Implementation DevOps using Git, GitHub, Docker and Jenkins on Web CV

Group 2

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Class : 3SE3

CEP CCIT

FAKULTAS TEKNIK UNIVERSITAS INDONESIA

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PROJECT ON

Implementation DevOps using Git, GitHub, Docker, and Jenkins on Web CV

Developed by

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2. **Tasya Syafa Kamila**

Implementation DevOps using Git, GitHub, Docker, and Jenkins on Web CV

Batch Code : 3SE3

Start Date : January 19st 2024

End Date : January 24th 2024

Name of Faculty : Riza Muhammad Nurman

Names of Developer :

1. Andrina Haura Azzahra
2. Tasya Syafa Kamila

Date of Submission: January 24th 2024

CERTIFICATE

This is to certify that this report titled Implementation DevOps using Git, GitHub, and Jenkins on
Web CV embodies the original work done by Andrina Haura Azzahra and Tasya Syafa Kamila. Project in partial fulfillment of their course requirement at NIIT.

Coordinator:

Riza Muhammad Nurman

ACKNOWLEDGEMENT

With the name of God, The Most Gracious Most Merciful, we a praise over his presence, which has been part of his grace, so that project about introduction to web can be completed which God willing useful for all of us.

Project report has been in rows with its fullest and got help from various parties and the source so that it can facilitate the creation of this report. And especially to Mr. Riza Muhammad Nurman, who has provided guidance in making these Project report.

This report was prepared with a variety of obstacles. Whether it is coming from the internal and external problems. But with great patience and especially the help of Almighty God finally reports Project can be resolved.

Project report this may be able to provide a wider insight and thought-provoking contribution to the readers especially-CCIT FTUI students. This report is probably still a lot of shortcomings and arguably hasn't been perfect. To that end, to give input for the sake of supervising lecturer improvement making this report in the days to come and expect criticism and suggestions from readers

SYSTEM ANALYSIS

System Summary:

The project is titled “Implementation DevOps using Git, GitHub, Jenkins and Docker on CV Website” is it for shows cv on website. And then enables the viewers to see how kind of CV that we made.

This program uses the Html and also integrates with Jenkins, Docker and GitHub.

TECHNOLOGY USED

Git

Git is a free and open-source distributed version control system. It is designed to handle from small to very large projects with speed and efficiency, but it can be used to track changes in any set of files. Git allows a team of people to work together, all using the same files.

GitHub

GitHub is a web-based interface that uses Git, the open source version control software that lets multiple people make separate changes to web pages at the same time. As Carpenter notes, because it allows for real-time collaboration, GitHub encourages teams to work together to build and edit their site content.

Jenkins

Is an open-source continuous integration/ continuous delivery and deployment automation software written in Java. Jenkins helps to automate the non-human part of the software development process, with continuous integration and facilitating technical aspects of continuous delivery. Jenkins can integrate with a number of testing and deployment technologies.

Docker

Docker is an open-source containerization platform used for developing, deploying, and managing applications in lightweight virtualized environments called containers.
It is mainly used as a software development platform for developing distributed applications that work efficiently in different environments. By making the software system agnostic, developers don't have to worry about compatibility issues. Packaging apps into isolated environments (containers) also makes it easier to develop, deploy, maintain, and use applications.

TECHNOLOGY USED

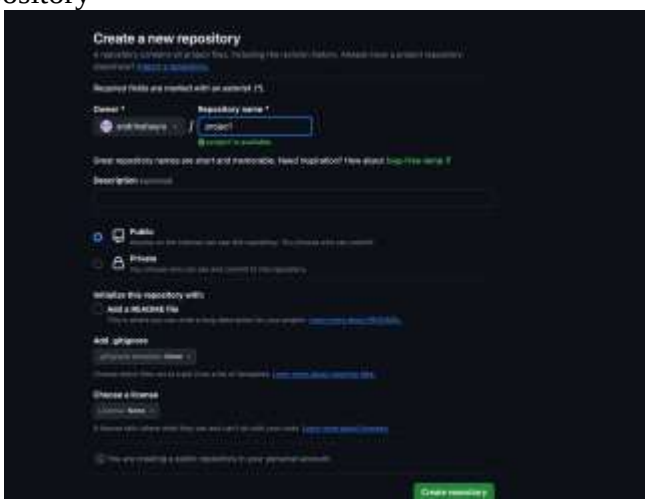
Jenkins Pipeline

Jenkins pipeline is a way to define the steps of a continuous integration and continuous delivery (CI/CD) process in Jenkins. It allows for defining build, test, and deployment steps in a Jenkinsfile, which is stored in source control along with the rest of the code. The pipeline can be visualized in the Jenkins user interface, making it easy to understand and troubleshoot. It also supports features such as parallel execution, conditional branching, and manual approvals.

