ESCUELA SUPERIOR

PÓLITECNICA DEL LITORAL

WORKSHOP OF CONTINUOUS INTEGRATION

AUTHORS:

- AGUILAR MORA OSWALDO
- BERMUDEZ MOREIRA KAREN
- BERNAL MOREIRA GUILLERMO
- ORTIZ HOLGUIN EDUARDO
- WONG PAVON HUGO

SUBJECT: ING. SOFTWARE II

TUTOR: DR. MERA CARLOS

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1. Abstract

This document contains the technical report corresponding to the first group workshop called **"WORKSHOP OF CONTINUOUS INTEGRATION"** of **GROUP#4** belonging to the **SOFTWARE II ENGINEERING** course of **2020-PAO I**.

The report contains a description of the workshop, the code, the JAVA implementation and the reports.

2. Description

Continuous Integration (CI) is the practice of automating the integration of multi-contributor code changes into a single software project **[1]**. The CI process is made up of tools that facilitate and automate the version control of code between the different versions of it, among which we have the aforementioned version controller, a code analyzer, unit tests, integration and development tests.

Because with CI, developers check their progress in the central repository on a regular basis, carrying out different types of tests, which validate and test that their code meets coding and development standards **[2]**. This allows developers to identify what errors can occur in compilation and what steps to take to mitigate the error **[5]**
CI is recommended in projects that works on agile software development **[3].**

- **Poor performance:** One advantages of practicing CI is making processes faster and more effective, not implementing it causes the opposite effect.
- **Flawed tests:** This happens when tests are poorly written, outdated, or not suitable for a particular app. The wrong approach to testing can lead to many problems in production.
- **Flawed tests:** CI processes are usually created for a specific version, which could break when a new version is updated. These changes could force you to rewrite your deployment processes.

It is especially painful when a new version appears during deployment, is updated, and everything starts to crash tests, deployment, and production **[4]**.

3. Source Code

3.1. Repository

Github was used as a collaboration tool for the development of the workshop, the link is:

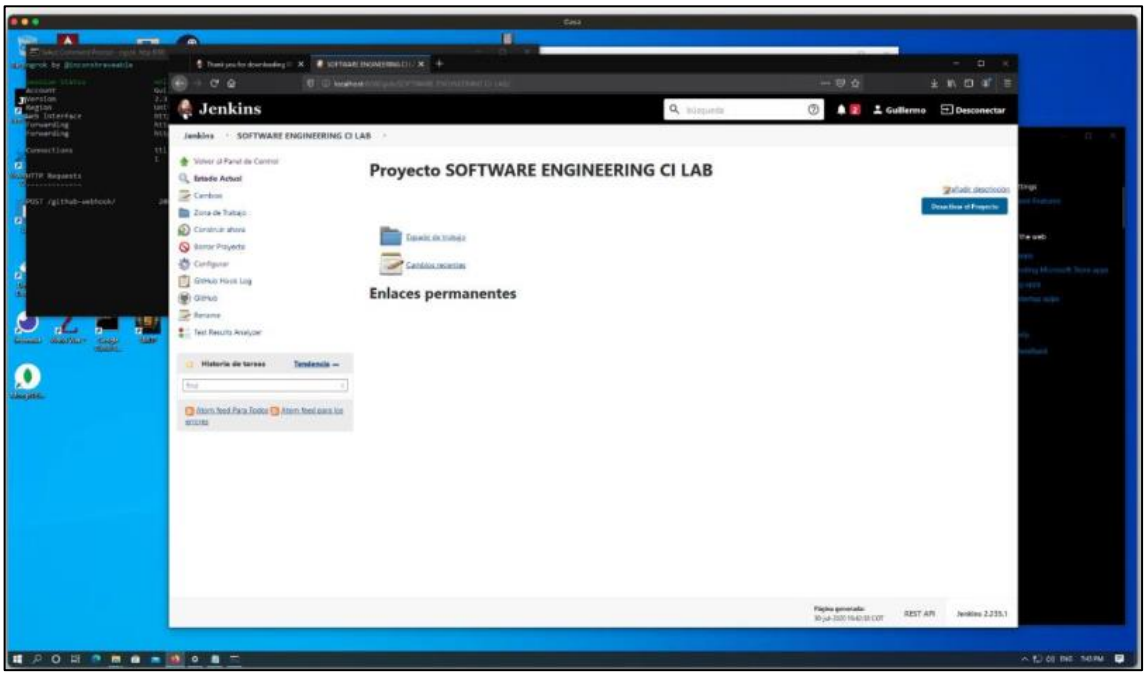
- https://github.com/Bernix01/SOFTWARE-ENGINEERING-2-CI-LAB/

