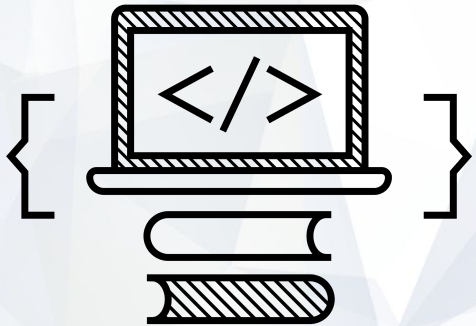
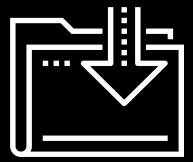


Jenkins

Course: Java

S1



What can software do?
Why do we even write software?

Learning Outcomes

By the end of this lesson, you will be able to:

01 Discuss DevOps

02 Discuss Continuous Integration (CI)

03 Discuss Continuous Delivery (CD)

04 Discuss Containerization

05 Explain Jenkins Pipeline

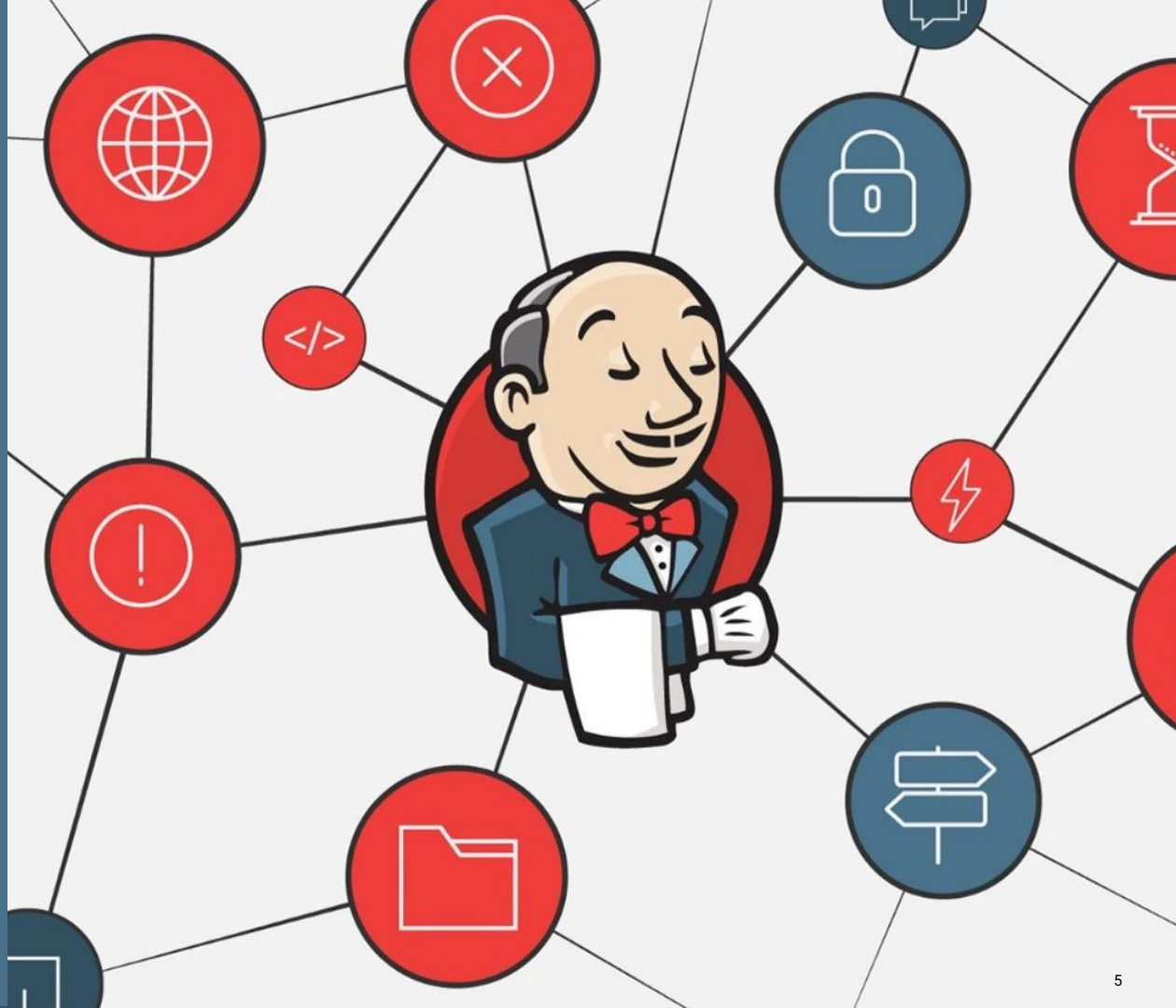
06 Configure Jenkins

07 Build a Java App using Jenkins

What is Jenkins?

Jenkins is the leading open-source automation server.

Built with Java,
