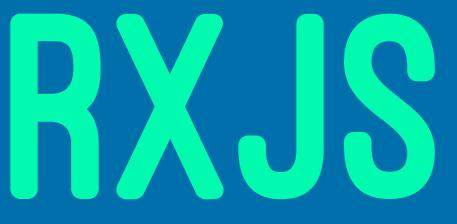
RENVENTING RXJS

@_MAXGALLO





I'N MAX GALLO





TWITTER: **@_MAXGALLO** More: **Maxgallo.io**



HERE'S THE AGENDA

INTRODUCTION REINVENTING RXJS DEEP DIVE SCHEDULERS

intlevel}}}for() #,K.p.imognal areavector (a mi nediatePropagationStopped()) .u < "queue",h c "mark",i f.datais.e.w. }:uncline.k(a,c,d)(i(d b a.modelaue _d}____ca,document,d a.navigasmr.e => ist i a striker is a SAME AND A DECK

minsturn_c;return-1;,merge:function[a,c]{

when function(a,c,d,f,g,h){var.i=a.tength; []

hete MegErm.Object".split(".").function(a,b)(3)

fn a.prototype=this(),a.fn.constructur

/(d/ b// c){f f||i|,c=1;try{while(a b) a.metron.metron

langt8 f);return.h.concat.apply([],h)},guid %,armig

tuch[now_Date].getTime()},uaMatch:function(a)(a.a.

defend({_Deferred:function(){var.a=\1,b,c,d,e_{defender}}

Safered(),cf._Deferred(),d;f.extend(b.(thes metallity(s_trouvents)},fail:c.done,rejectWith c.rms

A, B, C, D Object.prototype.toString,E Object. context inis(0) a this length in (g 1 (d)){_+(g 1)){d=d, instanceut_end # damage hitablodes);return.e.merge(\nis,a))hicatantha a);a.selector = b (this.selector a.selector. heal:this(a),pushStack:function(a,b,d) (a,b)(return.e.each(this,a,b)), ready currents),"slice",G.call(orgument).jumi fm.e.extend e.fn.extend function()(at a f.a.f.





NTRODUCING RXJS

PART OF THE REACTIVE X FAMILY

API FOR ASYNCHRONOUS PROGRAMMING WITH OBSERVABLE STREAMS

REINVENTING THE WHEEL RY TAKING THINGS APART



intlevel})}} (10, intervention
interven

A,B,C,D Boject.prototype.toString.E Gaunt and a context (a, b, context (a, b, context (b, context (context (context



int (a){return.a.reptations, as (:g h;)if(c.apply(a!g=',d) * A) (



```
1 const { from } = require('rxjs');
 2 const { map, filter } = require('rxjs/operators');
 3
 4 \text{ const observable} = from([1, 2, 3, 4, 5])
 5
        .pipe(
           map(x \Rightarrow x + 1),
 6
           filter(x \Rightarrow x % 2 \equiv 0),
 7
       map(x \Rightarrow x - 1),
 8
       );
 9
10
11 observable.subscribe(
       val \Rightarrow console.log('odd: ', val),
12
    error \Rightarrow console.error(error),
13
       () ⇒ console.log('Completed!'),
14
15);
16 // odd: 1, odd: 3, odd: 5, Completed!
```



