

Improving **User** and  
**Developer**  
Experience of the

# Alertmanager UI

By *@mxinden*



# Max Inden

Test-Engineer at CoreOS

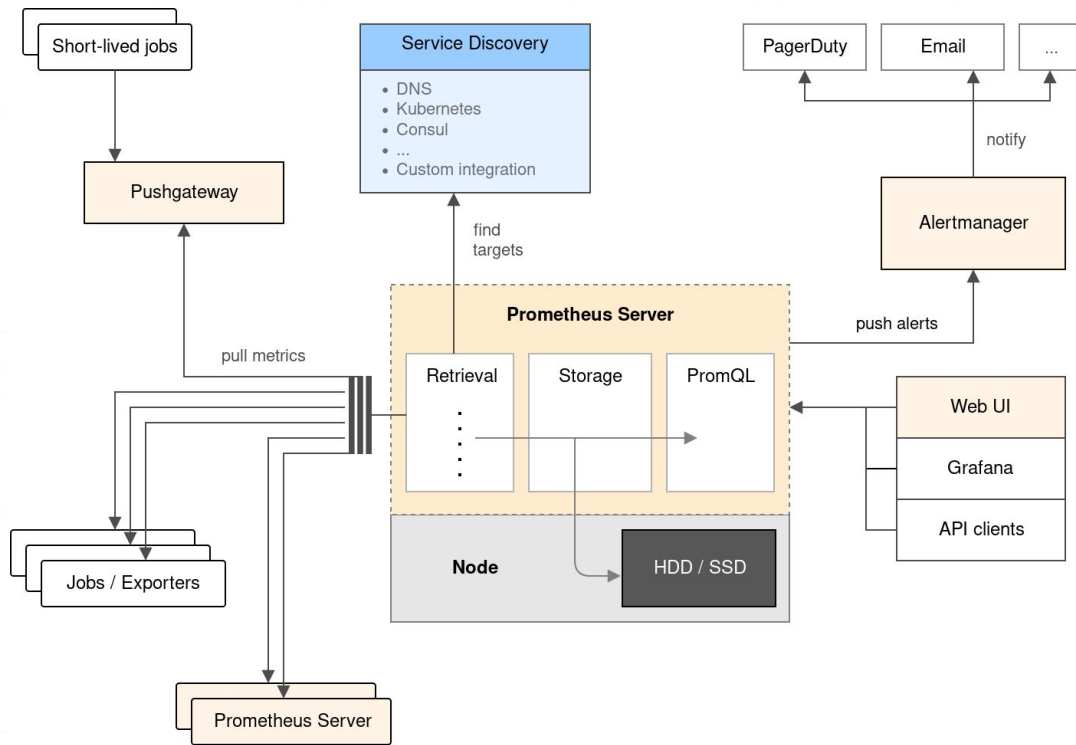
  @mxinden

 Max.Inden@CoreOS.com

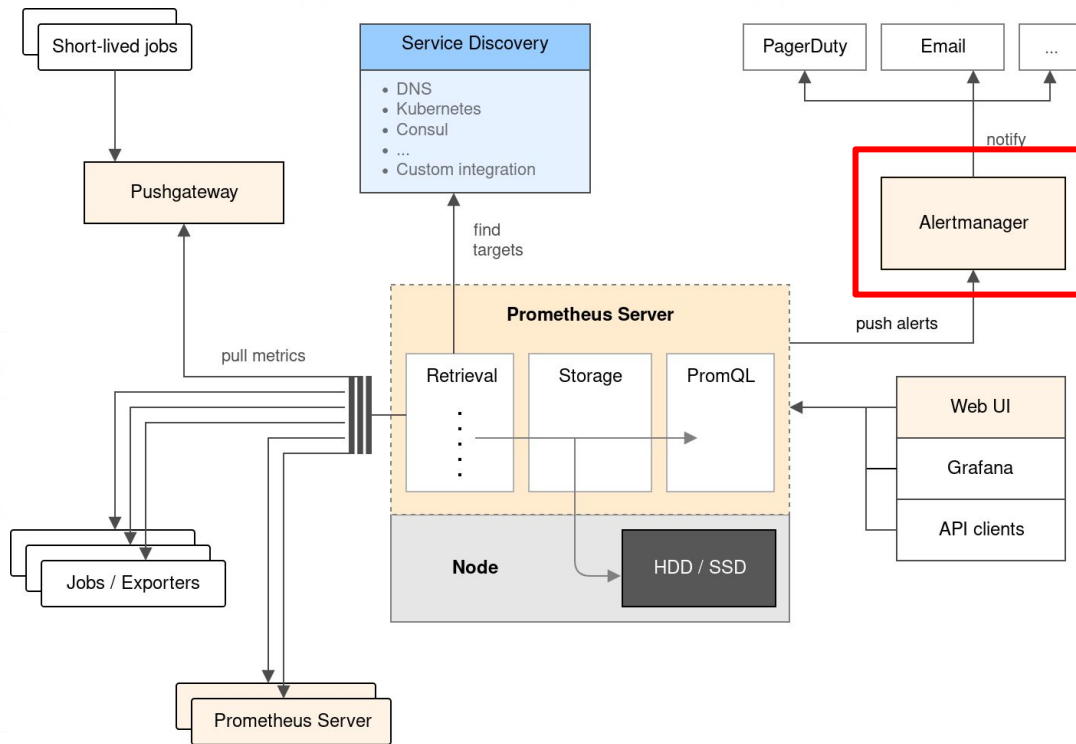


