Uni Web Topics Themes

Notes on Cloud Native Development

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Contributing

These study materials are heavily based on professor Heuzeroth's "Spezielle Themen für Web-Anwendungen" lecture at HdM Stuttgart.

Found an error or have a suggestion? Please open an issue on GitHub (github.com/pojntfx/uni-webtopics-notes):



Figure 1: QR code to source repository

License



Figure 2: AGPL-3.0 license badge

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Overview

Overview

- · What is DevOps?
- · Which parts of the software lifecycle does it cover?
 - · Development
 - · Distribution (I will focus on this today)
 - · Operation

Development

Development

- · GitPod
- Codespaces
- Coder
- · pojde
- · Waypipe
- · USB forwarding
- Port forwarding

Distribution

Basic Distribution Principles

- Binaries
- GPG signing and Gridge
- Cosign
- Portability
- · Reproducibility
- · Why we need more than "just binaries"

Pipelines

- Bagop
- Hydrun
- · GitHub Actions
- · Semantic Release

Distribution to RedHat Linux

RPM packages

Distribution to Debian GNU/Linux

- · DEB package
- APT repository
- Yum repository

Distribution to Linux (universal)

- Flatpak
- Flatpak repository

Distribution to Android

- · APK
- F-Droid repository

Distribution to Windows

MSI package with auto-updates

Distribution to macOS

• DMG package with auto-updates

Distribution to Kubernetes/the Cloud

- Docker
- Kubernetes
- Helm
- · Skaffold

Distribution to WebAssembly

- WASM-Binary
- · WASI/wasm_exec equivalents

Operation

Operation

- Sentry
- OpenTelemetry
- Prometheus
- · Grafana