

Driving DI Project Success with CI

Getting Started with CI 101

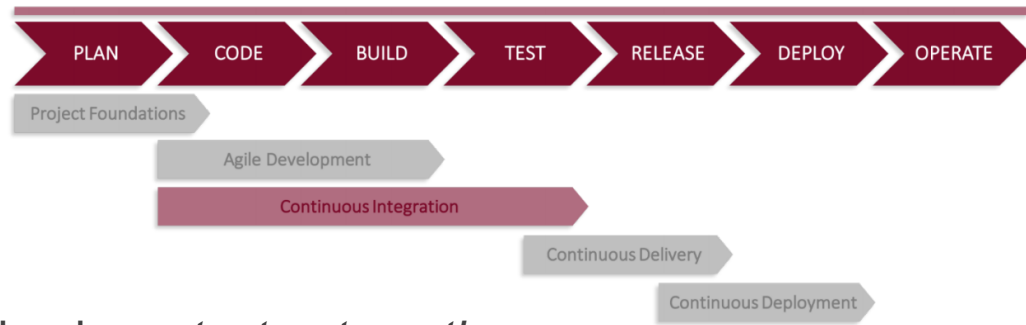
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***DI solutions benefit from
automated testing in the
same way any other software
does***

But how do you get started?

Setting the Scene



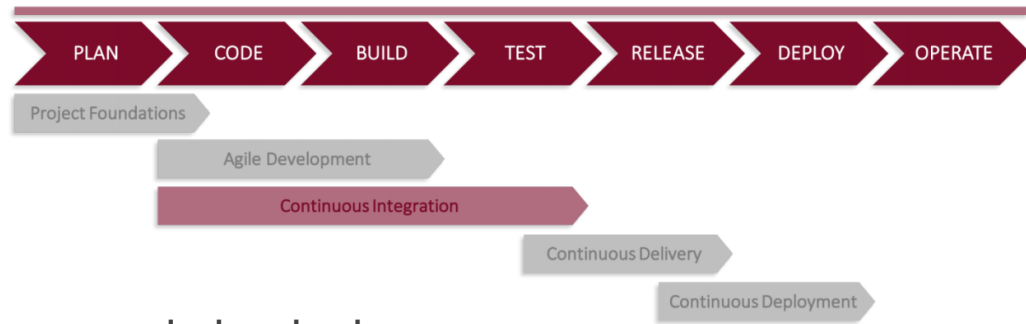
- **Continuous Integration**

- Development practice with emphasis on *test automation* to check that the solution is not broken whenever changes are integrated into the central solution repository
- Giving immediate developer feedback and the ability to easily fix bugs
- Increasing code quality in a structured fashion
- Releases become easier as integrations happen constantly

- **Most common DevOps maturity phase achieved**

- Ultimately aims to create an automated environment where iteratively building, testing, and releasing a PDI solution can be faster and more reliable

Setting the Scene



- **DI Project Realities**

- Automated tests happen next to manual checks by QA team
 - On commits/merges into particular branch
 - Focus on key solution building blocks (smoke tests)
- Constant struggles between Dev and QA teams on test responsibilities
 - Agree the process !
- Continuous Delivery and Deployment mostly loosely coupled
 - Less automated
 - And not always a direct link with CI process

Covering in this Session

What are the required **project foundations** for your CI strategy

What should be included in your **testing strategy**

What is needed in terms of **CI infrastructure**

How to design a **test framework and suite** with PDI and how to integrate this with a CI server for automating the end-to-end CI workflow

Demo CI Solution using Git as a code repository, Jenkins as an automation server and Junit as the test reporting framework

Onboarding on your Project's DevOps Journey

– Setting up the right Project Foundations

Version Control System



- Shared repository of solution artefacts
- Right branching strategy
- Supports team collaboration and release management capabilities

Content & Configuration Management

- Separate your content from the configurations that makes it run properly
- Environment agnostic solution

Structured Solution Approach

- Working in a structured and reusable fashion
- *Eg. Git repo structure, development standards, reusable components, DI framework, ...*

