Continuous Delivery

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Topics

- **Continuous Delivery Overview**
- Continuous Delivery with CloudBees and Pivotal Cloud Foundry

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# Defining Terms

- **Continuous delivery**
  - Running automated compilation, checks and tests on a frequent basis
  - Code is deployable to production at any time (an option)
  - Effective continuous delivery requires automated tests
  - Tool examples: Bamboo, Jenkins, Cruise Control, Team City, Concourse
- **Continuous deployment**
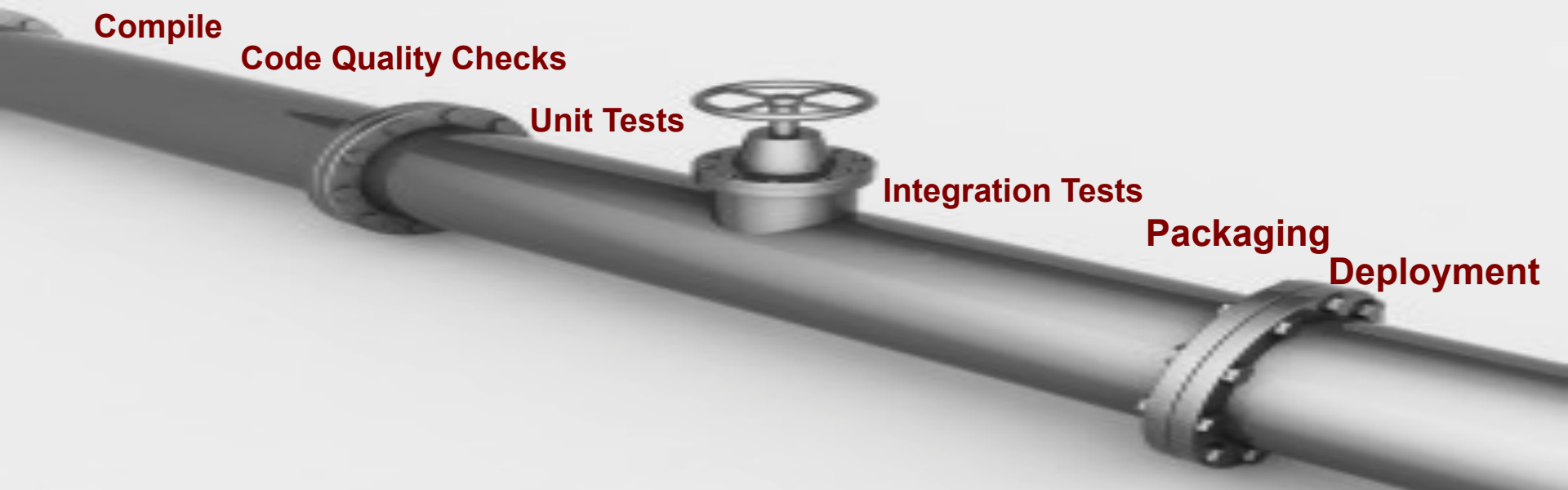 - Continuous delivery to production

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Benefits of Continuous Delivery

- Goal: prevent integration / deployment problems by discovering them early
  - Small changes lead to small problems, big changes lead to big problems
  - The cost of a bug grows exponentially in proportion to the time before it is discovered

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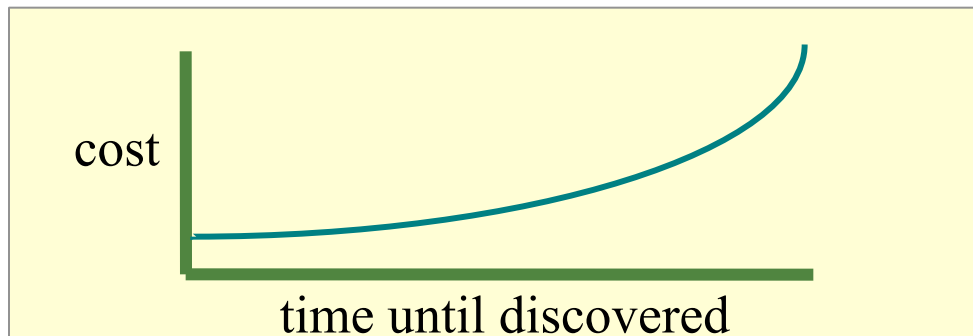
Continuous Delivery

