Harmony IT Solution

# Angular

## Tahaluf Training Center 2022

1. Toastr Library.
2. Linking with API.
3. Hits API (Get All).

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# Objective

# The Objective of this lecture

- Install the toaster service and understand how to show the toaster in your project.
- Get to know about the HTTP client protocol and how it is important with the liking with API.
- Link the angular project with the API project and solved the CROS police error.

# Overview of Toastr Library

**Toastr** is a JavaScript library that creates pop-up notifications.

It is simple, easy to use, and can be extended.

It allows you to create simple toasts using HTML5 and JavaScript.

# Steps to download the Toastr Library in the project

**Step One:** Install the toastr package using this command:

```
npm install ngx-toastr --save
```

```
PS C:\Users\d.kanaan.ext\Desktop\EduTech>  npm install ngx-toastr --save

up to date, audited 926 packages in 2s

105 packages are looking for funding
  run `npm fund` for details

found 0 vulnerabilities
```

# Steps to download the Toastr Library in the project

**Step Two:** Add the style of the toastr in the angular.json file.

```
"styles": [
  "./node_modules/@angular/material/prebuilt-themes/indigo-pink.css",
  "src/styles.css",
  "node_modules/ngx-spinner/animations/ball-fussion.css",
  "node_modules/ngx-toastr/toastr.css"
],
```

# Steps to download the Toastr Library in the project

**Step Three:** Import the ToasterModule and ToastrNoAnimationModule in the root module(app.module.ts).

```
import {ToastrModule, ToastNoAnimation,
ToastNoAnimationModule}
from 'ngx-toastr'
```

**Note:** Don’t forget to add the module’s name in the import array.

```
imports: [
  BrowserModule,
  AppRoutingModule,
  BrowserAnimationsModule,
  NgxSpinnerModule,
  SharedModule,
  ToastNoAnimationModule.forRoot(),
  ToastrModule.forRoot()
],
```

# Toastr Library Example

To add the toastr in the home component

1. Import the ToastrService in the typescript of the component.

So, In home.component.ts.

```
import {ToastrService} from 'ngx-toastr';
```

# Toastr Library Example

2. Create an instance of toastr service in the constructor of the component and then use this object to access the toastr method like success, warning, error, and info.

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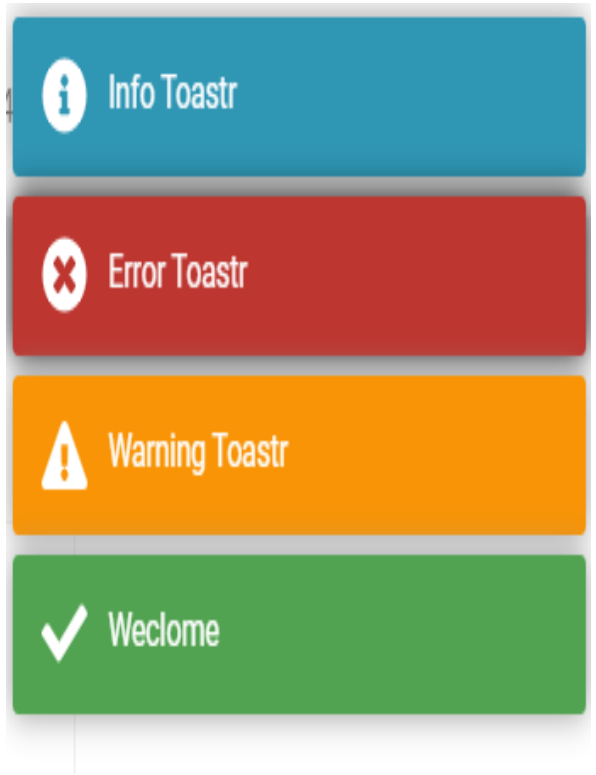
# Toastr Library Example

```
export class HomeComponent implements OnInit {

  constructor(private toastr:ToastrService) { }

  ngOnInit(): void {
    this.toastr.success('Weclome');
    this.toastr.warning('Warning Toastr');
    this.toastr.error('Error Toastr');
    this.toastr.info('Info Toastr');

  }
}
```




# Linking with API

# Overview of Linking with API

To access various back-end services and download data, most front-end applications communicate with a server via the HTTP protocol.

