DT3

Integrating Testing into DevOps
Thursday, November 8th, 2018 10:00 AM

Shift Left: Continuous Performance Testing in the CI/CD Pipeline

Presented by:

Gajan Pathmanathan

Quicken Loans

Brought to you by:

350 Corporate Way, Suite 400, Orange Park, FL 32073
888-268-8770 · 904-278-0524 - info@techwell.com - http://www.starwest.techwell.com/

Gajan Pathmanathan

Gajan Pathmanathan is a quality evangelist, DevOps enthusiast, and engineering leader with fifteen years of experience in designing, developing, and testing software.Â He currently leads the Enterprise Quality Architecture team at Quicken Loans, where he is responsible for implementing solutions and strategies for continuous quality and quality-driven development across the enterprise.Â Before joining Quicken Loans, Gajan worked at Intel Security/McAfee as a lead engineer and led the team that was responsible for defining quality processes and test automation processes across the organization. Gajan holds a master's degree in computer engineering from the University of Waterloo, Canada, and he is a certified SOA Architect and ScrumMaster. Gajan has given guest lectures at technical institutes and spoken regularly at technical conferences across Canada and the United States.

Shift Left: Continuous Performance Testing in the CI/CD Pipeline

Gajan Pathmanathan

Engineering Leader @ Quicken Loans

https://www.linkedin.com/in/**gajanp**

https://twitter.com/**gajanp**

Award-Winning Culture

Quicken Loans

More Than Just Mortgages…

On The Agenda

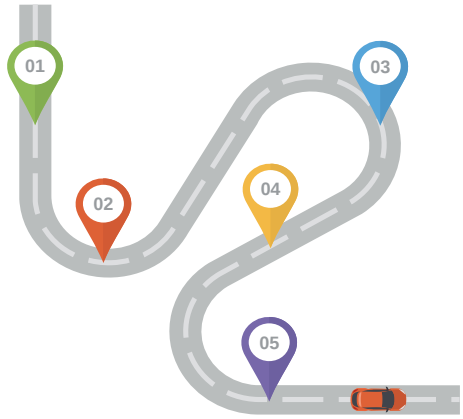
01 What is Continuous Performance Testing?

02 The Why Behind The What

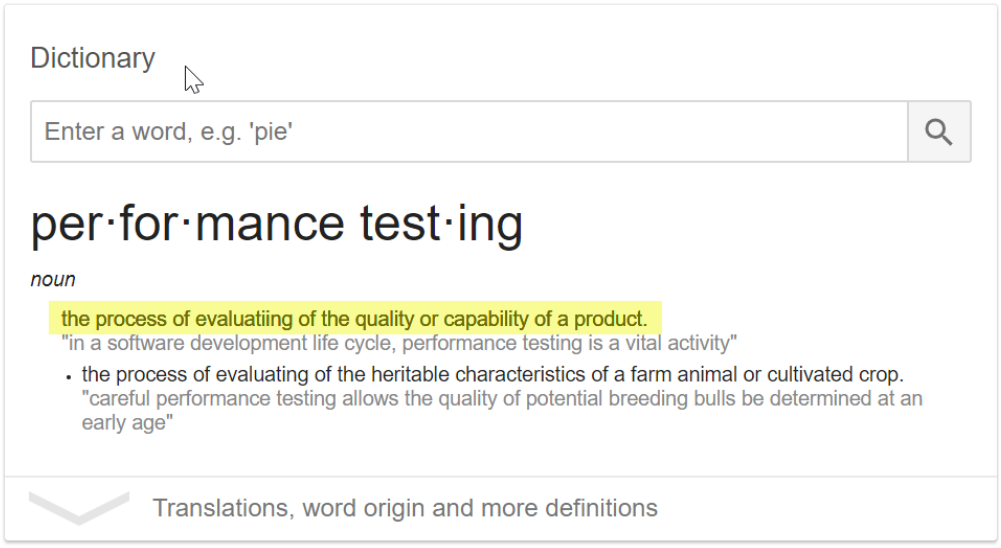
03 Recommended Process

04 Tooling

05 Demo



What is Continuous Performance Testing?

