822](#)) ([dc975ba](#))
- **http:** complete the request on timeout ([#39807](#)) ([61a0b6d](#)), closes [#26453](#)
- **http:** emit error on XMLHttpRequest abort event ([#40767](#)) ([3897265](#)), closes [#22324](#)
- **language-service:** update supported range of node versions to only include LTS versions ([#41822](#)) ([9b6198c](#))
- **language-service:** use script versions for incremental compilations ([#41475](#)) ([78236bf](#))
- **language-service:** Only provide Angular property completions in templates ([#41278](#)) ([0226a11](#))
- **language-service:** Add plugin option to force strictTemplates ([#41062](#)) ([e9e7c33](#))
- **language-service:** use single entry point for Ivy and View Engine ([#40967](#)) ([e986a97](#))
- **localize:** relax error to warning for missing target ([#41944](#)) ([35ceed2](#)), closes [#21690](#)
- **localize:** update supported range of node versions to only include LTS versions ([#41822](#)) ([658ed1f](#))
- **localize:** update type castings for JSON.parse usage ([#40710](#)) ([4b469c9](#))
- **ngcc:** detect synthesized constructors that have been downleveled using TS 4.2 ([#41305](#)) ([8d3da56](#)), closes [#41298](#)
- **platform-browser:** prevent memory leak of style nodes if shadow DOM encapsulation is used ([#42005](#)) ([d555555](#)), closes [#36655](#)
- **platform-browser:** update supported range of node versions to only include LTS versions ([#41822](#)) ([ea05cfd](#))
- **platform-browser:** configure `XhrFactory` to use `BrowserXhr` ([#41313](#)) ([e0028e5](#)), closes [#41311](#)
- **platform-browser:** update type castings for JSON.parse usage ([#40710](#)) ([7ecfd2d](#))
- **platform-browser-dynamic:** update supported range of node versions to only include LTS versions ([#41822](#)) ([bc45029](#))
- **platform-server:** update supported range of node versions to only include LTS versions ([#41822](#)) ([4b9d4fa](#))
- **router:** update supported range of node versions to only include LTS versions ([#41822](#)) ([0067edd](#))
- **router:** Only retrieve stored route when reuse strategy indicates it should reattach ([#30263](#)) ([a4ff071](#)), closes [#23162](#)
- **router:** recursively merge empty path matches ([#41584](#)) ([1179dc8](#)), closes [#41481](#)
- **router:** fragment can be null ([#37336](#)) ([b555160](#)), closes [#23894](#) [#34197](#)
- **router:** update type castings for JSON.parse usage ([#40710](#)) ([350dada](#))
- **service-worker:** update supported range of node versions to only include LTS versions ([#41822](#)) ([6b823d7](#))
- **service-worker:** update type castings for JSON.parse usage ([#40710](#)) ([4f7ff96](#))
- **upgrade:** preserve $interval.flush when ngMocks is being used ([#30229](#)) ([87dc851](#))
- **upgrade:** update supported range of node versions to only include LTS versions ([#41822](#)) ([10c4523](#))

Build System

- `ng_package` no longer generate minified UMDs ([#41425](#)) ([5a8bc1b](#))

Features

- **animations:** update supported range of node versions ([#41544](#)) ([547363a](#))
- **animations:** add support for disabling animations through BrowserAnimationsModule.withConfig ([#40731](#)) ([29d8a0a](#))
- **bazel:** update supported range of node versions ([#41544](#)) ([d583d92](#))

- **common:** update supported range of node versions ([#41544](#)) ([e0250e5](#))
- **common:** add `historyGo` method to `Location` service ([#38890](#)) ([e05a6f3](#))
- **common:** support ICU standard "stand alone day of week" with `DatePipe` ([#40766](#)) ([c56ecab](#)), closes [#26922](#)
- **common:** implement `appendAll()` method on `HttpParams` ([#20930](#)) ([575a2d1](#)), closes [#20798](#)
- **compiler:** support nullish coalescing in templates ([#41437](#)) ([ec27bd4](#)), closes [#36528](#)
- **compiler:** update supported range of node versions ([#41544](#)) ([75cc813](#))
- **compiler:** emit @**PURE** or [@pure](#)OrBreakMyCode annotations in the generated code ([#41096](#)) ([9c21028](#))
- **compiler-cli:** mark ability to use partial compilation mode as stable ([#41518](#)) ([6ba67c6](#)), closes [#41496](#)
- **compiler-cli:** update supported range of node versions ([#41544](#)) ([b7bd238](#))
- **compiler-cli:** support transforming component style resources ([#41307](#)) ([1de04b1](#))
- **compiler-cli:** support producing Closure-specific PURE annotations ([#41021](#)) ([fbc9df1](#))
- **core:** introduce getDirectiveMetadata global debugging utility ([#41525](#)) ([a07f303](#))
- **core:** update supported range of node versions ([#41544](#)) ([e66a5fb](#))
- **core:** support `forwardRef` in `providedIn` of `Injectable` declaration ([#41426](#)) ([f7c294e](#)), closes [#41205](#)
- **core:** add migration for `XhrFactory` import ([#41313](#)) ([95ff5ec](#))
- **core:** drop support for TypeScript 4.0 and 4.1 ([#41158](#)) ([fa04894](#))
- **core:** support TypeScript 4.2 ([#41158](#)) ([59ef409](#))
- **core:** manually annotate de-sugarred core tree-shakable providers with [@pure](#)OrBreakMyCode ([#41096](#)) ([03d47d5](#))
- **core:** more precise type for `APP_INITIALIZER` token ([#40986](#)) ([ca721c2](#)), closes [#40729](#)
- **core:** drop support for zone.js 0.10.x ([#40823](#)) ([aaf9b31](#)), closes [angular/angular-cli#20034](#)
- **core:** support APP_INITIALIZER work with observable ([#33222](#)) ([ca17ac5](#)), closes [#15088](#)
- **elements:** update supported range of node versions ([#41544](#)) ([12fc08b](#))
- **forms:** update supported range of node versions ([#41544](#)) ([a0006a6](#))
- **forms:** add `emitEvent` option for AbstractControl-based class methods ([#31031](#)) ([4ec045e](#)), closes [#29662](#)
- **forms:** introduce min and max validators ([#39063](#)) ([8fb83ea](#)), closes [#16352](#)
- **http:** introduce HttpContext request context ([#25751](#)) ([1644d64](#))
- **http:** expose a list of human-readable http status codes ([#23548](#)) ([6fe3a1d](#)), closes [#23543](#)
- **language-service:** implement signature help ([#41581](#)) ([c7f9516](#))
- **language-service:** update supported range of node versions ([#41544](#)) ([86621be](#))
- **language-service:** add perf tracing to LanguageService ([#41319](#)) ([90f85da](#))
- **language-service:** add command for getting components for a template file ([#40655](#)) ([5cde4ad](#))
- **language-service:** Add diagnostics to suggest turning on strict mode ([#40423](#)) ([ecae75f](#))
- **language-service:** Implement `getRenameInfo` ([#40439](#)) ([4e8198d](#))
- **language-service:** initial implementation for `findRenameLocations` ([#40140](#)) ([9a5ac47](#))
- **language-service:** view template typecheck block ([#39974](#)) ([d482f5c](#))
- **localize:** update supported range of node versions ([#41544](#)) ([590d4dd](#))
- **localize:** add scripts to migrate away from legacy message IDs ([#41026](#)) ([1735430](#))
- **ngcc:** support `__read` helper as used by TypeScript 4.2 ([#41201](#)) ([66e9970](#))
- **ngcc:** support `__spreadArray` helper as used by TypeScript 4.2 ([#41201](#)) ([7b1214e](#)) [#40394](#)
- **platform-browser:** update supported range of node versions ([#41544](#)) ([ef0d1c3](#))
- **platform-browser-dynamic:** update supported range of node versions ([#41544](#)) ([b714f7b](#))
- **platform-server:** update supported range of node versions ([#41544](#)) ([c901b4d](#))
- **platform-server:** allow shimming the global env sooner ([#40559](#)) ([43ecf8a](#)), closes [#24551](#) [#39950](#) [#39950](#)
- **router:** update supported range of node versions ([#41544](#)) ([c30b171](#))
- **router:** add migration for ActivatedRouteSnapshot.fragment ([#41092](#)) ([190fa07](#)), closes [#37336](#)
- **router:** Add more fine-tuned control in `routerLinkActiveOptions` ([#40303](#)) ([6c05c80](#)), closes [#13205](#)
- **router:** Allow for custom router outlet implementations ([#40827](#)) ([a82fddf](#))
- **service-worker:** update supported range of node versions ([#41544](#)) ([fc597f1](#))
- **upgrade:** update supported range of node versions ([#41544](#)) ([beafa22](#))

