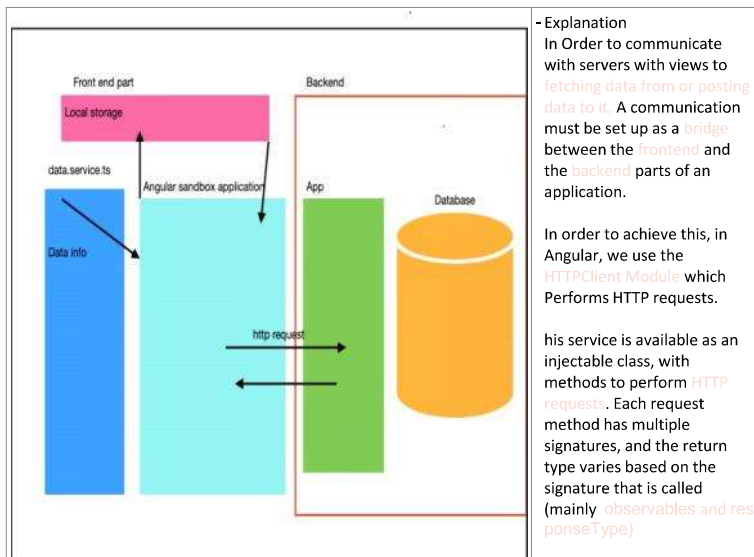


Angular Service Layer: HttpClient, Http Methods

- Asynchronous Programming
- Connection to an external server - HttpClient



FUNDAMENTAL STEPS:

Setting up an API service

- An API service which needs to communicate with a server over the HTTP protocol to fetch or post data or access other backend services.

- 1) Generate an api service using `ng generate service api/services`
- 2) Import the HttpClientModule in the `app.module.ts`
- 3) Inject this newly imported HttpClient service as a dependency in the constructor of the `api.service.ts`
- 4) The HttpClient service makes use of Observables for all transactions, which requires the **RxJS** Library to be imported.

```
import { Observable, throwError } from 'rxjs';
import { catchError, retry } from 'rxjs/operators';
```

- 5) Once all the imports are settled, create a variable which will represent the baseUrl of the intended server/backend service.

E.g.
`baseUrl = 'https://test-marketplace-api.herokuapp.com/api/';`

- 6) Next, we declare an array of objects which will contain all endpoints, which will be added to our baseUrl. These endpoints are the paths which will direct us to the destination of our HTTP Requests.

E.g. Declaration of endpoints object array

```
endpoints: {[endpoints: string]: string | any} = {
  //list of endpoints
}
```

E.g. Endpoints (carList Example)

```
carList: `${this.baseUrl}car/list`,
```

Added Path

- 7) Set up a `request()` method that will be used anytime an HTTP request is needed for fetching/posting data to any endpoint as per requirements.

```
request(url: endpointType, method: string, payload?: object,
urlParams?: any) {
  const finalUrl = (!urlParams)
    ? this.endpoints[url] : this.endpoints[url](urlParams);
  return (!payload) ?
    this.http.request(method, finalUrl) :
    this.http.request(method, finalUrl, {body: payload});}
```

- 8) Last but not least, each endpoint that is declared needs to be exported as a type variable as follows:

```
export type endpointType = 'carList'
```

Note: Any other endpoint added should be declared in this type variable itself separated by a pipe '| '.