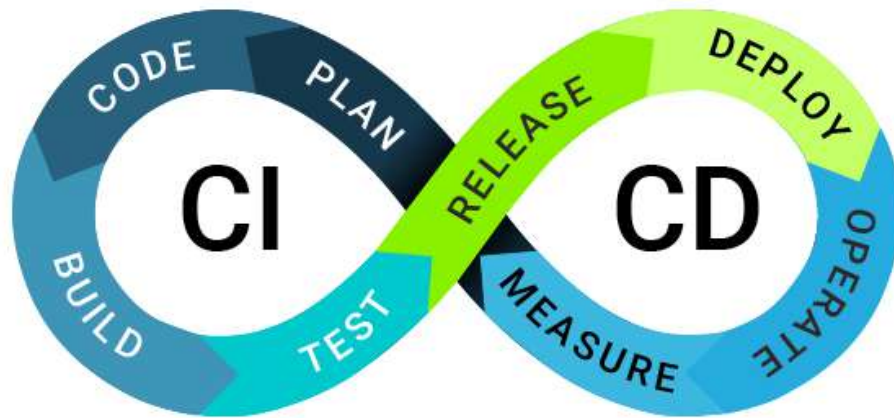


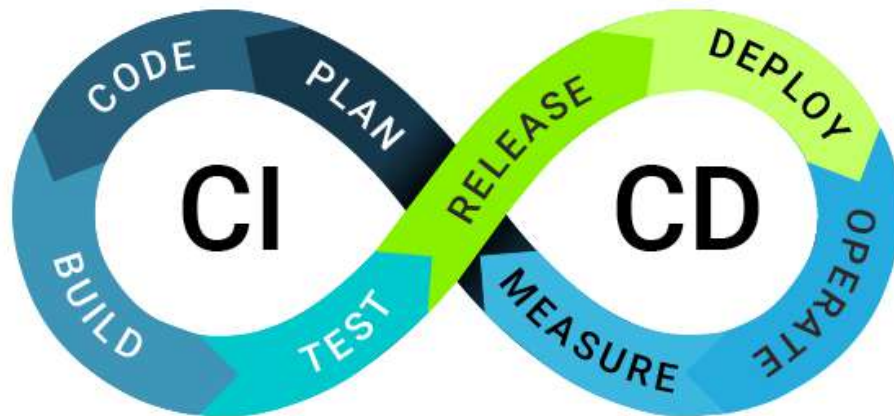
WHAT IS CI/CD AKA CONTINUOUS DELIVERY, AND WHY IS IT IMPORTANT?

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WHAT IS CI/CD?

- CONTINUOUS INTEGRATION (CI) MEANS USING AUTOMATION TOOLS TO BUILD, TEST AND MERGE CODE SEAMLESSLY.
- CONTINUOUS DELIVERY (CD) IS THE PRACTICE OF RELEASING SOFTWARE TO PRODUCTION IN SHORT CYCLES, WITH GREATER SPEED AND FREQUENCY.



WHAT IS CONTINUOUS DELIVERY?

THE CONSTANT AND AUTOMATED PRODUCTION DEPLOYMENT OF EVERY CHANGE MADE TO THE CODE, IDEALLY WITHOUT ANY HUMAN INTERVENTION. THIS IS CONTINUOUS DELIVERY TAKEN TO A NEW LEVEL OF AUTOMATION.

BENEFITS OF CONTINUOUS DELIVERY

IMPROVED CODE QUALITY

ONE OF THE MOST IMPORTANT BUSINESS BENEFITS OF CI/CD IS THAT IT IMPROVES OVERALL CODE QUALITY. SINCE CODE IS RELEASED IN SMALL BATCHES, IT IS POSSIBLE TO TEST IT THOROUGHLY (E.G. USING UNIT TESTS) DETECTING AND FIXING THE MOST SERIOUS BUGS BEFORE SOFTWARE IS DEPLOYED TO PRODUCTION.

AUTOMATED TESTS ALLOW YOU TO FIX BUGS IMMEDIATELY, WHICH IS MUCH EASIER AND LESS COSTLY THAN ALLOWING THEM TO FESTER.

BENEFITS OF CONTINUOUS DELIVERY

SHORTER TIME-TO-MARKET OF NEW FEATURES

IF CODE CHANGES ARE SMALL, YOU CAN RELEASE SOFTWARE BUILDS FASTER—ESSENTIALLY, ON DEMAND. THIS IMPROVES FLEXIBILITY AND THE ABILITY TO SHIP NEW FUNCTIONALITIES. NOW WHEN USERS ASK FOR NEW FEATURES OR COMPETITORS INTRODUCE ENHANCEMENTS, YOUR REACTION CAN BE FASTER.

