UDAPEOPLE CICD PROPOSAL

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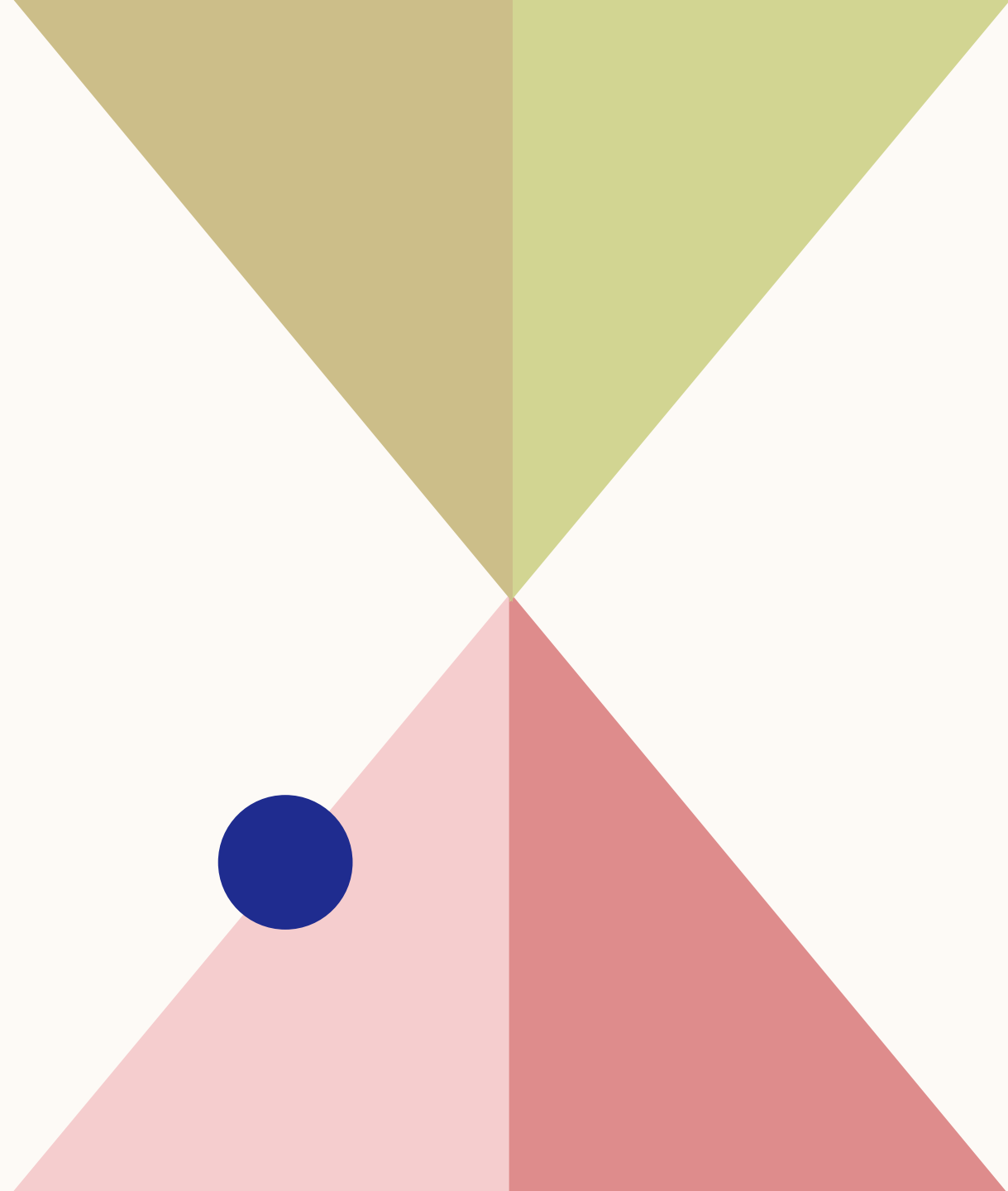


