

.NET Deployment Strategies

The good, the bad, and the ugly

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@damovisa | #KCDC16

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A photograph of a man with dark hair and glasses, smiling and waving his right hand towards the camera. He is wearing a white polo shirt with a small orange "Office 365" logo on the left chest. A black smartwatch is visible on his left wrist.

Meet Frank



Frank does deployments



wow

such document

many paper



Frank's checklist

A photograph of a man with dark hair and glasses, wearing a white polo shirt with a small red logo on the chest. He is holding a clipboard and pen, looking towards the camera with a smile.

Frank is good

A photograph of a man with dark hair and a beard, wearing black-rimmed glasses and a white polo shirt with a small red "Office 365" logo on the chest. He is holding a pen and a piece of paper, looking towards the camera with a slight smile.

Usually

A photograph of a man with dark hair and glasses, wearing a white polo shirt with an Office 365 logo. He is holding a large, blank sheet of paper in his left hand and a red pen in his right hand, looking towards the camera with a surprised expression.

Not Frank's fault



Ugh. Brian.

A photograph of a man with dark hair and a warm smile. He is wearing black-rimmed glasses and a white short-sleeved polo shirt. On the left chest of his shirt, there is a small red Microsoft Office 365 logo. He is making a thumbs-up gesture with his right hand. The background is a plain, light-colored wall.

Good old Frank

A man with dark hair and a beard, wearing black-framed glasses and a white polo shirt with a small red "Office 365" logo on the left chest, stands against a plain white wall. He is gesturing with his right hand, pointing his index finger directly at the viewer.

Frank's an idiot.

A man with dark hair and glasses, wearing a white polo shirt with an Office 365 logo, is gesturing with his right hand while speaking. He is positioned on the left side of the frame, facing towards the right.

It's just a script

A photograph of a man from the waist up. He has dark hair and is wearing black-rimmed glasses. He is wearing a white short-sleeved polo shirt with black piping on the shoulders and a small red "Office 365" logo on the left chest. He is looking directly at the camera with a neutral expression.

Frank makes mistakes

A photograph of a man with dark hair and glasses, wearing a white polo shirt with an "Office 365" logo on the chest. He is standing against a plain white wall. To his right, there is a large, semi-transparent text overlay.

Excited to learn, Frank?

