

ThoughtWorks® Deutschland

## Continuous Delivery

Wolf Schlegel  
March 2013



# What is it and how to do it?

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<http://www.flickr.com/photos/kuzbass/1264680718>

<http://www.flickr.com/photos/selasore/5722019699>

# Release on demand

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<http://www.flickr.com/photos/tmunki/411422596/>

# Working software

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<http://www.flickr.com/photos/gribers/6435781551>



# Is this what your customers want?

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<http://www.flickr.com/photos/gtarded/4595013312/>

# Minimum viable product

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<http://www.flickr.com/photos/estevenson/589507682/>

# Listen to your customers

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<http://www.flickr.com/photos/spicpix/5330425878>

<http://www.flickr.com/photos/55681839@No7/7591498630>

# How to do it?

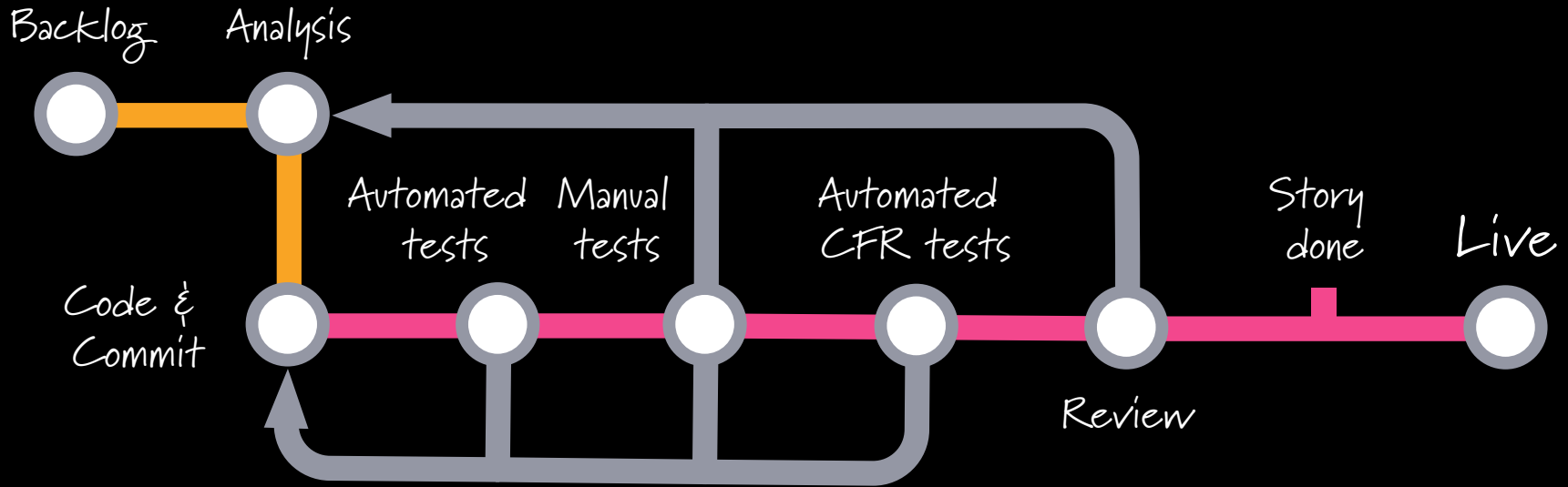
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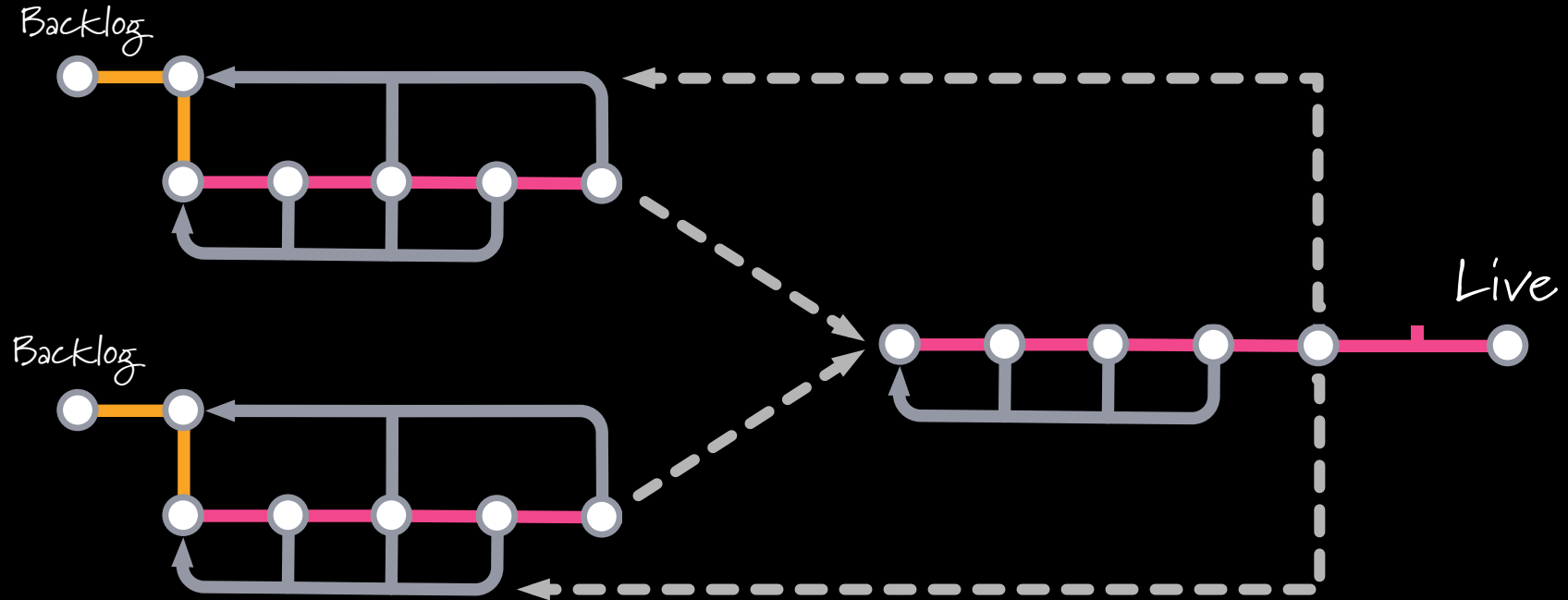
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<http://www.flickr.com/photos/selasore/5722019699>