DEVOPS IMPLEMENTATION

I. USER 1:

1.1. Create new repository



1.2. Git init,Add, commit and push project to the exist remote repository.

1.3. GitHub Repository

DEVOPS IMPLEMENTATION

1.4. Add backend branch and user 1 merge from user1 which is tasyasyf/main.

II. USER 2:

2.1.Clone Repository on GitHub

```
Last login: Mon Jan 22 23:12:25 on ttys000
tasyasyafakamila@Tasyas-MacBook-Air ~ % git clone https://github.com/tasyasyf/project1baru.git
Cloning into 'project1baru'...
remote: Enumerating objects: 73, done.
remote: Counting objects: 100% (73/73), done.
remote: Compressing objects: 100% (58/58), done.
remote: Total 73 (delta 33), reused 54 (delta 15), pack-reused 0
Receiving objects: 100% (73/73), 4.34 MiB | 813.00 KiB/s, done.
Resolving deltas: 100% (33/33), done.
```

2.2.Switching to version1 branch

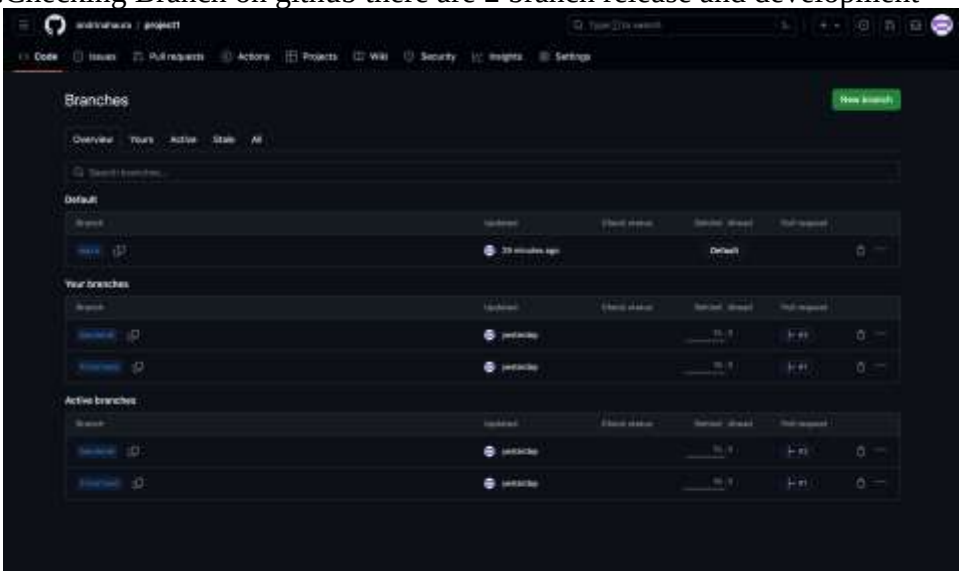
```
tasyasyafakamila@Tasyas-MacBook-Air ~ % cd project1baru
tasyasyafakamila@Tasyas-MacBook-Air project1baru % git remote -v
origin  https://github.com/tasyasyf/project1baru.git (fetch)
origin  https://github.com/tasyasyf/project1baru.git (push)
tasyasyafakamila@Tasyas-MacBook-Air project1baru % git remote remove origin
tasyasyafakamila@Tasyas-MacBook-Air project1baru % git remote add origin https://ghp_[illegible]@github.com/tasyasyf/project1baru.git
tasyasyafakamila@Tasyas-MacBook-Air project1baru % git branch version1
tasyasyafakamila@Tasyas-MacBook-Air project1baru % git checkout version1
M       style.css
Switched to branch 'version1'
tasyasyafakamila@Tasyas-MacBook-Air project1baru % git init
Reinitialized existing Git repository in /Users/tasyasyafakamila/project1baru/.git/
tasyasyafakamila@Tasyas-MacBook-Air project1baru % git add .
tasyasyafakamila@Tasyas-MacBook-Air project1baru % git commit -m "revisi tasya"
[version1 5e0b617] revisi tasya
 1 file changed, 8 insertions(+), 4 deletions(-)
tasyasyafakamila@Tasyas-MacBook-Air project1baru % git push -u origin version1
Enumerating objects: 5, done.
Counting objects: 100% (5/5), done.
Delta compression using up to 8 threads
Compressing objects: 100% (3/3), done.
Writing objects: 100% (3/3), 376 bytes | 376.00 KiB/s, done.
Total 3 (delta 2), reused 0 (delta 0), pack-reused 0
remote: Resolving deltas: 100% (2/2), completed with 2 local objects.
remote:
remote: Create a pull request for 'version1' on GitHub by visiting:
remote:      https://github.com/tasyasyf/project1baru/pull/new/version1
remote:
To https://github.com/tasyasyf/project1baru.git
 * [new branch]      version1 -> version1
branch 'version1' set up to track 'origin/version1'.
tasyasyafakamila@Tasyas-MacBook-Air project1baru %
```

