Angular HTTP POST Example

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In this Angular Http Post Example, we will show you how to make an HTTP Post Request to a back end server. We use the HttpClient module in Angular. The Angular introduced the HttpClient Module in Angular 4.3. It is part of the package @angular/common/http . We will create a Fake backend server using JSON-server for our example. We also show you how to add HTTP headers, parameters or query strings, catch errors, etc.

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HTTP Post Example

Create a new Angular App.

```

ng new httpPost

```

Import HttpClientModule

Import the `HttpClientModule` & `FormsModule` in `app.module.ts`. Also, add it to the `imports` array.

```

import { BrowserModule } from '@angular/platform-browser';
import { NgModule } from '@angular/core';

import { HttpClientModule } from '@angular/common/http';
import { FormsModule } from '@angular/forms'

import { AppRoutingModule } from './app-routing.module';
import { AppComponent } from './app.component';

@NgModule({
  declarations: [
    AppComponent
  ],
  imports: [
```

```
    BrowserModule,
    AppRoutingModule,
    HttpClientModule,
    FormsModule,
  ],
  providers: [],
  bootstrap: [AppComponent]
})
export class AppModule { }

```

Faking Backend

In the HTTP Get example, we made use of the publicly available GitHub API. For this example, we need a backend server, which will accept the post request.

There are few ways to create a fake backend. You can make use of an in-memory web API or the JSON server. For this tutorial, we will make use of the JSON Server.

Install the JSON-server globally using the following `npm` command

```

npm install -g json-server

```

create a `db.json` file with some data. The following example contains data of `people` with `id` & `name` fields.

```

{
  "people": [
    {
      "id": 1,
      "name": "Don Bradman"
    },
    {
      "id": 2,
      "name": "Sachin Tendulkar"
```

```
    }
  ]
}

```

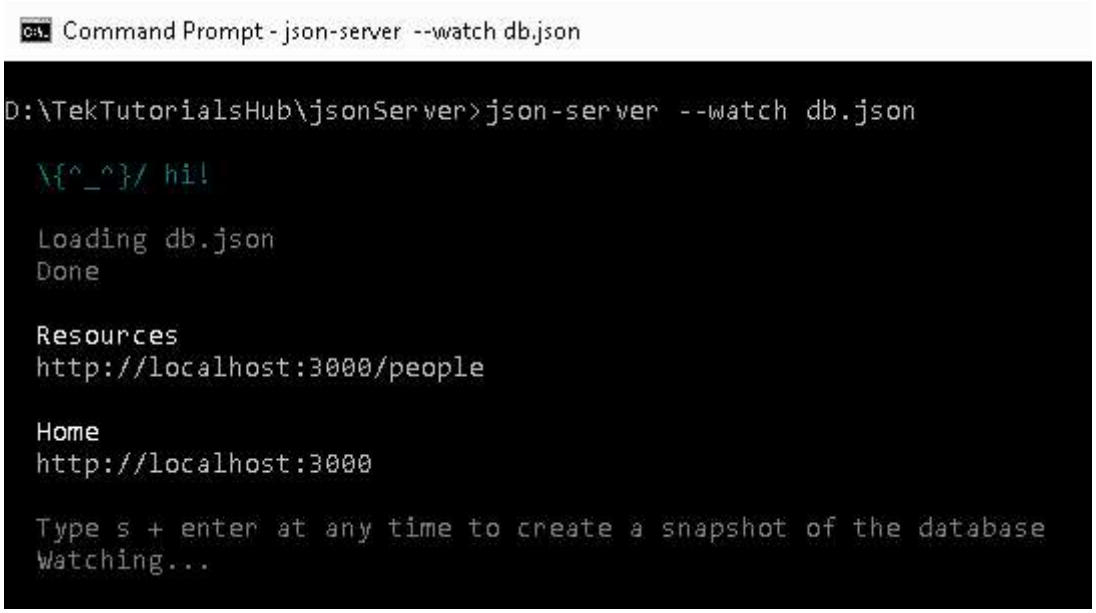
Start the server

```

json-server --watch db.json

```

The `json-server` starts and listens for requests on port 3000.



