DevOps Big Picture
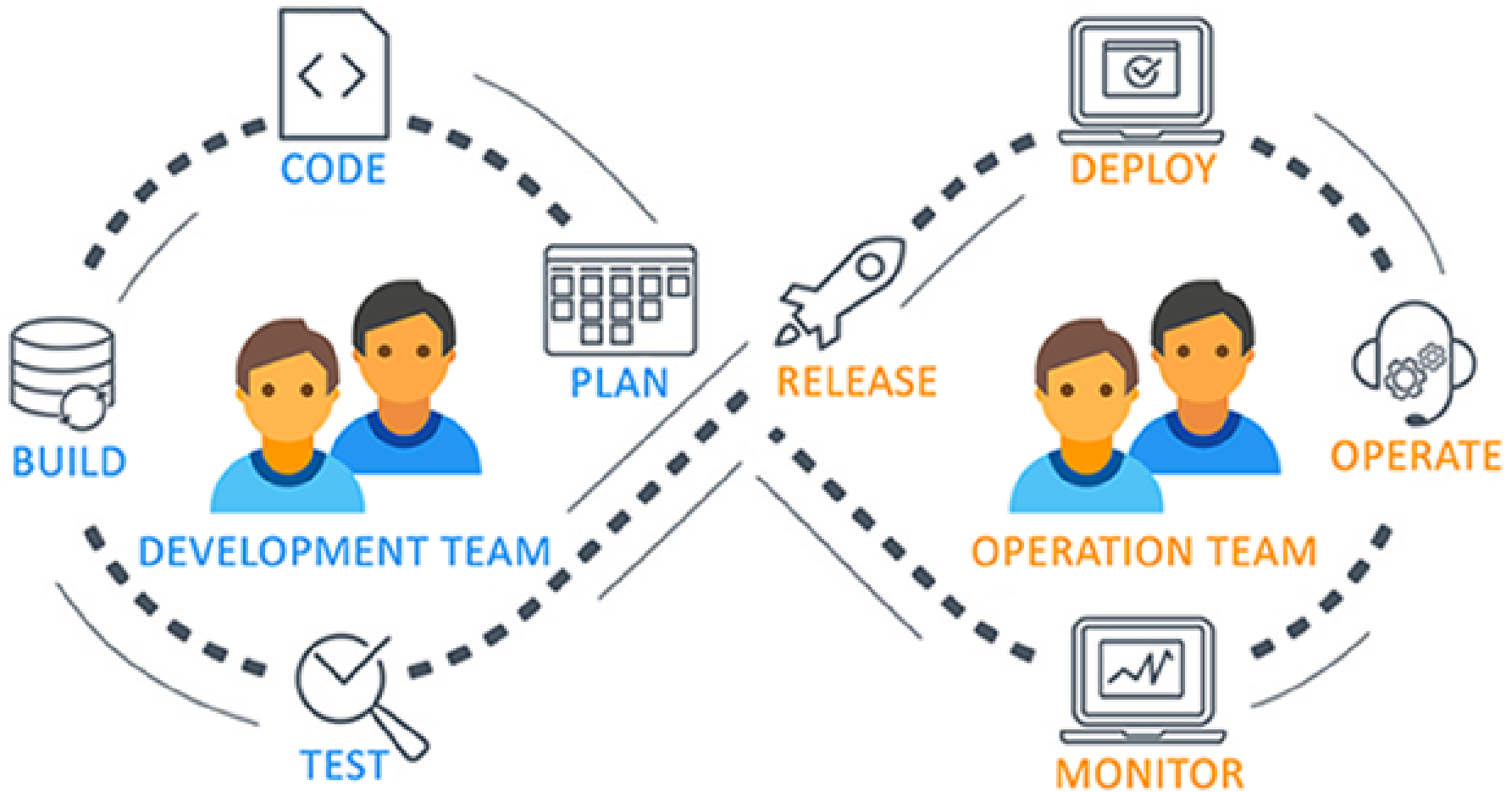