DEVOPS BOOK

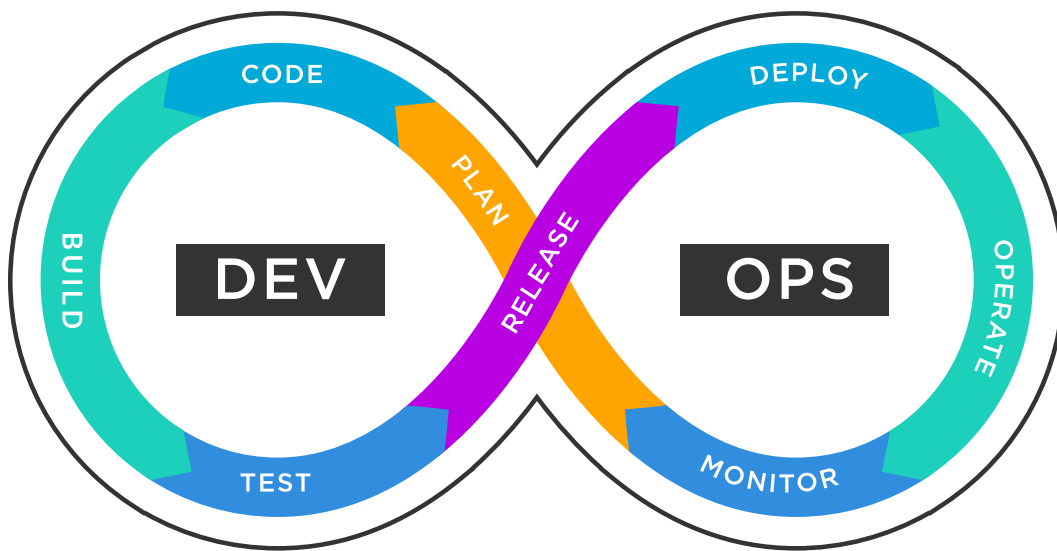## PETRO KOLOSOV

1. DevOps definition and Cycle

DevOps – is a set of practices intended to reduce the time between committing a change to a system and the change being placed into normal production, while ensuring high quality [1].

- **Plan**

  In this stage, the team identifies the business requirement by collecting end-user and monitoring feedback. They create a project roadmap to maximize the business value and to deliver the desired product.

- **Code**

  In this stage developers commit code to the shared repository, preferably (GIT), followed by code review and PR validation pipeline checks. For example, developer Alice works on her own branch `feature/payments` and creates a pull request to `develop` branch which is the main development branch of the project.

- **Build**

  This stage takes place after new code being reviewed and merged to the `main` branch. The code is being built and tested in a CI/CD pipeline followed by deployment artifact publication.

- **Test**

  In this phase, the artifact produced during build phase is being deployed to DEV/QA environments where manual and automated (E2E) tests are being executed.

- **Release**

  This phase happens after all the work as per Plan phase is done and tested. Release engineer creates a separate release branch or tag, updates CHANGELOG and runs Build against this new branch or tag. This time the artifact is being prepared for the UAT/Production deployments.

- **Deploy**

  In this phase, the artifact is being deployed to the UAT/Production environment.

- **Operate**

  After the project released to Production, the team validates and fixes the issues related to infrastructure and configuration.

- **Monitor**

  At this phase, DevOps engineer continuously monitors the application performance, logs, and metrics to ensure the application is running smoothly. All spots to fix or improve are being scheduled for the next iteration, for the next Plan phase.

References

[1] Len Bass, Ingo Weber, and Liming Zhu. What Software Architects Need to Know About DevOps. 2015. https://www.informit.com/articles/article.aspx?p=2424801.