it provides over 1000 plugins to support automating virtually anything, so that humans can actually spend their time doing things machines cannot.



https://dev.to/nabin

Jenkins is a **self-contained, open source automation server** which can be used to automate all sorts of tasks related to building, testing, and delivering or deploying software.

https://jenkins.io/doc/

Why Use Jenkins?

- It’s common
- Lots of community support
- Many plugins and well-maintained

But before we go on...DevOps

Activity: DevOps

Suggested Time:

50 Minutes

Investigate and Discuss DevOps

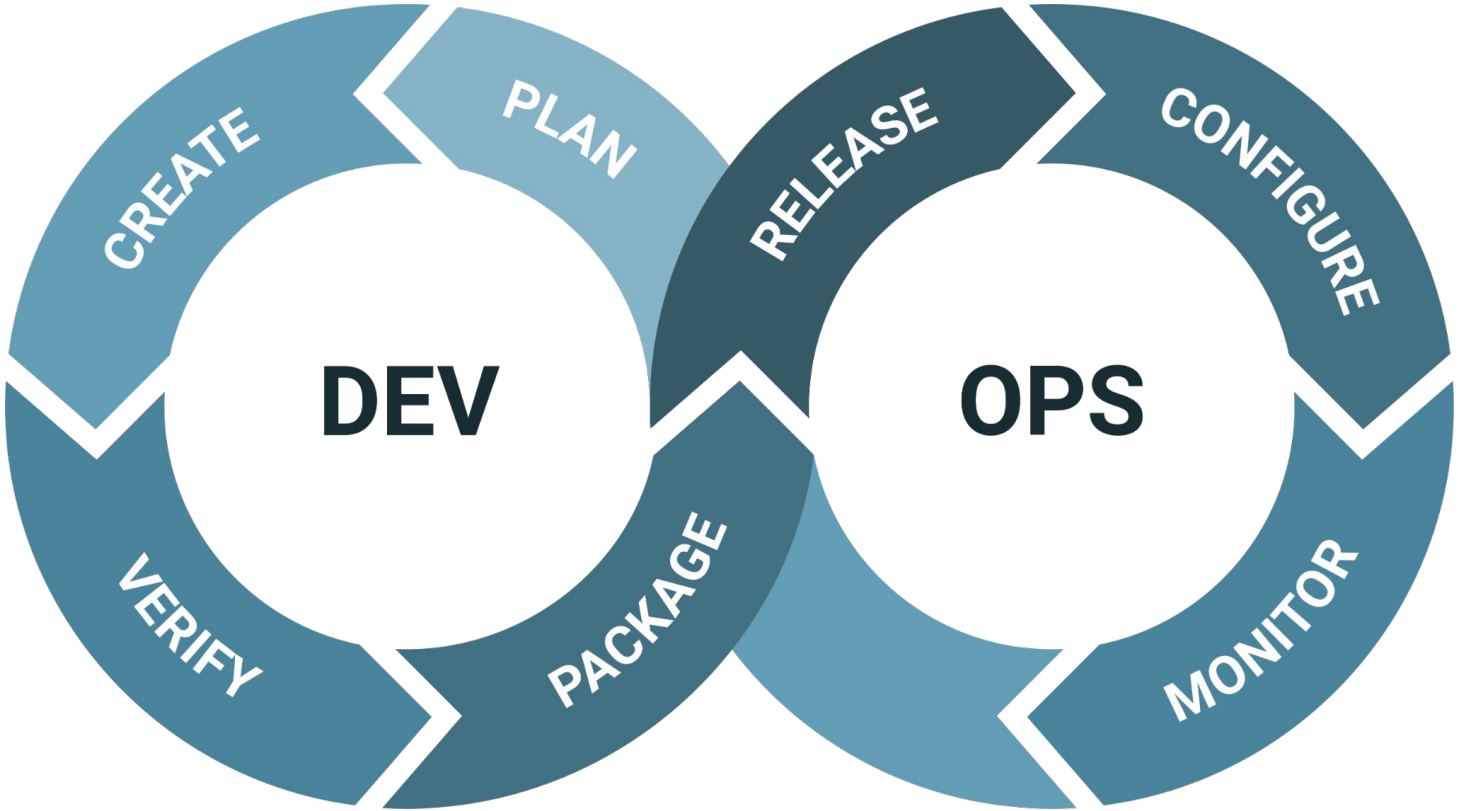
Questions to explore:

