

OverOps

Move Fast. Fix Faster.



CLOUD NATIVE
COMPUTING FOUNDATION

- Thank you for joining us!
We will begin in just a few moments



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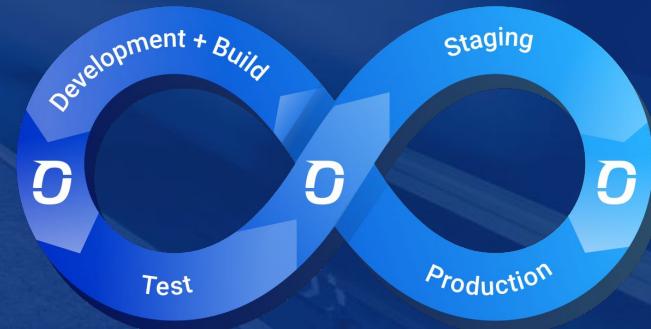


**CLOUD NATIVE
COMPUTING FOUNDATION**

- **The Definitive Checklist for Delivering Reliable Kubernetes-based Applications**



June 11, 2020



Welcome...



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Senior Software Engineer



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Thanks for joining!



This is a live
webinar! 😱

NOT pre-recorded

| Today's Agenda

- **The State of Software Quality Today**
- **The Challenges of Delivering Reliable Kubernetes-Based Applications**
- **Definitive Continuous Reliability Checklist**

Phase 1 (Build/Testing):

Item #1: Static Analysis

Item #2: Unit Tests

Item #3: Integration/End-to-end testing

Phase 2 (Staging/UAT):

Item #4: Performance/Scale testing

Item #5: Staging go-no-go decision

Phase 3 (Production):

Item #6: Build Rollout

Item #7: Rollback Criteria & Production Feedback Loop



The State of Software Quality

(Source: bit.ly/overops-survey)

70% of engineering professionals say **quality is paramount to speed**

69% of respondents spend a **day per week or more troubleshooting code-related issues**

53% of participants experience **customer-impacting incidents at least once a month**

20% of organizations **release code one or more times per day**

45% of respondents plan to adopt **containers** in 2020

The Challenges of Delivering Reliable Kubernetes-Based Applications

- Managing the transition from a monolithic application to microservices.
- Orchestrating deployments across multiple services.
- Effective testing.
- Polyglot programming.
- Tracing transactions through the system.
- Logging across microservices.



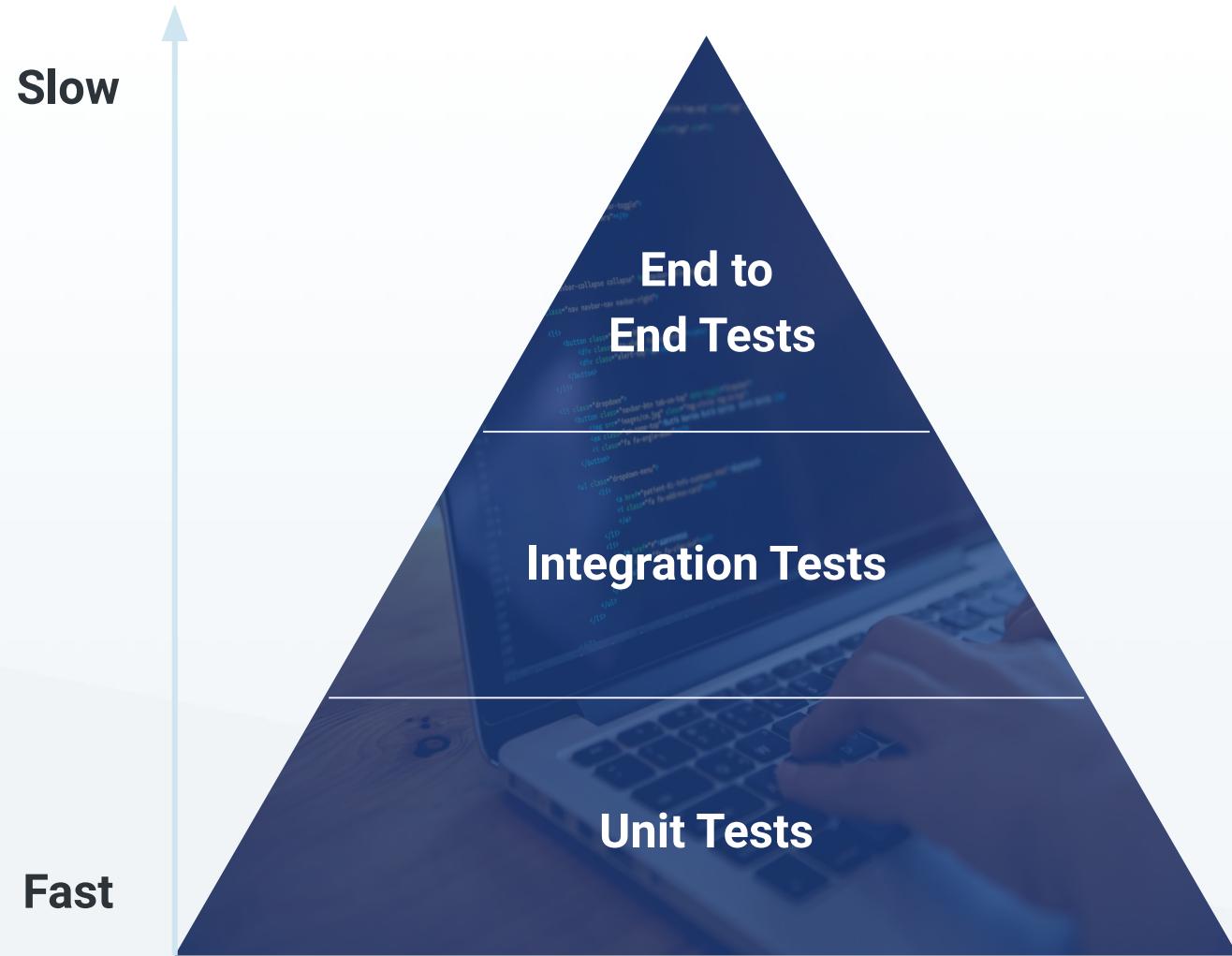
Scared or Confident?

