Scaling Enterprise DevOps on Microsoft Azure

Based on a Real-world Quali Customer Case Study

HOST

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Architect and R&D
Manager @ Quali

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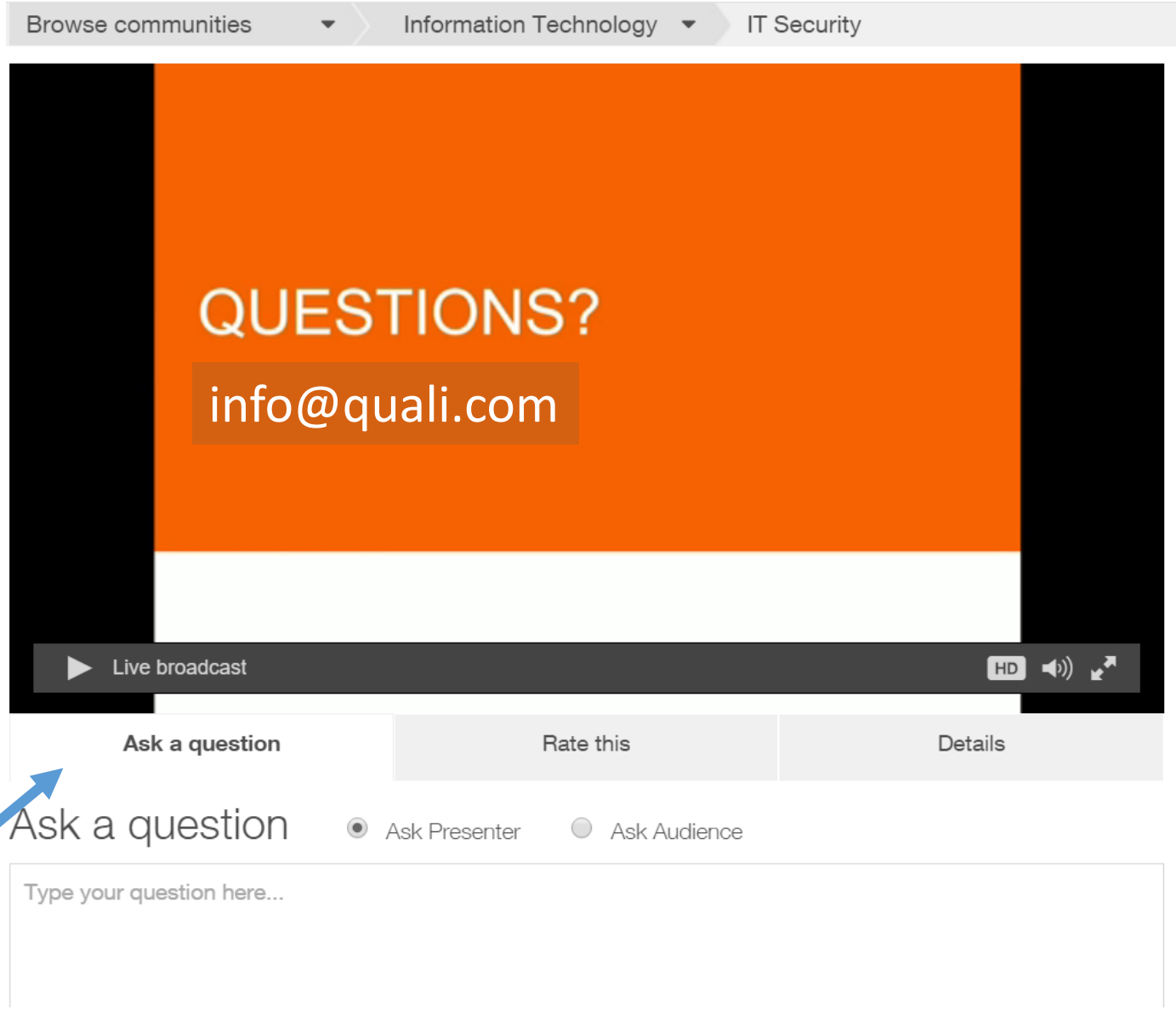
Have Questions?

Gift cards to
3 Attendees!!



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About Quali

01 Venture-funded start-up focused on Cloud-centric DevOps and BizOps automation

02 Delivers “Cloud Sandboxes” - Replicas of production environments

03 Strong Innovation DNA – Trusted by customers worldwide

300+ *300+ customers – Cloud providers, Telcos, Enterprises – across FSI, Retail, Healthcare and Government*

~115 employees in USA, Israel and Europe focused on serving customers worldwide

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Agenda

1. Company Profile
2. Challenges
3. Solutions
4. Live Demo
5. Q&A and Wrap-up

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Digitization Triggered Internal Transformation

- Traditional industry → software and technology company
- Brand development through expanded digital presence
- Rapid software development cycles to compete
- **DevOps: Key to achieve rapid releases with quality**

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Global Manufacturer – Company Profile

Digital Transformation to Sustain Competitive Edge

- Distributed R&D across several countries
- Enterprise Scale Development (100+ developers and testers)
- Main use case: production and dev/test in the public cloud (Microsoft Azure)

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Developer/Tester/TL

- Need access to a configured environment
  - Not everything can be installed on the local machines
- No time to waste on configuration issues
- This is a –prerequisite- to do their work

DevOps Team

- Release automation - Ensure release quality and velocity
- Team productivity enabler – Provide teams with the collaterals they need to do their work

DevOps Pain Points

- Scalability and maintainability
- Release velocity vs. quality assurance
- Control cloud consumption via policies
- Enforcing standards

