

Mapping Returned Data



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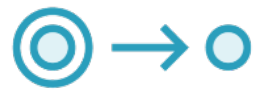




Why Map Returned Data?



Modify a value: `price = price * 1.5`



Transform a value: `'Y' -> true; 'N' -> false`



Change a field name: `p_nm -> productName`



Add a calculated field: `profit = price - cost`



Simple mapping
doesn't always work.



Module Overview

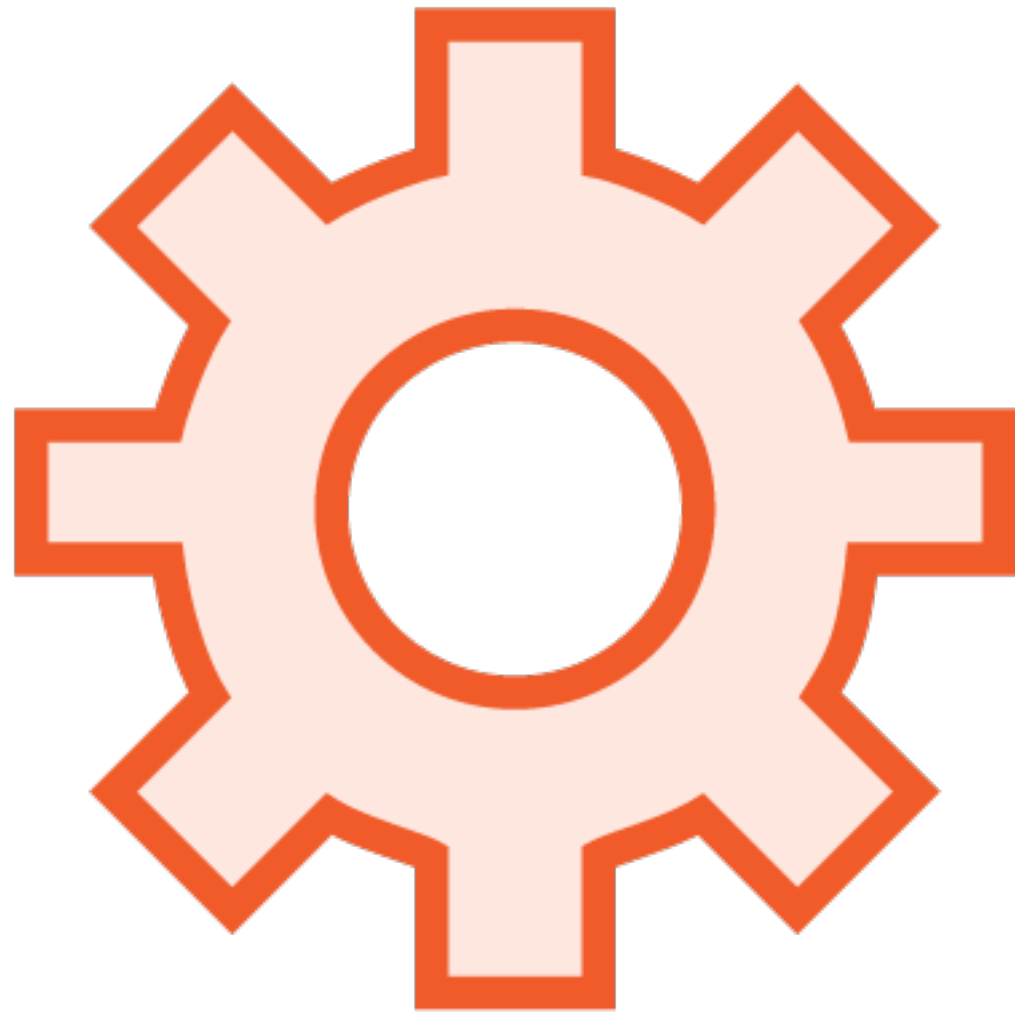


Mapping an HTTP response

Mapping array elements



RxJS Features



map



Mapping a Simple Observable

```
of(2, 4, 6)
  .pipe(
    map(item => item * 2)
  )
  .subscribe(x => console.log(x)); // 4 8 12
```



Mapping an HTTP Response

Product Service

```
private productsUrl = 'api/products';

product$ =
  this.http.get<Product>(`${this.productsUrl}/${id}`);
```

```
export interface Product {
  id: number;
  productName: string;
  productCode: string;
}
```

Response

```
{hammer}
```

Response

```
[{cart},
{hammer}]
```

Backend
Server

```
{
  productId: 2,
  name: 'cart',
  productCode: 'GDN-0023'
}
```





Mapping an HTTP Response



Map the emitted array



**Map each element in
the array**



**Transform each
element**



Mapping an Emitted Array

```
products$ = this.http.get<Product[]>(this.productsUrl)
    .pipe(
        map(products =>
            ...
        ),
        catchError(this.handleError)
    );
```



Mapping an HTTP Response



Map the emitted array



**Map each element in
the array**



Mapping Array Elements

```
products$ = this.http.get<Product[]>(this.productsUrl)
  .pipe(
    map(products =>
      products.map(product => ...)
    ),
    catchError(this.handleError)
  );
```



Mapping an HTTP Response



Map the emitted array



**Map each element in
the array**



**Transform each
element**



Transforming Array Elements

```
products.map(product => ({  
  id: product.id,  
  productName: product.productName,  
  productCode: product.productCode,  
  description: product.description,  
  price: product.price * 1.5,  
  searchKey: [product.productName]  
} as Product))
```

```
products.map(product => ({  
  ...product,  
  price: product.price * 1.5,  
  searchKey: [product.productName]  
} as Product))
```



RxJS

Checklist:

Mapping an HTTP Response



When retrieving a set of data

HTTP get returns an Observable that emits an array

```
products$ = this.http.get<Product[]>(this.productsUrl);
```



RxJS

Checklist:

Mapping an HTTP Response



Map the emitted array

Map the array elements

Transform each array element

```
products$ = this.http.get<Product[]>(this.productsUrl)
    .pipe(
      map(products =>
        products.map(product => ({
          ...product,
          price: product.price * 1.5
        } as Product))),
      catchError(this.handleError)
    );
```





Coming up next...

Combining Data Streams

