

# What is DevOps and Why Should DBAs Care?

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Simple-Talk Editor at Redgate  
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# What is DevOps?

- A** The union of people, process, and products to enable continuous delivery of value to our end users
- B** An approach that aims at building, testing, and releasing software quickly and frequently
- C** A framework for managing work in teams of 3-9 members, which breaks work into timeboxed sprints that are commonly 2 weeks long

# What is DevOps?



The union of people, process, and products to enable continuous delivery of value to our end users

## Agile

An approach that aims at building, testing, and releasing software quickly and frequently

## Scrum

A framework for managing work in teams of 3-9 members, which breaks work into timeboxed sprints that are commonly 2 weeks long

Donovan Brown · <http://donovanbrown.com/post/what-is-devops>

Partner Program Manager at Microsoft

# DevOps...

## Goals

Delivering value quickly to the customer

Adds to the success of the business

*The union of people, process, and products to enable continuous delivery of value to our end users*

## Is accomplished by

Removing technical silos

Cross platform teams

Stop thinking of IT as a cost center

Tools

Automation

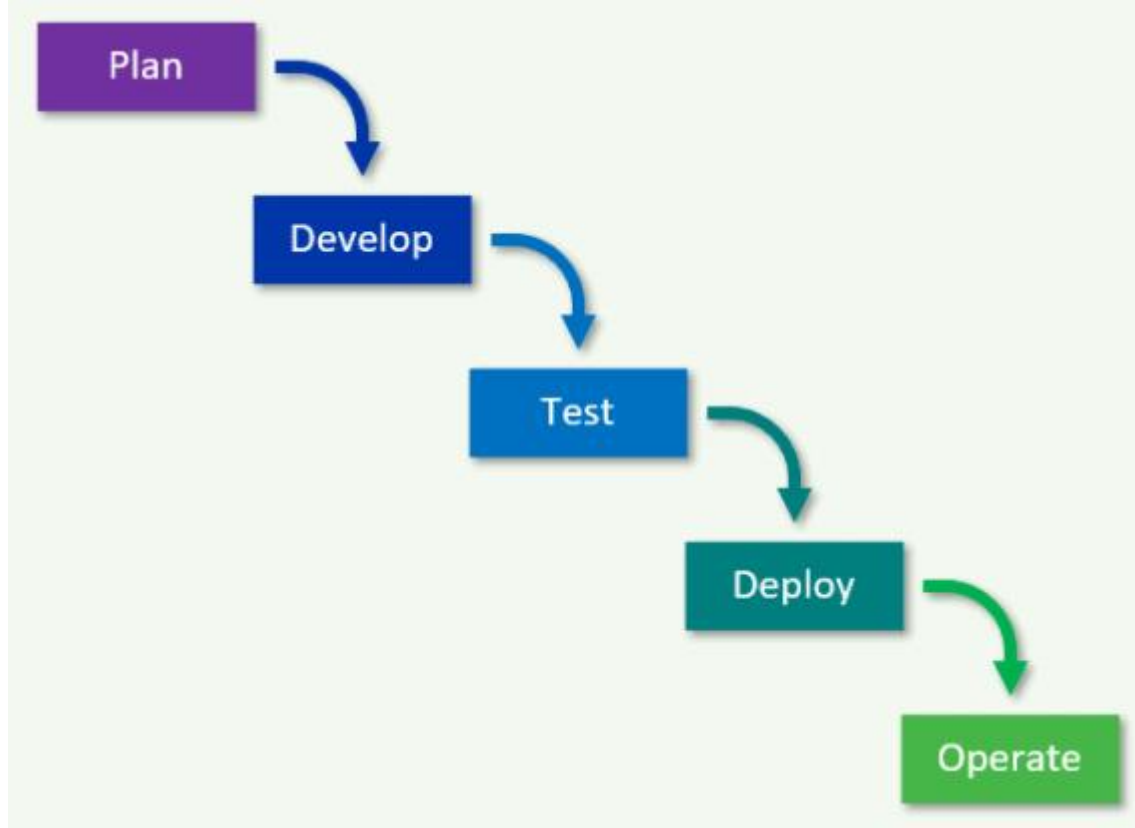
Measuring the right things

A broad cultural change

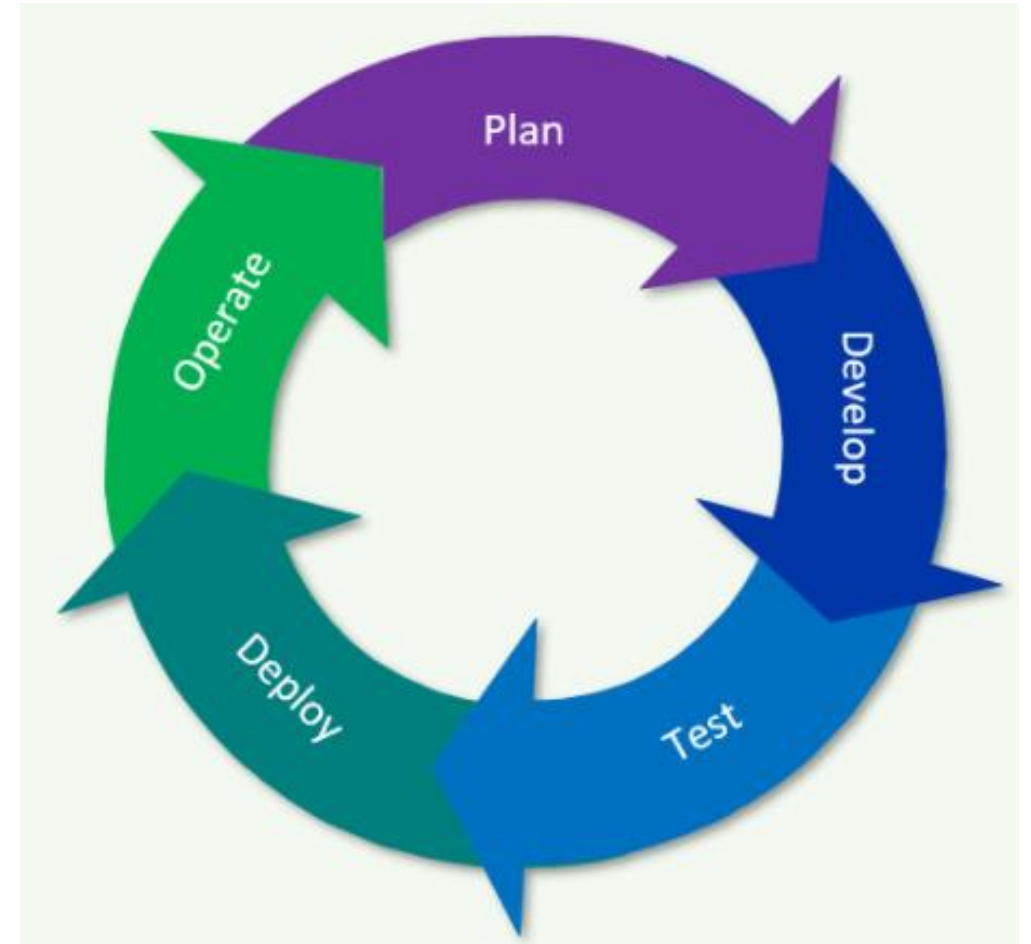
# DevOps Misconceptions\*

- DevOps only involves devs and system administrators (ops)
- DevOps means doing all the work with half the people
- There is one “right way” to do DevOps
- DevOps is a fad
- Developers get the sa password
- DBAs are no longer needed

