Polyglot Software

Quels sont les outils et méthodes supports au cycle de vie des logiciels polyglottes ?

Yann Paillard, Ronan Tremoureux

Plan

01

Polyglot software ?

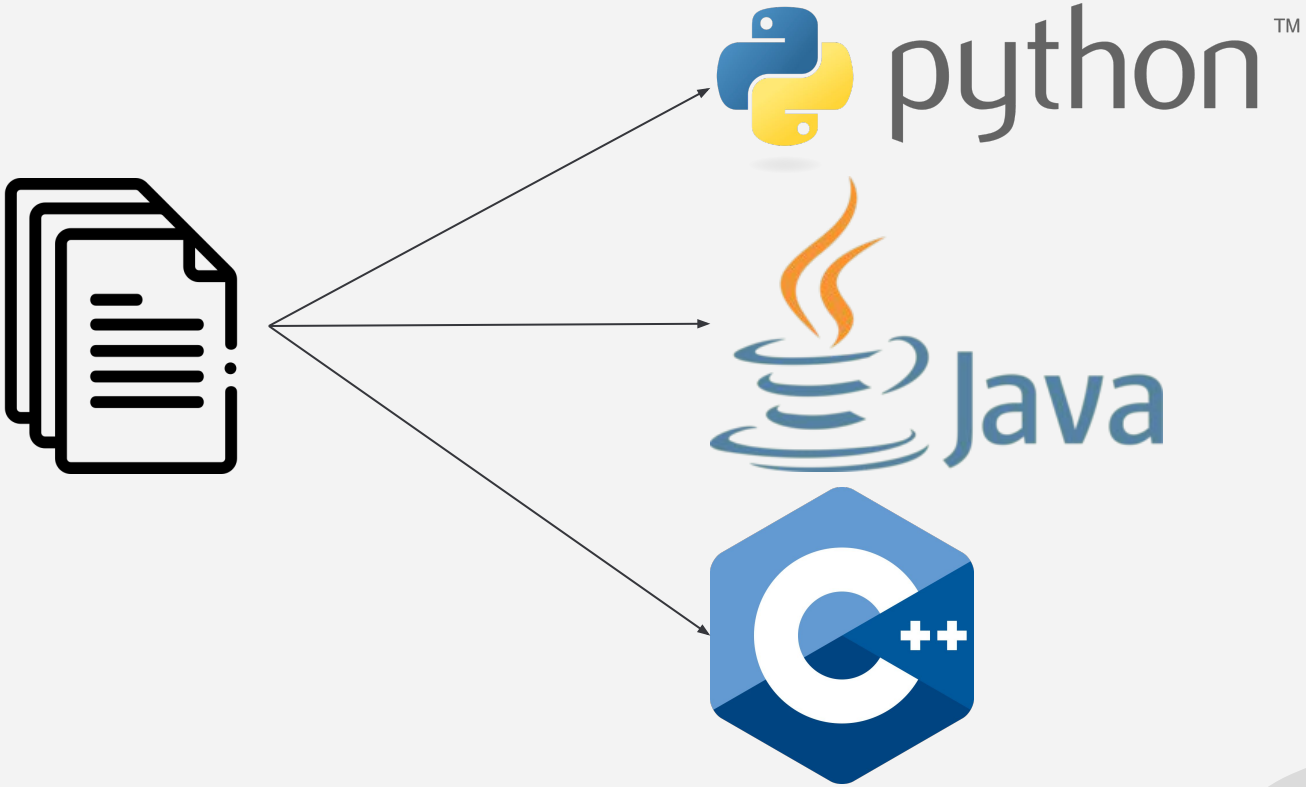