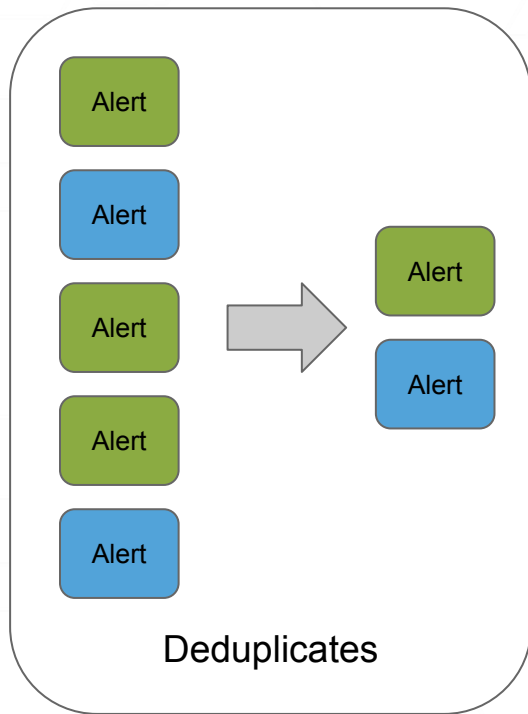
# Alertmanager

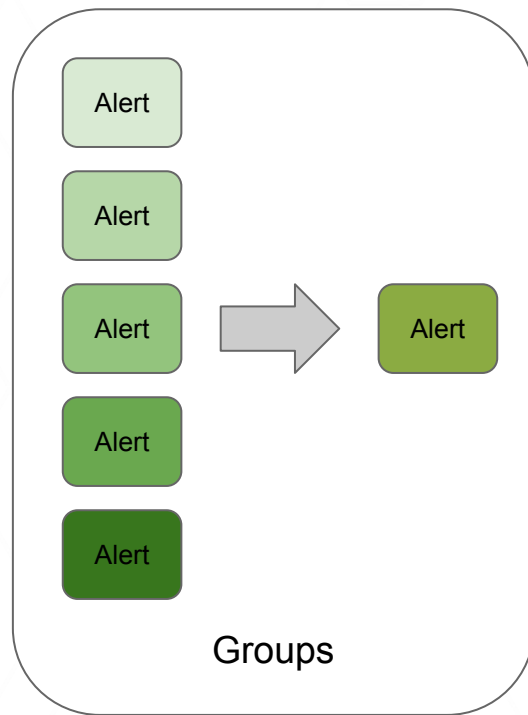
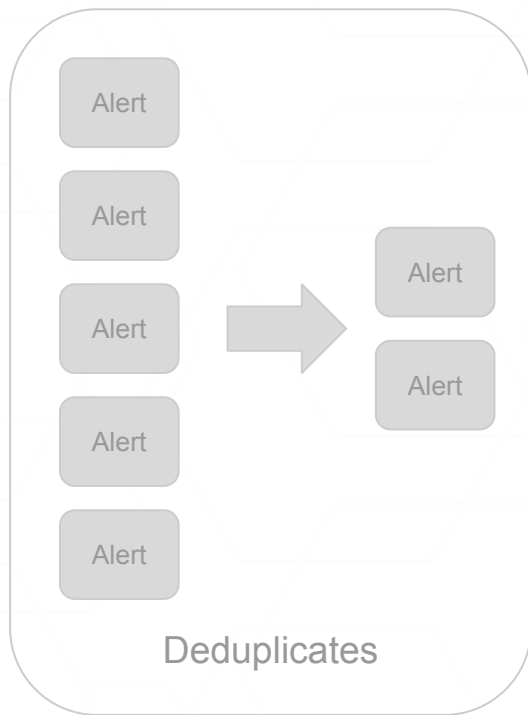
# Prometheus Ecosystem

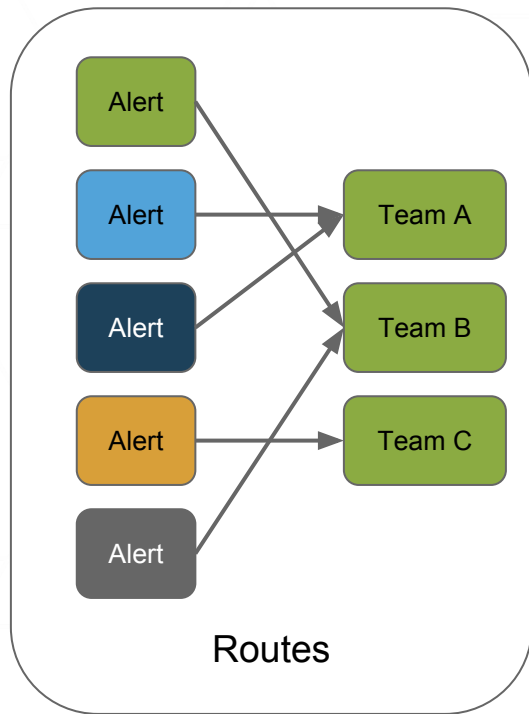
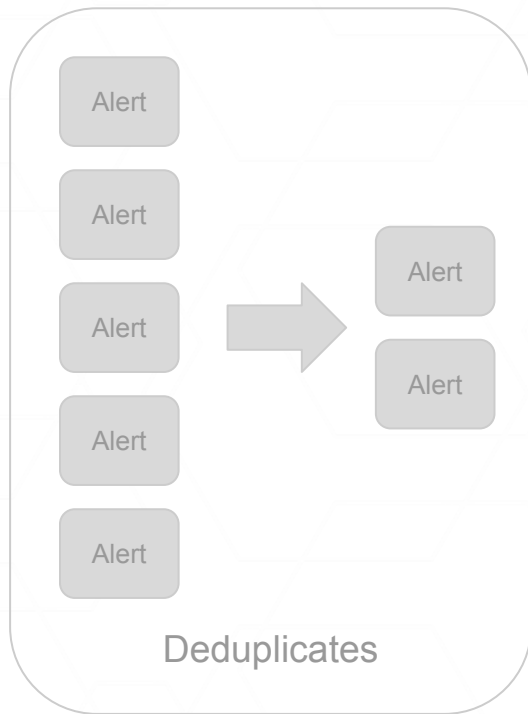