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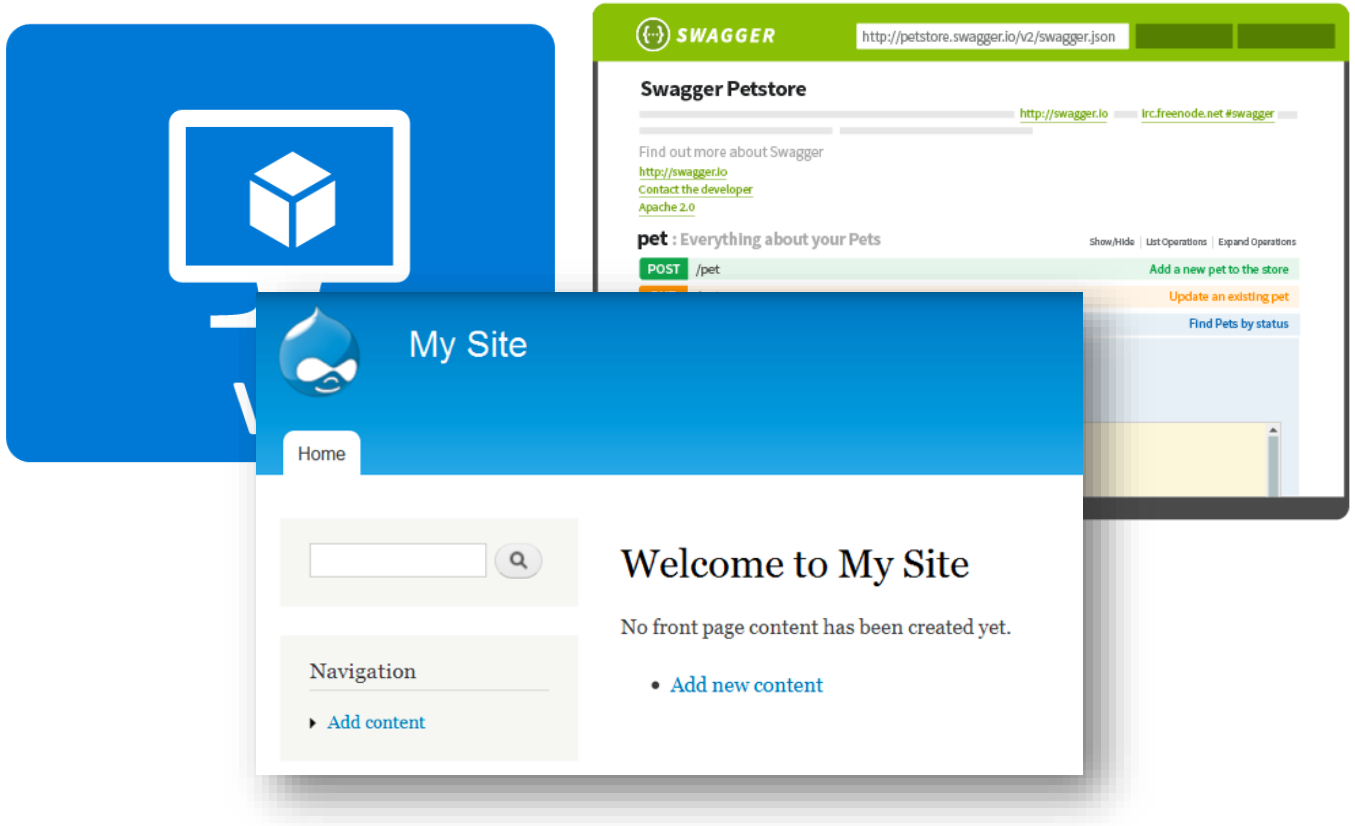
Introducing Environments



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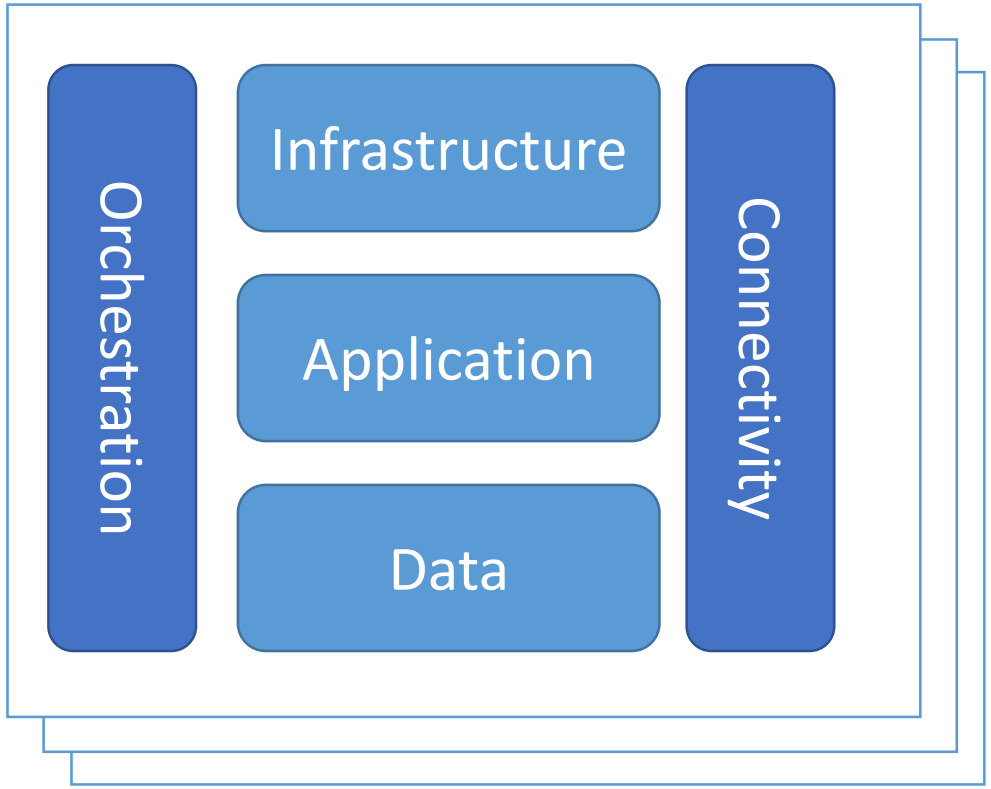
Environments: Under the hood



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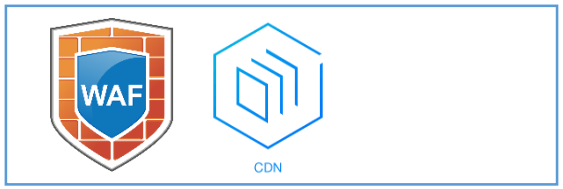
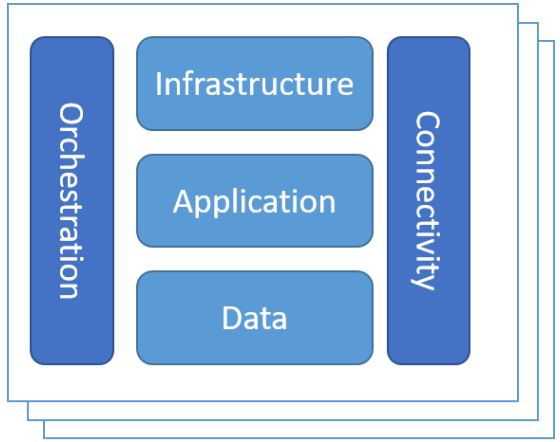
Developing on Microsoft Azure

Infrastructure provisioning on Azure



Application configuration

Data



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Orchestration

Microsoft Azure

Infrastructure provisioning on Azure

Application configuration

Data

Orchestration

Infrastructure

Application

Data

Connectivity

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Orchestration

Main use cases for environments:

Developer environments

Environments for feature validation

CI environments

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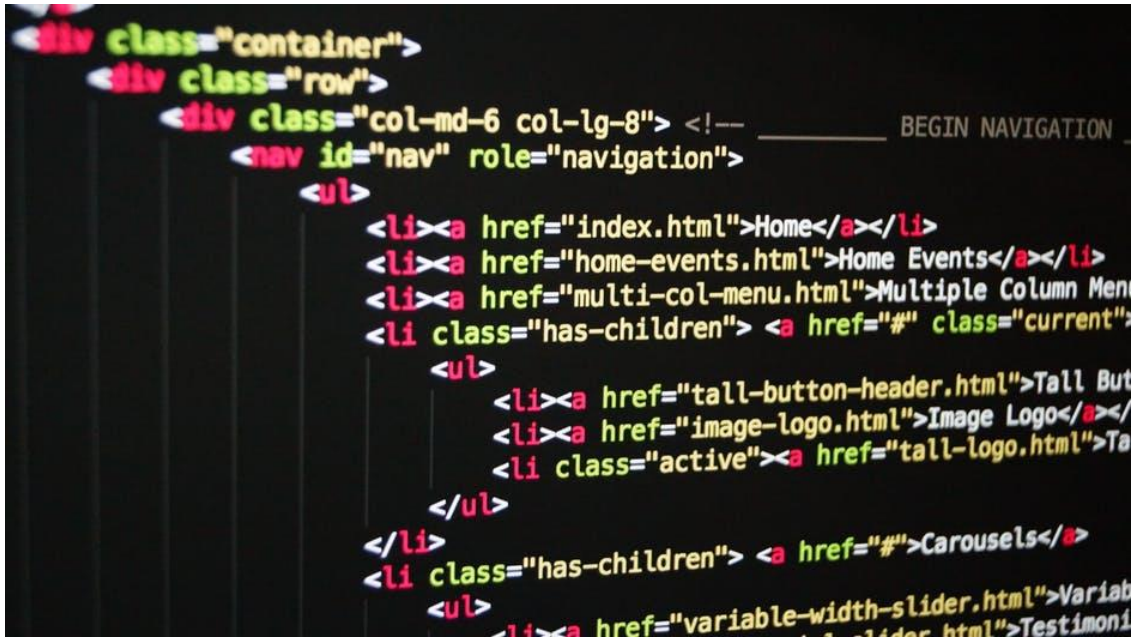
Developer Environments

