

# Zaawansowane Programowanie Webowe

## Lab 3. Wprowadzenie do Angulara

### Cel zajęć:

Poznanie podstaw frameworka Angular.

### Narzędzia:

Node.js (<https://nodejs.org/>) + menadżer pakietów NPM (do pobrania razem z Nodem - <https://nodejs.org/en/download/>) + edytor kodu lub w przeglądarce <https://stackblitz.com>

**Angular** (commonly referred to as "Angular 2+" or "Angular v2 and above") is a TypeScript-based open-source web application framework led by the Angular Team at Google and by a community of individuals and corporations.<sup>5</sup>

Angular was designed as a ground-up rewrite of AngularJS.

Angular current version:

Version	Status	Released	Active Ends	LTS Ends
^8.0.0	Active	May 28, 2019	Nov 28, 2019	Nov 28, 2020

### Architecture overview<sup>6</sup>

Angular is a platform and framework for building client applications in HTML and TypeScript. Angular is written in TypeScript. It implements core and optional functionality as a set of TypeScript libraries that you import into your apps.

The basic building blocks of an Angular application are *NgModules*, which provide a compilation context for components. *NgModules* collect related code into functional sets; an Angular app is defined by a set of *NgModules*. An app always has at least a root module that enables bootstrapping, and typically has many more feature modules.

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<sup>5</sup> [https://en.wikipedia.org/wiki/Angular\\_\(web\\_framework\)](https://en.wikipedia.org/wiki/Angular_(web_framework))

<sup>6</sup> <https://angular.io/guide/architecture>

Components define views, which are sets of screen elements that Angular can choose among and modify according to your program logic and data.

Components use services, which provide specific functionality not directly related to views. Service providers can be injected into components as dependencies, making your code modular, reusable, and efficient.

Both components and services are simply classes, with decorators that mark their type and provide metadata that tells Angular how to use them.

The metadata for a component class associates it with a template that defines a view. A template combines ordinary HTML with Angular directives and binding markup that allow Angular to modify the HTML before rendering it for display.

The metadata for a service class provides the information Angular needs to make it available to components through dependency injection (DI).

An app's components typically define many views, arranged hierarchically. Angular provides the Router service to help you define navigation paths among views. The router provides sophisticated in-browser navigational capabilities.

More: <https://angular.io/guide/architecture>

## Angular CLI Command Overview<sup>7</sup>

Command	Alias	Description
<a href="#">add</a>		Adds support for an external library to your project.
<a href="#">analytics</a>		Configures the gathering of Angular CLI usage metrics. See <a href="https://v8.angular.io/cli/usage-analytics-gathering">https://v8.angular.io/cli/usage-analytics-gathering</a> .
<a href="#">build</a>	b	Compiles an Angular app into an output directory named dist/ at the given output path. Must be executed from within a workspace directory.
<a href="#">config</a>		Retrieves or sets Angular configuration values in the angular.json file for the workspace.
<a href="#">deploy</a>	d	Invokes the deploy builder for a specified project or for the default project in the workspace.
<a href="#">doc</a>	d	Opens the official Angular documentation ( <a href="https://angular.io">angular.io</a> ) in a browser, and searches for a given keyword.
<a href="#">e2e</a>	e	Builds and serves an Angular app, then runs end-to-end tests using Protractor.
<a href="#">generate</a>	g	Generates and/or modifies files based on a schematic.
<a href="#">help</a>		Lists available commands and their short descriptions.
<a href="#">lint</a>	l	Runs linting tools on Angular app code in a given project folder.
<a href="#">new</a>	n	Creates a new workspace and an initial Angular app.

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<sup>7</sup> <https://angular.io/cli>

<a href="#">run</a>		Runs an Architect target with an optional custom builder configuration defined in your project.
<a href="#">serve</a>	s	Builds and serves your app, rebuilding on file changes.
<a href="#">test</a>	t	Runs unit tests in a project.
<a href="#">update</a>		Updates your application and its dependencies. See <a href="https://update.angular.io/">https://update.angular.io/</a>
<a href="#">version</a>	v	Outputs Angular CLI version.
<a href="#">xi18n</a>		Extracts i18n messages from source code.

## Zadanie

Przejdź tutorial na pierwszą aplikację na oficjalnej stronie Angulara: <https://angular.io/start>

- Your First App
- Routing
- Managing Data
- Forms

Wykonany projekt dodaj do swojego repozytorium do folderu Lab3-Angular.

[4pkt]