Benefits of Continuous Integration/Continuous Deployment(CI/CD)

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Fundamentals of CI/CD

- **Continuous Integration (CI)** : The practice of merging all developers' working copies to a shared mainline several times a day.
- **Continuous Delivery (CD):** The engineering practice where teams produce and release value in short cycles.

(Together, these two tools improve software quality, reduce time to deliver. Also, they allow Dev teams to detect and find errors/bugs earlier as developers need to integrate code into shared repository several times a day.)

Why should you adopt CI/CD ?

- Better code quality.
- Easier monitoring of change in the operational environment.
- Testing cost is drastically reduced as you get to run hundreds of tests in a matter of seconds.
- Less bugs get shipped to production as regressions are captured early by the automated tests.
- Shorter Testing cycles and easier rollback if required.

Economic Benefits of CI/CD from HP Case Study

- The Dev team had been on the critical path for all new product releases for years and were unable to deliver new features. They had tried spending, hiring, and outsourcing their way out of the problem, but nothing had worked until they tried CI/CD.
- After adopting CI/Cd:
  1. Overall development costs were reduced by ~ 40%.
  2. Programs under development increased by ~ 140%.
  3. Development costs per program went down ~78%.
  4. Resources driving innovation increased eightfold.

  (source: https://continuousdelivery.com/evidence-case-studies/)

Conclusion

- Beyond reasonable doubt, CI/CD will lend great support for improving efficiency and consequently productivity.

- Adopting the CI/CD will greatly reduce our time to release new products to productions and yield more revenue.