PEMROGRAMAN WEB LANJUT

DIRECTIVE

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PROGRAM STUDI D-III MANAJEMEN INFORMATIKA

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NGFOR & NGIF

1. Ketikkan kode berikut pada app.component.html

```html
<div class="container">
  <div class="row">
    <div class="col-xs-12">
      <button class="btn btn-primary"
      (click)="onlyOdd=!onlyOdd">
      only show odd numbers
      </button>
      <br>
      <br>
      <ul class="list-group">
        <li class="list-group-item"></li>
      </ul>
    </div>
  </div>
</div>
```
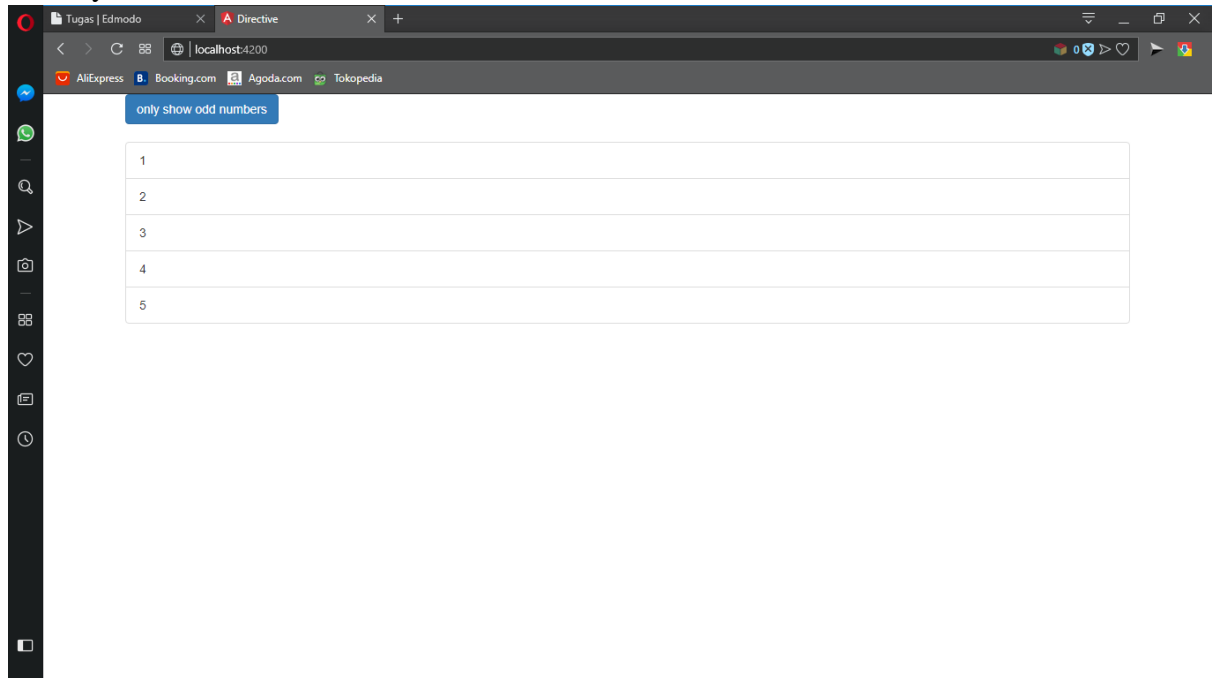
2. Tambahkan kode berikut pada app.component.ts

