




ANGULAR 2 / ASP.NET CORE PRIMER

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AGENDA

- Get started with developing angular 2 applications using ASP.NET core in visual studio 2015.
 - Learn the basics of angular 2 and ASP.NET core.
 - Look at creating Web Api web services using MVC functionality of ASP.NET core and Entity Framework Core. Finish up with learning where to go from the primer to continue studying the new web stack.
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ASP.NET CORE MVC/ WEB API

- HTTP and Web Services
 - Web Api is merged with MVC in MVC Core /6
 - Cross platform
 - It consists of classes that expose data through methods
 - It is an abstraction on top of HTTP
 - Dependency Injection
- 




CONTROLLERS

- Controllers are at the heart of Web Api / MVC 6
 - Methods are loosely equal to web requests
 - Methods support parameters and return values
 - Can be asynchronous or synchronous
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ENTITY FRAMEWORK

- Entity Framework is Microsoft's answer to ORM
 - Performant, cross platform, new from the ground up
 - Providers - multiple back ends are supported
 - Configuration
 - Data annotations
 - Configuration fluent Api
- 




PROJECT

- Structure
 - TypeScript configuration
 - Gulp (optional)
- 




WHAT IS ANGULAR

- “Superheroic MVW framework” <http://angularjs.org/>
 - Sponsored by Google
 - Open source
- 




ANGULAR FEATURES AND COMPONENTS

- Data binding - controllers, scope
 - Directives - HTML DOM manipulation
 - Services – reusable components, dependency injection
 - HTML forms with validation
 - HTTP requests
 - Navigation
 - Extensibility
- 




WHY ANGULAR 2?

- Complete re-write
 - Built for speed
 - Memory efficient
 - Smaller library
- 




WHAT'S DIFFERENT AND NEW IN ANGULAR 2

- Data binding to properties and events with new syntax
 - Component based ~ angular 1.X controllers plus template directive
 - Unidirectional data flow with Rx (reactive extensions)
 - Written in typescript, can be used with ES5, ES6 and typescript
 - New tooling: angular CLI , Augury(Batarangle)
 - Can integrate with angular 1, ngupgrade
 - Supports IE9+ and other modern browsers
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ANGULAR 2 COMPONENT


- Is a TypeScript class
 - Metadata via decorators
 - `@Component`
 - Template
 - Selector
 - Logic
 - Components all the way down
 - Inputs / outputs / events
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DATA BINDING

- Component exposed to template
- Types
 - Interpolation: `{{name}}`
 - Property `[name]`
 - Event `(click)="dosomething()"`
 - Two way = `[(ngmodel)]="name"`



SERVICE

- Similar to angular 1, an injectable
 - Plain typescript class
 - Cross cutting concerns
- 


NGMODULE

- Typescript class
- Package of components, services and directives

```
@NgModule({  
  imports: [CommonModule, HttpClientModule, ContactRouting, FormsModule, SharedModule],  
  declarations: [ContactList, ContactListItem, Contacts, ContactEdit],  
  providers: [Configuration, HttpClientModule, ContactService],  
  exports: [ContactList]  
})  
export class ContactModule { }
```




BOOTSTRAPPING THE APP

- Root component
 - Root module
 - System.js
 - Gulp
 - AOT compilation / ng CLI
- 




DIRECTIVES

- Components
 - Structural
 - Attribute
- 



PIPES


- Pure
 - Asynchronous
 - Support parameters and chaining
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BUILT-IN PIPES

- Currency
- Json
- Percent
- Slice
- Date
- Lower case
- Upper case
- Decimal
- Number
- Async




NAVIGATION

- Client side routing
 - Deep linking
 - Route definition
 - URL
 - Components
 - Etc...
 - Navigation via
 - Router Link directive
 - In Code
 - Router Outlet
- 




FORMS

- Types
 - Template driven
 - Reactive Api
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NEXT STEPS


- Testing with Jasmin
 - CLI
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ANGULAR CLI

- Scaffolding / quick starts
 - Building, including Web Pack and tree shaking
 - Server side “compilation”
 - Testing with Karma
 - Linting (error checking) and formatting
- More to come



ASP.NET CORE CLI

- Scaffolding
 - Build
 - Run
 - Restore packages
- 



DEVELOP

- Mac or Windows
 - Any Editor
 - Follow projects on GitHub
 - Shameless plug - <https://www.packtpub.com/web-development/angular-2-web-development-typescript-video>
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