Red Hat OpenShift

Contest: Win NEW Swag!!

Red Hat Academy DO180 Fall Contest:

- The Academy with the most students enrolled and learning DO180 at the end of the fall semester wins!
    - The course does not have to be part of degree plan, just degree-seeking students enrolled and learning!
    - LABS ARE FREE!

Winner: The winner will a box of Red Hat OpenShift swag!

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Winning swag items not pictured in slide.***

Best Practices for Delivering DO180

Workshop for RHA

Name,
Travis Michette, North America (NA)

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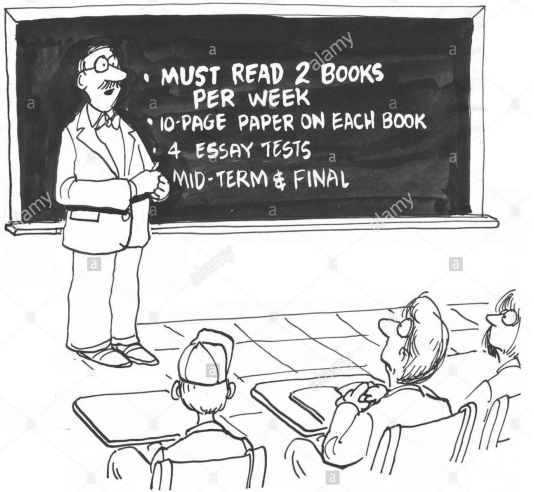
Agenda:

- Course Updates and Requirements
- Containers and DO180
- Delivery Hints and Tips

Red Hat Course Updates & Requirements



"Feel free to complain about the course requirements."

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Course Updates - RHEL Administration

- RHCSA Courses (RH124/RH134/RH199) - Updated to RHEL 8.2 and to include containers managed with **podman**.
- RH294 (Ansible) - Updated to RHEL 8.4 and to include content from the new Ansible Automation Platform, including containers

Course Updates - Containers and OpenShift

- DO180 - Updated to OCP 4.6.x and to include **podman** as a “rootless” container

No Local Student Environment!!!

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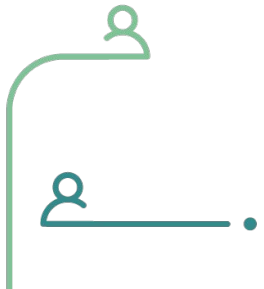
Red Hat Academy Online Learning Environment

- Cloud-based
- Contains HTML version of course materials and also contains interactive lab environment with virtual machines
- Available **free** for the **DO101/DO180** courses as there are no classroom bits that can be shared for these courses



Containers and DO180

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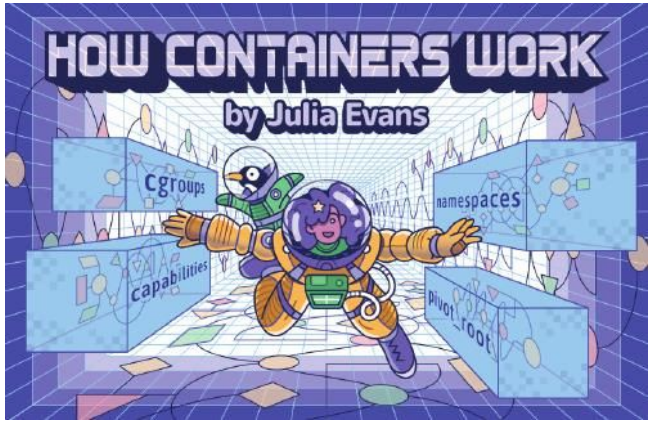
Why Containers??



- Industry moving towards cloud deployments and microservices.
- Containers fit in easily with Devops and Agile projects.
- Containers are replacing traditional services and are now required for multiple facets in a computing environment.

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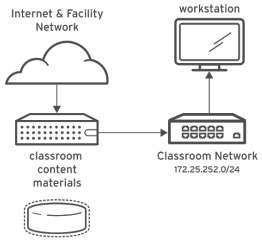
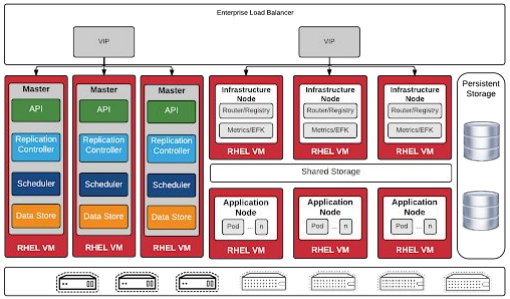
Red Hat Academy Lab Environment

Changes for OpenShift and Cloud



Full Lab Environment

Classroom and workstation machine installed and configured as well as all networking resources and lab scripts needed to complete the course.



