

The logo for SVA, consisting of the letters 'SVA' in white on a black square background.

19.11.2024

Von A wie Anwendungsentwicklungstools bis Z wie
BetriebZUmgebung

Toolchain in a Box

Agenda

1

State of Software
Development 2024

2

Application
Modernization

3

Developer Experience

4

Toolchain in a Box

State of Software

Development 2024

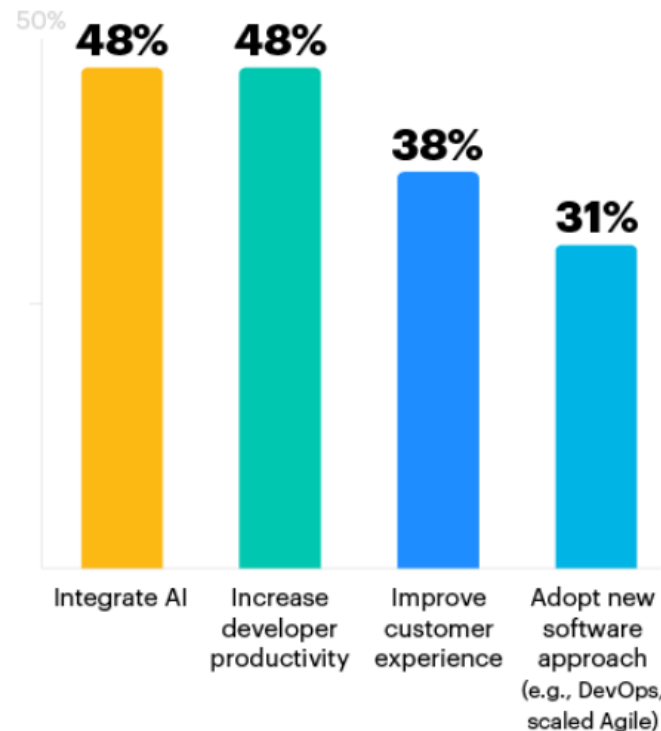
Weiterhin strategische Ziele: Entwicklerproduktivität und DevOps



Organizations plan to integrate AI and increase developer productivity in 2024

Integrating AI (48%) and increasing developer productivity (48%) are among the top three strategic goals for many respondents' (n = 120) software engineering departments in 2024.

Based on your personal knowledge of your software engineering department's goals, what are its top three strategic priorities for 2024? Select up to three.



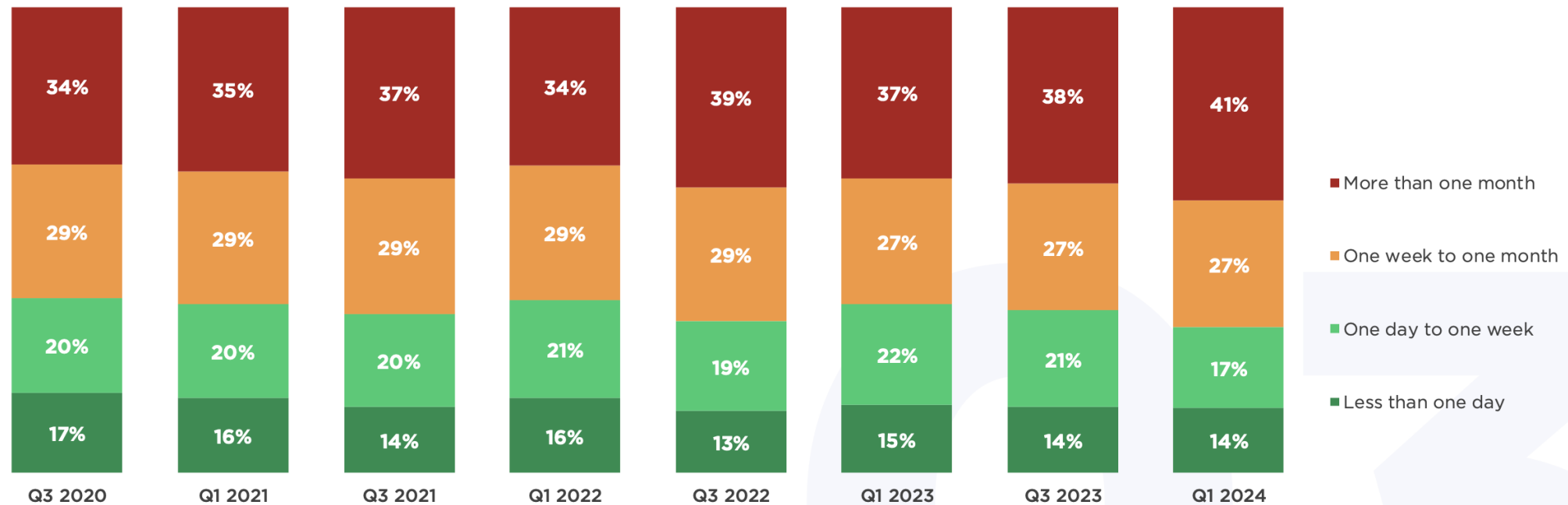
Develop new software products **30%** | Improve developer experience **30%** | Reduce technical debt **29%** | Strengthen cybersecurity **28%** | Support digital transformation **16%** | Adopt product-centric delivery model **16%** | Improve cross-functional relationships **12%** | Establish platform engineering teams **8%** | Implement green software engineering practices **6%** | Migrate to cloud **5%** | Other* **1%** | Not sure **0%** n = 120
*Other includes: "Provide better products for our customers"

according to Gartner, Inc.