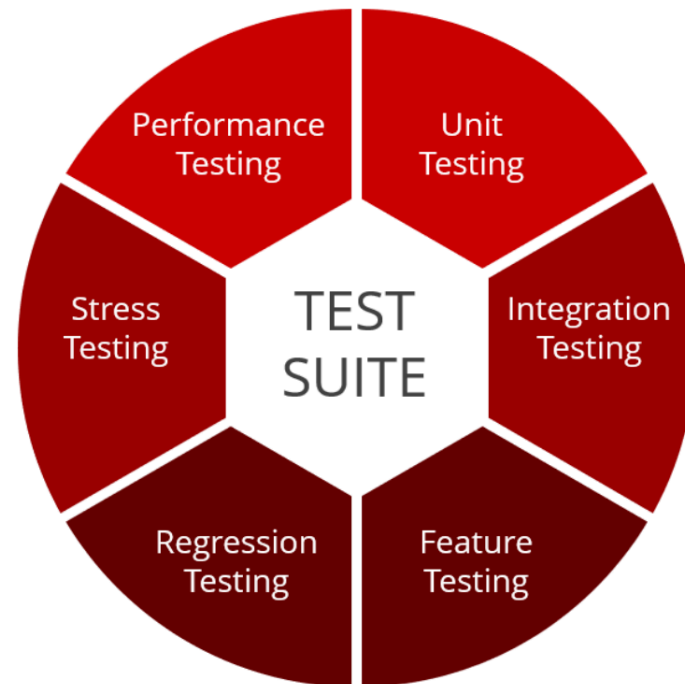
Choose a Test Strategy That Works

- Define the right **levels of testing** that will be done for your project

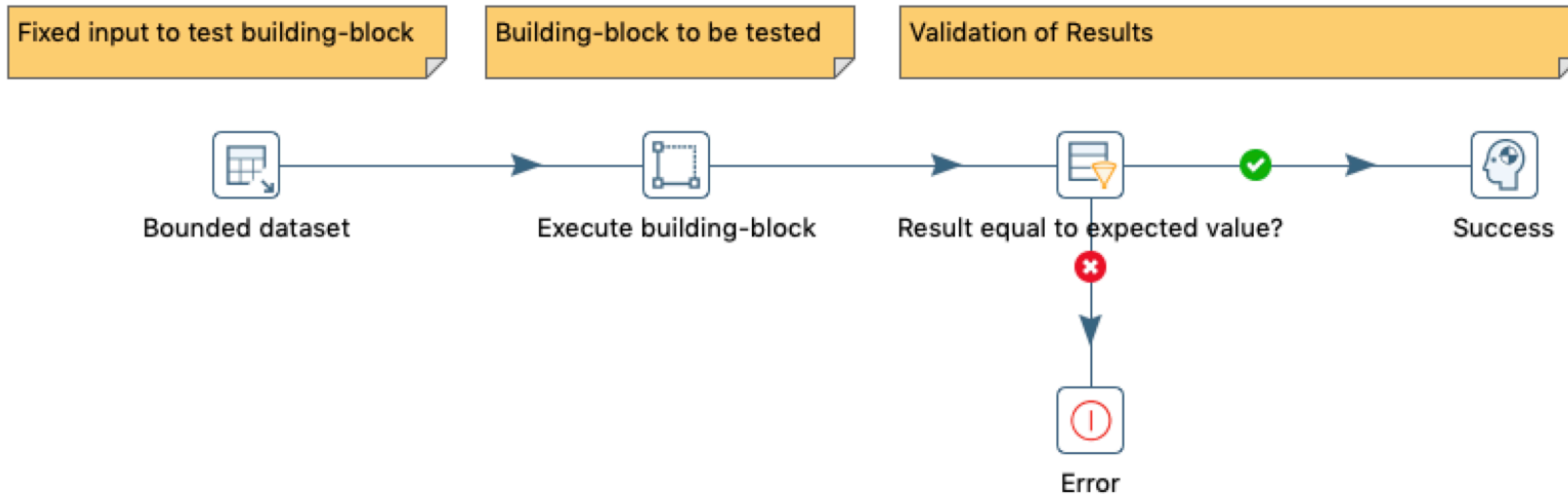
A DI project can be tested at different levels

- A transformation may be tested individually
- or an entire DWH load may be tested by running it on a known set of source data and evaluating the resulting data
- Other tests may be aiming at verifying agreed acceptance criteria, or performance considerations

- And decide who tackles what
 - Dev team, QA team, CI env



Using PDI to Test PDI



Set up your CI Infrastructure

– Dedicated Test Environment

Test Framework



- Prescribes the way tests are structured, executed and how results are compared
- Makes your test solution more reusable, maintainable and stable

Test Suite



- Complete set of test cases for your DI solution
- Set of shared data fixtures (data inputs) reused by multiple tests