Browse the URL http://localhost:3000/ and you should be able to see the home page

The URL http://localhost:3000/people lists the people from the db.json . You can now make GET POST PUT PATCH DELETE OPTIONS against this URL

Model

Now, back to our app and create a Person model class under person.ts

```

export class Person {
  id:number
  name:string
}

```

HTTP Post Service

Now, let us create a Service, which is responsible to send HTTP Requests. Create a new file api.service.ts and copy the following code

```

import { HttpClient, HttpHeaders } from '@angular/common/http';
import { Person } from './person';
import { Injectable } from '@angular/core';
import { Observable } from 'rxjs';

@Injectable({providedIn:'root'})
export class ApiService {

  baseURL: string = "http://localhost:3000/";

  constructor(private http: HttpClient) {
  }

  getPeople(): Observable<Person[]> {
    console.log('getPeople '+this.baseURL + 'people')
    return this.http.get<Person[]>(this.baseURL + 'people')
  }

  addPerson(person:Person): Observable<any> {
    const headers = { 'content-type': 'application/json'}
    const body=JSON.stringify(person);
```

```
    console.log(body)
    return this.http.post(this.baseURL + 'people', body,{'headers':headers})
  }

}

```

The URL endpoint of our `json-server` is hardcoded in our example, But you can make use of a config file to store the value and read it using the APP_INITIALIZER token

```

baseURL: string = "http://localhost:3000/";

```

We inject the `HttpClient` using the Dependency Injection

```

constructor(private http: HttpClient) {
}

```

The `getPeople()` method sends an HTTP `GET` request to get the list of persons. Refer to the tutorial Angular HTTP GET Example to learn more.

```

  getPeople(): Observable<Person[]> {
```

```
  console.log('getPeople '+this.baseURL + 'people')
  return this.http.get<Person[]>(this.baseURL + 'people')
}

```

In the `addPerson` method, we send an HTTP POST request to insert a new person in the backend.

Since we are sending data as JSON, we need to set the `'content-type': 'application/json'` in the HTTP header. The `JSON.stringify(person)` converts the `person` object into a `JSON` string.

Finally, we use the `http.post()` method using `URL`, `body` & `headers` as shown below.

```

addPerson(person:Person): Observable<any> {
  const headers = { 'content-type': 'application/json'}
  const body=JSON.stringify(person);
  console.log(body)
  return this.http.post(this.baseURL + 'people', body,{'headers':headers})
}

```

The `post()` method returns an observable. Hence we need to `subscribe` to it.

Component

Template

The template is very simple.

We ask for the name of the `person`, which we want to add to our backend server. The two-way data binding (`[(ngModel)]="person.name"`) keeps the `person` object in sync with the view.

```

<h1>{{title}}</h1>

<div>
  <div>
    <label>Name: </label>
    <input [(ngModel)]="person.name" />
  </div>
  <div>
    <button (click)="addPerson()">Add</button>
  </div>
</div>

<table class='table'>
  <thead>
    <tr>
      <th>ID</th>
      <th>Name</th>
    </tr>
  </thead>
  <tbody>
    <tr *ngFor="let person of people;">
      <td>{{person.id}}</td>
      <td>{{person.name}}</td>
    </tr>
  </tbody>
</table>

```

Code

In the `refreshPeople()` method, we subscribe to the `getPeople()` method of our `ApiService` to make an HTTP get() request to get the list of people.

Under the `addPerson()` method, we subscribe to the `apiService.addPerson()`. Once the post request finishes, we call `refreshPeople()` method to get the updated list of people.

```

import { Component, OnInit } from '@angular/core';
import { ApiService } from './api.service';
import { Person } from './person';

```

```
6  @Component({
7    selector: 'app-root',
8    templateUrl: './app.component.html',
9    styleUrls: ['./app.component.css']
10 })
11 export class AppComponent implements OnInit {
12
13   title = 'httpGet Example';
14   people:Person[];
15   person = new Person();
16
17   constructor(private apiService:ApiService) {}
18
19   ngOnInit() {
20     this.refreshPeople()
21   }
22
23   refreshPeople() {
24     this.apiService.getPeople()
25       .subscribe(data => {
26         console.log(data)
27         this.people=data;
28       })
29
30   }
31
32   addPerson() {
33     this.apiService.addPerson(this.person)
34       .subscribe(data => {
35         console.log(data)
36         this.refreshPeople();
37       })
38   }
39
40 }
41
```

HTTP Post in Action

HTTP Post syntax

The above code is a very simple example of the HTTP `post()` method. The complete syntax of the `post()` method is as shown below. The first two arguments are `URL` and `body`. It has the third argument `options`, where we can pass the HTTP headers, parameters, and other options to control how the `post()` method behaves.

```

post(url: string,
    body: any,
    options: {
      headers?: HttpHeaders | { [header: string]: string | string[]; };
      observe?: "body|events|response|";
      params?: HttpParams | { [param: string]: string | string[]; };
      reportProgress?: boolean;
      responseType: "arraybuffer|json|blob|text";
      withCredentials?: boolean;
    }
): Observable