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

@Component({
  selector: 'app-root',
  templateUrl: './app.component.html',
  styleUrls: ['./app.component.css']
})
export class AppComponent {
  title = 'NgFor-NgIf';
  numbers = [1,2,3,4,5]
  onlyOdd = false;
}
```
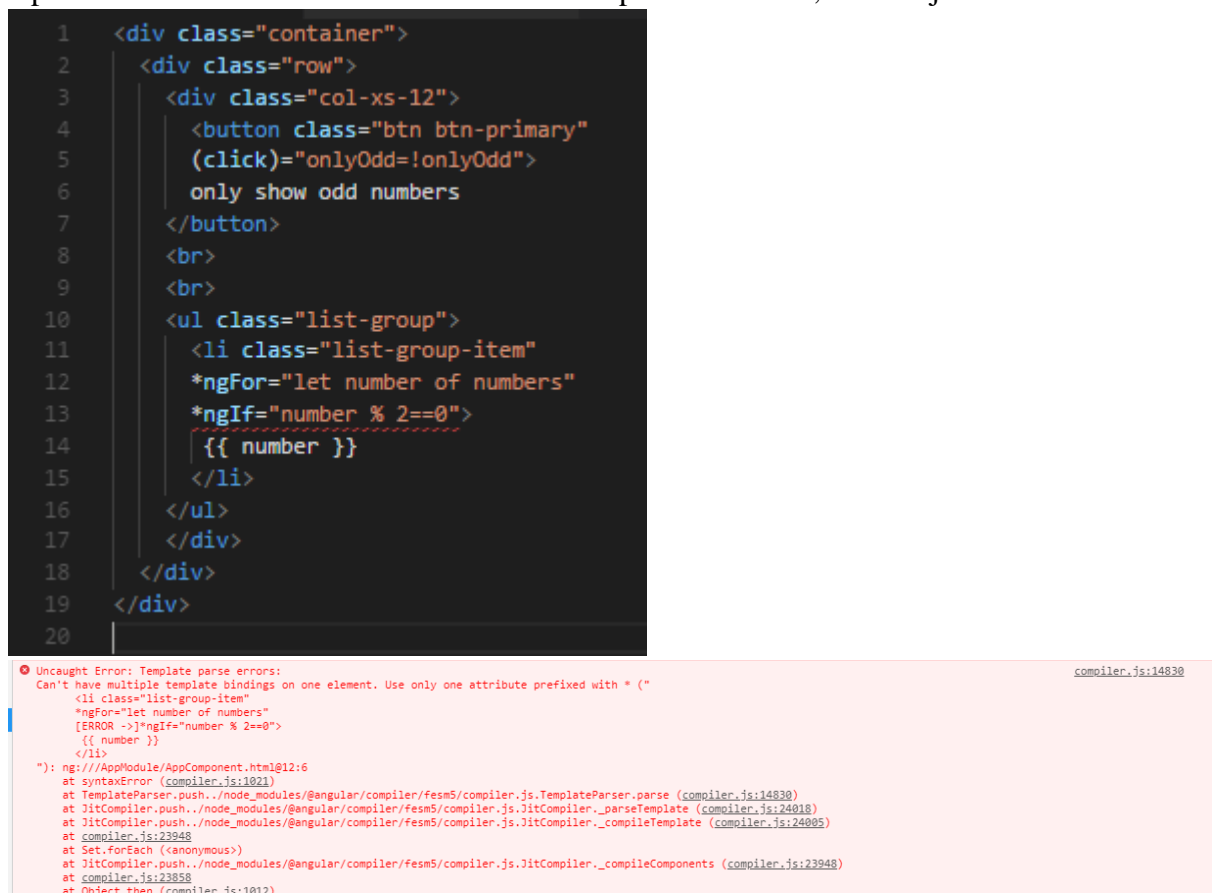
3. Tambahkan NgIf pada app.component.html

```html
<div class="container">
  <div class="row">
    <div class="col-xs-12">
      <button class="btn btn-primary"
      (click)="onlyOdd=!onlyOdd">
      only show odd numbers
      </button>
      <br>
      <br>
      <ul class="list-group">
        <li class="list-group-item"
        *ngFor="let number of numbers">
          {{ number }}
        </li>
      </ul>
    </div>
  </div>
</div>
```

Hasilnya :

4. Apabila kita menambahkan 2 struktur directive pada 1 element, akan terjadi error


```
1   <div class="container">
2     <div class="row">
3       <div class="col-xs-12">
4         <button class="btn btn-primary"
5         (click)="onlyOdd=!onlyOdd">
6         only show odd numbers
7       </button>
8       <br>
9       <br>
10      <ul class="list-group">
11        <li class="list-group-item"
12        *ngFor="let number of numbers"
13        *ngIf="number % 2==0">
14          {{ number }}
15        </li>
16      </ul>
17      </div>
18    </div>
19  </div>
20
```

