MicroServices

Thursday, October 12, 2023   4:01 PM

CI/CD pipeline for microservices

amazon Google NETFLIX

100s of microservices are deployed
thousands of times per day!

Monorepo and Polyrepo as 2 options

Microservices → Monorepo → Single repository

Microservices → Polyrepo → Multi repository

Microservices explained - the What, Why and How?

Monorepo

1 code base with folders

▶ A directory for each service/project

✅ Makes the code management and development easier

✅ Clone and work only with 1 repo

✅ Changes can be tracked together, tested together and released together

✅ Share code and configurations

shopping-cart
payment
notifications
Library   IaC
MONOREPO

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Microservices explained - the What, Why and How?

Monorepo

Challenges

❌ Tight coupling of projects

❌ Easier to break this criterion and develop more tightly coupled code

❌ Big source code, means git interactions becomes slow

❌ Additional logic necessary to make sure only service is built and deployed which had code changes

shopping-cart
payment
notifications
MONOREPO

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Polyrepo

CI/CD for Polyrepo

▶ Own pipeline for each repository

my-online-shop

Pipeline ← ← ← → shopping-cart

Pipeline ← ← ← → payment

Pipeline ← ← ← → notifications

POLYREPO

Polyrepo

Downsides of Polyrepo

❌ Cross-cutting changes is more difficult

❌ Changes spreaded across projects must be submitted as separate Merge requests instead of having a single, atomic MR

❌ Switching between projects tedious

❌ Searching, testing and debugging is more difficult

❌ Sharing resources more difficult

shopping-cart

payment

notifications

POLYREPO