

Fundamentals and Benefits of CI/CD

Anthony Anaedu

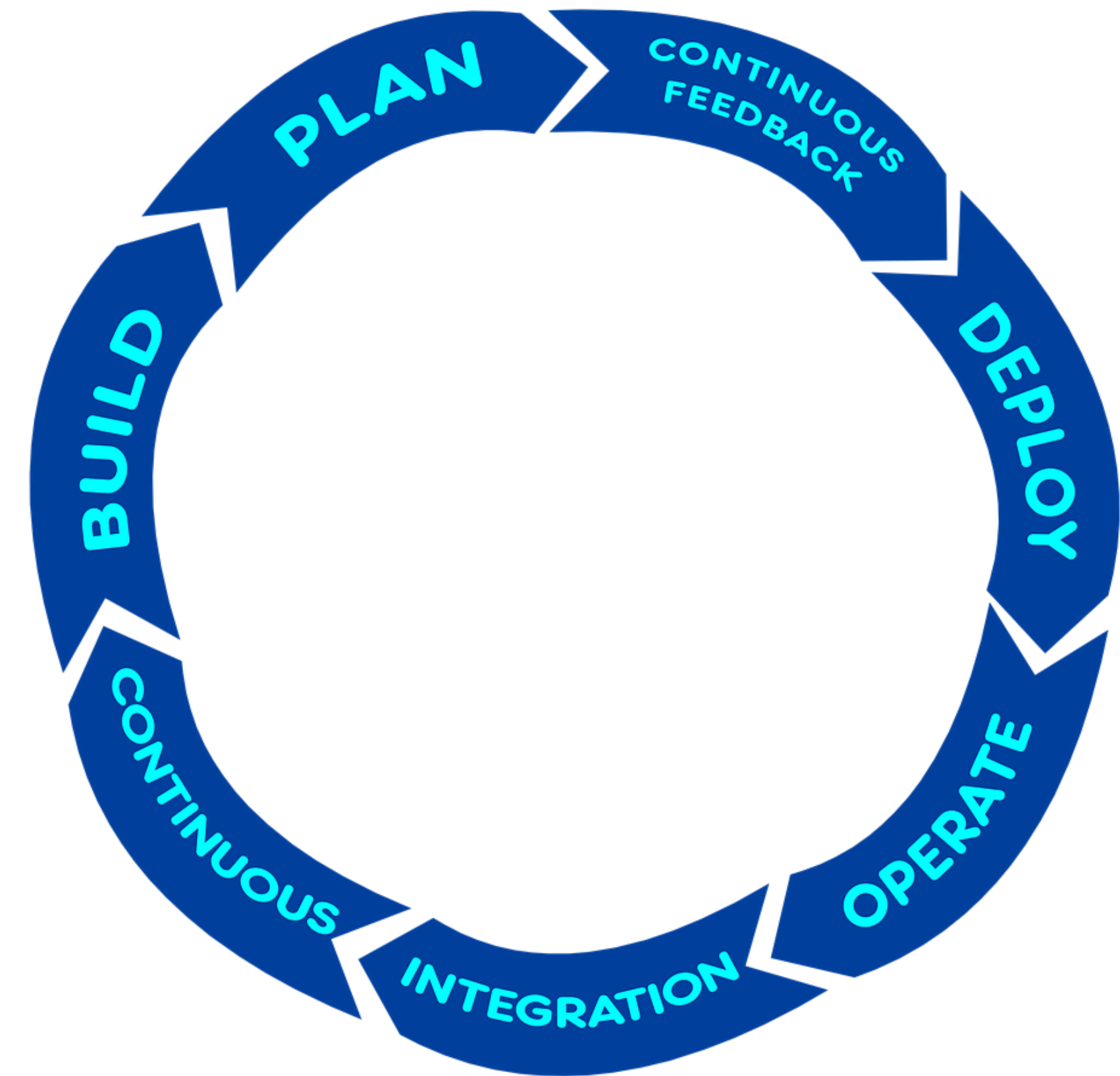
Agenda

- Introduction
- How to CI/CD?
- Benefits of CI/CD
- Conclusion
- Q&A

Introduction

Continuous Integration (CI) & Continuous Delivery (CD)