DEVOPS IMPLEMENTATION

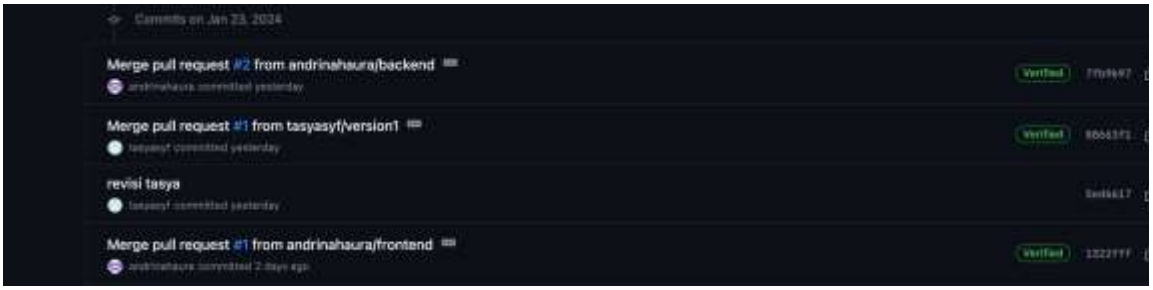
III. GITHUB, JENKINS, and Docker

1. Github

1.1.Checking Branch on github there are 2 branch release and development

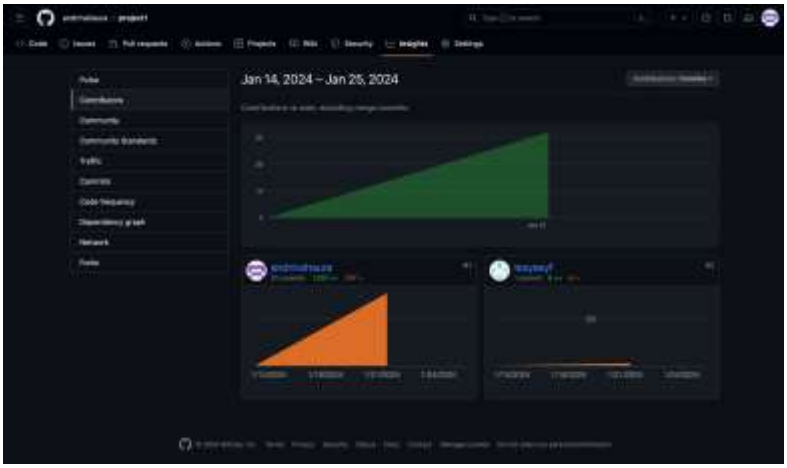


1.2.History Commit



DEVOPS IMPLEMENTATION

1.3.Data contribute for our project

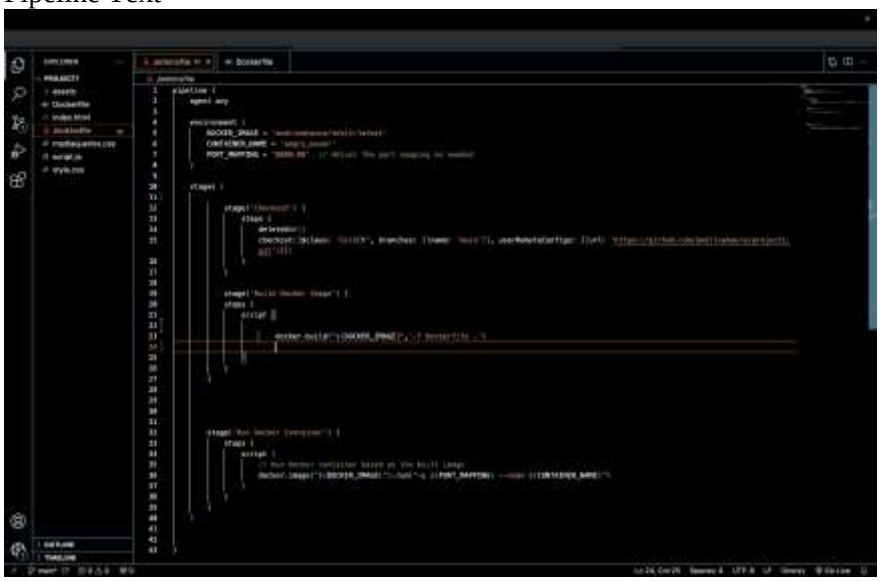


2. Jenkins Pipeline

2.1.Create New item pipeline

DEVOPS IMPLEMENTATION

2.2. Pipeline Text



2.3. Result Console Output

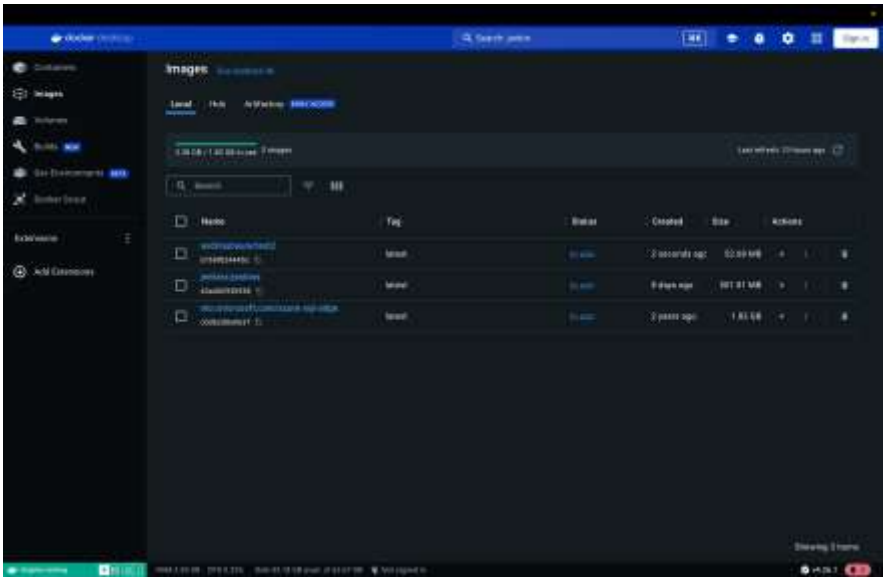
DEVOPS IMPLEMENTATION

2.4. Result of the item pipeline

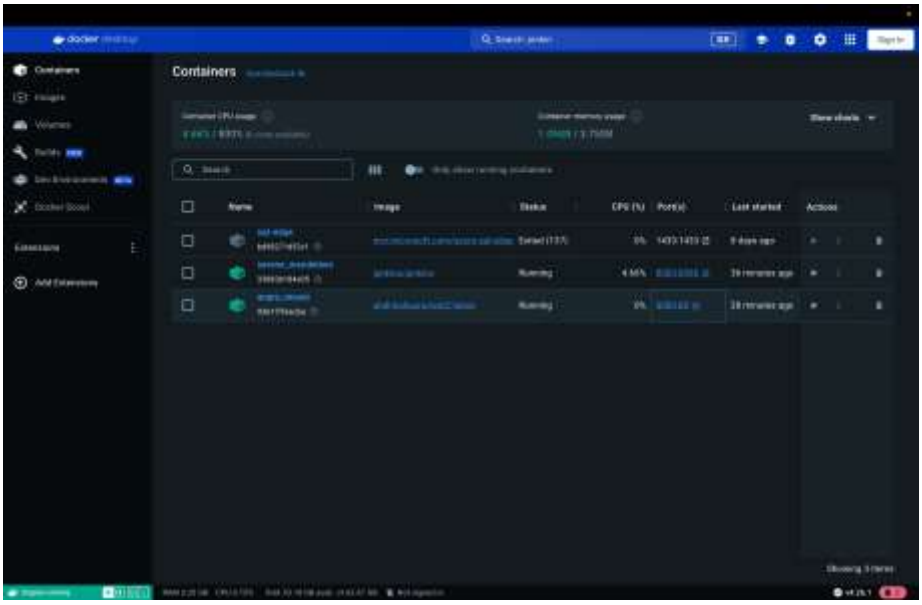
DEVOPS IMPLEMENTATION

3. Docker

3.1.Docker image

