
CI/CD with Gitlab CI

#DevOps

#CI/CD

#CloudNative

#DevDay4

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Why and What CI/CD ?

Classic problems

- Software life cycle
 - Bureaucracy
 - Depend on Ops team
 - Everything is manual
 - Reliability
 - Takes time too much
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WAITING FOR DEPLOYMENT

WITHOUT DEVOPS

What will gonna solve and How?

- ~~Software life cycle~~
- ~~Bureaucracy~~
- ~~Depend on Ops team~~
- ~~Everythings is manual~~
- ~~Reliability~~
- ~~Takes time too much~~

By **automate** all the process of Build, Test, and Deploy.

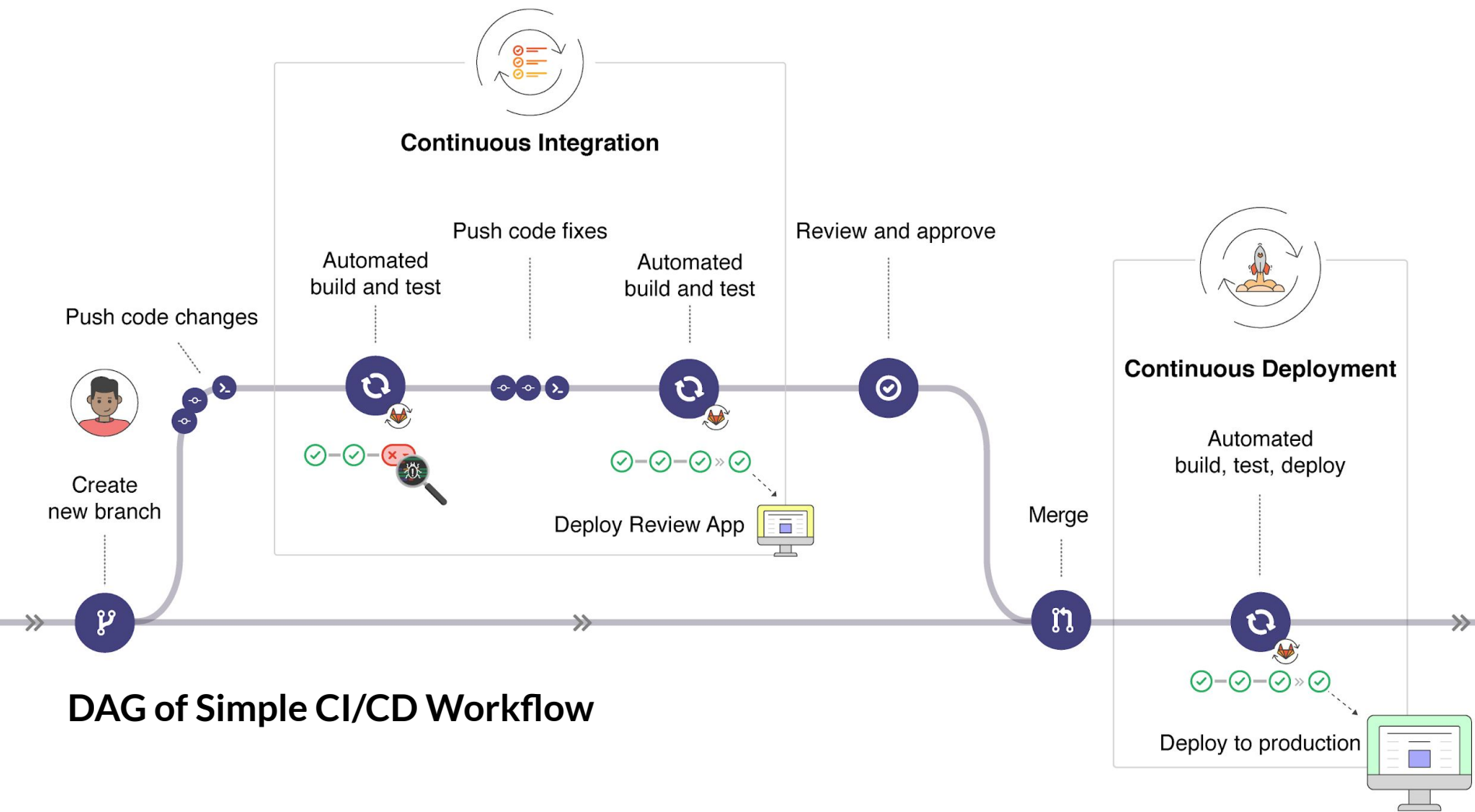
creating a pipeline to automate the things.

