



Development Experience: why it's getting worse?

Ciao! Un po' di me

- Developing IDEs from 2008
 - Scala, Kotlin
- Build Tools
 - Gradle, SBT, TeamCity
- Focusing on customers
- Tree kids, dog and cat

DevOps engineer



<https://www.redhat.com/en/topics/devops/devops-engineer>

A DevOps engineer introduces **processes**, **tools**, and **methodologies** to **balance** needs throughout the software development life cycle, from coding and deployment, to maintenance and updates.

Development Experience



<https://cpojer.net/posts/principles-of-devx>

Developer Experience or DevX is the experience developers have when **building, maintaining, testing, deploying, and analyzing software**. DevX gets **deprioritized**, because there is no direct connection between improving DevX and generating business value.

What do you do for DevX?



<https://www.menti.com/ala9eu9z5izb>

Mentimeter!

DevOps \cap DevX == Dev ?

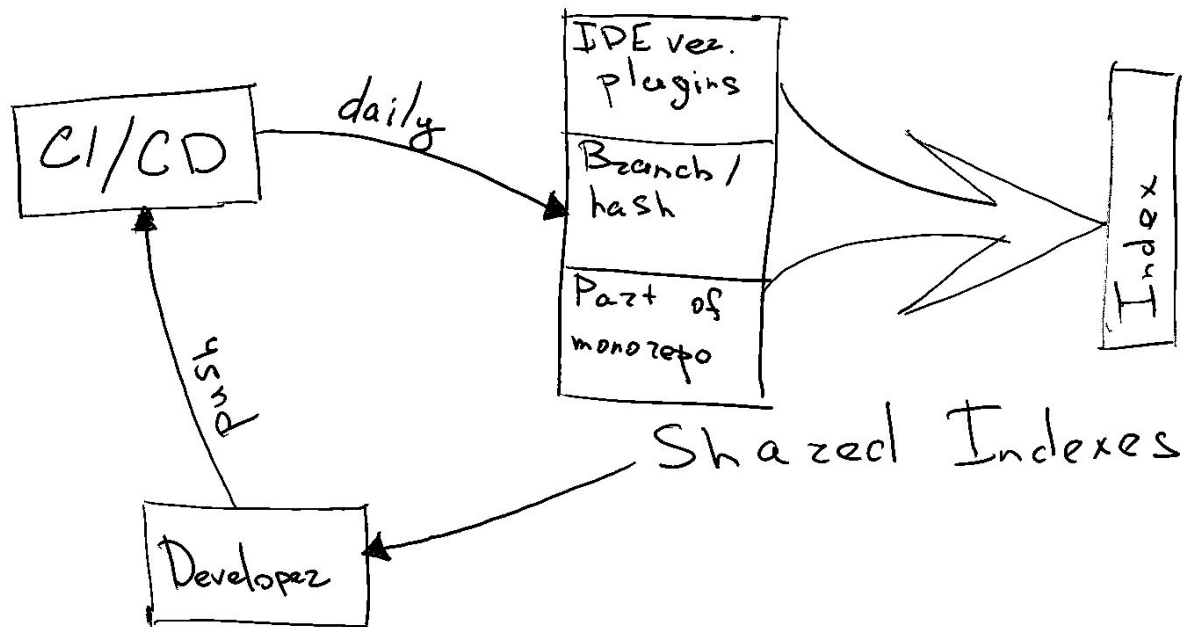
- Build Tools
- Setup experience
- Testing infrastructure
- Development / Production lifecycle

DevX - why it's getting worse?

- Growing project complexity / size
 - New solutions are required
- No connection between DevX & Profit
 - People are not motivated to work on that
 - No personal bonuses for DevX
- No metrics, how to calculate DevX

Examples

Shared Indexes



Bazel vs Gradle

- **Big monorepo projects**
 - Impossible to open on a single machine
 - Customers do migrations to Bazel (faster, cache)
- **For smaller projects**
 - Gradle wins in setup

WebStorm vs VSCode

- Management **doesn't know**, which is better from the profit perspective
- People just **don't want** wait indexing™
- We **don't know** what is developer “performance” at all
 - ~~Lines of code~~? No! It's not allowed to calculate that!