Time to Production

The proportion of low performers for lead time for code changes continues to increase

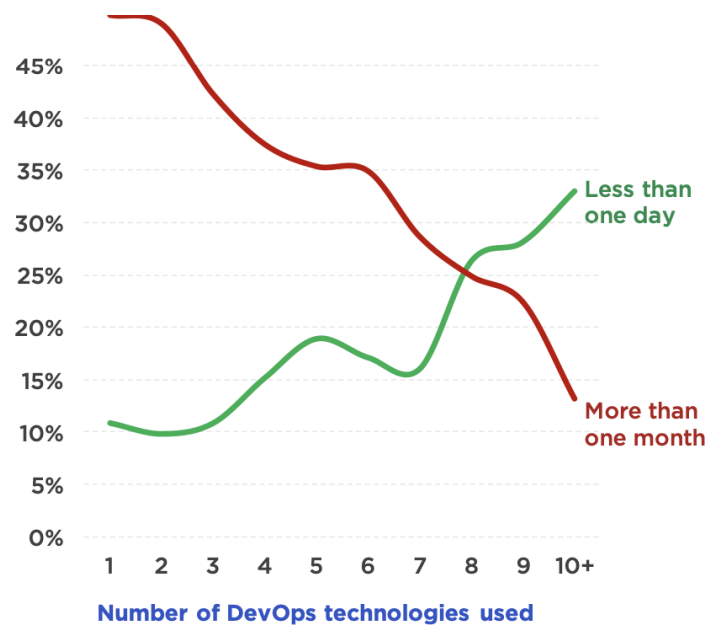
Software delivery performance - Lead time for code changes



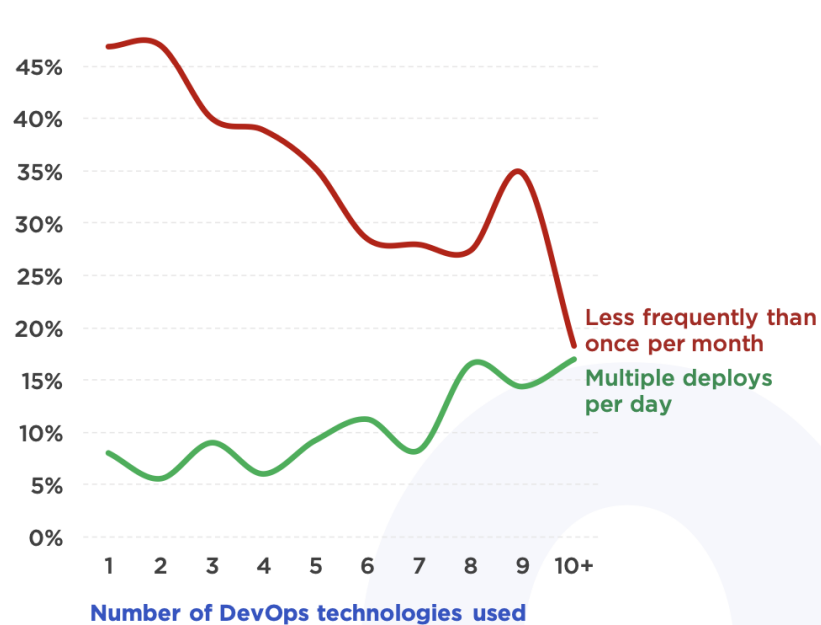
Produktive Entwickler nutzen viele DevOps-Technologien

Using a broader range of DevOps technologies is correlated with better delivery performance

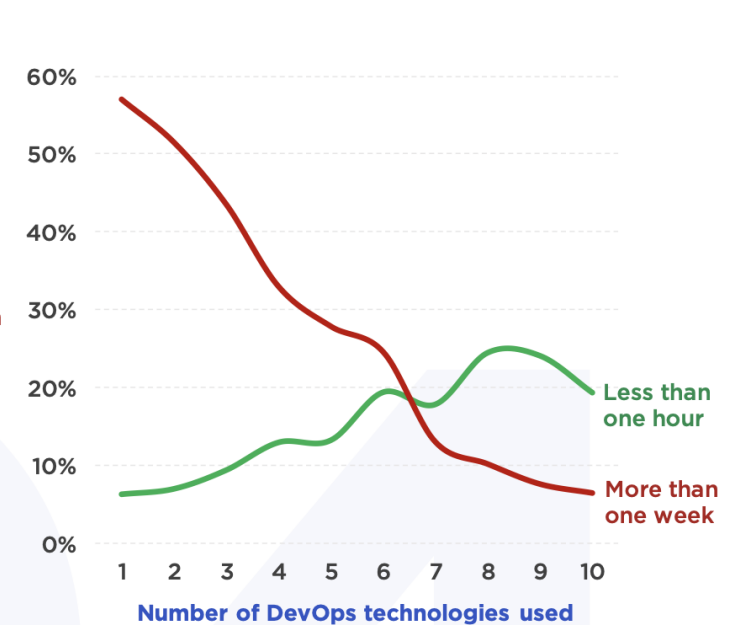
Code lead time for changes against the number of DevOps technologies used



Deployment frequency against the number of DevOps technologies used



Time to restore service against the number of DevOps technologies used



Wie sieht es in echt aus?