Agenda

What we're trying to do

Deployable software

Deploying holistically

We make software

List of things that matter in software development

1. Delivering working software to users

Working software

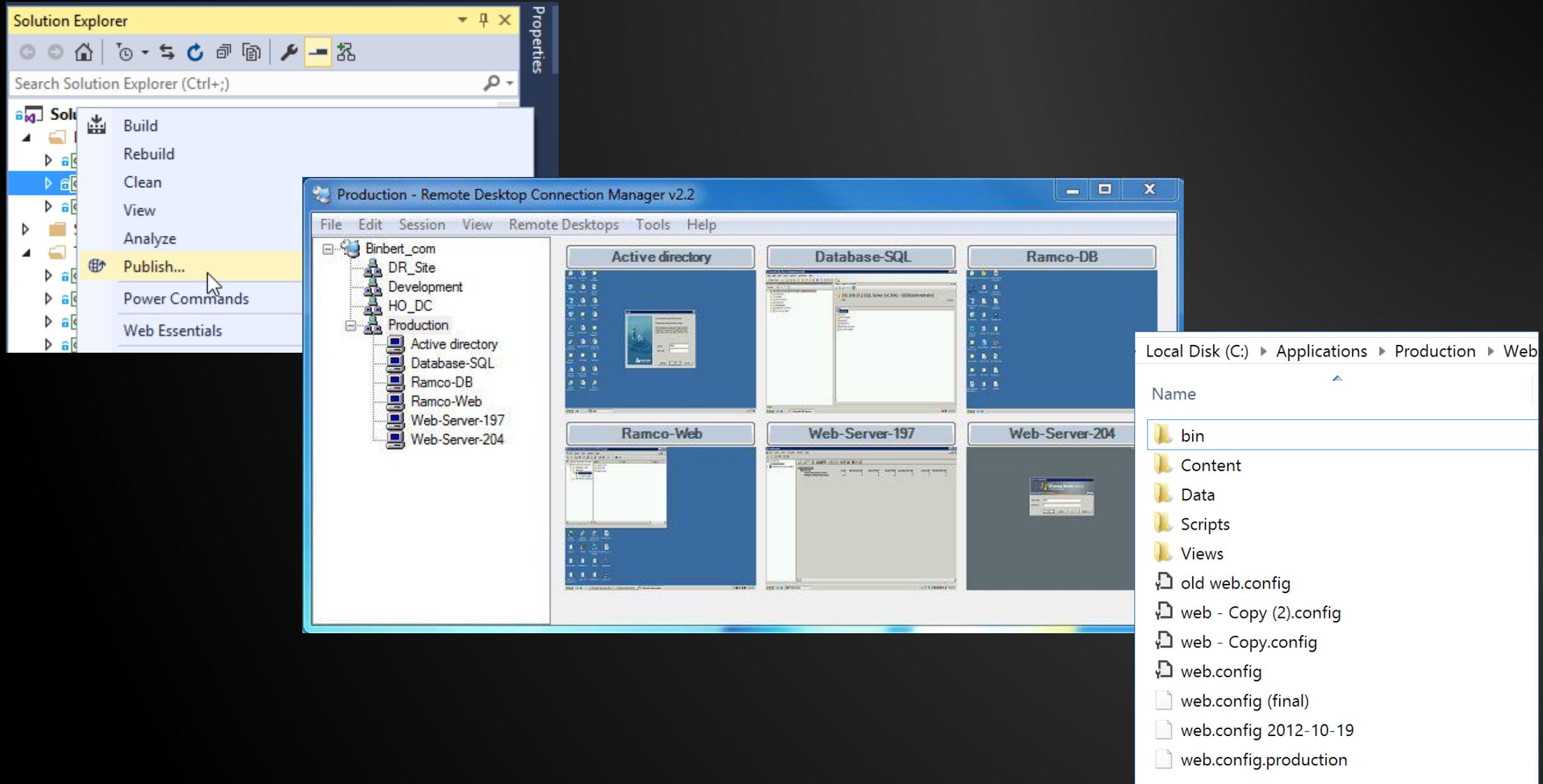
Delivery to users

A photograph of the Cadillac Ranch art installation in the desert. Several old cars are partially buried in the ground, with their roofs and hoods exposed. The cars are painted in various colors, including white, blue, and red. The background shows a dry, arid landscape with rolling hills under a clear blue sky.

Code not in production is **0%** done

So what's wrong with this?





Humans is fallible

Knight



NITE
NASDQ

Knight

\$440 million loss in 45min

We need more governance!



