

# CI/CD

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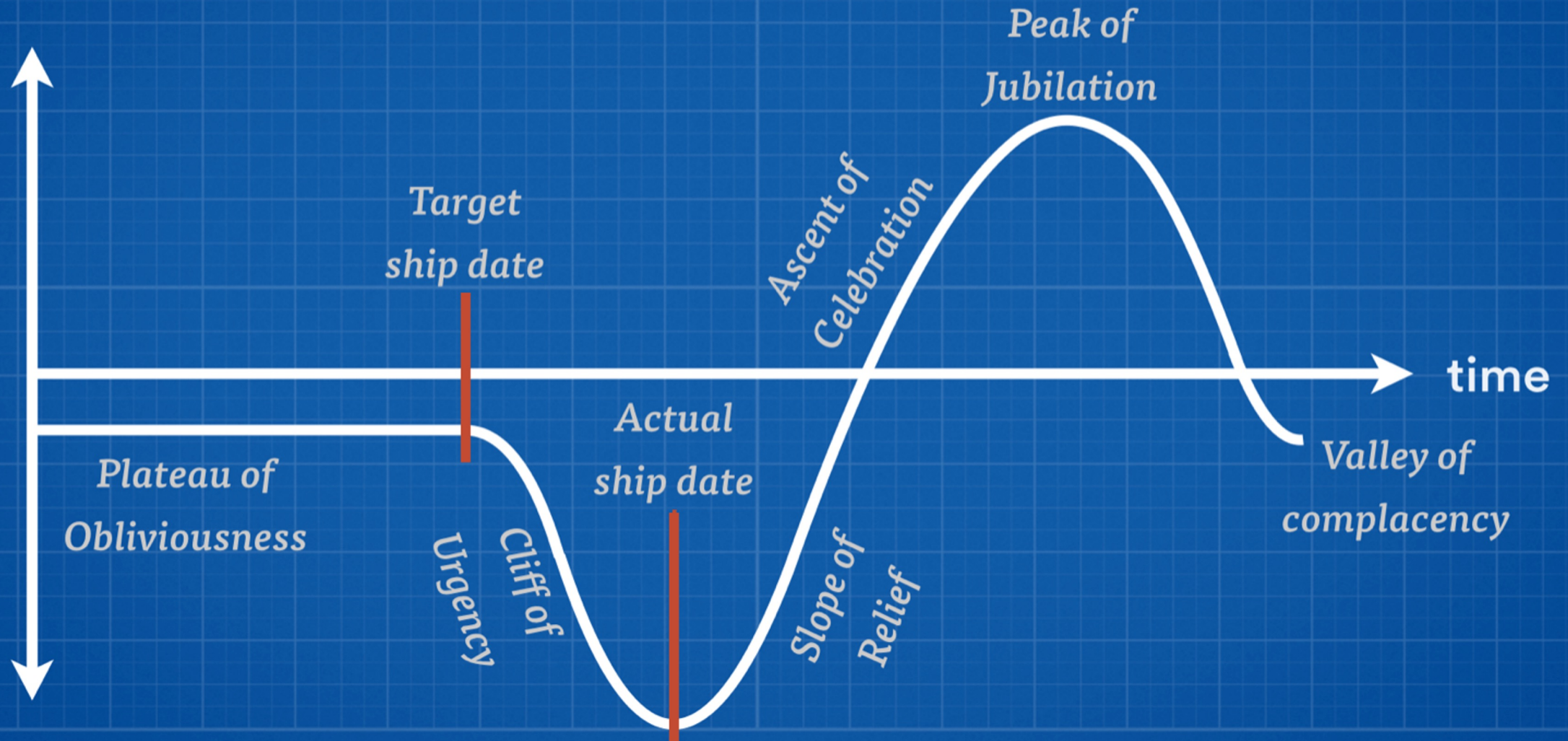
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# Challenges with Traditional Release Method

- Servers must be set up by IT (sometimes manually)
- Third-party software such as application server, etc. must be installed.
- The software artifacts such as EAR or WAR must be copied to the production host.
- Application configuration must be copied or created.
- Finally any reference data needed must be copied over.
- As you can see there are lot of places where things can go wrong.
- With this process, the day of a software release tends to be a tense one.

# Emotional cycle of manual delivery



# What is Continuous Deployment?

- Continuous Deployment is a software development practice in which every code change goes through the entire pipeline and is put into production, automatically, resulting in many production deployments every day.
- With Continuous Delivery your software is always release-ready, yet the timing of when to push it into production is a business decision, and so the final deployment is a manual step.
- With Continuous Deployment, any updated working version of the application is automatically pushed to production.
- Continuous Deployment mandates Continuous Delivery, but the opposite is not required.

# CONTINUOUS DELIVERY



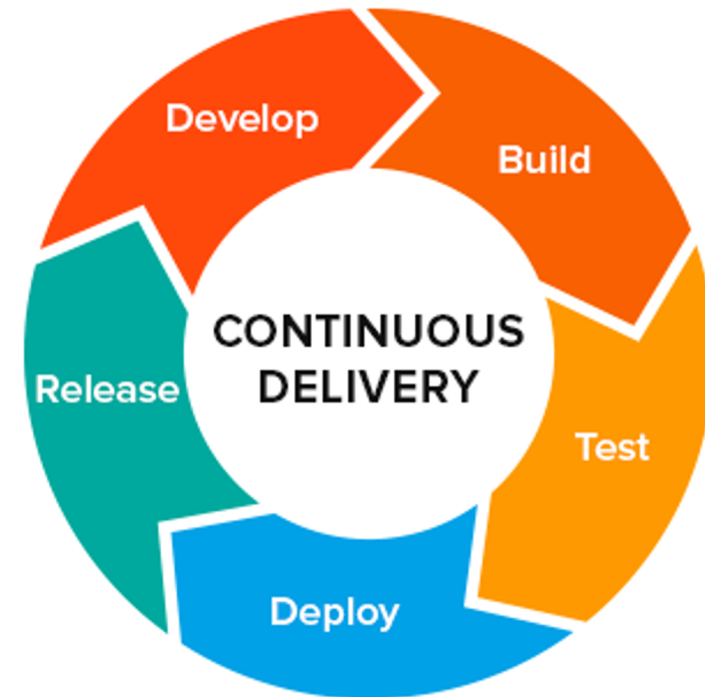
# CONTINUOUS DEPLOYMENT





# Continuous Delivery

- Continuous delivery is a DevOps software development practice where code changes are automatically built, tested, and prepared for a release to production.
- It expands upon continuous integration by deploying all code changes to a testing environment and/or a production environment after the build stage.
- When continuous delivery is implemented properly, developers will always have a deployment-ready build artifact that has passed through a standardized test process.



# Continuous Delivery (contd.)

- With continuous delivery, every code change is built, tested, and then pushed to a non-production testing or staging environment.
- There can be multiple, parallel test stages before a production deployment.
- In the last step, the developer approves the update to production when they are ready.



# Enabling Continuous Delivery

- Automate
  - The build, deploy, test, and release process must be automated so that it is repeatable.
- Frequent
  - Releases must be frequent.
  - The delta between releases will be small.
  - This significantly reduces the risk associated with releasing and makes it much easier to roll back.



# Continuous Deployment

In continuous deployment push to production happens automatically without explicit approval.

# Additional Resources

See Lecture Page