Performance Improvements

- **common:** remove unused methods from DomAdapter ([#41102](#)) ([3c66b10](#))
- **compiler:** reduce amount of generated code for safe accesses and nullish coalescing ([#41563](#)) ([9a3b82f](#)), closes [#41437](#) [#41491](#)
- **compiler-cli:** allow incremental compilation in the presence of redirected source files ([#41448](#)) ([ffea31f](#))
- **compiler-cli:** cache results of `absoluteFromSourceFile` ([#41475](#)) ([fab1a64](#))
- **core:** minor improvements to listener instructions ([#41807](#)) ([9346d61](#))
- **core:** avoid storing LView in **ngContext** ([#41358](#)) ([990067a](#)), closes [#41047](#)
- **core:** optimize getDirectives ([#41525](#)) ([f7e391a](#))

BREAKING CHANGES

- Minified UMD bundles are no longer included in the distributed NPM packages.

- **animations:** DOM elements are now correctly removed when the root view is removed. If you are using SSR and use the app's HTML for rendering, you will need to ensure that you save the HTML to a variable before destorying the app. It is also possible that tests could be accidentally relying on the old behavior by trying to find an element that was not removed in a previous test. If this is the case, the failing tests should be updated to ensure they have proper setup code which initializes elements they rely on.
- **common:** Methods of the `PlatformLocation` class, namely `onPopState` and `onHashChange` , used to return `void` . Now those methods return functions that can be called to remove event handlers.
- **common:** The methods of the `HttpParams` class now accept `string | number | boolean` instead of `string` for the value of a parameter. If you extended this class in your application, you'll have to update the signatures of your methods to reflect these changes.
- **compiler-cli:** Linked libraries no longer generate legacy i18n message ids. Any downstream application that provides translations for these messages, will need to migrate their message ids using the `localize-migrate` command line tool.
- **core:** Angular no longer maintains support for node v10
- **core:** Previously the `ng.getDirectives` function threw an error in case a given DOM node had no Angular context associated with it (for example if a function was called for a DOM element outside of an Angular app). This behavior was inconsistent with other debugging utilities under `ng` namespace, which handled this situation without raising an exception. Now calling the `ng.getDirectives` function for such DOM nodes would result in an empty array returned from that function.
- **core:** Switching default of `emitDistinctChangesOnlyDefaultValue` which changes the default behavior and may cause some applications which rely on the incorrect behavior to fail.

`emitDistinctChangesOnly` flag has also been deprecated and will be removed in a future major release.

The previous implementation would fire changes `QueryList.changes.subscribe` whenever the `QueryList` was recomputed. This resulted in an artificially high number of change notifications, as it is possible that recomputing `QueryList` results in the same list. When the `QueryList` gets recomputed is an implementation detail, and it should not be the thing that determines how often change event should fire.

Unfortunately, fixing the behavior outright caused too many existing applications to fail. For this reason, Angular considers this fix a breaking fix and has introduced a flag in `@ContentChildren` and `@ViewChildren` , that controls the behavior.

```
export class QueryCompWithStrictChangeEmitParent {
  @ContentChildren('foo', {
    // This option is the new default with this change.
    emitDistinctChangesOnly: true,
  })
  foos!: QueryList<any>;
}
```

For backward compatibility before v12 `emitDistinctChangesOnlyDefaultValue` was set to `false` . This change changes the default to `true` .

- **core:** The type of the `APP_INITIALIZER` token has been changed to more accurately reflect the types of return values that are handled by Angular. Previously, each initializer callback was typed to return `any` , this is now `Promise<unknown> | Observable<unknown> | void` . In the unlikely event that your application uses the `Injector.get` or `TestBed.inject` API to inject the `APP_INITIALIZER` token, you may need to update the code to account for the stricter type.

Additionally, TypeScript may report the TS2742 error if the `APP_INITIALIZER` token is used in an expression of which its inferred type has to be emitted into a .d.ts file. To workaround this, an explicit type annotation is needed, which would typically be `Provider` or `Provider[]` .

- **core:** Minimum supported `zone.js` version is `0.11.4`

- **forms:** The `emitEvent` option was added to the following `FormArray` and `FormGroup` methods:

- FormGroup.addControl

- FormGroup.removeControl

- FormGroup.setControl

- FormArray.push

- FormArray.insert

- FormArray.removeAt

- FormArray.setControl

- FormArray.clear

If your app has custom classes that extend `FormArray` or `FormGroup` classes and override the above-mentioned methods, you may need to update your implementation to take the new options into account and make sure that overrides are compatible from a types perspective.