```

- headers : use this to send the HTTP Headers along with the request
- params: set query strings / URL parameters
- observe: This option determines the return type.
- responseType: The value of responseType determines how the response is parsed.
- reportProgress: Whether this request should be made in a way that exposes progress events.
- withCredentials: Whether this request should be sent with outgoing credentials (cookies).

observe

The POST method returns one of the following

1. Complete response
2. body of the response
3. events .

By default, it returns the body .

Complete Response

The following code will return the complete `response` and not just the `body`

```
addPerson(person:Person): Observable<any> {
    const headers = { 'content-type': 'application/json'}
    const body=JSON.stringify(person);

    return this.http.post(this.baseURL + 'people', body,{'headers':headers , observe: 'respo
}
```

events

You can also listen to progress events by using the `{ observe: 'events', reportProgress: true }`. You can read about observe the response

```
return this.http.post(this.baseURL + 'people', body,{'headers':headers, observe: 'response
```

Response Type

The `responseType` determines how the response is parsed. it can be one of the `arraybuffer`, `json` `blob` or `text`. The default behavior is to parse the response as JSON.

Strongly typed response

Instead of `any`, we can also use a `type` as shown below

```
 addPerson(person:Person): Observable<Person> {
   const headers = { 'content-type': 'application/json'}
   const body=JSON.stringify(person);
   console.log(body)
```

```
  return this.http.post<Person>(this.baseURL + 'people', body,{'headers':headers})
}

```

String as Response Type

The API may return a simple text rather than a JSON. Use `responsetype: 'text'` to ensure that the response is parsed as a string.

```

addPerson(person:Person): Observable<Person> {
  const headers = { 'content-type': 'application/json'}
  const body=JSON.stringify(person);

  return this.http.post<Person>(this.baseURL + 'people', body,{'headers':headers, respor
}

```

Catching Errors

The API might fail with an error. You can catch those errors using `catchError`. You either handle the error or throw it back to the component using the `throw err`

```

addPerson(person:Person): Observable<Person> {
  const headers = { 'content-type': 'application/json'}
  const body=JSON.stringify(person);

```

```
  return this.http.post<Person>(this.baseURL + 'people', body,{'headers':headers})
    .pipe(
      catchError((err) => {
        console.error(err);
        throw err;
      }
    )
}

```

Read more about error handling from Angular HTTP interceptor error handling

Transform the Response

You can make use of the `map`, `filter` RxJs Operators to manipulate or transform the response before sending it to the component.

```

addPerson(person:Person): Observable<Person> {
  const headers = { 'content-type': 'application/json'}
  const body=JSON.stringify(person);

  return this.http.post<Person>(this.baseURL + 'people', body,{'headers':headers})
    .pipe(
      map((data) => {
        //You can perform some transformation here
        return data;
      }),
      catchError((err) => {
        console.error(err);
        throw err;
      }
    )
}

```

URL Parameters

The URL Parameters or Query strings can be added to the request easily using the HttpParams option. All you need to do is to create a new `HttpParams` class and add

the parameters as shown below.

```

addPerson(person:Person): Observable<Person> {
  const headers = { 'content-type': 'application/json'}

 const params = new HttpParams()
    .set('para1', "value1")
    .set('para2',"value2");
  const body=JSON.stringify(person);

  return this.http.post<Person>(this.baseURL + 'people', body,{'headers':headers, 'para

}

```

The above code sends the GET request to the URL

http://localhost:3000/people?para1=value1&para2=value2

The following code also works.

```

addPerson(person:Person): Observable<Person> {
  const headers = { 'content-type': 'application/json'}


  const body=JSON.stringify(person);

  return this.http.post<Person>(this.baseURL + 'people?para1=value1&para2=value2', b

}

```

HTTP Headers

You can also add HTTP Headers using the `HttpHeaders` option as shown below. You can make use of the Http Interceptor to set the common headers. Our example code already includes an HTTP header

Send Cookies

You can send cookies with every request using the `withCredentials=true` as shown below. You can make use of the Http Interceptor to set the `withCredentials=true` for all requests.

```

return this.http.post<Person>(this.baseURL + 'people?para1=value1&para2=value2', bod

```

Summary

This guide explains how to make use of HTTP post in Angular using an example app

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