```
⊗ Uncaught Error: Template parse errors:
  Can't have multiple template bindings on one element. Use only one attribute prefixed with * ("
      <li class="list-group-item"
      *ngFor="let number of numbers"
      [ERROR ->]*ngIf="number % 2==0">
        {{ number }}
      </li>
  "): ng:///AppModule/AppComponent.html@12:6
      at syntaxError (compiler.js:1021)
      at TemplateParser.push../node_modules/@angular/compiler/fesm5/compiler.js.TemplateParser.parse (compiler.js:14830)
      at JitCompiler.push../node_modules/@angular/compiler/fesm5/compiler.js.JitCompiler._parseTemplate (compiler.js:24018)
      at JitCompiler.push../node_modules/@angular/compiler/fesm5/compiler.js.JitCompiler._compileTemplate (compiler.js:24005)
      at compiler.js:23948
      at Set.forEach (<anonymous>)
      at JitCompiler.push../node_modules/@angular/compiler/fesm5/compiler.js.JitCompiler._compileComponents (compiler.js:23948)
      at compiler.js:23858
      at Object.then (compiler.js:1012)
```

5. Tambahkan kode berikut pada app.component.ts

```
1   import { Component } from '@angular/core';
2
3   @Component({
4     selector: 'app-root',
5     templateUrl: './app.component.html',
6     styleUrls: ['./app.component.css']
7   })
8   export class AppComponent {
9     title = 'NgFor-NgIf';
10    // numbers = [1, 2, 3 , 4, 5];
11    oddNumbers = [1, 3, 5];
12    evenNumbers = [2, 4];
13    onlyOdd = false;
14  }
15
```

6. Membagi ngFor dan ngIf

```
1   <div class="container">
2     <div class="row">
3       <div class="col-xs-12">
4         <button class="btn btn-primary"
5         (click)="onlyOdd=!onlyOdd">
6         only show odd numbers
7       </button>
8       <br>
9       <br>
10      <ul class="list-group">
11        <div *ngIf="onlyOdd">
12          <li class="list-group-item"
13          *ngFor="let odd of oddNumbers">
14            {{ odd }}
15          </li>
16        </div>
17        <div *ngIf="!onlyOdd">
18            <li class="list-group-item"
19            *ngFor="let even of evenNumbers">
20              {{ even }}
21            </li>
22        </div>
23      </ul>
24    </div>
25  </div>
26  </div>
27
```

Hasilnya :
Sebelum diklik

only show odd numbers

2

4

Sesudah diklik

only show odd numbers

1

3

5

NGCLASS & NGSTYLE

1. Tambahkan kode berikut pada app.component.html

```
1   <div class="container">
2     <div class="row">
3       <div class="col-xs-12">
4         <button class="btn btn-primary"
5         (click)="onlyOdd=!onlyOdd">
6         only show odd numbers
7       </button>
8       <br>
9       <br>
10      <ul class="list-group">
11        <div *ngIf="onlyOdd">
12          <li class="list-group-item"
13          [ngClass]="{'odd': true}"
14          [ngStyle]="{'backgroundColor': true ? 'yellow': 'transparent'}"
15          *ngFor="let odd of oddNumbers">
16            {{ odd }}
17          </li>
18        </div>
19        <div *ngIf="!onlyOdd">
20            <li class="list-group-item"
21            [ngClass]="{'even': true}"
22          [ngStyle]="{'backgroundColor': false ? 'yellow': 'transparent'}"
23            *ngFor="let even of evenNumbers">
24              {{ even }}
25            </li>
26        </div>
27      </ul>
28      </div>
29    </div>
30  </div>
```

```
1   .odd {
2     color : red;
3   }
```

2. Hasilnya :

DASAR MEMBUAT ATTRIBUT DIRECTIVE

1. Buat folder basic-highlight, lalu generate directive dengan cara klik kanan > Generate Directive

```
▲ app
  ▲ basic-highlight
    TS basic-highlight.directive.spec.ts
    TS basic-highlight.directive.ts
```
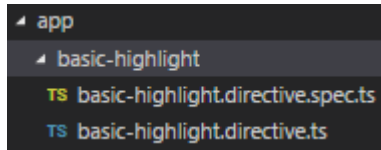
2. Tambahkan kode berikut pada directive default

```ts
import { Directive, ElementRef, OnInit } from '@angular/core';

@Directive({
  selector: '[appBasicHighlight]'
})
export class BasicHighlightDirective implements OnInit {

  constructor(private elementRef: ElementRef) { }

  ngOnInit() {
    this.elementRef.nativeElement.style.backgroundColor = 'green';
  }
}
```

3. Tambahkan kode berikut pada app.component.html

