



# Debugging microservices applications on Red Hat OpenShift

**Red Hat Summit 2019 - Workshop**

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Tuesday, May 7th, 2019

# What You Will Learn

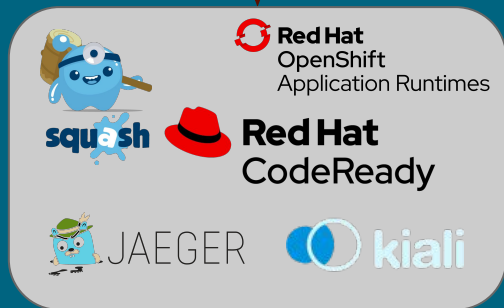
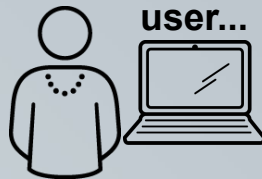
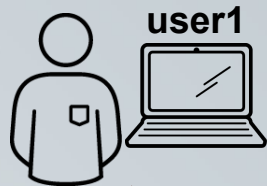
- **How to visualize and monitor** a network of microservices using Istio/Kiali
- **How to perform trace analysis** using CNCF Jaeger/OpenTracing in order to discover, analyse and understand issues/problems
- **How to execute run-time debugging** across multi-microservices using squash

# How You Will Learn

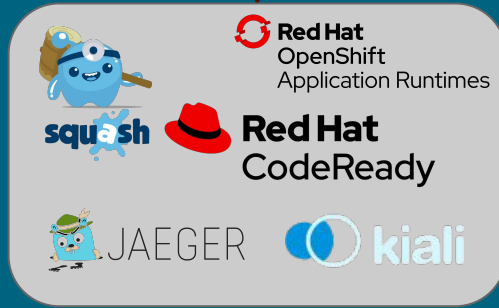
## LAB GUIDE

1. “You Are Not Alone” (Introduction)
2. “Bird Box”... Not Today! (Kiali)
3. “Dream Within a Dream” (Jaeger)
4. “Mr Robot”, Please Help Me! (Squash)

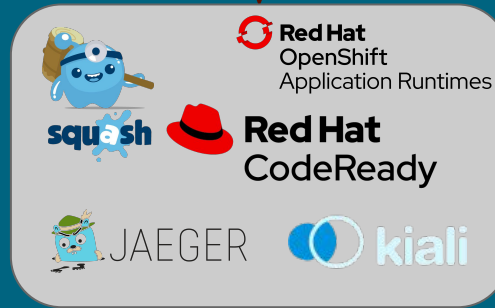
# What You Will Use



Developer  
Workspace 1

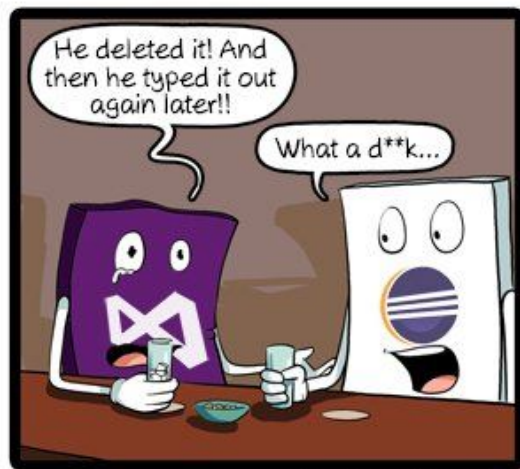
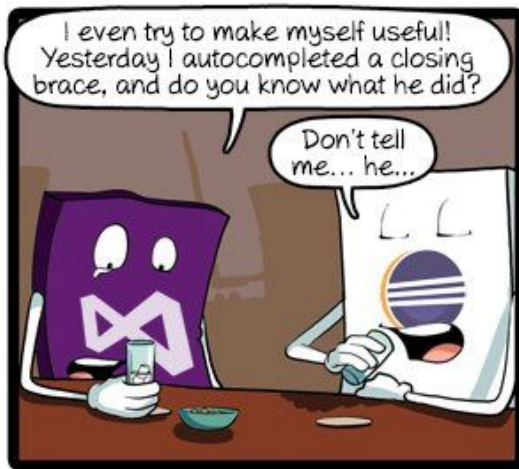


Developer  
Workspace ...