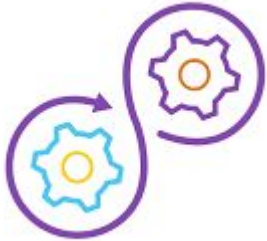
Then, CI/CD comes in ...

we'll gonna solve all

CI/CD stands for?

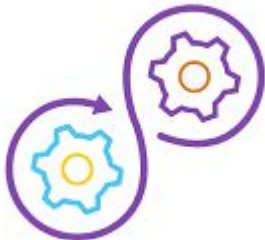






Continuous Integration (CI)

- We have >1 developer and each developers created a branch to develop their feature request.
 - They finish develop and want to merge to a shared branch.
 - **What if in 1-day merge all branches? Then, can be tedious, manual, and time-intensive. There's a chance it will conflict.**
 - CI helps developers merge their code to a shared branch more frequently.
 - Once a developer's changes to an application are merged, **those changes are validated** by automatically building the application and running different levels of automated testing **to ensure the changes haven't broken the app.**
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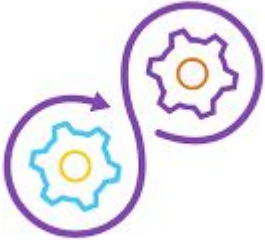


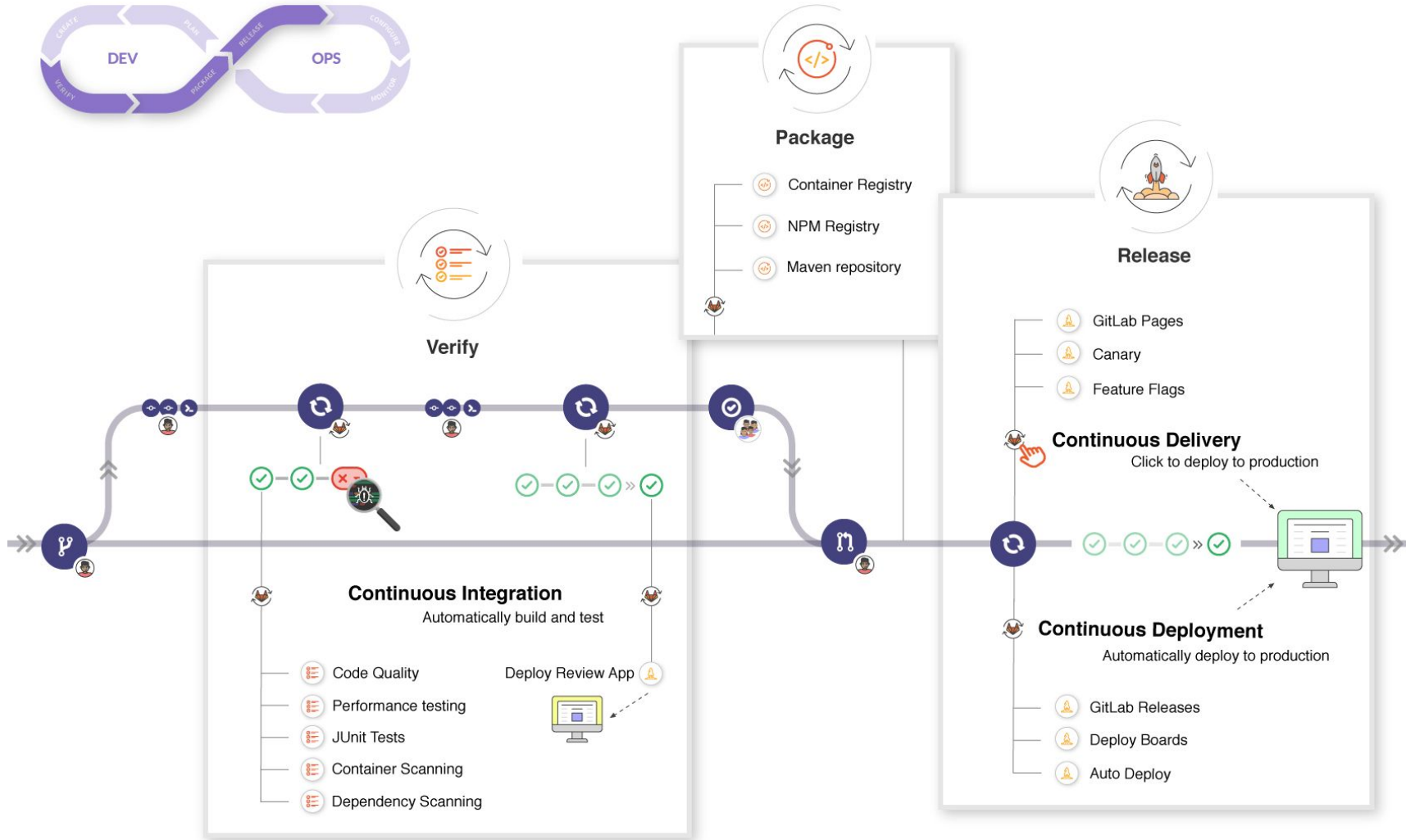
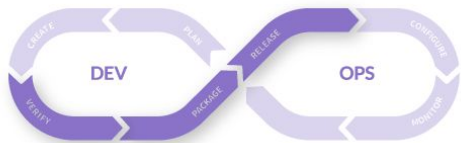
Continuous Delivery (CD)