There is an HTTP API provided by Angular, the HttpClient class in @angular/common/http.

# Overview of the HTTPClient

The HTTPClient service is an injectable service that provides powerful methods for communicating with the remote server.

HttpClient API makes it easy to perform an HTTP POST, GET, PUT, and DELETE requests.

# Overview of HTTPClient

Angular provides a built-in package called HTTP.

To use this package, first, you must add the module for this package to the shared module for our project.

```
import{HttpClientModule}from  '@angular/common/http'
```

And add `HttpClientModule` in the import and export section.

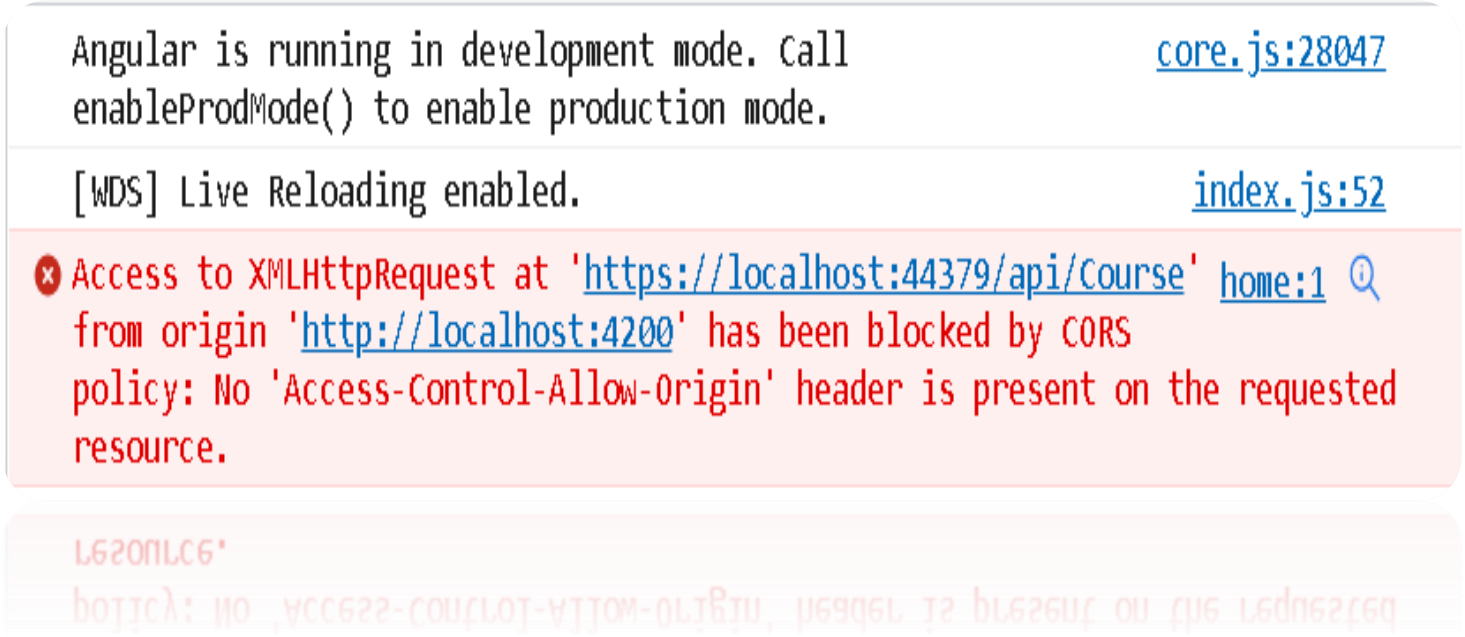
# Cross-Origin Resource Sharing (CORS)

Is a protocol that manages communication between two or more domains.

Is a method based on HTTP headers that allow browsers to identify requests coming from an allowed domain list while also filtering out those requests coming from unknown sources.