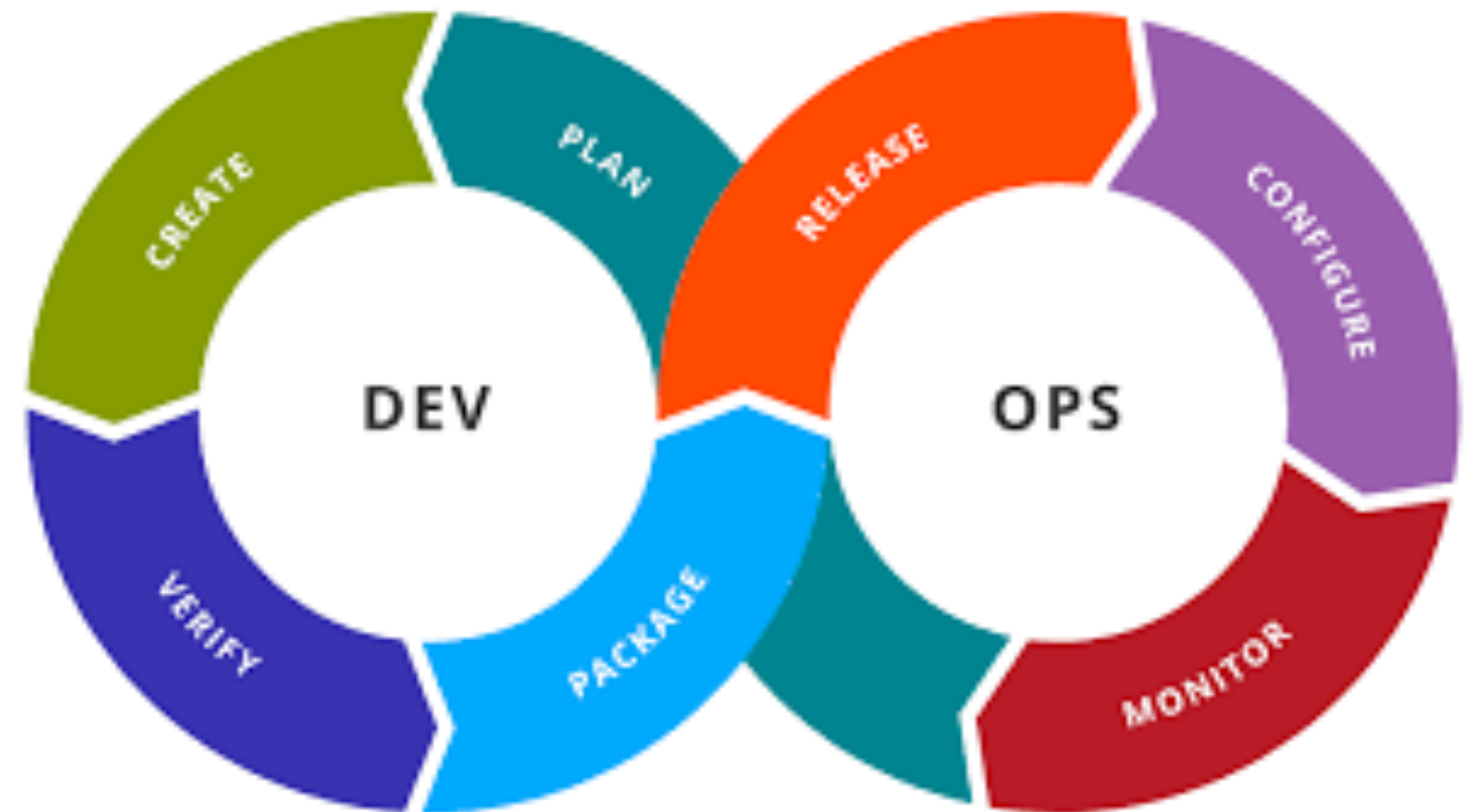
- Developers meet Operations (DevOps)
- Where we are right now
- Automated and frequent software deployments
- Continuous Integration + Continuous Deployment = Continuous Delivery
- Automated testing and feature flags



How to CI/CD?

