CI/CD

HAPPY TECHNICAL MEANS HAPPY BUSINESS

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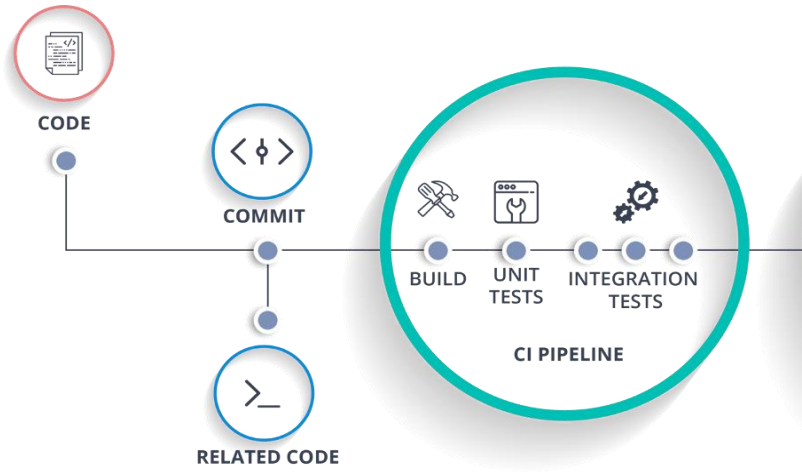
Continuous Integration (CI) & Continuous Deployment (CD)

Continuous integration is a coding philosophy and set of practices that drive development teams to frequently implement small code changes and check them in to a version control repository. Most modern applications require developing code using a variety of platforms and tools, so teams need a consistent mechanism to integrate and validate changes. Continuous integration establishes an automated way to build, package, and test their applications. Having a consistent integration process encourages developers to commit code changes more frequently, which leads to better collaboration and code quality.

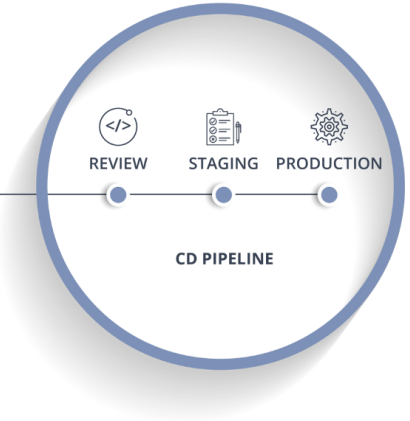
Continuous Integration(CI)

Continuous integration, or CI, is the practice of integrating all your code changes into the main branch of a shared source code repository early and often, automatically testing each change when you commit or merge them, and automatically kick off a build. CI helps DevOps teams detect and resolve conflicts early and ensures that the codebase remains stable. CI is a key practice for Agile development teams.



Continuous Deployment (CD)

Continuous deployment is a strategy in software development where code changes to an application are released automatically into the production environment. This automation is driven by a series of predefined tests. Once new updates pass those tests, the system pushes the updates directly to the software's users.



Benefits of CI/CD

Technical Language	Value	Translation
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
Automated Rollback Triggered by Job Failure	Protect Revenue	Quick undo to return production to working state