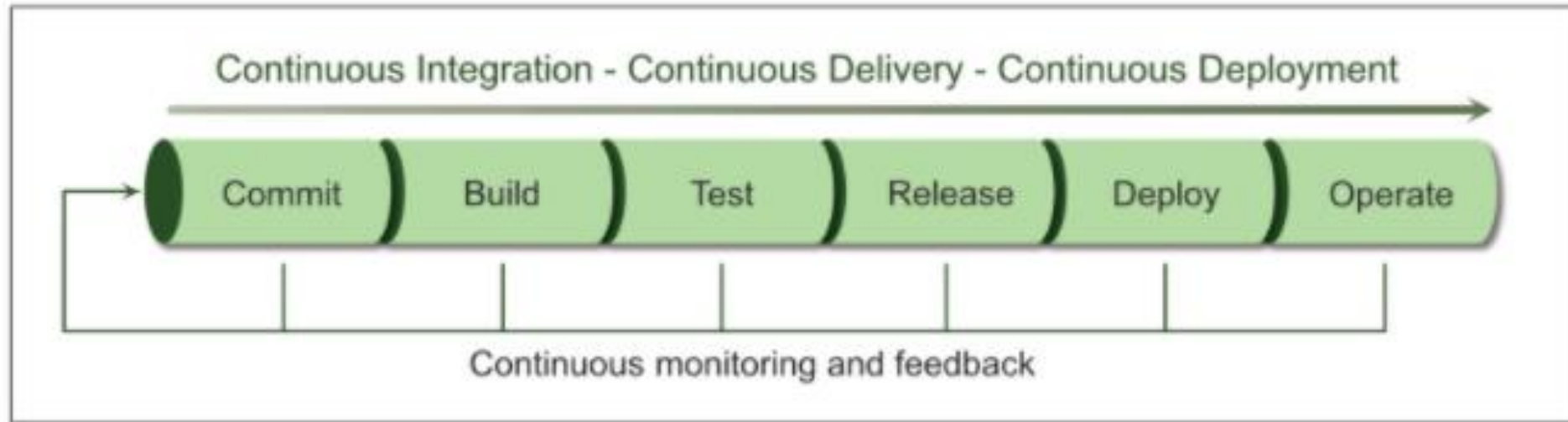
\*From *Effective DevOps* by Davis and Daniels



