



INTERNATIONAL HELLENIC UNIVERSITY

IEEE STUDENT BRANCH (SERRES)

Introduction to Jenkins

Continuous Integration

Continuous Delivery

Continuous Deployment

Iordanis Kostelidis, Software Engineer

Meet the speaker

Jordanis Kostelidis



- ▶ Final Year Student @ IHU
- ▶ Student Member @ IEEE
- ▶ Chair @ IEEE IHU Serres
- ▶ Software Engineer* @ DataScouting

Topics

(or what we will see today)

- ▶ What is IEEE and IEEE Computer Society?
- ▶ What is CI/CD/CD
- ▶ What is Jenkins?
- ▶ Jenkins on Docker

What is IEEE?

- ▶ Professional association
- ▶ Engineers (Software, Hardware, Electrical, Communication etc)
- ▶ 320.000+ Members
 - 1,300+ Members in Greece
- ▶ 3.400+ Student Branches
 - 75,000+ Students
 - 500+ Students in Greece
- ▶ Known for:
 - LAN/MAN Network Standard Family (IEEE 802)
 - WiFi Network Standard Family (IEEE 802.11)

What is IEEE Computer Society?

- ▶ Professional association
- ▶ Informatics, Computer and Software Engineers
- ▶ 43.000+ Members
 - 230+ Members in Greece
 - 50+ Students in Greece
- ▶ Committees
 - Intelligent Informatics
 - Security and Privacy
 - Software Engineering
- ▶ Co-Creator of “Software Engineering Code of Ethics and Professional Practice”
 - ACM / IEEE CS

What is CI/CD/CD?

Continuous Integration / Continuous Delivery / Continuous Deployment

- ▶ Continuous Integration (CI) is the practice of merging all developers' working copies to a shared mainline several times a day.
- ▶ Continuous Delivery (CD) is approach in which teams produce software in short cycles, ensuring that the software can be reliably released at any time.
 - It aims at building, testing, and releasing software with greater speed and frequency.
 - The approach helps reduce the cost, time, and risk of delivering changes by allowing for more incremental updates to applications in production.
- ▶ Continuous Deployment (CD) is approach in which software functionalities are delivered frequently through automated deployments.

What is Jenkins?

- ▶ Free & Open Source
- ▶ Automation Server
- ▶ Implements CI/CD/CD
- ▶ Uses VCS (for example Git, Mercurial)
- ▶ Supported on Windows, Linux and Mac OS
- ▶ Supports Plugins (extensions)
 - For example, automated Slack updates

Jenkins on Docker

```
FROM jenkins/jenkins:lts-jdk11
MAINTAINER "Iordanis Kostelidis <kostelidis@ieee.org>"

USER root

RUN export DEBIAN_FRONTEND=noninteractive \
  && apt-get update \
  && apt-get install -y maven

USER jenkins
```


Jenkins on Docker

Source Code Management

- * Git - <https://github.com/assertj/assertj-vavr.git>

Build

- * Execute Shell - mvn clean package

Post-build Actions

- * Archive the artifacts - `**/target/*.jar`

Publish JUnit test result report

- * Test report XMLs - `**/target/surefire-reports/*.xml`



