



# Angular RxJS

GFT INTERNAL TRAINING

INNOVATE. TRANSFORM. DELIVER.

# Agenda

**1.intro**

**2.some useful functions**

**3.observables**

**4.learning resources**

# intro

# Observables

- isn't an Angular specific feature, but rather a proposed standard for managing async data that will be included in future javascript versions (hopefully)
- open up a continuous channel of communication in which multiple values of data can be emitted over time
- are a pattern of dealing with data by using array-like operations to parse, modify and maintain data
- Angular uses them extensively - you'll see them in the HTTP service and the event system



# RxJS



**Being Reactive, my friend**

<http://reactivex.io>

<http://reactivex.io/rxjs/>

# Some useful functions

# map

```
a = [1, 2, 3, 4]
```

```
► (4) [1, 2, 3, 4]
```

```
a.map( x => 3*x )
```

```
► (4) [3, 6, 9, 12]
```

```
a
```

```
► (4) [1, 2, 3, 4]
```

# filter

```
a = [1, 2, 3, 4]
```

```
► (4) [1, 2, 3, 4]
```

```
a.filter( x => x>1 )
```

```
► (3) [2, 3, 4]
```

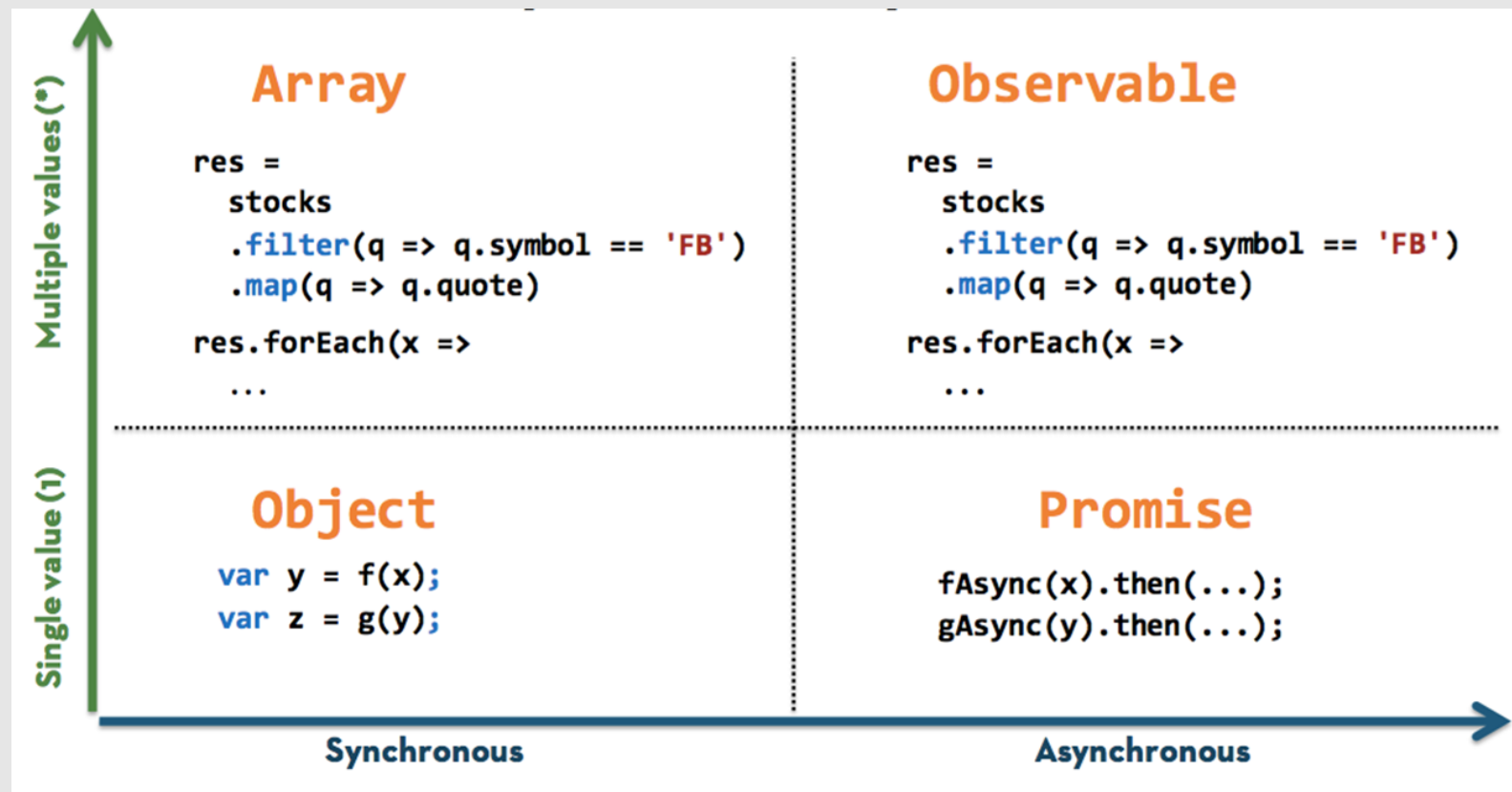
```
a
```

```
► (4) [1, 2, 3, 4]
```



# Observables

Observable === Collection + Time



<http://jonalvarezz.github.io/presentation-reactive-programming/#29>

# Observables can model

- events
- async server requests
- animations

# Adapt Push APIs to Observable

DOM Events

Websockets

Server-sent Events

Node Streams

Service Workers

jQuery Events

XMLHttpRequest

setInterval

→ Observable



# promises vs observables

## Promises

- Handles a single event when an *async* operation completes or fails
- Returns a single value
- Supported in ES6

## Observables

- Handles a stream (zero or more than zero events)
- Offers the features provided by promises and more
- They are cancellable
- They have useful operators like map, reduce, retry...

