==

# ANGULAR 15 NEW FEATURES

TABLE OF CONTENTS

Introduction 03

Angular 15 New Features 03

Why Standalone APIs 04

Implementation of Standalone APIs 05

Image Directives 08

Http with provideHttpClient() 09

Improved Stack Traces 09

Directive Composition API 10

Router Unwraps Default Imports 10

CDK Listbox 10

Conclusion 11

SOUMYAKANT SAHOO

# Announcing Angular 15 with Standalone APIs and Other New Features

# Introduction

* **Angular v15 is the culmination of dozens of refinements which provides us a better developer experience and performance.**
* **The latest version of Angular v15 is out and available now in the market for developers. Angular 15 comes with stable standalone APIs allowing Angular developers to build applications without the need of NgModules.**
* **The latest version of Angular v15 also offers less boilerplate code, enhanced performance, directive composition API, and many more updates and features for developers.**

# Angular v15 new features

* Standalone Components API are now stable
* Image Directive [NgOptimizedImage] is now stable
* Better Stack Traces
* Http with *provideHttpClient()*
* Directive Composition API
* Router unwraps default imports
* CDK Listbox

# Why Standalone apis?

* Angular 15 can allow developers to build Angular applications without using modules.
* Angular standalone components can work across Angular, fully functional in elements, router, *HttpClient* and more.
* With the help of standalone APIs, we can easily bootstrap an Angular application using a single component.
* Unnecessary files will not be installed.
* No requirement of **environment.ts**, **polyfills.ts**, **test.ts** files as we can specify all of them in **angular.json**
* As below we can see the following files’ metadata is declared inside angular.json:

Text

Description automatically generatedText

Description automatically generatedGraphical user interface, text, application

Description automatically generated

# Implementation of standalone api**S**

Step 1: Creating a new project

We can use Command Prompt or Windows Powershell to create a new project. We can type the following code for installation in the Angular CLI :



After that, it will create a project according to your name given containing all the files provided:

Graphical user interface, text

Description automatically generated

Step 2: Installing node modules

Install all the necessary node modules required for an angular project or we can install globally by giving the command in command prompt of root folder. It will install in the local folder for the following command when used:



Step 3: Install Angular CLI

We need to install angular cli



Step 4: Check Angular version

We can use Angular CLI to check the Angular version that we are using to make sure that it is **v 15.0.1**



It will give us the version of all the packages that are related to the angular project:

Text

Description automatically generated

Step 4: Creating a new component

We need to use Angular CLI to implement all the required components to be installed by the following process. This allows you to create a standalone component via:

Text

Description automatically generated

This creates a new standalone component:

It will show us <standalone: true,>

Text

Description automatically generated

IMAGE DIRECTIVES

Now Angular has stabilized the image directives to be used.

We can use these features for achieving better LCP scores in Lighthouse.

* We can use [**NgOptimizedImage**] directive directly in the component or NgModule.



Text

Description automatically generated

* We need replace the image's src attribute with ngSrc to use it within a component and make sure to give your images the ***priority*** attribute.



New features of image directives:

* Generation of *srcset:* The directive makes sure that the right-sized image is requested. As a result, your download times for images can be reduced.
* Fill Mode [Experimental]: We can fill image’s parent container and eliminate the need of declaring the image’s height and width.

HTTP WITH PROVIDEHTTPCLIENT

* We can use *provideHttpClient()* to offer the *HttpClient.*
* HTTP Interceptors can also be used as functions.

Text

Description automatically generated

BETTER STACK TRACES FOR DEBUGGING

Chart, pie chart

Description automatically generated

The version now shows the error messages focused on code instead of showing errors from third-party dependencies.

DIRECTIVE COMPOSITION API

* The directive composition API gives developers the ability to add directives to host elements, giving Angular a strong code reuse approach. However, it only works with standalone directives.
* For generating a standalone directive, we need to input this below command for your root-app folder:



* Using Directive composition API, we can directly add the directive inside component declaration using *hostDirectives* property.
* **But we can only add standalone directives in** *hostDirectives* **array.**

ROUTER UNWRAPS DEFAULT IMPORTS

The router now automatically unwraps default exports when lazy loading, simplifying the router even more and reducing boilerplate.

CDK LISTBOX

The CDK (Component Development Kit) allows us to create UI components which provides us collection of some behavior primitives.

The CDK listbox is a new primitive that is added in version 15, and we can modify it according for our use case.

The required directives are provided by the ***@angular/cdk/listbox*** module.

# Conclusion

#### All the new features that are introduced, most of them were already present in Angular v14, but were not ready.

As the angular developers try their best to give us a new fresh implementation and stabilized attributes to be used in the upcoming versions is very much appreciated by the developing community.

With all these new features introduced and perfectly stabilized to be introduced in production as well testing, the loading speeds of web pages and APIs are done faster and efficiently.

With better ESBuild Support, Angular v15 is now a optimized framework to work on.