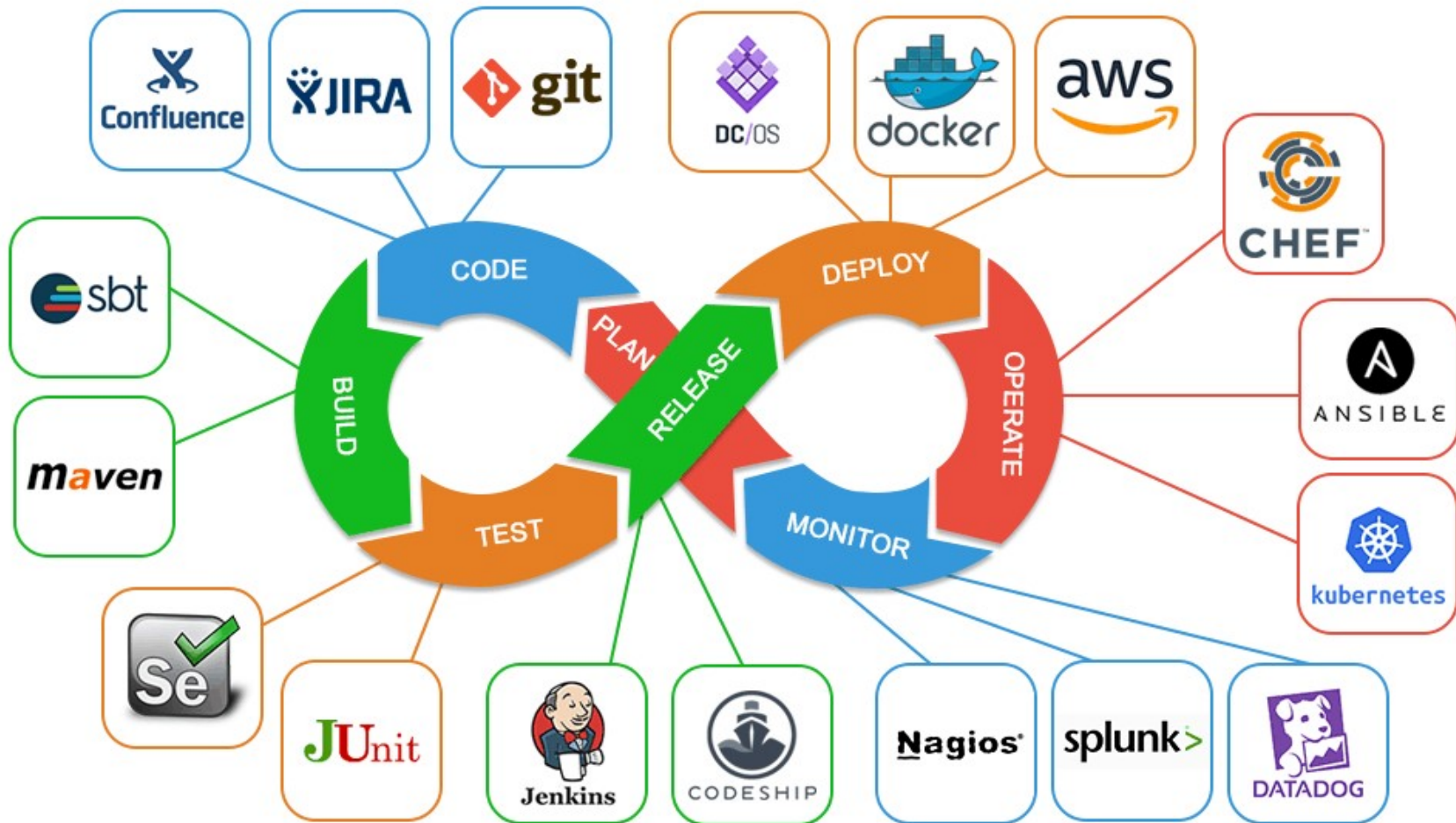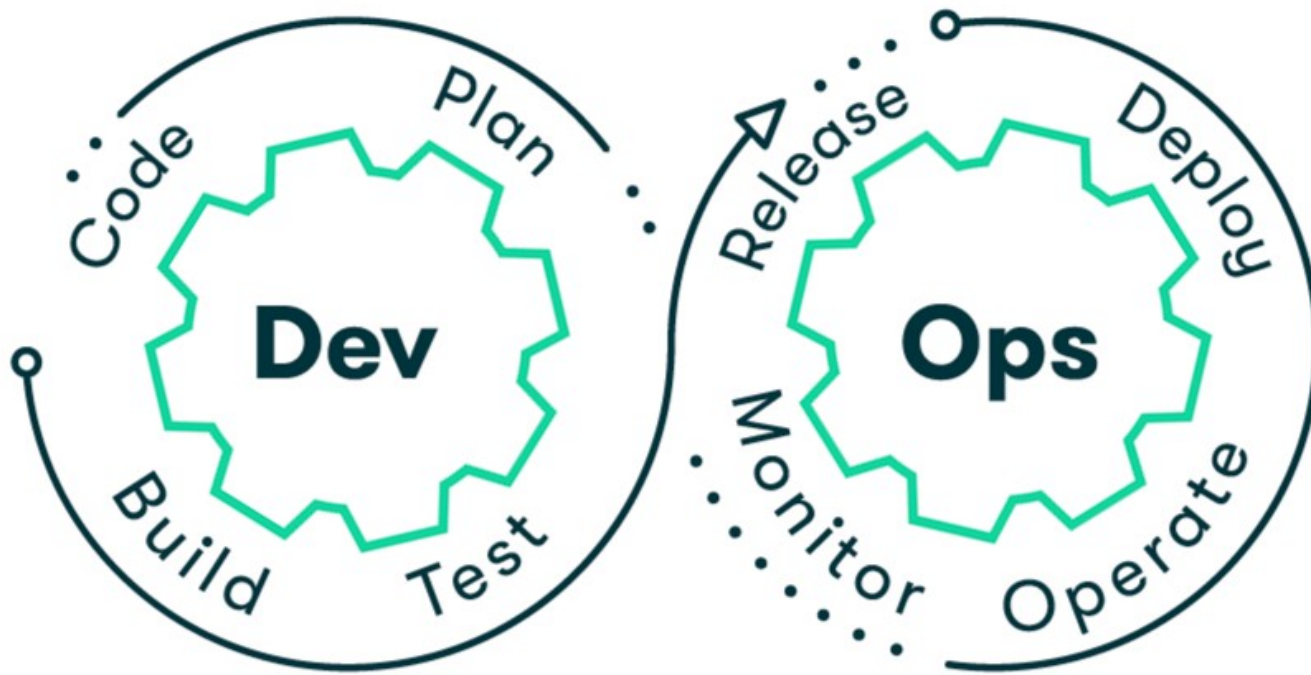
What and why of DevOps?
