

GitOps

(with Tests)

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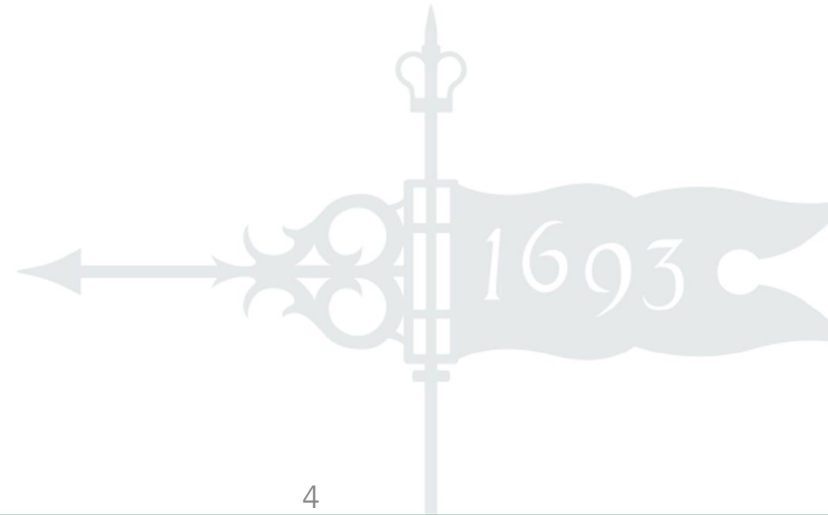
GitOps?

- Use version control for operations
- Method not a tool
- Not just for Kubernetes
- Implement changes using automation

Examples

- Terraform
- Config Management
- Container Image Builds
- Container Orchestration
- CAS Services
- DB Structures
- Application Configs
- DNS Records

Demo



BIND Zone File

```
it.wm.edu.      IN      SOA      ns1.wm.edu.  dns.wm.edu.  (  
                2019100800  
                3600  
                900  
                3600000  
                43200  
                )
```

```
it.wm.edu.      IN      NS       ns1.wm.edu.
```

```
.  
.   
.
```

```
vascan.it.wm.edu.  IN      CNAME    cluster-00.it.wm.edu.
```

Declarative

- git commit captures the whole change
- Rollback is easier
- Typically Idempotent

Automated Testing

- Validity
- Common Errors
- Local Conventions

Change Reviews

- Change review is a code review
- Most effective review is done by peers

Safer Systems

- Common workflow reduces variability
- Share details without broad access to the real thing
- Single integration point for testing

Challenges

- Automated testing can be a new concept
- Feels like extra work at first
- Tests passing that shouldn't are bugs

Industry Trends

- Everything as code driving better tooling
- Open Policy Agent is worth watching

Getting Started

- Start with something well understood
- Setup auto-deploy and start testing
- Push through the initial pain
- Plan to iterate
 - Method not a product
 - Tests are also code

Questions?

github.com/pcfens/vascan2019

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INFORMATION TECHNOLOGY