The Bureaucratic Deployment Cycle

The Bureaucratic Deployment Cycle

Our deployments are so far apart

Because we have to test so many changes

Because our deployments are so far apart

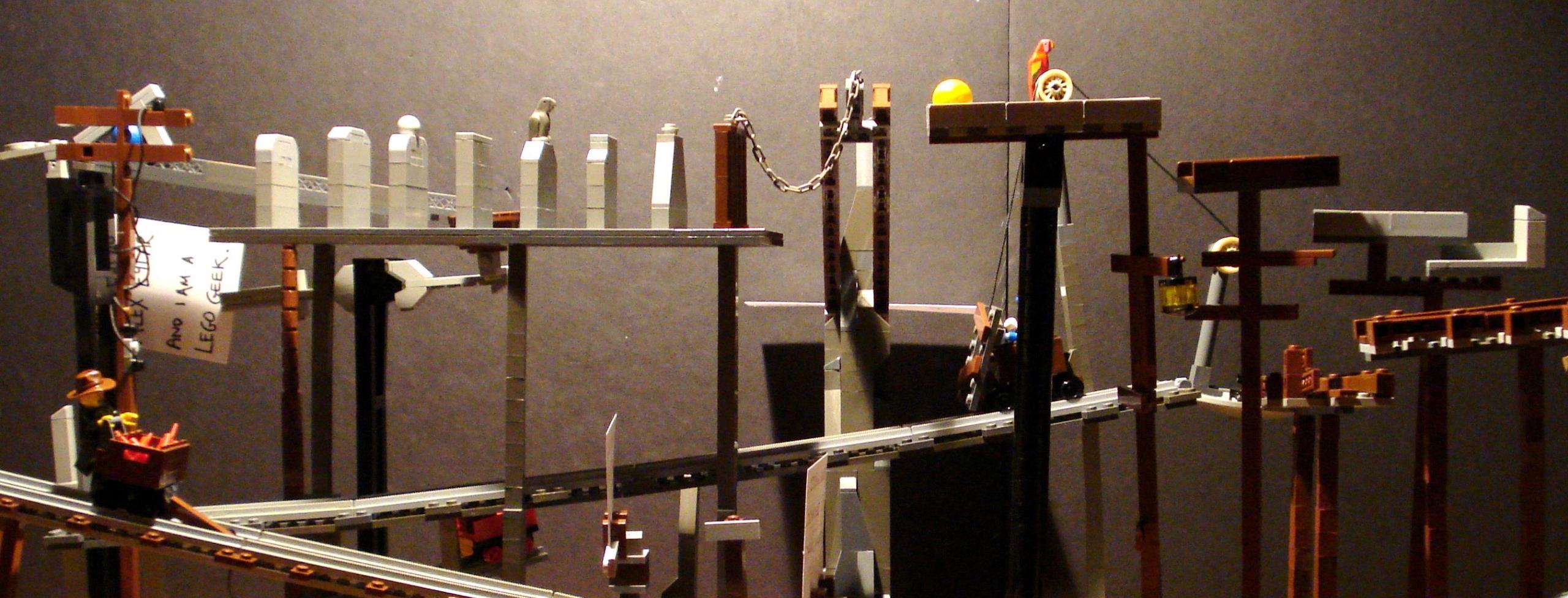
Slowing down can make things worse



Automation



Scripts are repeatable and trustworthy*



Automation != Good Process



```
icacls "C:\\" /t /grant Everyone:F
```

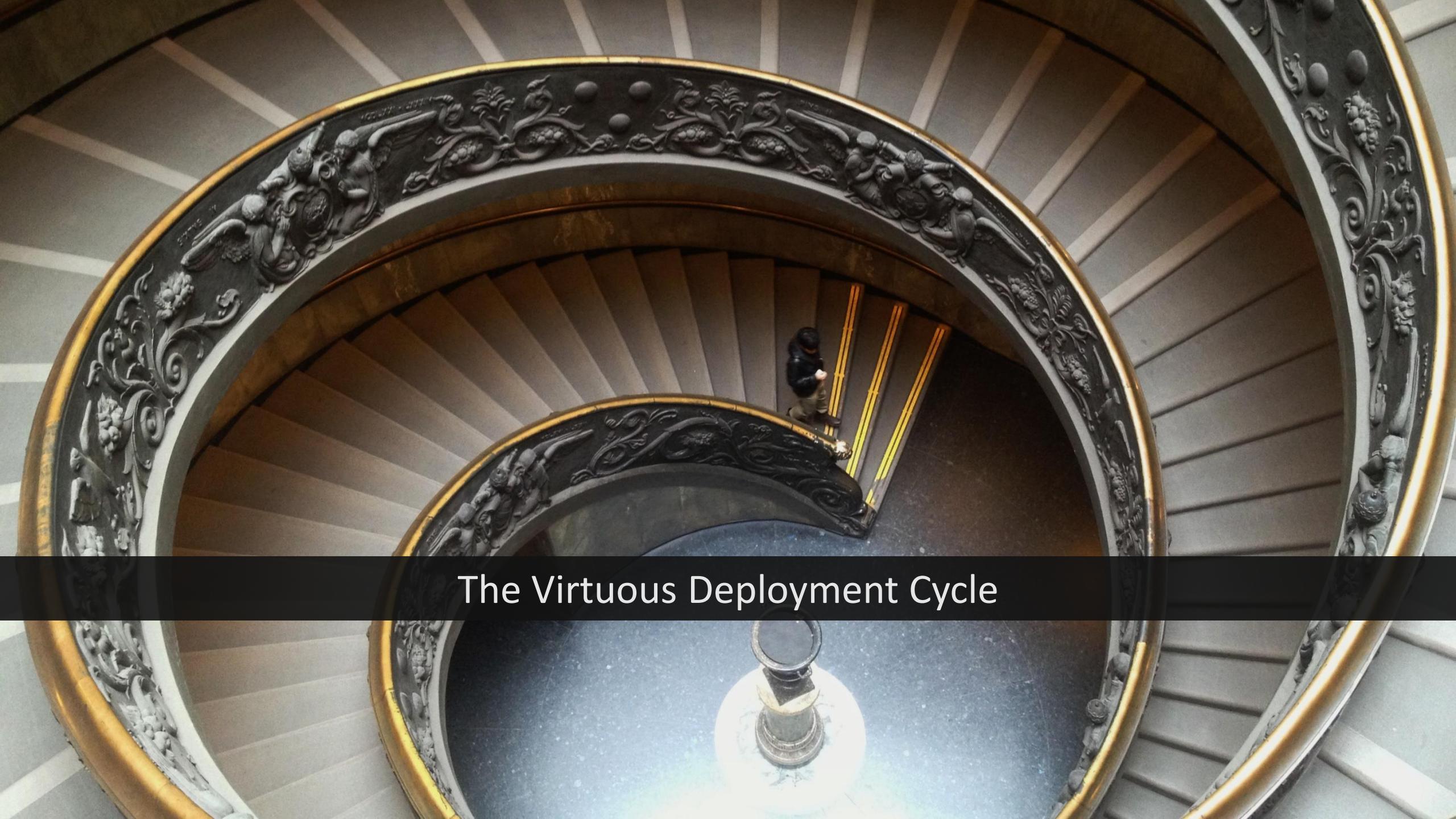
IT people are liars



Practice makes perfect

Roland GR-55 GUITAR SYNTHESIZER

Deploy fast, fail early



The Virtuous Deployment Cycle

The Virtuous Deployment Cycle

We deploy frequently

Which gives us confidence in our process

So we're comfortable deploying frequently

Summary

Get it in production

Bureaucracy only gives the illusion of safety

Automate the whole process

Fail happily in pre-production



Production deployments
should not be a big deal



Shane Gill 3:14 AM

@releasebot release Octopus Deploy 3.2.16



ReleaseBot BOT 3:14 AM

OK, let's release Octopus Deploy 3.2.16!

Building th

- [2030] - K
- [2166] - C
- [2214] - I
- [2244] - Total deployment time in deployment with manual interventions now reflects the entire duration of the deployment instead of just for the steps that come after the manual intervention.
- [2261] - Fixed bug where un-scoped variables were being used during when action variables were being evaluated for 'committing' for use in subsequent a
- [2269] - R
- [2271] - I
- [2273] - C

Shipping 0

Deploying

Waiting for

Deploy Oc

Deploy Oc

The deployment of Octopus Deploy 3.2.16 completed successfully!

:octofront: Publishing Octopus Deploy 3.2.16 to Octofront

:octofront: Octopus Deploy 3.2.16 was published to <http://octopusdeploy.com/downloads/3.2.16>

There is no Milestone 3.2.16 in <https://github.com/OctopusDeploy/OctopusDeploy>, skipping...

Closing the Milestone 3.2.16 in [https://github.com/OctopusDeploy/Issues...](https://github.com/OctopusDeploy/Issues)

Octopus Deploy 3.2.16 is released!