- After CI complete build and test, continuous delivery **automates the release** of that validated code to a repo.
 - The goal is **to have a codebase that is always ready** for deployment to a production environment.
 - At the end of that process, the operations team is able to deploy an app to production quickly and easily.
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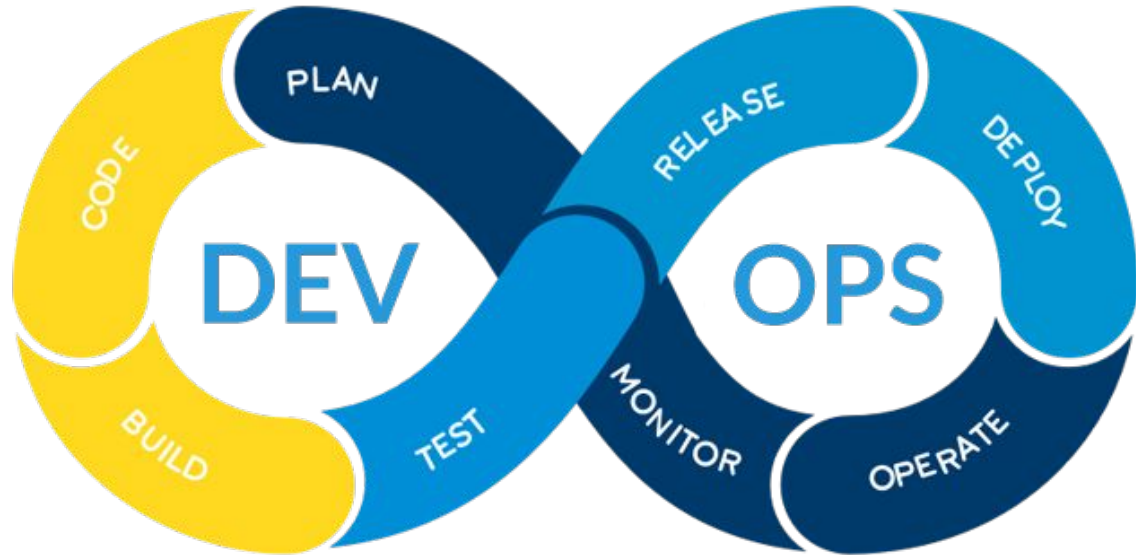
Continuous Deployment (CD)

- ... automates the releasing an app to production.