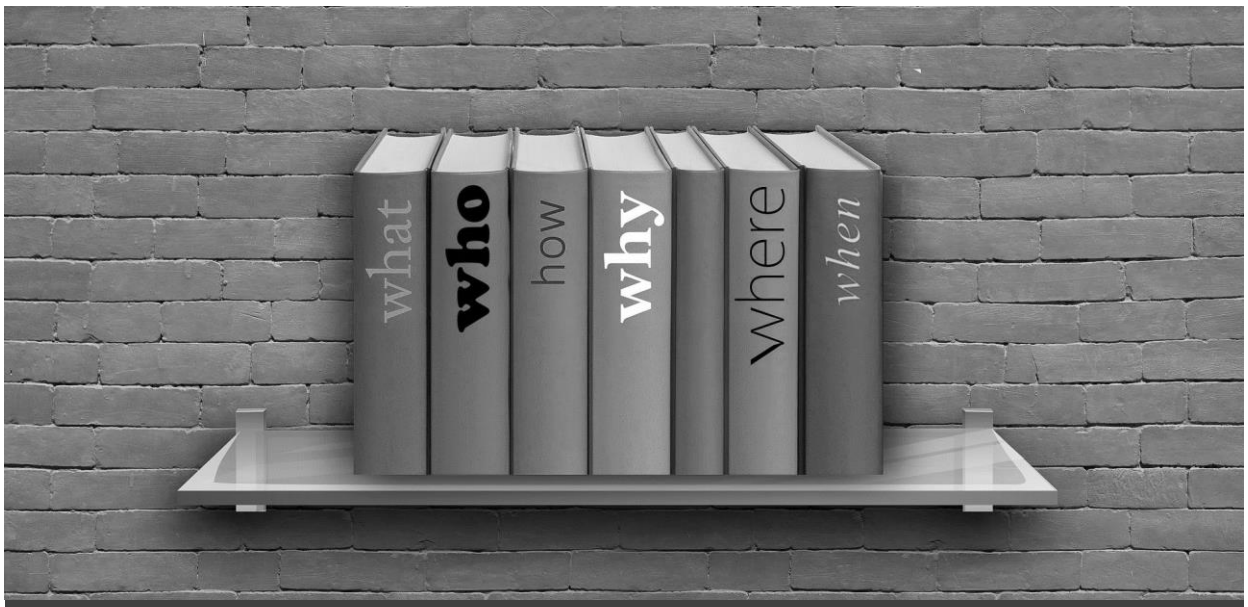


Continuous Performance Testing

A process of executing automated performance tests as part of delivery pipelines

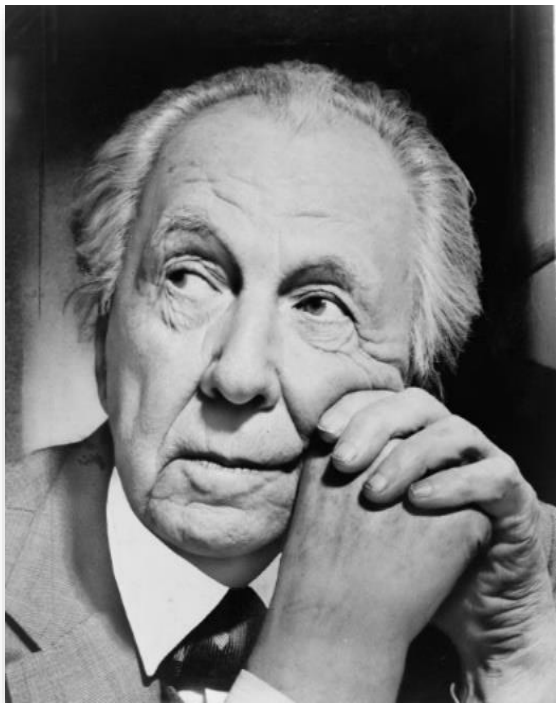
Types

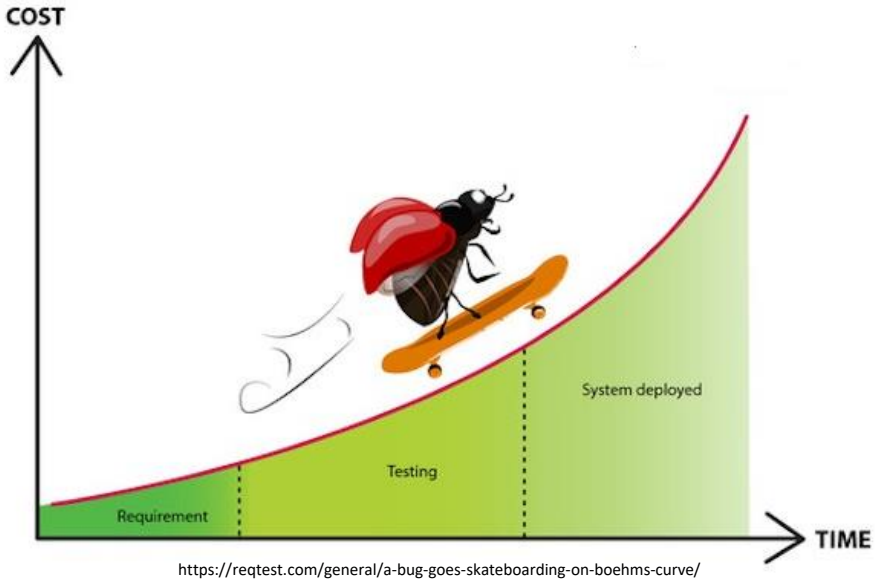
- ❑ Performance Smoke/Regression Testing
- ❑ End-to-End Performance Testing