- **forms:** Previously `min` and `max` attributes defined on the `<input type="number">` were ignored by Forms module. Now presence of these attributes would trigger min/max validation logic (in case `formControl`, `formControlName` or `ngModel` directives are also present on a given input) and corresponding form control status would reflect that.
- **platform-browser:** `XhrFactory` has been moved from `@angular/common/http` to `@angular/common`.

Before

```
import {XhrFactory} from '@angular/common/http';
```

After

```
import {XhrFactory} from '@angular/common';
```

- **router:** Strict null checks will report on fragment potentially being null. Migration path: add null check.
- **router:** The type of the `RouterLinkActive.routerLinkActiveOptions` input was expanded to allow more fine-tuned control. Code that previously read this property may need to be updated to account for the new type.

11.2.14 (2021-05-12)

core

Commit	Description
5bb7c0ef3a	fix(core): do not retain dynamically compiled components and modules (#42003)
40cc29aa6e	fix(core): invoke profiler around ngOnDestroy lifecycle hooks (#41969)

platform-browser

Commit	Description
f66c9ae749	fix(platform-browser): prevent memory leak of style nodes if shadow DOM encapsulation is used (#42005)

Special Thanks:

Alex Rickabaugh, Andrew J Asche, Georgii Dolzhykov, Joey Perrott, Joost Koehoorn, Julien Marcou, Kapunahele Wong, Pete Bacon Darwin, Richard Sithole, Teri Glover, iRealNirmal, Minko Gechev, profanis and va-stefanek

12.1.0-next.1 (2021-05-05)

Bug Fixes

- **common:** add body as an optional property on the options of HttpClient.delete ([#19438](#)) ([#41723](#)) ([6b8baad](#))
- **compiler-cli:** expose the linker as a Babel plugin ([#41918](#)) ([6eafaa7](#))
- **compiler-cli:** prefer non-aliased exports in reference emitters ([#41866](#)) ([35450c7](#)), closes [#41443](#) [#41277](#)
- **core:** handle multiple i18n attributes with expression bindings ([#41882](#)) ([9b4b281](#)), closes [#41869](#)

Features

- **compiler:** support directive selectors with attributes containing `$` ([#41567](#)) ([1758d02](#)), closes [#41244](#) [#41500](#) [#41500](#)

Performance Improvements

- **core:** minor improvements to listener instructions ([#41807](#)) ([6581a1b](#))

BREAKING CHANGES

- Minified UMD bundles are no longer included in the distributed NPM packages.
- **core:** Angular no longer maintains support for node v10
- **core:** Previously the `ng.getDirectives` function threw an error in case a given DOM node had no Angular context associated with it (for example if a function was called for a DOM element outside of an Angular app). This behavior was inconsistent with other

debugging utilities under `ng` namespace, which handled this situation without raising an exception. Now calling the `ng.getDirectives` function for such DOM nodes would result in an empty array returned from that function.

- **compiler-cli:** Linked libraries no longer generate legacy i18n message ids. Any downstream application that provides translations for these messages, will need to migrate their message ids using the `localize-migrate` command line tool.

11.2.13 (2021-05-05)

Bug Fixes

- **animations:** ensure consistent transition namespace ordering ([#19854](#)) ([a58562a](#))
- **common:** add right ContentType for boolean values with HttpClient request body([#38924](#)) ([#41885](#)) ([ae0fa08](#))
- **core:** AsyncPipe now compatible with RxJS 7 ([#41590](#)) ([7a86ebf](#))
- **core:** handle multiple i18n attributes with expression bindings ([#41912](#)) ([345f5c4](#)), closes [#41869](#)
- **localize:** relax error to warning for missing target ([#41944](#)) ([3150f9f](#)), closes [#21690](#)

11.2.12 (2021-04-28)

Bug Fixes

- **compiler:** strip scoped selectors from `[@font-face](https://github.com/font-face)` rules ([#41815](#)) ([de39b49](#)), closes [#41751](#)
- **upgrade:** preserve $interval.flush when ngMocks is being used ([#30229](#)) ([dd46b87](#))

11.2.11 (2021-04-21)

Bug Fixes

- **common:** viewport scroller not finding elements inside the shadow DOM ([#41644](#)) ([3aa9235](#)), closes [#41470](#)
- **compiler-cli:** autocomplete literal types in templates ([296f887](#))
- **router:** Only retrieve stored route when reuse strategy indicates it should reattach ([#30263](#)) ([f4376fc](#)), closes [#23162](#)
- **router:** recursively merge empty path matches ([#41584](#)) ([8d62813](#)), closes [#41481](#)

11.2.10 (2021-04-14)

Bug Fixes

- **compiler-cli:** prevent eliding default imports in incremental recompilations ([#41586](#)) ([43050a1](#)), closes [#41377](#)
- **compiler-cli:** show a more specific error for Ivy NgModules ([#41534](#)) ([09eb125](#))
- **core:** error if DebugRenderer2.destroyNode is called twice in a row ([#41565](#)) ([419c189](#))
- **language-service:** bound attributes should not break directive matching ([#41597](#)) ([3dbcc7f](#)), closes [/github.com/angular/angular/blob/cdf1ea1951fb7187b1f6c9bb8a847c859c41e0b8/packages/compiler/src/render3/view/util.ts#L174-L206](#)
- **language-service:** resolve to the pre-compiled style when compiled css url is provided ([#41538](#)) ([3d54980](#)), closes [angular/vscode-ng-language-service#1263](#)
- **language-service:** use 'any' instead of failing for inline TCBs ([#41513](#)) ([f76873e](#)), closes [#41395](#)
- **router:** handle new navigations from a NavigationEnd event ([#41262](#)) ([#41511](#)) ([e34299a](#)), closes [#37460](#)
- **router:** Remove information about attached component when deactivating route ([#41381](#)) ([646f4a1](#)), closes [#41379](#)

Performance Improvements

- **compiler-cli:** allow incremental compilation in the presence of redirected source files ([#41587](#)) ([616145e](#))

11.2.9 (2021-04-07)

Bug Fixes

- **bazel:** add missing dependency on `tslib` ([#41480](#)) ([8d005e5](#)), closes [11.2.8/src/api-extractor/index.js#L20](#)
- **compiler-cli:** Allow analysis to continue with invalid style url ([#41403](#)) ([#41489](#)) ([07131fa](#))
- **compiler-cli:** fix extending angularCompilerOptions from non relative extension less TypeScript configuration files ([#41349](#)) ([e0165fd](#)), closes [#41343](#)

