# Benefits of CICD

Prepared by:

Mustafa Ramadan

What is CI/CD

- CI/CD pipelines are a practice focused on improving software delivery throughout the software development life cycle via automation of the build, test, and deployment processes.

Why CICD

- Thanks to continuous integration and continuous deployment (CI/CD), software changes can be delivered in a timely, repeatable, and secure manner by automating the software development processes.
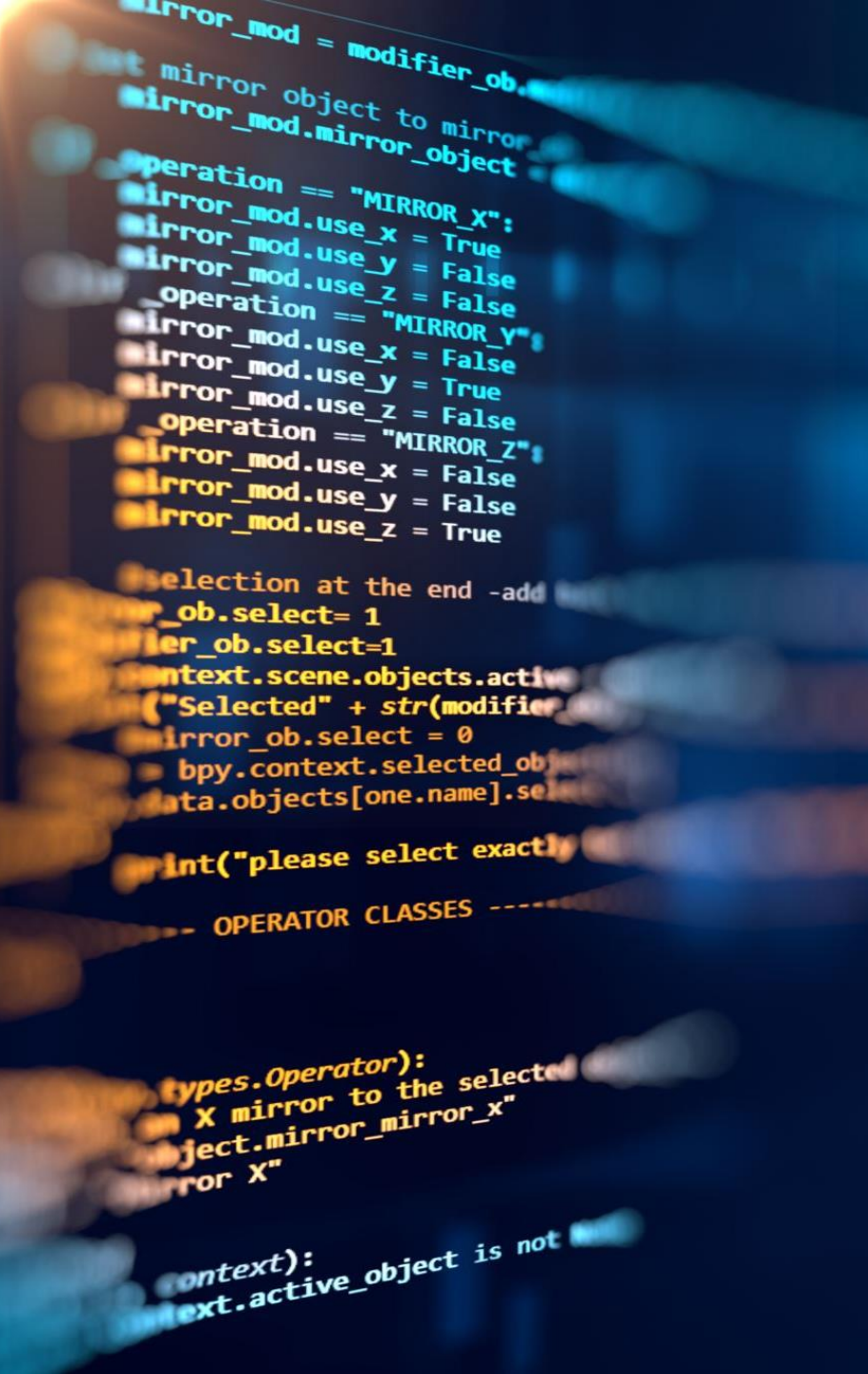
CICD Advantages

- Software can be shipped quickly and efficiently with CI/CD

- Continuously introducing bug fixes and new feature requests from the customers

- The CI/CD pipeline takes a different approach to software delivery

- With automated testing hooks at every stage, developers can fix issues early and avoid critical issues in the production environment. With CI/CD pipelines, code quality improves drastically, which, in turn, improves ROI.

CICD Breakdown

Continuous Integration

- The CI practice consists of merging the changes back to the main branch as often as possible

- Creating a build and running automated tests against it ensures the developer's changes are validated before merging into the release branch. By doing so, you avoid integration challenges. In a continuous integration system, every change can be automatically verified by running an automated test suite.

Continuous Delivery

- Continuous delivery extends continuous integration by automatically deploying all code changes to a testing or production environment after the build stage.

- Theoretically, continuous delivery allows you to release daily, weekly, fortnightly, or whenever suits your business. Continuous delivery can, however, be beneficial if you release small batches that are easy to troubleshoot if a problem arises.

In short

- CICD increases ROI due to
  - Less time spent on testing
  - Automated testing ensures quality of builds
  - More time spent on feature upgrades instead of looking for what broke the build
  - More customer satisfaction