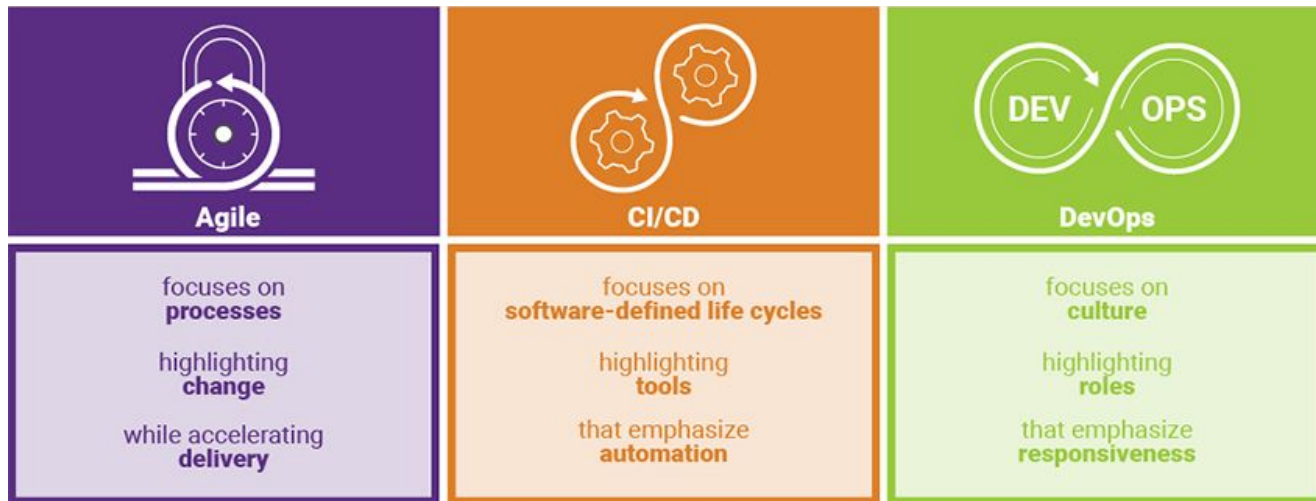




The Culture



Don't get confused



**Why you should implement
CI/CD ?**

Benefits for implementing CI/CD

- Achieve Faster Feedback Through CI Tools
 - Greater Visibility
 - Early Bug detects
 - Deploy more often and with more confidence
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When is CI/CD not
feasible?

When is CI/CD not feasible?

- Your customers **don't want continuous updates** to their systems.
 - **Regulations restrict** how software can be updated. For example, continuously updating software used in aerospace, telecom, and medical industries is not an option.
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Demo time!

DWYOR

*This demo will use container (docker) as
part of build, test, and deploy an app*

Preparation

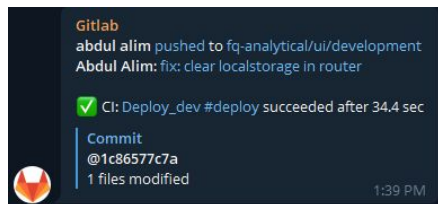
1. Clone this project to your gitlab account:
<https://gitlab/ilmimris/sample-app-ci-cd>
 2. Create an instance of EC2 or GCE or use your friend's laptop as production machine.
 3. Download and Install the Gitlab-runner from this page:
<https://docs.gitlab.com/runner/install/>
 4. Create access token of your gitlab account and store it somewhere from :
https://gitlab.com/profile/personal_access_tokens
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Let's Config CI/CD

1. Create `.gitlab-ci.yml` on your project root dir
 2. Define your desired stage, e.g. build, test, deploy
 3. Define script that you usually use for build, test & deploy
 4. Go to *projects settings* > *CI/CD* > *runners*, and register the runner on your EC2/GCE/your laptop using `docker` and base image `docker:dind`
 5. Edit `/etc/gitlab-runner/config.toml` add this to the volumes variable
`/var/run/docker.sock:/var/run/docker.sock`
 6. Go to *projects settings* > *CI/CD* > *variables*, and put your variable there.
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Bonus!

Integration with Telegram Bot



1. Open telegram and add [@gitlab_bot](#) to your group
2. Chat [/start](#) in your group and you'll get message like this:

A screenshot of a Telegram message from the bot '@gitlab_bot'. The message text is: 'Hi here! To setup notifications for this chat your GitLab project(repo), open Settings -> Web Hooks and add this URL: https://integram.org/gitlab/cgg6...'. The URL is partially redacted with a red box. The Telegram fox logo is in the bottom left corner, and '10:3' is in the bottom right corner.

3. Go to the project settings > integrations
 4. Copy link from bot to URL field
 5. Check the trigger that you want to receive notif.
 6. Test
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