Application Modernization

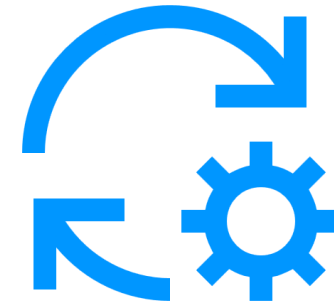
Developer Experience

Mission: Application Modernization und Developer Experience



Use Case

Beschleunigung eines
Flugbuchungssystems
durch Application Modernization



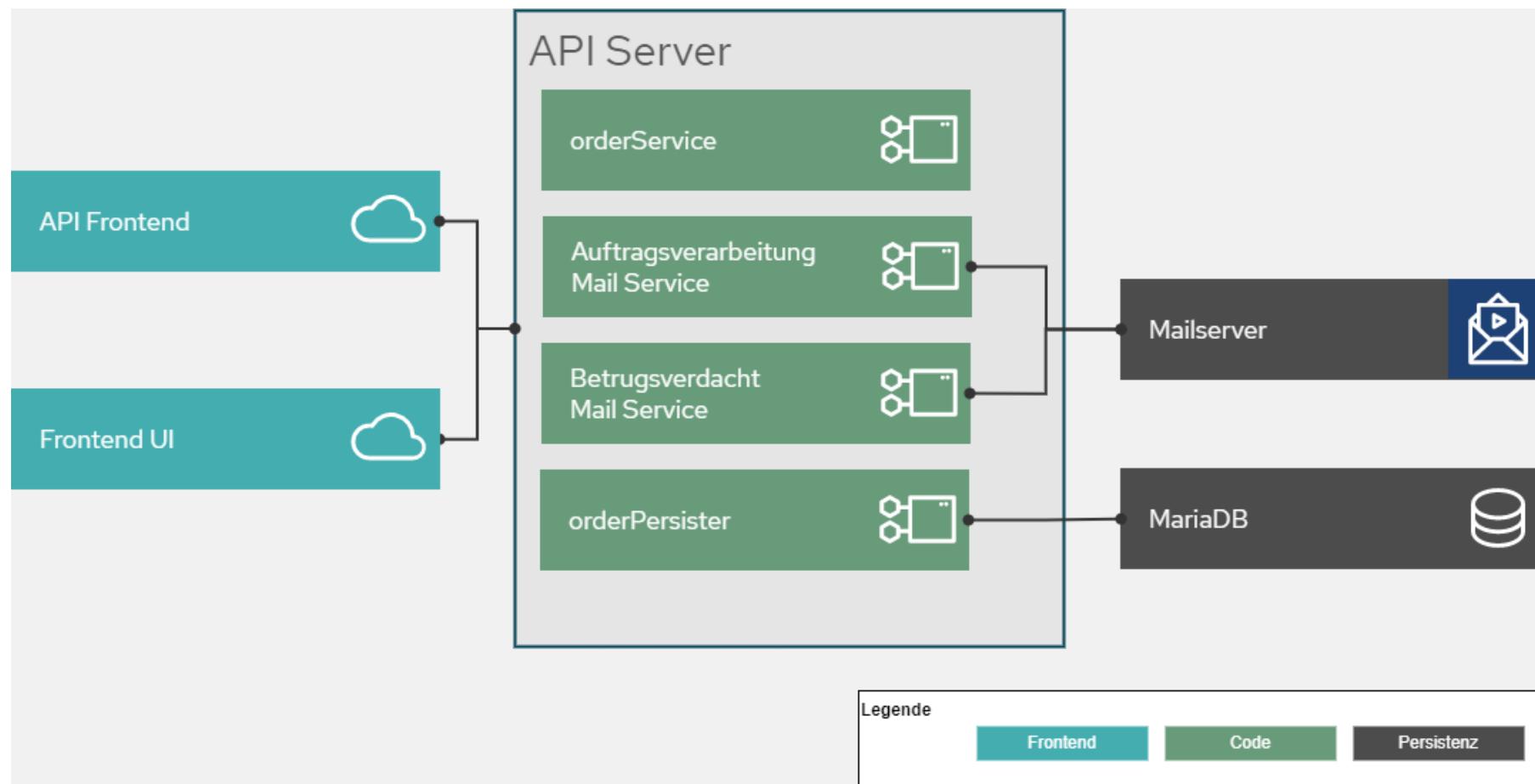
Developer Experience

Entlastung von Entwicklern
durch Bereitstellung einer
effizienten Toolchain

Application Modernization



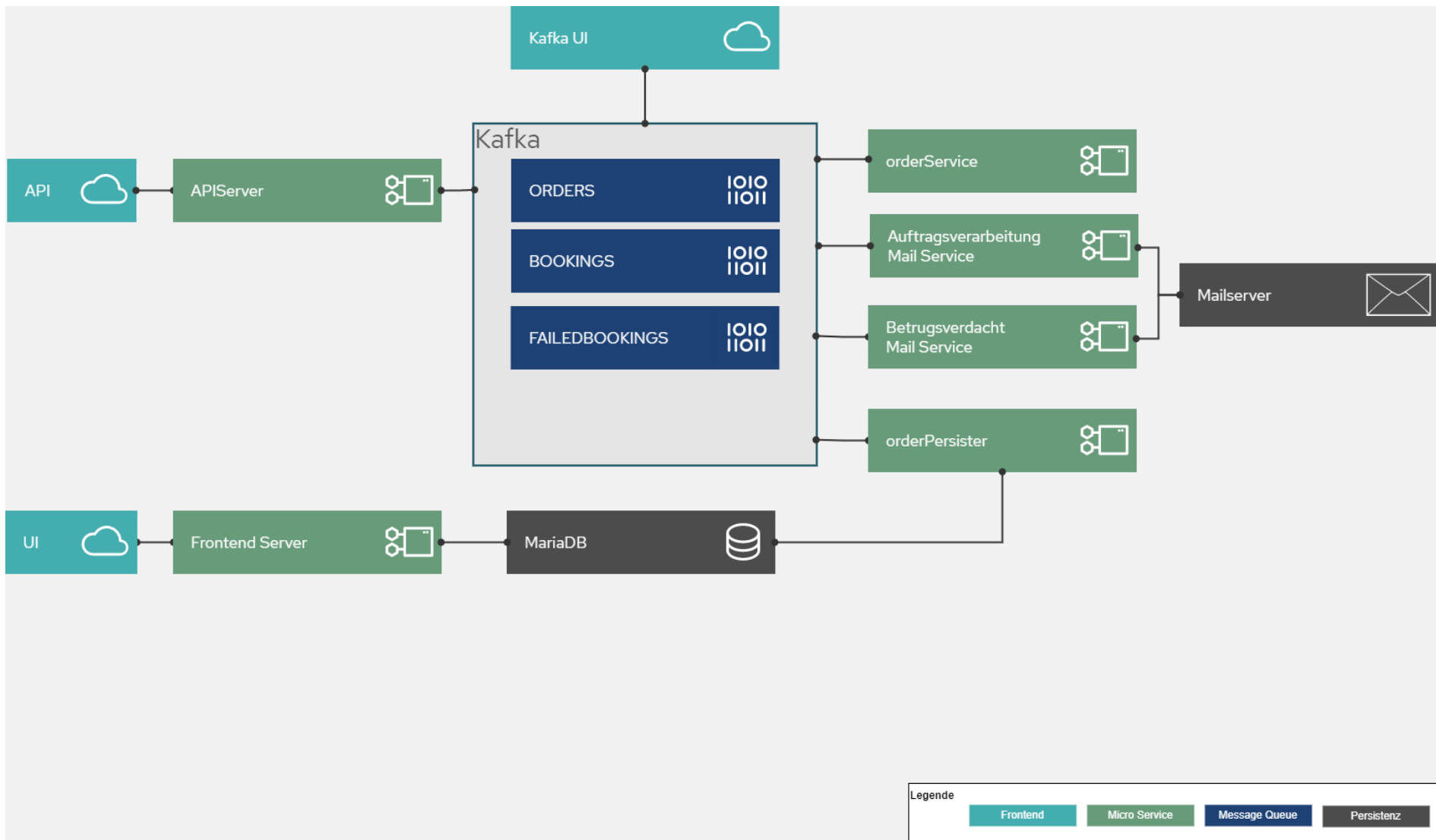
Monolith



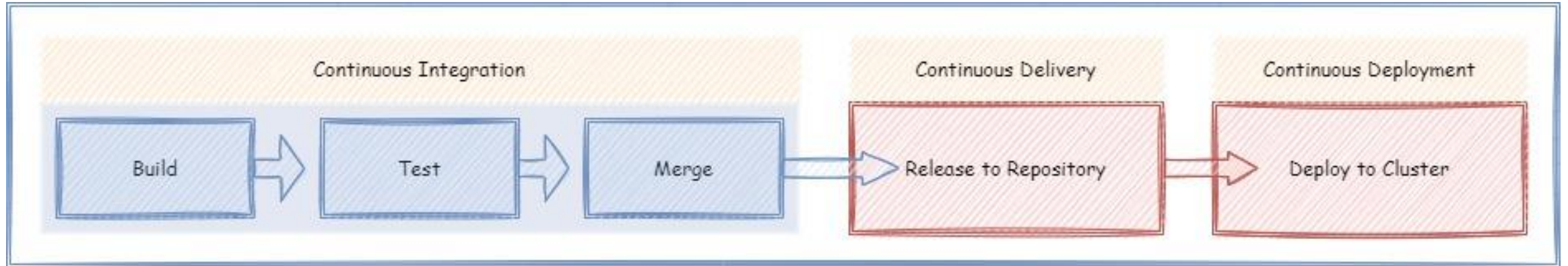