Developer  
Workspace 75





Hands-on-Labs:  
**[bit.ly/summit-workshop-debugging](https://bit.ly/summit-workshop-debugging)**

Collaboration Link:  
**[bit.ly/104C](https://bit.ly/104C)**

User: **userX**

Password: **r3dh4t1!**

Projects: **coolstoreX / infraX**



solo.io

# Squash Architecture Overview

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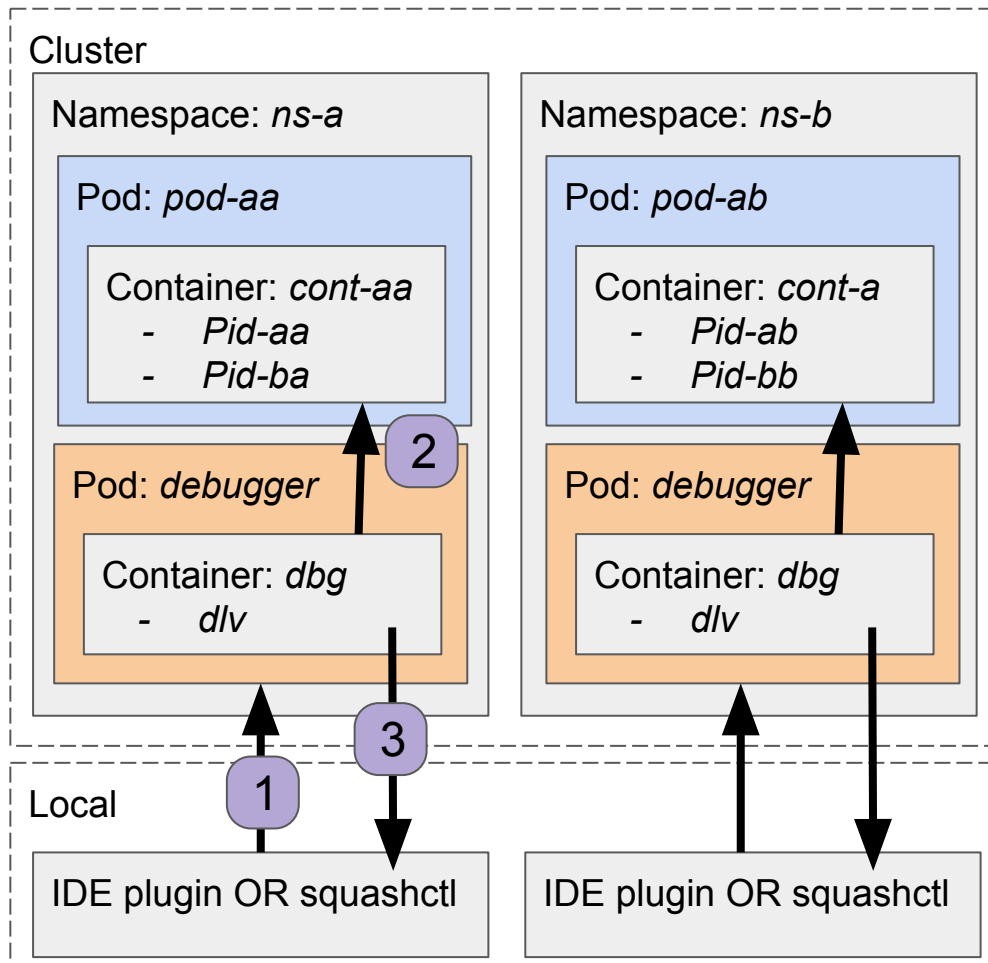
Boston, MA



# How Squash Works

- User specifies debug intent
  - Namespace, Pod, Container
- Squash finds the pid of the target process
- Squash creates a pod with the corresponding debugger (dlv, gdb, etc) and triggers a debug session on the running process
- Squash forwards the debugger's port to the user's local environment
- Squash interface (IDE or CLI) connects to debug port

