

# **Project 3**

## **Presentation**



# CI/CD

CI and CD stand for continuous integration and continuous delivery/continuous deployment. In simple terms, **Continuous Integration (CI)** is the practice in which incremental code are made frequently and reliably. The developers working copies are merged to a shared mainline several times while **Continuous Deployment (CD)** is a software engineering approach in which the value is delivered frequently through automated deployments.




# Benefits of CI/CD and impact on Company Costs

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1. **Cost of implementation:** Implementing a CI/CD pipeline might require a higher initial investment in infrastructure, tools, and training to the engineers. However, the long-term benefits can outweigh the costs because it brings in standards and allows the developers to focus on more meaningful work of innovating new features.
2. **Increased efficiency:** By automating many of the processes including development, testing, and deployment processes, CI/CD helps companies reduce the time and resources needed to deliver software products. This will lower development costs and increase productivity since there is less merge conflicts etc.

# Benefits of CI/CD and impact on Company Costs Cont'

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- 3. Faster time-to-market:** Since the CI/CD process is automated, companies are able to release new products and features faster, which can increase revenue. This is because they can get products to market more quickly, which can help them gain a competitive advantage and capture market share. With the help of Automated smoke tests there is reduced downtime from a deploy-related crash or major bug. This prevents the company from losing money as well as deploy faster to the market.
  - 4. Attracting Great Talent:** By moving away from traditional waterfall models companies with successful CI/CD pipelines can attract great talent since developers will not be bogged down with repetitive activities that usually impacts completion of other tasks.
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# Benefits of CI/CD and impact on Company Costs Cont'

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5. **Improved quality:** CI/CD can also help companies catch and fix bugs earlier in the development process, reducing the costs associated with fixing bugs and preventing issues from reaching customers. This can lead to better customer satisfaction and retention. It helps developers catch compile errors after merge hence developers spend less time to debug.
6. **Increased collaboration:** CI/CD Increases collaboration among developers, testers, and operations teams, leading to better communication, faster issue resolution, and better alignment of goals hence increasing productivity.

# Benefits of CI/CD and impact on Company Costs Cont'

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7. **Consistency and reliability:** A successful CI/CD pipeline can help ensure that the software product is always in a deployable state, reducing the risk of production issues and downtime. With automated rollbacks for example, it's easy to go back to a previous version in case of any issues, reducing the impact and risk on a production environment. This brings consistency and reliability.