Automation Server



- Orchestrating the test suite and process

Project Setup BPs, Including DI and Test Framework

framework

- content-pdi
- bin
- deploy-pdi
- **tests**
 - **execution**
 - **utilities**

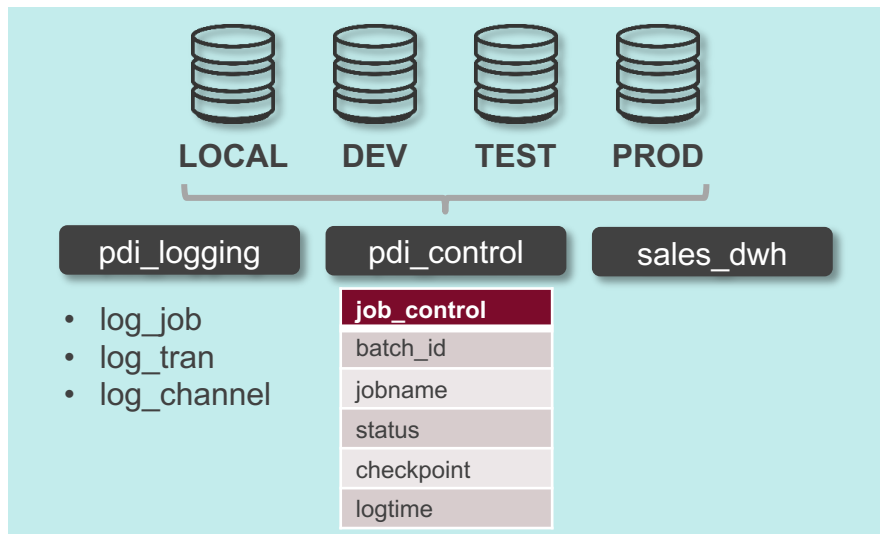
sales_dwh

- content-pdi
- file-mgmt
- log
- **tests**
 - **test-suite.xml**
 - **test-results**