- What is DevOps?
- Why do we use it?
- What is the goal?
- What are the pros and cons?
- What examples are out there?
- How does DevOps relate to the Twelve Factor Methodology?

Where to look:

- Case studies
- Formal documentation
- Reputable sources

Investigate and Discuss DevOps




STOP
AND
THINK

Do we have a clear definition of DevOps?

What are the **goals** of employing DevOps?

What are the **benefits** we may see employing DevOps?

DevOps Benefits

What are the benefits we may see employing DevOps?

01 More implemented features and frequent releases

02 Improved quality assurance

03 Enhanced collaboration and communication

04 Maximizing competencies

05 Improved visibility of implemented features to the customer

06 Testing with real customers

07 Enables continuous experimentation

08 Improved well-being of the DevOps teams

What kind of **challenges** do we face in adopting DevOps?

DevOps Adoption Challenges

What kind of challenges do we face in adopting DevOps?

Insufficient communication

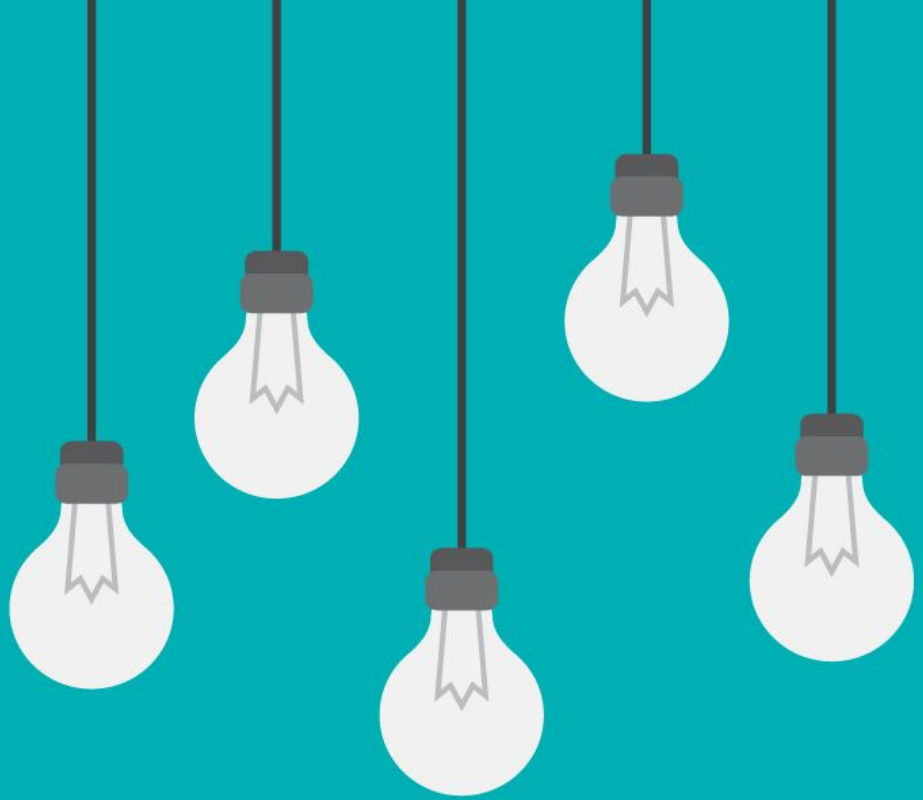
Deep seated company culture

Industry constraints and feasibility

Heterogeneous environments

DevOps is unclear but constantly evolving

Examples?



Questions?


Break

Activity:
Investigate Continuous Integration

Suggested Time:

50 Minutes

Investigate Continuous Integration

Questions to explore:

- What is CI?
- Why do we use it?
- What is the goal?
- What are the pros and cons?
- What examples are out there?
- How does CI relate to the Twelve Factor Methodology?

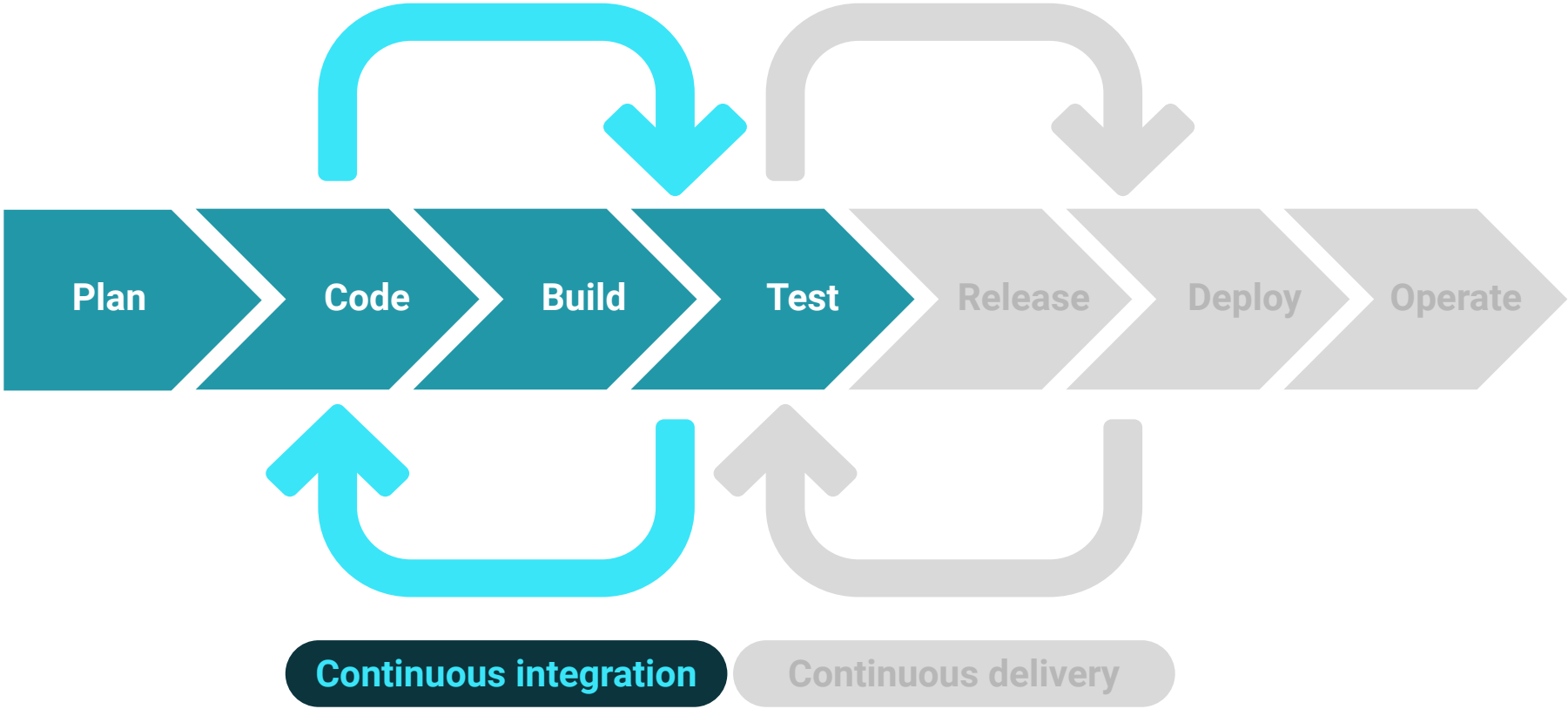
Where to look:

- Case studies
- Formal documentation
- Reputable sources


STOP
AND
THINK

What is Continuous Integration?

Continuous Integration

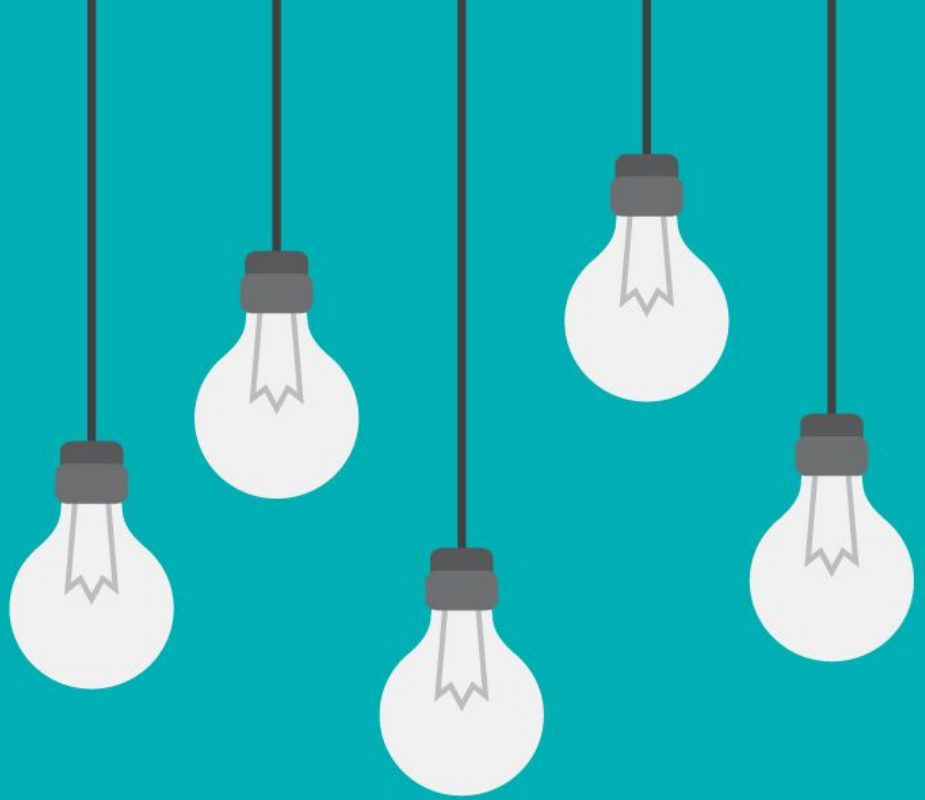


What are the goals of CI?

What are the benefits of CI?

What are things we must consider with CI?

Examples?



Questions?


Break

Activity:
Investigate Continuous Delivery

Suggested Time:

Investigate and Discuss CD

Questions to explore:

- What is CD?
- Why do we use it?
- What is the goal?
- What are the pros and cons?
- What examples are out there?
- How does CD relate to the Twelve Factor Methodology?