# Delivery pipeline



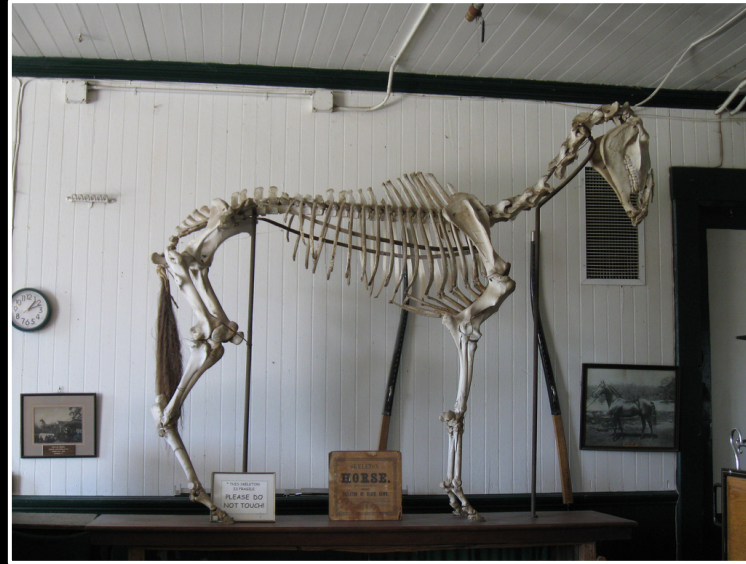
# Pipelining pipelines





# Walking skeleton

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[http://www.flickr.com/photos/alain\\_quevillon/6030861556/](http://www.flickr.com/photos/alain_quevillon/6030861556/)

# Push the same button. Everybody

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[http://www.freedigitalphotos.net/images/view\\_photog.php?photogid=151](http://www.freedigitalphotos.net/images/view_photog.php?photogid=151)

# Standardise your environments

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[http://www.freedigitalphotos.net/images/photo\\_20311\\_20100909.html](http://www.freedigitalphotos.net/images/photo_20311_20100909.html)