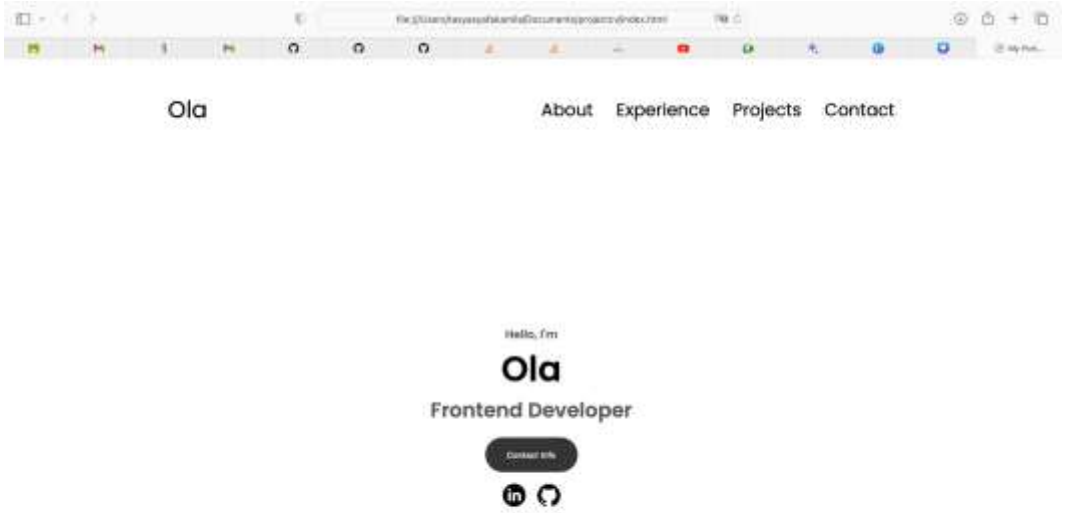


3.2.Docker containers



DEVOPS IMPLEMENTATION

3.3.Run the localhost in website



ACTIVITY LIST

No	Activity	Start Date	End Date	Person(s) Involved
1	Creating Repository	22/1/2024	22/1/2024	Andrina
2	Push Project in Github	22/1/2024	22/1/2024	Andrina
3	Forking Project	22/1/2024	22/1/2024	Tasya
4	Cloning Website using Git	22/1/2024	22/1/2024	Tasya
5	Change some code on website	22/1/2024	22/1/2024	Andrina & Tasya
6	Add and commit to local repository	22/1/2024	22/1/2024	Andrina & Tasya
7	Push Html to GitHub	22/1/2024	23/1/2024	Andrina & Tasya
8	Add pull request	22/1/2024	23/1/2024	Andrina
9	Creating jenkins project	23/1/2024	23/1/2024	Andrina & Tasya
10	Build project in jenkins	23/1/2024	23/1/2024	Andrina & Tasya
11	Build pipeline	23/1/2024	23/1/2024	Andrina & Tasya

CONFIGURATION

Hardware **:** Macbook M2

Operating System **:** MacOS

Software **:** Git, GitHub and Jenkins, Docker, Microsoft Word, Microsoft Power Point

PROJECT FILE DETAILS

No	File Name	Remarks
1.	CV Website.rar	Web folder contains Visual Studio syntax to create CV website
2.	CV Website.docx	The Paper of our project
3.	CV Website.pptx	Our Power Point presentation file
4.	https://github.com/andrinahaura/project1.git	Our Github Repository
5.	http://localhost:8089/ on local Docker andrina haura's laptop	Our DockerHub