Features

- **bazel:** allow setting `compilationMode` in `ng_module` rule ([#41418](#)) ([e6da38a](#))

Performance Improvements

- **core:** add private hooks around user code executed by the runtime ([#41421](#)) ([94af9d9](#))
- **language-service:** add perf tracing to LanguageService ([#41401](#)) ([7b0a800](#))

11.2.8 (2021-04-01)

Bug Fixes

- **compiler:** handle case-sensitive CSS custom properties ([#41380](#)) ([f9da272](#)), closes [#41364](#)

11.2.7 (2021-03-24)

Bug Fixes

- **compiler:** correctly process multiple rules containing `:host` selectors ([#41261](#)) ([f358d6b](#)), closes [#41237](#)
- **compiler-cli:** add `useInlining` option to type check config ([#41268](#)) ([57644e9](#)), closes [#40963](#)
- **core:** remove obsolete check for [class] and [className] presence ([#41254](#)) ([8a53b54](#))
- **language-service:** show suggestion when type inference is suboptimal ([#41072](#)) ([18cd7a0](#)), closes [angular/vscode-ng-language-service#1155](#) [#41042](#)

11.2.6 (2021-03-17)

Bug Fixes

- **core:** remove duplicated EMPTY_OBJ constant ([#41153](#)) ([fa97166](#))
- **forms:** properly handle the change to the FormGroup shape ([#40829](#)) ([60ac964](#)), closes [#13788](#)
- **localize:** render correct closing tag placeholder names in XLIFF 2 ([#41152](#)) ([7dbb550](#)), closes [#41142](#)
- **localize:** trim extracted `equiv-text` values ([#41180](#)) ([ed6c09a](#)), closes [#41176](#)
- **ngcc:** do not compile JavaScript sources if typings-only processing is repeated ([#41209](#)) ([be050b2](#)), closes [#41198](#)

Performance Improvements

- **forms:** avoid direct references to the `Validators` class ([#41189](#)) ([#41220](#)) ([804b6b6](#))
- **forms:** make `FormBuilder` class tree-shakable ([#41126](#)) ([ffc93e0](#))
- **forms:** make `RadioControlRegistry` class tree-shakable ([#41126](#)) ([6414590](#))
- **forms:** make built-in ControlValueAccessors more tree-shakable ([#41146](#)) ([#41197](#)) ([5908eda](#))

11.2.5 (2021-03-10)

Bug Fixes

- **bazel:** fix incorrect rollup plugin method signature ([#41101](#)) ([925746b](#))
- **language-service:** Only provide dom completions for inline templates ([#41078](#)) ([a05eb13](#))

Performance Improvements

- **compiler-cli:** avoid module resolution in cycle analysis ([#40948](#)) ([532ae73](#))
- **compiler-cli:** detect semantic changes and their effect on an incremental rebuild ([#40947](#)) ([e35ecea](#)), closes [#34867](#) [#40635](#) [#40728](#)
- **compiler-cli:** ensure module resolution cache is reused for type-check program ([#39693](#)) ([16f90ca](#))
- **compiler-cli:** use bound symbol in import graph in favor of module resolution ([#40948](#)) ([2035b15](#))

11.2.4 (2021-03-03)

Bug Fixes

- **compiler:** allow binding to autocomplete property on select and textarea elements ([#40928](#)) ([20fb638](#)), closes [#39490](#)
- **compiler:** ensure JIT compilation of ɵɵngDeclarePipe() works ([#40929](#)) ([55eb7b5](#))
- **compiler:** recover from an incomplete open tag at the end of a file ([#41054](#)) ([c675acd](#))
- **compiler-cli:** `readConfiguration` existing options should override options in tsconfig ([#40694](#)) ([#41036](#)) ([2f3e2df](#))
- **compiler-cli:** ensure ngcc can handle wildcard base-paths ([#41033](#)) ([27d55f6](#)), closes [#41014](#)
- **compiler-cli:** extend `angularCompilerOptions` in tsconfig from node ([#40694](#)) ([#41036](#)) ([e3ccd56](#)), closes [/github.com/microsoft/TypeScript/blob/b346f5764e4d500ebdeff7086e43690ea533a305/src/compiler/commandLineParser.ts#L2603-L2628](#) [#36715](#)
- **language-service:** Add plugin option to force strictTemplates ([#41063](#)) ([95f748c](#))
- **language-service:** Always attempt HTML AST to template AST conversion for LS ([#41068](#)) ([6dd5497](#)), closes [angular/vscode-ng-language-service#1140](#)
- **language-service:** can't provide the Input and Output custom binding property name ([#41005](#)) ([1b1b65e](#))
- **language-service:** don't show external template diagnostics in ts files ([#41070](#)) ([9322e6a](#)), closes [#41032](#)
- **language-service:** only provide template results on reference requests ([#41041](#)) ([ef87953](#))
- **language-service:** provide element completions after open tag < ([#41068](#)) ([f09e7ab](#)), closes [angular/vscode-ng-language-service#1140](#)

- **ngcc:** do not fail hard when a format-path points to a non-existing or empty file ([#40985](#)) ([06ff277](#)), closes [/github.com/angular/angular/blob/3077c9a1f89c5bd75fb96c16e/packages/compiler-cli/ngcc/src/main.ts#L124](#) [#40965](#)

11.2.3 (2021-02-24)

Performance Improvements

- **language-service:** Skip Angular analysis when quick info requested outside a template ([#40956](#)) ([0dd1fac](#))

11.2.2 (2021-02-22)

Bug Fixes

- **animations:** error when setting position before starting animation ([#28255](#)) ([f1c64b3](#))
- **http:** emit error on XMLHttpRequest abort event ([#40786](#)) ([4a32579](#)), closes [#22324](#)
- **http:** ignore question mark when params are parsed ([#40610](#)) ([3b884ed](#)), closes [#28722](#)
- **platform-browser:** ensure that Hammer loader is called only once ([#40911](#)) ([f8055f6](#)), closes [#25995](#)

Performance Improvements

- **core:** use `ngDevMode` to tree-shake warning ([#40876](#)) ([c8a2e3a](#))
- **language-service:** short-circuit LS operations when we know there is no Angular information to provide ([#40946](#)) ([73a3ff1](#))

11.2.1 (2021-02-17)