The Why Behind The What

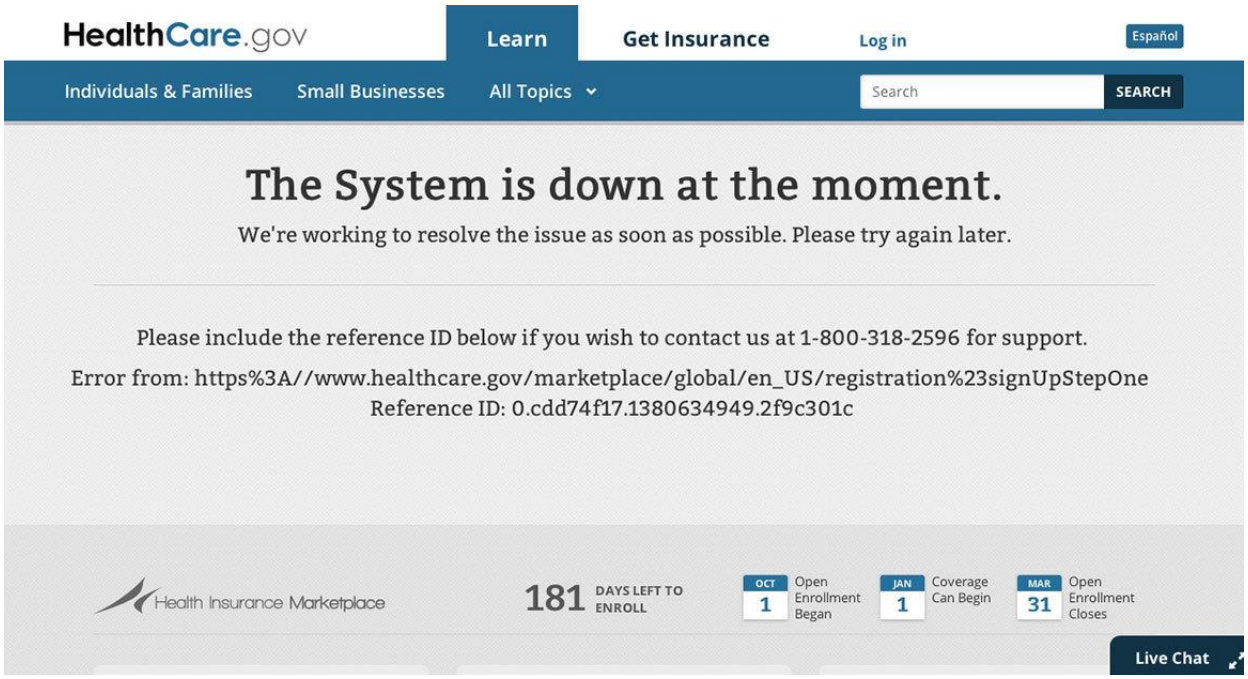
"You can fix it now on the drafting board with an eraser, or you can fix it later on the construction site with a sledgehammer."