Application Modernization



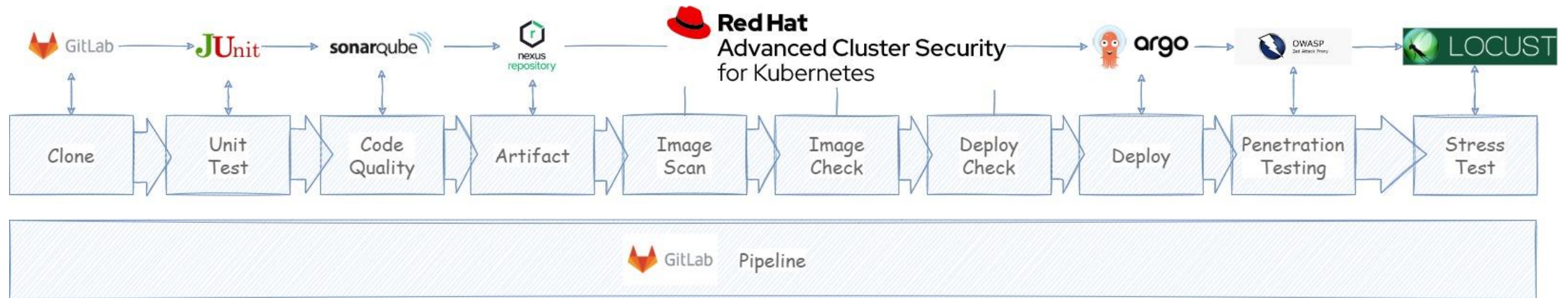
Microservices



Release & Deploy to Production mit CI/CD



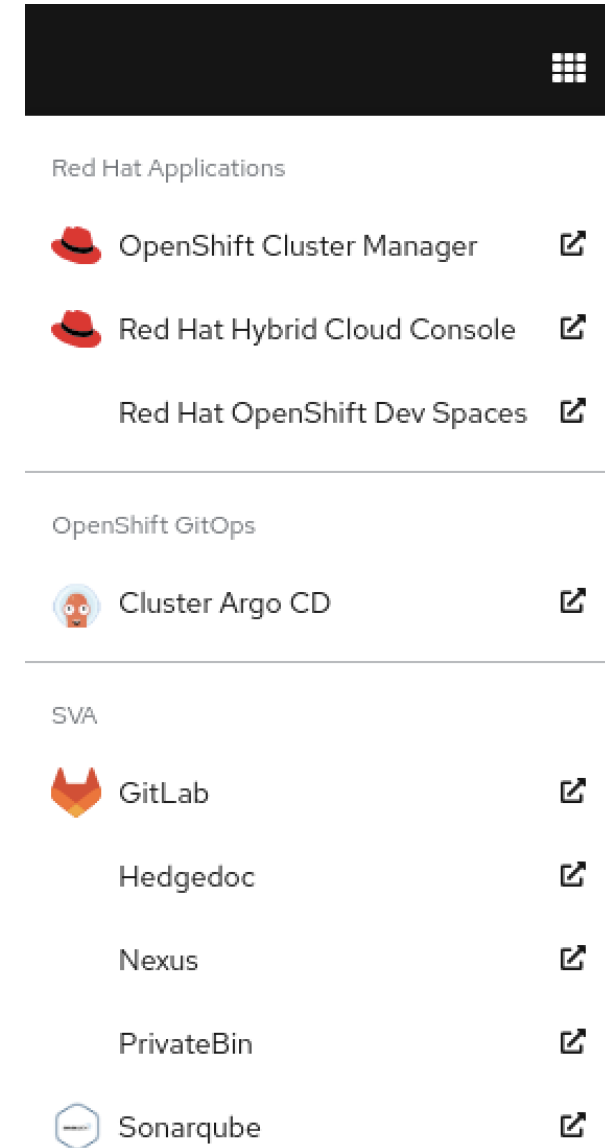
CI/CD mit Best of Breed



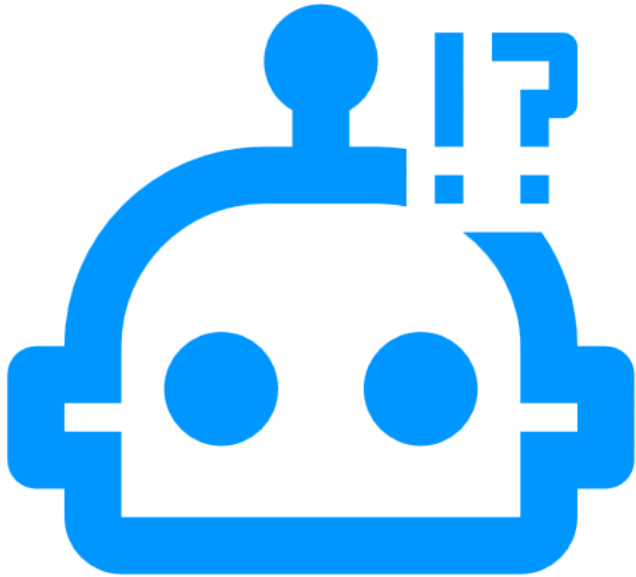
Welche Tools werden benötigt?

