

DevOps in software-healthcare (continuous deployment/ delivery)

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Agenda of The presentation

- Motivation
- Menti
- State of Art
- Continuous Deployment / Delivery
- Benefits
- Reflection
- Take home message



Motivation

- Manufacturers of devices/software → strictly regulated
- Traditionally → Waterfall methodology of development, ex: slow with updates
- Solution? → DevOps making architecture leaner, changes faster and more efficiently
- Turning to DevOps in an effort to advance healthcare innovation



Menti

- Go to www.menti.com and use the code 6055 0227
- Redgate Software → survey in 2021 → 3200 IT-workers participated
- What sector the participants works in and if they are using devops

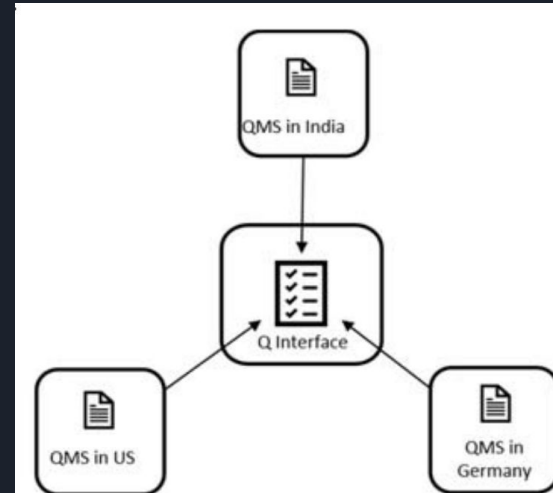
QUIZ TIME!

QUIZ TIME!

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State Of the Art

- SOTA for DevOps in software-healthcare → the technique / methods one should use
- Two articles → how to proceed in projects regarding software-healthcare using DevOps
- Article from 2019:
 - Change in mindset → “just enough and incremental improvement” → CD
 - Software in healthcare → a lot of regulations and ISO:s
 - a) Different standards, regulations and QMS
 - b) Solution? One great Q - interface that collects everything
- Article from 2021: Has created a method for DevOps in software- Healthcare
 - They integrated standards (IEC) to their methods → simplify using DevOps in the software healthcare industry

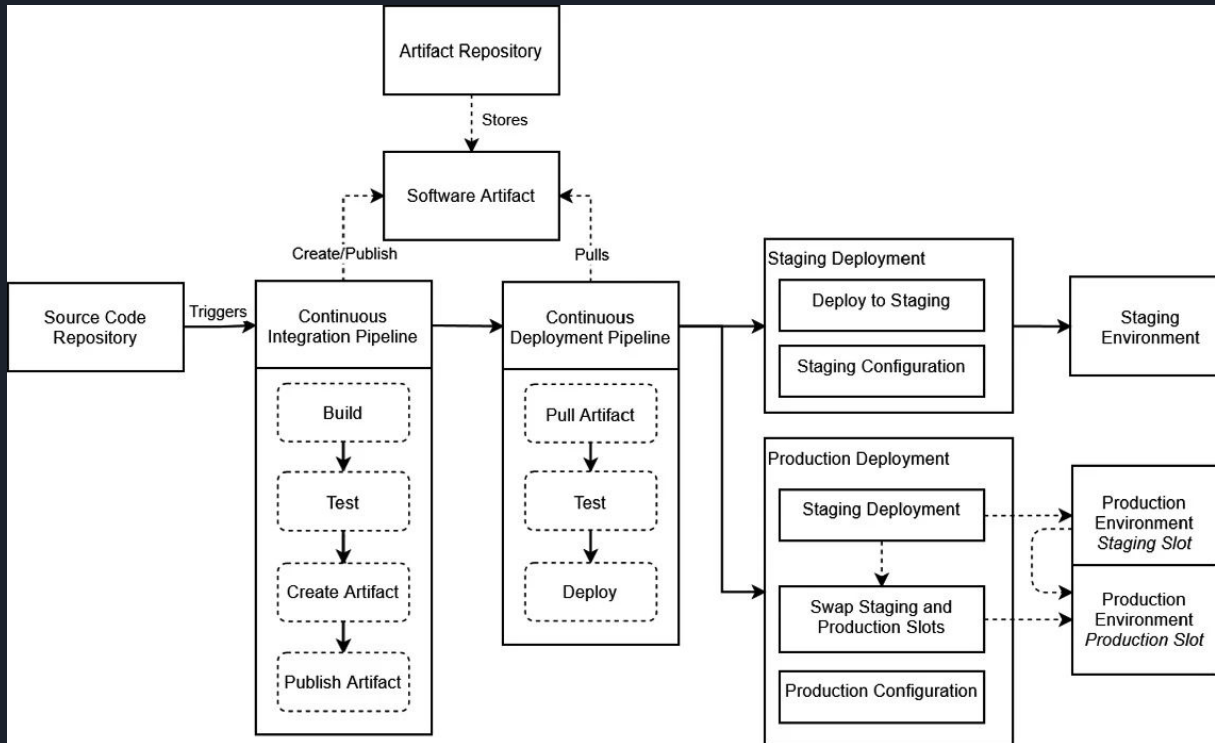


Continuous Deployment / Delivery

- Continuous Deployment can be problematic
- Regulatory requirements
- Human interaction needed