How can we release on a regular cadence with a high level of confidence?

Recommendations:

- Examine your business needs.
- Determine what your release cadence is.
- Research available solutions.
- Know where to invest your time & money.

Test Pyramid





THE DEFINITIVE

Continuous Reliability Checklist

Phase 1

Building/Testing

Static Analysis

Goals:

- Finding “bugs”.
- Enforcing industry standards.
- Identifying security vulnerabilities.
- Maintaining a consistent coding style.

Unit Testing

- It's fast!
- Not integration tests.
- Difficult to test the right things.



Integration/End-to-end testing

- Testing components individually.
- Testing components with other components.
- User testing.
- Business use cases.

Demo

Phase 2

Staging/UAT

Performance/Scale Testing

- Browser response timing.
- API performance.
- Comparing performance measurements over time.

Staging go-no-go decision

- What is your error tolerance level? (Bugs, performance, etc)
- Dashboarding of previous items.
- Can you rollback quickly?



Where is your
confidence level now?

Phase 3

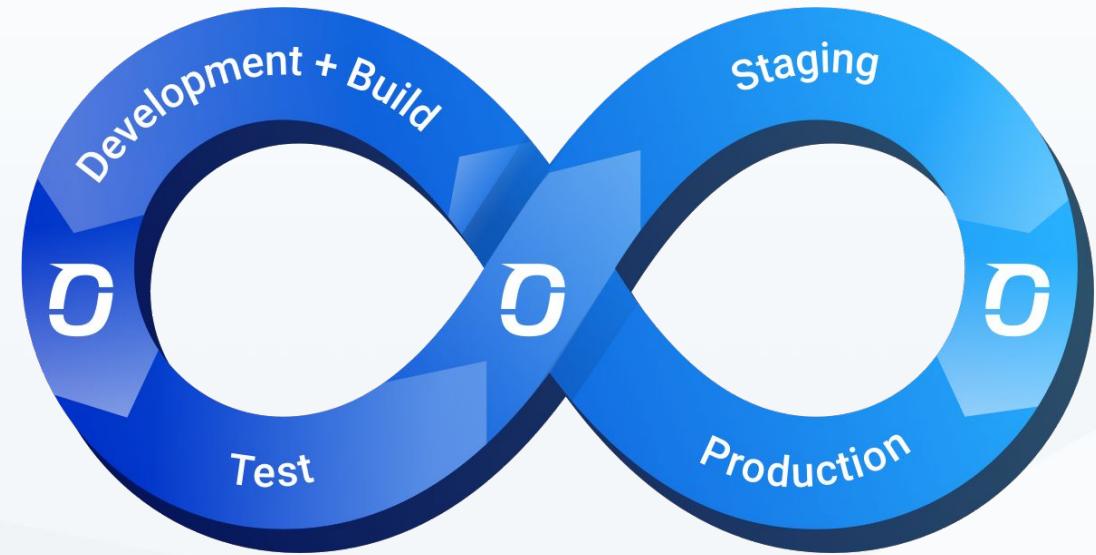
Production

Gradual Rollout

- Rolling Strategy
- Canary builds
- When should you be doing builds?
 - API changes that break compatibility

Feedback Loop

- Runtime code analysis.
- APM & Logs.
- Rollback or move forward.
- Issue tracking.





Yet code still breaks!

Demo

| Definitive Continuous Reliability Checklist

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- Item #1: Static Analysis
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WEBINAR EXCLUSIVE OPPORTUNITY

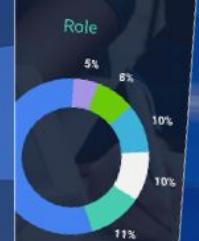
State of Software Quality Report

Download the report
and enter to win a \$200
VISA Gift Card!

bit.ly/overops-survey



2020 Report:
**The State of
Software Quality**



User/Software Engineer
Manager (CIO, CTO, VP, Director)

Site Reliability Engineering

Industries

Technology

Financial Services

Healthcare

Manufacturing

Commerce

Automotive

Energy

Telecommunications

Retail

Food & Beverage

Pharmaceuticals

Aerospace & Defense

Transportation

Real Estate

Manufacturing

Automotive

OverOps

- Questions?

- overops.com

Enter the raffle:
bit.ly/overops-survey



A collage of OverOps survey report snippets and a man's face. The snippets include sections like "Methodology & Demographics", "Key Take 1", "Key Take 2", "Key Take 3", and "Pro Tip", each containing placeholder text. A large, stylized "of lity" watermark is visible across the right side of the collage.

Where does CR fit into CI/CD?

