Angular 2 (and 4) Introduction

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“Code with Passion!”

Topics

- What is and Why Angular (Angular 2 and Angular 4)?
  - From this point on, whenever we say “Angular 2” or “Angular”, we also include “Angular 4”
- Angular CLI
- Angular 4 improvements over Angular 2

What is and Why Angular?

What is Angular?

- Angular is a development platform for building “mobile” and “desktop” applications
  - Angular was designed for mobile from the ground up
  - Angular, like React and other modern frameworks, can leverage performance gains by rendering HTML on the server or even in a web worker

- Angular is platform agnostic
  - Not coupled with DOM or even HTML
  - Can be used for non-browser platforms

Angular 1 vs Angular 2

- Angular 2 is rewritten from scratch
  - Using different language (TypeScript over JavaScript)
  - Introduced new building blocks (component oriented)
  - Incompatible with Angular 1

- Why these drastic change (from Angular 1)?
  - Web has evolved a lot (since Angular 1 was introduced in 2009)
  - The applications are becoming more complex and demanding
  - New technologies were introduced (WebWorkers, Reactive extensions (Rx), etc
  - ..

Why Angular 2?

- Angular is easier to program
  - Familiar language features, Type-checking, IDE support, Easier to read and write code, etc
- Streamlined architecture over Angular 1
  - Component oriented
- Higher performance
- Mobile-friendly

Angular CLI

Angular CLI

- Command line tool for automating your development workflow
- It allows you to
  - create a new Angular application (ng new hello-app)
  - run a development server with LiveReload support to preview your application during development (ng serve)
  - add features to your existing Angular application (ng generate ...)
  - run your application's unit tests (ng test)
  - run your application's end-to-end (E2E) tests (ng e2e)
  - build your application for deployment to production (ng build)
  - deploy your application to a server

Angular CLI installation

- Install Node.js (if it has not been installed already)
  - Before you can use Angular CLI, you must have Node.js 4.0.0 and npm 3.0.0 or higher installed on your system (npm gets installed as part of Node installation)
  - https://nodejs.org/en/
- Verify the installation
  - node -v
  - npm -v
- Install Angular CLI
  - npm install -g @angular/cli (Angular Cli beta 30+)
  - npm install -g angular-cli (Angular Cli beta -30)
  - ng version (to verify the installation)

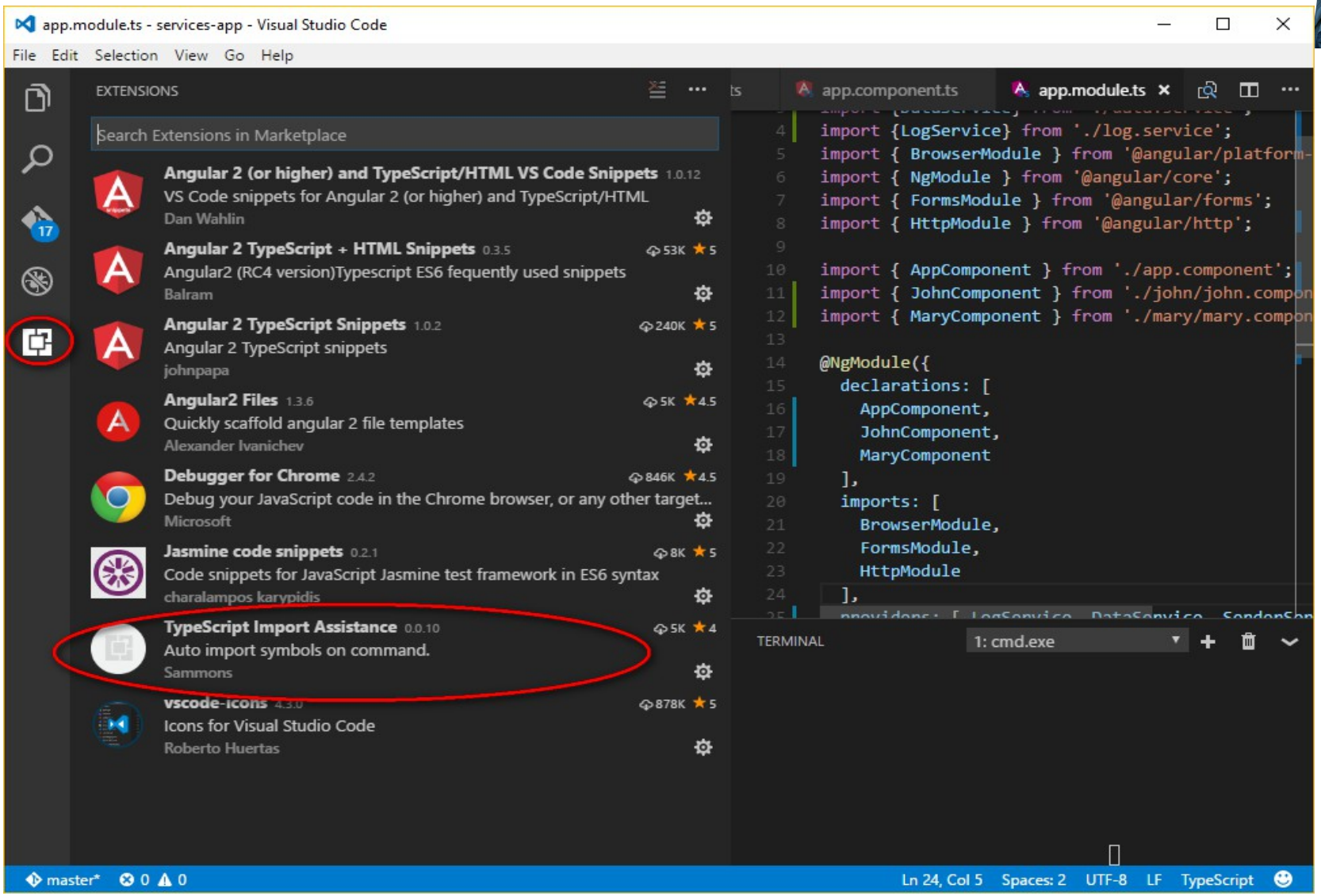
Lab: Build Helloworld Angular App

- Create and run Helloworld Angular app
  - > ng new helloworld-app
- Open “helloworld-app” directory using editor of your choice
- Run the “helloworld-app” Angular application
  - > cd helloworld-app
  - > ng serve (application gets build and served, application gets rebuilt and deployed when changes are made)
- Open a browser and go to http://localhost:4200
- Observe “Welcome to app!” page in a browser
- You now have a simple yet fully functioning Angular application

Lab: Install Editor/IDE

- Visual Studio Code (Microsoft) - free
  - https://code.visualstudio.com/download
- WebStorm (JetBrain) – probably the best at this point, commercial
- Atom
- Sublime Text

Lab: Install Extensions to VSC



Angular 4

Angular 4 Improvements Over Angular

- Under the hood changes
  - Size of the generated code reduced
  - Faster compilation
- Feature changes
  - Animations being pulled out of @angular/core
  - *ngIf/else : Now you can use else clause as well

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