- Services SCRUM team as shared environment or individual developers
- Need both external and internal access to applications and VMs
- Complex orchestration and component configuration
- Policies/access control on environment consumption



Dev Environment != Laptop + IDE

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Environments for Feature Validation

- Ensure environment represents the feature build with no additional changes
- Allow manual testing as well as invoking automated tests as a part of the validation process
- Share the validation environment between different teams and personas as needed

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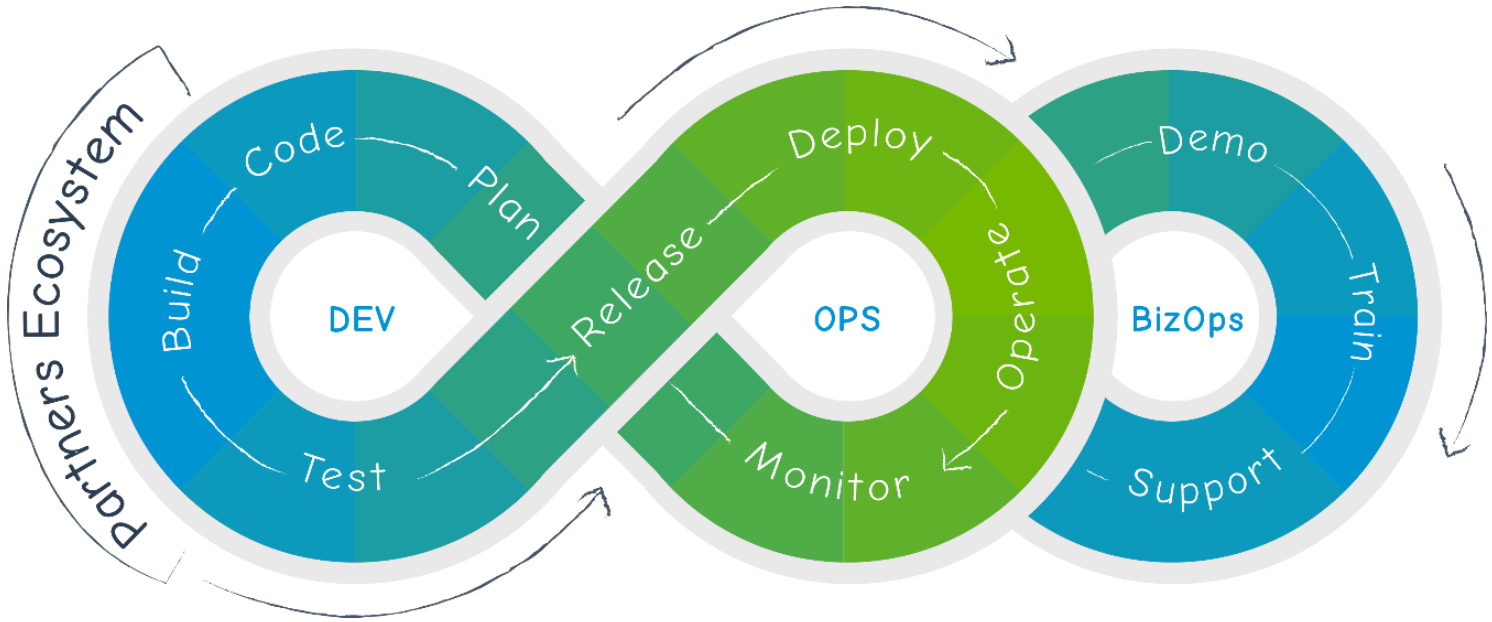
Environments for CI

- Create environments for CI builds
- Include configuration and installation of test tools
- Test different configurations / websites / hardware profiles



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Shifting to Dynamic Environments (Sandboxes)

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Static Vs. Dynamic Environments

STATIC

- Resources are pre-allocated
- Stateful
- WOMM
- Not repeatable
- Fixed configuration

DYNAMIC (Sandboxes)

- Resources allocated on demand and reclaimed automatically
- Can select what's saved between sessions
- Repeatable
- Flexible configuration
- Require orchestration
- Can be provided on demand

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Dynamic Environments Enable Self-service

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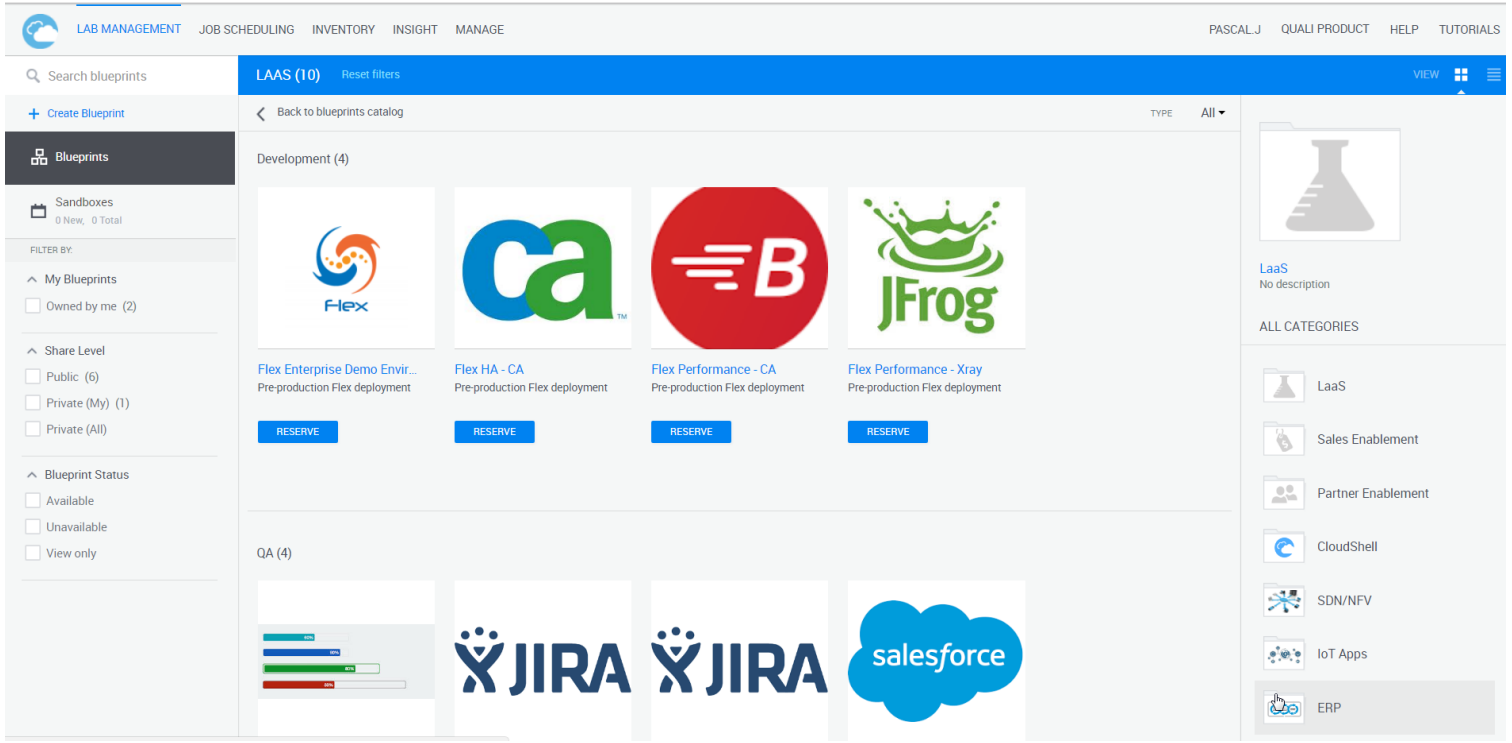
Self-Service to Scale DevOps