02

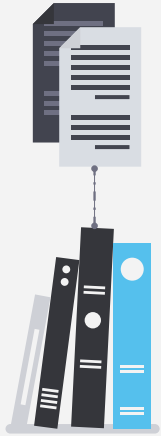
Quelques pratiques

03

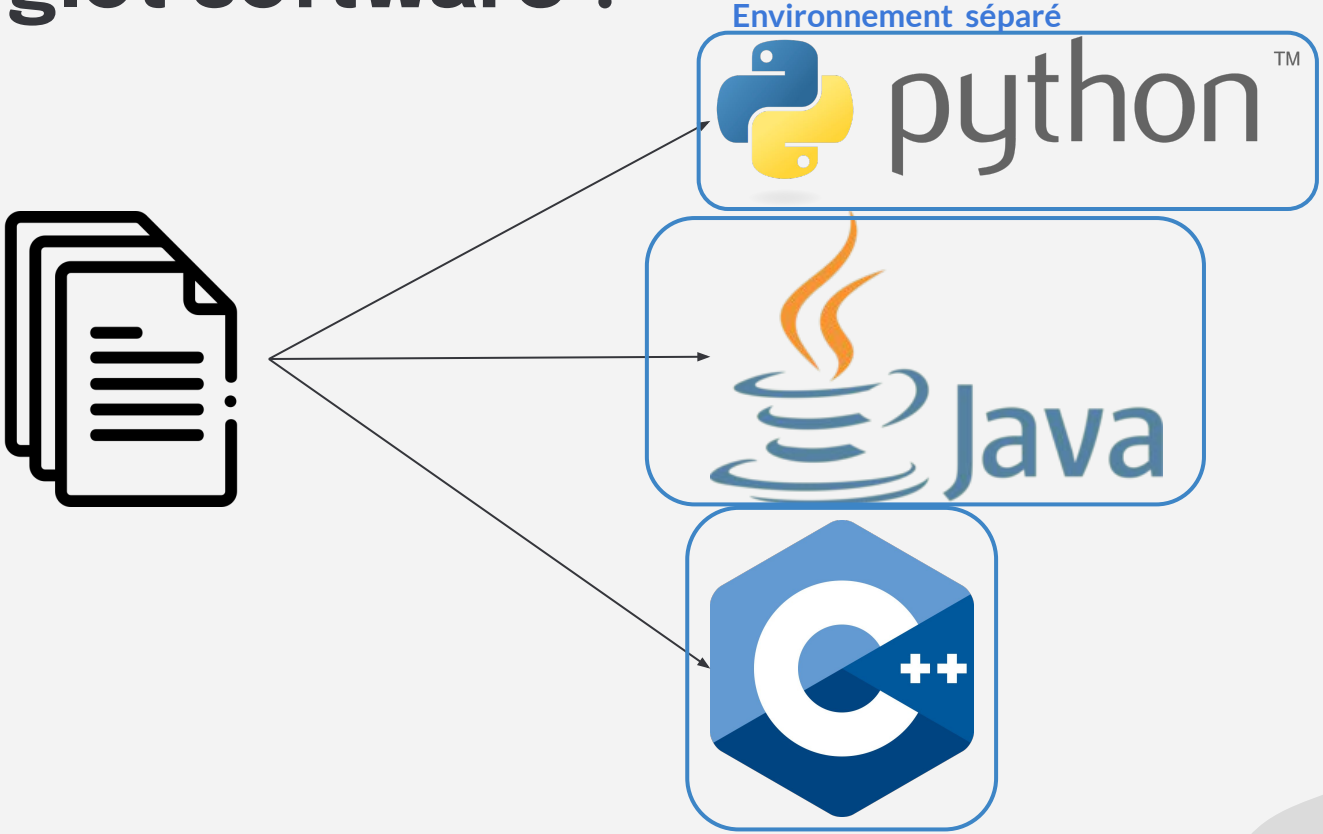
Le positif et le négatif de la pratique

Polyglot software ?