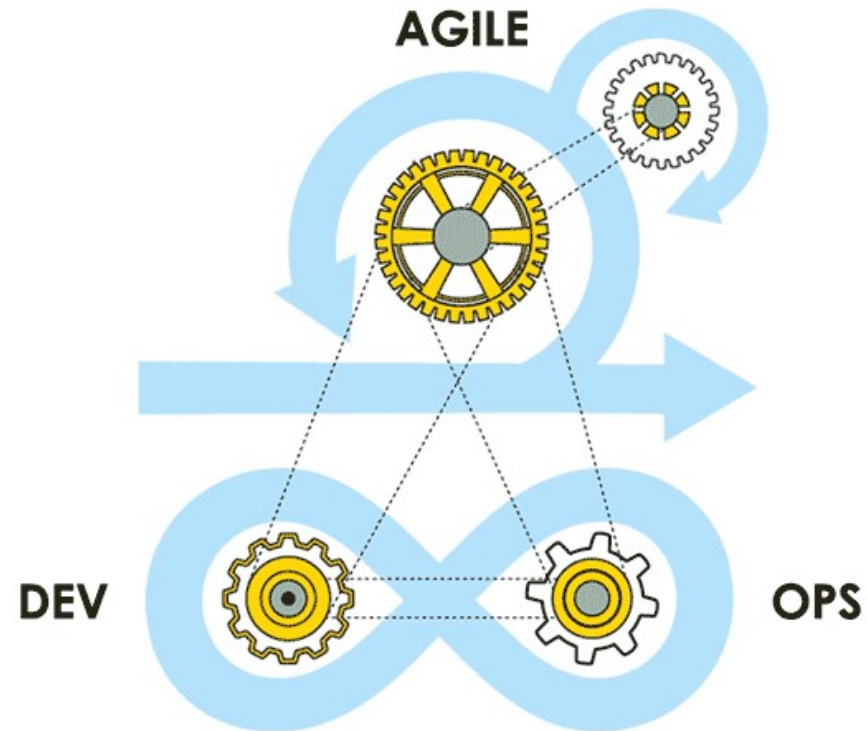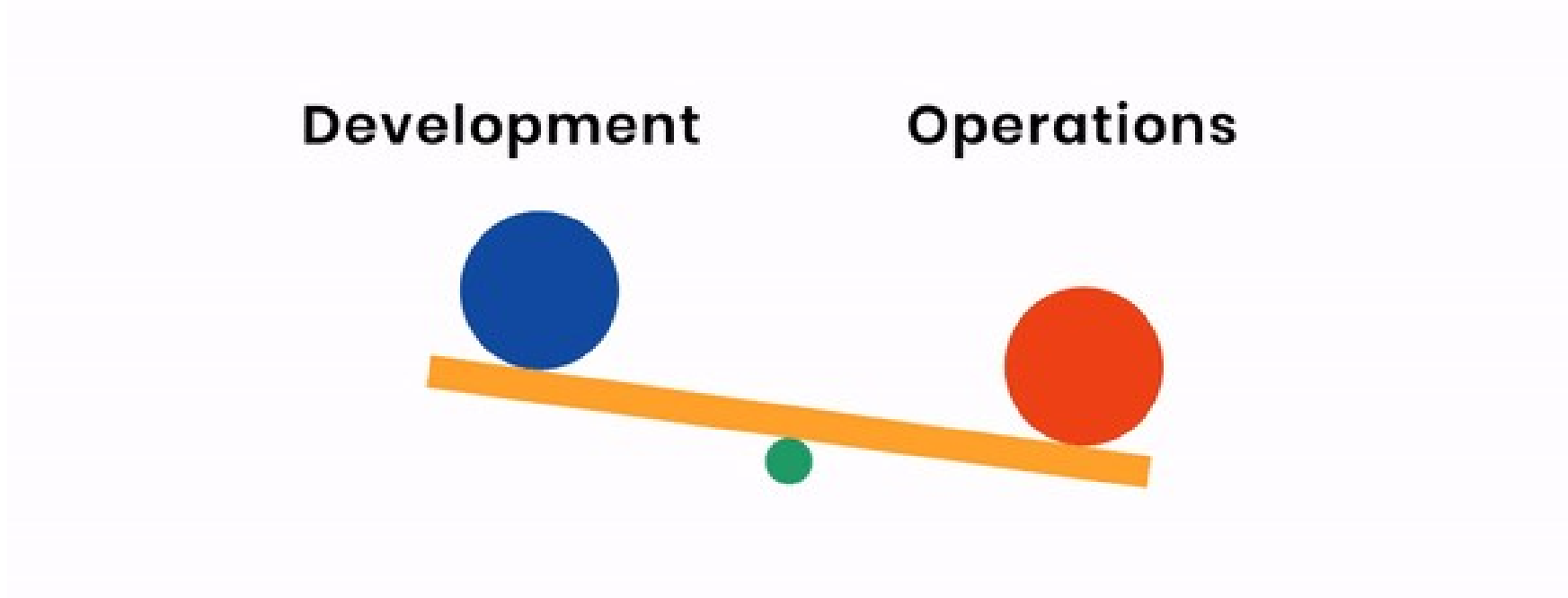