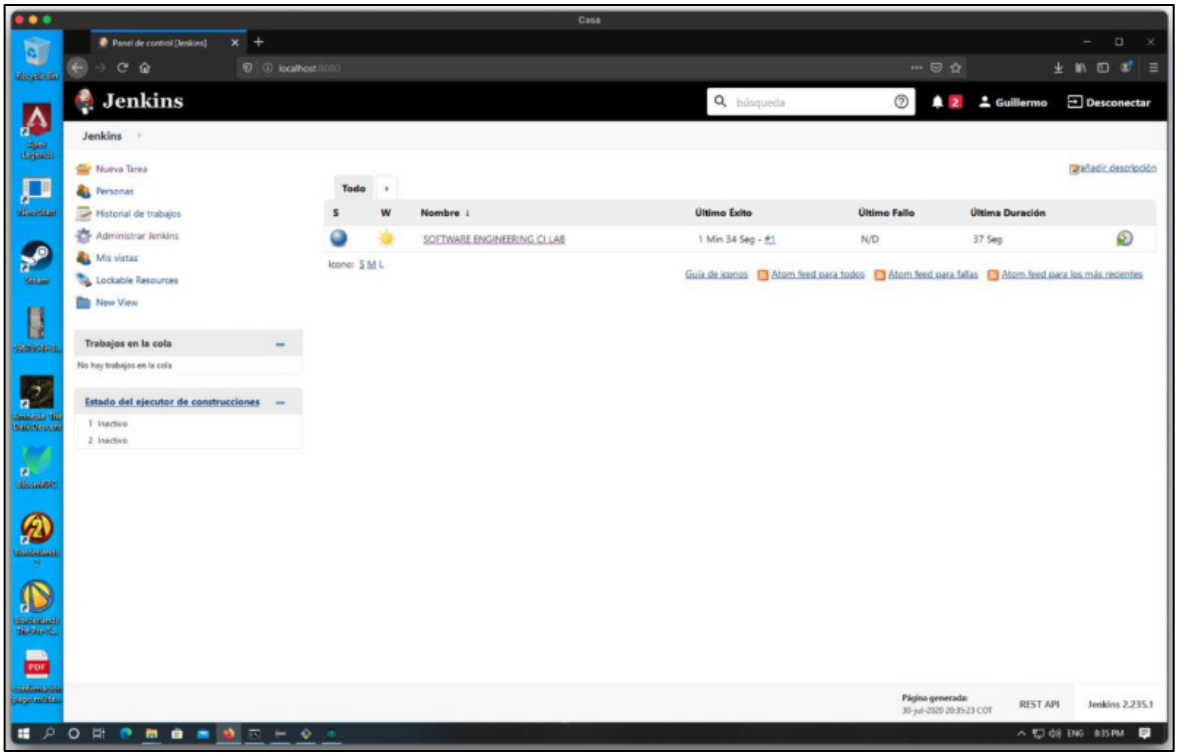
3.2. Development Considerations

For the development of the activity and its implementation, the following points were considered:

- **Eclipse** was used as Java IDE.