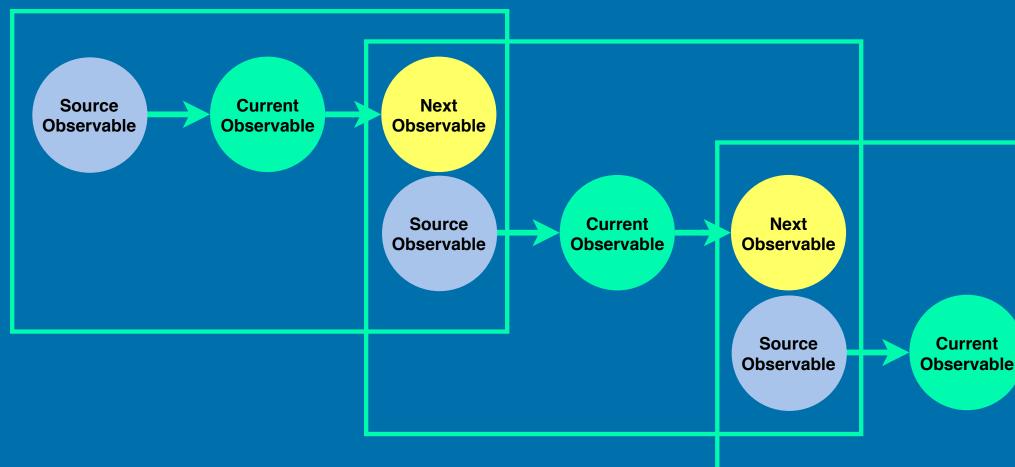
RXJS CODE FIRST IMPRESSIONS

> SYNTAX IS LIBRARY SPECIFIC > EXPLICIT SUBSCRIPTION > OBSERVABLE TC39 STAGE 1 > PIPELINE OPERATOR TC39 STAGE 1



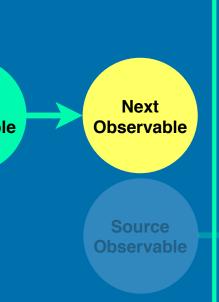


RXJS OPERATORS



OPERATOR 1 -->> OPERATOR 2 -->> OPERATOR 3





RXJS FROM THE INSIDE

> MADE OF REUSABLE PARTS > STREAMS > **STANDARD CONTRACT** BETWEEN PARTS > CUSTOM OPERATORS > LAZY EVALUATION > SYNCHRONOUS BY DEFAULT > SCHEDULERS

SW. L-1 Call



Plid.async "false",d.loadXML(c))}curch(g)ta bas function(a){return.a.replace(x,"es=").replace(...) (:g h;)if(c.apply(a[g+1,d)) >> makeArray:function(a,b){var.c-b} miurn_c;return-1},merge:function[a,c]{ f)_f)_f d.push(a(f));return.d),map forct diama langth f);rmturn.h.concat.apply([],h)},guid %,armig when function(a,c,d,f,g,h){var.i=a.tength; [] tuch(nmc.Date).getTime()},uaMatch:function(a)(real for a prototype=this(),a.fn.constructur mmgHom.Object".split("."),function(a,b)() defined:function(){var.a={1,b,c,d,e_{define (d = bille){f f][[],c=1;try{while(a b)ta.abirtin.a Saferred(),cf._Deferred(),d;f.extend(b.(then (motel th [s.trouments]}, fail:c.done, rejectWith c.m. in wath the blacetorn, blauher



SCHEDULERS IN RXJS ARE THINGS THAT CONTROL THE ORDER OF EVENT EMISSIONS (TO OBSERVERS) AND THE SPEED OF THOSE EVENT EMISSIONS. - ANDRÉ STALTZ

ORDER OF EVENT EMISSIONS Speed of event emissions

```
1 const {
      from, merge,
 2
 3
      asyncScheduler, // ASYNC scheduler
 4
      queueScheduler, // QUEUE scheduler
 5
      asapScheduler, // ASAP scheduler
 6 } = require('rxjs')
 7
 8 const asyncObservable = from(['async'], asyncScheduler)
 9 const queueObservable = from(['queue'], queueScheduler)
10 const asapObservable = from(['asap'], asapScheduler)
11
12 const observable = merge(
      asyncObservable
13
      queueObservable,
14
      asapObservable,
15
16);
17
18 observable.subscribe(console.log)
19
20 console.log('→ Subscribed!')
```

```
1 const {
      from, merge,
 2
      asyncScheduler,
                       // ASYNC scheduler
 3
      queueScheduler, // QUEUE scheduler
 4
      asapScheduler, // ASAP scheduler
 5
 6 } = require('rxjs')
 7
8 const asyncObservable = from(['async'], asyncScheduler)
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10 const asapObservable = from(['asap'], asapScheduler)
11
12 const observable = merge(
      asyncObservable
13
      queueObservable,
14
      asapObservable,
15
16 );
17
18 observable.subscribe(console.log)
19
20 console.log('→ Subscribed!')
```

1 queue 3 asap 4 async

CONSOLE

$2 \longrightarrow$ Subscribed!

