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Best Practices for DevOps-Ready Infrastructure Management and Automation

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Agenda

- About Me
- Challenges Today
- Infrastructure Management
- Infrastructure as Code
- Automation
- Configuration Management
- Version Control for Environment resources

About me

I am a Solution Engineer at Electric Cloud where we assist enterprises to support DevOps and release velocity at scale. Prior to my current role at Electric Cloud, I worked as an engineer at IBM to enable clients to accomplish their IT goals.

Problem Description

Organizations are having to support complex applications with deployments across hybrid, cloud, container environments.

Organizations need to quickly provision and effectively manage large environments.

Unmanageable proliferation of data centers to support growing business needs.

Deploying with confidence!

High Performers Are More Agile

46x

more frequent deployments

440x

faster lead times than their peers

Source: Puppet/DORA: 2017 State Of DevOps Report

Best Practices for Infrastructure Management

- Infrastructure as Code
- Build the environment blue print
- Fidelity between environments– Dev/Test/QA/Prod
- Immutable deployment environment
- Configuration Management
- Integrate into your CI/CD process

Infrastructure as Code

- *Automate the creation and maintenance of servers*
- *Treating systems like blocks of code, checking code into repositories*
- *Utilize open source tools – Declarative versus Imperative*
- *Reusability – resources can be easily reproduced*
- *Resources are disposable*

Use the right tool for the job

Configuration Management

- Operations needs to be able to deliver software defined models across the complete lifecycle.
- Which CM Vendor works for you?
- Replicated Environments
- Support for deployments
- Has configuration modeling
- Monitoring and Governance

Automation, No Manual Changes

- Very difficult to manage infrastructure manually
- Automation accelerate Infrastructure management from concept to implementation
- You want to use Provisioning Scripts/Configuration Management Tools
- You should Implement a method for a deployment environment for continuous delivery.
- You should want to use immutable resources

Reusability & Consistency

Automation will lead to easier replication of environments.

Reusability across systems and data centers, the process is fast without error.

Breaking the infrastructure down into independent, reusable resources.

Configuration Management / Release Automation

- Helping to deliver on IaC
- Automation escalates configuration management
- Polices should be Model-Based and Human Readable
- Scalable and reusable across environments
- Identify drift quickly and remediate it.
- Having an audit trail for compliance

ARA - DevOps Ready Deployment

- Taking the best practices and putting them into practice
- Incorporate ARA tool so you can efficiently deploy
- Model your Apps and connect the dots
- Gain shared control and visibility
- See the Who, What, Where and How

Environment Reservations

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Environment Inventory / Drift Comparison

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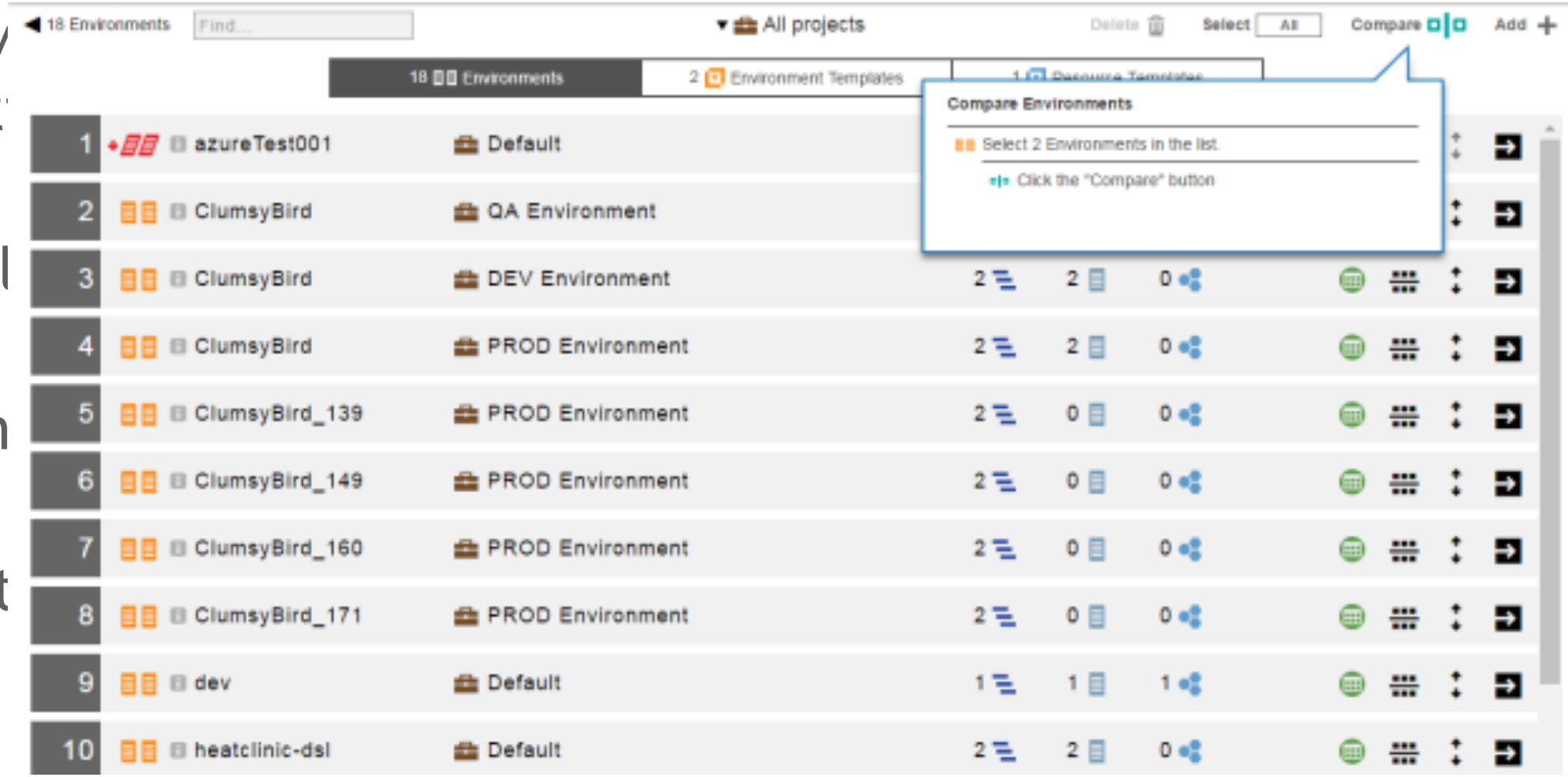

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Versioning

(Or source code repository / code repository / etc.)

- Gain Traceability – history of changes
- Rollback available – restore infrastructure
- Visibility – view where changes are committed
- Actionability – CI/CD

Demo

Conclusion

Environment management automation allows organizations to streamline tasks to reduce operations efforts.

Every element of the infrastructure can be rebuilt quickly, with little effort.

Affectively reducing release time, by implementing a centralized automation approach for environment resources.

Links

https://electric-cloud.com/
https://shar.es/1PNhJU
https://developer.atlassian.com/hipchat/tutorials/getting-started-with-atlassian-connect-express-node-js
https://www.digitalocean.com/community/tutorials/an-introduction-to-configuration-management
https://www.capgemini.com/2017/02/automated-test-environments-for-devops/

Q&A