# Prometheus Ecosystem

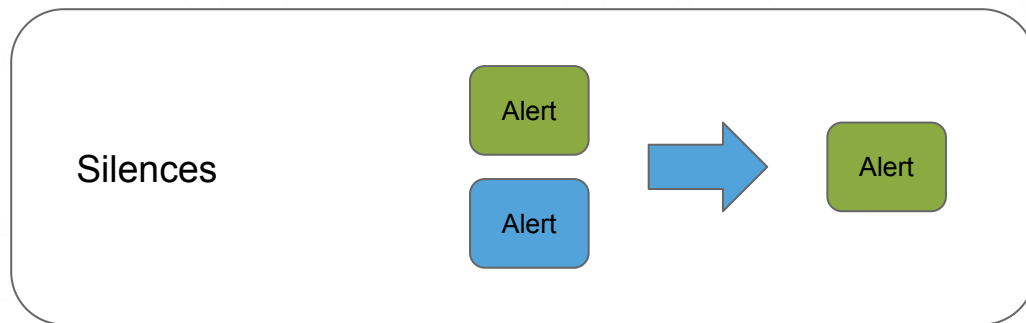
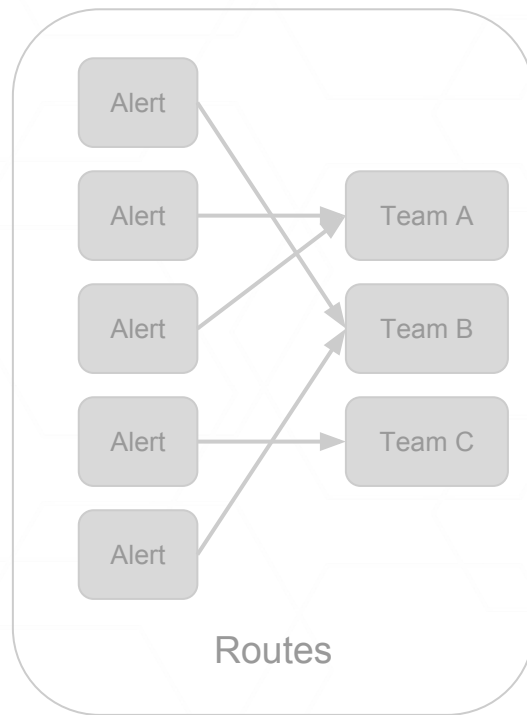
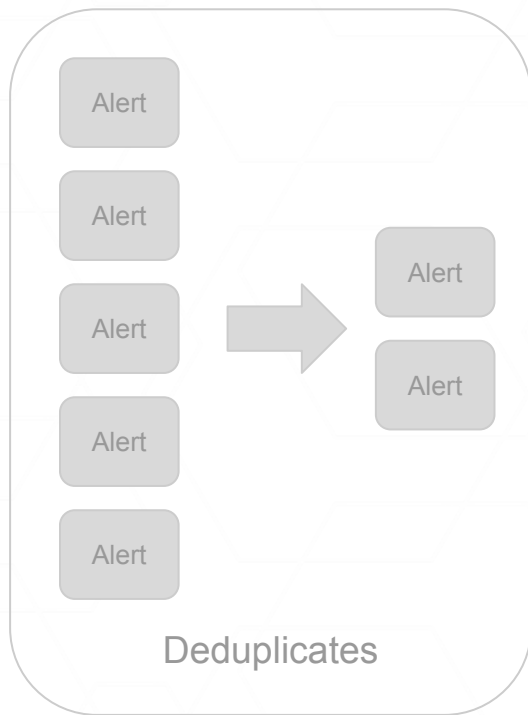


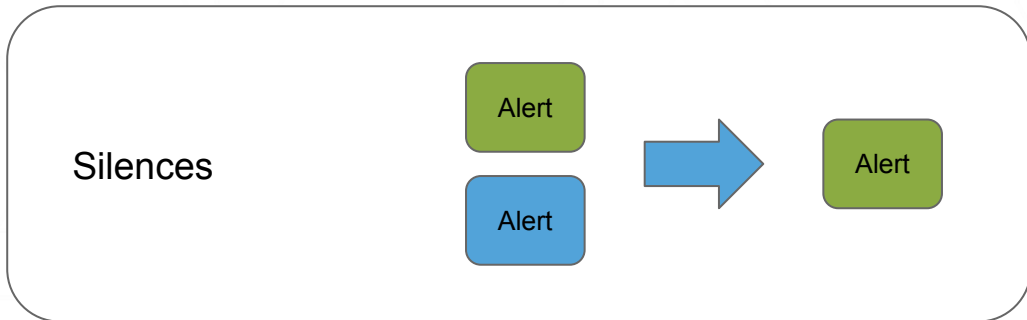
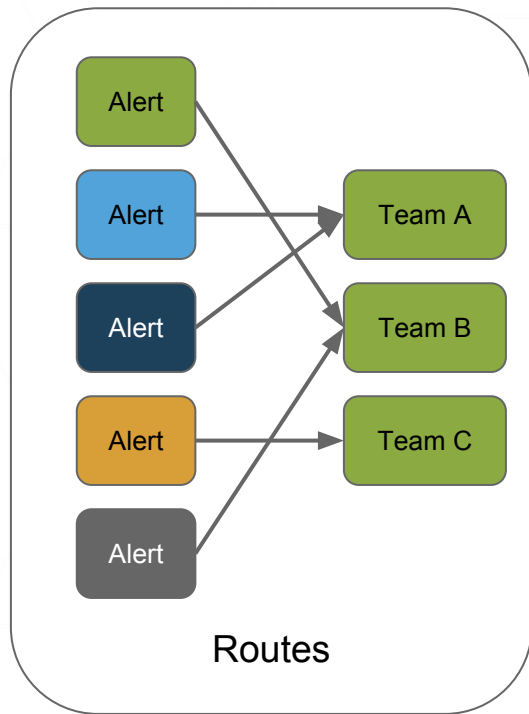
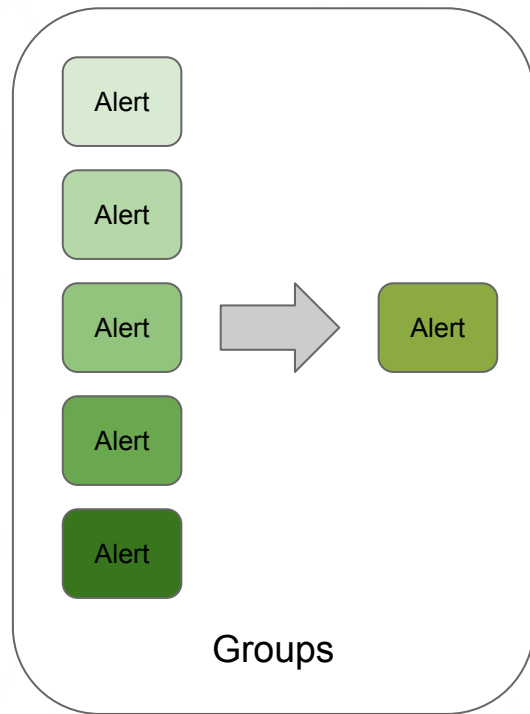
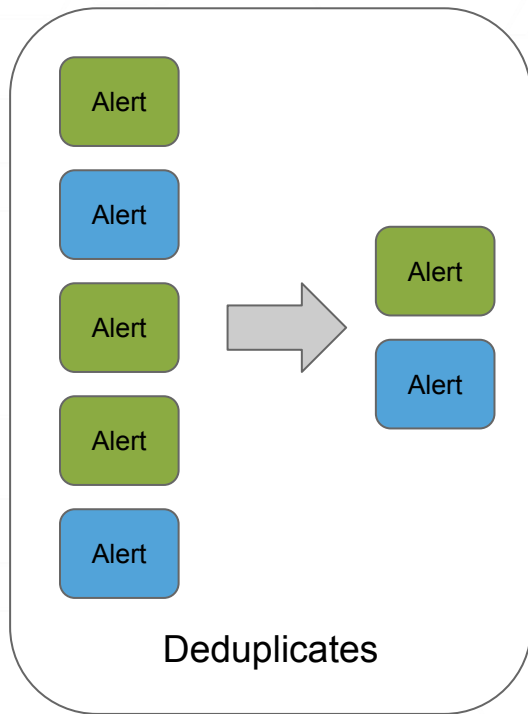