```html
<div class="container">
  <div class="row">
    <div class="col-xs-12">
      <button class="btn btn-primary"
      (click)="onlyOdd=!onlyOdd">
      only show odd numbers
    </button>
    <br>
    <br>
    <ul class="list-group">
      <div *ngIf="onlyOdd">
        <li class="list-group-item"
        [ngClass]="{'odd': true}"
        [ngStyle]="{'backgroundColor': true ? 'yellow': 'transparent'}"
        *ngFor="let odd of oddNumbers">
          {{ odd }}
        </li>
      </div>
      <div *ngIf="!onlyOdd">
        <li class="list-group-item"
        [ngClass]="{'even': true}"
      [ngStyle]="{'backgroundColor': false ? 'yellow': 'transparent'}"
        *ngFor="let even of evenNumbers">
          {{ even }}
        </li>
      </div>
    </ul>
    <p appBasicHighlight> Style me with directives </p>
    </div>
  </div>
</div>
```
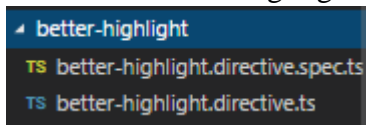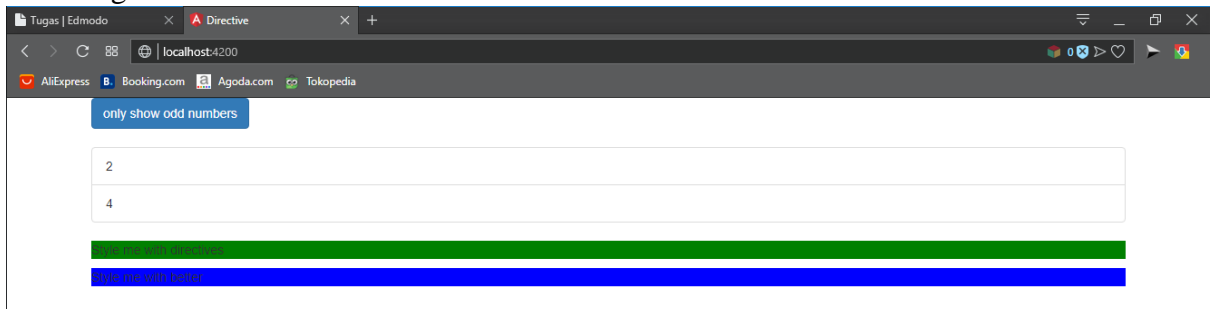
Hasilnya :

RENDERER

1. Buat folder better-highlight dan generate directive baru

2. Tambahkan kode berikut pada better-highlight.directive.ts

```typescript
import { Directive, ElementRef, Renderer2, OnInit } from '@angular/core';

@Directive({
  selector: '[appBetterHighlight]'
})
export class BetterHighlightDirective implements OnInit {

  constructor(private elRef: ElementRef, private renderer: Renderer2) { }

    ngOnInit() {
      this.renderer.setStyle(this.elRef.nativeElement, 'background-color', 'blue');
    }
}
```

3. Tambahkan kode berikut di line 29 pada app.component.html

```html
<p appBasicHighlight> Style me with directives </p>
<p appBetterHighlight> Style me with better </p>
```

Hasil :

MENGGUNAKAN HOSTLISTENER UNTUK EVENT HOST

1. Tambahkan kode berikut pada better-highlight.directive.ts

```typescript
import { Directive, ElementRef, Renderer2, OnInit, HostListener} from '@angular/core';
import { MockNgModuleResolver } from '@angular/compiler/testing';

@Directive({
  selector: '[appBetterHighlight]'
})
export class BetterHighlightDirective implements OnInit {

  constructor(private elRef: ElementRef, private renderer: Renderer2) { }

    ngOnInit() {
    // this.renderer.setStyle(this.elRef.nativeElement, 'background-color', 'blue');
    }

    @HostListener('mouseover')mouseover(eventData: Event) {
      this.renderer.setStyle(this.elRef.nativeElement, 'background-color', 'blue');
    }
    @HostListener('mouseleave')mouseleave(eventData: Event) {
      this.renderer.setStyle(this.elRef.nativeElement, 'background-color', 'transparent');
    }

