



# Utilisation de Flow dans JS

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Dev FullStack chez Fluo



1. Flow et comment ça fonctionne
2. Démonos



## 1. Flow et comment ça fonctionne

Static type checker pour JavaScript

Open source par Facebook

Écrit en Ocaml

Inférence de type basée sur l'analyse de flux des données

*“The algorithm (in its basic form) is described in Francois Pottier’s thesis”*



## 1. Flow et comment ça fonctionne

### 3 phases

- Parsing AST
- Inférence de type localement
- Merging



# 1. Flow et comment ça fonctionne

```
// @flow
```

```
const price = "10.89";  
price.toFixed(2);
```

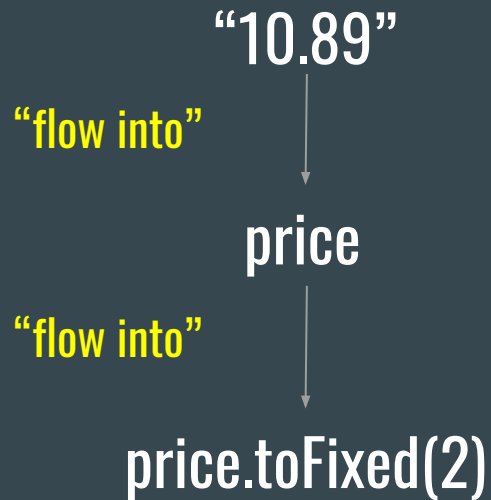
```
{  
  "type": "VariableDeclaration",  
  "declarations": [  
    {  
      "type": "VariableDeclarator",  
      "id": { "name": "price" },  
      "init": { "type": "Literal", "value": "10.89" }  
    }  
  ],  
  "kind": "const"  
}
```

```
{  
  "type": "ExpressionStatement",  
  "expression": {  
    "type": "CallExpression",  
    "callee": {  
      "type": "MemberExpression",  
      "object": { "name": "price" },  
      "property": { "name": "toFixed" }  
    },  
    "arguments": [{ "type": "Literal", "value": 2 } ]  
  }  
}
```



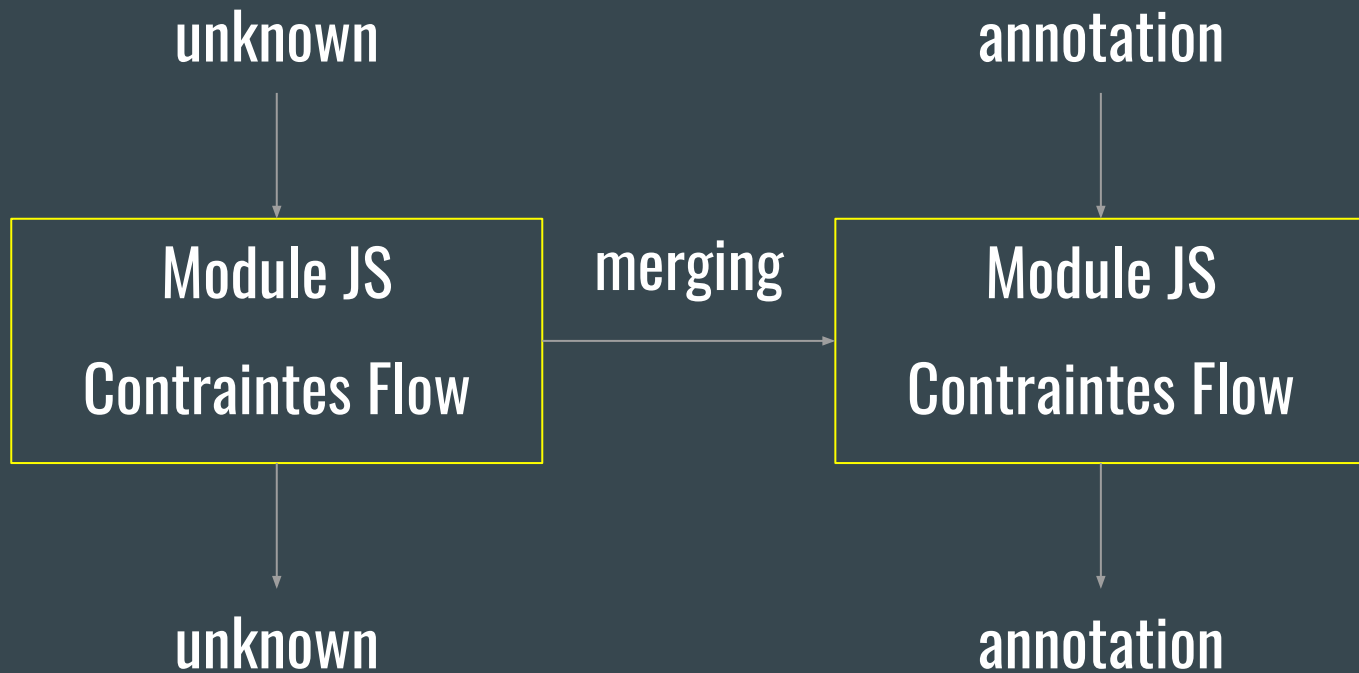
## 1. Flow et comment ça fonctionne

Règle basée sur les  
contraintes de Flow





## 1. Flow et comment ça fonctionne





## 1. Flow et comment ça fonctionne

### Soundness

Ability for a type checker to catch every single error that might happen at runtime.

This comes at the cost of sometimes catching errors that will not actually happen at runtime.





## 2. D mos

Premi re surprise

Contravariance - Covariance

mixed, any



## Sources

Jeff Morrison - A Deepdive Into Flow at react-europe 2016

<https://www.youtube.com/watch?v=VEaDsKyDxkY&t=802s>

Flow documentation

<https://flow.org/en/docs/>

Flow's best kept secret

<https://medium.com/@forbeslindesay/covariance-and-contravariance-c3b43d805611>

<https://github.com/trungfluo/flow-tips>



**Merci!**