# What do we expect from a UI?

1. Display Alerts
2. CRUD Silences
3. View Status

# Previous UI

**Alertmanager**

SILENCESALERTSSTATUS

FILTER

Receivers

webhook

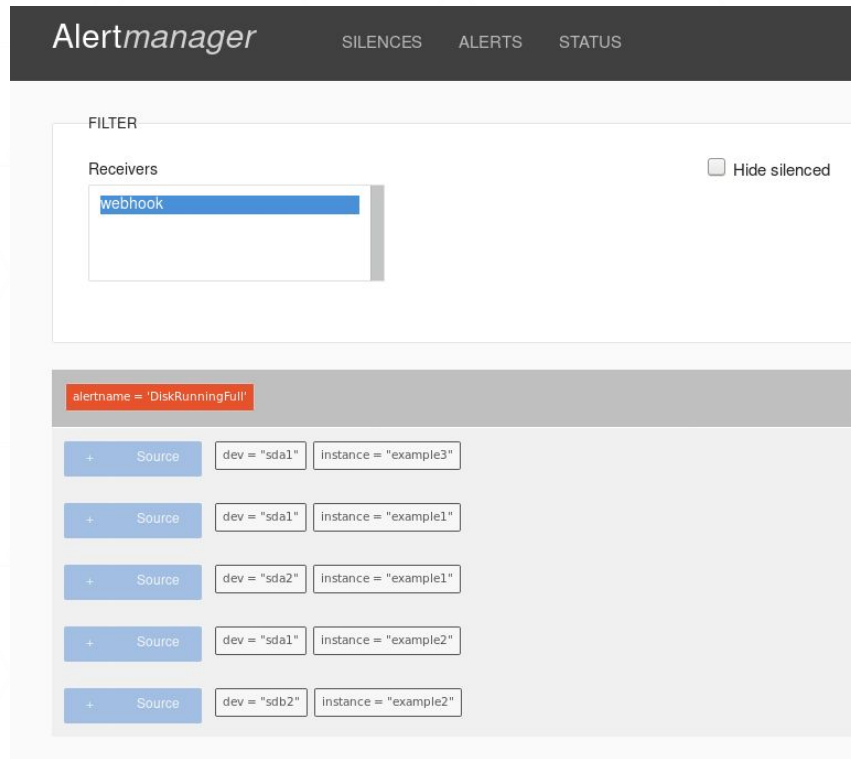
☐ Hide silenced

alertname = "DiskRunningFull"

<div><div>+</div>Source</div>	<div>dev = "sda1"</div>	<div>instance = "example3"</div>	<div>Since Today at 8:06 PM</div>	<div>SILENCE</div>
<div><div>+</div>Source</div>	<div>dev = "sda1"</div>	<div>instance = "example1"</div>	<div>Since Today at 8:06 PM</div>	<div>SILENCE</div>
<div><div>+</div>Source</div>	<div>dev = "sda2"</div>	<div>instance = "example1"</div>	<div>Since Today at 8:06 PM</div>	<div>SILENCE</div>
<div><div>+</div>Source</div>	<div>dev = "sda1"</div>	<div>instance = "example2"</div>	<div>Since Today at 8:06 PM</div>	<div>SILENCE</div>
<div><div>+</div>Source</div>	<div>dev = "sdb2"</div>	<div>instance = "example2"</div>	<div>Since Today at 8:06 PM</div>	<div>SILENCE</div>

# Previous UI

- Missing features (e.g. **filtering, searching**)
- Improvable user experience
- Little amount of contributions