# Self service

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[http://www.freedigitalphotos.net/images/Oil\\_And\\_Gas\\_g393-Gas\\_Pump\\_Nozzles\\_At\\_Gas\\_Station\\_p77154.html](http://www.freedigitalphotos.net/images/Oil_And_Gas_g393-Gas_Pump_Nozzles_At_Gas_Station_p77154.html)

# How many branches?

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# Pilots and technical debt

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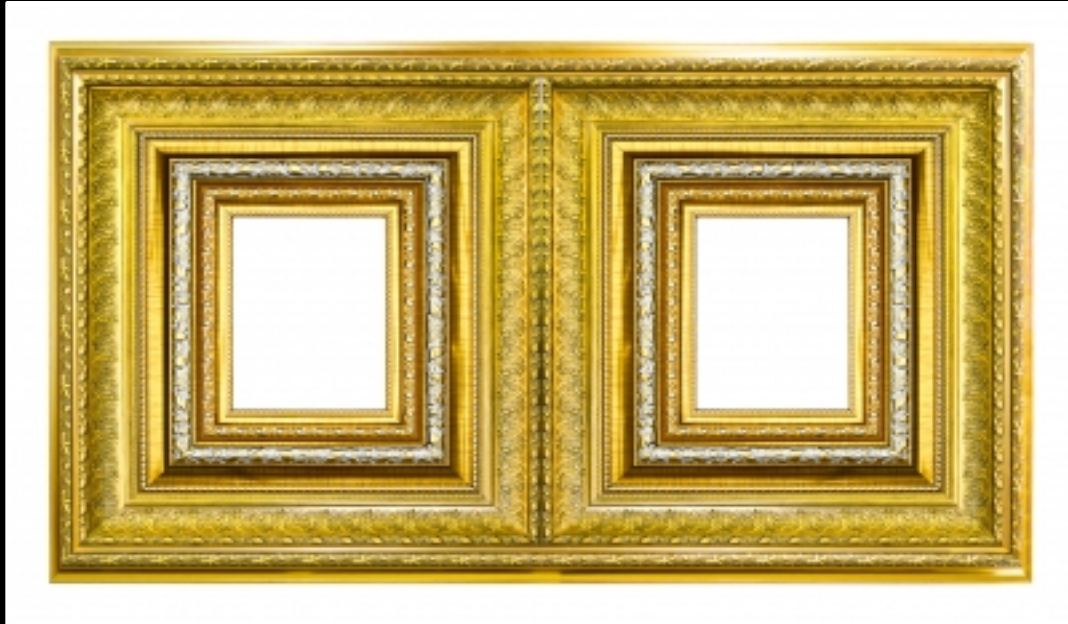


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[http://www.freedigitalphotos.net/images/Aircraft\\_g72-Virgin\\_Atlantic\\_Jumbo\\_Jet\\_p18107.html](http://www.freedigitalphotos.net/images/Aircraft_g72-Virgin_Atlantic_Jumbo_Jet_p18107.html)



# Beware of frameworks

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[http://www.freedigitalphotos.net/images/Decorative\\_g130-Golden\\_Picture\\_Frames\\_p25477.html](http://www.freedigitalphotos.net/images/Decorative_g130-Golden_Picture_Frames_p25477.html)

# Code coverage

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[http://www.freedigitalphotos.net/images/Other\\_Architecture\\_g299-Peeling\\_Paint\\_p20412.html](http://www.freedigitalphotos.net/images/Other_Architecture_g299-Peeling_Paint_p20412.html)

# Handling databases

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<http://www.flickr.com/photos/kathrynmgreen/4473053882/>

# Go live

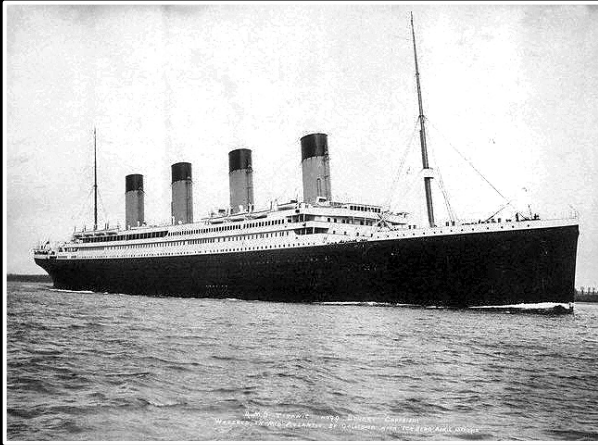
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<http://www.flickr.com/photos/76697108@N05/6930100018/>