→ Vorhandene Tools verwenden

→ Fehlende Capabilities aufbauen

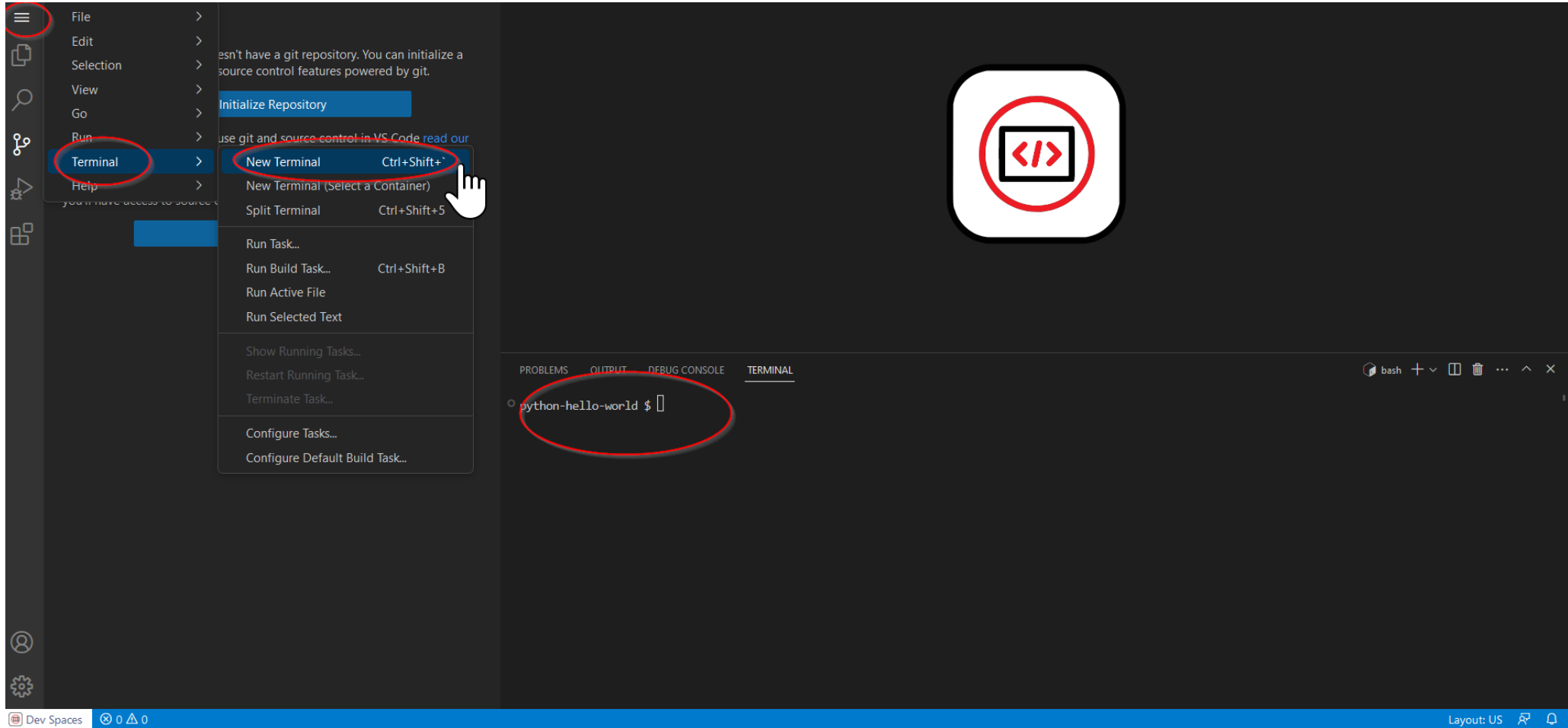


Von der Idee bis zum Launch



- 7x Container Images herstellen
- 8x Kubernetes Deployments schreiben
- 2x Message Queue (Kafka) Topics konfigurieren
- Applikationsperformance analysieren
- CI/CD Pipelines schreiben
- GitOps konfigurieren

Managed Developer Environment auf Knopfdruck



OpenShift Dev Spaces

CI/CD mit GitLab

The screenshot shows the GitLab CI/CD interface for a project named "flight-booking-engine". The left sidebar contains a navigation menu with the following items: Project information, Repository, Issues (0), Merge requests (0), CI/CD, Pipelines (selected), Editor, Jobs, Artifacts, Schedules, Security and Compliance, Deployments, Packages and registries, Infrastructure, Monitor, Analytics, Wiki, Snippets, and Settings.

The main content area is titled "update" and displays the following information:

- 30 jobs for `main` in 1 minute and 34 seconds, using 0.0 compute credits, and was queued for 6 seconds
- Branch: `latest`
- Commit ID: `b22d2049`
- No related merge requests found.

