



A GROWING NUMBER OF COMPANIES ARE SHIPPING SOFTWARE IN MINUTES. YEAH, YOU READ THAT RIGHT. MINUTES. NOT HOURS, NOT WEEKS, MONTHS, OR LONGER. MINUTES.

OFTEN, TEAMS STRUGGLE TO SHIP SOFTWARE INTO THE CUSTOMER'S HANDS DUE TO LACK OF CONSISTENCY AND EXCESSIVE MANUAL LABOR. CONTINUOUS INTEGRATION (CI) AND CONTINUOUS DELIVERY (CD) DELIVER SOFTWARE TO A PRODUCTION ENVIRONMENT WITH SPEED, SAFETY, AND RELIABILITY.

CONTINUOUS INTEGRATION (CI) IS A DEVELOPMENT PRACTICE THAT REQUIRES DEVELOPERS TO INTEGRATE CODE INTO A SHARED REPOSITORY SEVERAL TIMES A DAY. EACH CHECK-IN IS THEN VERIFIED BY AN AUTOMATED BUILD, ALLOWING TEAMS TO DETECT PROBLEMS EARLY. BY INTEGRATING REGULARLY, YOU CAN DETECT ERRORS QUICKLY, AND LOCATE THEM MORE EASILY.

CONTINUOUS DELIVERY (CD) IS THE ABILITY TO GET CHANGES OF ALL TYPES—INCLUDING NEW FEATURES, CONFIGURATION CHANGES, BUG FIXES AND EXPERIMENTS—INTO PRODUCTION, OR INTO THE HANDS OF USERS, SAFELY AND QUICKLY IN A SUSTAINABLE WAY. WE ACHIEVE ALL THIS BY ENSURING OUR CODE IS ALWAYS IN A DEPLOYABLE STATE, EVEN IN THE FACE OF TEAMS OF THOUSANDS OF DEVELOPERS MAKING CHANGES ON A DAILY BASIS.

## BENIFITS OF CICD

Catch Compile Errors After Merge	Reduce Cost	Less developer time on issues from new developer code
Catch Unit Test Failures	Avoid Cost	Less bugs in production and less time in testing
Detect Security Vulnerabilities	Avoid Cost	Prevent embarrassing or costly security holes
Automate Infrastructure Creation	Avoid Cost	Less human error, Faster deployments
Automate Infrastructure Cleanup	Reduce Cost	Less infrastructure costs from unused resources
Faster and More Frequent Production Deployments	Increase Revenue	New value-generating features released more quickly
Deploy to Production Without Manual Checks	Increase Revenue	Less time to market
Automated Smoke Tests	Protect Revenue	Reduced downtime from a deploy-related crash or major bug