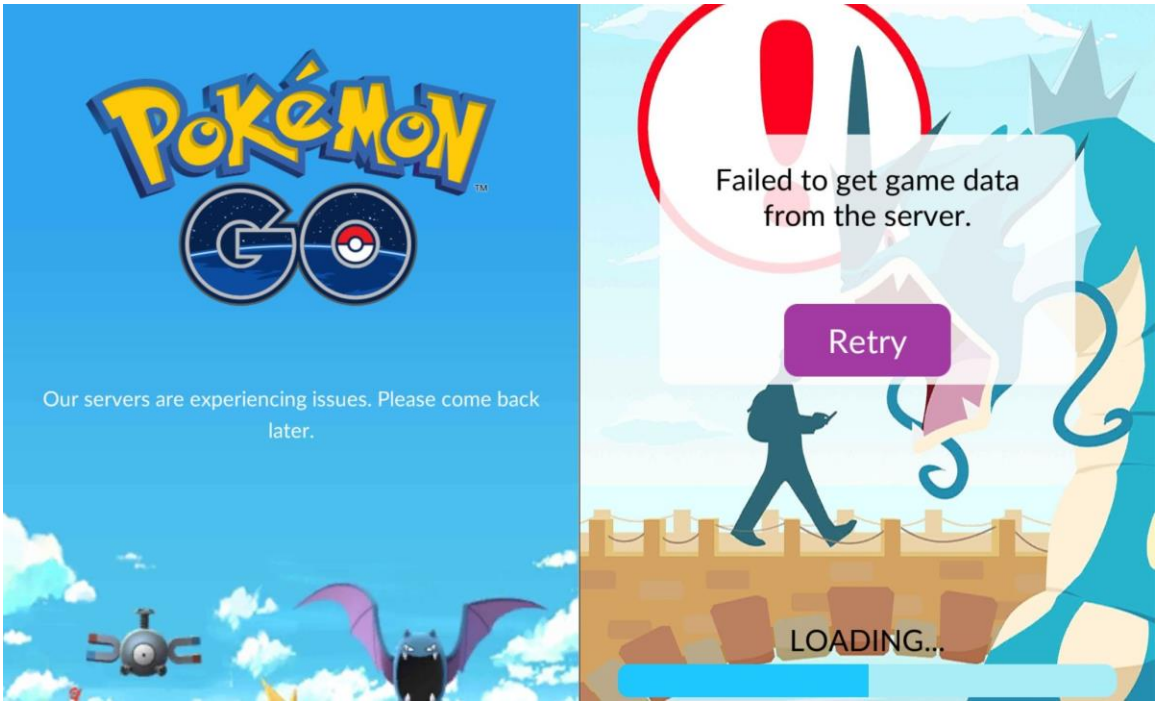


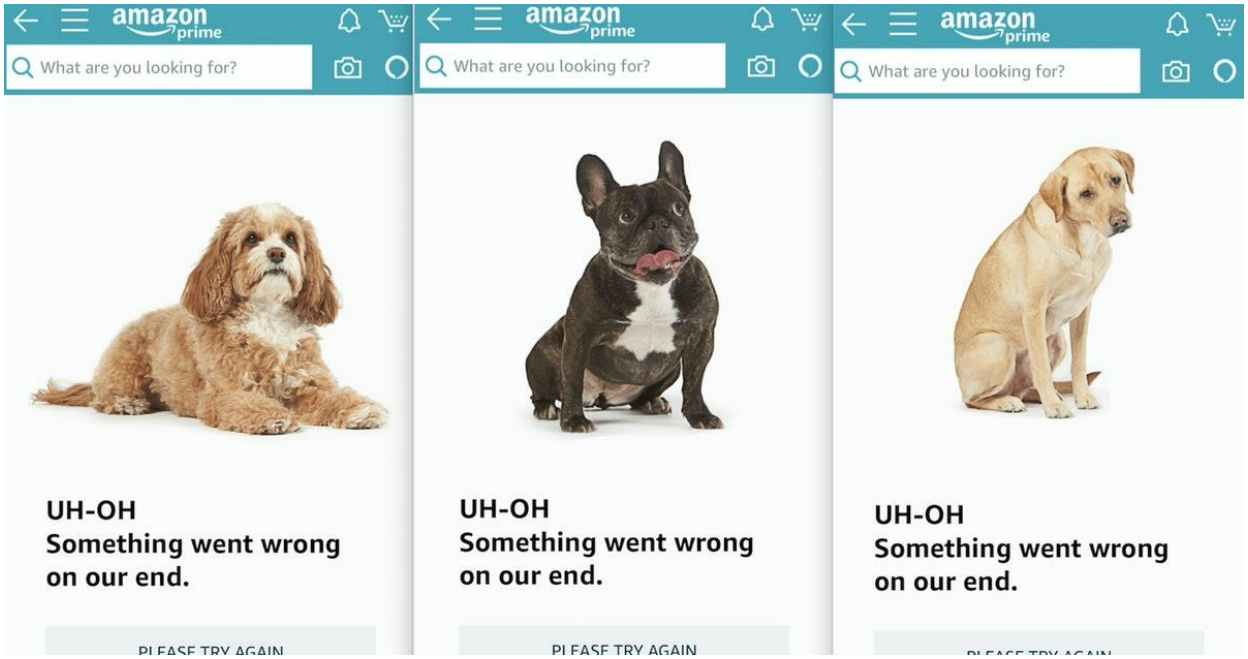


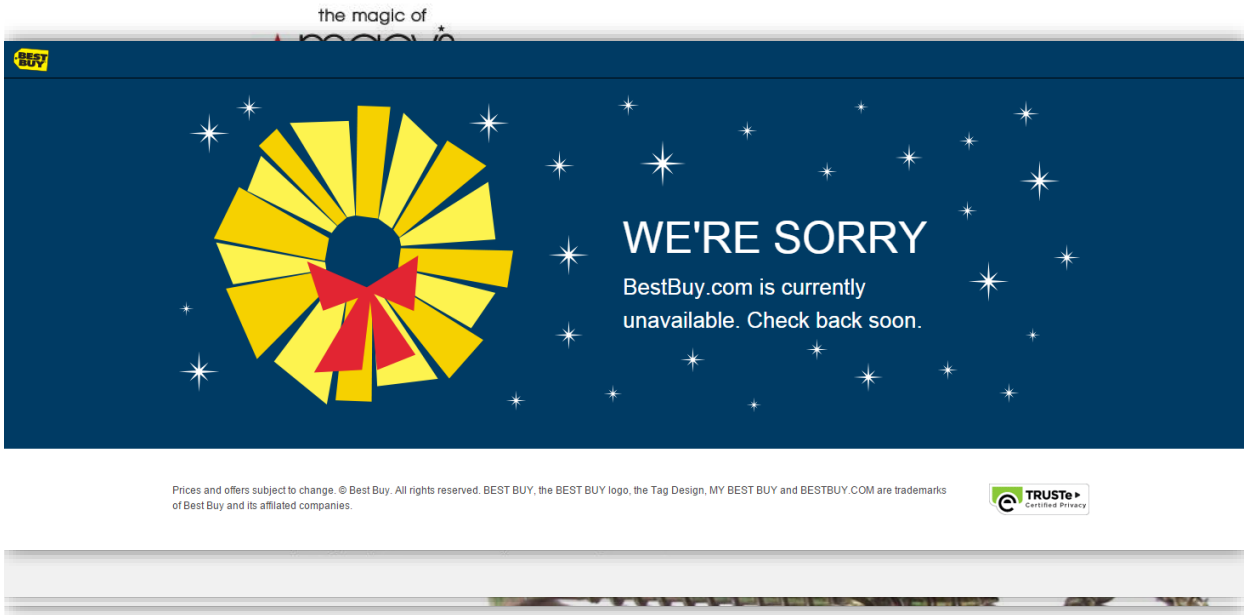
https://reqtest.com/general/a-bug-goes-skateboarding-on-boehms-curve/