Bug Fixes

- **compiler:** handle `:host-context` and `:host` in the same selector ([#40494](#)) ([ab8ea87](#)), closes [#14349](#)
- **compiler:** support multiple `:host-context()` selectors ([#40494](#)) ([c20e304](#)), closes [#19199](#)
- **compiler:** support multiple selectors in `:host-context()` ([#40494](#)) ([fb0ce21](#))
- **compiler-cli:** set TS original node on imported namespace identifiers ([#40711](#)) ([87ac052](#))
- **core:** address Trusted Types bug in Chrome 83 ([#40815](#)) ([b5f2070](#))
- **http:** complete the request on timeout ([#40771](#)) ([a2a5b4a](#))
- **router:** fix load interaction of navigation and preload strategies ([#40389](#)) ([4906bf6](#)), closes [#26557](#) [#22842](#) [#26557](#) [#26557](#) [#22842](#) [#26557](#)
- **router:** fix load interaction of navigation and preload strategies ([#40389](#)) ([bba1981](#)), closes [#26557](#) [#22842](#) [#26557](#) [#26557](#) [#22842](#) [#26557](#)

11.2.0 (2021-02-10)

Bug Fixes

- **animations:** properly track listeners for a removed element ([#40712](#)) ([74cb759](#))
- **common:** date is not correctly formatted when year is between 0 and 99 ([#40448](#)) ([bf85f04](#)), closes [#40377](#)
- **compiler:** include parenthesis in expression source spans ([#40740](#)) ([e99c4e2](#)), closes [#40721](#)
- **compiler:** throw error for duplicate template references ([#40538](#)) ([7e0ff8c](#)), closes [#40536](#)
- **compiler-cli:** don't crash when we can't resolve a resource ([#40660](#)) ([95446fb](#)), closes [angular/vscode-ng-language-service#1079](#)
- **core:** properly move embedded views of dynamic component's projectable nodes ([#37167](#)) ([9ae21ee](#)), closes [#37120](#)
- **localize:** improve invalid syntax in extraction error message ([#40724](#)) ([24600ff](#))
- **localize:** support downleveled inlined helper localize calls ([#40754](#)) ([415ad8d](#)), closes [#40702](#)
- **router:** stop emitting to event observable on destroy ([#40638](#)) ([737bc7a](#)), closes [#40502](#)

11.2.0-rc.0 (2021-02-03)

This release contains the same set the of changes as 11.2.0-next.1.

11.2.0-next.1 (2021-02-03)

Bug Fixes

- **common:** parse `YYYY-MM` strings as UTC dates ([#40620](#)) ([4c5f18d](#)), closes [#33944](#)
- **common:** parse `YYYY` strings as UTC dates ([#40629](#)) ([46d4326](#)), closes [#33944](#) [#40620](#)
- **compiler:** Don't set expression text to synthetic `$implicit` when empty ([#40583](#)) ([9d396f8](#))

- **compiler:** exclude trailing whitespace from element source spans ([#40513](#)) ([7a6d1e2](#)), closes [#39148](#)
- **compiler-cli:** preserve user line endings in diagnostic template parse ([#40597](#)) ([caafac2](#))
- **core:** ensure the type `T` of `EventEmitter<T>` can be inferred ([#40644](#)) ([5c54767](#)), closes [#40637](#)
- **core:** remove duplicated EMPTY_ARRAY constant ([#40587](#)) ([cabe8be](#))

Performance Improvements

- **language-service:** update NgCompiler via resource-only path when able ([#40585](#)) ([07a3d7a](#))

11.1.2 (2021-02-03)

Bug Fixes

- **common:** parse `YYYY-MM` strings as UTC dates ([#40620](#)) ([cafd4f5](#)), closes [#33944](#)
- **common:** parse `YYYY` strings as UTC dates ([#40629](#)) ([b823049](#)), closes [#33944](#) [#40620](#)
- **compiler:** Don't set expression text to synthetic `$implicit` when empty ([#40583](#)) ([5dab521](#))
- **compiler:** exclude trailing whitespace from element source spans ([#40513](#)) ([726ec88](#)), closes [#39148](#)
- **compiler-cli:** preserve user line endings in diagnostic template parse ([#40597](#)) ([00eeebf](#))
- **core:** ensure the type `T` of `EventEmitter<T>` can be inferred ([#40644](#)) ([8f9ba8e](#)), closes [#40637](#)
- **core:** remove duplicated EMPTY_ARRAY constant ([#40587](#)) ([abdf25c](#))

Performance Improvements

- **language-service:** update NgCompiler via resource-only path when able ([#40680](#)) ([0047eb3](#))

11.1.1 (2021-01-27)

Bug Fixes

- **compiler-cli:** handle pseudo cycles in inline source-maps ([#40435](#)) ([566206b](#)), closes [#40408](#)
- **compiler-cli:** use `Map` rather than `object` for map of partial linkers ([#40563](#)) ([33e0f2b](#))
- **core:** fix possible XSS attack in development through SSR ([#40525](#)) ([97ec6e4](#))
- **core:** improve injector debug information in `ngDevMode` ([#40476](#)) ([4bb38c9](#))
- **forms:** allow `patchValue()` method of `FormGroup` and `FormArray` classes to skip `null` values ([#40534](#)) ([2fab148](#)), closes [#36672](#) [#21021](#)
- **forms:** properly cleanup in cases when FormControlName has no CVA ([#40526](#)) ([72fc6aa](#)), closes [#39235](#) [#40521](#)
- **language-service:** implement realpath to resolve symlinks ([#40593](#)) ([77efc27](#))
- **language-service:** recognize incomplete pipe bindings with whitespace ([#40346](#)) ([d88f18e](#))
- **localize:** include meaning in generated ARB files ([#40546](#)) ([5661298](#)), closes [#40506](#)
- **router:** always stringify matrix parameters ([#25095](#)) ([a8a27ef](#)), closes [#23165](#)
- **router:** Fix occasional error when creating url tree in IE 11 and Edge ([#40488](#)) ([69fd942](#))
- **service-worker:** handle error with console.error ([#40236](#)) ([37710b9](#))

Features

- **language-service:** Add diagnostics to suggest turning on strict mode ([#40568](#)) ([defa627](#))

Performance Improvements

- **compiler-cli:** introduce fast path for resource-only updates ([#40561](#)) ([156103c](#))
- **core:** simplify bloom bucket computation ([#40489](#)) ([106734a](#))

11.1.0 (2021-01-20)