4. Activity Screenshots




Casa
Panel de control [Jenkins]
localhost:8080
Jenkins
búsqueda
Guillermo
Desconectar
Nueva Tarea
Personas
Historial de trabajos
Administrar Jenkins
Mis vistas
Lockable Resources
New View
Trabajos en la cola
No hay trabajos en la cola
Estado del ejecutor de construcciones
1 Inactivo
2 Inactivo
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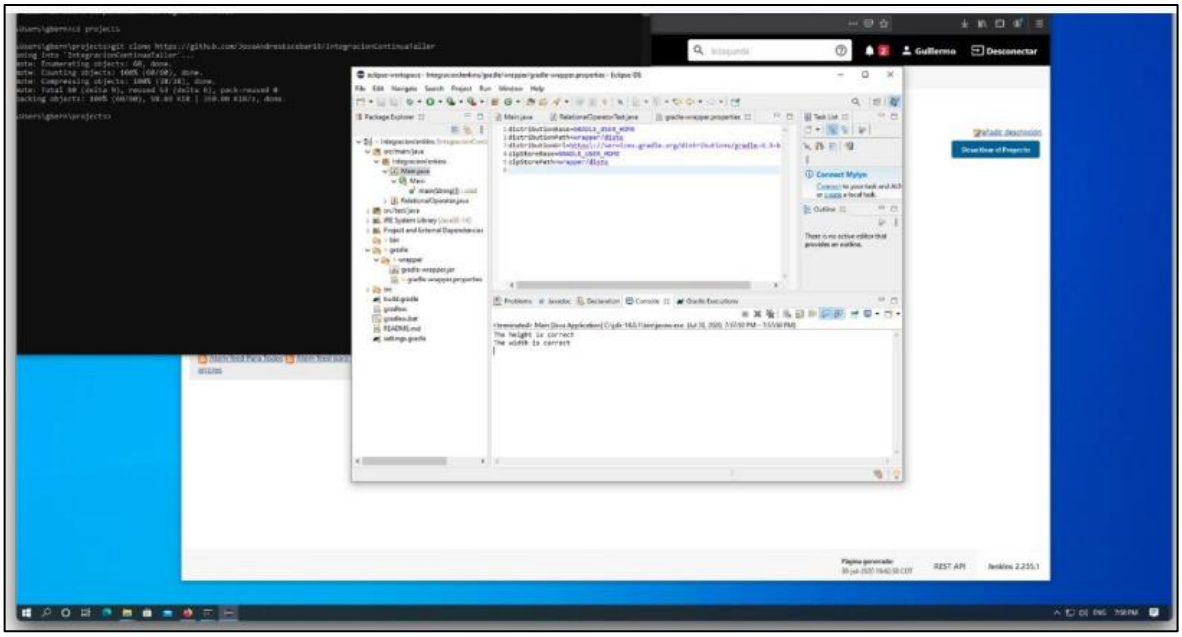
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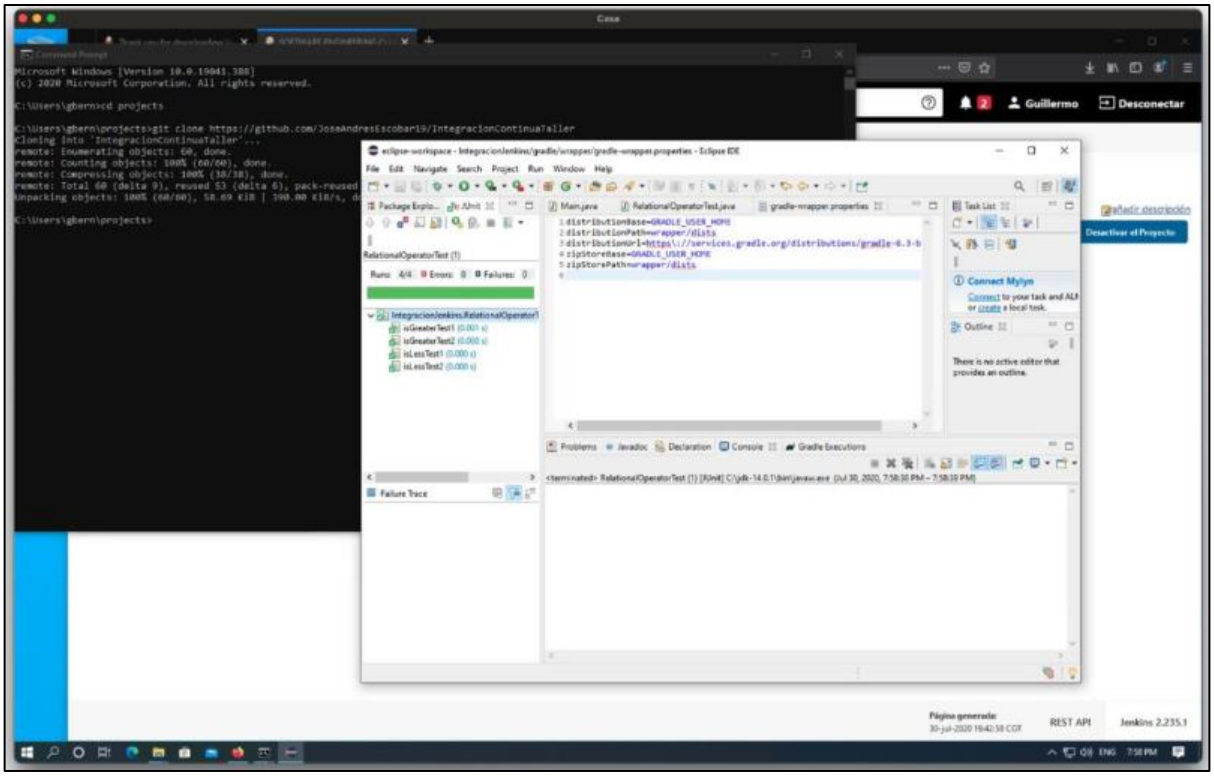
Microsoft Windows [Version 10.0.19041.388]
(c) 2020 Microsoft Corporation. All rights reserved.