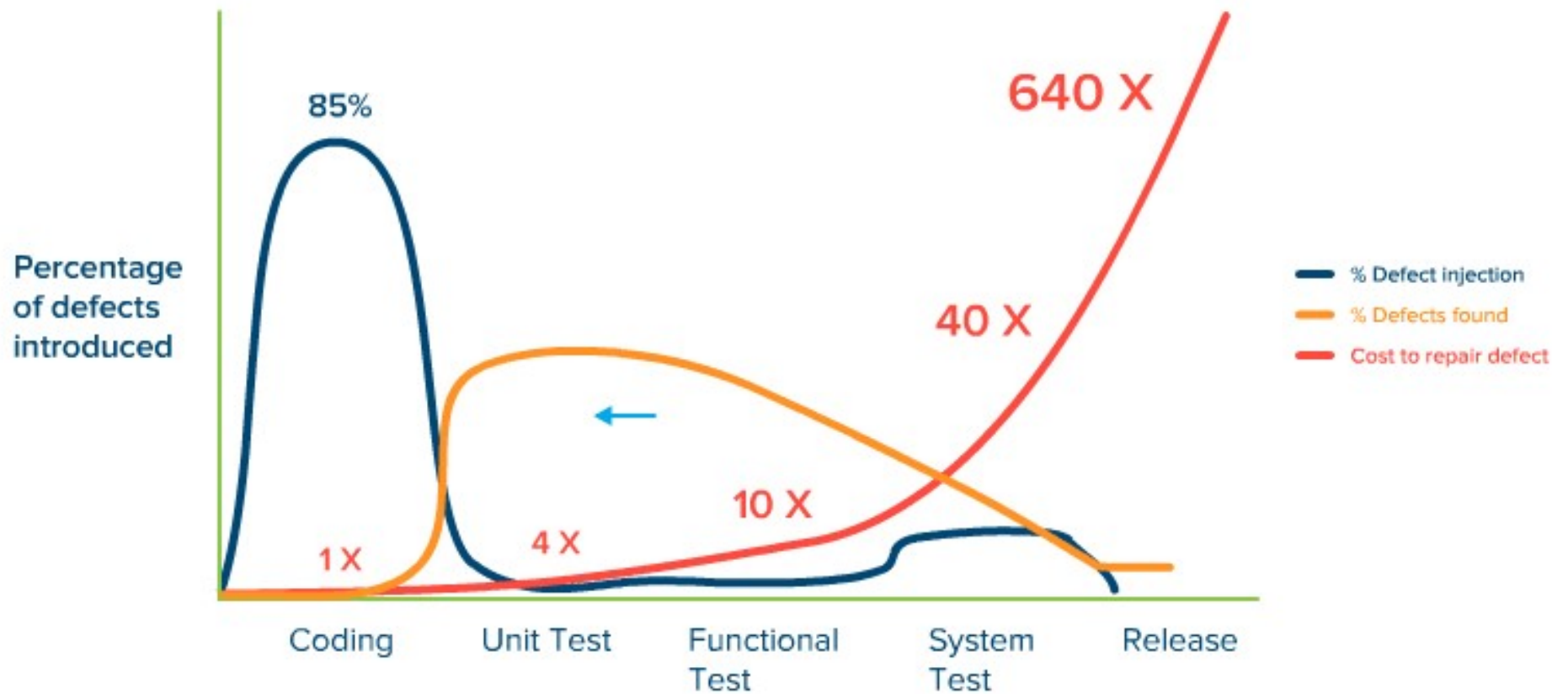# What and why of DevOps?