Bug Fixes

- **animations:** getAnimationStyle causes exceptions in older browsers ([#29709](#)) ([66d863f](#))
- **animations:** replace copy of query selector node-list from "spread" to "for" ([#39646](#)) ([bfa197f](#)), closes [#38551](#)
- **common:** add `HttpParamsOptions` to the public api ([#35829](#)) ([b33b89d](#)), closes [#20276](#)
- **common:** Prefer to use pageXOffset / pageYOffset instance of scrollX / scrollY ([#28262](#)) ([b1d300d](#))
- **compiler:** correct the `KeySpan` for animation events and properties ([#40347](#)) ([524415e](#))
- **compiler:** incorrectly interpreting some HostBinding names ([#40233](#)) ([1045465](#)), closes [#40220](#) [#40230](#) [#18698](#)
- **compiler:** recover event parse when animation event name is empty ([#39925](#)) ([15b15be](#))
- **compiler:** avoid duplicate i18n blocks for i18n attrs on elements with structural directives ([#40077](#)) ([caa4666](#)), closes [#39942](#)
- **compiler:** handle strings inside bindings that contain binding characters ([#39826](#)) ([dc6d40e](#)), closes [#39601](#)

- **compiler:** disallow i18n of security-sensitive attributes ([#39554](#)) ([c8a99ef](#))
- **compiler:** ensure that placeholders have the correct sourceSpan ([#39717](#)) ([0462a61](#)), closes [#39671](#)
- **compiler:** only promote Trusted Types to constants when necessary ([#39554](#)) ([4916870](#))
- **compiler:** report better error on interpolation in an expression ([#30300](#)) ([94e790d](#))
- **compiler-cli:** do not duplicate repeated source-files in rendered source-maps ([#40237](#)) ([3158858](#))
- **compiler-cli:** remove classes in .d.ts files from provider checks ([#40118](#)) ([973bb40](#))
- **animations:** implement getPosition in browser animation builder ([#39983](#)) ([ca08625](#))
- **compiler-cli:** correct incremental behavior even with broken imports ([#39923](#)) ([c7c5b2f](#))
- **compiler-cli:** remove the concept of an errored trait ([#39923](#)) ([6d42954](#))
- **compiler-cli:** track poisoned scopes with a flag ([#39923](#)) ([0823622](#))
- **compiler-cli:** report error when a reference target is missing instead of crashing ([#39805](#)) ([453b32f](#)), closes [#38618](#) [#39744](#)
- **core:** fix possible XSS attack in development through SSR. ([#40136](#)) ([47d9b6d](#))
- **core:** set `ngDevMode` to `false` when calling `enableProdMode()` ([#40124](#)) ([70b4816](#))
- **core:** Allow passing AbstractType to the inject function ([#37958](#)) ([a1b6ad0](#))
- **core:** Ensure OnPush ancestors are marked dirty when events occur ([#39833](#)) ([68d4a74](#)), closes [#39832](#)
- **core:** meta addTag() adds incorrect attribute for httpEquiv ([#32531](#)) ([ff0a90e](#))
- **core:** migration error if program contains files outside of the project ([#39790](#)) ([1a26f6d](#)), closes [#39778](#)
- **core:** not invoking object's toString when rendering to the DOM ([#39843](#)) ([11cd37f](#)), closes [#38839](#)
- **core:** remove duplicated noop function ([#39761](#)) ([066126a](#))
- **core:** support `Attribute` DI decorator in `deps` section of a token ([#37085](#)) ([f5cbf0b](#)), closes [#36479](#)
- **core:** remove application from the testability registry when the root view is removed ([#39876](#)) ([df27027](#)), closes [#22106](#)
- **core:** Support extending differs from root `NgModule` ([#39981](#)) ([5fc4508](#)), closes [#25015](#) [#11309](#) [#18554](#)
- **core:** unsubscribe from the `onError` when the root view is removed ([#39940](#)) ([5a3a154](#))
- **core:** `QueryList` should not fire changes if the underlying list did not change. ([#40091](#)) ([76f3633](#))
- **core:** fix fakeAsync() error messages ([#40442](#)) ([ad2b50b](#))
- **forms:** error if control is removed as a result of another one being reset ([#40462](#)) ([2c5ad5c](#)), closes [#33401](#)
- **forms:** clean up connection between FormControl/FormGroup and corresponding directive instances ([#39235](#)) ([a384961](#)), closes [#20007](#) [#37431](#) [#39590](#)
- **language-service:** fix go to definition for template variables and references ([#40455](#)) ([#40491](#)) ([3e134e4](#))
- **language-service:** Paths on Windows should be normalized ([#40492](#)) ([b8e47e2](#)), closes [/github.com/angular/vscode-ng-language-service/blob/9fca9c66510974c26d5c21b31adb9fa39ac0a38a/server/src/session.ts#L594](#)
- **language-service:** report non-template diagnostics ([#40331](#)) ([4db89f4](#))
- **language-service:** diagnostic and definition should work for absolute url ([#40406](#)) ([625d2c2](#))
- **language-service:** reinstate overridden compiler option after change ([#40364](#)) ([811cacc](#))
- **language-service:** Support 'find references' for two-way bindings ([#40185](#)) ([ebb7ac5](#))
- **language-service:** Support 'go to definition' for two-way bindings ([#40185](#)) ([a9d8c22](#))
- **language-service:** Support completions of two-way bindings ([#40185](#)) ([7d74853](#))
- **language-service:** Do not include $event parameter in reference results ([#40158](#)) ([d466db8](#)), closes [#40157](#)
- **language-service:** include compilerOptions.rootDir in rootDirs ([#40243](#)) ([a62416c](#)), closes [angular/vscode-ng-language-service#1039](#)
- **language-service:** LSParseConfigHost.resolve should not concat abs paths ([#40242](#)) ([0264f76](#))
- **language-service:** return all typecheck files via getExternalFiles ([#40162](#)) ([183fb7e](#))
- **language-service:** shorthand syntax with variables ([#40239](#)) ([12cb39c](#))
- **language-service:** force compileNonExportedClasses: false in LS ([#40092](#)) ([028e4f7](#))
- **language-service:** Prevent matching nodes after finding a keySpan ([#40047](#)) ([1bf1b68](#))
- **language-service:** do not return external template that does not exist ([#39898](#)) ([2b84882](#))
- **language-service:** do not treat file URIs as general URLs ([#39917](#)) ([3b70098](#))
- **localize:** ensure extracted messages are serialized in a consistent order ([#40192](#)) ([212245f](#)), closes [#39262](#)
- **ngcc:** copy (and update) source-maps for unmodified source files ([#40429](#)) ([e2e3862](#)), closes [#40358](#)
- **service-worker:** handle error with ErrorHandler ([#39990](#)) ([74e42cf](#)), closes [#39913](#)
- **router:** correctly handle string command in outlets ([#39728](#)) ([c33a823](#)), closes [#18928](#)
- **router:** lazy loaded modules without RouterModule.forChild() won't cause an infinite loop ([#36605](#)) ([6675b6f](#)), closes [#29164](#)
- **router:** remove duplicated getOutlet function ([#39764](#)) ([5fa7673](#))
- **service-worker:** correctly handle failed cache-busted request ([#39786](#)) ([6046419](#)), closes [#39775](#) [#39775](#)
- **upgrade:** avoid memory leak when removing downgraded components ([#39965](#)) ([6dc43a4](#)), closes [#26209](#) [#39911](#) [#39921](#)
- **upgrade:** fix HMR for hybrid applications ([#40045](#)) ([b4b21bd](#)), closes [#39935](#)