}
```

Hasilnya :

Not hovering

Hovering

PROPERTY BINDINGS PADA DIRECTIVE

1. Rubah kode pada better-highlight.directive.ts menjadi berikut

```typescript
import { Directive, ElementRef, Renderer2, OnInit, HostListener, HostBinding} from '@angular/core';
import { MockNgModuleResolver } from '@angular/compiler/testing';

@Directive({
  selector: '[appBetterHighlight]'
})
export class BetterHighlightDirective implements OnInit {

  @HostBinding('style.backgroundColor')backgroundColor:string= 'transparent';

  constructor(private elRef: ElementRef, private renderer: Renderer2) { }

    ngOnInit() {
    // this.renderer.setStyle(this.elRef.nativeElement, 'background-color', 'blue');
    }

    @HostListener('mouseover')mouseover(eventData: Event) {
      // this.renderer.setStyle(this.elRef.nativeElement, 'background-color', 'blue');
      this.backgroundColor = 'blue';
    }
    @HostListener('mouseleave')mouseleave(eventData: Event) {
      // this.renderer.setStyle(this.elRef.nativeElement, 'background-color', 'transparent');
      this.backgroundColor = 'transparent';
    }
}
```
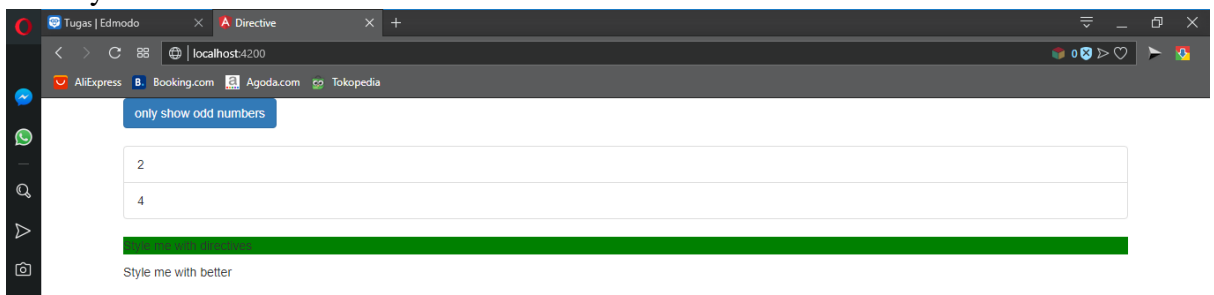
Hasilnya :
Tetap sama

2. Rubah kode pada better-highlight menjadi sebagai berikut

```
import { Directive, ElementRef, Renderer2, OnInit, HostListener, HostBinding, Input} from '@angular/core';
import { MockNgModuleResolver } from '@angular/compiler/testing';

@Directive({
  selector: '[appBetterHighlight]'
})
export class BetterHighlightDirective implements OnInit {

  @Input() defaultColor: string = 'transparent';
  @Input() highlightColor: string = 'blue';
  @HostBinding('style.backgroundColor')backgroundColor: string = this.defaultColor;
  // @HostBinding('style.backgroundColor')backgroundColor:string= 'transparent';

  constructor(private elRef: ElementRef, private renderer: Renderer2) { }

    ngOnInit() {
    // this.renderer.setStyle(this.elRef.nativeElement, 'background-color', 'blue');
    }