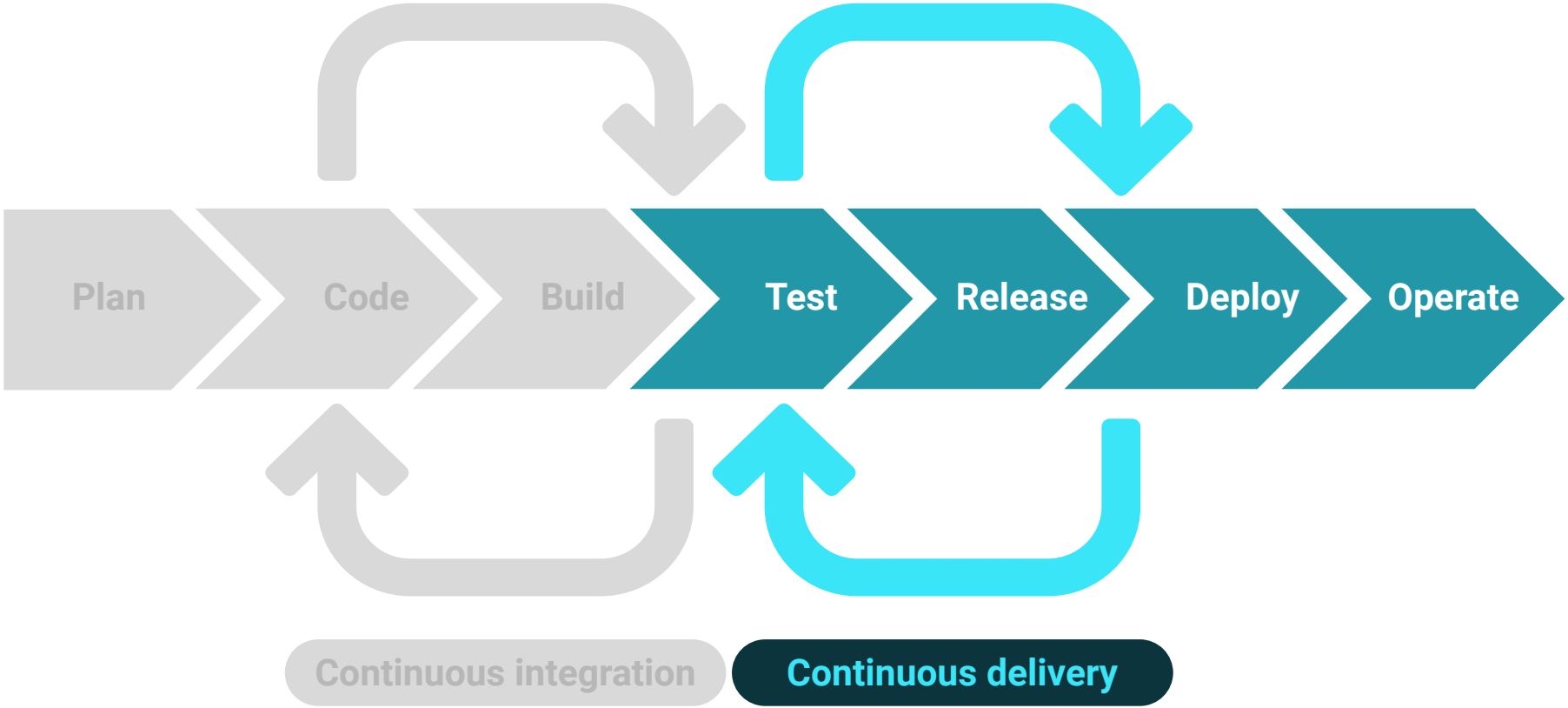
Where to look:

- Case studies
- Formal documentation
- Reputable sources


STOP
AND
THINK

What is Continuous Delivery?