# Titanic releases and release trains

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[http://en.wikipedia.org/wiki/File:RMS\\_Titanic\\_3.jpg](http://en.wikipedia.org/wiki/File:RMS_Titanic_3.jpg)

[http://www.freedigitalphotos.net/images/Trains\\_g253-Tain\\_Seats\\_p21684.html](http://www.freedigitalphotos.net/images/Trains_g253-Tain_Seats_p21684.html)

# Find your next bottleneck

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[http://www.freedigitalphotos.net/images/Decorative\\_g130-Bottles\\_p24118.html](http://www.freedigitalphotos.net/images/Decorative_g130-Bottles_p24118.html)



Thank you

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## How can we help?

ThoughtWorks is a global custom software solutions consultancy trusted by many of the world's leading businesses with their most complex and critical systems.

We deliver consulting grounded in delivery expertise, build custom applications and help organisations across all market sectors to drive IT efficiency – working to an exceptionally high standard.

## Contact us

Wolf Schlegel

+49 173 543 7465

[wolf.schlegel@thoughtworks.com](mailto:wolf.schlegel@thoughtworks.com)

[www.thoughtworks.com](http://www.thoughtworks.com)



Lost+found

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# Snapshots

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[http://www.freedigitalphotos.net/images/Photography\\_g291-Vintage\\_Camera\\_p32765.html](http://www.freedigitalphotos.net/images/Photography_g291-Vintage_Camera_p32765.html)

# One size fits all?

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[http://www.freedigitalphotos.net/images/Clothing\\_apparel\\_and\\_g60-The\\_Old\\_Sneakers\\_\\_p29194.html](http://www.freedigitalphotos.net/images/Clothing_apparel_and_g60-The_Old_Sneakers__p29194.html)  
[http://www.freedigitalphotos.net/images/Vacations\\_g208-Flip\\_Flops\\_p19698.html](http://www.freedigitalphotos.net/images/Vacations_g208-Flip_Flops_p19698.html)

# Just enough tools

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# Understand what you automate

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[http://www.freedigitalphotos.net/images/Workshop\\_and\\_DIY\\_g191-Carving\\_Wood\\_Tools\\_p31394.html](http://www.freedigitalphotos.net/images/Workshop_and_DIY_g191-Carving_Wood_Tools_p31394.html)

# Pipelining pipelines

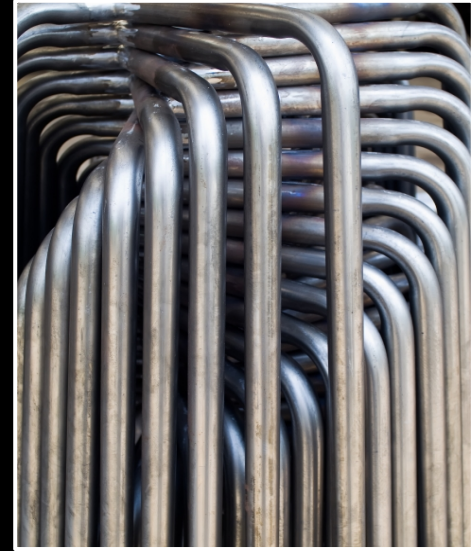
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# If it ain't broke don't fix it

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[http://www.freedigitalphotos.net/images/view\\_photog.php?photogid=1556](http://www.freedigitalphotos.net/images/view_photog.php?photogid=1556)

# Cautious optimism

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# Accept that things will break