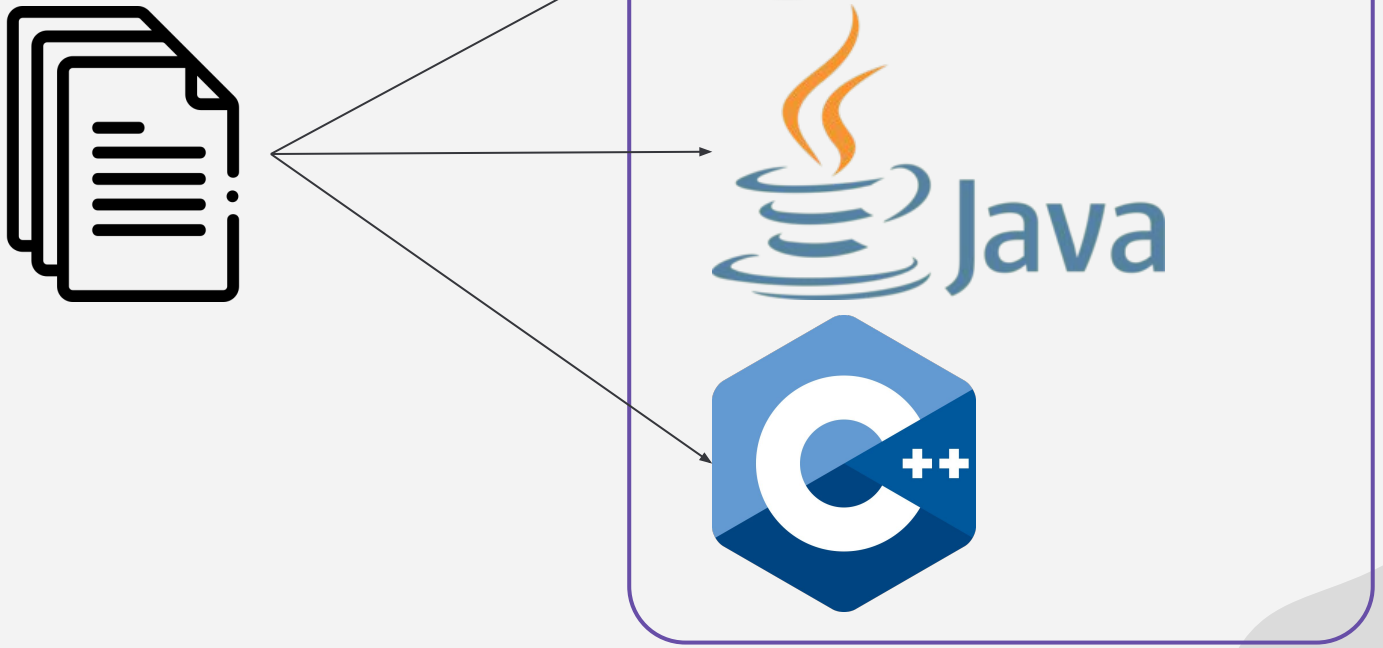




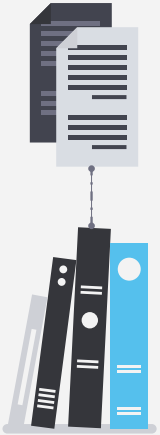
Polyglot software ?



Polyglot software ?



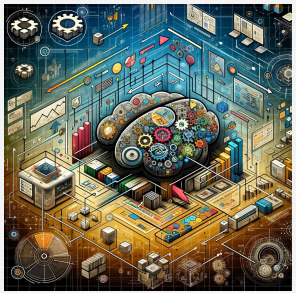
Polyglot software ?



Pourquoi ?