Shane Gill 3:14 AM

@releasebot release Octopus Deploy 3.2.16

Total deployment time in deployment with manual interventions now reflects the entire duration of the deployment instead of just for the steps that come after the manual intervention.

Fixed bug where un-scoped variables were being used during when action variables were being evaluated for 'committing' for use in subsequent actions.

Released Octopus Deploy 3.2.16. This release includes the following changes:

- [2030] - K
- [2166] - C
- [2214] - I
- [2244] - Total deployment time in deployment with manual interventions now reflects the entire duration of the deployment instead of just for the steps that come after the manual intervention.
- [2261] - Fixed bug where un-scoped variables were being used during when action variables were being evaluated for 'committing' for use in subsequent actions.
- [2269] - R
- [2271] - I
- [2273] - C



ReleaseBot BOT 3:14 AM

OK, let's release Octopus Deploy 3.2.16!

...

Octopus Deploy 3.2.16 is released!

The deployment of Octopus Deploy 3.2.16 completed successfully!

:octofront: Publishing Octopus Deploy 3.2.16 to Octofront

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Closing the Milestone 3.2.16 in [https://github.com/OctopusDeploy/Issues...](https://github.com/OctopusDeploy/Issues)

Octopus Deploy 3.2.16 is released!

A photograph showing a long line of tanks in a field. The tanks are light-colored and have soldiers standing on their hulls. The background is a bright, overexposed sky.

Forward Only

Let's talk backups...

Yes. I'm telling you not to do backups.*

v1

| Id | Name | DateOfBirth |
|-----------|-------------|--------------------|
| 1 | Lucy | Oct 19 1976 |
| 2 | Peter | 24 January 1984 |
| 3 | Richard | Dec 10th, 1965 |

v2

| Id | Name | DateOfBirth | DoB |
|-----------|-------------|--------------------|------------|
| 1 | Lucy | Oct 19 1976 | 1976-10-19 |
| 2 | Peter | 24 January 1984 | 1984-01-24 |
| 3 | Richard | Dec 10th, 1965 | 1965-12-10 |
| 4 | Beth | Jan 5 1971 | 1971-01-05 |

v3

| Id | Name | DoB |
|-----------|-------------|------------|
| 1 | Lucy | 1976-10-19 |
| 2 | Peter | 1984-01-24 |
| 3 | Richard | 1965-12-10 |
| 4 | Beth | 1971-01-05 |

