# Fundamentals and Benefits of CI/CD

- What is CI / CD?
- CI/CD Processes that reduce/avoid cost
- CI/CD processes that increase/protect revenue

# What is CI / CD?

- Continuous Integration is the process of automating the build and testing of code every time a team member commits changes to version control.
  - All things related to code fit into the CI process

- Continuous Deployment (CD) is an engineering approach in which the value is delivered frequently through automated deployments.
  - All things related to deploying the artifact fits into the CD process

# CI/CD Processes that reduce/avoid cost

| 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 | New value-generating features released more quickly |
| Automate Infrastructure Creation | Avoid Cost | Less time to market |
| Automate Infrastructure Cleanup | Reduce Cost | Quick undo to return production to working state |

# CI/CD processes that increase/protect revenue

| Technical Language | Value | Translation |
|---|---|---|
| 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 |