Docker and Splunk Development

Empowering Splunk Development with Docker

Ron Cooper & David Kraemer | Booz Allen Hamilton

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Agenda

Demonstrating Docker for Splunk DevOps

► Provide a brief overview of Docker and Splunk benefits
► Why we chose Docker for DevOps
► Describe and demonstrate the Booz Allen use cases for Docker development
Who we are?

Ron Cooper & David Kraemer | Booz Allen Hamilton
Commercial and Cyber Security

Booz | Allen | Hamilton
What is Docker?

Why do I want to use Docker with Splunk?
Docker is an Open Source container based technology

- Docker Separates Applications from Infrastructure using Container Technology, similar to how Virtual Machines separate the Operating System from Bare Metal.

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<th>Size</th>
<th>Startup</th>
<th>Integration</th>
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<td><img src="elephant.png" alt="Elephant" /></td>
<td><img src="turtle.png" alt="Turtle" /></td>
<td><img src="integration.png" alt="Integration" /></td>
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Docker is not VM
Virtual Machine vs. Docker Container
How do they compare?

Virtual Machine
- Includes not only the virtualized application, dependent files and an entire guest OS
- Potential to weigh 10’s of GB
- Isolated resources and allocations per VM limitations
- Requires a Hypervisor layer

Docker Container
- Contains just the application and its dependencies
- Isolated resources and allocation, with much more portability and efficiency
- Runs as an isolated process in userspace on the host operating system sharing the kernel with other containers
What is Docker?
VM vs. Container

**VM**
- App A
- Bins/Libs
- Guest OS
- Hypervisor
- Infrastructure

**CONTAINER**
- App A
- Bins/Libs
- Guest OS
- Docker
- Host OS
- Infrastructure
Docker Adoption Rate

Interesting data points

- "Docker Adoption is up 40% in One Year"
- "Docker Hosts Often Run Seven Containers at a Time"
- "Containers Churn 9x Faster Than VMs"

Source: Datadog
Inspiration

.conf2016 Docker

Be sure to check out for more fundamental Splunk/Docker fundamentals

How To Run Splunk As A Docker Image?

Marc Chéné
IT Markets Product Manager, Splunk

Denis Gladkich
Principal Dev Engineer (aka outcoldman), Splunk

.conf2016
Why We Choose Docker For DevOps
Getting stuff done

- Easy to deploy purpose built Splunk Environments
  - Quick deployment
  - OS Independent
  - Roll back to standard configurations
  - Easy to contribute and support
- Have a portable testing environment
- Improve code quality and sharing
Proof of concept

Spin up the environment you need

Splunk ‘n box

Splunk n’ Box

Splunk multi-site clusters in 20 minutes or less!

https://github.com/mhassan2/splunk-n-box

Mo Hassan
Sales Engineer

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What is DevOps?
DevOps (development and operations) is an enterprise software development phrase used to mean a type of agile relationship between development and IT operations. The goal of DevOps is to change and improve the relationship by advocating better communication and collaboration between these two business units.

Source: Webopedia
Splunk Development Environments

What does yours look like?

- No development environment?
- Single server?
- Mirror-of-production development environment?
- Some combination of the above?
Splunk Developer Woes

Damnit, not again…
Splunk Development Kit w/ Docker

Splunk Docker deployment designed for ease of development
1. Demonstrate how we can quickly test, develop and share code for Splunk DevOps utilizing Docker

2. Think of new ways to quickly deploy purpose built Splunk environments

3. Continue to recognize new, unique ways Docker can provide benefit to Splunk Architects and Developers alike
Reference Material
All our links

► Our Code
  • https://github.com/TetchyTech/splunk.conf2017

► Splunk ‘n Box
  • https://github.com/mhassan2/splunk-n-box

► Docker Adoption Data
  • https://www.datadoghq.com/docker-adoption/

► .conf2016 How to Run Splunk as a Docker Image?
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