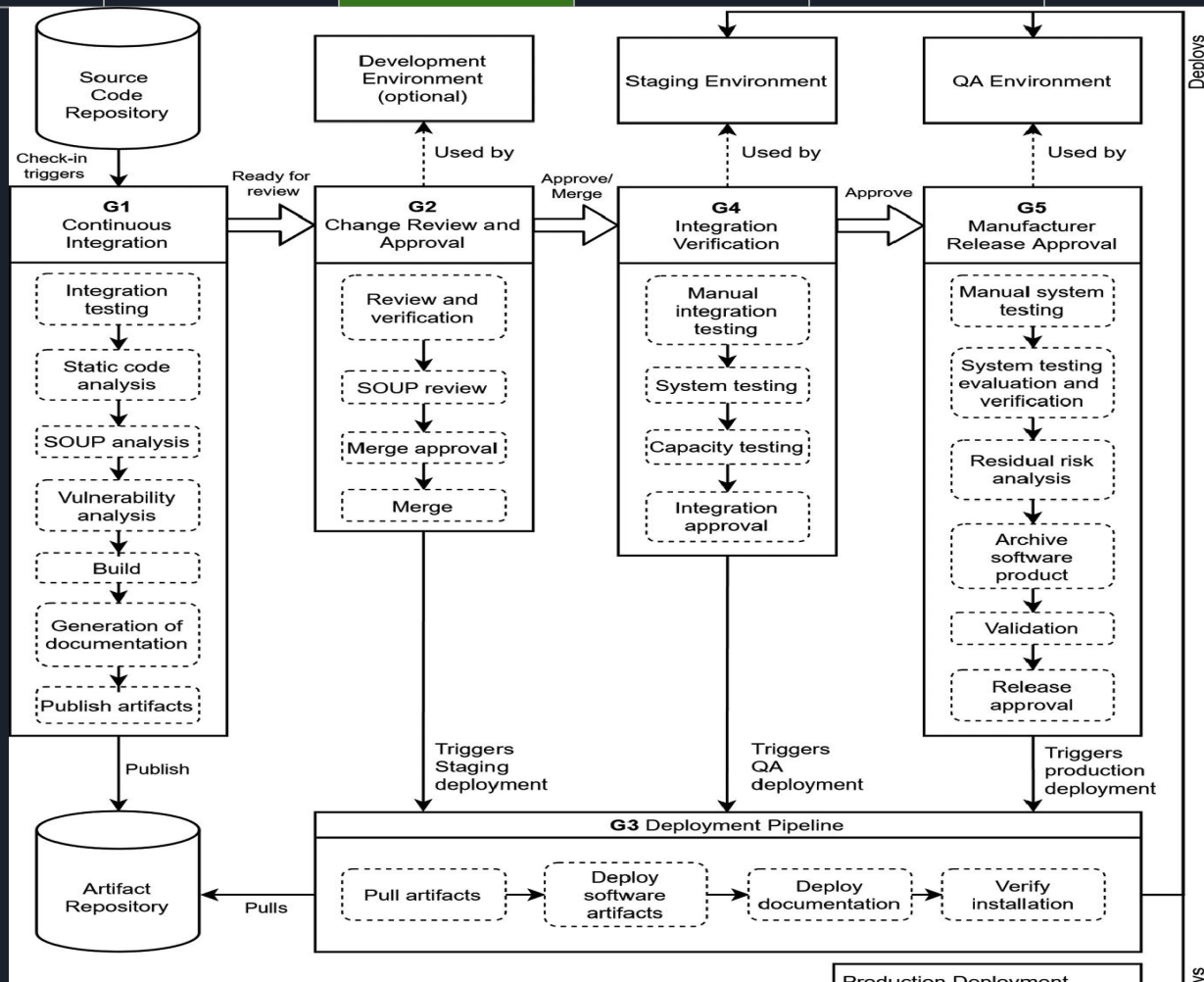


Continuous Deployment / Delivery



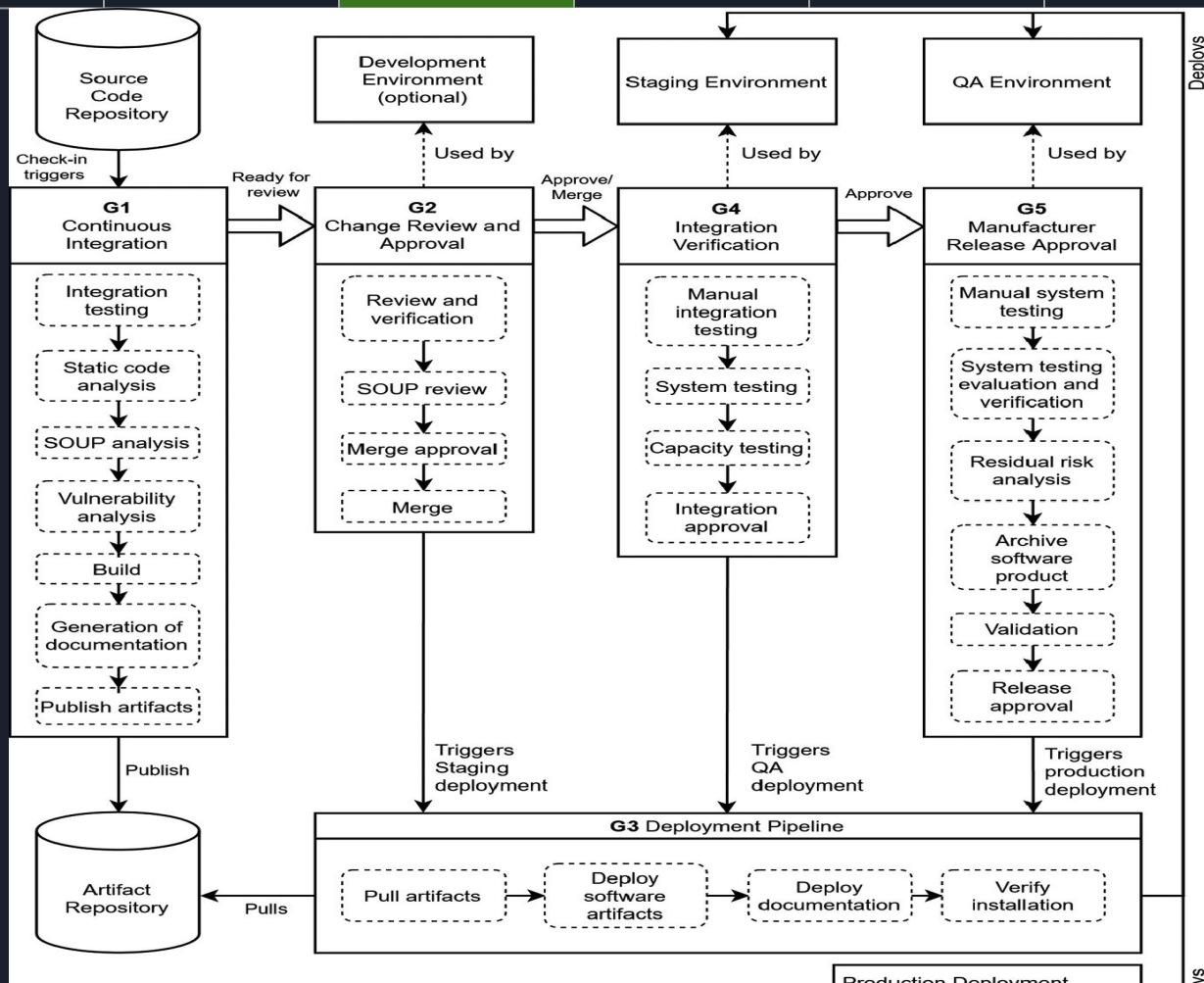
RegOps pipeline

- Deployment Pipeline Stage
- Deploys into one of the environments
- Same stage for all deployments
- Inspected by devs and QA



Pipeline steps

- Pull software artifact from CI
- Deploys to relevant environment
 - Documentation deployed also
- Smoke tests
 - Dev can be notified if fail



Benefits

- The usual benefits
- Patient engagement
 - Self check in
 - Prescription filling
 - Automatic appointments
 - Automatic reminders
 - Automatic test report
- Competitive advantage in industry
- Managing data
 - Data driven approach
 - Analytics and insights

01

Increases Patient
Engagement
and Satisfaction

02

Strengthens
Competitive Advantage

03

Facilitates Regulatory
Compliance and
Information Security

04

Supports Data Science
Initiatives





Reflection

- Implementing DevOps
 - Allows healthcare providers and hospitals → more effectively serve patients and remain competitive in the market
 - Ultimately improving patient outcomes at lower costs
- Hard to argue against it
 - A lot of benefits
 - Risk → high initial cost and failure to implement at first.
 - But we believe that DevOps will continue to grow.
- New regulations about using software in the healthcare sector
 - Most of the software is directly in contact with patients and patients data thus it needs a lot of safety and regulations



Take home Message

- DevOps in health care is more complicated
- Higher risk
- Benefits for companies and patients



Sources

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