

Devops 23<sup>rd</sup> May  
2025

75% devops will fail → 2022 due to change in culture & org learning.  
- people related factors.

Devops → not a tool.  
It's a shared mindset.

Practice of Devops engineer working together in a software life cycle following lean & agile life cycle to deliver fast products.

Think differently, work differently, organize & measure differently.

- small batches.
- software reuse & sharing.
- Test driven & behavior driven.
- CI/CD.
- Measure differently: measure what matters.
- 

Tech enables innovation not drives

app reaction becomes fast

- fail fast & roll back quickly.
- test in market instead of analysing like a/b tests
- your application design allowed individual ~~design~~ components to be replaced.

Netflix was first a disk sharing platform but change to entertainment sector replacing blockbusters.

Devops: The term is an extension of agile dev env that aims to enhance the process of software delivery as a whole.

Devops is not developers & operations its the combination of both. max velocity / min risk.

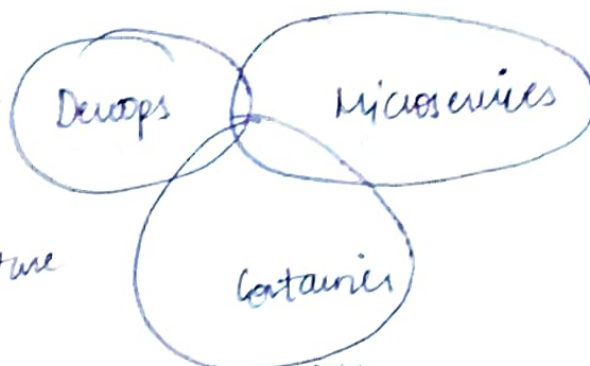
Goal of Devops: max velocity / min ~~error~~ risk

Agility is the goal:

- Smart Experimentation
- Moving in market
- Gaining quick, valuable insights

Agility: the three pillars

Cultural change  
Automated pipeline  
Infrastructure as code  
Immutable infrastructure



Loose coupling/loosely

Restful APIs

Designed to resist failures

Test by breaking/fail fast

Portability

Developer centric

Ecosystem enabler

Fast startup

- Devops for speed & agility
- Microservices for small deployment
- Containers for ephemeral runtimes

Eg. when a container goes bad we delete it, throw it replace it with a new one

## Application Evolution

Delivery → waterfall → Agile → Devops  
Architect → Monoliths → SOA → Microservices  
Infrastructure → Physical server → virtual ~~server~~ machines → Containers.

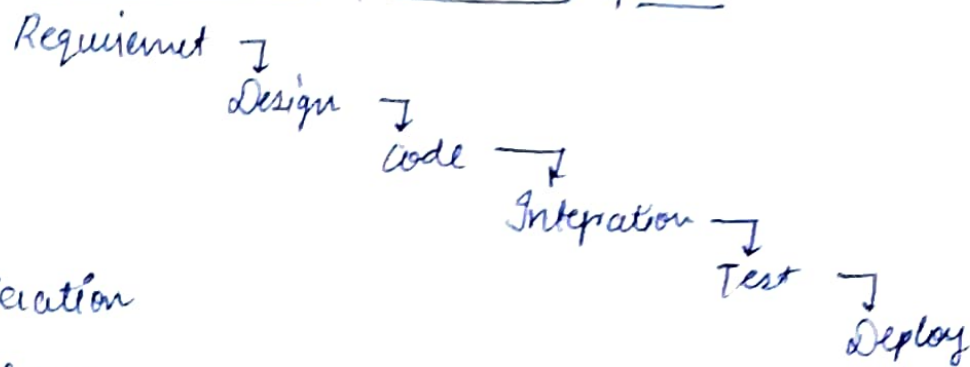
## Devops made up of Culture, Methods & Tools

How most Important is Culture:-

How do we change a culture?

- change the way people think
- change the way people work
- change the way people are organized
- change the way people are measured.

## Traditional Waterfall Development:-



- No Iteration
- No change
- Can't accommodate feedback
- When one phase ends another starts
- Mistakes in later phase are more expensive.



## Extreme Programming

- uses Pair programming & Test Driven Development.
- An agile framework where we can iterate & accommodate feedback.
- Agile is not enough
- we have to make ops teams agile as well

### Devops timeline:

- 2007: Patrick Debois recognized Dev & Ops were not working together
- ↓
- 2008: Agile Conference: Andrew Clay Shafer: Agile Infrastructure
- ↓
- 2009: John Allspaw: velocity 2009 lot of flicks contributed used in Ops
- ↓
- 2010: Continuous delivery by Jez Humble & David Hailey
- ↓
- 2013 → Phoenix Project: about lean manufacturing principles
- ↓
- 2015: DORA: (Devops Research & Assessment)  
State of Devops Report
- ↓
- 2016: The Devops Handbook: by Gene Kim, Jez Humble, Patrick Debois & John Willis
- ↓
- 2019: DevopsDays: 40 events in 21 countries