- Continuously run through the "deployment pipeline"

Compile

Code Quality Checks

Unit Tests

Integration Tests

Packaging

Deployment

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Continuous Delivery

You're doing continuous delivery when:

- Your software is deployable throughout its lifecycle

- Your team prioritizes keeping the software deployable over working on new features

- Anybody can get fast, automated feedback on the production readiness of their systems any time somebody makes a change to them

- You can perform push-button deployments of any version of the software to any environment on demand

Martin Fowler, May 2013

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- **Continuous Delivery with CloudBees and Pivotal Cloud Foundry**

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What Is CloudBees?

- Public cloud-based provider of continuous delivery services
  - Based on open-source Jenkins

- Features
  - Good integration with lots of Source Code Management (SCM) tools
    - GitHub, CVS, SVN, etc.
  - Ability to run many build tools
    - Maven, Gradle, Ant, etc.
  - Many deployment options
    - Great integration with PWS/Software as a Service (SaaS)
    - Can install as a managed service/Ops Manager tile
    - Can use your own Jenkins installation

Example Continuous Delivery Pipeline

SCM
(GitHub)
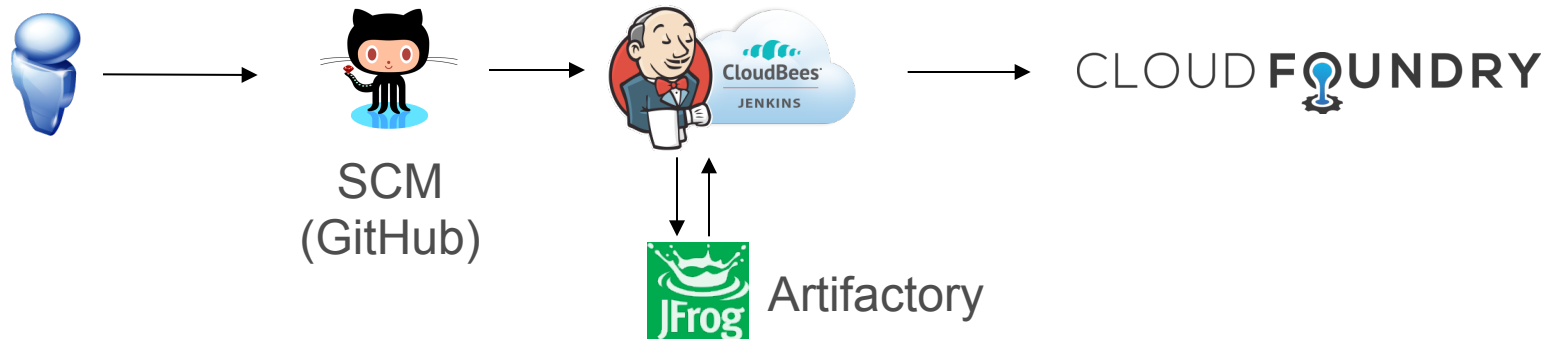
Artifactory

1. Developer commits code to SCM (for example, GitHub)
2. CloudBees monitors repository for commit, launches build process
3. CoudBees puts copy of built artifacts into repository (eg. Artifactory)
4. CloudBees pushes application to Cloud Foundry

Note: CloudBees uses oAuth to connect to GitHub and PCF

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CloudBees Jenkins Ops Manager Tile

- CloudBees Jenkins service
  - Installed by an administrator as an Ops Manager tile
- Advantages over external CloudBees Jenkins SaaS:
  - Installed within enterprise (private)
  - Authentication integrated with Pivotal Cloud Foundry
  - Easy to scale

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Lab

Deploy GitHub commits to Cloud Foundry via CloudBees

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