Udapeople

CI/CD BENEFITS

OVERVIEW

- CI/CD stand for? Explained.
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CI/CD stand for? Explained

- CI - Continuous integration
    - Is the practice of merging all developers' working copies to a shared mainline several times a day. The goal is to speed up the release process by enabling teams to identify and fix problems early in the development lifecycle.

- CD - Continuous delivery
    - is a software engineering approach in which teams produce software in short cycles, ensuring that the software can be reliably released at any time and, when releasing the software, without doing so manually. The goal is to streamline the delivery/deployment process so that predictable tasks can be performed on-demand.

- CD - Continuous Deployment
    - Is a software engineering approach in which software functionalities are delivered frequently and through automated deployments. E.g Infrastructure Provisioning, Smoke Testing, Production deployment, automated Rollbacks.

Cost cutting

- CI/CD standardizes deployment processes across all projects, and, done right, it enables teams to systematically test every change made to the source code.

- This process stands to dramatically reduce the likelihood that any bugs or errors slip through the cracks and cause problems down the line. Those practice can lower development costs by eliminating many of the costs incurred while building and testing code changes.

- With CI/CD pipeline properly automated, the process of the product deployment and release is more reliable and developers are not wasting hours on bug-fixing.

- Teams spend less time on testing and bug fixes, meaning organizations spend less money on tasks that don't provide any value to the business or its customers.

Revenue, increase revenue

- CI/CD also makes it easier to deliver high-quality products to market faster and respond to feedback as it comes in, organizations stand to see an increase in profits.

- Automated CI/CD let new members of the team get down to business right away without having to deal with an exhausting learning curve.

- Customers stick around longer and will likely recommend your products to others in their network.

The business benefit of CI/CD, DevOps principles

- Ensure superior code quality

  - Because CI/CD pipelines include test automation, development team can know about code problems nearly real time. The process means teams aren't wasting time or resource with buggy code.

- Deliver faster with an accelerated release rate

  - The faster code is released, the more new code can be developed, then released.

- Simplified rollback

  - A CI/CD pipeline gives developers the power to fail fast and recover even faster. It's a simple process to push code into production and, if there are issues, simply roll it back

- Monitoring metrics data

  - In traditional way, software deployment monitoring metric is quite complicated. In the real environment, the dev team would like to know there was a problem, then perform root cause analysis immediately. Whenever root causes are found, development can roll back and make a hotfix.

The challenges

- Setup CI/CD may take time for initial. In addition, CI/CD configuration need high amount of learning.

- Delivery CI/CD pipelines is not a one time effort. Business always change, that CI/CD need to flexible and requires constant support, maintenance as well as development or enhancement.

- CI/CD need lot of effort at the beginning. However, CI/CD will improve overall business process and reduce cost in the future, the long run.