CI/CD CONCEPTS

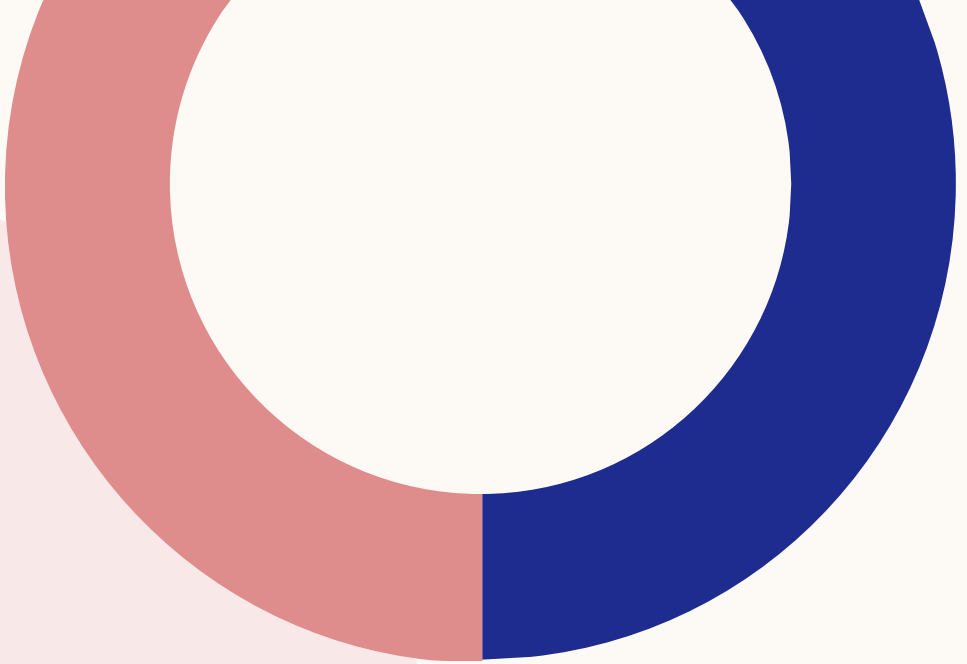
CI/CD embodies three major concepts

1. Continuous Integration: is a DevOps software development practice where developers regularly merge their code changes into a central repository, after which automated builds and tests are run.

2. Continuous Delivery: is an extension of continuous integration that automatically deploys all code changes to a testing and/or production environment after the build stage. This means that on top of automated testing, you have an automated release process, and you can deploy your application any time by clicking a button.

3. Continuous Deployment: goes one step further than continuous delivery. Here, every change that passes all stages of your production pipeline is released to your customers. There's no human intervention, and only a failed test will prevent a new change to be deployed to production.

CURRENT BOTTLENECK



1. Currently, our manual release strategy is prone to a lot of error which causes painful delays in deploying MVP
2. The lack of quality code analysis often leads to very poor software quality
3. Unit test suite hasn't been green in ages
4. Investing more time in release cycle than delivering value

CI/CD BENEFITS

Problem Statement:

- (1) Manual and error-prone release process and (2) Poor software quality

- Solutions:
  - Implement Continuous Integration: automate compiling, testing, code analysis and artifact storage
  - Automate Infrastructure Creation

- Benefits:
  - Cost reduction due to less human errors and faster deployments
  - Reduce complexity and safe manual troubleshooting time

CI/CD BENEFITS

Problem Statement:

- (3) Unit test suite hasn't been green in ages

- Solutions:
  - The team will need to write automated tests for each new feature, improvement or bug fix.
  - Automate Infrastructure Creation

- Benefits:
  - Testing costs are reduced drastically – your CI server can run hundreds of tests in the matter of seconds.
  - Less bugs get shipped to production as regressions are captured early by the automated tests.

CI/CD BENEFITS

Problem Statement:

- (4) Investing more time in release cycle than delivering value

- Solutions:
  - Deployments need to be automated thereby boycotting human intervention.

- Benefits:
  - The complexity of deploying software has been taken away. The team doesn't have to spend days preparing for a release

CONCLUSION

- One of the traditional cost associated with continuous integration is the installation and maintenance of a CI server.

- But you can reduce significantly the cost of adopting these practices by using a cloud service like CircleCI which adds automation to repositories. By simply adding a configuration file at the root of your repository you will be able to create a continuous deployment pipeline that gets executed for every new change pushed to the main branch.

- Setting up CI/CD would certainly cost some amount of money and there are some challenges as well, but the many benefits outweighs this cost and adopting this practice will improve overall business processes and dramatically reduce costs on the long run