Below the update information, there are tabs for "Pipeline", "Needs", "Jobs" (30), and "Tests" (0). The "Jobs" tab is active, showing a list of jobs:

Group	Job Name	Status
vartest	vartest	Success
	Build Microservice Mail Server	Success
imagebuild	Build Microservice Mail Service	Success
	Build Microservice apiserver	Success
	Build Microservice frontend	Success
	Build Microservice orderPersister	Success
	Build Microservice orderService	Success
	Build Monolith apiserver	Success
	Build loadGenerator	Success

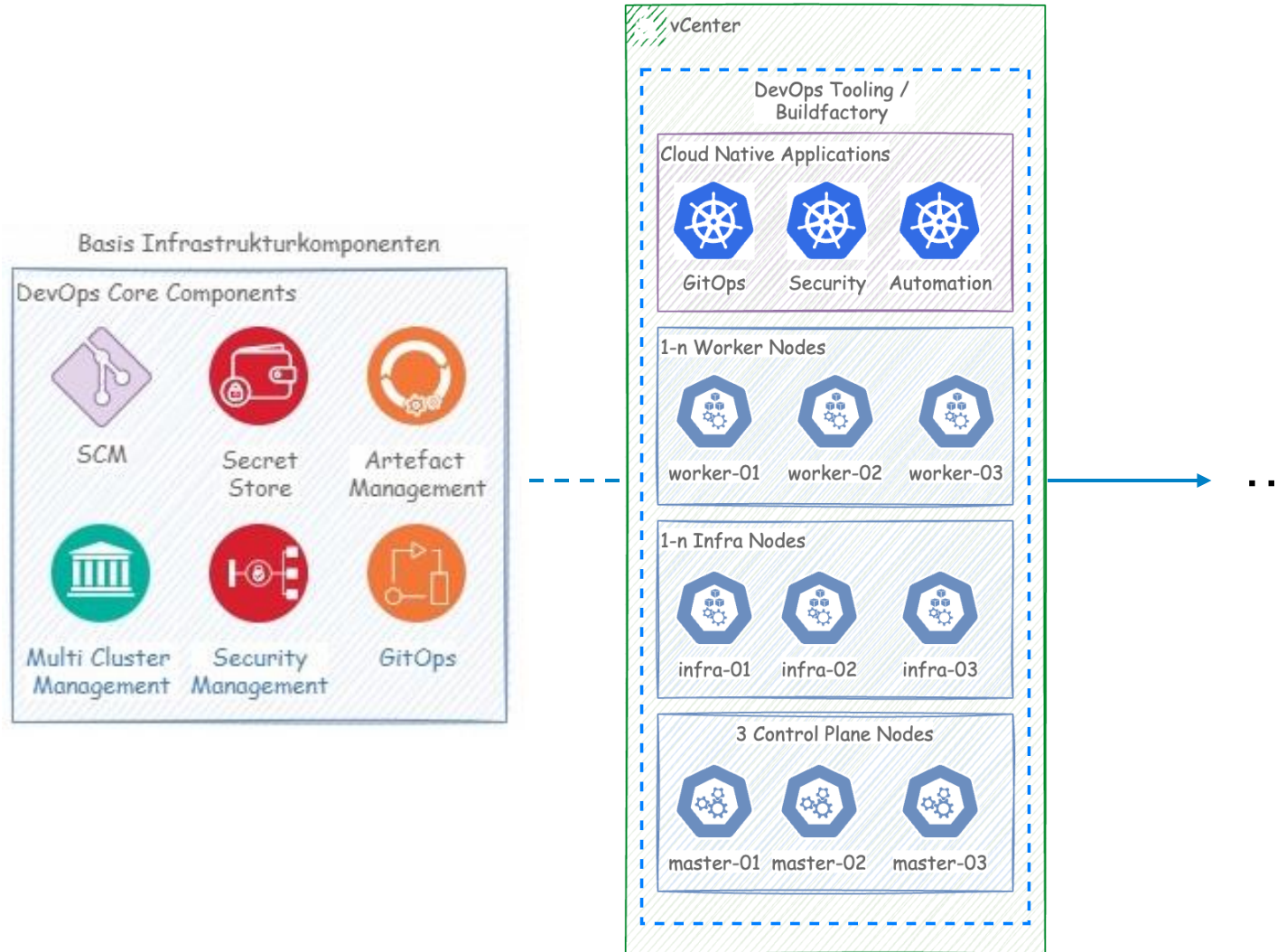
Deployment mit Argo CD (OpenShift GitOps)

The screenshot displays the Argo CD web interface for an application named 'microservice-lab50'. The interface is divided into several sections:

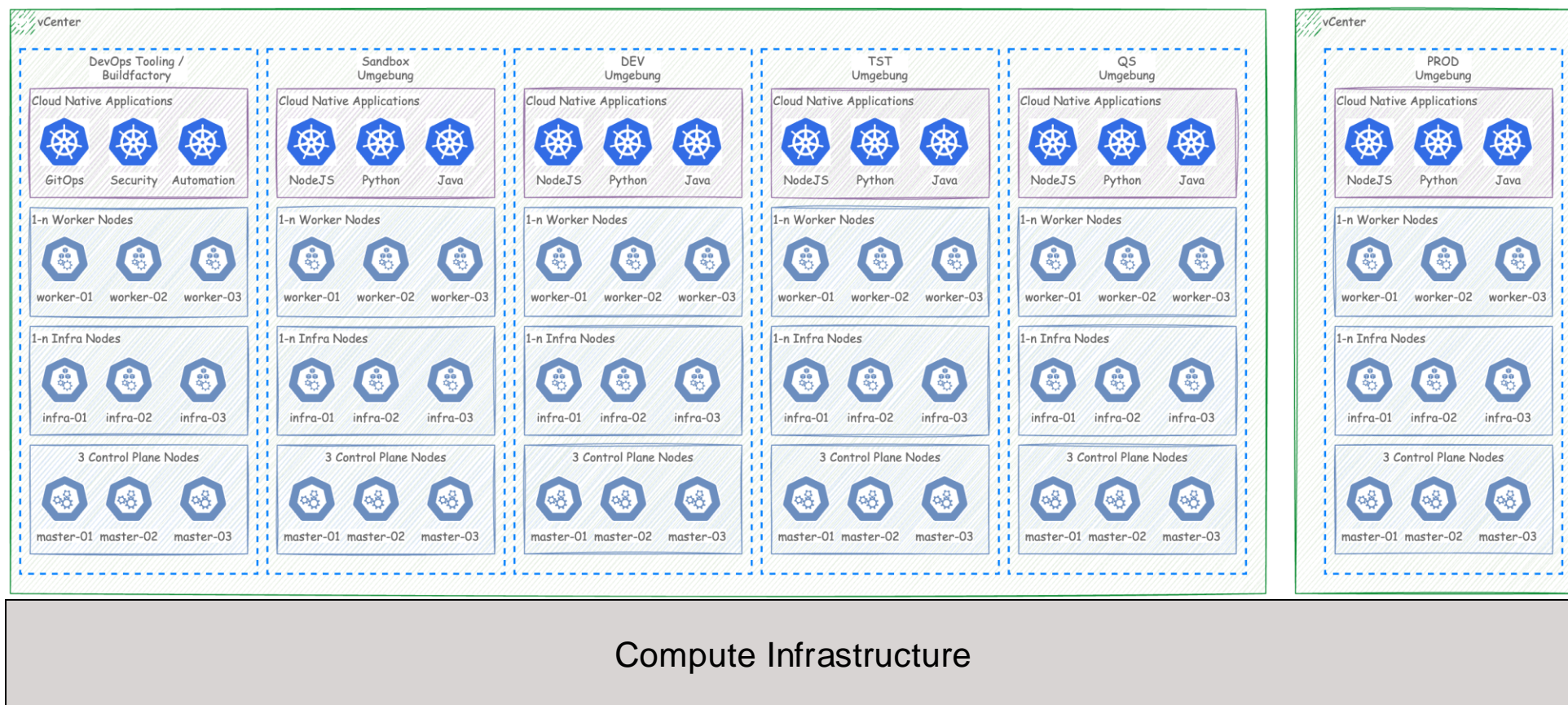
- Header:** Shows the Argo logo and version 'v2.7.16+93680ca'. Below it are navigation links for 'Applications', 'Settings', 'User Info', and 'Documentation'.
- Application Overview:** Includes a search bar for 'microservice-lab50' and a row of action buttons: 'APP DETAILS', 'APP DIFF', 'SYNC', 'SYNC STATUS', 'HISTORY AND ROLLBACK', 'DELETE', and 'REFRESH'.
- Summary Cards:**
 - APP HEALTH:** Shows a green heart icon and the text 'Healthy'.
 - SYNC STATUS:** Shows a green checkmark icon and the text 'Synced to main (ba2e2c9)'. It also notes 'Auto sync is enabled.' and provides author and comment information.
 - LAST SYNC:** Shows a green checkmark icon and the text 'Sync OK to ba2e2c9'. It notes 'Succeeded 2 minutes ago (Mon Jul 08 2024 09:59:55 GMT+0200)' and provides author and comment information.
- Application Diagram:** A visual representation of the application's components. It shows a central 'microservice-orderpersister' deployment (status: Synced, 100%) which is connected to three other deployments: 'microservice-orderpersister-6...', 'microservice-orderpersister-d...', and 'microservice-orderservice-68...'. Each of these three deployments is in a 'Progressing' state (blue circle icon).
- Left Sidebar:** A navigation menu with sections for 'NAME', 'KINDS', 'SYNC STATUS', and 'HEALTH STATUS'. The 'SYNC STATUS' section shows 17 'Synced' and 0 'OutOfSync' items. The 'HEALTH STATUS' section shows 38 'Healthy', 8 'Progressing', and 8 'Degraded' items.

Deploy to Production


Infrastruktur: Buildfactory




Infrastruktur: Buildfactory to Dev to Prod




Toolchain in a Box = OpenShift as a Service




**HCI
Management**




**Container
Workloads**





**Virtual
Workloads**

OCP 
Virtualization




**Hosted
Control plane**

OCP 
Virtualization



Satellite

OCP 
Virtualization

OpenShift Container Platform (Bare Metal)
Build and run cloud-native applications



Highly available infrastructure
Compute, Storage and Network

/ Ansprechpartner

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