Performance Improvements

- **animations:** use `ngDevMode` to tree-shake warning ([#39964](#)) ([9ebe423](#))
- **common:** use `ngDevMode` to tree-shake warnings ([#39964](#)) ([f022efa](#))
- **core:** use `ngDevMode` to tree-shake `checkNoChanges` ([#39964](#)) ([e1fe9ec](#))
- **core:** use `ngDevMode` to tree-shake warnings ([#39959](#)) ([8b0cccc](#))
- **core:** make DI decorators tree-shakable when used for `useFactory` deps config ([#40145](#)) ([0664d75](#)), closes [#40143](#)

- **forms:** use `ngDevMode` to tree-shake `_ngModelWarning` ([#39964](#)) ([7954c8d](#))
- **ngcc:** do not copy files that have been processed ([#40429](#)) ([798aae4](#))

Features
- **common:** allow any Subscribable in async pipe ([#39627](#)) ([c7f4abf](#))
- **compiler:** recover expression parsing in more malformed pipe cases ([#39437](#)) ([e336572](#))
- **compiler:** support recovery of malformed property writes ([#39103](#)) ([e44e10b](#))
- **compiler:** add schema for Trusted Types sinks ([#39554](#)) ([358c50e](#))
- **compiler:** support error reporting in I18nMetaVisitor ([#39554](#)) ([bb70a9b](#))
- **compiler:** support tagged template literals in code generator ([#39122](#)) ([ef89274](#))
- **compiler:** allow trailing comma in array literal ([#22277](#)) ([8d613c1](#)), closes [#20773](#)
- **compiler-cli:** implement partial directive declaration linking ([#39518](#)) ([87e9cd6](#))
- **compiler-cli:** partial compilation of directives ([#39518](#)) ([8c0a92b](#))
- **compiler-cli:** add support for using TypeScript 4.1 ([#39571](#)) ([a7e7c21](#))
- **compiler-cli:** support for partial compilation of components ([#39707](#)) ([e75244e](#))
- **compiler-cli:** expose function to allow short-circuiting of linking ([#40137](#)) ([7dcf286](#))
- **compiler-cli:** JIT compilation of component declarations ([#40127](#)) ([d4327d5](#))
- **compiler-cli:** JIT compilation of directive declarations ([#40101](#)) ([9186f1f](#))
- **core:** add shouldCoalesceRunChangeDetection option to coalesce change detections in the same event loop. ([#39422](#)) ([5e92d64](#)), closes [#39348](#) [#39348](#)
- **core:** adds get method to QueryList ([#36907](#)) ([a965589](#)), closes [#29467](#)
- **core:** Add schematic to fix invalid `Route` configs ([#40067](#)) ([805b4f9](#))
- **language-service:** log Angular compiler options ([#40364](#)) ([6a9e328](#))
- **language-service:** autocomplete pipe binding expressions ([#40032](#)) ([cbb6eae](#))
- **language-service:** autocompletion of element tags ([#40032](#)) ([e42250f](#))
- **language-service:** autocompletion within expression contexts ([#39727](#)) ([93a8326](#))
- **language-service:** complete attributes on elements ([#40032](#)) ([66378ed](#))
- **language-service:** completions for structural directives ([#40032](#)) ([2a74431](#))
- **language-service:** enable get references for directive and component from template ([#40054](#)) ([973f797](#))
- **language-service:** Add "find references" capability to Ivy integrated LS ([#39768](#)) ([06a782a](#))
- **language-service:** implement autocompletion for global properties (Ivy) ([#39250](#)) ([28a0bcb](#))
- **language-service:** Implement go to definition for style and template urls ([#39202](#)) ([563fb6c](#))
- **localize:** support Application Resource Bundle (ARB) translation file format ([#36795](#)) ([5684ac5](#))
- **platform-browser:** add doubletap HammerJS support ([#26362](#)) ([b5c0f9d](#)), closes [#23954](#)
- **router:** add `relativeTo` as an input to `routerLink` ([#39720](#)) ([112324a](#)), closes [#13523](#)

11.0.9 (2021-01-13)

Bug Fixes
- **compiler:** incorrectly inferring content type of SVG-specific title tag ([#40259](#)) ([642c45b](#)), closes [#31503](#)
- **compiler-cli:** prevent stack overflow in decorator transform for large number of files ([#40374](#)) ([ff36485](#)), closes [#40276](#)
- **ngcc:** compute the correct package paths for target entry-points ([#40376](#)) ([584b78a](#)), closes [#40352](#) [#40357](#)
- **router:** better ngZone checking for warning ([#25839](#)) ([adf42da](#)), closes [#25837](#)
- **service-worker:** allow checking for updates when constantly polling the server ([#40234](#)) ([a7befd5](#)), closes [#40207](#)
- **service-worker:** ensure SW stays alive while notifying clients about unrecoverable state ([#40234](#)) ([c01b5ea](#))

11.0.8 (2021-01-11)

Bug Fixes
- **core:** memory leak if view container host view is destroyed while view ref is not ([#40219](#)) ([f691e85](#)), closes [#38648](#)
- **forms:** handle standalone `<form>` tag correctly in `NgControlStatusGroup` directive ([#40344](#)) ([b3f322f](#)), closes [#38391](#)
- **router:** Remove usage of `Object.values` to avoid the need for a polyfill ([#40370](#)) ([c44dd84](#))

11.0.7 (2021-01-07)

Bug Fixes
- **router:** correctly deactivate children with componentless parent ([#40196](#)) ([7060ae2](#)), closes [/github.com/angular/angular/blob/362f45c4bf1bb49a90b014d2053f4c4474d132c0/packages/router/src/operators/activate_routes.ts#L151-L158](#) [#20694](#)

- **router:** Remove usage of `Object.entries` to avoid the need for a polyfill ([#40340](#)) ([6429be1](#))

11.0.6 (2021-01-06)

