

udapeople

THE CONCEPT OF CONTINUOUS INTEGRATION AND CONTINUOUS DELIVERY/DEPLOYMENT
CI/CD

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Overview

This is to introduce the CI/CD concept for the udapeople product and how it will not only help our team to be effectively and efficiently more productive, but also create revenue, protect revenue, reduce costs and also lead to customer satisfaction in the organization.

Business Case

How integrating the concept of CI/CD into udapeople products for the company will generate increased revenue, brand awareness through customer satisfaction, sales and reduced costs.

Fundamentals of CI/CD

Continuous Integration(CI), Continuous Delivery and Deployment (CD).

CI/CD is basically a method to frequently deliver apps to customers by introducing automation into the stages of app development.

Continuous Integration

This is where the code for a software is continuously being written, tested to ensure there are no bugs, errors detected and corrected and then passed on to the other stages. This used to be done manually which leads to reduced time to market, human errors, late detection of bugs which causes later time to fix and incurs costs but with modern trend which is using automation, which is what my team is asking for to implement in Udapeople product all these will be eliminated.

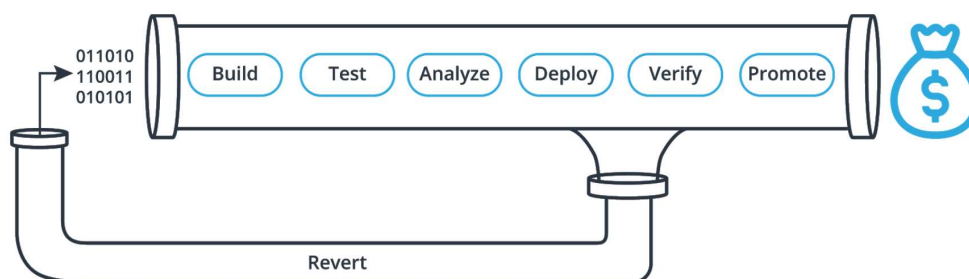
Continuous Delivery

This is where the tested code from Continuous Integration is now passed to. In this stage the code for the software is validated after which it is shipped to the final stage.

Continuous Deployment: This is the final stage where the software is deployed after having undergone successful checks is now sent into production and users now have access to the software and can give feedback regarding it.

This whole process is illustrated below:

The CI/CD Pipeline



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

Conclusion

Implementing CI/CD for udapeople product will generate revenue at approximately 30% (percent), increase brand awareness through customer satisfaction and reduce cost by 15% (percent).