Continuous Delivery

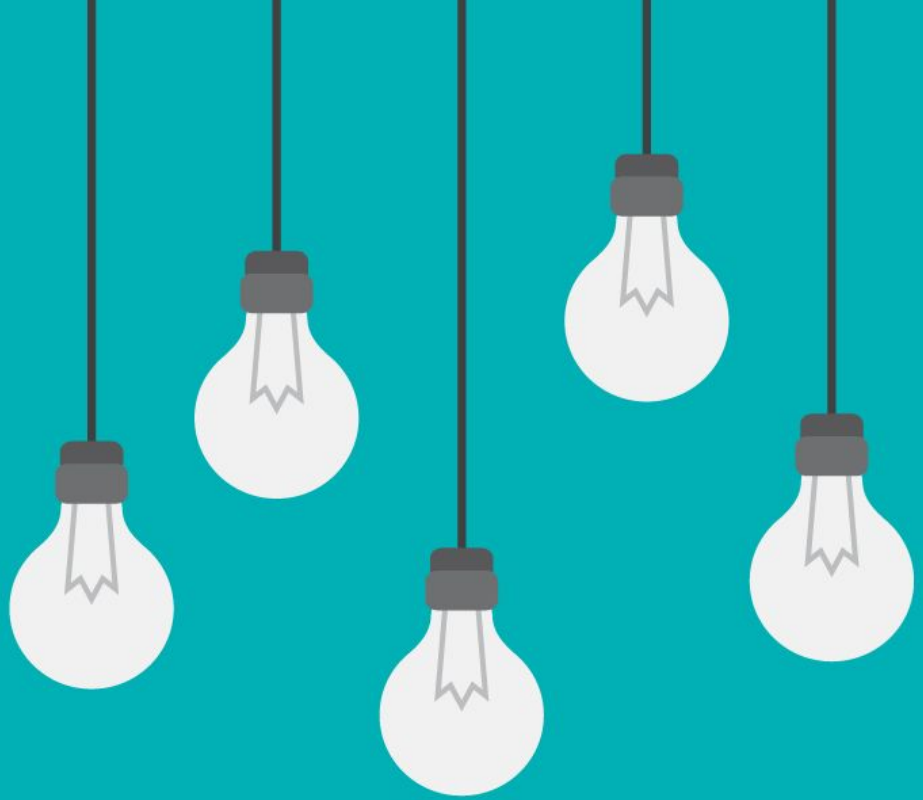


What are the goals of CD?

What are the benefits of CD?

What are things we must consider with CD?

Examples?



Questions?


Break

Activity:
Investigate Containerization

Suggested Time:

50 Minutes

Investigate and Discuss CD

Questions to explore:

- What is containerization?
- Why do we use it?
- What is the goal?
- What are the pros and cons?
- What examples are out there?
- How does containerization relate to the Twelve Factor Methodology?

Where to look:

- Case studies
- Formal documentation
- Reputable sources


STOP
AND
THINK

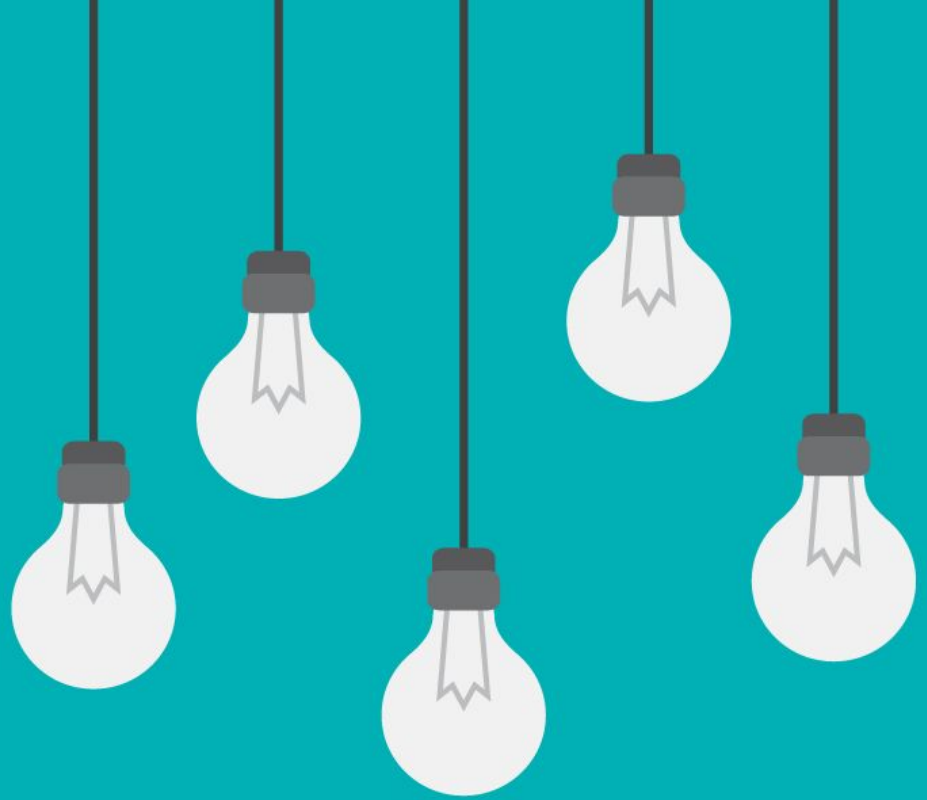
What is Containerization?

What are the goals of containerization?

What are the benefits of containerization?

What are things we must consider with containerization?

Examples?



Questions?

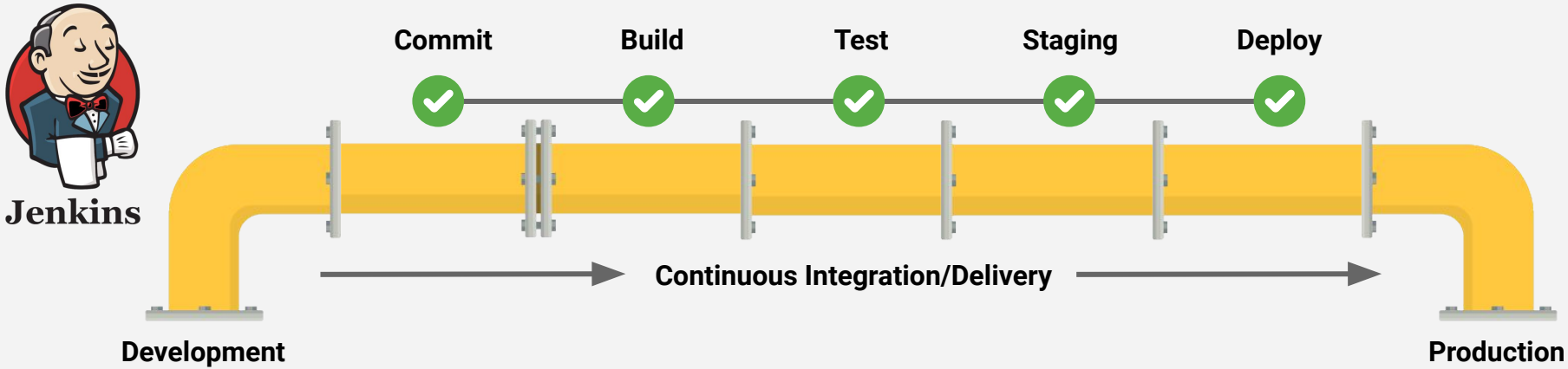

Break

What is Jenkins Pipeline?

Jenkins Pipeline (or simply “Pipeline” with a capital “P”) is a suite of plugins which supports implementing and integrating continuous delivery pipelines into Jenkins.

What is Jenkins Pipeline?

A continuous delivery (CD) pipeline is an automated expression of your process for getting software from version control right through to your users and customers.



Every change to your software (committed in source control) goes through a complex process on its way to being released. This process involves building the software in a reliable and repeatable manner, as well as progressing the built software (called a “build”) through multiple stages of testing and deployment.


RECAP

Questions?


The End