BENEFITS OF CONTINUOUS DELIVERY **AUTOMATION TO REDUCE COSTS AND LABOUR**

AUTOMATION IS ONE OF THE MOST IMPORTANT REASONS TO IMPLEMENT A CI/CD PIPELINE. BUILD AUTOMATION, AUTOMATED TESTING AND DEPLOYMENT NOT ONLY MAKE THE LIFE OF THE DEVOPS TEAM EASIER, BUT ALSO SLASH COSTS. AUTOMATED ACTIONS ARE ALSO LESS SUSCEPTIBLE TO HUMAN ERROR AND EASIER TO MANAGE. IDEALLY, EVERY DEPLOYMENT INTO THE PRODUCTION ENVIRONMENT SHOULD BE PERFORMED WITHOUT HUMAN INTERVENTION.

BENEFITS OF CONTINUOUS DELIVERY

RAPID FEEDBACK

WHAT IS SO GREAT ABOUT THE CI/CD PROCESS IS THE INSTANT FEEDBACK YOU GET ABOUT YOUR CODE AND NEW BUILD. AS FAILURE IS A NORMAL OCCURRENCE, YOU SHOULD APPLY THE PRINCIPLE OF FAILING FAST. THIS CAN BE ACHIEVED BY AUTOMATING TESTS. WHEN AUTOMATED TESTS DETECT A BUG, IT CAN BE FIXED RAPIDLY.

THE SAME IS TRUE FOR AUTOMATED DEPLOYMENT: IF THE METRICS BEING MONITORED SUGGEST THERE'S AN ISSUE WITH A NEW UPDATE, IT WILL AUTOMATICALLY BE ROLLED BACK, THUS PROTECTING YOUR COMPANY'S REPUTATION FROM ANY HARM IT MAY SUFFER WHEN FAULTY SOFTWARE IS RELEASED TO THE PUBLIC.

BENEFITS OF CONTINUOUS DELIVERY

STREAMLINED COMMUNICATION

EVERY SUCCESSFUL CI/CD PROCESS IS BASED ON EFFECTIVE COMMUNICATION. A CI/CD PIPELINE IS A COMMON FRAMEWORK FOR ALL DEVELOPERS, TESTERS AND PRODUCT MANAGERS WORKING ON SOFTWARE DEVELOPMENT.

ADDITIONALLY, A FLAT MANAGEMENT STRUCTURE ALLOWS FOR MORE FLEXIBILITY AND INITIATIVE WHILE ENHANCING THE SENSE OF RESPONSIBILITY AMONG TEAM MEMBERS FOR DELIVERING AN OUTSTANDING PRODUCT TO END USERS. THIS INCREASES THE BUSINESS VALUE OF THE COMPANY.

BENEFITS OF CONTINUOUS DELIVERY

APPLICATION PERFORMANCE METRICS

EVERY APPLICATION AFTER ITS RELEASE SHOULD BE MONITORED CAREFULLY FOR POSSIBLE ISSUES. YOU SHOULD CONSIDER CONTINUOUS MONITORING AND OBSERVABILITY THE BACKBONE OF YOUR CI/CD PIPELINE. THEY ALLOW YOU TO MONITOR HEALTH, PERFORMANCE AND RELIABILITY AND TO TAKE THE NECESSARY ACTIONS WHEN NEEDED.

MONITORING METRICS WILL ALSO ALLOW YOU TO CREATE ACTIONABLE INSIGHT AND FURTHER IMPROVE YOUR SOFTWARE PRODUCT.

BENEFITS OF CONTINUOUS DELIVERY

IMPROVED CUSTOMER SATISFACTION

THE ULTIMATE GOAL OF EVERY CI/CD IMPLEMENTATION IS TO MAKE CUSTOMERS/CLIENTS HAPPY. BUGGY SOFTWARE CAN HARM A COMPANY'S REPUTATION, SOMETIMES IRREPARABLY. FAST AND FREQUENT RELEASES, NEW FEATURES SHIPPED REGULARLY, BUGS FIXED PROMPTLY AND IMMEDIATE REACTION TO FEEDBACK—THESE ARE THE MAJOR FACTORS THAT WILL MAKE END-USERS HAPPY TO PAY FOR YOUR SOFTWARE. THEY CAN BE ACHIEVED THANKS TO EMBRACING CI/CD IN YOUR COMPANY.