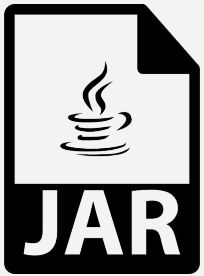
01

Plus de logique métier



02

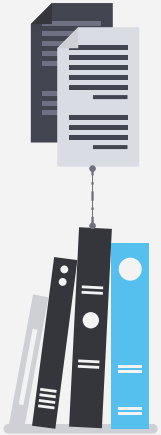
Réutilisation de code

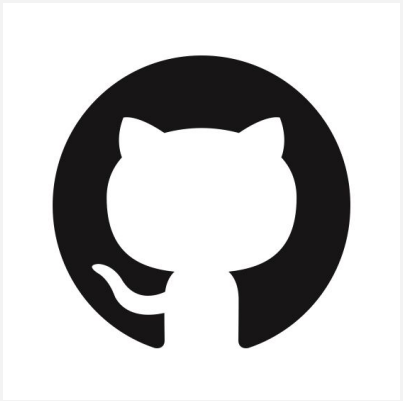


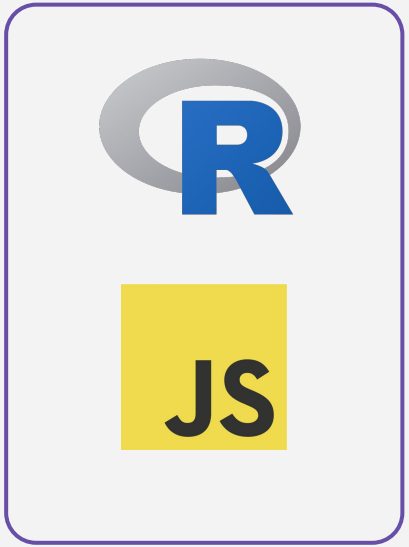
03

Expertise différente des développeurs

Exemples d’utilisation



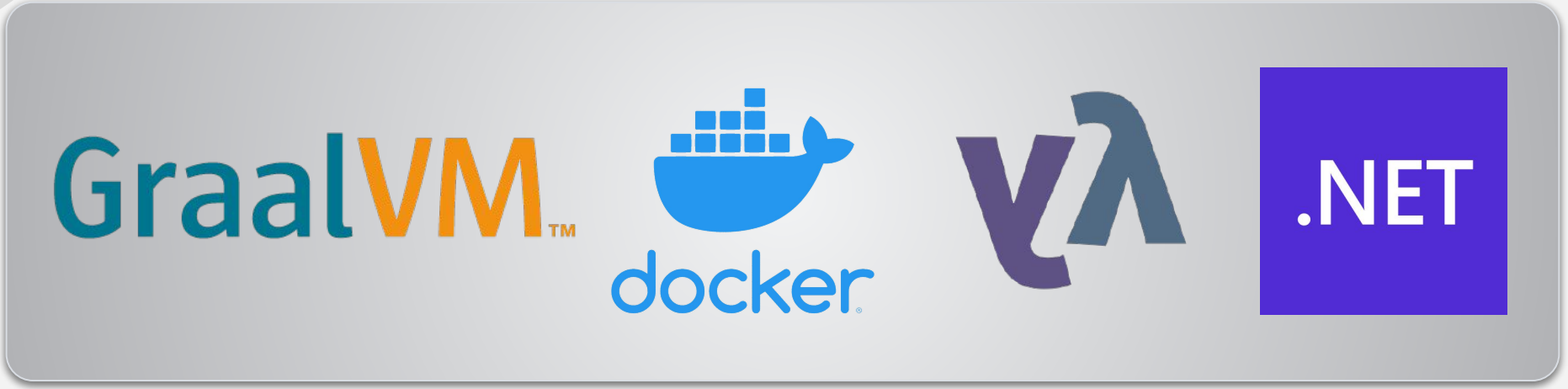




