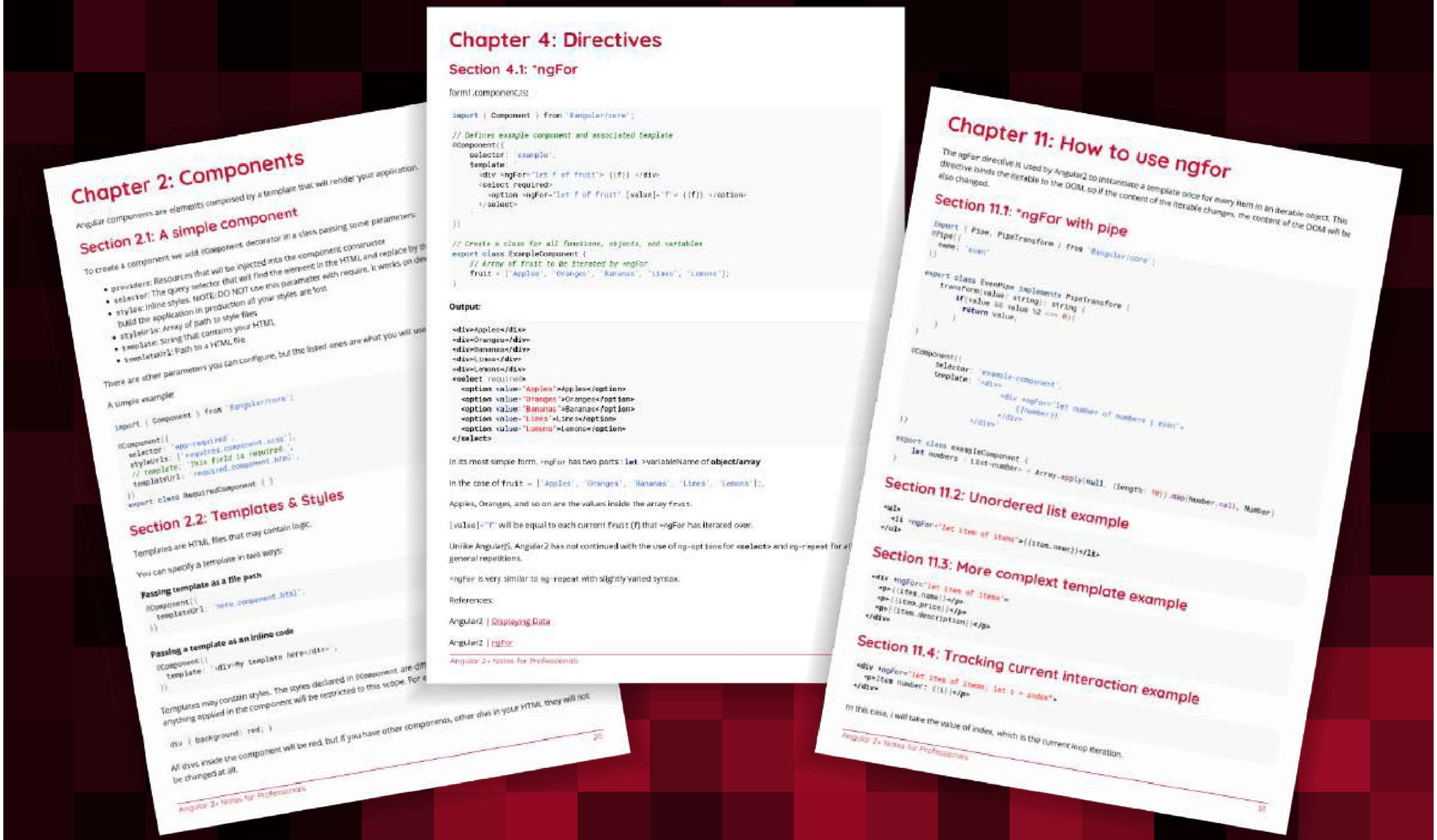
Angular 2+

Notes for Professionals



Chapter 2: Components

Angular components are elements composed by a template that will render your application.

Section 2.1: A simple component

To create a component we add @Component decorator in a class passing some parameters:

- providers: Resources that will be injected into the component constructor
- selector: The query selector that will find the element in the HTML and replace by th
- styles: Inline styles. NOTE: DO NOT use this parameter with require, it works on dev build the application in production all your styles are lost
- styleUrls: Array of path to style files
- template: String that contains your HTML
- templateUrl: Path to a HTML file

There are other parameters you can configure, but the listed ones are what you will use

A simple example:

```
import { Component } from '@angular/core';

@Component({
  selector: 'app-required',
  styleUrls: ['required.component.scss'],
  // template: `This field is required.`,
  templateUrl: 'required.component.html',
})
export class RequiredComponent { }
```

Section 2.2: Templates & Styles

Templates are HTML files that may contain logic.

You can specify a template in two ways:

Passing template as a file path

```
@Component({
  templateUrl: 'hero.component.html',
})
```

Passing a template as an inline code

```
@Component({
  template: `<div>My template here</div>`,
})
```

Templates may contain styles. The styles declared in @Component are diff anything applied in the component will be restricted to this scope. For e

```
div { background: red; }
```

All divs inside the component will be red, but if you have other components, other divs in your HTML they will not be changed at all.