Bug Fixes

- **compiler:** don't report parse error for interpolation inside string in property binding ([#40267](#)) ([7977509](#)), closes [#39826](#) [#39601](#)
- **compiler:** incorrectly encapsulating selectors with escape sequences ([#40264](#)) ([1bfbfaa](#)), closes [#31844](#)
- **compiler-cli:** handle `\r\n` line-endings correctly in source-mapping ([#40187](#)) ([b865b32](#)), closes [#40169](#) [#39654](#)
- **compiler-cli:** ngcc - remove outdated link ([#40285](#)) ([0b00d65](#)), closes [#39837](#)
- **core:** Call `onDestroy` in production mode as well ([#40120](#)) ([632fe60](#)), closes [#39876](#) [#40105](#)
- **core:** ensure sanitizer works if DOMParser return null body ([#40107](#)) ([add7cbb](#)), closes [#39834](#)
- **core:** error if detectChanges is called at the wrong time under specific circumstances ([#40206](#)) ([ef13e83](#)), closes [#38611](#)
- **core:** take @Host into account while processing `useFactory` arguments ([#40122](#)) ([#40313](#)) ([45838c0](#))
- **router:** apply redirects should match named outlets with empty path parents ([#40029](#)) ([#40315](#)) ([f542e4e](#)), closes [#38379](#) [#38379](#) [#39952](#) [#10726](#) [#30410](#)
- **router:** Ensure named outlets with empty path parents are recognized ([#40029](#)) ([#40315](#)) ([c722c43](#))
- **router:** Router should focus element after scrolling ([#40241](#)) ([a1dcfc5](#)), closes [#30067](#)

11.0.5 (2020-12-16)

Bug Fixes

- **compiler:** handle strings inside bindings that contain binding characters ([#39826](#)) ([f5aab2b](#)), closes [#39601](#)
- **core:** fix possible XSS attack in development through SSR. ([#40136](#)) ([0aa220b](#))
- **core:** set `ngDevMode` to `false` when calling `enableProdMode()` ([#40124](#)) ([922f492](#))
- **upgrade:** fix HMR for hybrid applications ([#40045](#)) ([c4c7509](#)), closes [#39935](#)

11.0.4 (2020-12-09)

Bug Fixes

- **animations:** implement getPosition in browser animation builder ([#39983](#)) ([5a765f0](#))
- **compiler-cli:** correct incremental behavior even with broken imports ([#39967](#)) ([adeeb84](#))
- **compiler-cli:** remove the concept of an errored trait ([#39967](#)) ([0aa35ec](#))
- **compiler-cli:** track poisoned scopes with a flag ([#39967](#)) ([178cc51](#))
- **core:** remove application from the testability registry when the root view is removed ([#39876](#)) ([3680ad1](#)), closes [#22106](#)
- **core:** unsubscribe from the `onError` when the root view is removed ([#39940](#)) ([35309bb](#))
- **language-service:** do not return external template that does not exist ([#39898](#)) ([6b6fcd7](#))
- **language-service:** do not treat file URIs as general URLs ([#39917](#)) ([829988b](#))
- **service-worker:** handle error with ErrorHandler ([#39990](#)) ([588dbd3](#)), closes [#39913](#)
- **upgrade:** avoid memory leak when removing downgraded components ([#39965](#)) ([97310d3](#)), closes [#26209](#) [#39911](#) [#39921](#)

Performance Improvements

- **animations:** use `ngDevMode` to tree-shake warning ([#39964](#)) ([72aad32](#))
- **common:** use `ngDevMode` to tree-shake warnings ([#39964](#)) ([bf3de9b](#))
- **core:** use `ngDevMode` to tree-shake `checkNoChanges` ([#39964](#)) ([2fbb684](#))
- **core:** use `ngDevMode` to tree-shake warnings ([#39959](#)) ([1e3534f](#))
- **forms:** use `ngDevMode` to tree-shake `_ngModelWarning` ([#39964](#)) ([735556d](#))

11.0.3 (2020-12-02)

Bug Fixes

- **animations:** getAnimationStyle causes exceptions in older browsers ([#29709](#)) ([cb1d77a](#))
- **animations:** replace copy of query selector node-list from "spread" to "for" ([#39646](#)) ([e95cd2a](#)), closes [#38551](#)
- **common:** Prefer to use pageXOffset / pageYOffset instance of scrollX / scrollY ([#28262](#)) ([5692607](#))
- **compiler:** ensure that placeholders have the correct sourceSpan ([#39717](#)) ([8ec7156](#)), closes [#39671](#)
- **compiler:** report better error on interpolation in an expression ([#30300](#)) ([6dc74fd](#))
- **compiler-cli:** report error when a reference target is missing instead of crashing ([#39805](#)) ([8634611](#)), closes [#38618](#) [#39744](#)
- **core:** Ensure OnPush ancestors are marked dirty when events occur ([#39833](#)) ([01c1bfd](#)), closes [#39832](#)
- **core:** meta addTag() adds incorrect attribute for httpEquiv ([#32531](#)) ([3114b0a](#))

- **core:** migration error if program contains files outside of the project ([#39790](#)) ([7dcc212](#)), closes [#39778](#)
- **core:** not invoking object's toString when rendering to the DOM ([#39843](#)) ([75e22ab](#)), closes [#38839](#)
- **core:** remove duplicated noop function ([#39761](#)) ([26a1337](#))
- **core:** support `Attribute` DI decorator in `deps` section of a token ([#37085](#)) ([aaa3111](#)), closes [#36479](#)
- **router:** correctly handle string command in outlets ([#39728](#)) ([50c19a2](#)), closes [#18928](#)
- **router:** remove duplicated getOutlet function ([#39764](#)) ([df231ad](#))
- **service-worker:** correctly handle failed cache-busted request ([#39786](#)) ([7bf73d7](#)), closes [#39775](#) [#39775](#)

DEPRECATIONS
- **forms:** Mark the {[key: string]: any} type for the options property of the FormBuilder.group method as deprecated. Using AbstractControlOptions gives the same functionality and is type-safe.

11.0.2 (2020-11-19)

Bug Fixes
- **router:** migration incorrectly replacing deprecated key ([#39763](#)) ([0237845](#)), closes [#38762](#) [#39755](#)

11.0.1 (2020-11-18)

Bug Fixes
- **compiler-cli:** incorrectly type checking calls to implicit template variables ([#39686](#)) ([e05cfdd](#)), closes [#39634](#) * **compiler-cli:** setComponentScope should only list used components/pipes ([#39662](#)) ([8d317df](#)) * **core:** handle !important in style property value ([#39603](#)) ([978f081](#)), closes [#35323](#) * **core:** not inserting ViewContainerRef nodes when inside root of a component ([#39599](#)) ([20db90a](#)), closes [#39556](#) * **core:** remove deprecated wtfZoneSpec from NgZone ([#37864](#)) ([e02bea8](#)), closes [#33949](#)
- **forms:** more precise control cleanup ([#39623](#)) ([050cea9](#))
- **http:** queue jsonp