01AA
1401

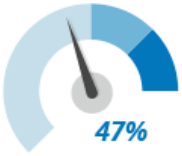

HealthCare.gov
Learn
Get Insurance
Log in
Español
Individuals & Families
Small Businesses
All Topics
Search
SEARCH
The System is down at the moment.
We're working to resolve the issue as soon as possible. Please try again later.
Please include the reference ID below if you wish to contact us at 1-800-318-2596 for support.
Error from: https%3A//www.healthcare.gov/marketplace/global/en_US/registration%23signUpStepOne
Reference ID: 0.cdd74f17.1380634949.2f9c301c
Health Insurance Marketplace
181 DAYS LEFT TO ENROLL
OCT 1 Open Enrollment Began
JAN 1 Coverage Can Begin
MAR 31 Open Enrollment Closes
Live Chat


Pokémon GO
Our servers are experiencing issues. Please come back later.
Failed to get game data from the server.
Retry
LOADING...


amazon prime
What are you looking for?
UH-OH
Something went wrong on our end.
PLEASE TRY AGAIN
amazon prime
What are you looking for?
UH-OH
Something went wrong on our end.
PLEASE TRY AGAIN
amazon prime
What are you looking for?
UH-OH
Something went wrong on our end.

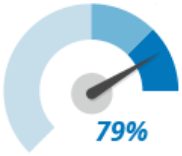

the magic of
WE'RE SORRY
BestBuy.com is currently unavailable. Check back soon.
Prices and offers subject to change. © Best Buy. All rights reserved. BEST BUY, the BEST BUY logo, the Tag Design, MY BEST BUY and BESTBUY.COM are trademarks of Best Buy and its affiliated companies.
TRUSTe Certified Privacy

Performance & User Behavior

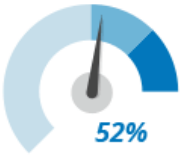


47% of consumers expect a web page to load in 2 seconds or less.

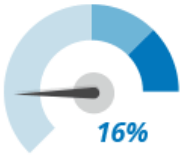
40% abandon a website that takes more than 3 seconds to load.



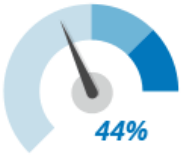
79% of users who are dissatisfied with website performance are less likely to return.



52% of users state that quick page loading is important to their site loyalty.



A 1 second delay (or 3 seconds of waiting) decreases customer satisfaction by about **16%**.



44% of users will tell their friends about a bad experience online.