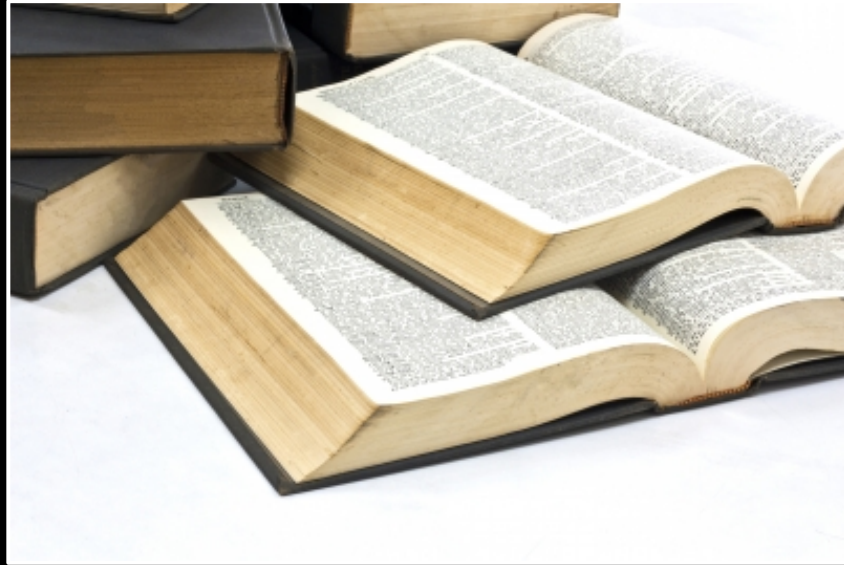
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# Textbook-ism

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[http://www.freedigitalphotos.net/images/Reading\\_and\\_Writing\\_g344-Pile\\_Of\\_Books\\_p52691.html](http://www.freedigitalphotos.net/images/Reading_and_Writing_g344-Pile_Of_Books_p52691.html)

# Understand the problem behind the problem

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✧ But do not throw tools at it



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# People are the key

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# People are the key

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Lost+found

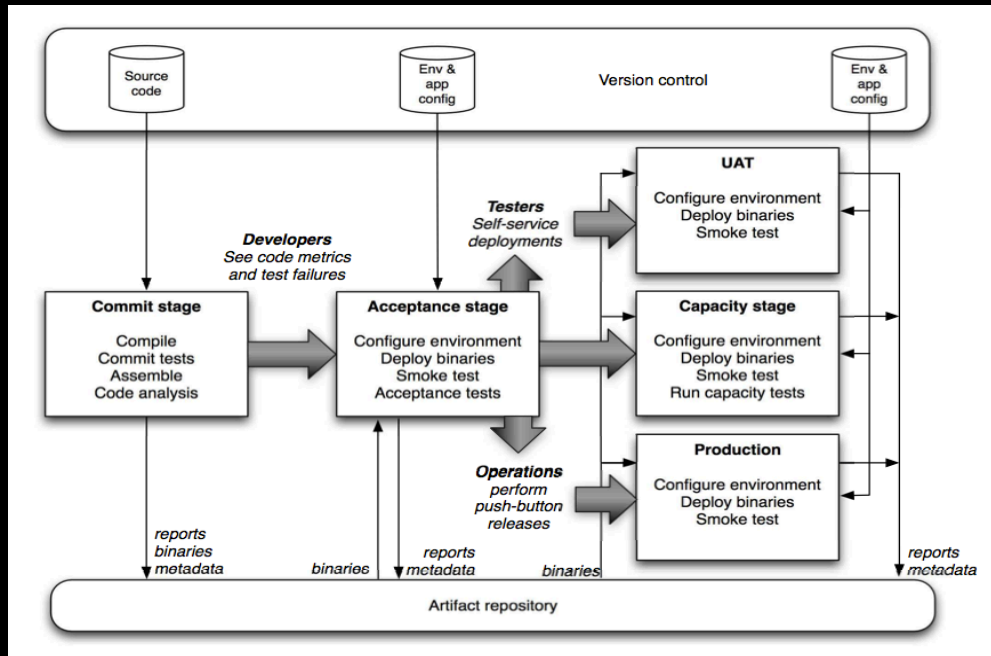
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# Building blocks

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automated configuration management – component architecture – continuous development – continuous integration – creating and destroying environments – data – deployment pipelines – developing on mainline – devops – done means released – early feedback from customers – frequent releases – information radiators – infrastructure as code – integration pipelines – manage dependencies – releases are non-events – release train – self-serviced environments – test automation – version control everything – virtualisation

