Pipeline as Code

Section 4

What you will learn in this section

Theory:

- Pipeline as Code
- Jenkinsfile
- Pipeline Plugin

Practice:

- Implement a CD pipeline

What is Pipeline as Code

Video 4.1

What you will learn in this video

- What is Pipeline as Code
- How pipelines are implemented in Jenkins 2
- Benefits of using pipelines

Pipeline as Code

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- Jenkins **jobs and configuration defined as code**
- Discover, manage, and run jobs for **multiple repositories and branches**
- **Reduce manual creation and management** of jobs

Infrastructure as Code

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Infrastructure as Code

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- **Automate** IT processes
- **Repeatable** configuration

Types of Pipelines

- CI using multiple branches and repositories

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- CD to multiple environments

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- Event-driven workflows
- Build promotion
- Conditional processing

Pipeline Flow

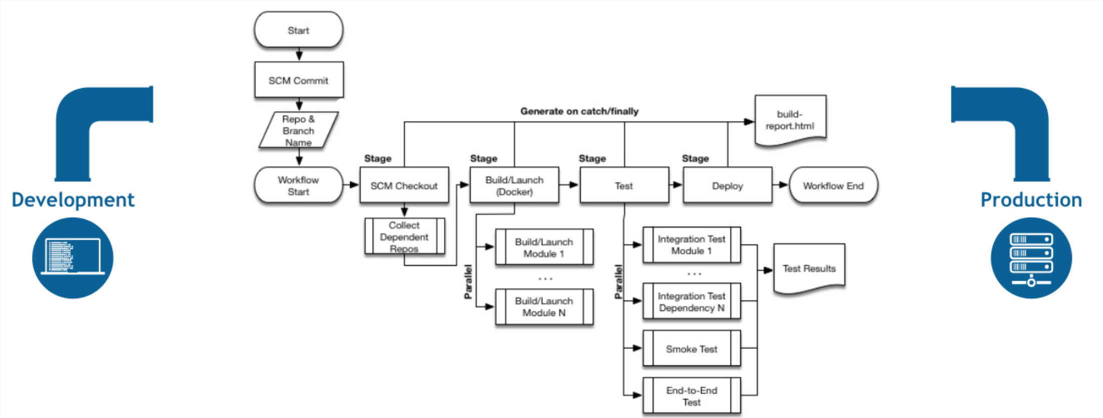

Image: https://jenkins.io/doc/book/pipeline ©

How pipelines are implemented in Jenkins 2

- Pipeline Plugin

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- Jenkinsfile

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- Domain-specific language (DSL) using Groovy

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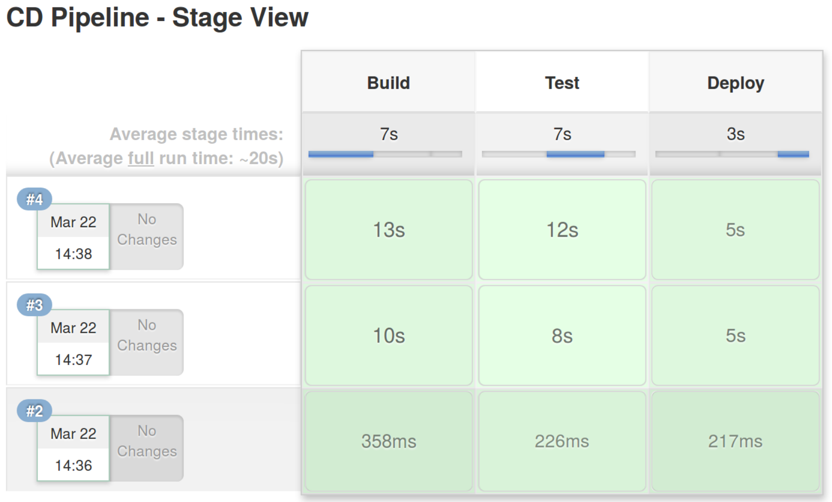
How pipelines are implemented in Jenkins 2

- Pipeline Plugin
- Jenkinsfile
- Domain-specific language (DSL) using Groovy
- Pipeline shared libraries
- Stage views

Pipeline Visualization



CD Pipeline - Stage View

	Build	Test	Deploy
Average stage times: (Average full run time: ~20s)	7s	7s	3s
#4 Mar 22 14:38 No Changes	13s	12s	5s
#3 Mar 22 14:37 No Changes	10s	8s	5s
#2 Mar 22 14:36 No Changes	358ms	226ms	217ms

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- **Extensible**: DSL extensions and shared library can be integrated
- **Visual**: Pipeline can be visualized thus improving visibility to non-technical people

Next Video

Video 4.2 Jenkinsfile