# Two ways to go

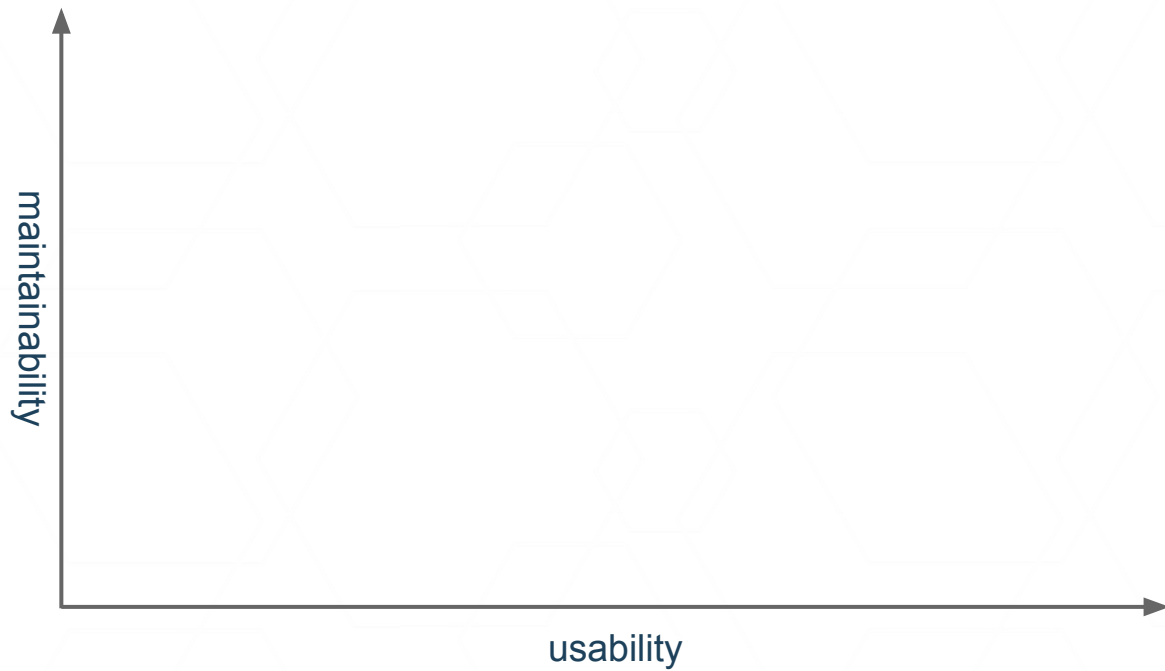
Improve

Rewrite

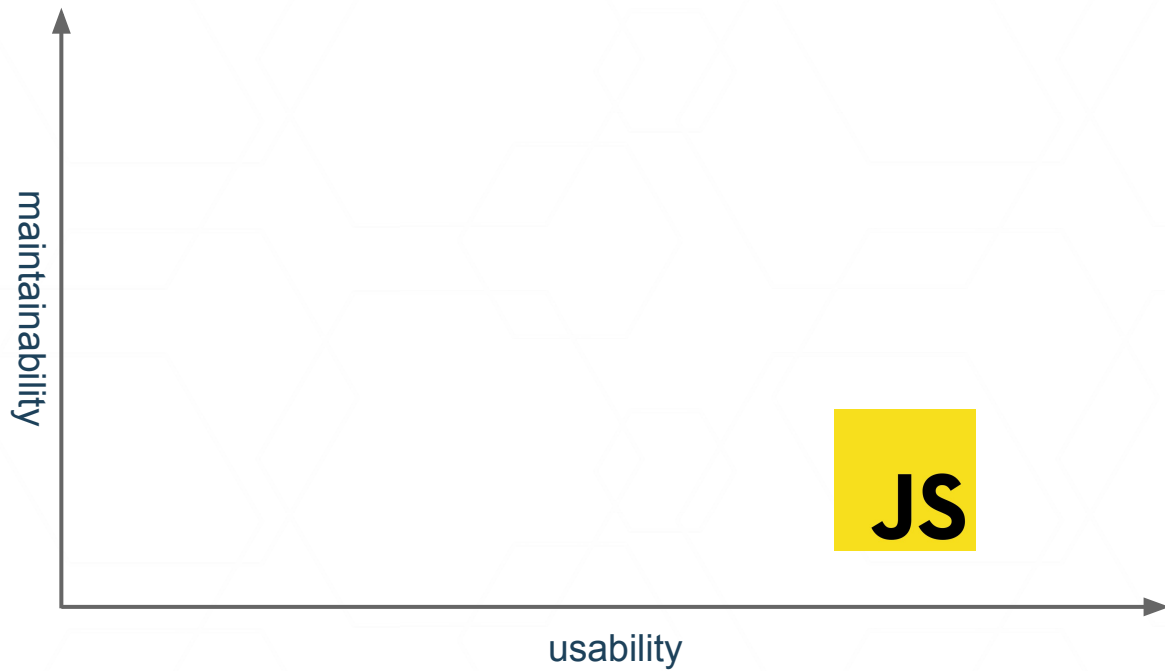
# What is Elm?



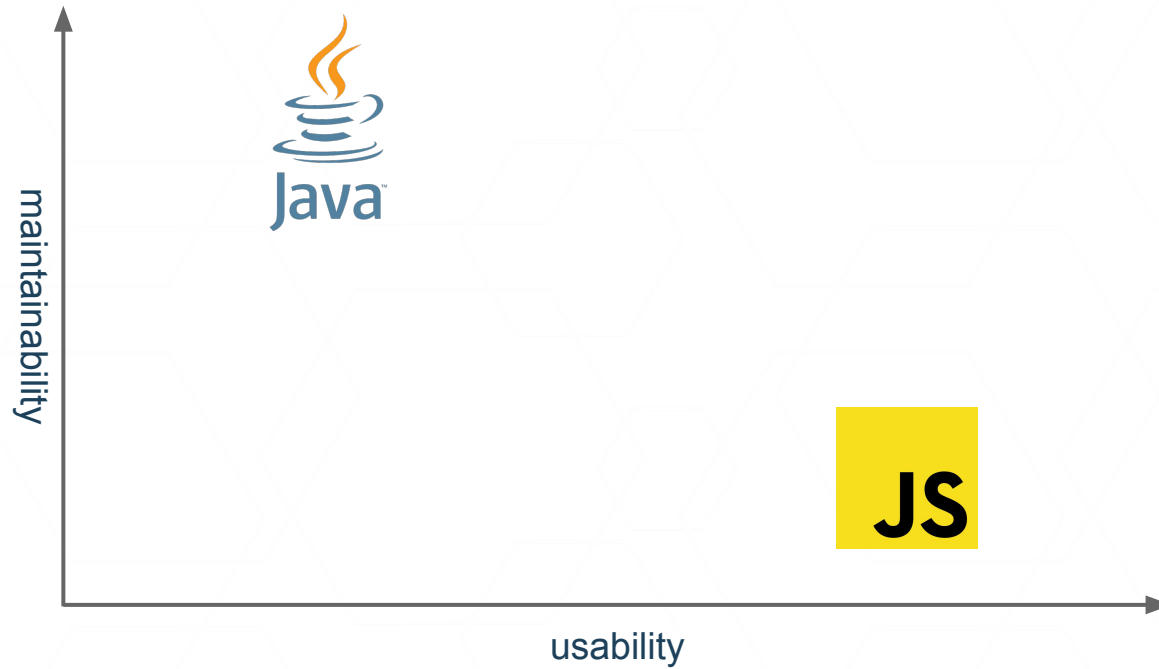
- Functional Language
- Compiles to JS
- by Evan Czaplicki













# Why Elm?




- Static Types + Type Inference
- Immutability
- Pure functions
- Virtual DOM
- No meta programming or magic

# Why Elm?




- High maintainability
- High developer usability
- No runtime exceptions
- Enforced semantic versioning