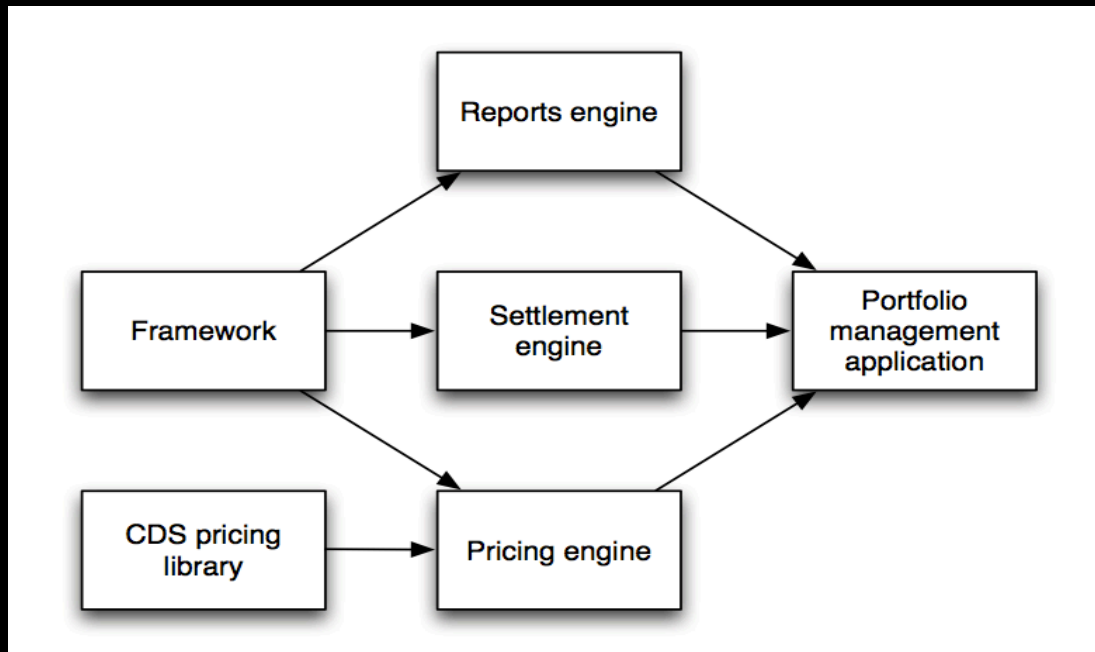
# Basic deployment pipeline



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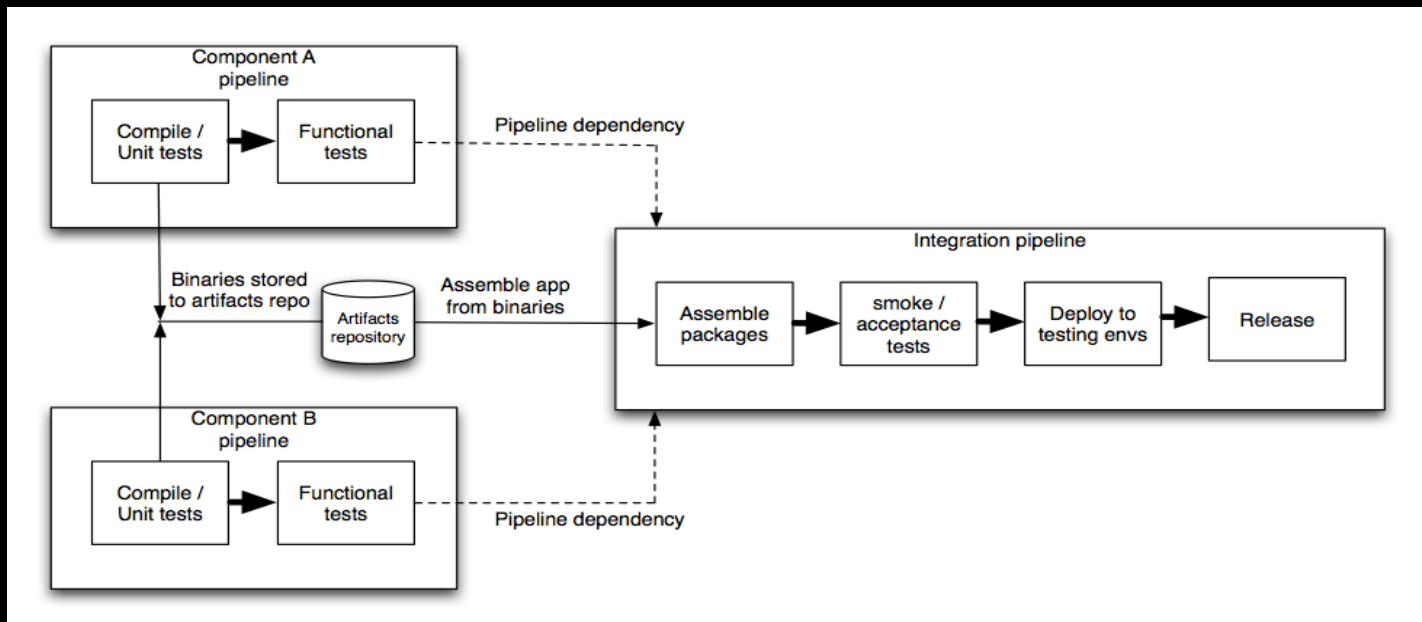
# Components and their dependencies