C:\Users\gbern>cd projects
C:\Users\gbern\projects>git clone https://github.com/JosueAndresEscobar19/IntegracionContinuaTaller
Cloning into 'IntegracionContinuaTaller'...
remote: Enumerating objects: 60, done.
remote: Counting objects: 100% (60/60), done.
remote: Compressing objects: 100% (38/38), done.
remote: Total 60 (delta 9), reused 53 (delta 6), pack-reused
Unpacking objects: 100% (60/60), 58.69 KiB | 590.00 KiB/s, d
C:\Users\gbern\projects>
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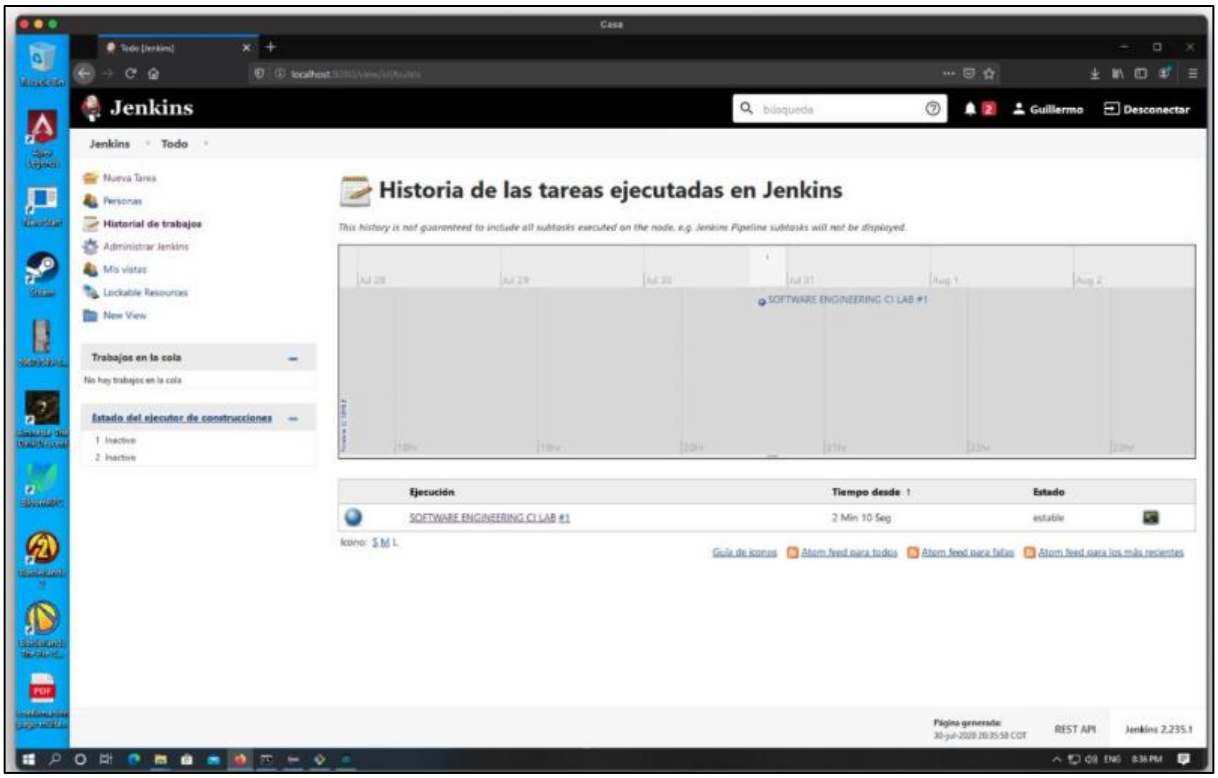
Jenkins 2.235.1