 <https://my-elm-app.io/>

-

0

+

 <https://my-elm-app.io/>

-

0

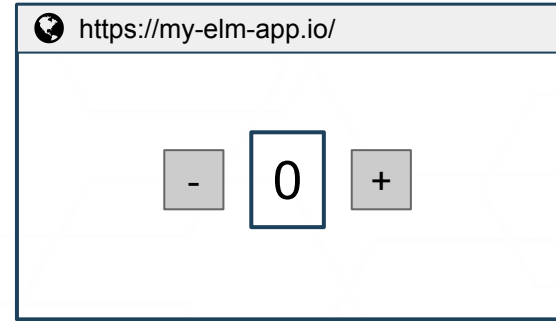
+

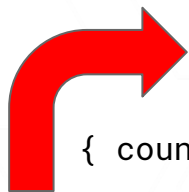


View

Model

Update





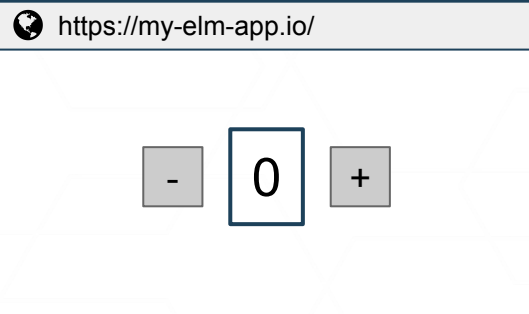
`{ counter: 0 }`

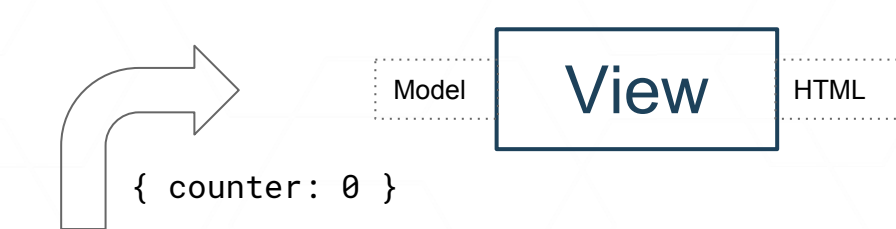
Model

View

Model

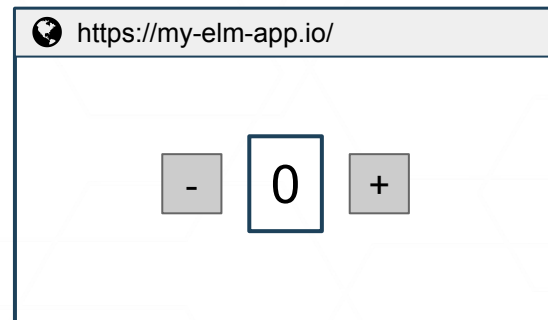
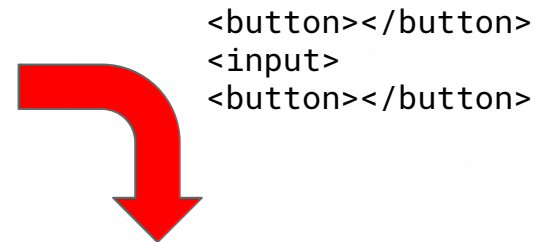
Update