    @HostListener('mouseover')mouseover(eventData: Event) {
      // this.renderer.setStyle(this.elRef.nativeElement, 'background-color', 'blue');
      // this.backgroundColor = 'blue';
      this.backgroundColor = this.highlightColor;
    }
    @HostListener('mouseleave')mouseleave(eventData: Event) {
      // this.renderer.setStyle(this.elRef.nativeElement, 'background-color', 'transparent');
      // this.backgroundColor = 'transparent';
      this.backgroundColor = this.defaultColor;
    }
}
```

Hasilnya :

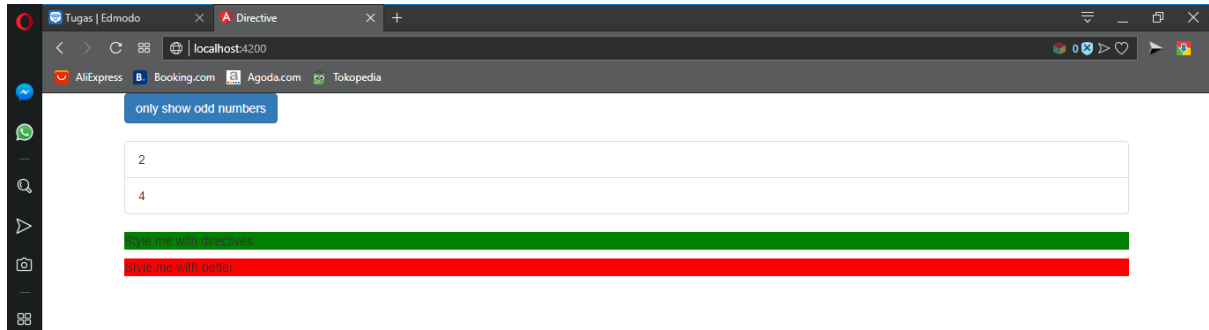3. Tambahkan kode berikut pada app.component.html
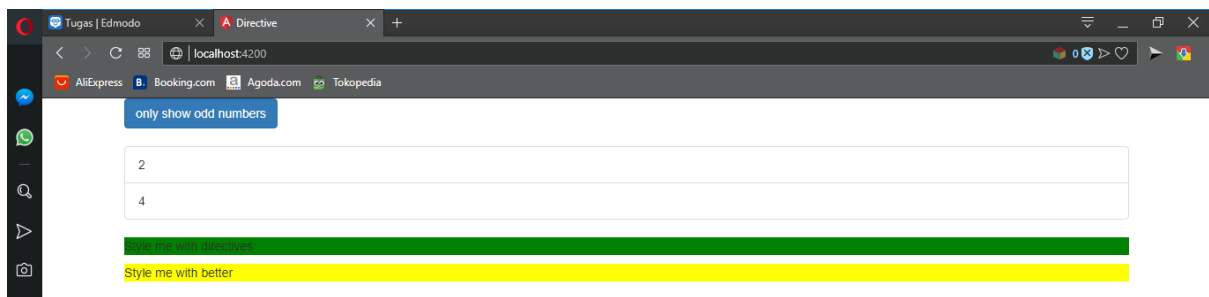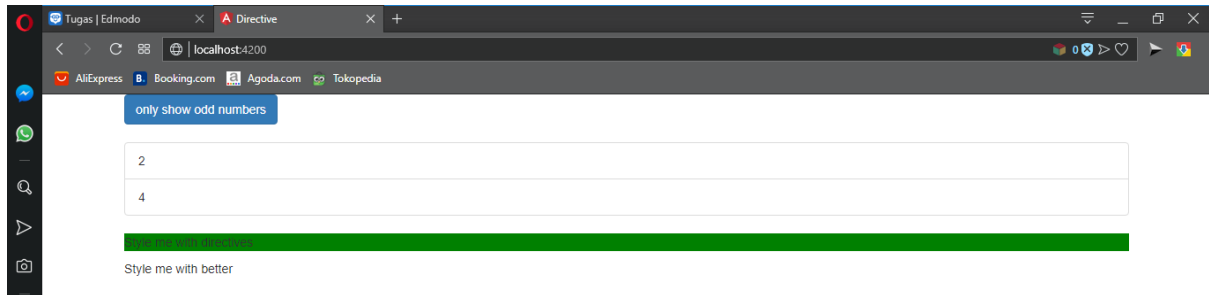
```
</ul>
<p appBasicHighlight> Style me with directives </p>
<p appBetterHighlight [defaultColor]="'yellow'"
[highlightColor]="'red'"> Style me with better </p>
</div>
```

Hasilnya :

4. Ubah kode pada better-highlight menjadi seperti ini

