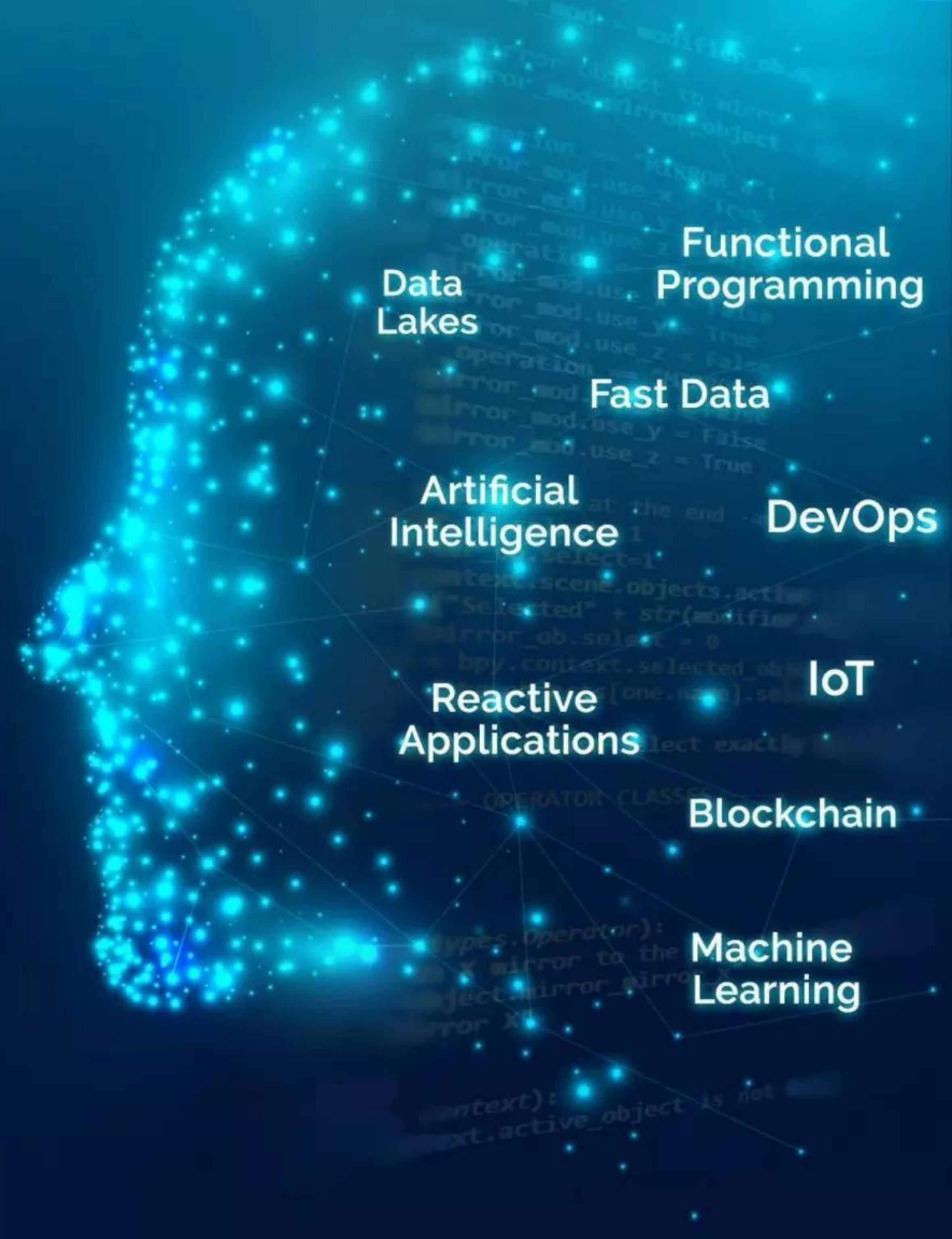




Introduction To CI/CD

Presented By: Prashant Trivedi



Our Agenda

01

What is **CI/CD**?

02

Why CI/CD?

03

CI/CD **Lifecycle**

04

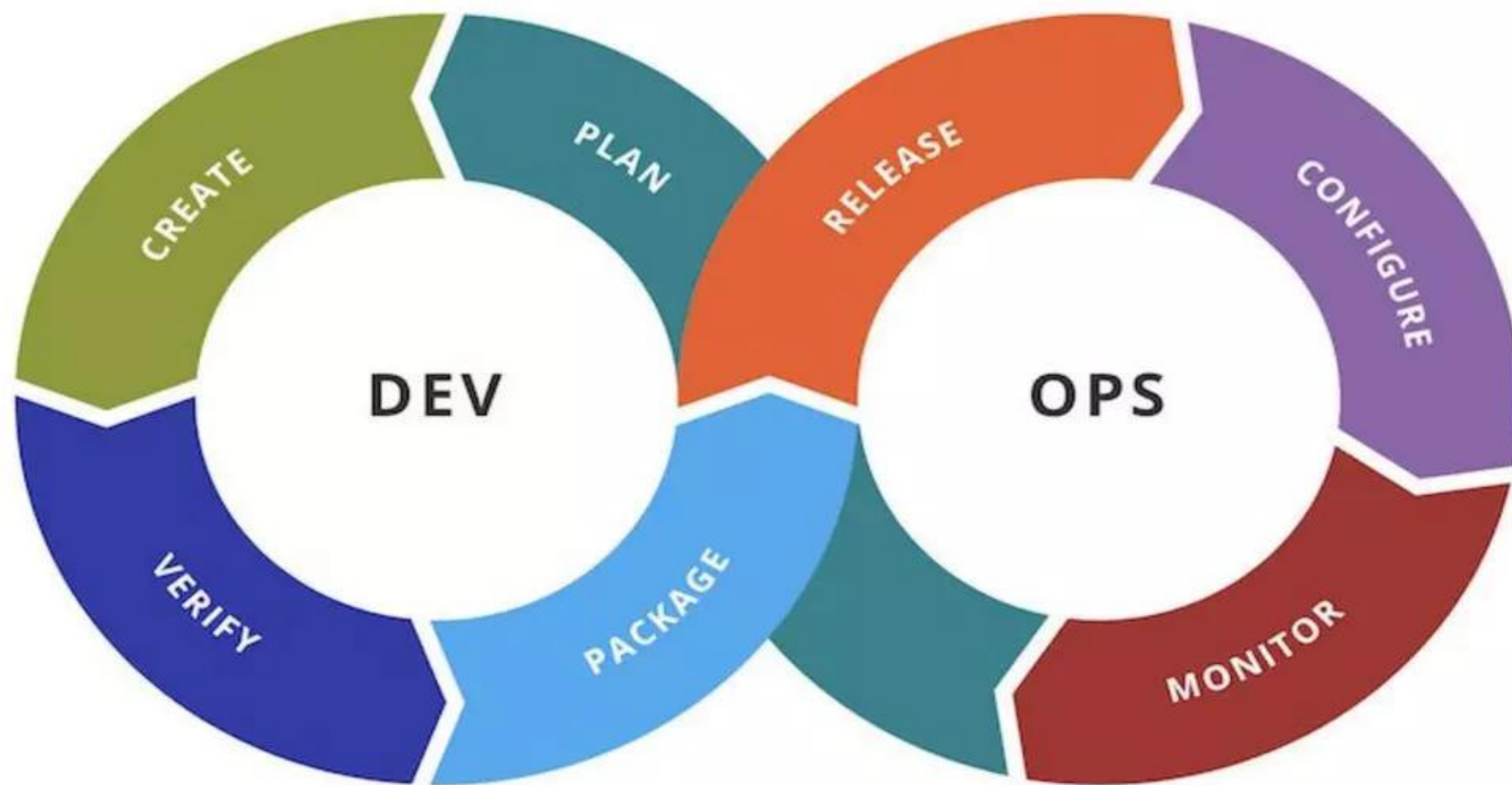
Continuous **Delivery** vs Continuous **Deployment**

05

Implementing CI/CD with **Jenkins**



What is CI/CD?



CONTINUOUS INTEGRATION

- A practise where developers integrate their code into a common repository, preferably several times a day
- A series of scripts is run automatically to verify the the changes that are pushed

CONTINUOUS DEPLOYMENT/DELIVERY

- A process that have to happen after code is integrated for app changes to be delivered to users.

Advantage: Both the process are used for automating the building and deploying process.



What is **CI/CD**?

Phases

CI

- Push the code to a **VCS**
- The **build server** checks the code as soon as it is pushed
- Devs gets the **feedback** (passed/failed)
- Code get **packaged** and stored in a **repository**

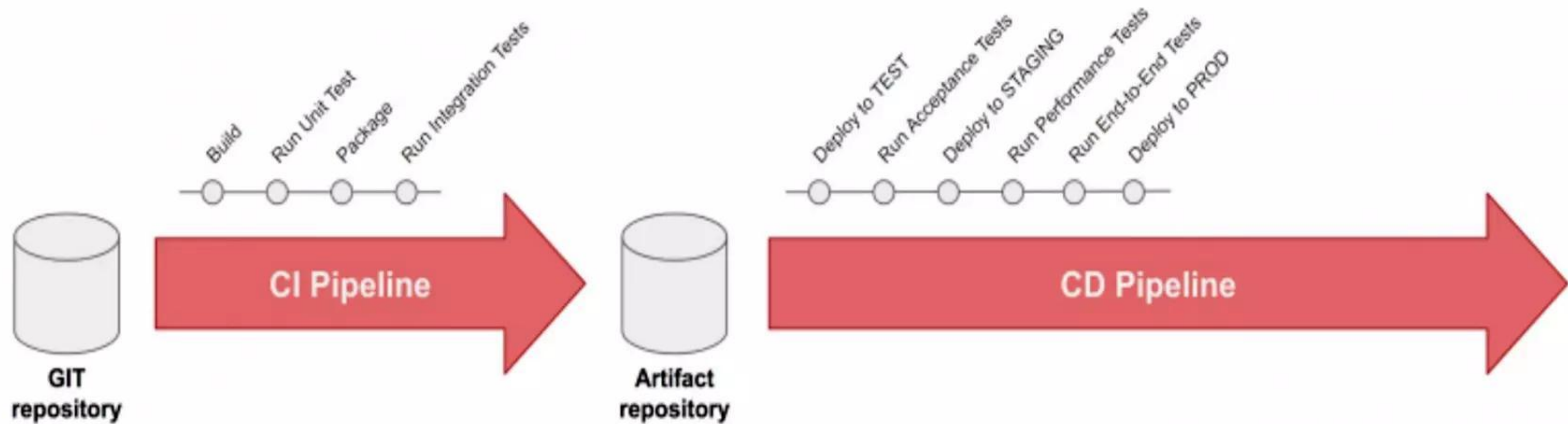
CD

- Ensure that the software can be released reliably
- Deployments are quick and often
- Helps in automated deployment

Tools: **Huge List** but will we go with **Jenkins**

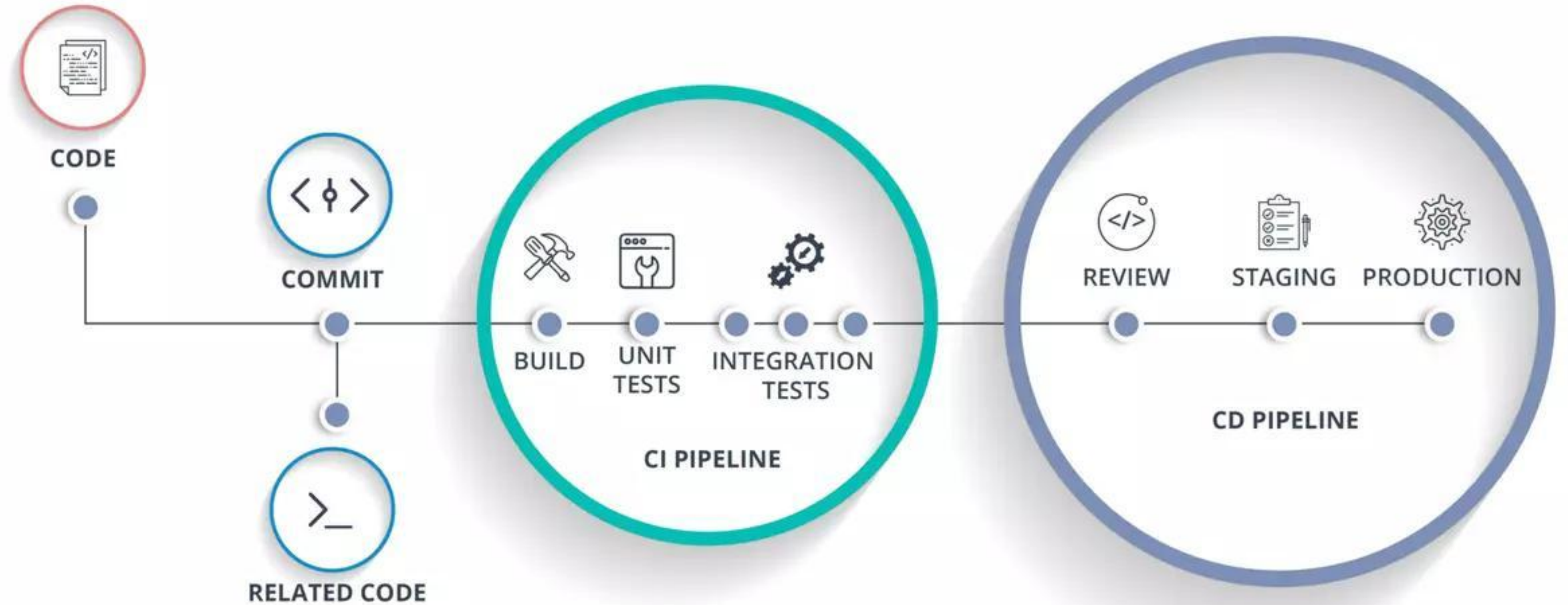


What is **CI/CD**?



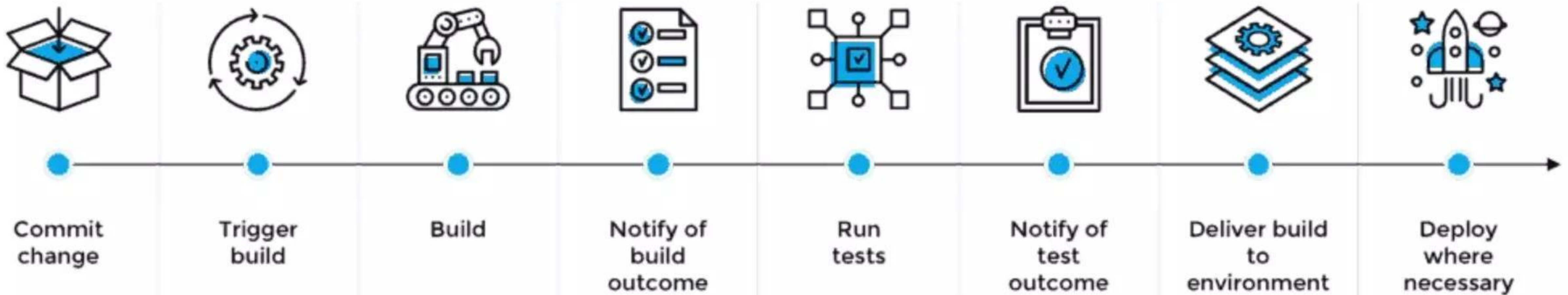
Why **CI/CD**?

- **Smaller Code Changes**
- **Continuous Testing**
- **Early Fault Detections**
- **Faster Release Rate**
- **Smaller Backlog**
- **Customer Satisfaction**
- **Easy Maintenance and Updates**



CI/CD Lifecycle

CI/CD Pipeline



Continuous **Delivery** v/s Continuous **Deployment**

Continuous Delivery

- Ability to deploy often using automation
- Involves a manual step to “approve” a deployment
- Deployment is still automated and repeated

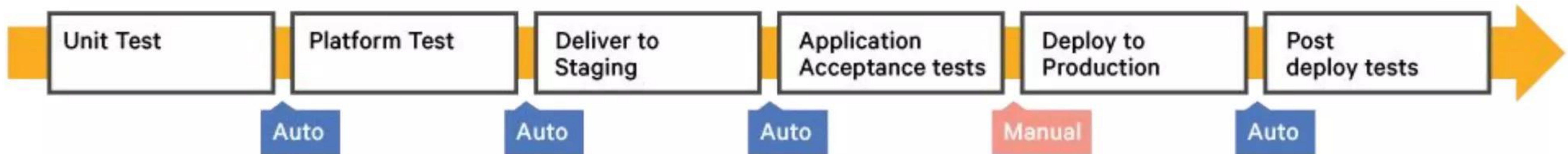
Continuous Deployment

- Full automation
- Code Changes deployed all the way to Production
- No manual intervention of approvals