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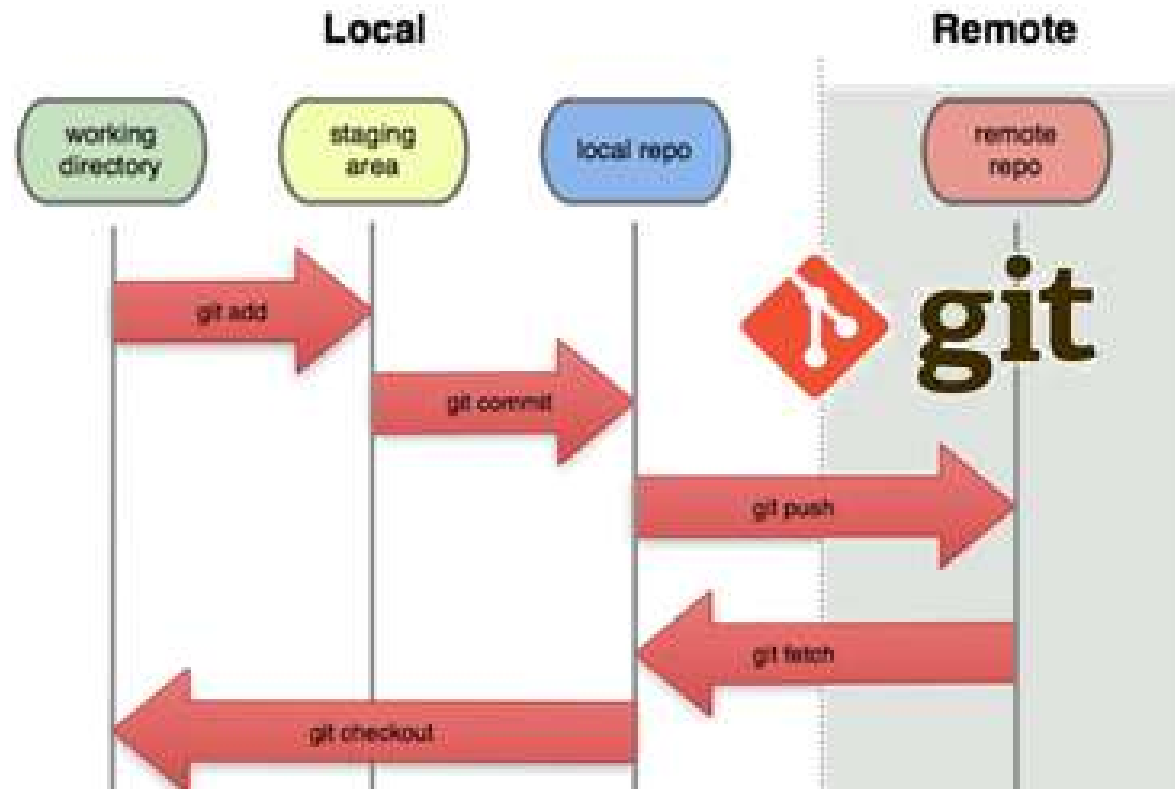# Early Defects vs Delayed Defects detection