## Waterfall vs DevOps

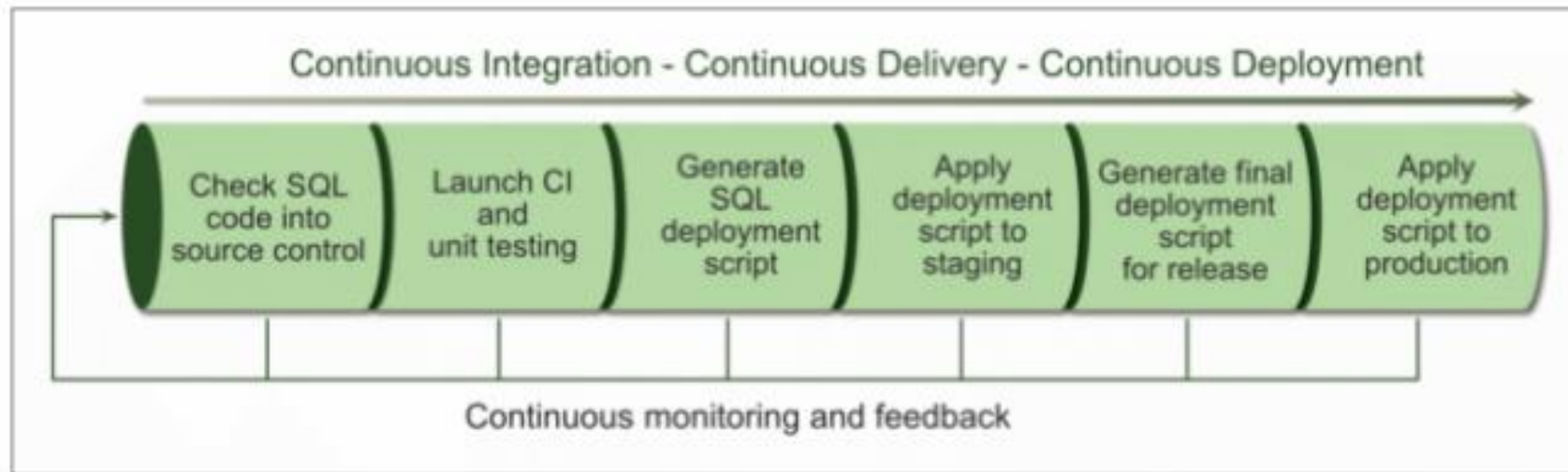


# Continuous...





# How does that apply to databases?



Development DDL

Target DDL

Compare database definitions

Generate  
deployment  
script

Update target database

State based vs  
migration based  
database deployment

Migration  
script 001

Migration  
script 002

Migration  
script 003

Database  
state 1

Database  
state 2

Database  
state 3

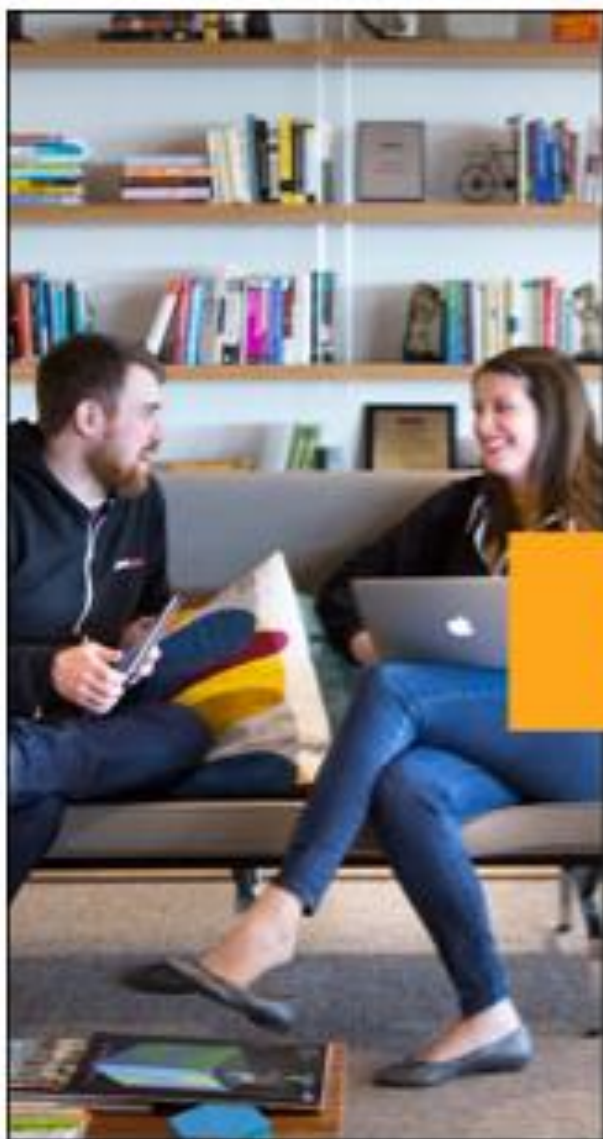
Database  
state 4

A Novel About IT,  
DevOps, and Helping  
Your Business Win

# The Phoenix Project

Gene Kim, Kevin Behr,  
and George Spafford





2016

# State of DevOps Report

Presented by



puppet

DORA  
Cloud Reliability & Performance

Sponsored by



Red Hat

ThoughtWorks

splunk



VictorOps

Automio

REVOLUTION

High-performing IT organizations  
report experiencing:



200x more frequent  
deployments



24x faster  
recovery from failures



3x lower  
change failure rate



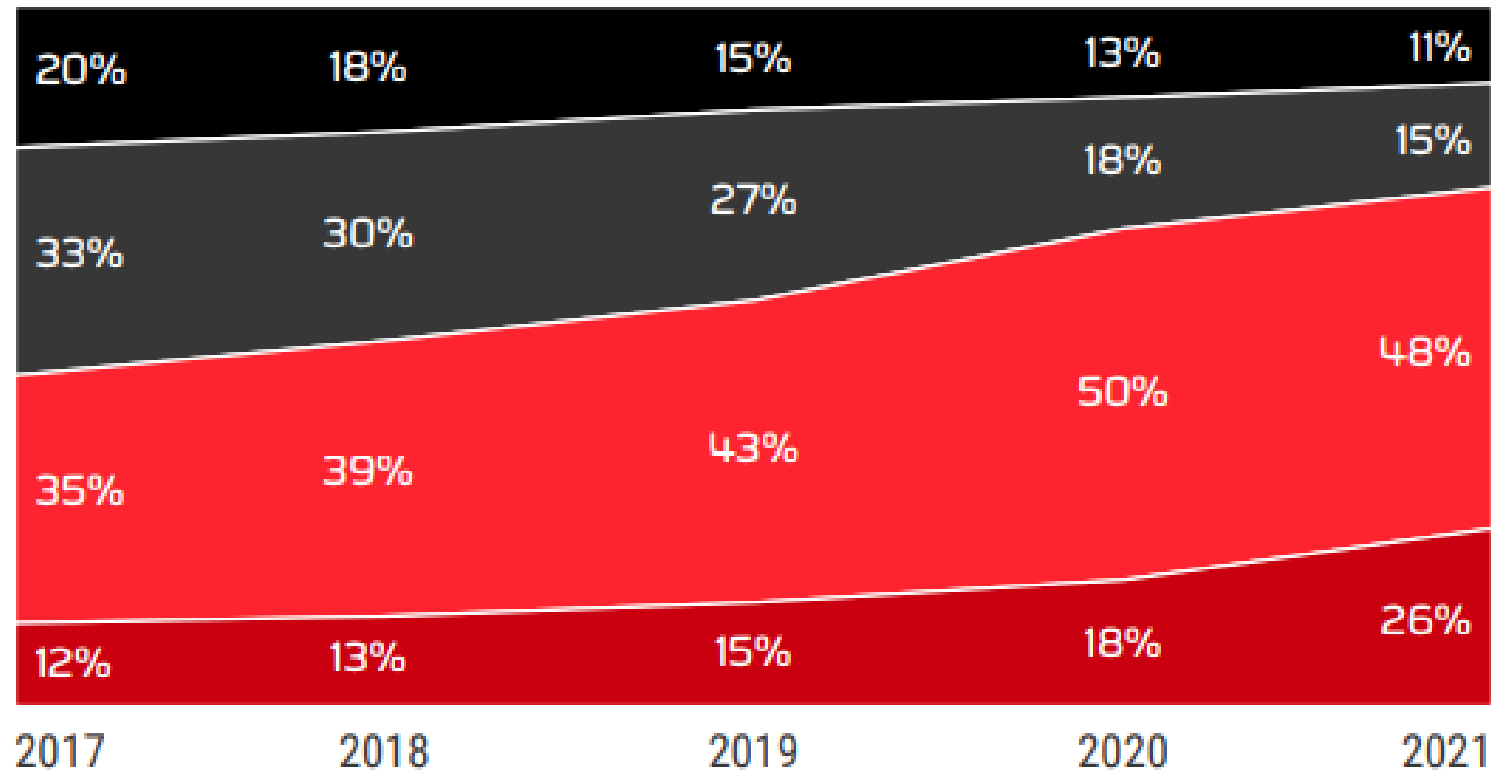
2,555x shorter lead  
times



2021

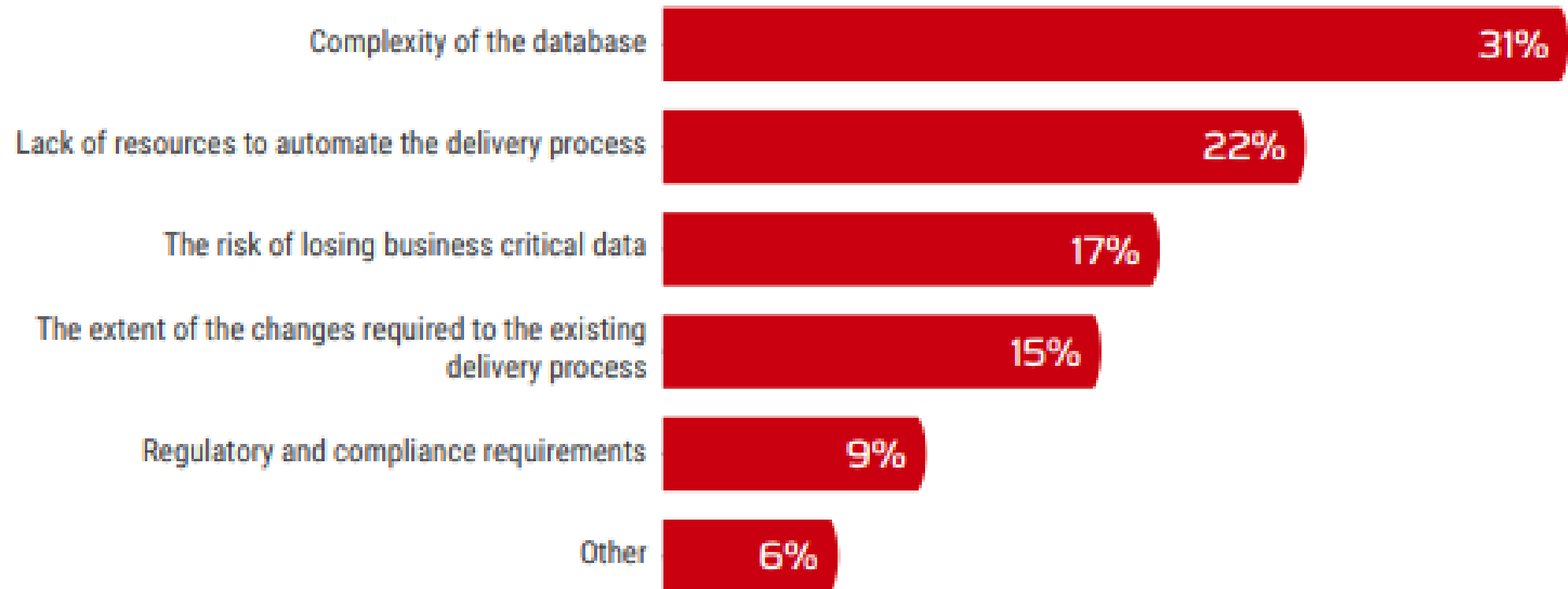
State of  
Database  
DevOps

**Adoption rates of DevOps, 2017-2021**



- Not adopted and no plans to adopt within the next two years
- Plan to adopt across some or all projects in the next two years
- Already adopted across some projects
- Already adopted across all projects

## What would be or was the greatest challenge to achieve Continuous Delivery of database changes?





## Some cultures are harder to transform

- If DBAs are primarily judged by stability, they will resist releases
- If developers are primarily judged by release frequency, they will care much less about stability

These measurement practices inhibit transformation to share responsibility for stability and release tempo

# DBA's Role in DevOps



Share successful coding patterns for database changes



Create checklists to avoid hidden pitfalls in automated releases



Share expertise in automation for building and deploying database code



Create healthy language and practices for Compliant Database DevOps



What should  
DBAs learn  
about now?

- Source control
  - Git/Github
  - PowerShell
  - Linux/Bash
- 
- Containers
  - Data Masking
  - Azure

# Resources



The Phoenix Project by Gene Kim and Kevin Behr



DevOps, DBAs, and DBaaS by Mike Cuppett



Effective DevOps by Jennifer Davis and Ryn Daniels



[2021 State of Database DevOps](#)



[2016 State of DevOps Report](#)



[Redgate's videos](#)

# Spawn links

<https://spawn.cc>

<https://github.com/red-gate/spawn-ads-extension/releases/tag/v0.0.1>