- Users select environments from a catalog
- DevOps team members design environments
- Managers set policies on consumption and permissions
- Consumption of an environment is always scoped by **time** or **usage**



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Orchestration and Blueprinting Make Dynamic Environments **Repeatable**

(Standardization Key to Scale)

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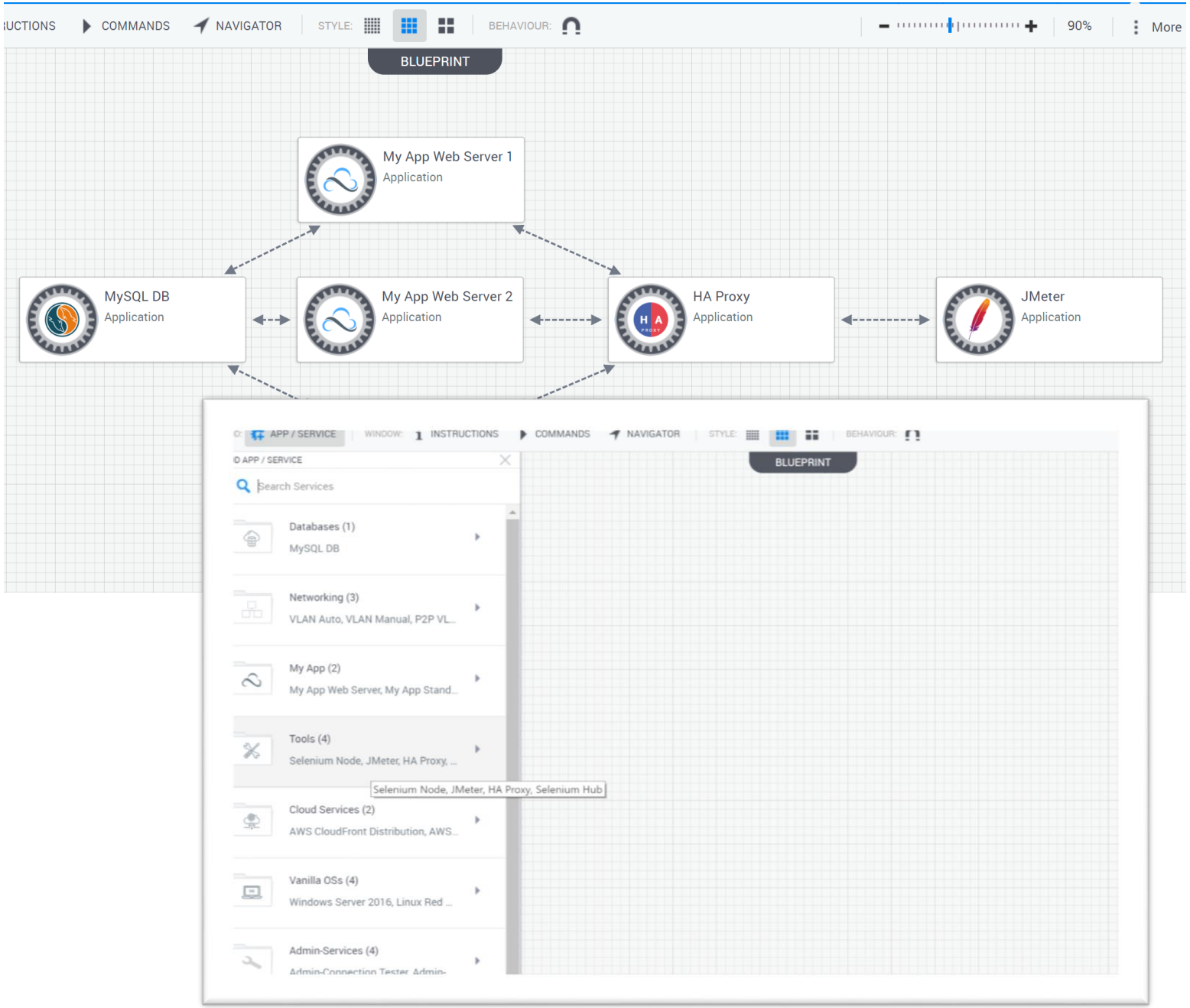
- Blueprinting allows DevOps engineers to take on the role of environment designers **and ensure standardization**
- Reusable building blocks improve maintainability and reduce overhead
- The orchestration workflow is a key first class citizen of the environment



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Dynamic Environments Are a **Live Context** Users Can Interact With