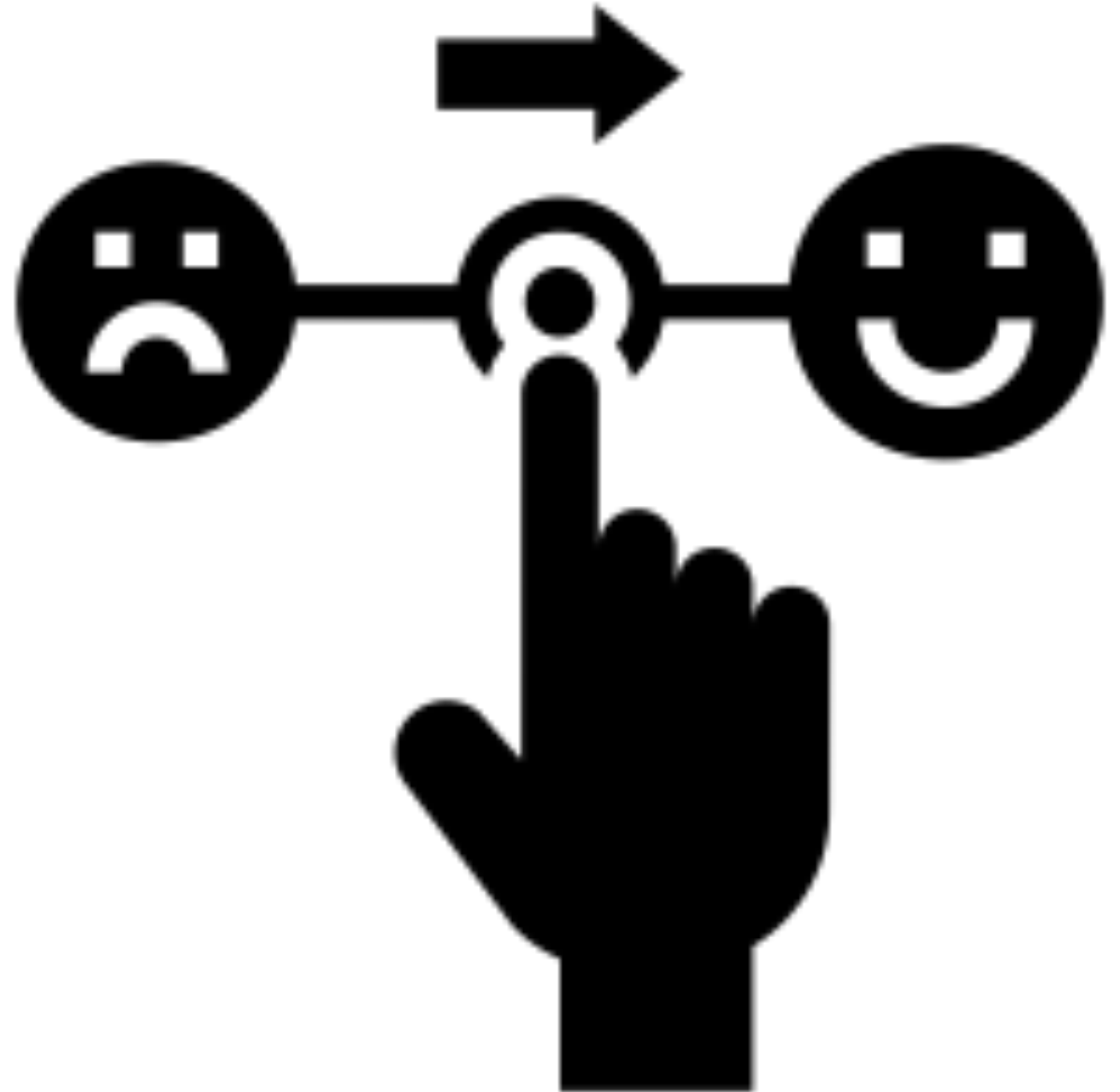
Principles and best practices

- Releases must be repeatable & reliable
- Automate everything
- Track everything using a version control system (Git)
- Done means released
- Measure, track and improve quality continuously
- Everyone is responsible for the release
- Blue-Green Deployments
- A/B Testing



Benefits of CI/CD

- Reduce risk
 - Catch and squash bugs early
 - Improve code and build quality
 - Increase confidence in Deployments
- Reduce/Avoid Cost
 - Reduce errors
 - Early security vulnerability detection
 - Automate infrastructure creation and cleanup
- Increase Revenue
 - Solve Problems Quickly
 - Less time to market, more value for customer
- Automated deployments & Rollback, happier teams



Conclusion

- Smaller frequent deployments
- Happy team, happy customers
- Tools and Platforms
 - CI: Circle ci, Travis ci, Jenkins, GitHub actions, Gitlab ci
 - Docker & Kubernetes
 - Code linters & formatters, static file & Security analysers
 - Cloud computing platforms: AWS, Azure, GCP etc.
- Q & A