Environnement partagé

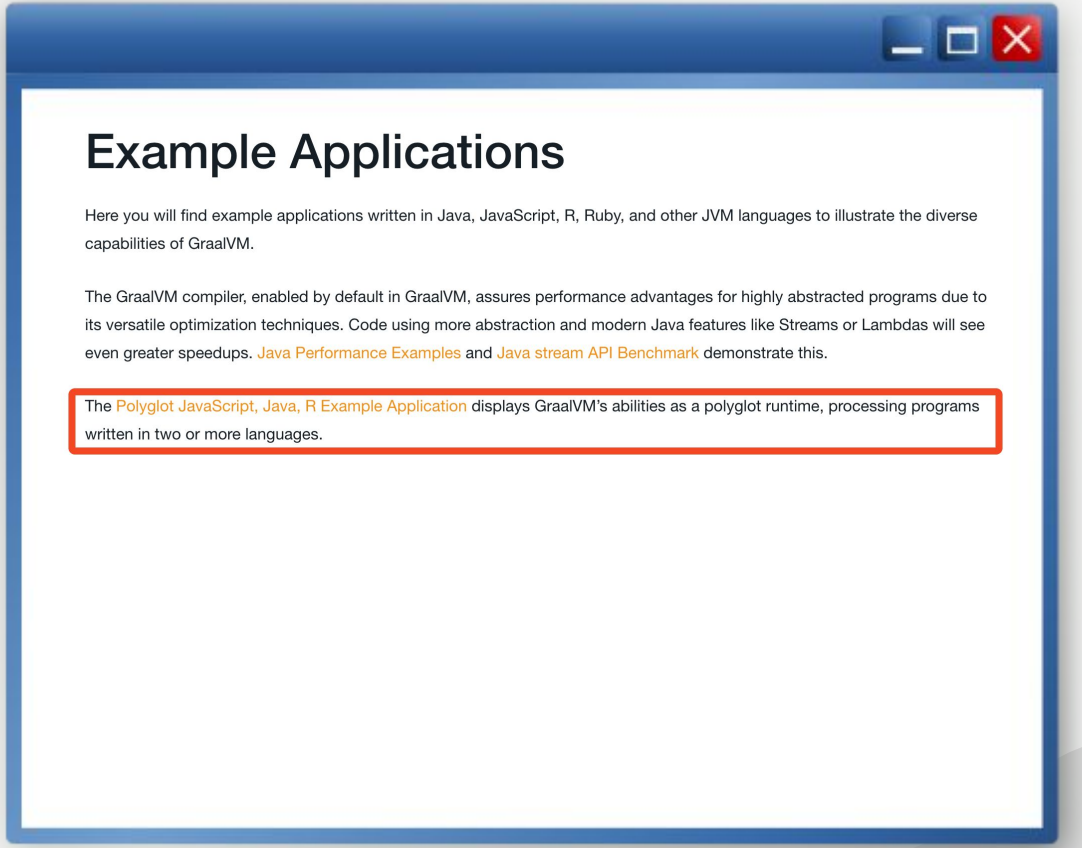
https://github.com/graalvm/graalvm-demos/tree/master/polyglot-javascript-java-r1

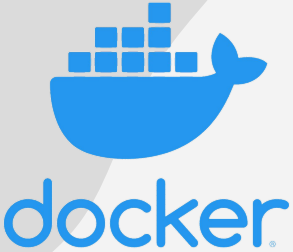
Quelques outils



GraalVM™

- **Machine Virtuelle**
- **beaucoup de langages supportés**
- **Création de DSL avec truffle**





