BENEFITS OF CI/CD

Prepared by:

Basma Kheir Elgamal

What is CI/CD?

A CI/CD pipeline leverages the power of automation to significantly streamline code development and delivery. CI enables developers to do tasks like source code integration and version controlling more efficiently and push the code into production faster. On the other hand, CD automates tasks like software testing and deployment. Together, CI/CD is a powerful approach for modern software development and enables businesses to drive value.

Benefits of CI/CD

- Deploy faster
- Avoid outages
- Improve visibility across development
- Reduce costs of delivery
- Enhance code quality
- Get feedback continuously
- Simplify rollback
- Improve performance metrics
- Reduce backlog

Deploy faster

A CI/CD pipeline is like a turbo engine when it comes to accelerating the code deployment pace and time-to-market of the final product. It enables you to ship code changes not just every week, but every day and even hourly. As testing is automated, the code is automatically deployed if it meets the predefined criteria. This enables you to release software to production several times at a rapid pace while keeping quality intact. Moreover, the automation the CI/CD pipeline brings to the software development lifecycle reduces manual labor and time required for creating and maintaining deployment scripts and tools.

Avoid outages

A successful CI/CD pipeline enables your DevOps teams to continuously integrate small batches of code instead of the entire application. This approach helps the developers to easily identify the anomalies and fix them. So, you can avoid significant outages and other key issues by flagging bugs and vulnerabilities before they make it to production and disrupt the entire application.

Improve visibility across development

Before the introduction of DevOps methodologies and CI/CD approaches in software development, the developers would easily know there was an issue with code, but they used to struggle to know where exactly the problem was happening. Now, the automated testing practices of the CI/CD pipeline improved the visibility across the software development lifecycle. Developers can easily spot and isolate code issues. This, in turn, significantly improved productivity.

Reduce costs of delivery

CI/CD pipeline reduces human intervention across the DevOps lifecycle by automating the handoffs, version controlling, source code management, deployment processes, and testing, among others. This significantly saves the time and money required to develop and deliver high-quality software. Moreover, with a successful CI/CD pipeline in play, the development teams aren't plagued with endless 'code fix' requests, so they can keenly focus on the next projects, maximizing the overall ROI for the company.

Enhance code quality

The prime reason that businesses across the world are proactively adopting DevOps methodology is high-code quality. And, of course, the most important process the teams require for DevOps is CI/CD. A CI/CD pipeline enables dev teams to integrate code into a shared repository in small batches. This facilitates them to conduct code testing simultaneously. With a common repository, the developers can share their build with the entire team, eliminating siloed working. Additionally, the collaborative work environment enables us to easily identify critical bugs, before code issues make it to production. Thus CI/CD pipeline improves code quality and helps deliver superior software.

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Get feedback continuously

Timely feedback is the ultimate benefit of the CI/CD pipeline. The CI/CD pipeline incorporates automated testing across the software development phases to immediately trigger feedback when faults are identified. The feedback, along with user behavior data and the key performance metrics, helps glean insights into what works for your organization and how to make further improvements to the product.

Simplify rollback

Easy rollback is one of the key benefits offered by CI/CD. A CI/CD pipeline empowers development teams to fail fast and recover even faster. Simply put, the CI/CD pipeline enables your developers to easily push code into production and, if any issues arise, simply roll it back. This ultimate ability to roll back code saves time, resources, and expenses by helping teams to fix the problem code at a faster pace.

Improve performance metrics

Before DevOps and CI/CD, application performance or monitoring metrics are often absent, so teams failed to understand how the code is working in the real world. With CI/CD pipeline, the teams can easily monitor the health, performance, and reliability of the application. This metrics data help in gleaning actionable insights to improve the product further.

Reduce backlog

A CI/CD pipeline gives the development team the time to work on the things they won't be able to do with traditional approaches. They can now go back to fix older code and improve its quality and make it more efficient. This not only enables your developers to tackle the backlog but also addresses the non-critical defects. In this way, the non-critical issues are fixed before they become critical and make it to production.