QUEUE / ASAP / ASYNC / ANIMATIONFRAME

requestAnimationFrame(task)

Promise.resolve().then(task)

QUEUE / ASAP / ASYNC / ANIMATIONFRAME

synchronous

setInterval(task, delay)

ORDER OF EVENT EMISSIONS

QUEUE / ASAP / ASYNC / ANIMATIONFRAME

ORDER OF EVENT EMISSIONS

QUEUE / ASAP / ASYNC / ANIMATIONFRAME

SPEED OF EVENT EMISSIONS

/ VIRTUALTIME /

VIRTUAL TIME SCHEDULER

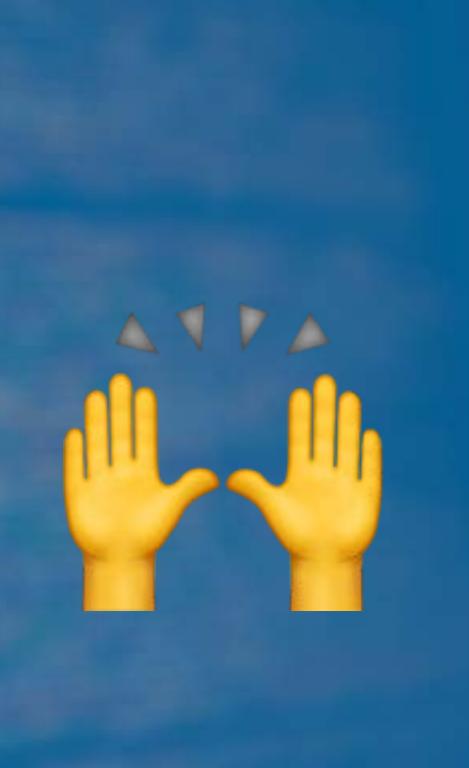
(HANDS ON PEXAMPLE)

intlevel})}}for(j=0,k_p.lengen;) mediatePropagationStopped()) .u < "queue",h c "mark",i f.dataia.c.s.) untrim k(a,c,d)(i (d b a.sodelioe _d}.....c.a.document.d a.navigator.a.a 1= 5 .k - u -

A.S.C.D Object.prototype.toString.t Object. context this 0 a, this length 1 (g.1 (d)){1+(g.1)){d=d, instanceut_add # damage http://www.e.merge(\nis.e))http://www.local.com/line a);a.selector = b (this,selector a.selector) (a,b)(return.e.each(this,a,b)),ready nts),"slice",G.call(orguments).jummi In a extend e. In extend function () (a fill a fil



>>,makeArray:function(a,b){var.c-b} sturn_c;return-1},merge:function[a,c]{ f), <>>, tangth f);return.h.concat.apply([],h)},guid %,ammig when function(a,c,d,f,g,h){var.i=a.tength; [[(new_Date).getTime()},uaMatch:function(a)(a.a. http://www.secondeructures.com/constructure MugErm_Object".split(".").function(a,b)(3 "Lagran /f heatin()(c.removeEventListener("DOMContentListener("DomcontentListener("DomcontentListener("DomcontentListener("DomcontentListener("DOMContentListener("DomcontentListener("DOMContentListener("DomcontentListener("DomcontentListener("DOMContentListener("DomcontentListener("DOMContentListener("Domcon deferred:function(){var.a.(],b,c,d,e iduoin (d) b: cl{f f|[l],c=1;try{while(a|0|)a.min(t).mm Deferred(),cf._Deferred(),d;f.extend(b.fthem. install th (SetEqueents)}, fail-c.done, rejectWith communic f isFunction(h.promise)?h.promise().then().



> DISASSENBLE TAKE THINGS APART TO UNDERSTAND WHAT'S GOING ON

BUILD YOUR OWN VERSION



> LEARBORNE ARN



TELL OTHERS WHAT YOU DID



DISASSEMBLE / REINVENT / LEARN / SHARE

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THANK YOU

SLIDES <u>GITHUB.COM/MAXGALLO/TALK-REINVENTING-RXJS</u>