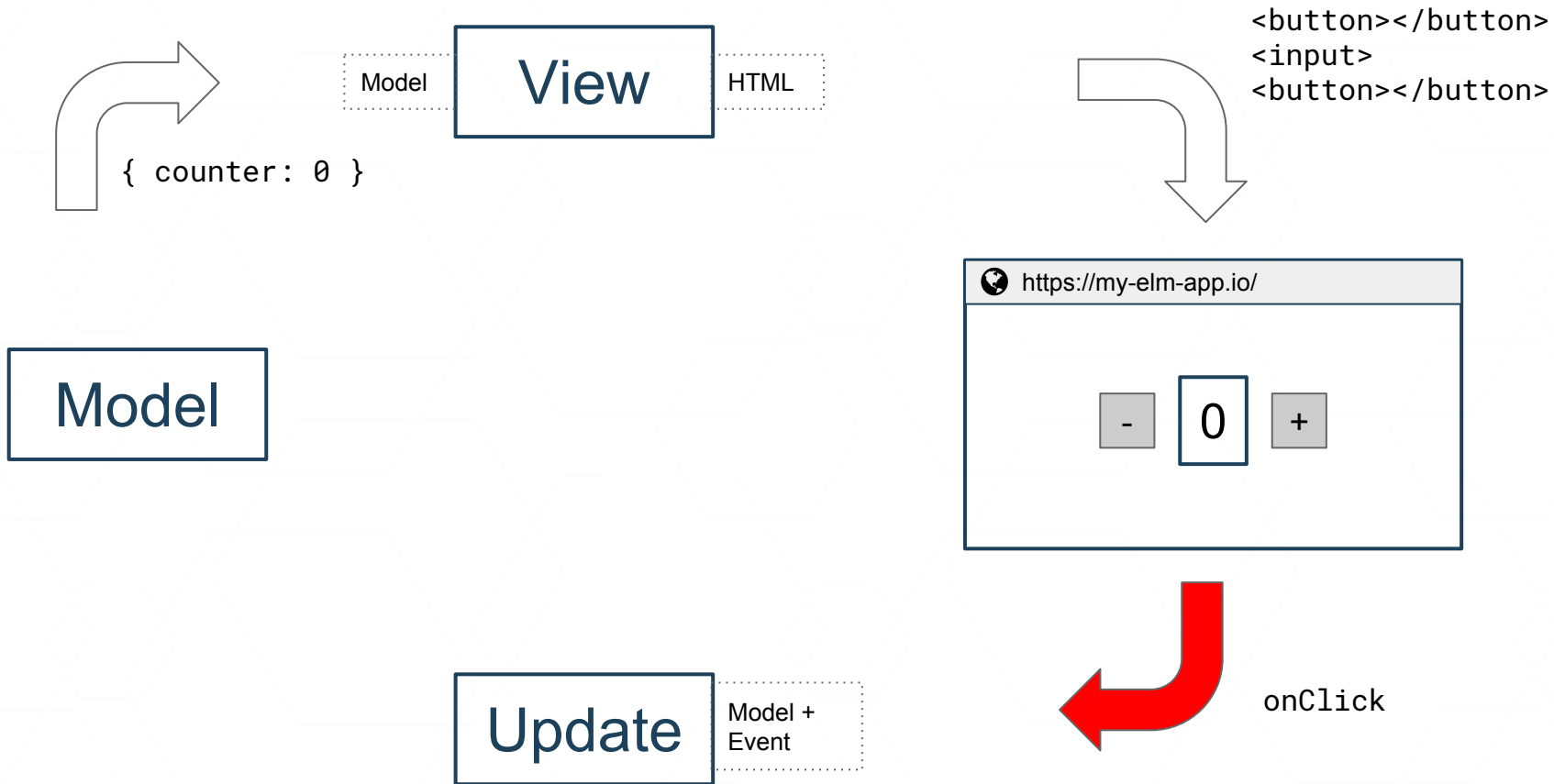


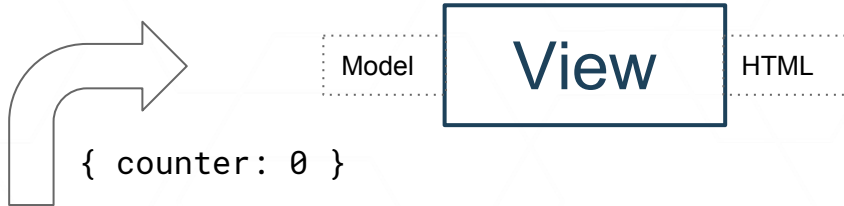


Model

Update

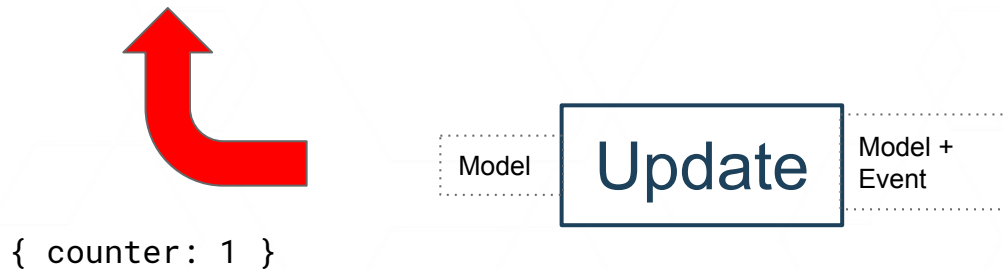
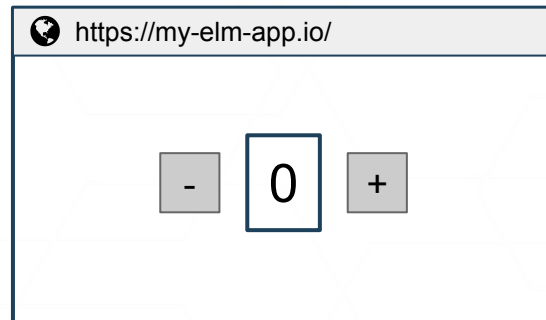




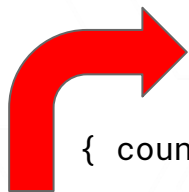


**Model**

`<button></button>`  
`<input>`  
`<button></button>`



`onClick`



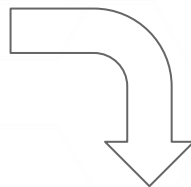
{ counter: 1 }

Model

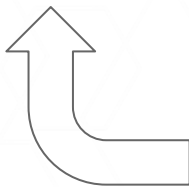
View

HTML

```
<button></button>  
<input>  
<button></button>
```



Model

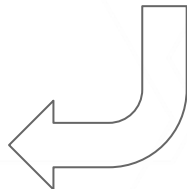
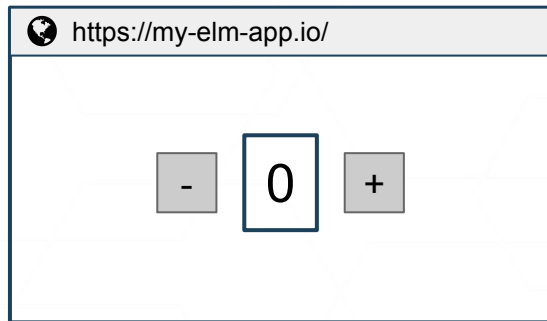


{ counter: 1 }

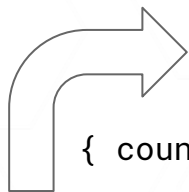
Model

Update

Model +  
Event



onClick

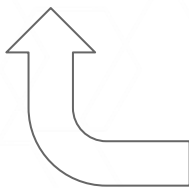


{ counter: 1 }

Model

View

HTML

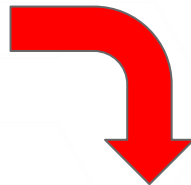


{ counter: 1 }

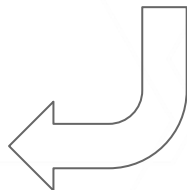
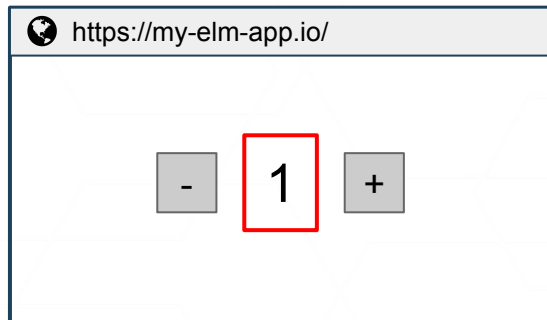
Model

Update

Model +  
Event



```
<button></button>  
<input>  
<button></button>
```



onClick

```
-- MODEL
```

```
type alias Model = Int
```

```
model : Model
```

```
model =
```

```
0
```



-- VIEW

```
view : Model -> Html Msg
```

```
view model =
```

```
  div []
```

```
    [ button [ onClick Decrement ] [ text "-" ]
```

```
      , div [] [ text (toString model) ]
```

```
      , button [ onClick Increment ] [ text "+" ]
```

```
    ]
```

-- UPDATE

```
type Msg = Increment | Decrement
```

```
update : Msg -> Model -> Model
```

```
update msg model =
```

```
  case msg of
```

```
    Increment ->
```

```
      model + 1
```

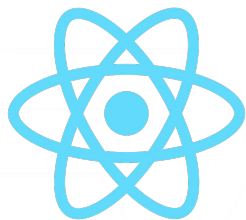
```
    Decrement ->
```

```
      model - 1
```