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Chapter 4: Directives

Section 4.1: *ngFor

formt.component.ts:

```
import { Component } from '@angular/core';

// Defines example component and associated template
@Component({
    selector: 'example',
    template: `
      <div *ngFor="let f of fruit"> {{f}} </div>
      <select required>
        <option *ngFor="let f of fruit" [value]="f"> {{f}} </option>
      </select>
    `
})

// Create a class for all functions, objects, and variables
export class ExampleComponent {
    // Array of fruit to be iterated by *ngFor
    fruit = ['Apples', 'Oranges', 'Bananas', 'Limes', 'Lemons'];
}
```

Output:

```
<div>Apples</div>
<div>Oranges</div>
<div>Bananas</div>
<div>Limes</div>
<div>Lemons</div>
<select required>
  <option value="Apples">Apples</option>
  <option value="Oranges">Oranges</option>
  <option value="Bananas">Bananas</option>
  <option value="Limes">Limes</option>
  <option value="Lemons">Lemons</option>
</select>
```

In its most simple form, *ngFor has two parts : let >variableName of **object/array**

In the case of fruit = ['Apples', 'Oranges', 'Bananas', 'Limes', 'Lemons'];,

Apples, Oranges, and so on are the values inside the array fruit.

[value]="f" will be equal to each current fruit (f) that *ngFor has iterated over.

Unlike AngularJS, Angular2 has not continued with the use of ng-options for <select> and ng-repeat for all general repetitions.

*ngFor is very similar to ng-repeat with slightly varied syntax.

References:

Angular2 | Displaying Data

Angular2 | ngFor

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Chapter 11: How to use ngfor

The ngFor directive is used by Angular2 to instantiate a template once for every item in an iterable object. This directive binds the iterable to the DOM, so if the content of the iterable changes, the content of the DOM will be also changed.

Section 11.1: *ngFor with pipe

```
import { Pipe, PipeTransform } from '@angular/core';
@Pipe({
  name: 'even'
})

export class EvenPipe implements PipeTransform {
    transform(value: string): string {
        if(value && value %2 === 0){
          return value;
        }
    }
}

@Component({
      selector: 'example-component',
      template: '<div>
                    <div *ngFor="let number of numbers | even">
                        {{number}}
                    </div>
                </div>'
})

export class exampleComponent {
    let numbers : List<number> = Array.apply(null, {length: 10}).map(Number.call, Number)
}
```

Section 11.2: Unordered list example

```
<ul>
  <li *ngFor="let item of items">{{item.name}}</li>
</ul>
```

Section 11.3: More complext template example

```
<div *ngFor="let item of items">
  <p>{{item.name}}</p>
  <p>{{item.price}}</p>
  <p>{{item.description}}</p>
</div>
```

Section 11.4: Tracking current interaction example

```
<div *ngFor="let item of items; let i = index">
  <p>Item number: {{i}}</p>
</div>
```

In this case, i will take the value of index, which is the current loop iteration.

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Chapter 1: Getting started with Angular 2+

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5.0.0	2017-11-01
4.3.3	2017-08-02
4.3.2	2017-07-26
4.3.1	2017-07-19
4.3.0	2017-07-14
4.2.0	2017-06-08
4.1.0	2017-04-26
4.0.0	2017-03-23
2.3.0	2016-12-08
2.2.0	2016-11-14
2.1.0	2016-10-13
2.0.2	2016-10-05
2.0.1	2016-09-23
2.0.0	2016-09-14
2.0.0-rc.7	2016-09-13
2.0.0-rc.6	2016-08-31
2.0.0-rc.5	2016-08-09
2.0.0-rc.4	2016-06-30
2.0.0-rc.3	2016-06-21
2.0.0-rc.2	2016-06-15
2.0.0-rc.1	2016-05-03
2.0.0-rc.0	2016-05-02

Section 1.1: Getting started with Angular 2 with node.js/expressjs backend (http example included)

We will create a simple "Hello World!" app with Angular2 2.4.1 (`@NgModule` change) with a node.js (expressjs) backend.

Prerequisites

- Node.js v4.x.x or higher
- npm v3.x.x or higher or yarn

Then run `npm install -g typescript` or `yarn global add typescript`to install typescript globally

Roadmap
Step 1

Create a new folder (and the root dir of our back-end) for our app. Let's call it `Angular2-express`.

command line:

```
mkdir Angular2-express
cd Angular2-express
```

Step2

Create the `package.json` (for dependencies) and `app.js` (for bootstrapping) for our `node.js` app.

package.json:

```
{
  "name": "Angular2-express",
  "version": "1.0.0",
  "description": "",
  "scripts": {
    "start": "node app.js"
  },
  "author": "",
  "license": "ISC",
  "dependencies": {
    "body-parser": "^1.13.3",
    "express": "^4.13.3"
  }
}
```

app.js:

```
var express = require('express');
var app = express();
var server = require('http').Server(app);
var bodyParser = require('body-parser');

server.listen(process.env.PORT || 9999, function(){
    console.log("Server connected. Listening on port: " + (process.env.PORT || 9999));
});

app.use(bodyParser.json());
app.use(bodyParser.urlencoded({extended: true}) );

app.use( express.static(__dirname + '/front' ) );

app.get('/test', function(req,res){ //example http request receiver
  return res.send(myTestVar);
});

//send the index.html on every page refresh and let angular handle the routing
app.get('/*',  function(req, res, next) {
    console.log("Reloading");
    res.sendFile('index.html', { root: __dirname });
});
```

Then run an `npm install` or `yarn` to install the dependencies.

Now our back-end structure is complete. Let's move on to the front-end.

Step3

Our front-end should be in a folder named `front` inside our `Angular2-express` folder.

command line: