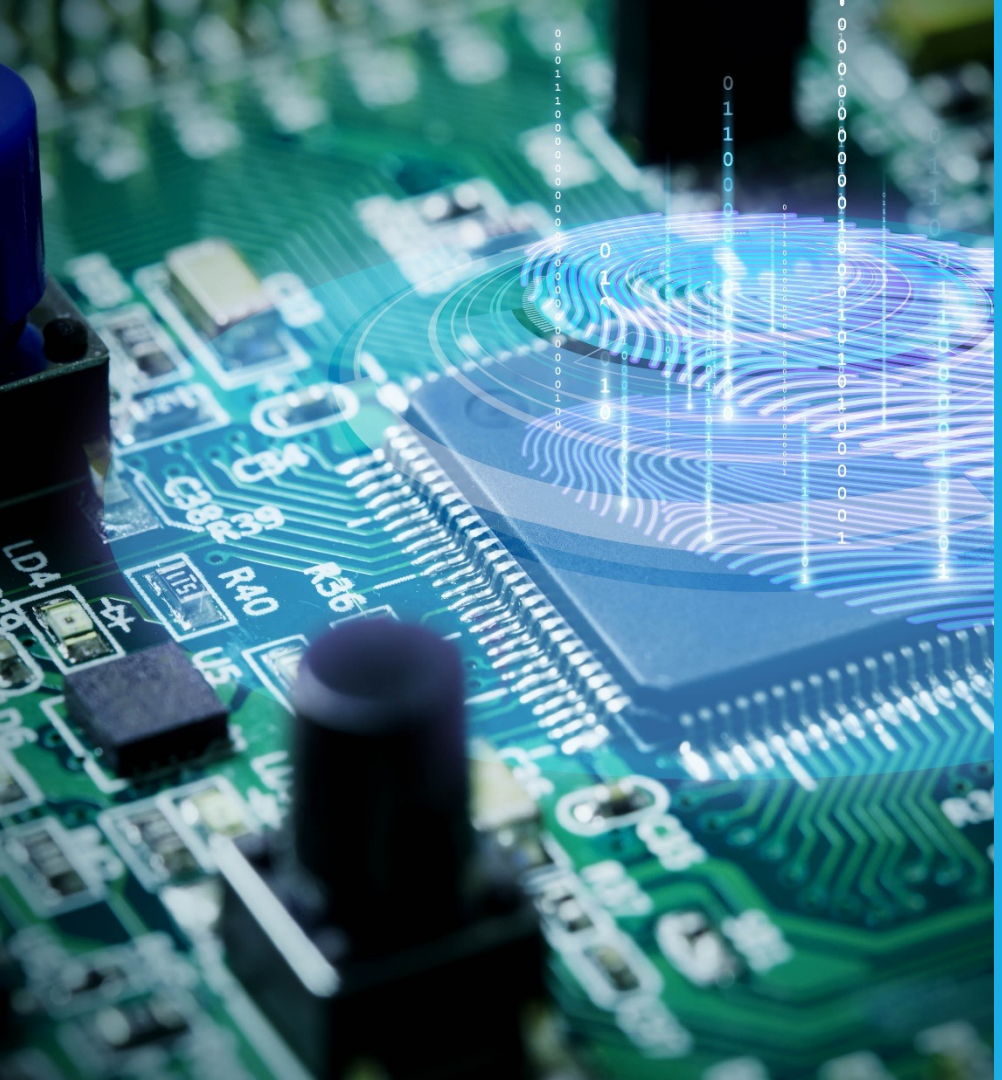


Final Project

EPAM DevOps Online Winter 2022

IHOR LEONTIEV

JULY 2022

Self-Presentation

MY BACKGROUND

- International trading agent (grains, fertilizers)
- 15+ years of experience in Swiss and Singapore companies
- Full employee lifecycle in the commodities trading domain (from logistics manager to the country manager)
- 3 Higher educations (Master’s Degrees in Engineering, Economics, Law)
- Open-minded and passionate to self-developing and mastering new technologies
- IT-switcher since 2021 passing Coursera trainings and studying in EPAM DevOps external online program

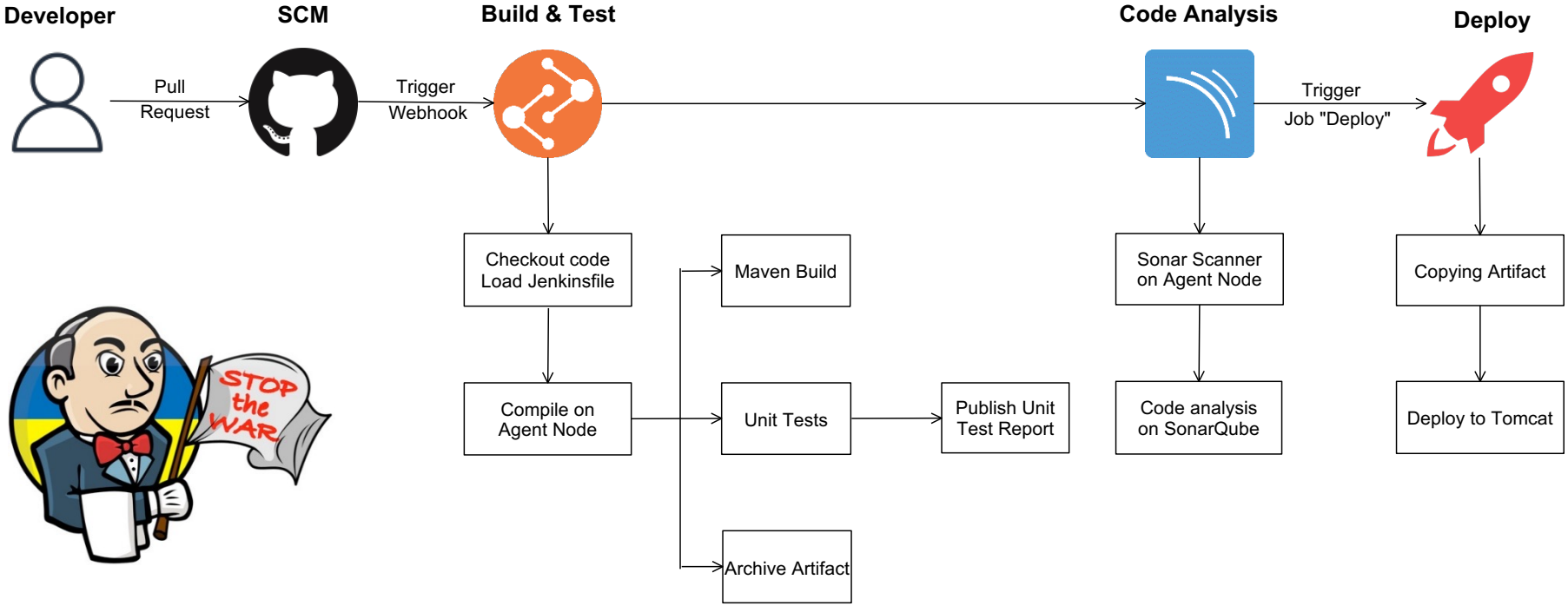
Project Tasks

- Create CI/CD pipeline for Java App
- Integrate code analysis
- Implement deployment to Tomcat
- Verify deployment of changes

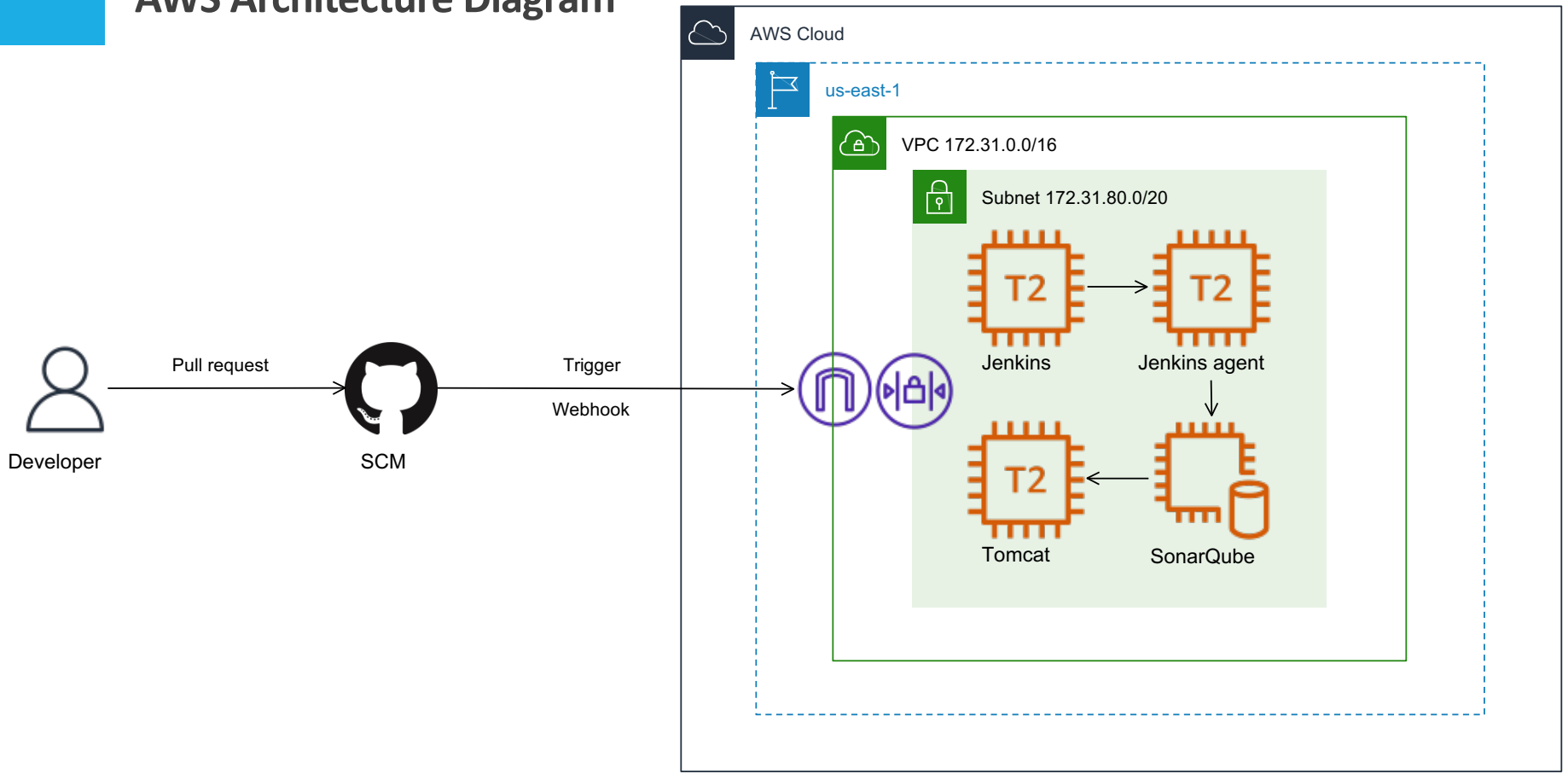
Project Results

Jenkins CI/CD pipeline for Spring PetClinic App with code analysis

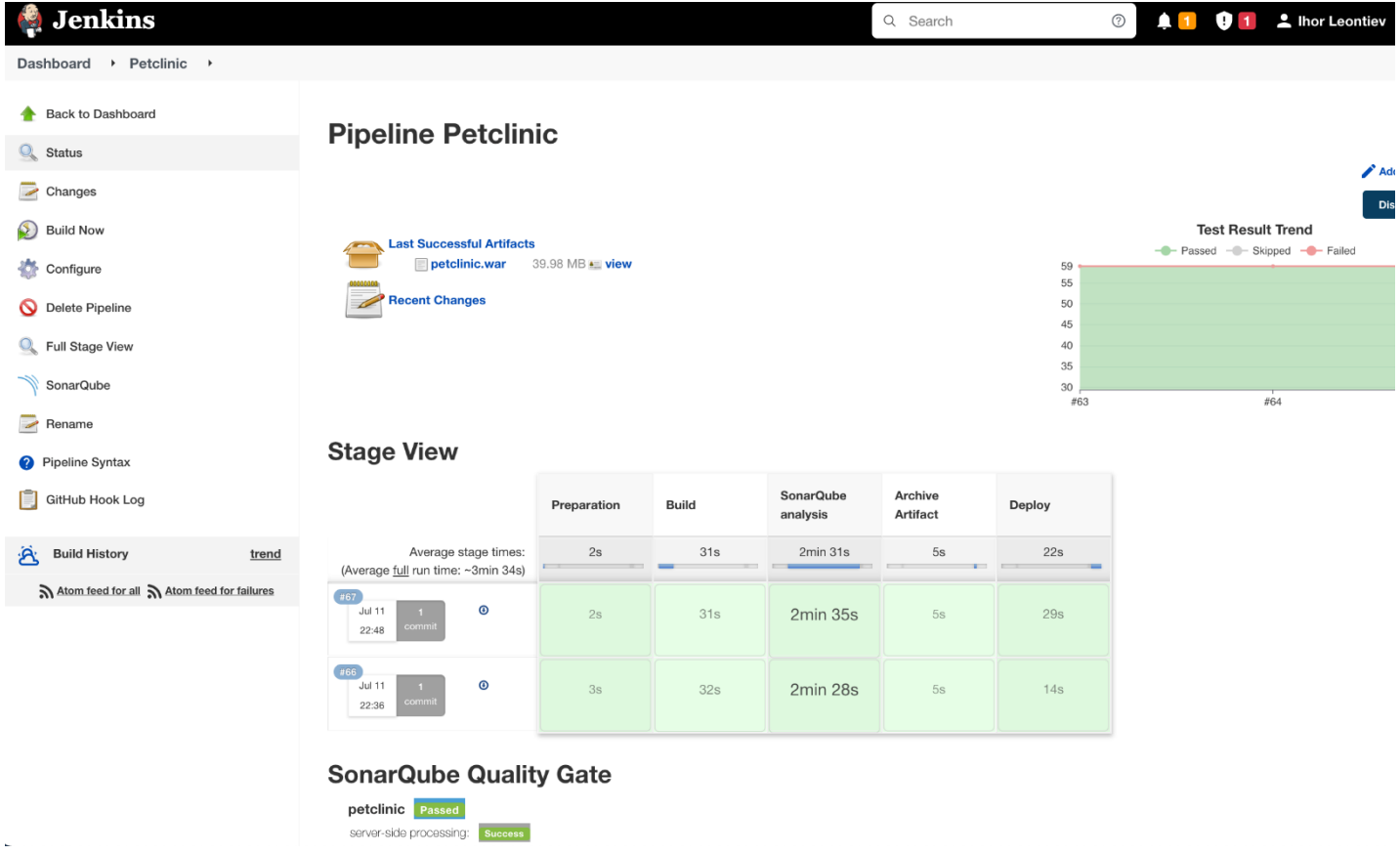
Tech Stack and Project Implementation Steps



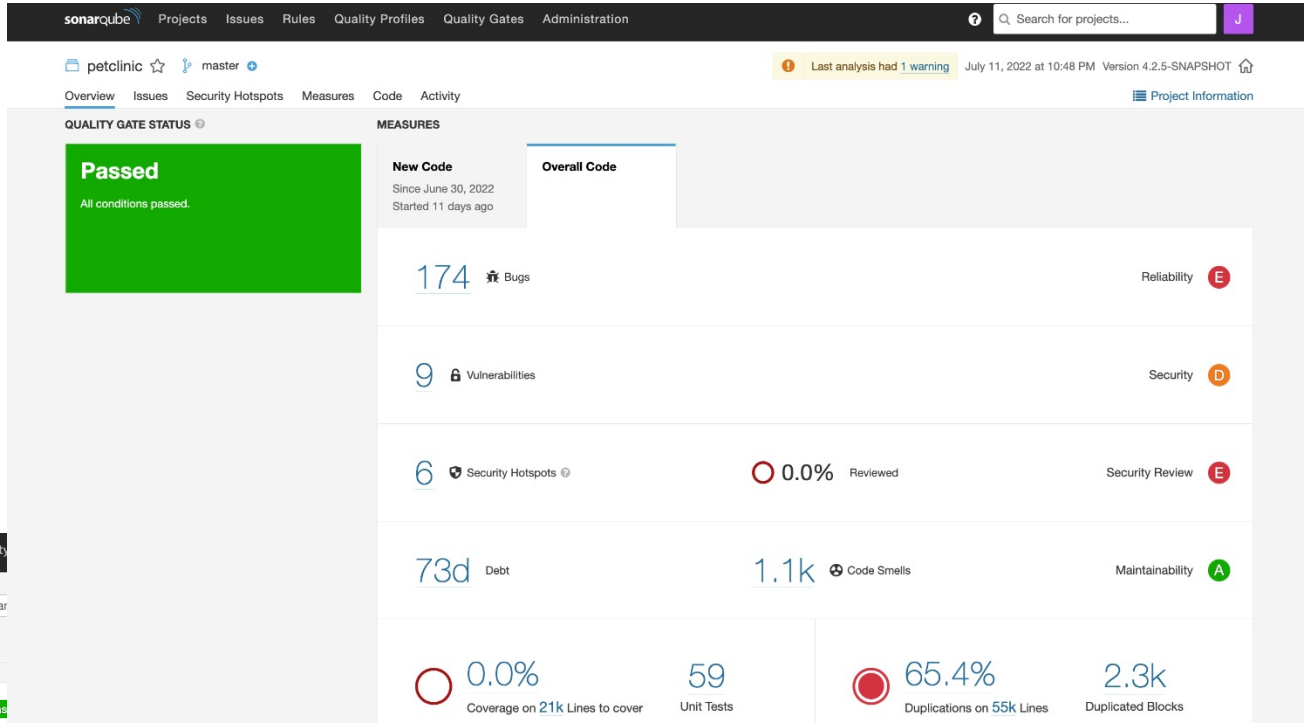
AWS Architecture Diagram

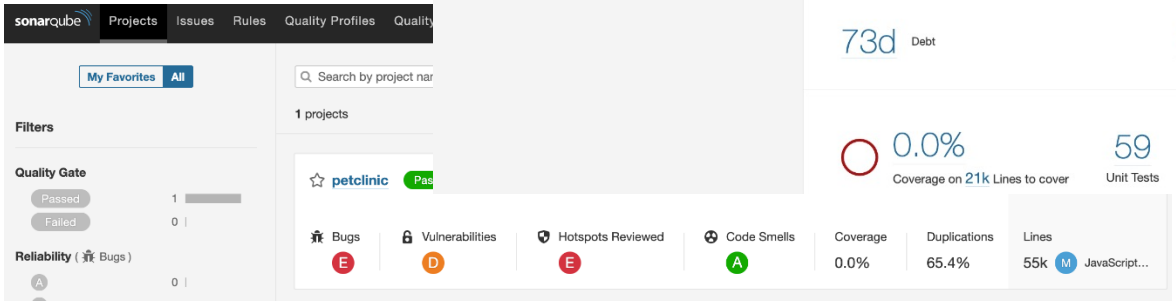


Pipeline Flow



SonarQube Quality Gate Status





Console Output Excerpt 1/3

Console Output

```
Started by GitHub push by Ihor-2022
Obtained jenkinsfile.groovy from git https://github.com/Ihor-2022/petclinic
[Pipeline] Start of Pipeline
[Pipeline] node
Running on node_1 in /home/ubuntu/workspace/Petclinic
[Pipeline] {
[Pipeline] stage
[Pipeline] { (Preparation)
[Pipeline] git
The recommended git tool is: git
using credential c1fa1dd8-c316-446e-aede-cc85f5d67a7b
Fetching changes from the remote Git repository
 > git rev-parse --resolve-git-dir /home/ubuntu/workspace/Petclinic/.git # timeout=10
 > git config remote.origin.url https://github.com/Ihor-2022/petclinic # timeout=10
Fetching upstream changes from https://github.com/Ihor-2022/petclinic
 > git --version # timeout=10
 > git --version # 'git version 2.25.1'
using GIT_ASKPASS to set credentials github token
 > git fetch --tags --force --progress -- https://github.com/Ihor-2022/petclinic
+refs/heads/*:refs/remotes/origin/* # timeout=10
Checking out Revision 2bfb84bcb535117b578b4d90e1dcbf2976e45c51 (refs/remotes/origin/master)
 > git rev-parse refs/remotes/origin/master^{commit} # timeout=10
```

Console Output Excerpt 2/3

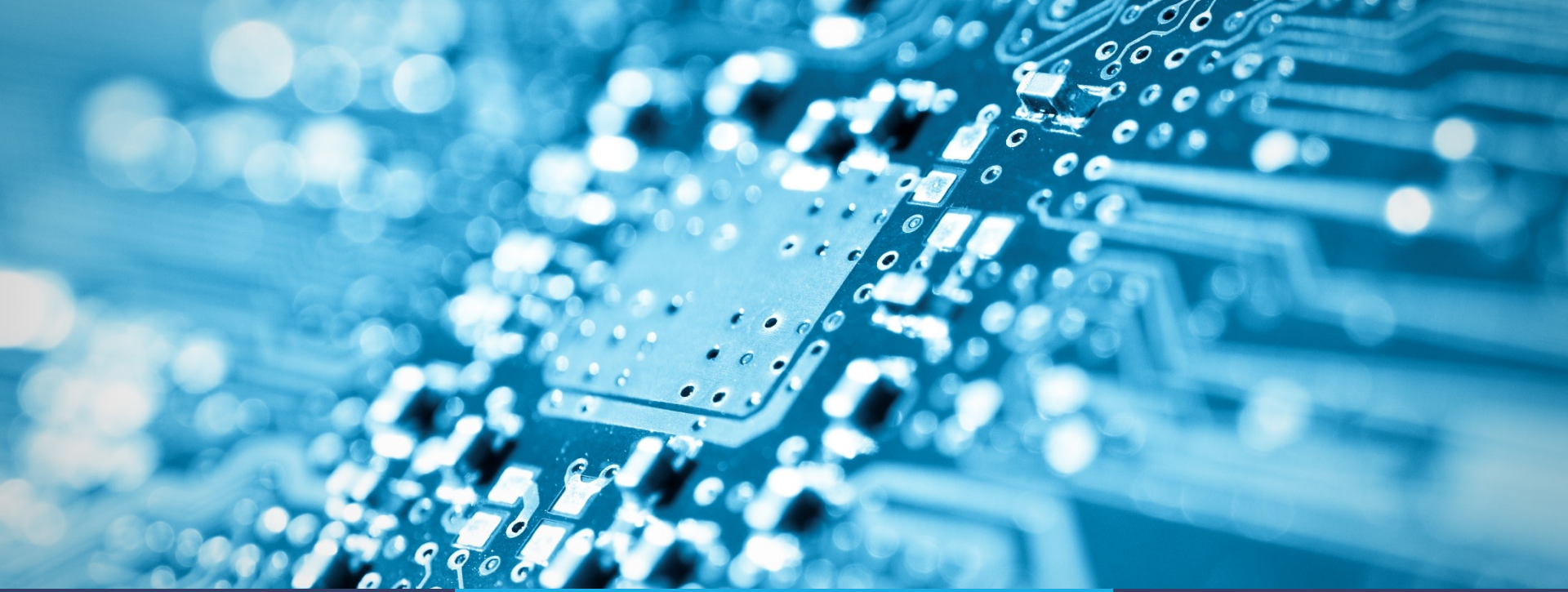
```
INFO  LocalContainerEntityManagerFactoryBean - Closing JPA EntityManagerFactory for persistence unit
'petclinic'

Results :

Tests run: 59, Failures: 0, Errors: 0, Skipped: 0

[INFO]
[INFO] --- maven-war-plugin:2.3:war (default-war) @ spring-petclinic ---
[INFO] Packaging webapp
[INFO] Assembling webapp [spring-petclinic] in [/home/ubuntu/workspace/Petclinic/target/spring-petclin
4.2.5-SNAPSHOT]
[INFO] Processing war project
[INFO] Copying webapp resources [/home/ubuntu/workspace/Petclinic/src/main/webapp]
[INFO] Webapp assembled in [1016 msecs]
[INFO] Building war: /home/ubuntu/workspace/Petclinic/target/petclinic.war
[INFO] ------------------------------------------------------------------------
[INFO] BUILD SUCCESS
[INFO] ------------------------------------------------------------------------
[INFO] Total time: 27.219 s
[INFO] Finished at: 2022-07-11T20:48:43Z
[INFO] ------------------------------------------------------------------------
[Pipeline] junit
Recording test results
[Checks API] No suitable checks publisher found.
[Pipeline] }
[Pipeline] // stage
[Pipeline] stage
[Pipeline] { (SonarQube analysis)
[Pipeline] withSonarQubeEnv
Injecting SonarQube environment variables using the configuration: my-sonarqube
```