# observer

```
observable.subscribe(  
  //new data  
  data => console.log(data),  
  //error  
  error => console.log(data),  
  //completed  
  console.log ("done");  
);
```

optional

optional

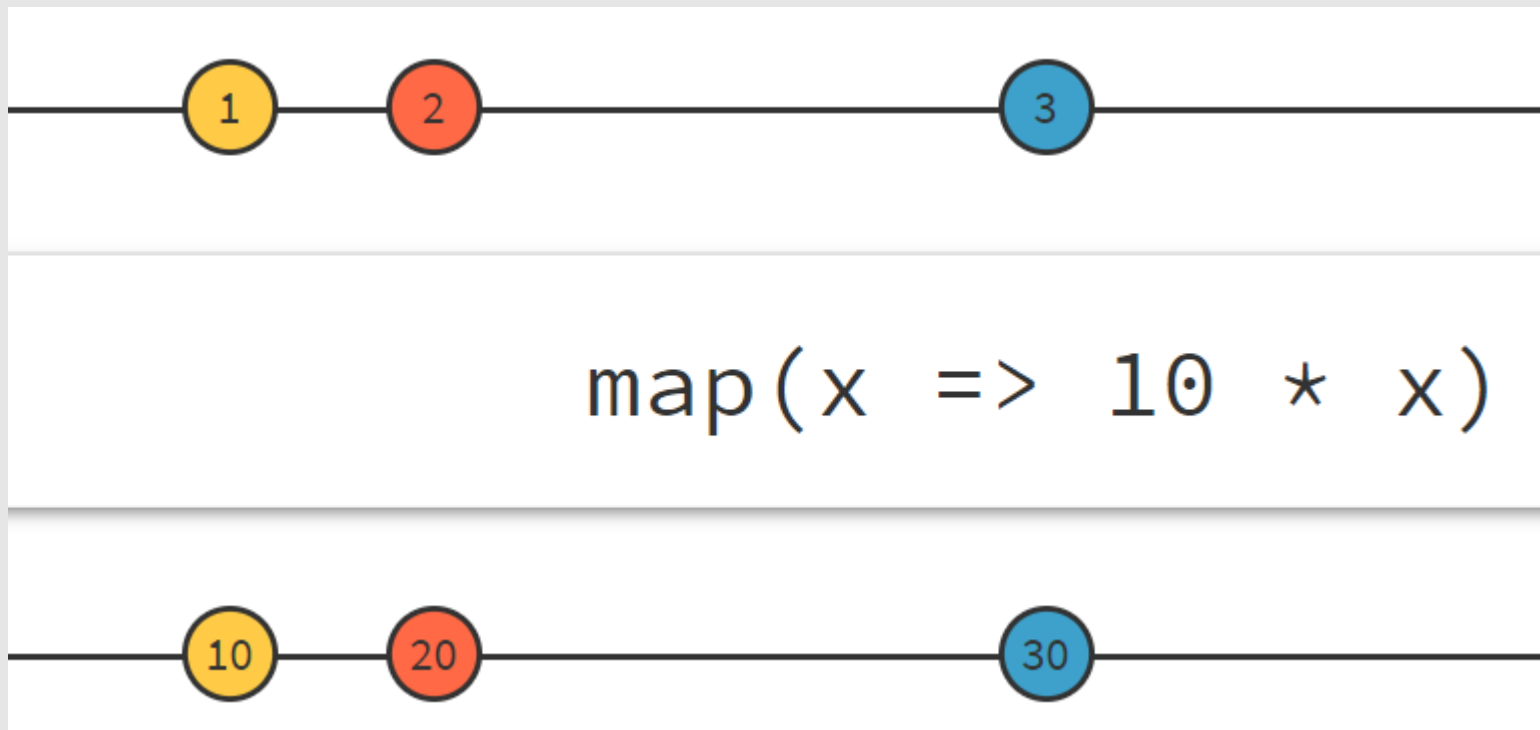
<http://reactivex.io/rxjs/class/es6/MiscJSDoc.js~ObserverDoc.html>

# Observables are cancellables

```
let subscription = observable.subscribe(  
    //observer  
);
```

```
subscription.unsubscribe
```

# Observables have cool functions



# Observables have cool functions



```
filter(x => x > 10)
```





# Observables have lots of them

<http://rxmarbles.com/>

<http://reactivex.io/rxjs/class/es6/Observable.js~Observable.html>

# Learning resources

# Learning resources

- youtube -> Netflix talk

<https://www.youtube.com/watch?v=XRYN2xt11Ek>



- more resources → <https://www.learnrxjs.io/>
- The Magic of RxJS - Natalia Tepluhina | JSHeroes 2019  
<https://www.youtube.com/watch?v=vS1-jzngpmw>

# People



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#RxJS core team, @Angular team at @Google. Formerly @Netflix. I'm also @\_jayphelps's waffles and gummies dealer. Views are my own.

<https://twitter.com/BenLesh>

# Shaping the future of digital business

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