Jenkins
Guillermo
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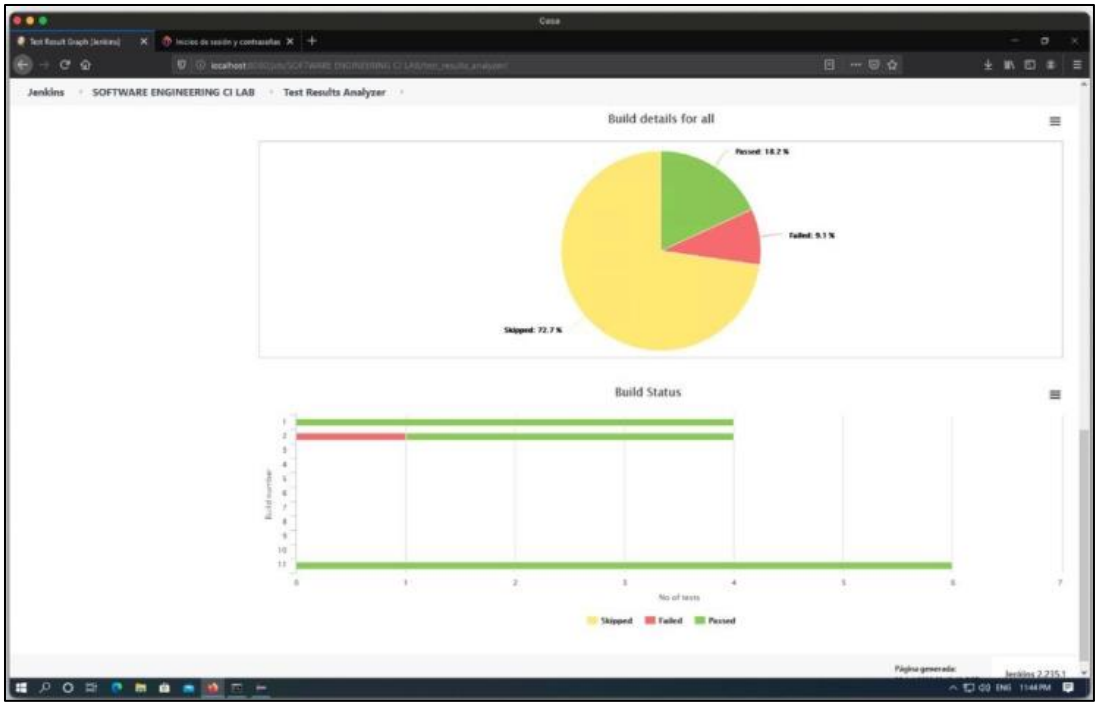
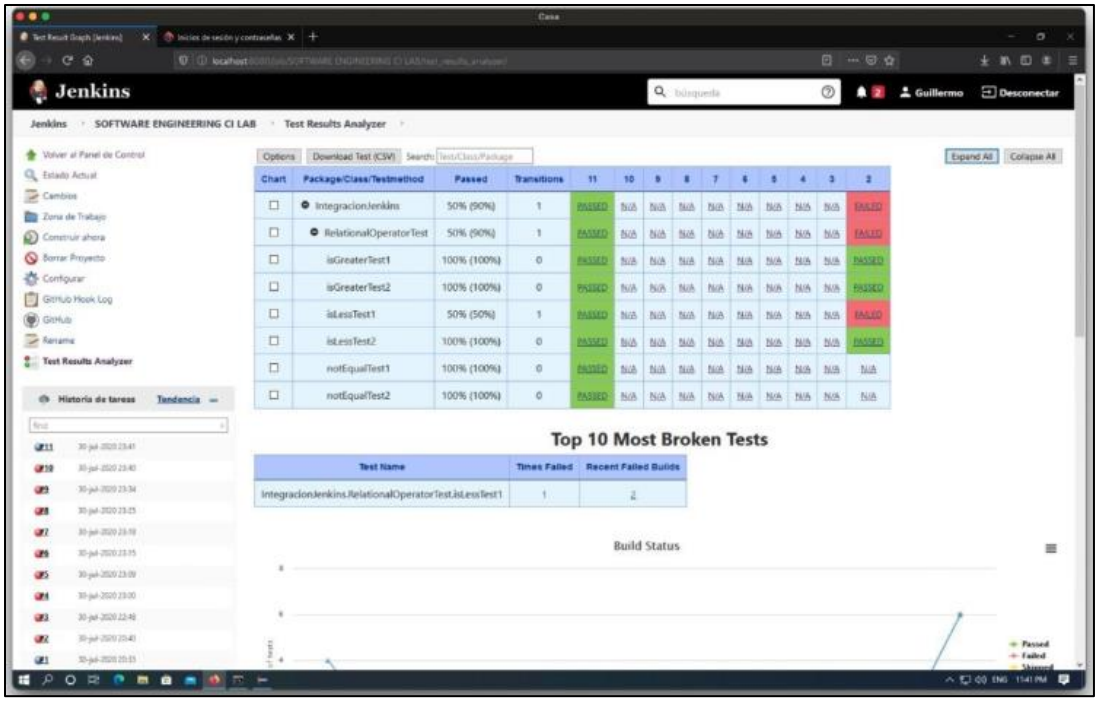
Historia de las tareas ejecutadas en Jenkins
This history is not guaranteed to include all subtasks executed on the node, e.g. Jenkins Pipeline subtasks will not be displayed.
SOFTWARE ENGINEERING CI LAB #1
Ejecución
Tiempo desde
Estado
2 Min 10 Seg
estable
Jenkins 2.235.1

5. Conclusions

- This plug-in is a useful tool to the continuous integration.
- The control and the facility to see the report is a good approach.
- Is easy to implent if you have a guide.





6. References

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[2] C. Inc., "Continuous Integration: What is CI? Testing, Software & Process Tutorial",

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Available: https://digital.ai/resources/agile-101/continuous-integration. [Accessed: 30- Jul2020].

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