

Containers You Can Count On

A PHUSE Working Group for Validating Container Images

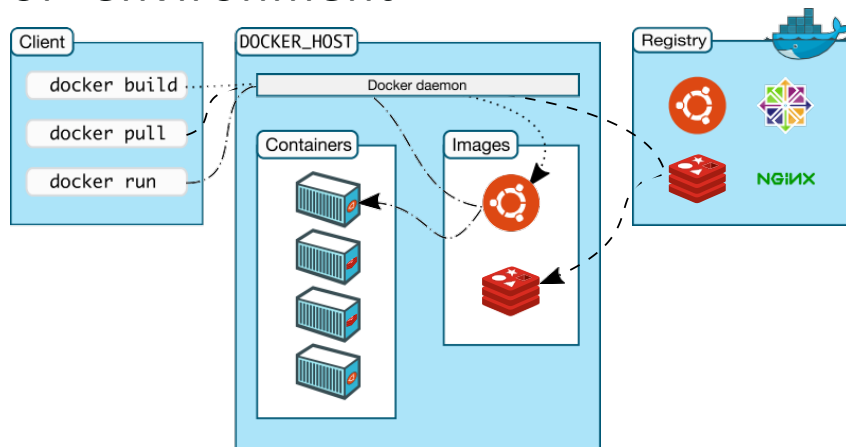
Eli Miller, Atorus Research

Doug Kelkhoff, Genentech / Roche

Background

Containers

A way to generalize an application or environment



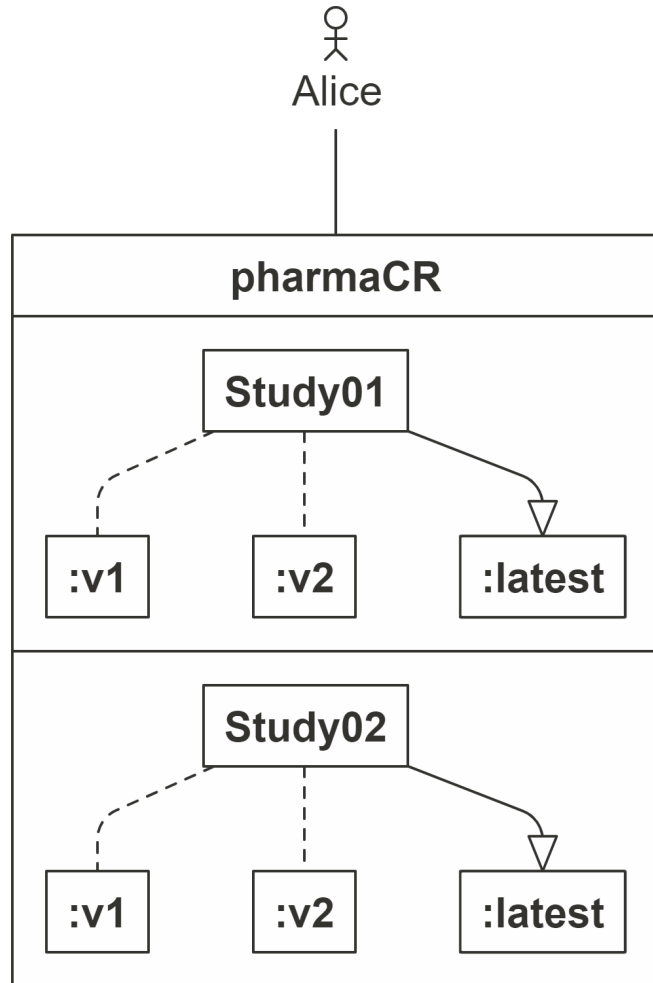
Systems IQ/OQ (briefly)

A requirement to document a system is consistent and produces high-quality results.