Jones, Capers. *Applied Software Measurement: Global Analysis of Productivity and Quality.*

DevOps Tools – Overview and Use case

Source control

- To ensures for working on the right version
- Important for maintaining a single source of truth

Source Control Management (SCM Tools)

- Help to keep track of code
- Complete history of changes.

Git	Mercurial	AccuRev	Rational Team Concert
Sonatype Nexus Repository	Kallithea	Perforce	Deveo

Continuous Integration
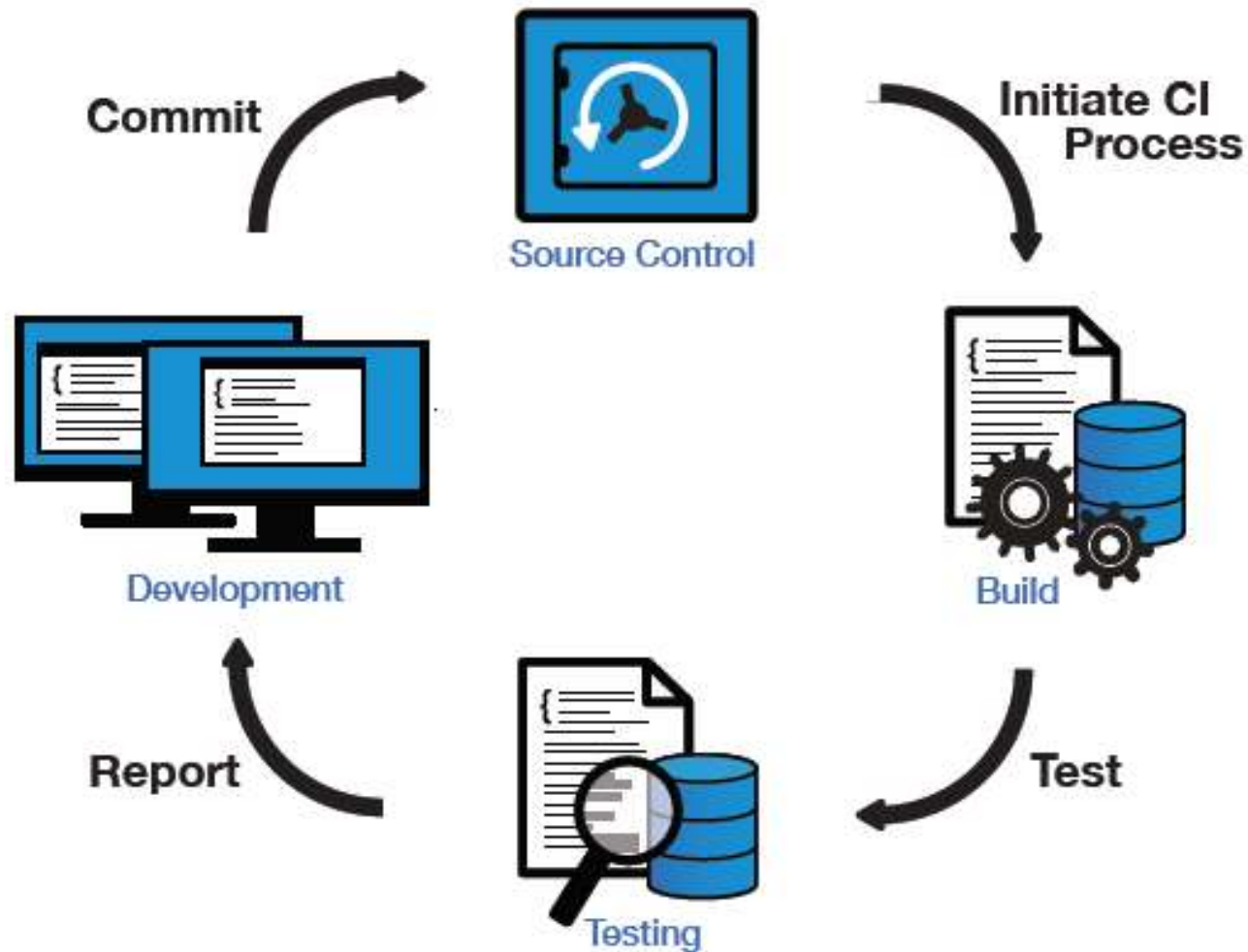
Continuous Delivery and Deployment
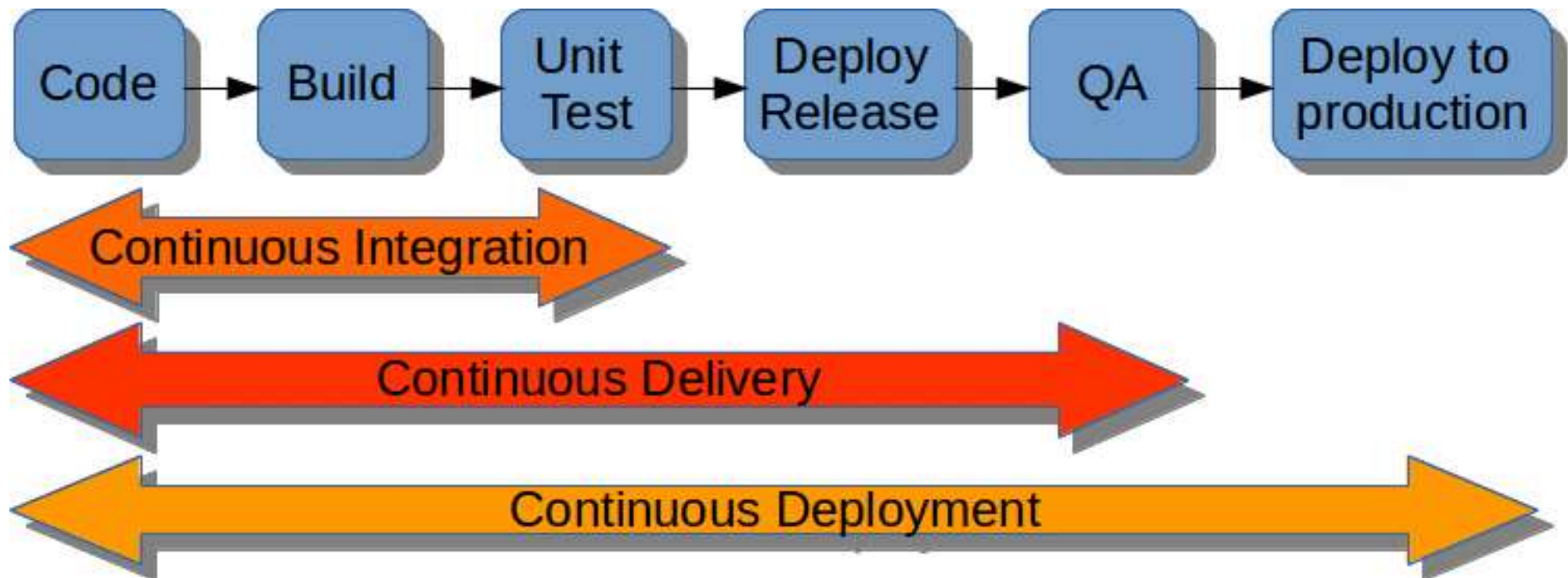
What Is Static Code Analysis?