```
2   import { MockNgModuleResolver } from '@angular/compiler/testing';
3
4   @Directive({
5     selector: '[appBetterHighlight]'
6   })
7   export class BetterHighlightDirective implements OnInit {
8
9     @Input() defaultColor: string = 'transparent';
10    @Input() highlightColor: string = 'blue';
11    // @HostBinding('style.backgroundColor')backgroundColor: string = this.defaultColor;
12    @HostBinding('style.backgroundColor')backgroundColor: string;
13    // @HostBinding('style.backgroundColor')backgroundColor:string= 'transparent';
14
15    constructor(private elRef: ElementRef, private renderer: Renderer2) { }
16
17      ngOnInit() {
18        this.backgroundColor = this.defaultColor;
19      // this.renderer.setStyle(this.elRef.nativeElement, 'background-color', 'blue');
20      }
21
22      @HostListener('mouseover')mouseover(eventData: Event) {
23        // this.renderer.setStyle(this.elRef.nativeElement, 'background-color', 'blue');
24        // this.backgroundColor = 'blue';
25        this.backgroundColor = this.highlightColor;
26      }
27      @HostListener('mouseleave')mouseleave(eventData: Event) {
28        // this.renderer.setStyle(this.elRef.nativeElement, 'background-color', 'transparent');
29        // this.backgroundColor = 'transparent';
30        this.backgroundColor = this.defaultColor;
31      }
32  }
```

Hasilnya :

Berbeda dengan yang sebelumnya, saat pertama laman termuat, better-highlight langsung berwarna kuning.
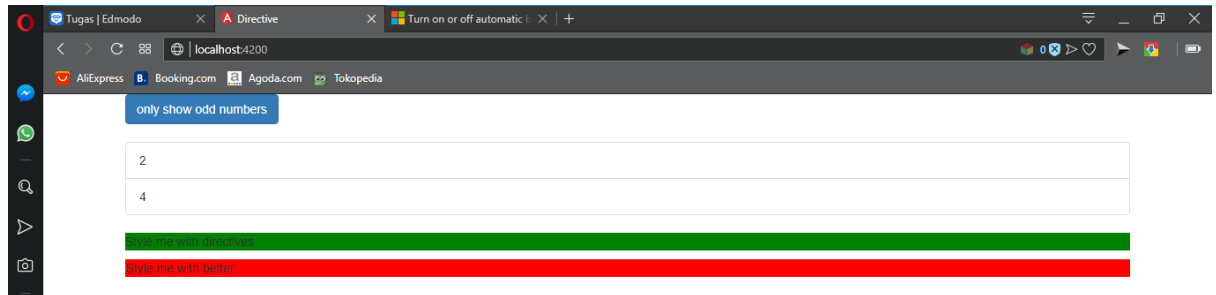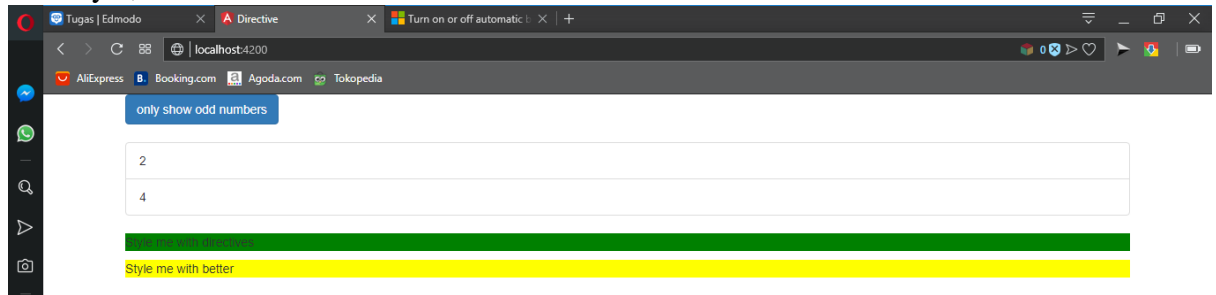

5. Menggunakan alias pada highlightColor

```
@Input() defaultColor: string = 'transparent';
@Input('appBetterhighLight') highlightColor: string = 'blue';
```

6. Mengubah line 29 pada app.component.html

```
28      <p appBasicHighlight> Style me with directives </p>
29      <p [appBetterHighlight]= "'red'" [defaultColor]="'yellow'"> Style me with better </p>
```
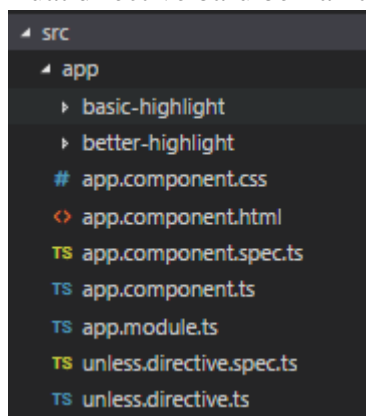
Hasilnya ;

CUSTOM DIRECTIVE

1. Buat directive baru bernama unless

2. Ubah unless.directive.ts menjadi berikut

```
import { Directive, Input, TemplateRef, ViewContainerRef } from '@angular/core';

@Directive({
  selector: '[appUnless]'
})
export class UnlessDirective {

  @Input() set unless(condition: boolean) {
    if (!condition) {
      this.vcRef.createEmbeddedView(this.templateRef);
    } else {
      this.vcRef.clear();
    }
  }

  constructor(private templateRef: TemplateRef<any>, private vcRef: ViewContainerRef) { }

}
```

3.