Global analytics

- Tooling Vendor can have it (optionally)
 - <https://vscodium.com/>
- Global decisions can be made
- It's hard to do it company-wide
 - <https://ai.googleblog.com/2022/07/ml-enhanced-code-completion-improves.html>



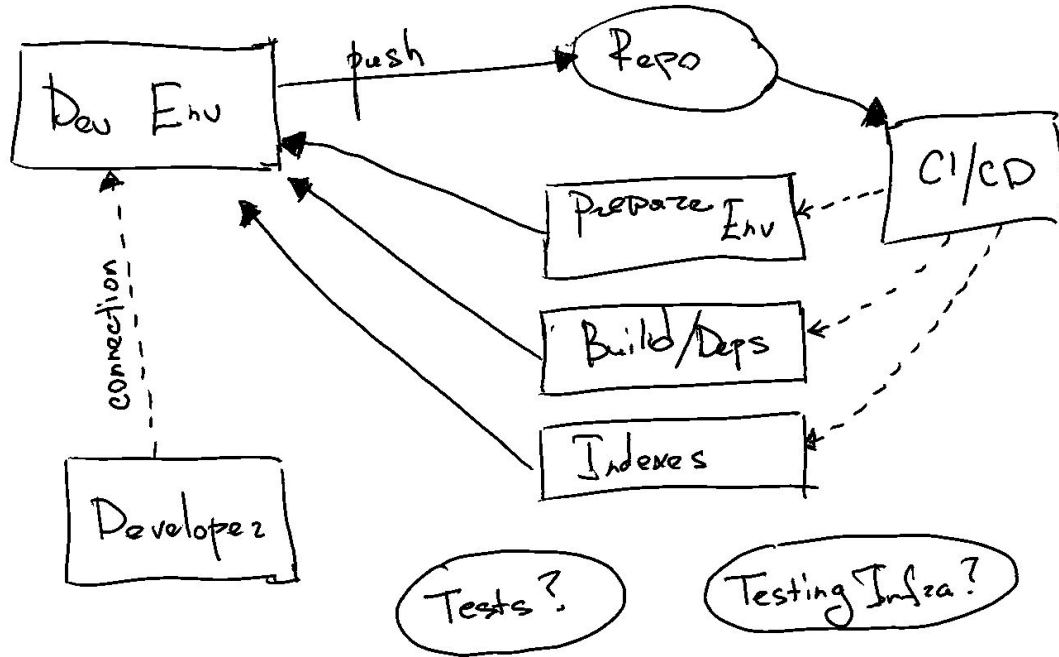
The solution from JetBrains

- Minute for Ads!
- Toolbox Enterprise
- <https://www.jetbrains.com/toolbox-enterprise/>
- Our analytics [server](#)



Remote Development

Infrastructure



VSCode devcontainers



- <https://code.visualstudio.com/docs/remote/containers>
- Looks very promising and seamlessly
- Remote local, requires powerful machine

JetBrains Remote Development

- <https://www.jetbrains.com/remote-development/>
- There are three orchestration tools:
 - Google [Cloud Workstations](#)
 - [Gitpod](#)
 - JetBrains [Space](#)



Problems

- It's premium feature
 - In addition to Mac Pro, now you need expensive remote tool
- It has support cost
 - To setup environment properly
- It's mostly in preview / beta
- If something fails => development cost
- Running UI app (?)

The good side

- Unlimited power of clouds
- Minimum time for setting up environment
- Everything is under control on the server
- Better security

Testing / Running

Testcontainers



- <https://www.testcontainers.org/>
- Very simple containerized tests setup
- Remote solution to simplify local experience