A method of debugging

Examine source code before a program is run

Done by analyzing a set of code against a set of coding rules.

Performed early in development
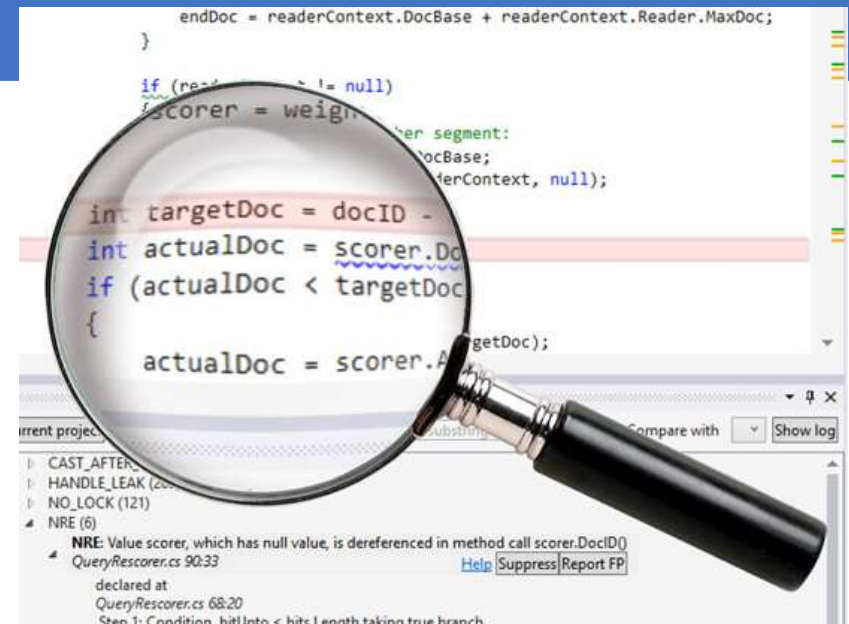
Static Code Analysis Tool

Development teams are under pressure

Quality releases needed to be delivered on time

Coding and compliance standards need to be met

And mistakes are not an option.

That's why development teams are using static analysis tools.

Static Analysis vs. Dynamic Analysis

- Static analysis
  - Identifies defects before running a program (e.g., between coding and unit testing).

- Dynamic analysis
  - Identifies defects after running a program (e.g., during unit testing)

