

# Uni Web Topics Themes

Notes on Cloud Native Development

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# Introduction

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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/poijntfx/uni-webtopics-notes](https://github.com/poijntfx/uni-webtopics-notes)):



**Figure 1:** QR code to source repository



**Figure 2:** AGPL-3.0 license badge

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# Overview

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

# Development

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



# Distribution

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# Basic Distribution Principles

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

- Bagop
- Hydrun
- GitHub Actions
- Semantic Release

- RPM packages

- DEB package
- APT repository
- Yum repository

## Distribution to Linux (universal)

- Flatpak
- Flatpak repository

- APK
- F-Droid repository

- MSI package with auto-updates



- DMG package with auto-updates

## Distribution to Kubernetes/the Cloud

- Docker
- Kubernetes
- Helm
- Skaffold

- WASM-Binary
- WASI/wasm\_exec equivalents

# Operation

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- Sentry
- OpenTelemetry
- Prometheus
- Grafana