Optimizing Your Workflow: The Benefits of CI/CD for UdaPeople
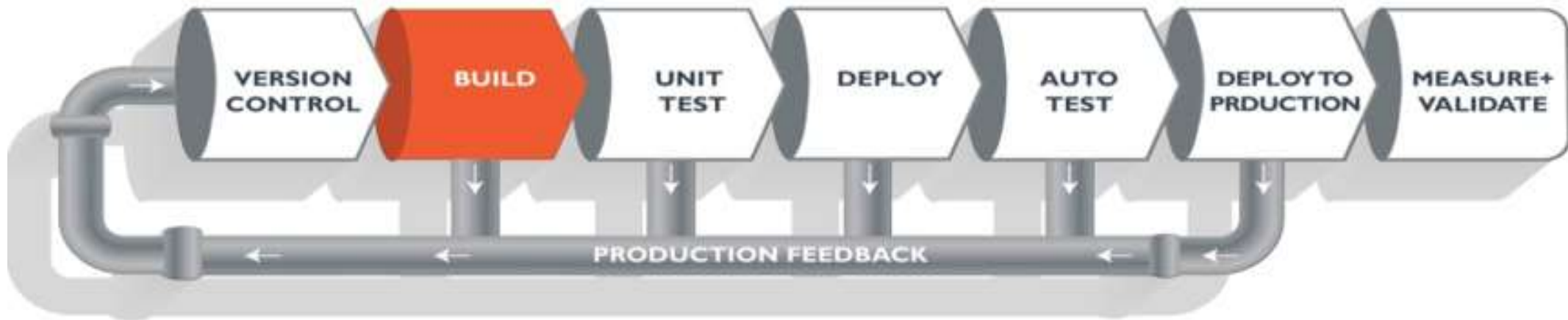
Introduction

CI/CD automates software development and deployment processes, reducing manual intervention and streamlining the process.

It includes continuous integration, continuous delivery, and continuous deployment.

This results in frequent delivery of apps to customers, improving efficiency and productivity.