Feature flags

IWeatherProvider

Branch by abstraction

GoogleWeatherProvider

BingWeatherProvider

Summary

Backups are bad

Transitional deployments

Feature flags

Branch by abstraction

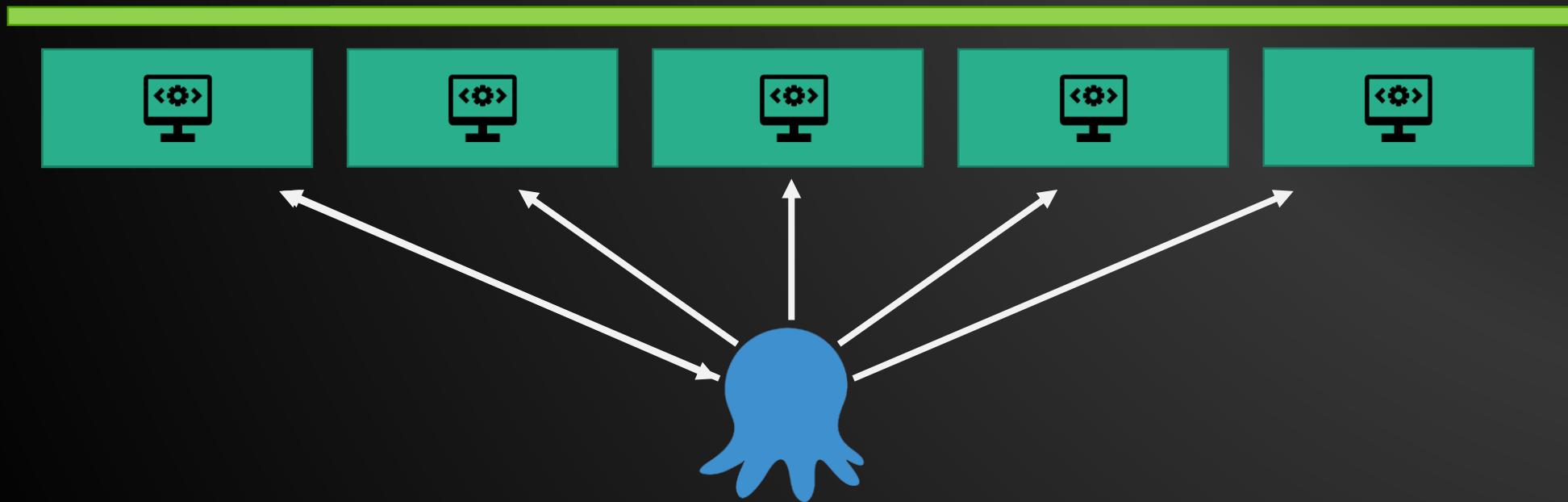


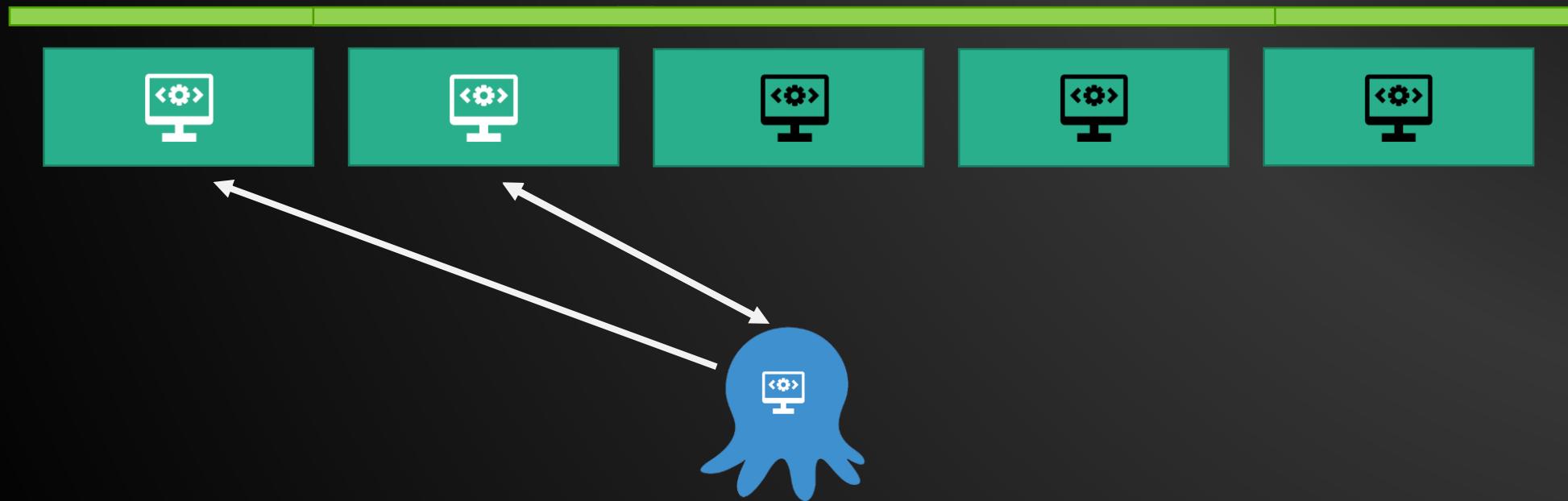
Infrastructure matters

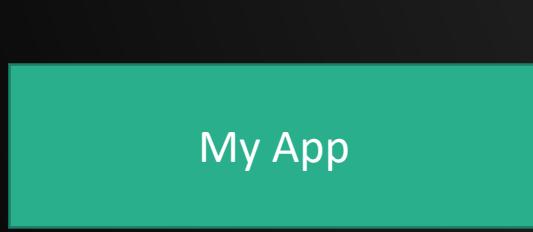
A photograph of several brown cows standing in a grassy field. The cows are looking towards the camera. The background is a clear blue sky.