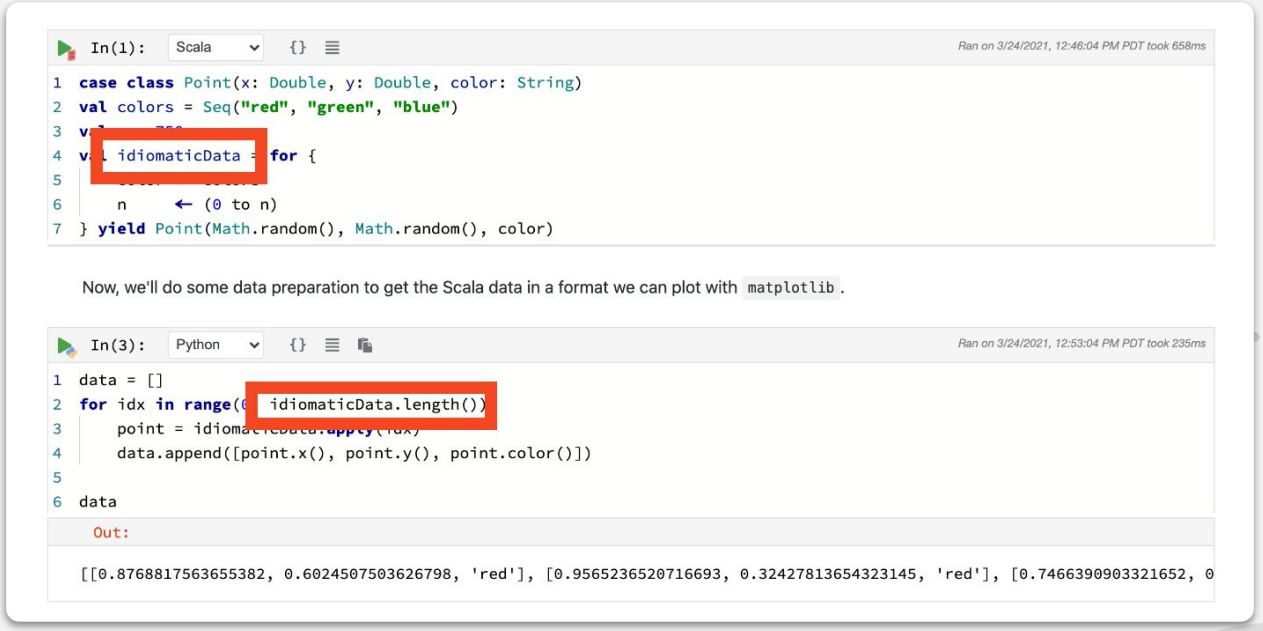
- **Environnement séparé**
- **Déploiement facile**
- **Très utilisé : web, microservices…**

```yaml
version: '3.8'
services:
  backend:
    build:
      context: ./path-to-your-backend
      dockerfile: Dockerfile
    ports:
      - "8080:8080"

  frontend:
    build:
      context: ./path-to-your-frontend
      dockerfile: Dockerfile
    ports:
      - "3000:80"
    depends_on:
      - backend
```

Polynote

- Multi Lingual Notebook
- Basé sur python™
- Projet supporté par Netflix



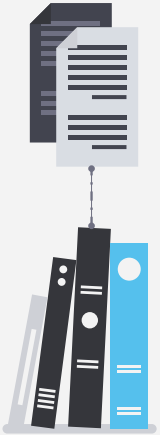
.NET Interactive

- Multi Lingual Notebook
- microsoft
- Extension visual studio

Language	Variable sharing
C#	✅
F#	✅
PowerShell	✅
JavaScript	✅
SQL	✅
KQL (Kusto Query Language)	✅
Python	✅
R	✅
HTML	⛔
Mermaid	⛔

Latest on github : https://github.com/dotnet/interactive

Les avantages et les inconvénients



Avantages

Plein de DSL

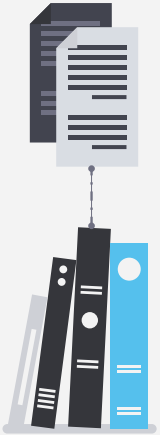
Inconvénients

Code smells

Sécurité

1. Passing Excessive Objects
2. Unnecessary Parameters
3. Not Caching Objects' Elements
4. Memory Management Mismatch

Conclusion



Réutilisation de code

Communication = Problème de sécurité

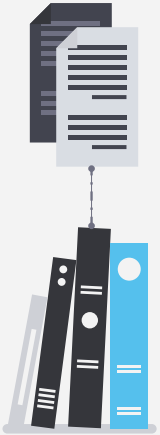
Utilisé à grande échelle

Séparation en métier

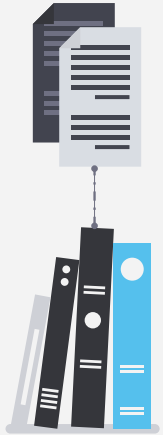
Démonstration | Environnement partagés

.NET Interactive

Polynote



Bibliographie



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