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# Integration pipeline

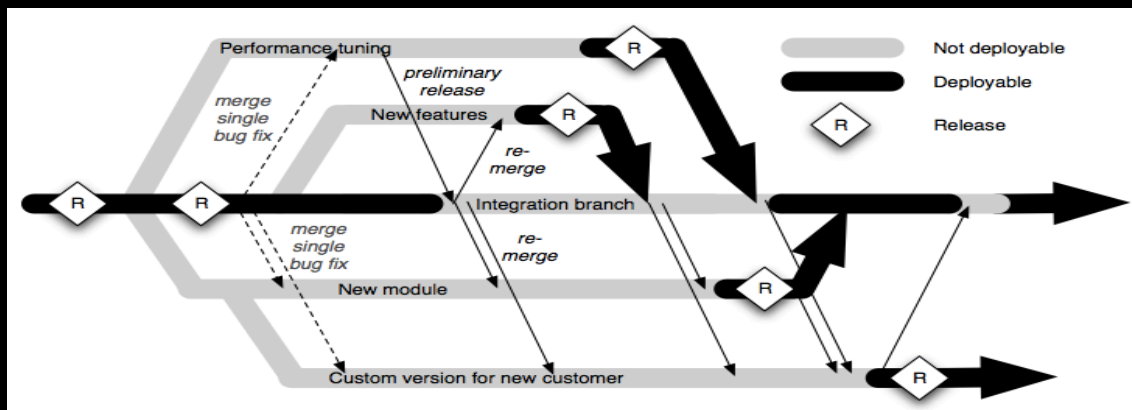


J. Humble and D. Farley, Continuous Delivery



# Branching

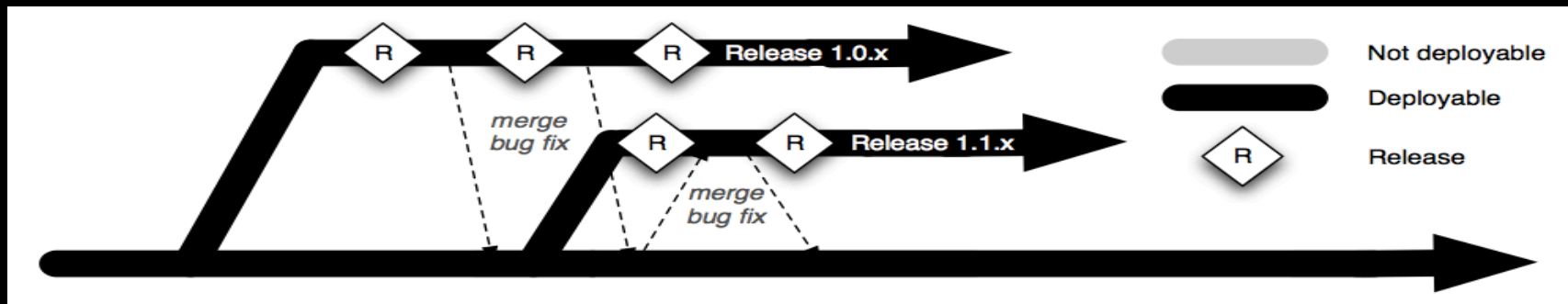
- \* Avoid feature branches
- \* Minimize merging and not deployable code