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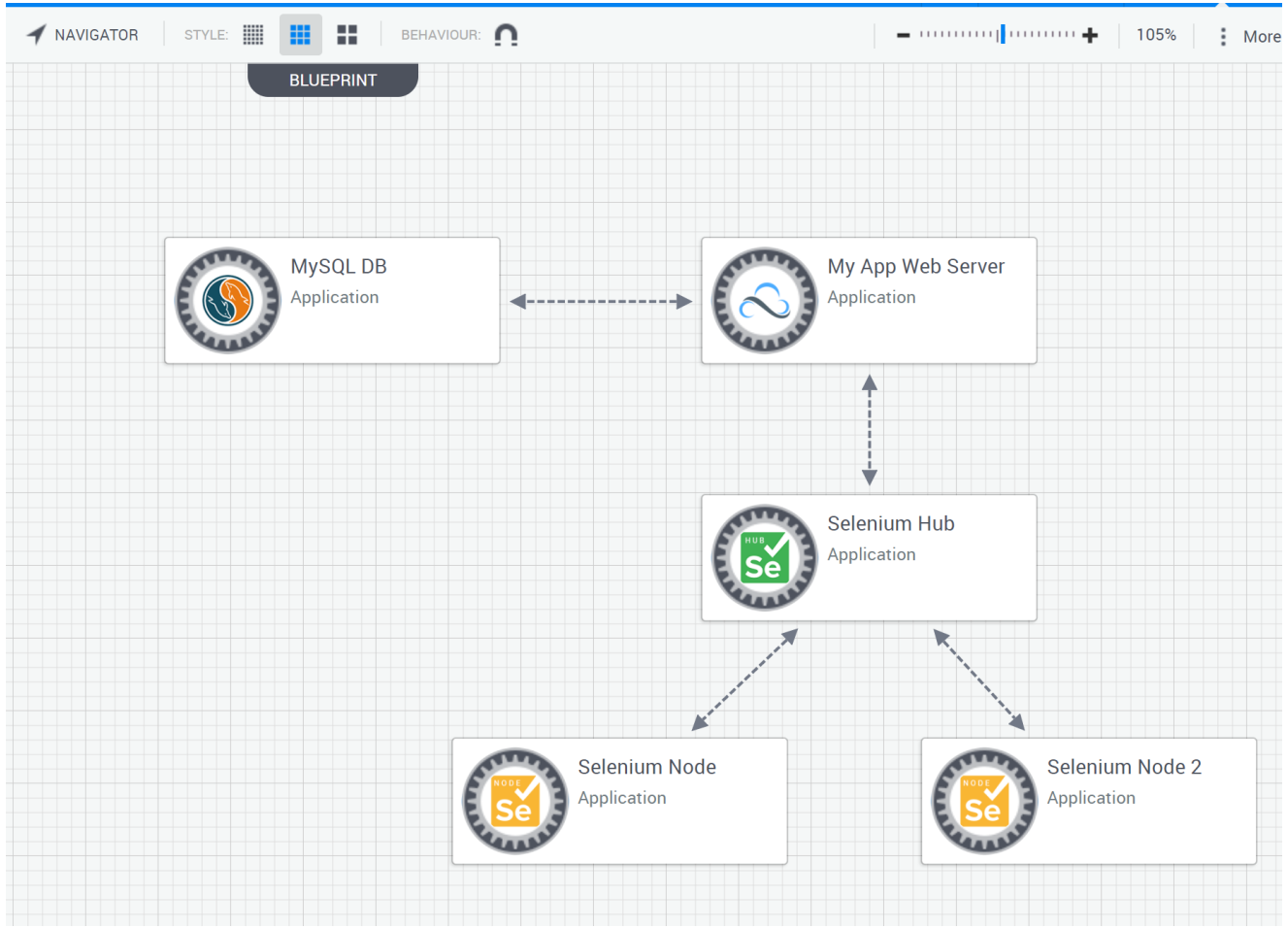
- Test tools can be integrated into the dynamic environment and triggered by the developer
- Orchestration commands for save/restore or database changes can be included in the environment interface
- Connectivity to private components is an OOB feature of sandboxes in CloudShell



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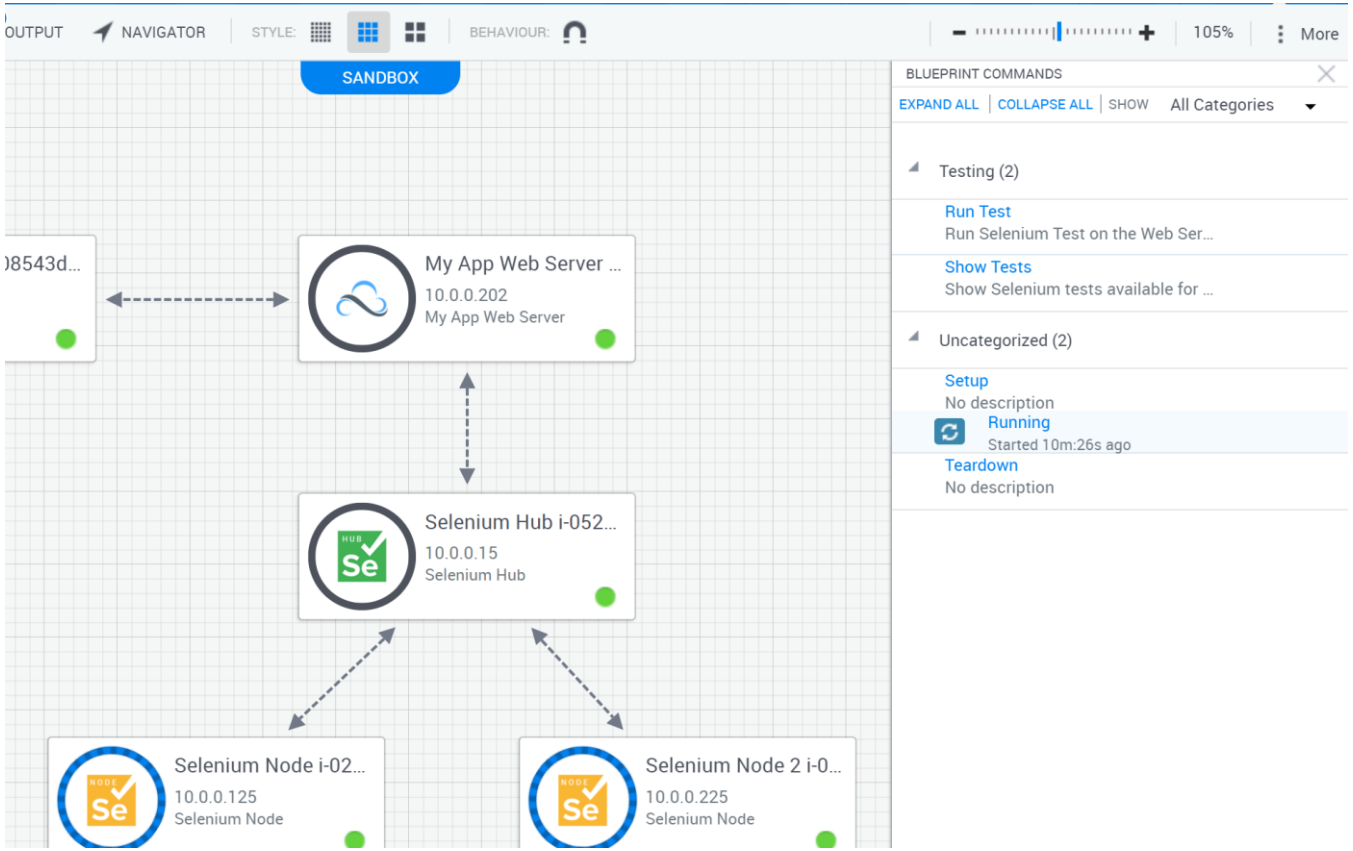