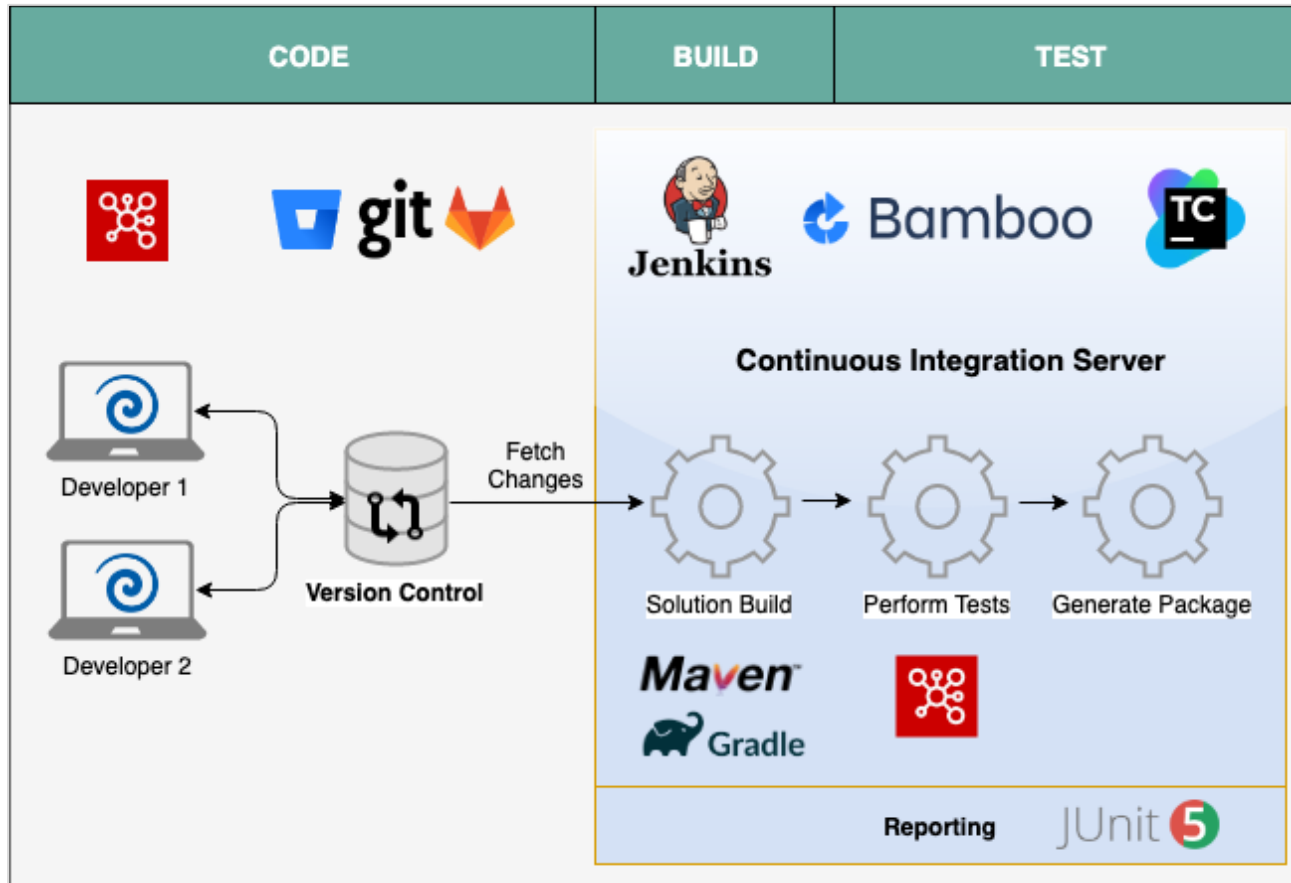
sales_dwh-configuration

- config-pdi-local
- config-pdi-dev
- **config-pdi-test**
- config-pdi-prod

- .kettle
- Properties: **test.properties**
- metastore
- spoon.bat/sh



CI with PDI Workflow



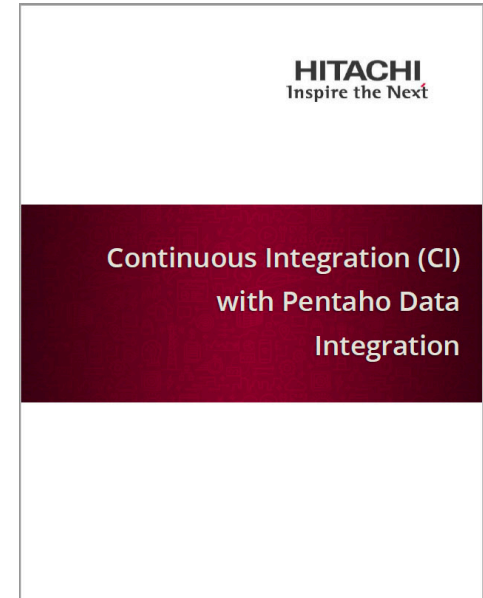
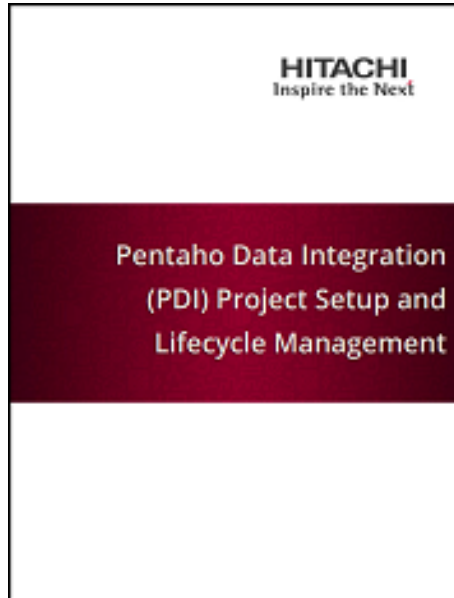
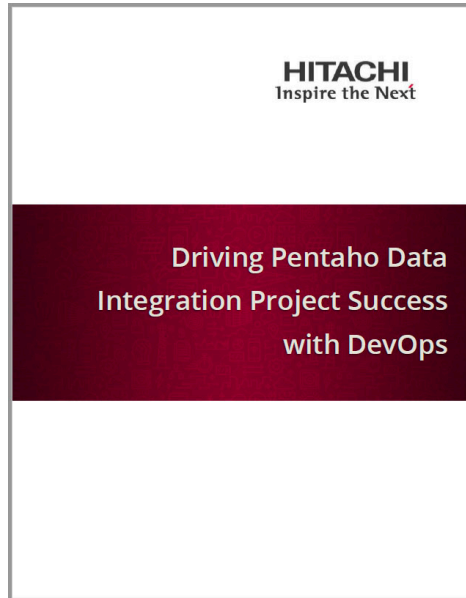
Demo CI Solution

Using **Git** as a code repository, **Jenkins** as an automation server and **Junit** as the test reporting framework

Find out the Details at support.pentaho.com

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Inspire the Next

- Check out our **PDI Devops Series**, including the following Best Practice documents: <https://support.pentaho.com/hc/en-us/articles/360000307943-Pentaho-Data-Integration>



Demo Download

- Download the demo solution at
 - <https://github.com/braymaekers/framework>
 - https://github.com/braymaekers/sales_dwh
 - https://github.com/braymaekers/sales_dwh-configuration

Thank You



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