https://raygun.com/blog/cost-of-software-errors/

Process

Maturity Levels

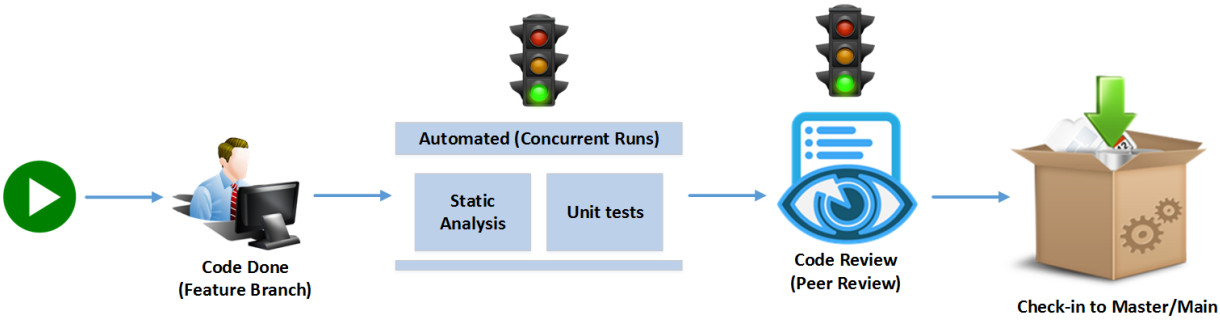
N/A

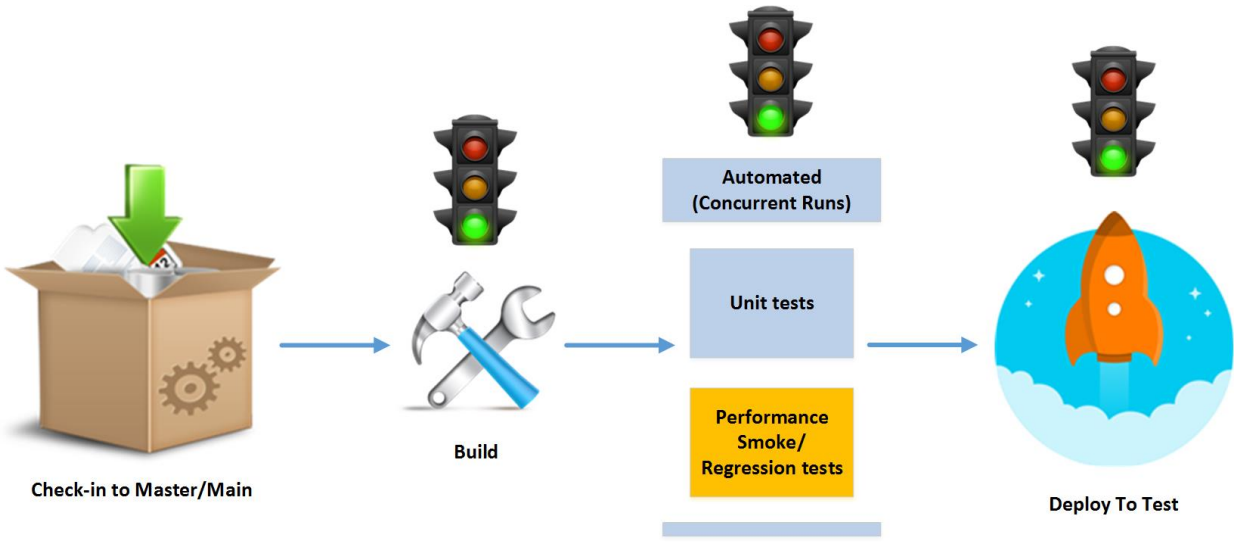
Manual

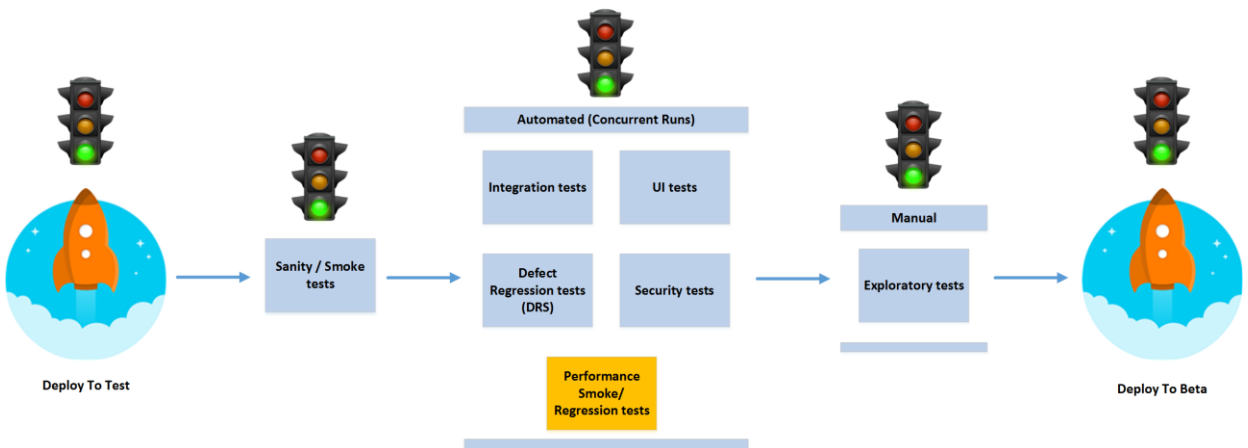
Automated (manual run)