Kubernetes



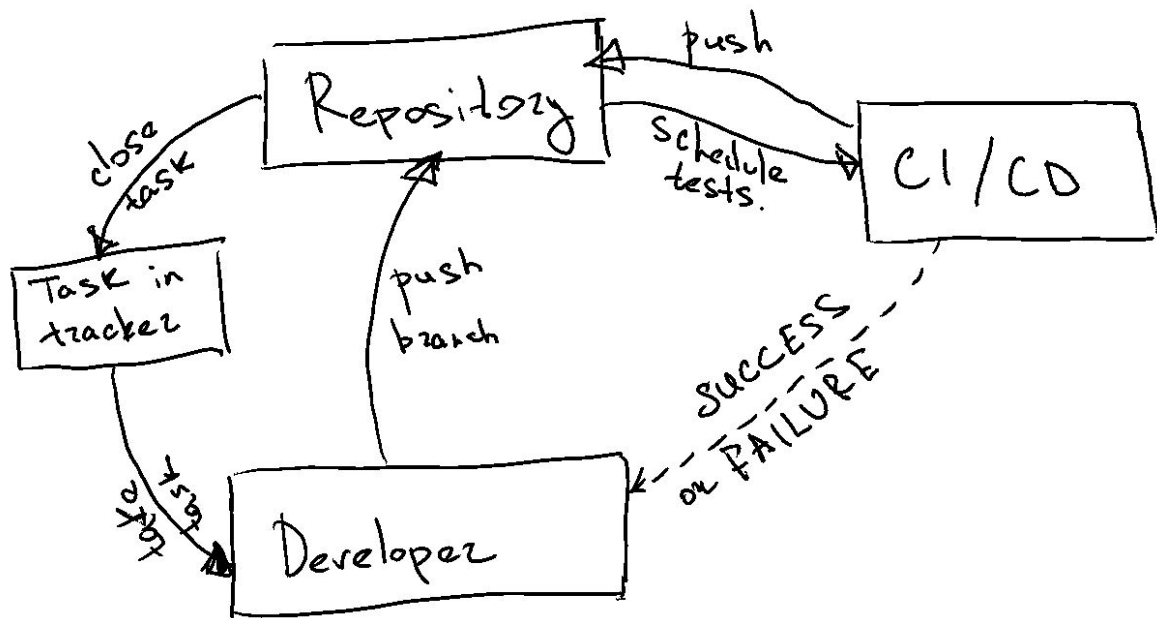
- <https://speakerdeck.com/thomasvitale/developer-experience-with-java-on-kubernetes-jbcnconf-2022>
- Fast rebuild
 - Tilt: <https://tilt.dev/>
- Hot reload
 - Skaffold: <https://skaffold.dev/>

Conclusion

- Everything is solvable
- Together with frameworks should go in sync with development tooling

Development processes

Safe push



Code review

- Similar diagram is possible
- Automation part includes integration of different tooling

IDE

Code Completion

- **Code typing experience**
 - Faster, less keystrokes
 - No thinking about obvious parameters etc.
 - Metrics are possible
- **Code search experience**
 - Saves a lot of time
 - Metrics are complicated

ML Completion

- Copilot
 - <https://github.com/features/copilot>
- Tabnine (ex-Codota)
 - <https://www.tabnine.com/>
- IntelliJ full line code completion
 - <https://plugins.jetbrains.com/plugin/14823-full-line-code-completion>

ML Completion (Enterprise)



- ML process is needed
- Needs data, for big projects and big companies
- Writing code is faster:
 - <https://ai.googleblog.com/2022/07/ml-enhanced-code-completion-improves.html>

IDE can be slow

- Indexing
- Reading project from Build Tool
- Downloading dependencies
- Generating code
- Refactorings / IDE actions
- Typing freezes

Big Data Tools plugin

- Minute of ads again! :)
- <https://www.jetbrains.com/help/idea/big-data-tools-data-files.html>
- Zeppelin support
- Connect to data storages
- Kafka monitoring
- Amazon EMR support
- And more

Conclusion

- There is a new market (DevX)
 - We call it ToolOps market
- BigData tools, Enterprise Tools needs complicated processes
- Internal teams

DevX Community

- Please, join:
 - <https://www.developerexperience.us/>



More to discuss?



- Feel free to ping me directly
 - Alexander.Podkhalyuzin@jetbrains.com
- You have DevX related problems in your company
- You'd like to do some DevX in your company
- You can do consulting (new market!)



Thank you!
Questions?