```
27        <div *appUnless="onlyOdd">
28          <li class="list-group-item"
29          [ngClass]="{'odd': true}"
30          [ngStyle]="{'backgroundColor': true ? 'yel
31          *ngFor="let odd of oddNumbers">
32            {{ odd }}
33          </li>
34        </div>
```

Ini akan mengasilkan error

```
❌ ▶ Uncaught Error: Template parse errors:                                                                    compiler.js:1021
   Can't bind to 'appUnless' since it isn't a known property of 'div'. ("
         </li>
       </div> -->
       <div [ERROR ->]*appUnless="onlyOdd">
         <li class="list-group-item"
         [ngClass]="{'odd': true}"
   "): ng:///AppModule/AppComponent.html@26:13
   Property binding appUnless not used by any directive on an embedded template. Make sure that the property name is spelled correctly and all directives are listed in the
   "@NgModule.declarations". ("
         </li>
       </div> -->
       [ERROR ->]<div *appUnless="onlyOdd">
         <li class="list-group-item"
```

4. Ubah menjadi seperti ini

```
1    import { Directive, Input, TemplateRef, ViewContainerRef } from '@angular/core';
2
3    @Directive({
4      selector: '[appUnless]'
5    })
6    export class UnlessDirective {
7
8      @Input() set appUnless(condition: boolean) {
9        if (!condition) {
10         this.vcRef.createEmbeddedView(this.templateRef);
11       } else {
12         this.vcRef.clear();
13       }
14     }
15
16     constructor(private templateRef: TemplateRef<any>, private vcRef: ViewContainerRef) { }
17
18   }
19
```

Hasilnya :
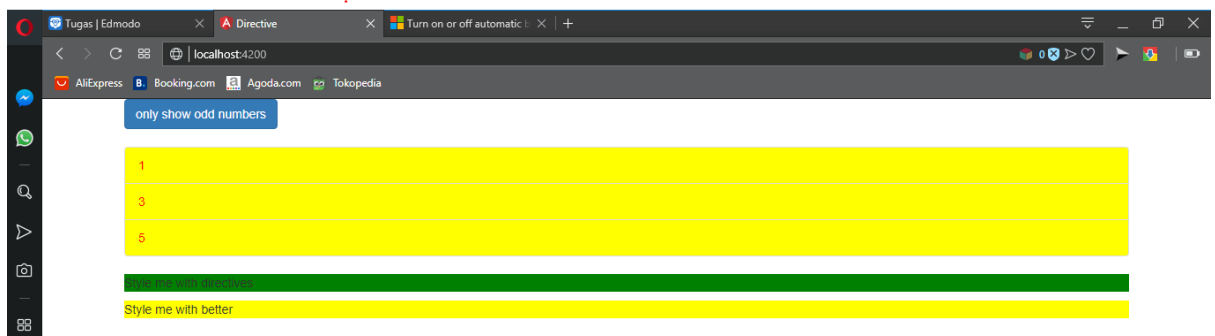
NGSWITCH

1. Tambahkan kode ini pada app.component.ts

```
export class AppComponent {
  title = 'NgFor-NgIf';
  // numbers = [1, 2, 3 , 4, 5];
  oddNumbers = [1, 3, 5];
  evenNumbers = [2, 4];
  onlyOdd = false;
  value = 5;
}
```

2. Tambahkan kode ini pada app.component.html

```
38    <span [ngSwitch]="value">
39      <p *ngSwitchCase="5">
40        value is 5
41      </p>
42      <p *ngSwitchCase="10">
43        value is 10
44      </p>
45      <p *ngSwitchDefault>
46        value is default
47      </p>
48    </span>
```

Hasilnya :