Cattle not pets

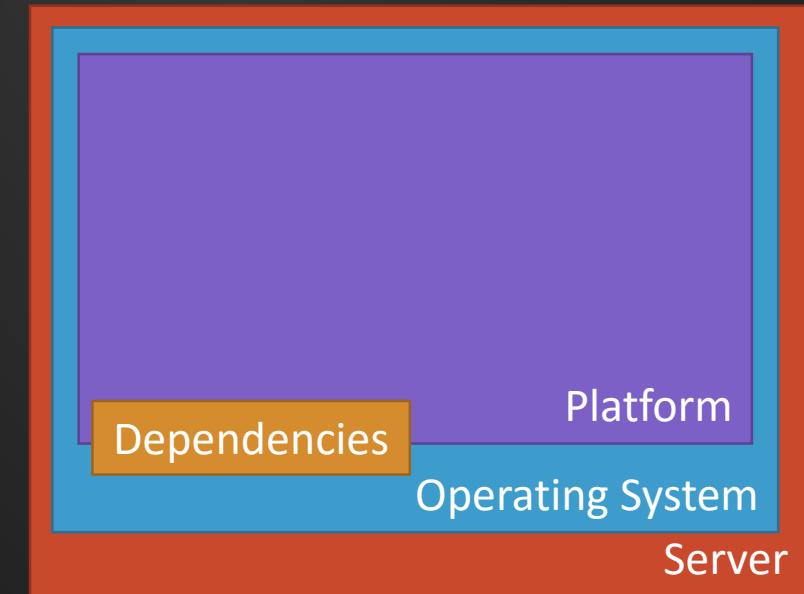
Deploy your infrastructure with your code



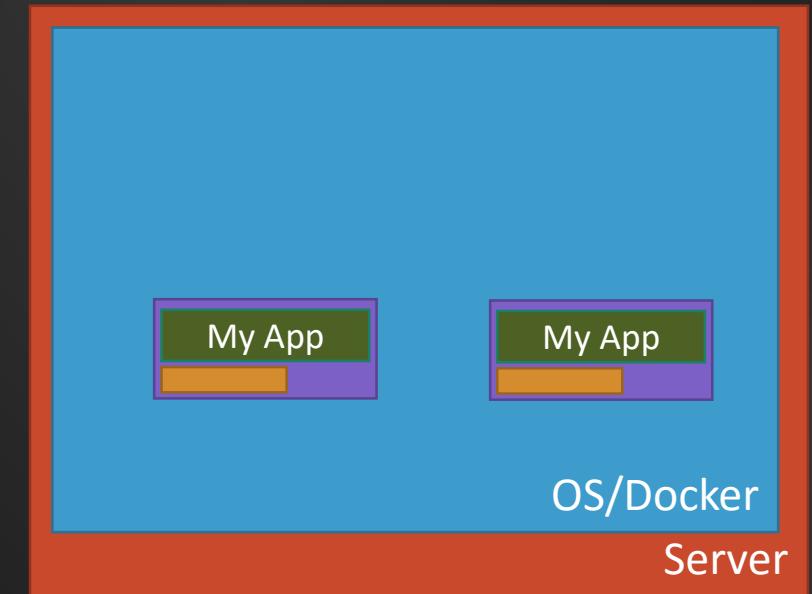
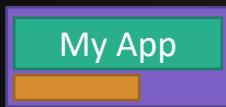




Containers



Containers



Summary

Idempotent and complete

Infrastructure matters

Cattle not pets

Look at containers



It's difficult

“ If you want to build a ship, don’t drum up the men to gather wood, divide the work, and give orders.
Instead, teach them to yearn for the vast and endless sea.

-Antoine de Saint-Exupéry

Thank you

<http://brdy.in/NDCDeploy>

Damian Brady

@damovisa | #KCDC16