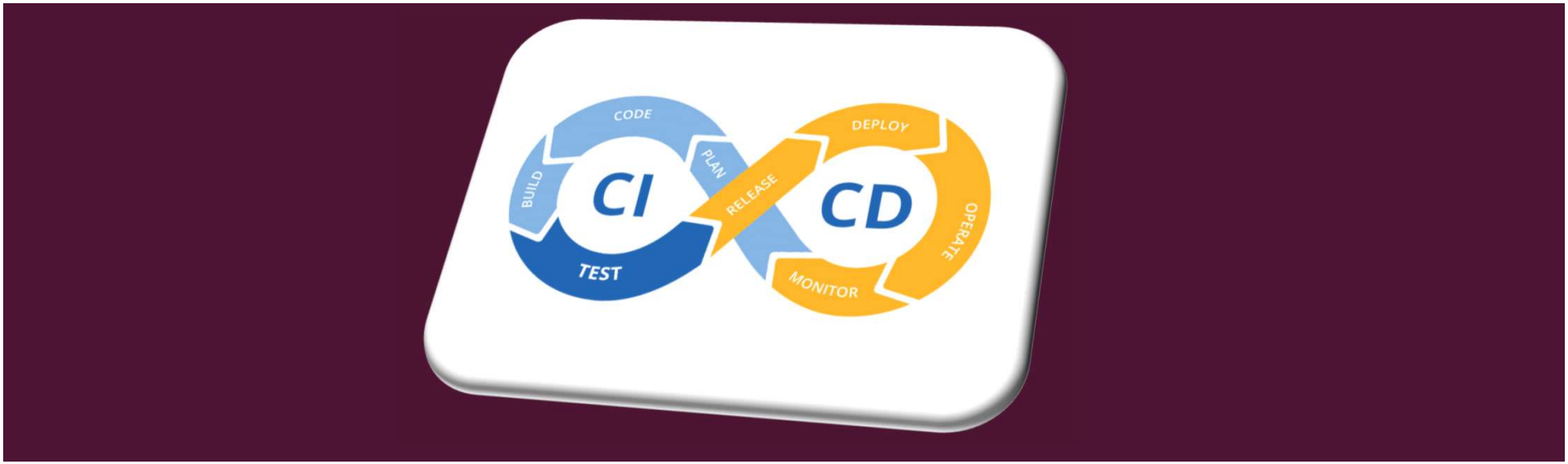
# CONTINUOUS INTEGRATION AND CONTINUOUS DEPLOYMENT (CI/CD) AND BENEFITS



# CONTINUOUS INTEGRATION (CI)

**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. Continuous integration most often refers to the build or integration stage of the software release process and entails both an automation component (e.g. a CI or build service) and a cultural component (e.g. learning to integrate frequently).

# CONTINUOUS DEPLOYMENT (CD)

**Continuous deployment (CD)** is a strategy or methodology for software releases where any new code update or change that makes it through the rigorous automated test process is deployed directly into the live production environment where it will be visible to customers.

# BENEFITS OF CONTINUOUS INTEGRATION AND DEPLOYMENT CI/CD

- **Reduce risk**

Finding and fixing bugs late in the development process is expensive and time-consuming. This is especially true when there are issues with features that have already been released to production.

With a CI/CD pipeline, you can test and deploy code more frequently, giving testers the ability to detect issues as soon as they occur and to fix them immediately. You are essentially mitigating risks in real time and also saving cost.

- **Maximized creativity**

CI/CD pipeline eliminates waste and helps create a leaner, more efficient software development and release process. By using computers to perform repetitive tasks, an automated process also frees up individuals to be creative. Instead of following manual test scripts, refreshing environments, or deploying updates, you can focus on solving problems and experimenting with solutions which in turn lead to revenue generation because more time is now spent in innovating.

# BENEFITS OF CONTINUOUS INTEGRATION AND DEPLOYMENT CI/CD - CONTD

- **Expend less manual effort**

Using CI/CD pipeline helps to reduce the cost involved in having a team of engineers test and deploy software manually. Using CI/CD pipelines your test and deployments are automated coupled with monitoring to ensure you get the right notification should anything fail in the pipeline.

- **Easy and Frequent Software Release**

Using CI/CD technique ensures continuous stream of software improvements, and quality increases every day, instead of every month, quarter or year which on the other hand improves customer experience and in turn boost revenue since value is being created every day through software improvements.

Thank You