<https://squash.solo.io/overview/>



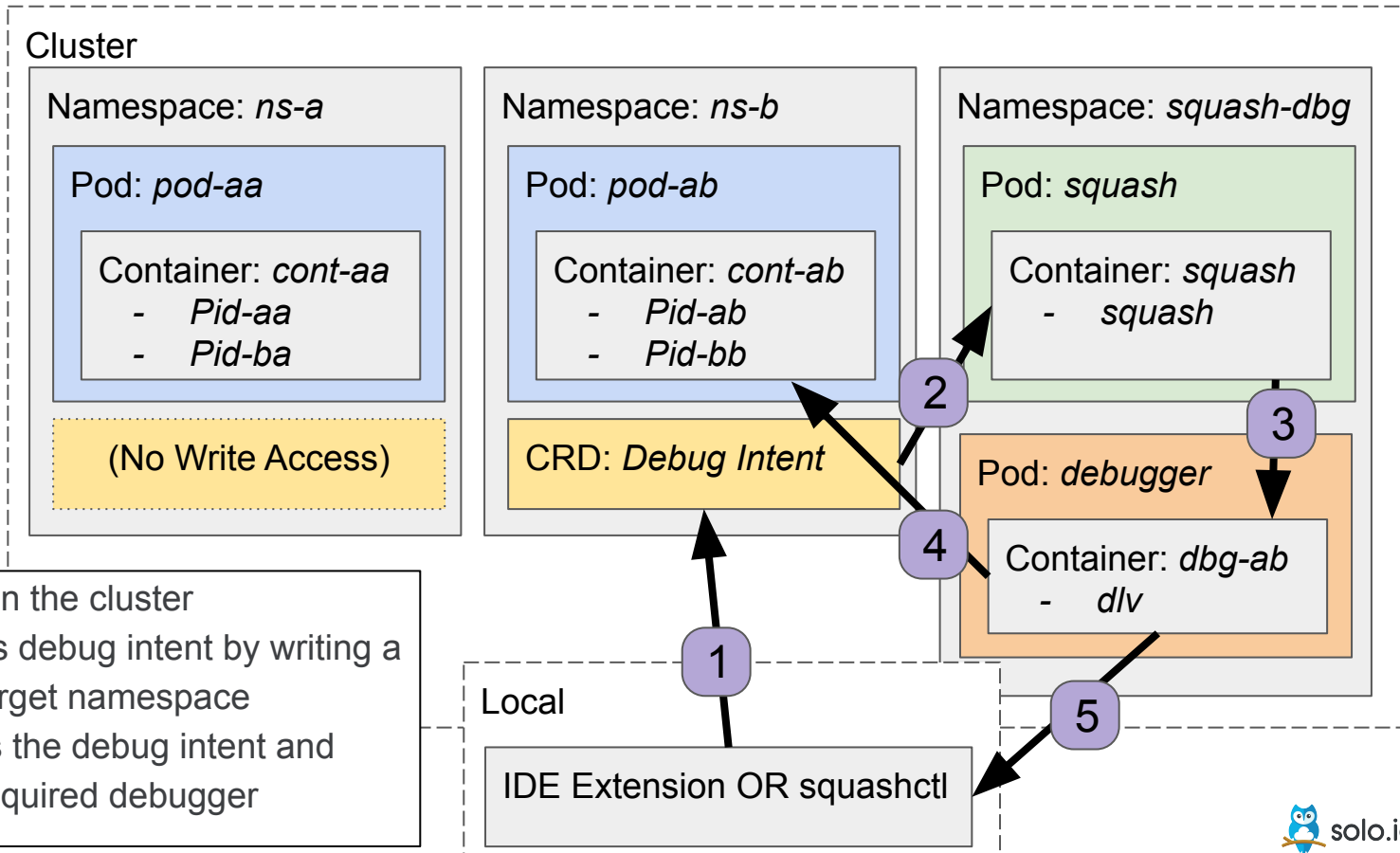


# How Squash Secure-mode Works

[https://squash.solo.io/secure\\_mode/](https://squash.solo.io/secure_mode/)



- Squash runs in the cluster
- User indicates debug intent by writing a CRD in the target namespace
- Squash reads the debug intent and creates the required debugger



# Squash is part of a family of open-source, extensible resilience engineering tools

## Mesh

with SuperGloo

Debug any service mesh environment through a common API



## Chaos

with Glooshot

Coordinate chaos experiments and trigger debug sessions



## Replay

with Loop

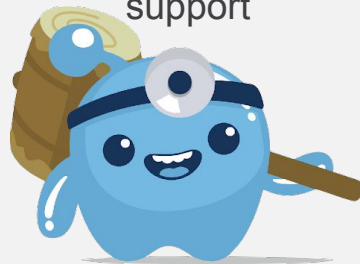
Record, replay, and debug erroneous requests outside production



## Extend

make a plugin!

Squash is highly extensible for IDE, Debugger, and other tooling support



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## THANK YOU



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