Few Static Code Analysis Tools

Apache Yetus

Code Dx

ConQAT

Coverity

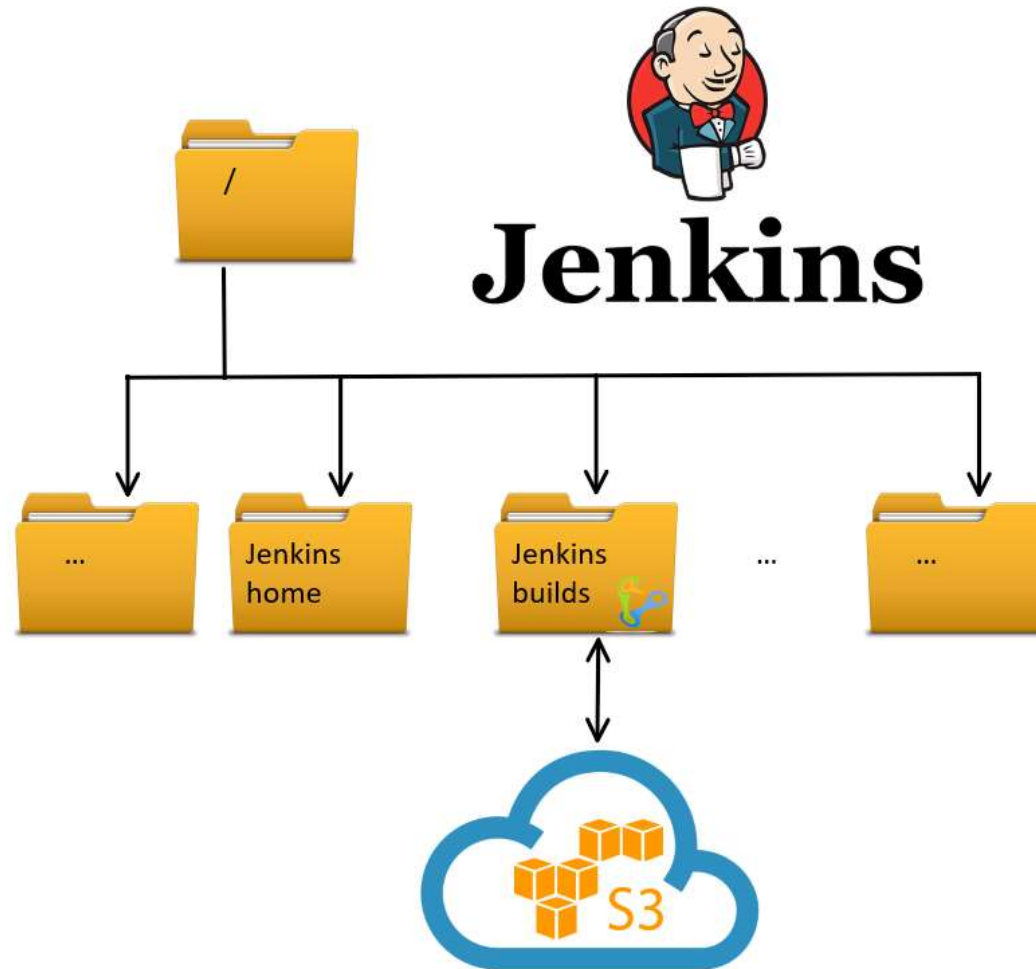IBM Security AppScan
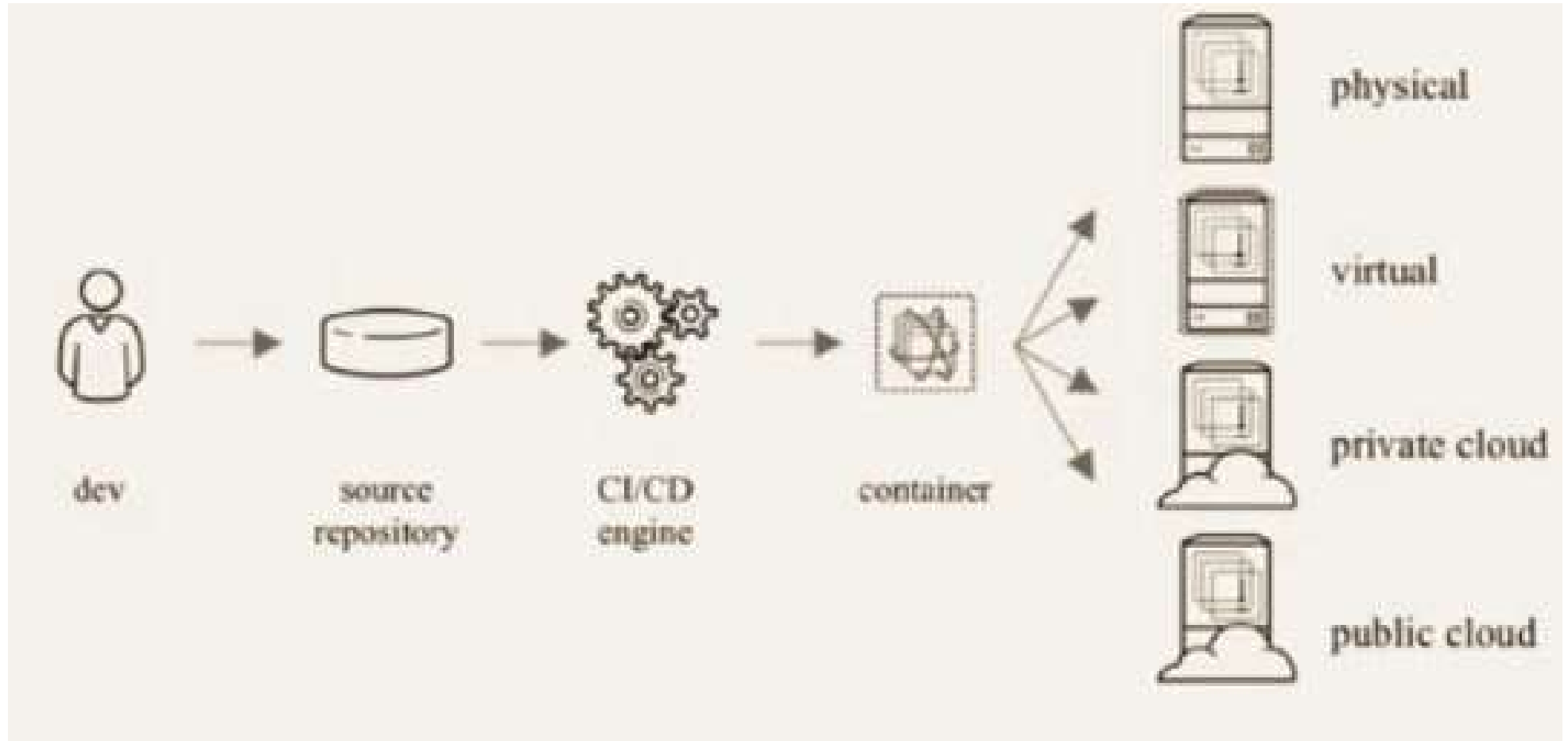
Facebook Infer

Lint

SonarQube

SourceMeter

For complete list refer:

- https://en.wikipedia.org/wiki/List_of_tools_for_static_code_analysis

Storage Artifacts

Containerization

Configuration Management

- A process for maintaining
  - Computer systems
  - Servers, and
  - Software in a desired, consistent state

Benefits of Configuration Management for Servers

Quick Provisioning of New Servers

Quick Recovery from Critical Events

Version Control for the Server Environment

Replicated Environments

Configuration Management Tools

Thanks