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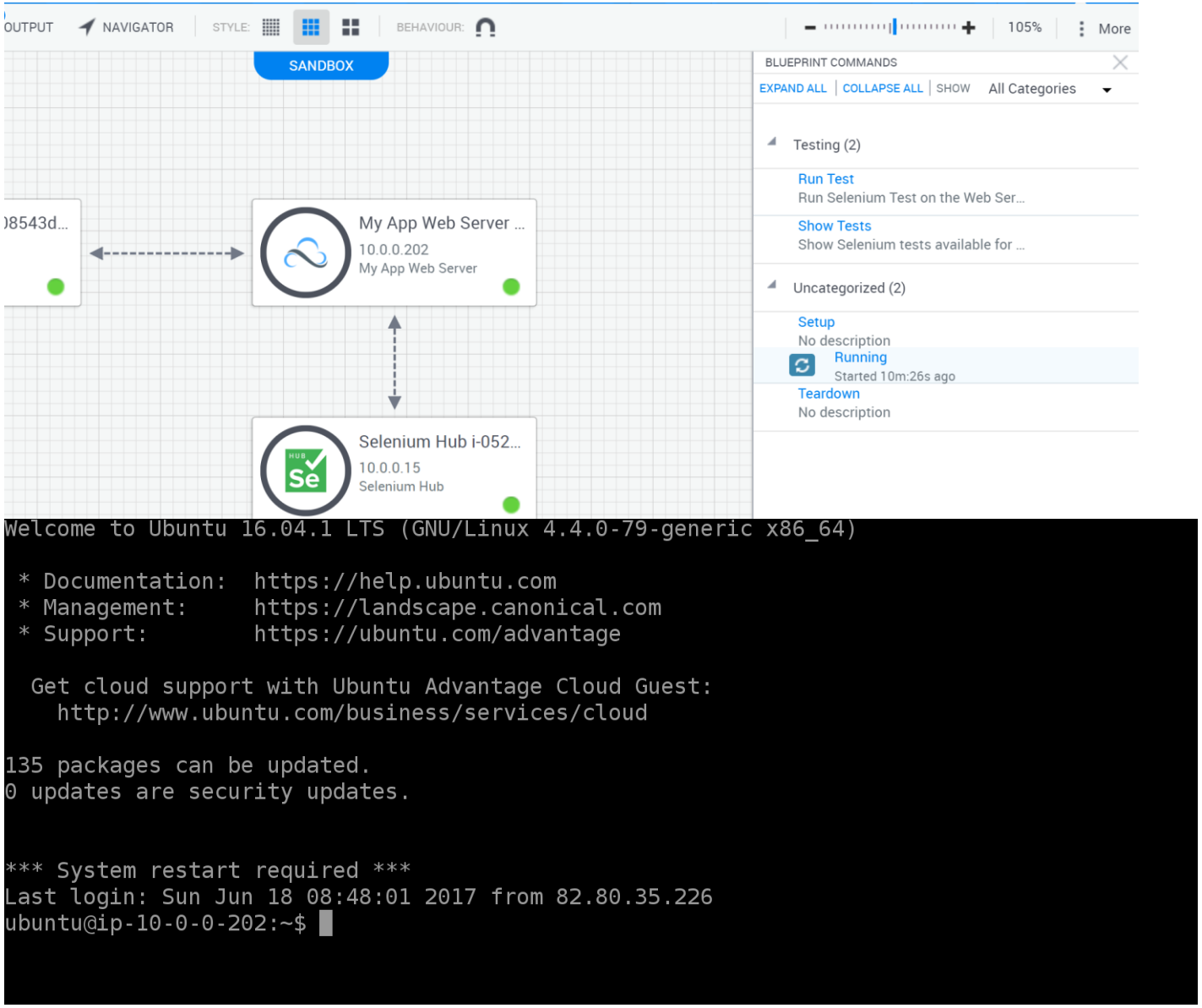

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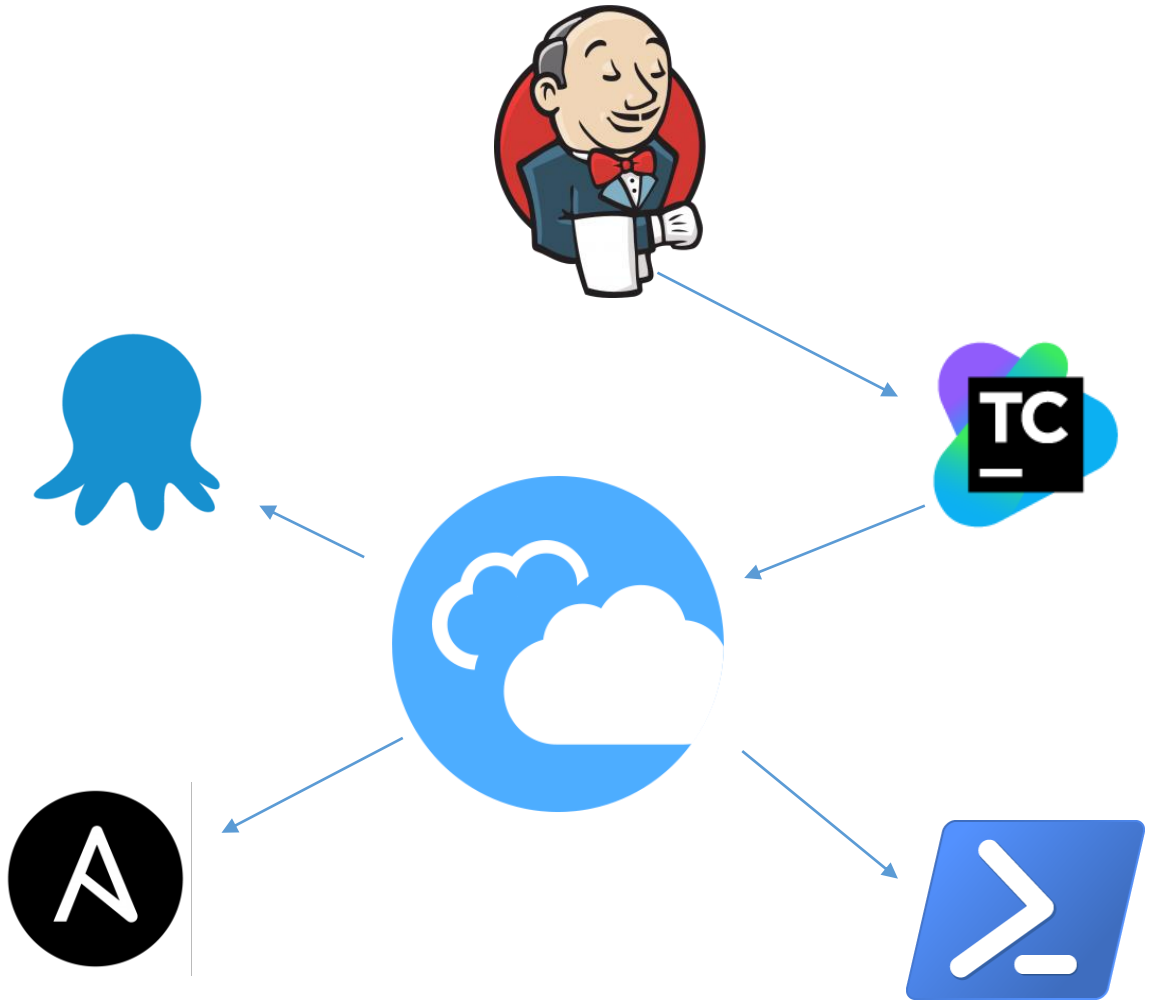
DEMO

Dynamic environments are a part of an End-to-End DevOps pipeline

- Dynamic environments can be consumed by CI/CD, pipeline and ARA tools using OOTB integration or built in extensibility API
- Leverage as much of the existing automation assets as possible



