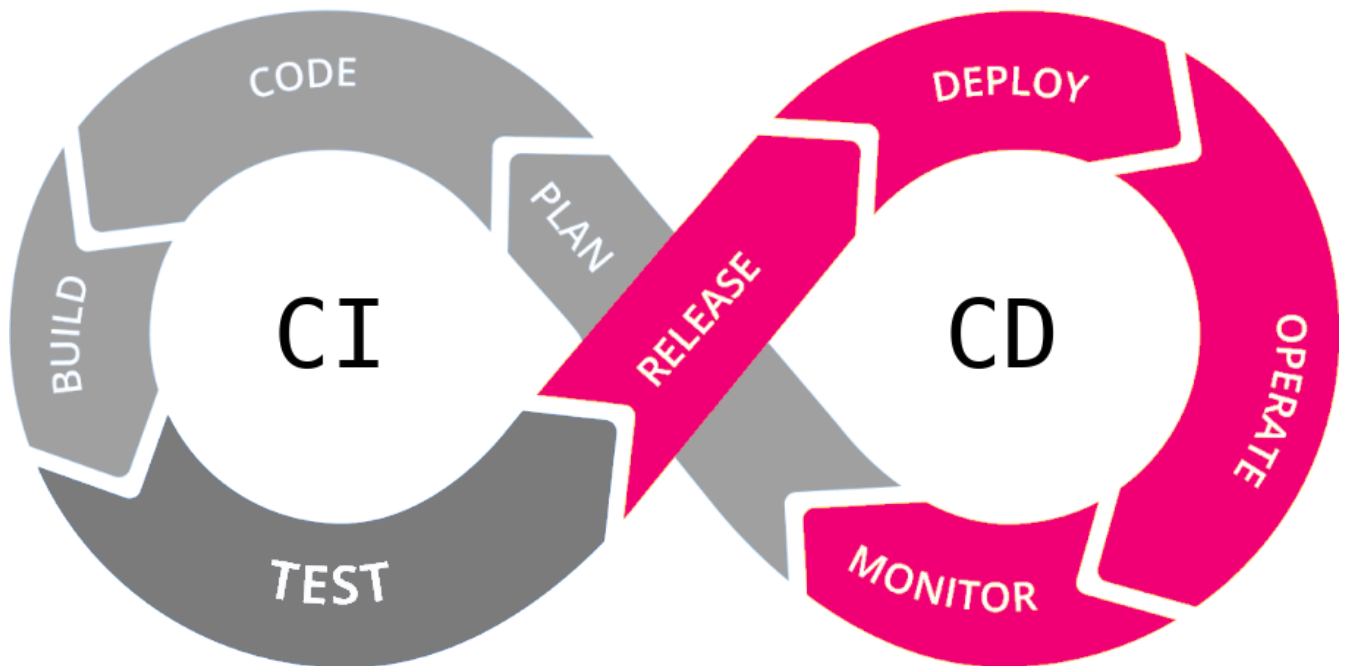


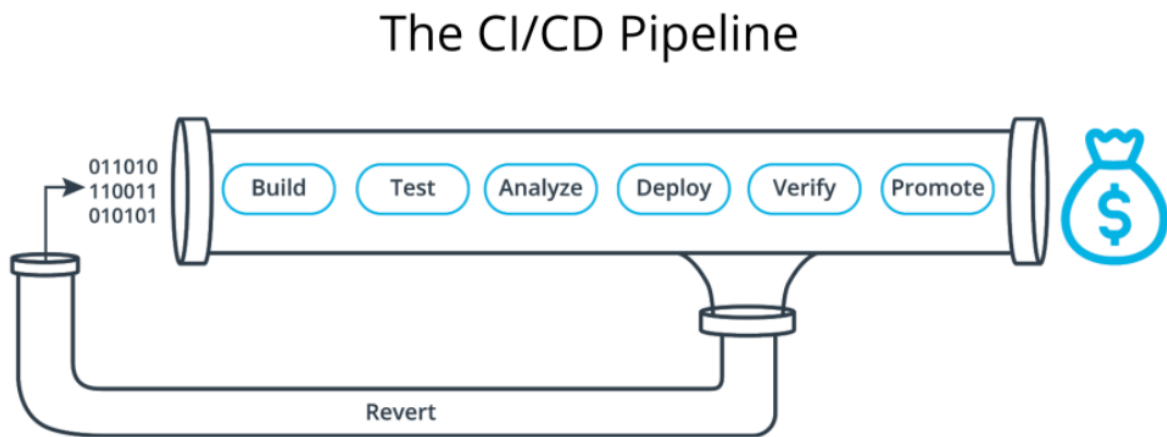
# CI/CD proposal

August 27, 2021



# Introduction

**First of all what is the meaning of CI/CD pipeline**



It consists of two parts :

- 1) CI : Continuous Integration
- 2) CD : Continuous Deployment

## Key Terms

- **Pipeline:** A set of data processing elements connected in series, where the output of one element is the input of the next one.
- **Continuous Integration:** The practice of merging all developers' working copies to a shared mainline several times a day.
- **Continuous Delivery:** An engineering practice in which teams produce and release value in short cycles.
- **Continuous Deployment:** A software engineering approach in which the value is delivered frequently through automated deployments.

## 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

<b>Faster and More Frequent Production Deployments</b>	<b>Increase Revenue</b>	<b>New value-generating features released more quickly</b>
<b>Deploy to Production Without Manual Checks</b>	<b>Increase Revenue</b>	<b>Less time to market</b>
<b>Automated Smoke Tests</b>	<b>Protect Revenue</b>	<b>Reduced downtime from a deploy-related crash or major bug</b>
<b>Automated Rollback Triggered by Job Failure</b>	<b>Protect Revenue</b>	<b>Quick undo to return production to working state</b>

## Challenges

- Establishing CI/CD will come with a high amount of initial cost and learning. At first this might seem very costly compared to current best practices but its effects will be impressive later.
- Delivering CI/CD pipelines is not a one time effort, but requires constant support and maintenance as well as continuous development and improvement .

Even though there are some challenges, CI/CD will improve overall business processes and dramatically reduce costs ,increase revenue and protect revenue on the long run .