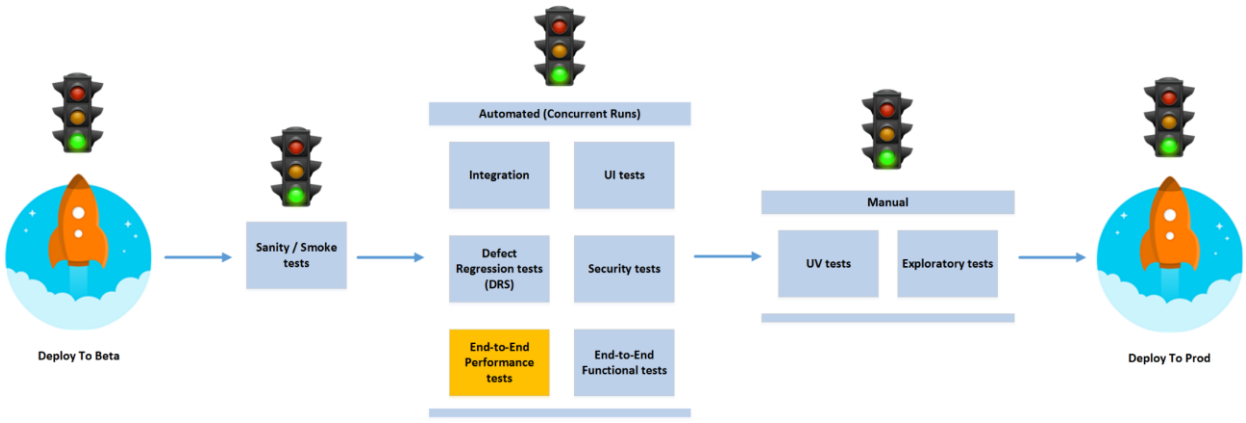
Release Gate

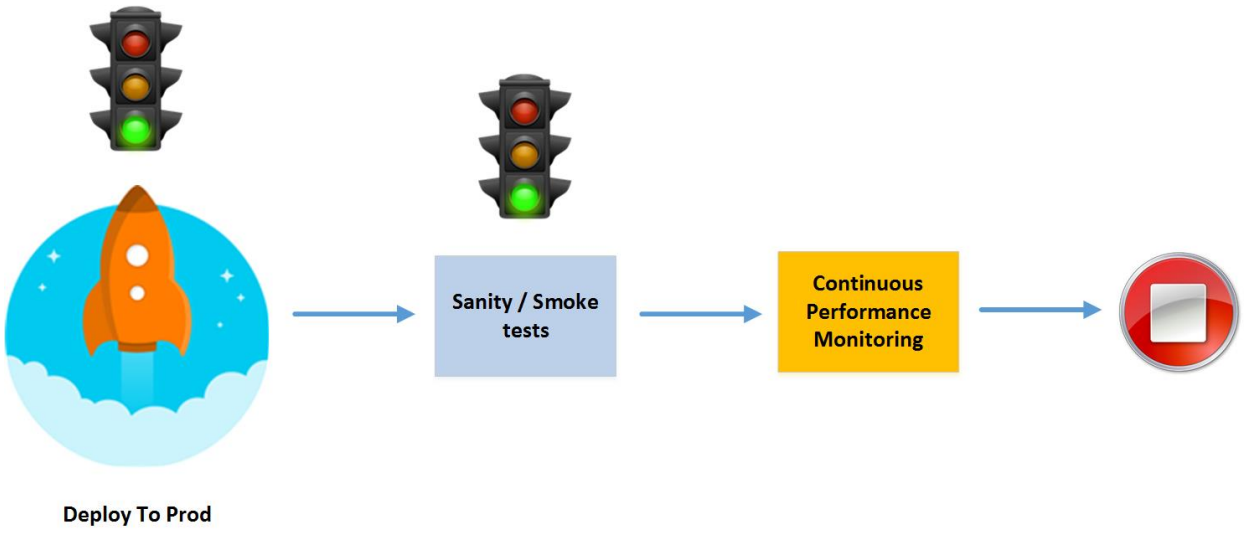
Continuous Performance Management




Automated
(Concurrent Runs)
Unit tests
Performance
Smoke/
Regression tests
Check-in to Master/Main
Build
Deploy To Test


Automated (Concurrent Runs)
Integration tests
UI tests
Manual
Sanity / Smoke
tests
Defect
Regression tests
(DRS)
Security tests
Exploratory tests
Performance
Smoke/
Regression tests
Deploy To Test
Deploy To Beta


Deploy To Beta
Sanity / Smoke tests
Automated (Concurrent Runs)
Integration
UI tests
Defect Regression tests (DRS)
Security tests
End-to-End Performance tests
End-to-End Functional tests
Manual
UV tests
Exploratory tests
Deploy To Prod