| Continuous Integration | + | Continuous Deployment | = | Continuous Delivery |

CI/CD Work Flow
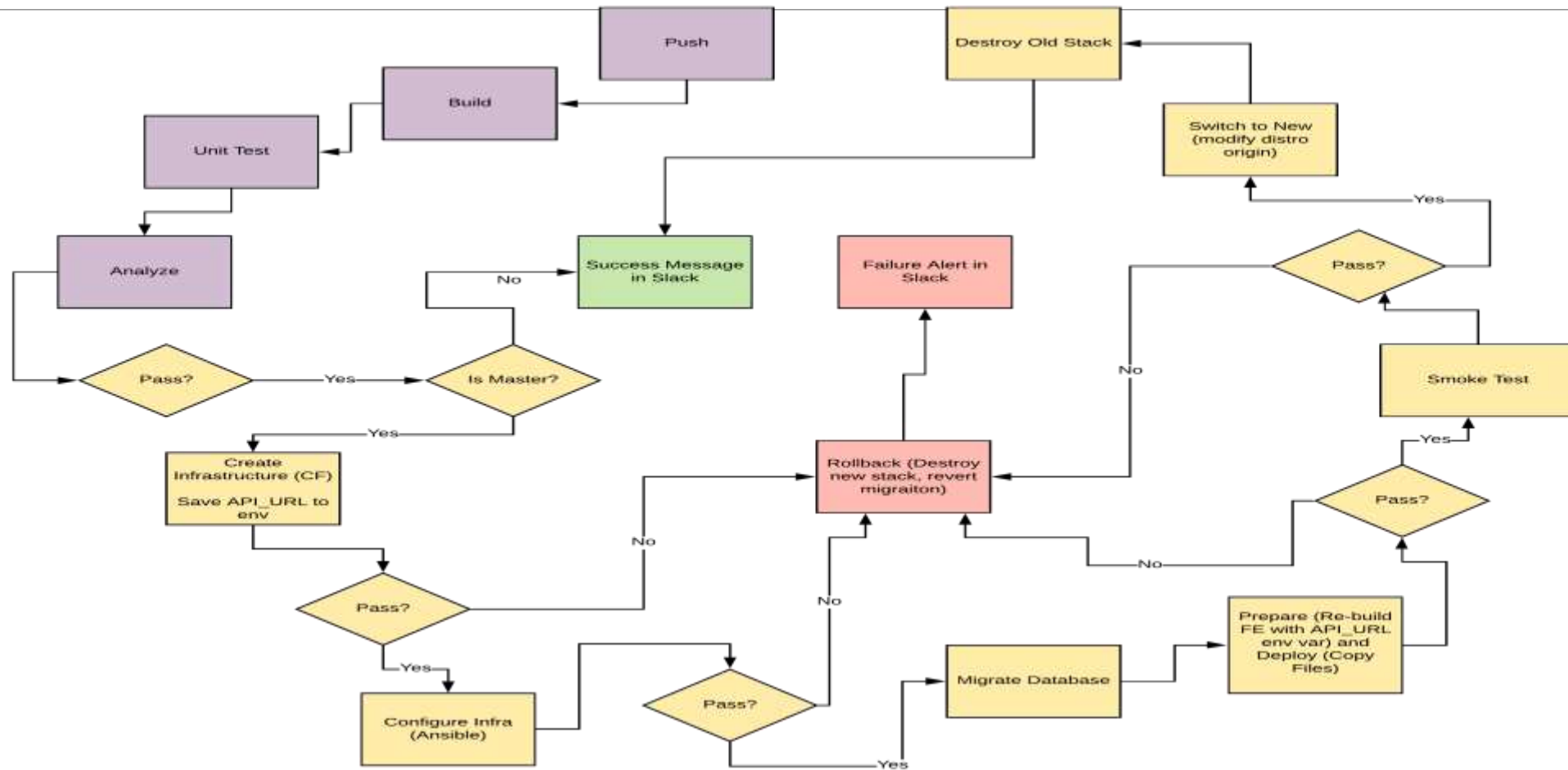
Challenges with the Current Pipeline Process

- Investing more time in a release cycle than delivering value

- Frequent integration needs after each feature build

- Code loss due to botched merges

- Frequent unit test suite failures

- Deployments causing schedule slips

- Friction between ops and development departments

- Dependence on a single engineer for system deployment

These challenges with the current pipeline process result in increased costs and decreased revenue. A more efficient and automated approach, such as CI/CD, can help overcome these challenges and improve the app development process.

Benefits of CI/CD

Technical Value	Business Value
Catch Compile Errors After Merge	Less developer time on issues from new developer code – Reduce cost
Catch Unit Test Failures	Less bugs in production and less time in testing – Avoid Cost
Detect Security Vulnerabilities	Prevent costly security holes & makes application secure – Avoid costs
Automate Infrastructure Creation	Less human error, Faster deployments – Avoid cost
Automate Infrastructure Clean-up	Less infrastructure costs from unused resources – Reduce cost
Faster and More Frequent Production Deployments	New value-generating features released more quickly - Increase Revenue
Deploy to Production Without Manual Checks	Less time to market - Increase Revenue
Automated Smoke Tests	Reduced downtime from a deploy-related crash or major bug - Protect Revenue
Automated Rollback Triggered by Job Failure	Quick undo to return production to working state - Protect Revenue

CI/CD Pipeline for Udapeople: Flow Diagram

Conclusion

- CI/CD is a powerful tool for modern software development and deployment, helping

- organizations to deliver high-quality software more quickly and reliably.

- By automating the software development and deployment process, CI/CD can improve

- efficiency, productivity, and collaboration, while also reducing the risk of bugs and other issues.

THANK YOU