# Cross-Origin Resource Sharing (CORS)

This error will be in the console of the browser.



# Cross-Origin Resource Sharing (CORS)

To fixe this error add the following lines of code to your API project.

In the **Startup.cs** file → at the beginning of **ConfigureServices** method.

```
public void ConfigureServices(IServiceCollection services)
{
    services.AddCors(corsOptions =>
    {
        corsOptions.AddPolicy("policy",
        builder =>
        {
        builder.AllowAnyOrigin().AllowAnyMethod().AllowAnyHeader();
        });
    });
```

## Cross-Origin Resource Sharing (CORS)

Then in the **Startup.cs** file → **Configure** method add this line of code:

**app.UseCors(“policy");**

```
app.UseRouting();

app.UseCors("policy");

app.UseAuthorization();
```

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# Hits API (Get All)

# How to retrieve data from a table using HttpClient Service

**Step one:** Create an object of httpClient service in the constructor.

**Step two:** Use this object to access the HTTP methods like (get, post, put, delete).

**Step three:** The data will be retrieved as a JSON object, so we need to declare an array to store this data.

# Example using HttpClient methods

Retrieve the data from the course table and display this data in the course component.

**Step one**: In the home service create an object of httpClient service

```
constructor(private http:HttpClient,
private spinner :NgxSpinnerService,private toastr:ToastrService ) { }
```

# Example using HttpClient methods

**Step two**: Declare an array to store the data that will be retrieved.

In-home service.ts

```
course:any=[{}];
```

# Example using HttpClient methods

**Step three**: use the HTTP method (get) to receive the data from the course table and save it in the data array that is declared in the previous step.

# Example using HttpClient methods

```
getAll(){
    this.spinner.show();
    this.http.get('https://localhost:44320/api/course').subscribe((res)=>{
    this.course=res;
    this.spinner.hide();
    this.toastr.success('Data Retrieved !!');
  },err=>{
    this.spinner.hide();
    this.toastr.error(err.message, err.status);
  })
}
```

# Example using HttpClient methods

**Step four**: Create an object of home Service in the course component.

In Course component.ts

```
constructor(private router:Router, public home:HomeService) { }
```

# Example using HttpClient methods

**Step five**: Call the get all method from the home service in the ngOnInit method.

In Course component.ts

```
ngOnInit(): void {
  this.home.getAll();
}
```

# Example using HttpClient methods

**Step six**: Update the input decorators properties to be the same name as the columns in the database and in the same datatype.

In Course-Card component.ts

```
@Input()courseid:number|undefined
@Input() coursename :string|undefined
@Input() startdate :string='A/N'
@Input() enddate :string|undefined
@Input() teachercourse :string|undefined
@Input() imagename :string|undefined
@Input() price :number|undefined
@Input() studentcourse: string|undefined
@Input() book:string|undefined
```

# Example using HttpClient methods

**Step seven**: Update the HTML file for the Course component.

```
<app-course-card *ngFor="let obj of home.course"
[courseid] ="obj.courseid" [coursename]="obj.coursename"
[startdate]="obj.startdate" [enddate] ="obj.enddate"
[imagename]="obj.imagename"
[book]="obj.book" [studentcourse]="obj.studentcourse"
[teachercourse]="obj.teachercourse"
(click)="opneProfile()"></app-course-card>
```

# Example using HttpClient methods

If the data is retrieved successfully the result will be :


# Example using HttpClient methods

If the data is not retrieved, a toaster error will appear.


# References

[1] Angular, “Angular,” *Angular.io*, 2019. https://angular.io/

[2] “Complete Angular Tutorial For Beginners,” *TekTutorialsHub*. https://www.tektutorialshub.com/angular-tutorial/

[3]“npm | build amazing things,” *Npmjs.com*, 2019. https://www.npmjs.com/

[4]“Angular Tutorial for Beginners | Simplilearn,” *Simplilearn.com*. https://www.simplilearn.com/tutorials/angular-tutorial (accessed Aug. 19, 2022).

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