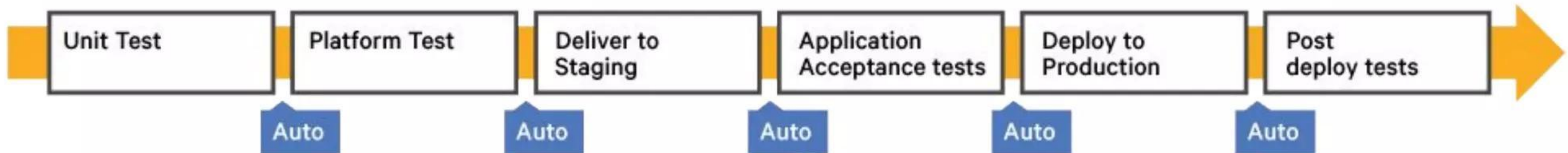


Continuous **Delivery** v/s Continuous **Deployment**

Continuous Delivery



Continuous Deployment



CI & CD pipelines using Jenkins

- What is Jenkins
- Why Jenkins
- Installation
- Sample Freestyle Project



Jenkins

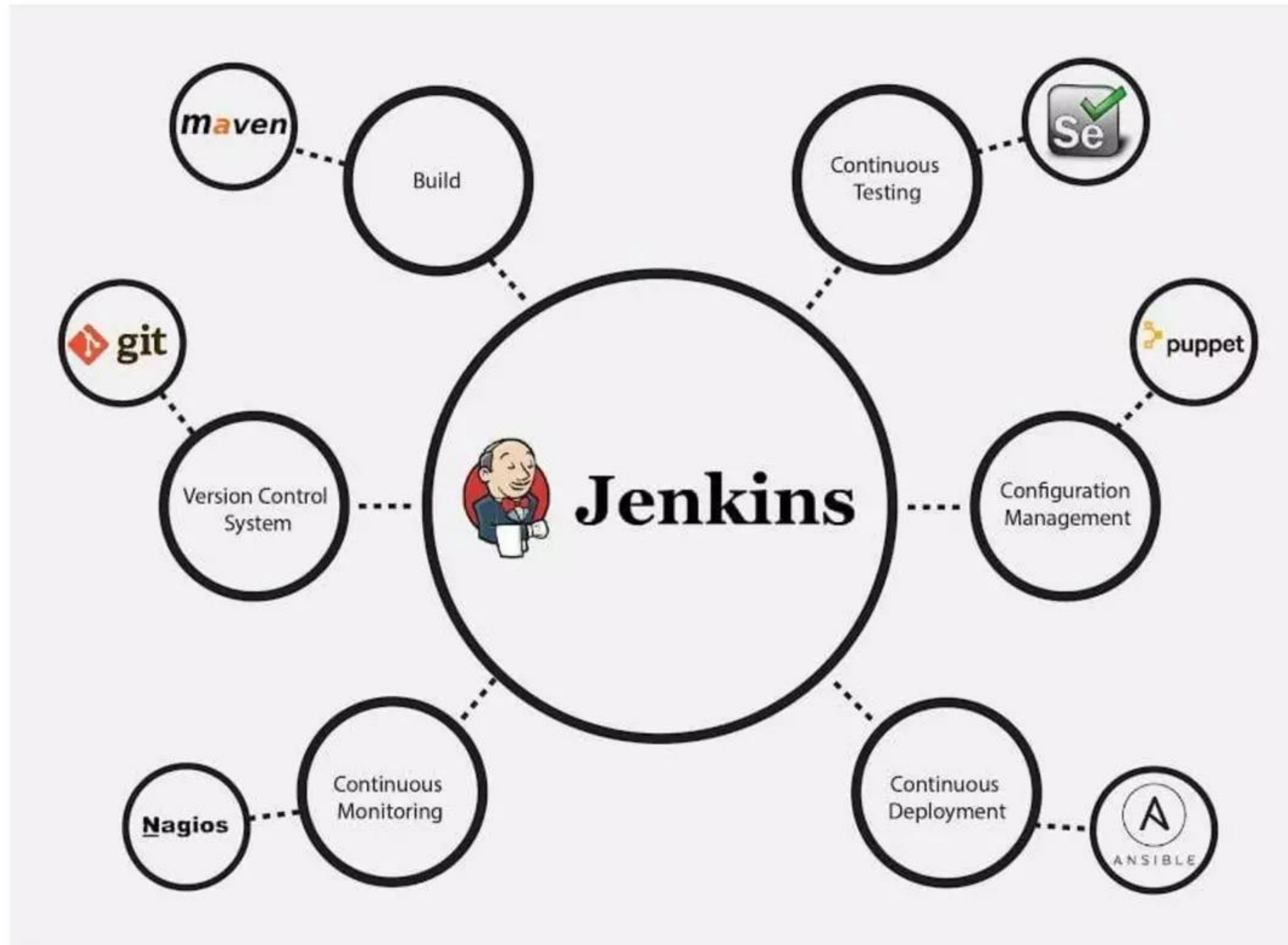
CI & CD pipelines using Jenkins

What is Jenkins

- **The leading open source automation server.**
- **Jenkins provides hundreds of plugins to support building, deploying and automating any project.**
- **Enables developers around the world to reliably build, test, and deploy their software.**
- **Written in Java**



CI & CD pipelines using Jenkins



CI & CD pipelines using Jenkins

Jenkins Installation

Step1: Install Java

Step2: Install Jenkins

[Jenkins Linux Installation](#)



CI & CD pipelines using Jenkins

Sample Jenkins Freestyle Project





Enter an item name


Hello World **1**


Required field


2

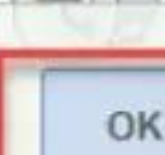
 **Freestyle project**
This is the central feature of Jenkins. Jenkins will build your project, combining any SCM with any used for something other than software build.

 **Pipeline**
Orchestrates long-running activities that can span multiple build agents. Suitable for building pipeline and/or organizing complex activities that do not easily fit in free-style job type.

 **Multi-configuration project**
Suitable for projects that need a large number of different configurations, such as testing on multiple builds, etc.

 **Folder**
Creates a container that stores nested items in it. Useful for grouping things together. Unlike view, separate namespace, so you can have multiple things of the same name as long as they are in different namespaces.

 **GitHub Organization**
Scans a GitHub organization (or user account) for all repositories matching some defined markers

 **Multibranch Pipeline**
Creates a set of Pipeline projects according to detected branches in one SCM repository.

3

OK



Thank You!