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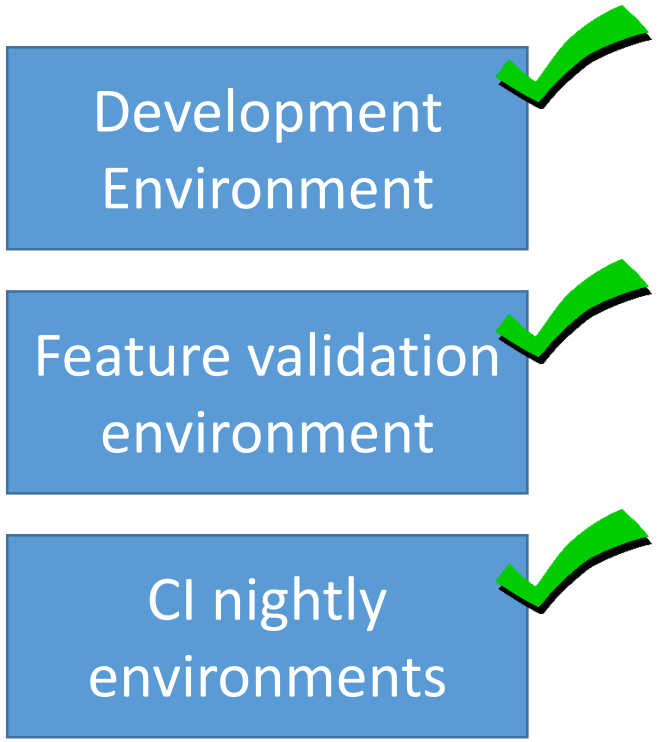
Technical Accomplishments (phase 1)

- Blueprint and **standardize** environments for three main use cases relevant for the **SCRUM** teams
- Remove dependency on static environments and the overhead of maintaining them



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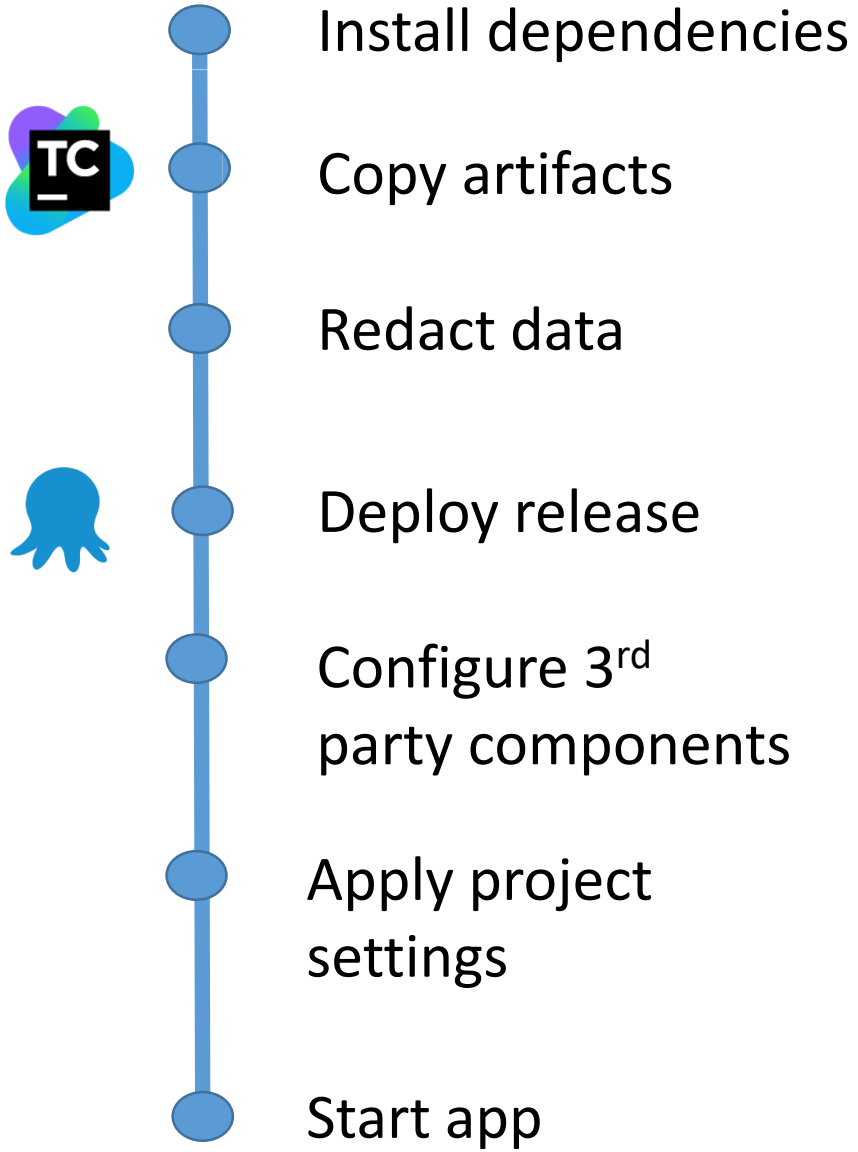
Technical Accomplishments (Phase 2)

- Defined the orchestration workflow using a building block based orchestration platform.
- Integrated environments with other eco-system tools



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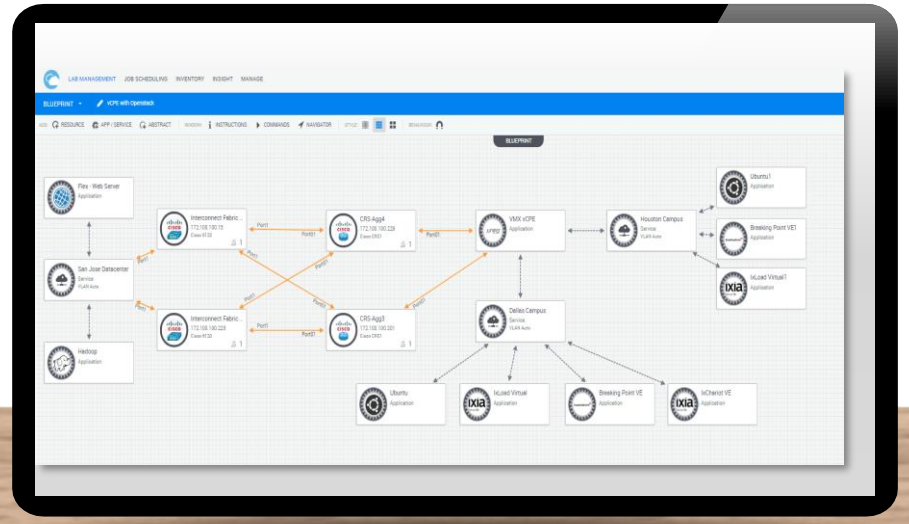
Benefits

- Able to accelerate application releases by more efficient DevOps
  - Removing the bottleneck with dynamic environments and self service and integrating with DevOps toolchain
- Lower bug occurrence due to better quality delivered
  - Standardizing environments with blueprint and offering remote access to all development team
- Control cost of consuming Azure public cloud resources
  - Automated Reclamation of VMs and user policies

Ask for a Technical Demo

(30-min web conference)



Start a Free Trial

(30-min web conference)

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2017 DevOps and Cloud Survey

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http://info.quali.com/2017-devops-and-cloud-survey