- Documentation
- Consistency
- Quality

Container Case Study

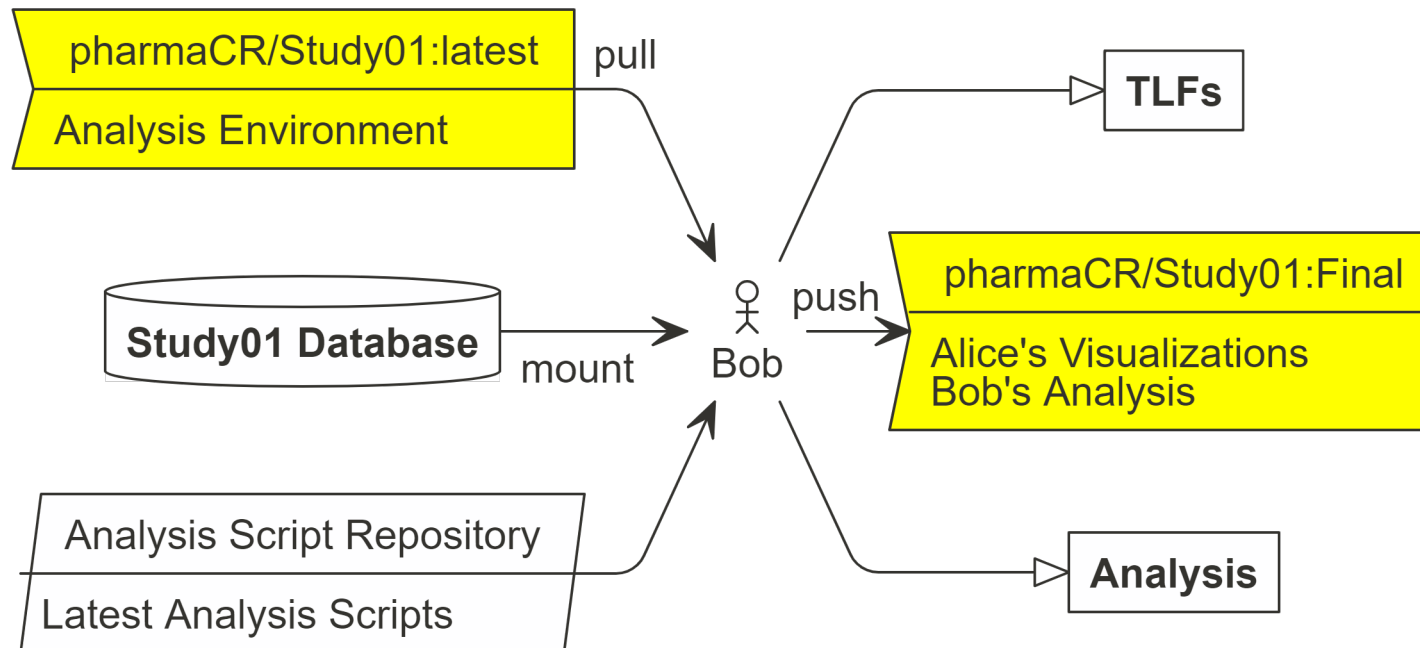
Alice and her Container



Alice is preparing some analysis for several studies. Her organization requires her analysis to be reproducible at certain stages of the study

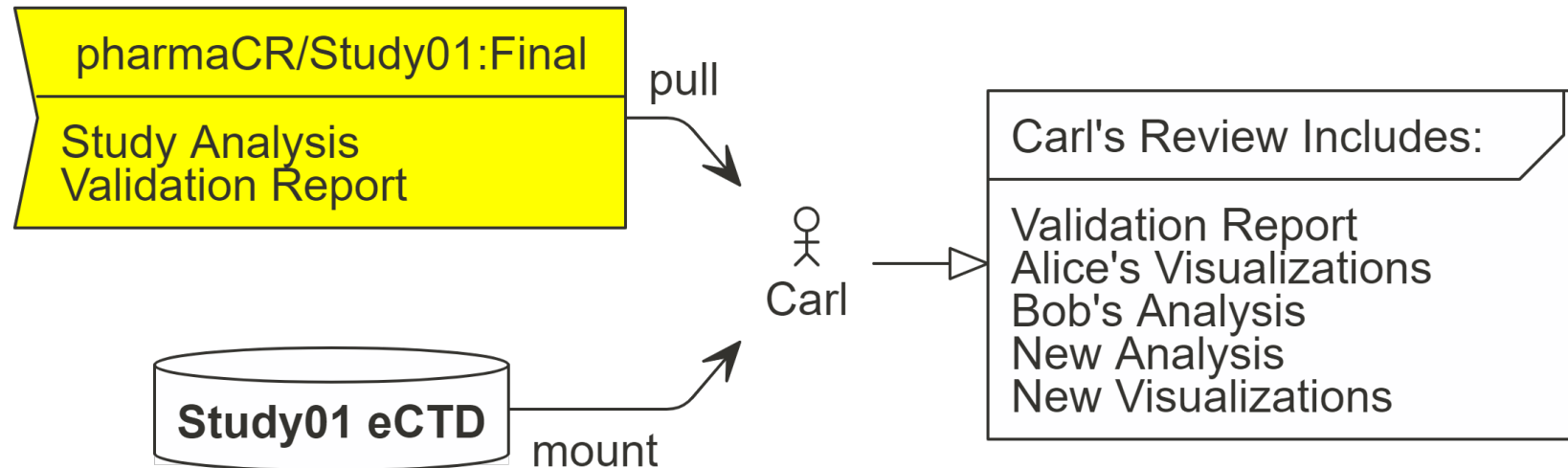
Bob and the container

Bob needs to build off of Alice's container, so he pulls the latest environment and work. He then pushes his work to a container tagged 'Final'.



Carl and the container

Carl needs to verify the work of Alice and Bob. He also wants to do his own analysis, while making sure the work that's being done meets regulatory requirements.



Example

IQ	OQ_Tests	OQ_Examples	OQ_Vignettes	Installed_Tests	Installed_Examples	Installed_Vignettes
Pass	Pass	Pass	Pass	Pass	Pass	Pass

Package Qualifications

```
knitr::kable(installed_test)
```

	Test	Vignettes	Examples
assertthat	Pass	Pass	Pass
base64enc	Pass	Pass	Pass
BH	Pass	Pass	Pass
bit	Pass	Pass	Pass
bit64	Pass	Pass	Pass
blob	Pass	Pass	Pass
brin	Pass	Pass	Pass

Goals of the Working Group

Framework

Something that demonstrates the environment is working as expected

Discover Requirements

Figure out what containers need to do

Collaborate with Other Groups

Work with other groups that are creating containers

(Known) Container Requirements

Volume Mounting

The image shouldn't include the data in most cases

Non-privileged Runtime

The image can't require elevated privileges

Flexible Hosting

We might need to host the containers on a:

- Desktop
- Dedicated Resource
- Sponsor Hosted Platform

Proposed Working Group

System IQ/OQ Script Repository

A set of scripts for performing IQ/OQ including base R qualification tests and installed packages.

White Paper/Readme

Context for the purpose of the repository, examples, and other groups that are working in the space.

Build Out Existing IQ/OQ Process

Discover other process for automated IQ/OQ process and provide a method for extending the validation.

Want to join?

Eli.Miller@AtorusResearch.com

