

# CI/CD

**FUNDAMENTALS AND BENEFITS OF CI/CD TO ACHIEVE, BUILD, AND DEPLOY  
AUTOMATION FOR CLOUD-BASED SOFTWARE PRODUCTS**

# CI (Continues Integration)

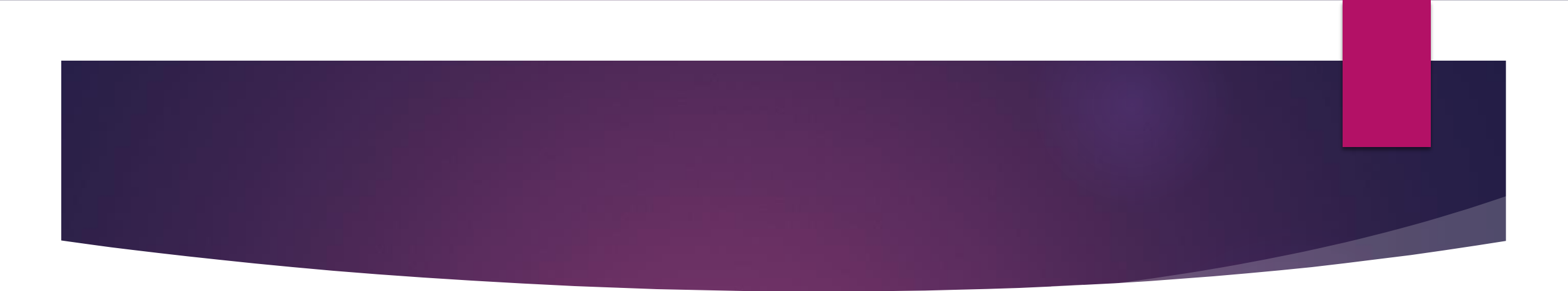
- ▶ means using automation tools to build, test and merge code. This is to ensure that code coming from different developers and components is free of errors. Automated tests help spot bugs at the early stage of software development and fix them immediately.

# CD (Continues Deployment)

- ▶ the constant and automated production deployment of every change made to the code, ideally without any human intervention. This is Continuous Delivery taken to a new level of automation.

# Benefits of CI/CD

- ▶ **Improved code quality:** Since code is released in small batches, it is possible to test it thoroughly (e.g. using unit tests) detecting and fixing the most serious bugs before software is deployed to production
- ▶ **Shorter time-to-market of new features:** If code changes are small, you can release software builds faster—essentially, on demand. This improves flexibility and the ability to ship new functionalities.

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- ▶ **Automation to reduce costs and labour:** Build automation, automated testing and deployment not only make the life of the DevOps team easier, Automated actions are also less susceptible to human error and easier to manage.
  - ▶ **Improved customer satisfaction:** goal of every CI/CD implementation is to make customers/clients happy. Buggy software can harm a company's reputation, sometimes irreparably. Fast and frequent releases, new features shipped regularly, bugs fixed promptly and immediate reaction to feedback—these are the major factors that will make end-users happy to pay for us.