Q&A

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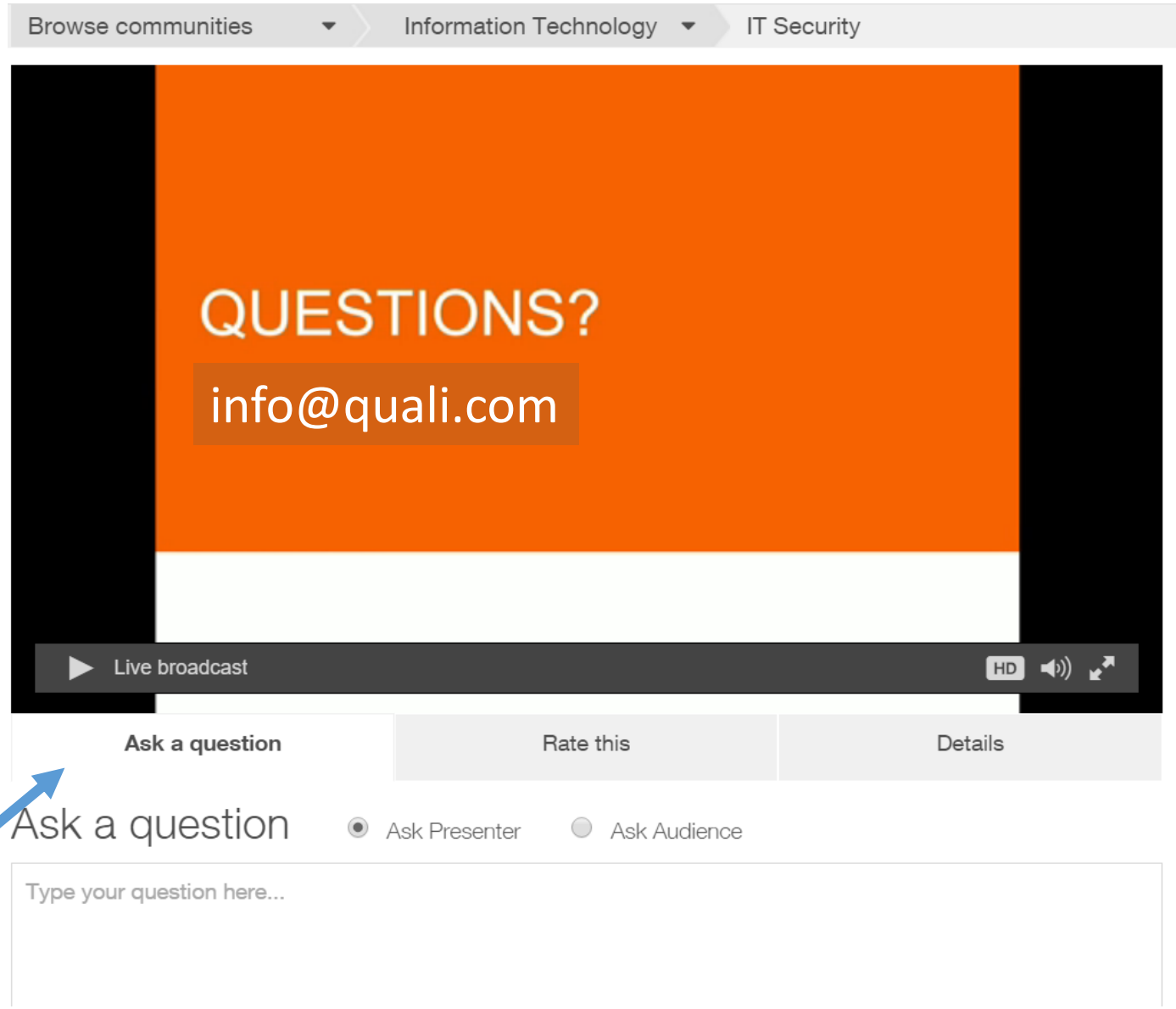

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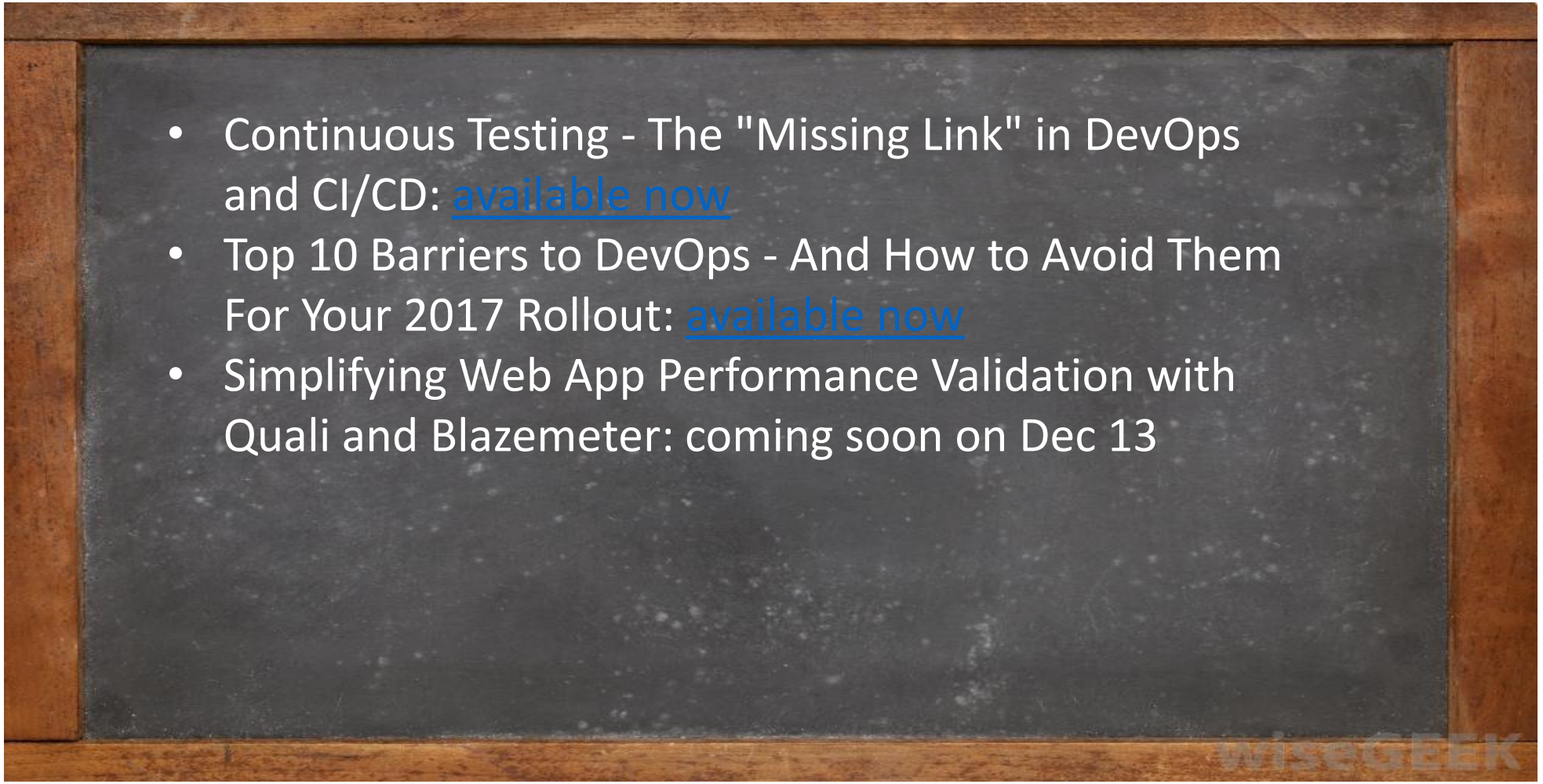

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http://info.quali.com/schedule-a-live-demo

THANK YOU

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