Console Output Excerpt 3/3

```
[INFO] Analysis report uploaded in 207ms
[INFO] ANALYSIS SUCCESSFUL, you can browse http://172.31.87.217:9000/dashboard?
id=org.springframework.samples%3Aspring-petclinic
[INFO] Note that you will be able to access the updated dashboard once the server has processed the sul
analysis report
[INFO] More about the report processing at http://172.31.87.217:9000/api/ce/task?id=AYHvB5TLLJC4G_TIwSI
[INFO] Analysis total time: 2:23.079 s
[INFO] ------------------------------------------------------------------------
[INFO] BUILD SUCCESS
[INFO] ------------------------------------------------------------------------
[INFO] Total time: 02:28 min
[INFO] Finished at: 2022-07-11T20:51:14Z
[INFO] ------------------------------------------------------------------------
[Pipeline] }
[Pipeline] // withSonarQubeEnv
[Pipeline] }
[Pipeline] // stage
[Pipeline] stage
[Pipeline] { (Archive Artifact)
[Pipeline] archiveArtifacts
Archiving artifacts
[Pipeline] }
[Pipeline] // stage
[Pipeline] stage
[Pipeline] { (Deploy)
[Pipeline] build (Building Petclinic deploy)
Scheduling project: Petclinic deploy
Starting building: Petclinic deploy #42
[Pipeline] }
[Pipeline] // stage
[Pipeline] }
[Pipeline] // node
[Pipeline] End of Pipeline
Finished: SUCCESS
```

Conclusions

- The implemented pipeline builds Spring PetClinic App on Jenkins node
- Pipeline passes successfully in 03:34 minutes
- Code analysis allows to determine bugs and vulnerabilities
- Load testing can be added to ensure application stability and performance



Thank you!