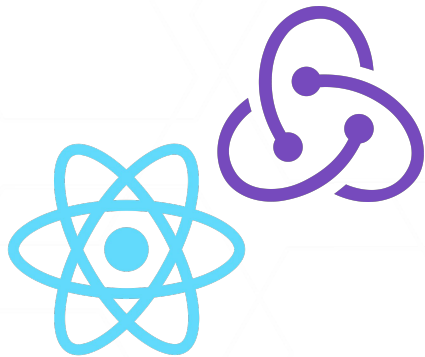
```
main =  
    Html.beginnerProgram  
        { model = model  
          , view = view  
          , update = update }
```

# Tooling / Ecosystem

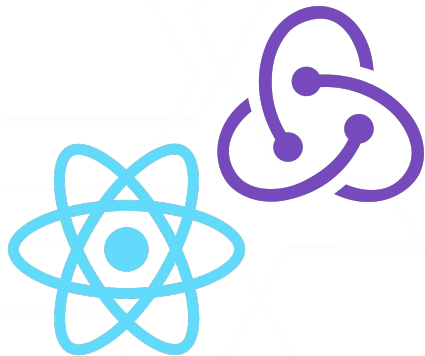
# Tooling / Ecosystem



# Tooling / Ecosystem

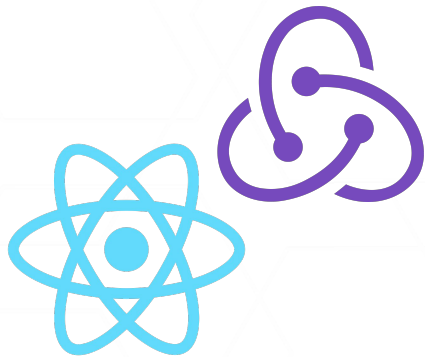


# Tooling / Ecosystem



**IMMUTABLE**

# Tooling / Ecosystem



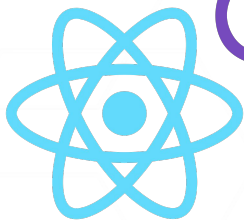
**IMMUTABLE**

flow



# Tooling / Ecosystem

*BABEL*

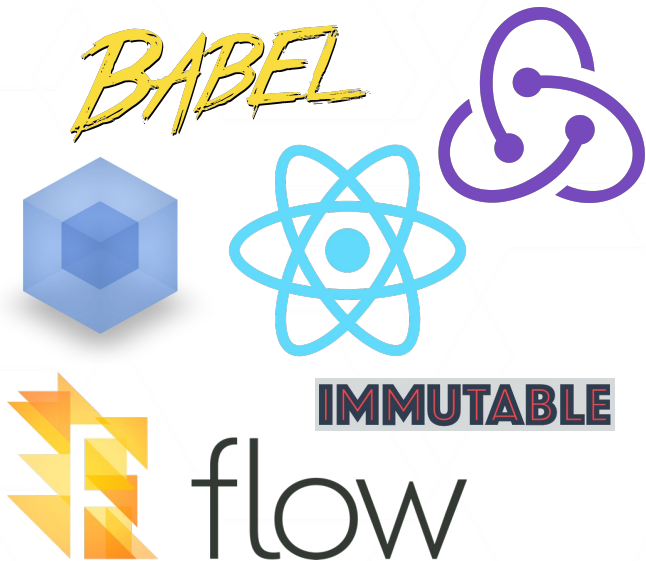


**IMMUTABLE**

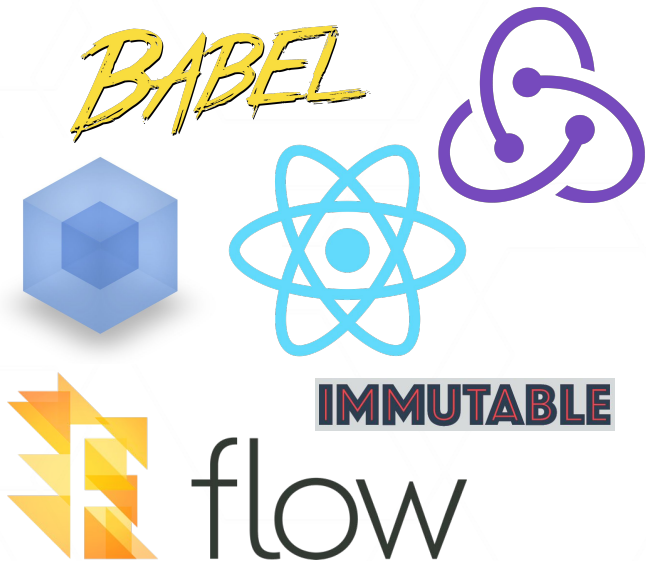


flow

# Tooling / Ecosystem



# Tooling / Ecosystem



# Compiler - elm-make

# Compiler - elm-make

JS: Uncaught TypeError: undefined  
is not a function

# Compiler - elm-make

Java: The method xxx is not  
defined for the type xxx

# Compiler - elm-make

```
Elm:----- NAMING ERROR ---./src/Updates.elm
```

```
Cannot find variable `List.nap`.
```

```
31|  List.nap f labels
      ^^^^^^^
```

`List` does not expose `nap`. Maybe you want one of the following?

```
List.map
List.any
```

```
commit 160a549150039a5b6da412fc5ae5cfa8d048ece5
Author: stuart nelson <stuartnelson3@gmail.com>
Date: Thu Nov 3 19:49:03 2016 +0100
```

```
initial commit
```

## Rewrite UI in Elm #789

 **Merged** mxinden merged 183 commits into `master` from `ui-rewrite` on May 15



Filter

Group

Receiver: All ☐ Show SilencedCustom matcher, e.g. `env="production"`

alertname="DiskRunningFull"



08:43:22, 2017-08-14



Info



Source



Silence

instance="example2"



dev="sdb2"



08:43:22, 2017-08-14



Source



Silence

severity="critical"



instance="example3"



dev="sda1"



08:43:22, 2017-08-14



Source



Silence

severity="warning"



instance="example3"



dev="sda1"



08:43:22, 2017-08-14



Info



Source



Silence

instance="example1"



dev="sda1"



# Review

~~front-end regression~~

~~runtime exception~~

0 to 3 active contributors

Feature parity: 90%



Nov 2016



today

**Give us feedback**

# Contribute

# **We are hiring**

**San Francisco, New York & Berlin**

**PROMETHEUS  
SYSTEMS ENGINEER**

**We are hiring**

San Francisco, New York & Berlin



# Max Inden

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