Sanity / Smoke tests
Continuous Performance Monitoring
Deploy To Prod

Tooling

BlazeMeter

SOASTA

Taurus

APACHE JMeter™

NeoLoad

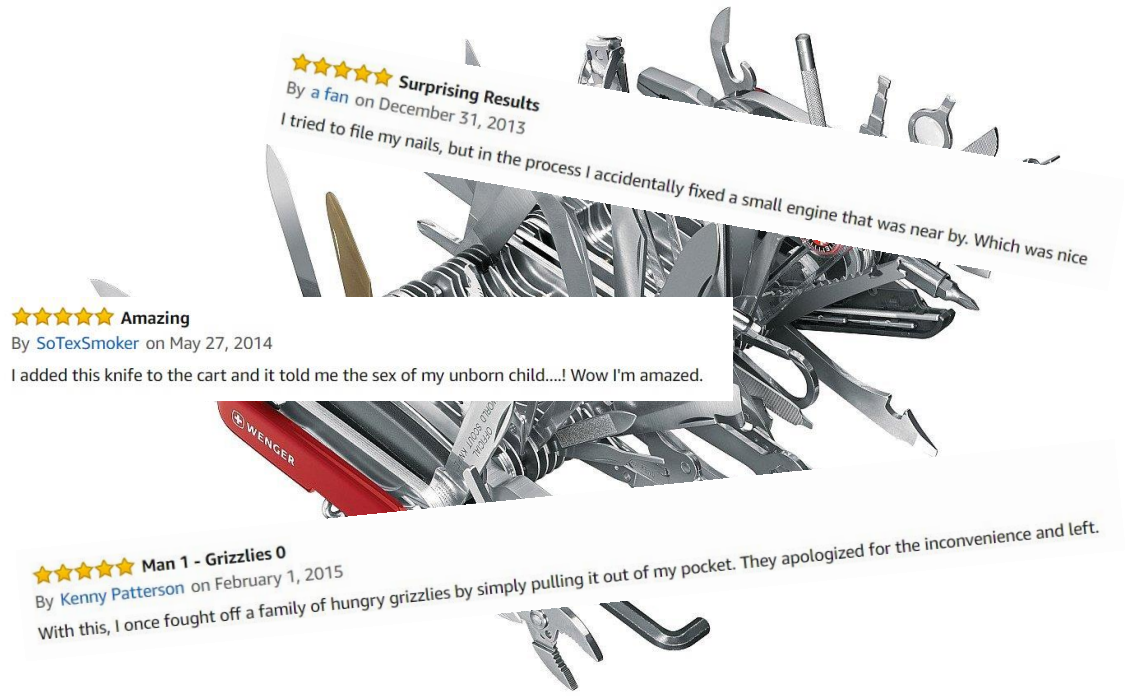
The Grinder

A distributed Load Testing Tool TSUNG

Gatling LOAD TESTING

LOCUST

hp Loadrunner



Jenkins

APACHE JMeter™

LOCUST

Taurus

- Open source desktop application written in Java
- Plugin-based architecture
- 20+ years in existence

- Open source tool written in Python
- 5+ years in existence
- Code-driven framework

- Open source automation framework written in Python
- Taurus – Test Automation Running Smoothly
- Abstracts other testing tools

Feature comparison

Feature	JMeter	Locust
Open Source	Yes	Yes
Operating System	Any	Any
GUI	Yes (non-GUI mode available)	No
Recording Functionality	Yes	No
Test Recorder	HTTP	No
Test Language	XML	Python
Extension Language	Java, Beanshell, Javascript, Jexl	Python
Load Reports	CSV, XML, Embedded Tables, Graphs, Plugins	HTML

Feature comparison

Feature	JMeter	Locust
Protocol Support (in-built)	HTTP, FTP, JDBC, SOAP LDAP, TCP, JMS, SMTP POP3, IMAP	HTTP
Execution Monitoring	Console, File, Graphs Desktop client Custom plugins	Console Web
Integrated Host monitoring	Yes (PerfMon plugin)	No
Support of "Test as Code"	Weak (Java)	Strong (Python)

Feature comparison

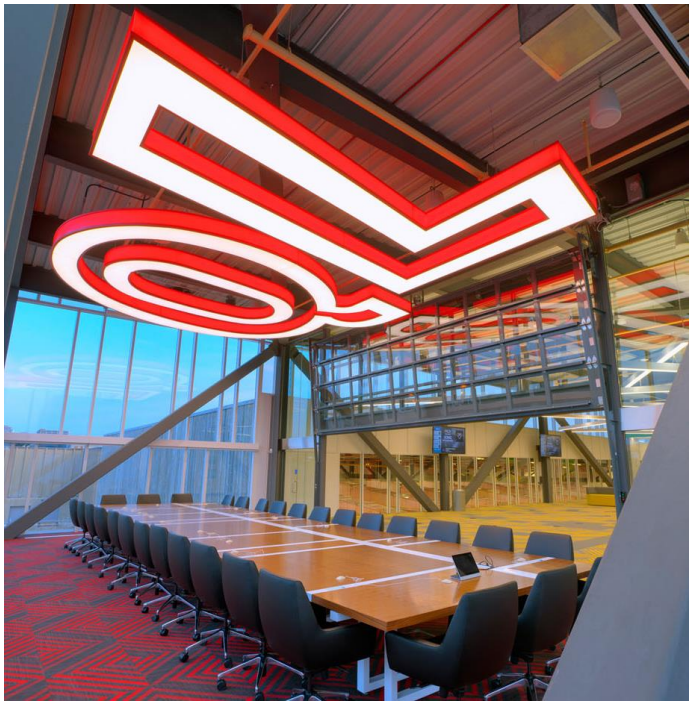
Feature	JMeter	Locust
Distributed Execution	Yes	Yes
Easy to use with VCS	No	Yes
Resources Consumption	More resources required	Less resources required
Number of Concurrent Users	Thousands (under restrictions)	Thousands
Ramp-up Flexibility	Yes	No
Test Results Analyzing	Yes	Yes

Demo

Let's Look at…

- ❑ JMeter & Taurus Command Line Tool (bzt)
- ❑ Locust & Taurus Command Line Tool (bzt)
- ❑ Integration with Jenkins (Build step)
  - Command (bat or sh)
  - Performance plugin

- JMeter:
  http://jmeter.apache.org/
- Locust:
  https://locust.io/
- Taurus:
  http://gettaurus.org/
- Performance Plugin:
  https://wiki.jenkins.io/display/JENKINS/Performance+Plugin



Questions?
Come up and chat!

You can find me at:

@gajanp

Feedback is a GIFT!