J. Humble and D. Farley, Continuous Delivery

# Release branching strategy

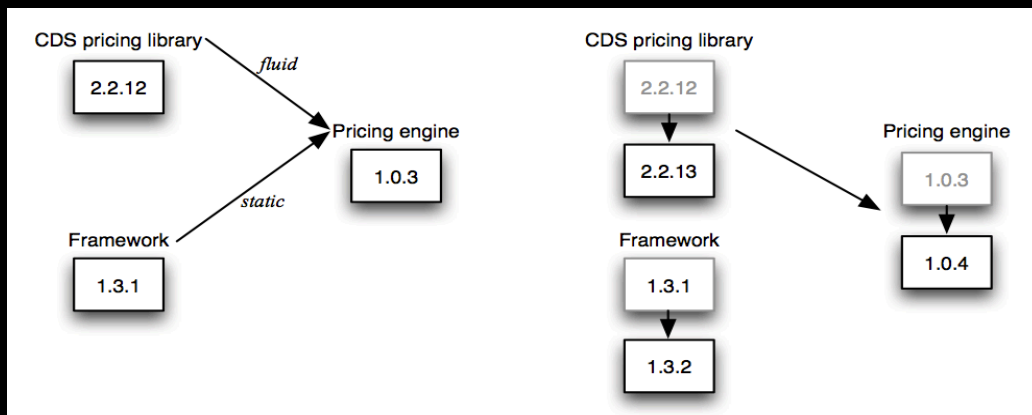
- \* Create branches for releases only
- \* Merge bug fixes between release branches and trunk
- \* Keep branches and trunk deployable all time



J. Humble and D. Farley, Continuous Delivery

# When to trigger builds?

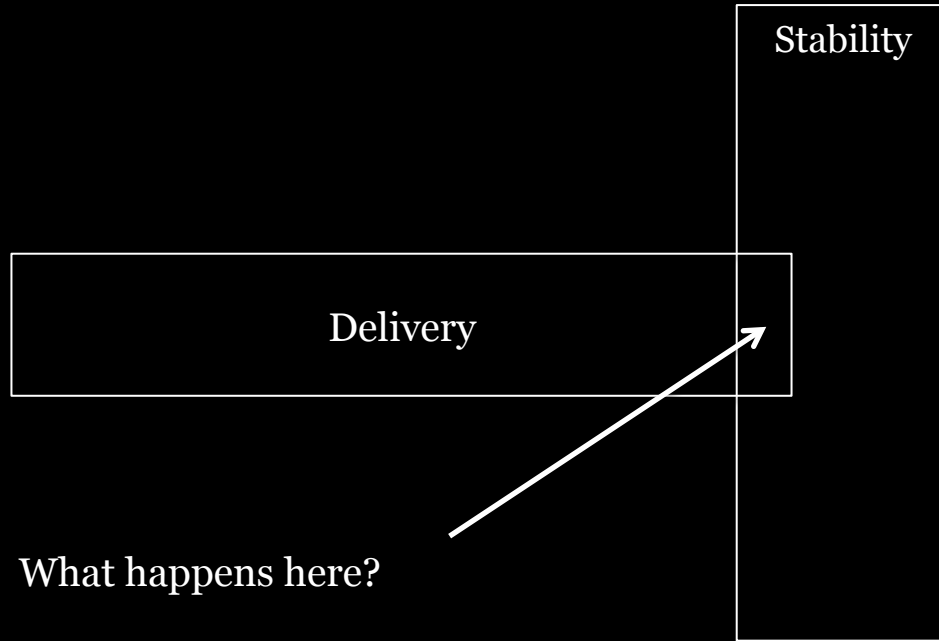
- ✦ Cautious optimism model by Alex Chaffee
- ✦ Dependencies are static, guarded or fluid



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# What is DevOps?

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# DevOps in a nutshell

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- \* DevOps = Dealing with the interface between dev and ops
- \* DevOps is **not** a role
- \* DevOps is part of what underpins Continuous Delivery
- \* DevOps leverages enablers known from agile software development
  - Communication
  - Collaboration
  - Automation

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Releases as non-events

Not hoping to release a Titanic every three months

but hopping on a release train that departs often and reliably

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# Building blocks

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