**Lesson15 Angular ngFor trackBy in Angular**

**Notes:-**

**1-Using trackyBy with ngFor directive :**

**A-ngFor directive may perform poorly with large lists**

**B-small change to the list like, adding a new item or removing an existing item may trigger a cascade of DOM manipulations**

**🡺** **قد يؤدي العنصر إلى تشغيل سلسلة من عمليات معالجة DOM**

**🡺This means that when use the \*ngFor command it will recreate all the objects every time you load the page or insert new object or update object**

**(Because the \*ngFor stands for the Object References not the ID Object)**

**2-With using the ngFor with the track Directive**

**A-with this you can tracking based on the object ID not the object refereces ,so the reloading recreate on the object that is added or updated only not the other objects**

**🡺On the code behind we write the following code**

**//we see that we make method based on the object.Id not the object references**

**//Must have the 2 parameters such as index and the object we pass to it**

**trackByEmpCode(index: number, employee: Employee): number {**

**return employee.ID;**

**}**

**We will set some static values on the Array Employees**

ngOnInit() {

// this.ShowHide = true;

// this.columnSpan = 4;

// this.FullName = "TOM";

this.employeeService.Employees = [

{

ID:1,

Fname:"Mohammed",

Lname:"Enbah",

Gender:"Male",

Salary:400

},

{

ID:2,

Fname:"Mohammed2",

Lname:"Enbah2",

Gender:"Male2",

Salary:500

}

];

debugger;

this.ShowEmployees();

}

**3-on the view we will set the trackBy command**

<table>

<thead>

<tr>

<th attr.colspan="{{columnSpan}}">Employee Details</th>

</tr>

<tr>

<th style="text-align: left;">First Name</th>

<th style="text-align: left;">Last Name</th>

<th \*ngIf="ShowHide" style="text-align: left;">Gender</th>

<th \*ngIf="ShowHide" style="text-align: left;">Salary</th>

</tr>

</thead>

<tbody>

//we use the trackBy command and assign it to the method that return the object.ID 🡺 the refreshing based on the object.ID not the object references  
🡺The Respective DOM Element are not effected

<tr \*ngFor="let item of employeeService.Employees;trackBy:trackByEmpCode>

<td>{{item.Fname}}</td>

<td>{{item.Lname}}</td>

<td \*ngIf="ShowHide" >{{item.Gender}}</td>

<td \*ngIf="ShowHide">{{item.Salary}}</td>

</tr>

<tr \*ngIf="employeeService.Employees==0|| !employeeService.Employees">

<td colspan="4">

No Employees to display

</td>

</tr>

</tbody>

</table>

**Using ODD and EVEN and FIRST and LAST and index**

**ODD and Even and FIRST and LAST:- it will return the Boolean that if the object ID is odd or even**

**Index :-it will return the number of index in the array**

<table>

<thead>

<tr><th attr.colspan="{{columnSpan}}">Employee Details</th>

</tr>

<tr>

<td></td>

<th style="text-align: left;">First Name</th>

<th style="text-align: left;">Last Name</th>

<th \*ngIf="ShowHide" style="text-align: left;">Gender</th>

<th \*ngIf="ShowHide" style="text-align: left;">Salary</th>

<th>First</th>

<th>Last</th>

<th>Odd</th>

<th>Even</th>

</tr>

</thead>

<tbody>

<tr \*ngFor="let item of employeeService.Employees;trackBy:trackByEmpCode;let count = index;let isFirst = first; let isLast = last;let isOdd = odd;let isEven = even">

<td>{{count}}</td>

<td>{{item.Fname}}</td>

<td>{{item.Lname}}</td>

<td \*ngIf="ShowHide" >{{item.Gender}}</td>

<td \*ngIf="ShowHide">{{item.Salary}}</td>

<td>{{isFirst}}</td>

<td>{{isLast}}</td>

<td>{{isOdd}}</td>

<td>{{isEven}}</td>

</tr>

<tr \*ngIf="employeeService.Employees==0|| !employeeService.Employees">

<td colspan="4">

No Employees to display

</td>

</tr>

</tbody>

</table>

<button (click)="ShowHideEvent(ButtonState)">{{ShowHide ? 'Hide' : 'Show'}} Button</button>

<br/>

<br/>

<!-- <input type="text" [value]="FullName" (input)='FullName = $event.target.value' /> -->

<input [(ngModel)]='FullName'>

<h1>{{FullName}}</h1>