Shared OpenShift Cluster

Shared OCP cluster allowing students access to OpenShift to deploy containers and applications needed for labs and guided exercises.

Bring Your Own Device (BYOD)

Connection to Red Hat Cloud environment for hands-on labs.

academy.redhat.com

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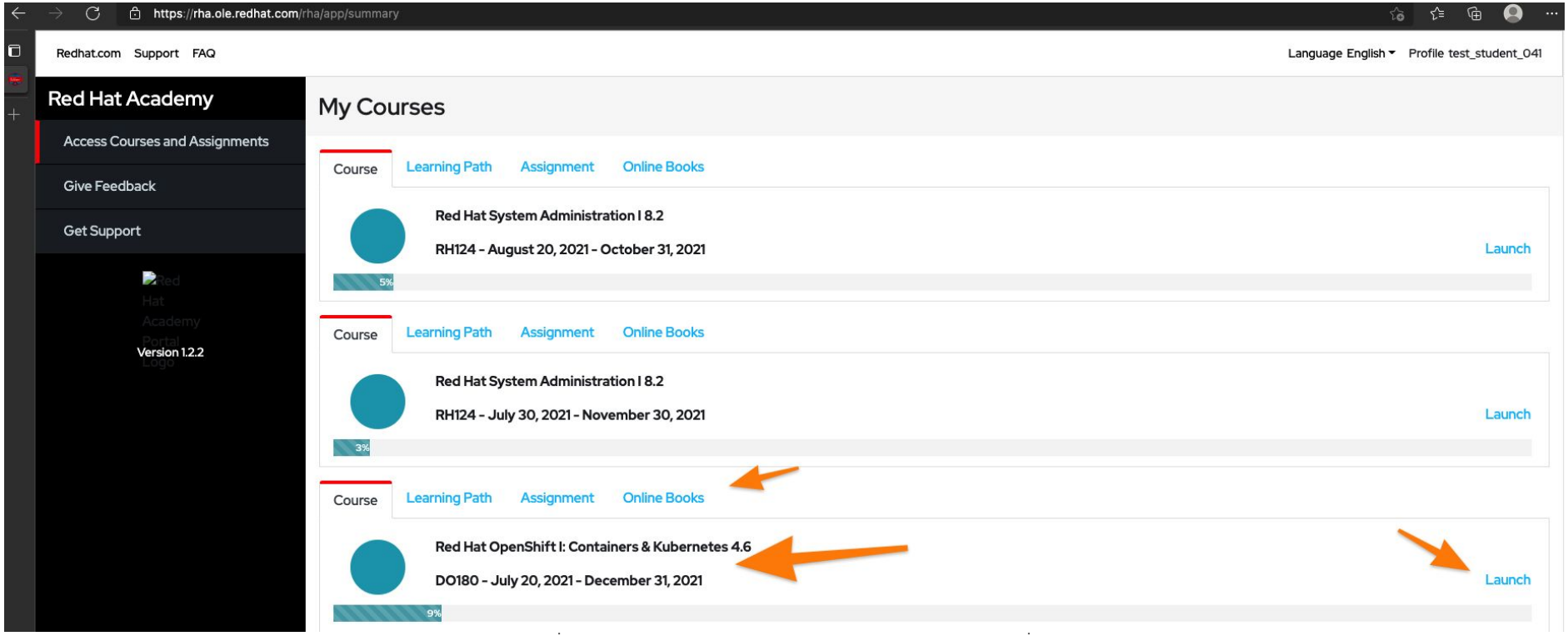
https://rha.ole.redhat.com/rha/app/summary
Redhat.com
Support
FAQ
Language English
Profile test_student_041
Red Hat Academy
Access Courses and Assignments
Give Feedback
Get Support
Version 1.2.2
My Courses
Course
Learning Path
Assignment
Online Books
Red Hat System Administration I 8.2
RH124 - August 20, 2021 - October 31, 2021
Launch
5%
Course
Learning Path
Assignment
Online Books
Red Hat System Administration I 8.2
RH124 - July 30, 2021 - November 30, 2021
Launch
3%
Course
Learning Path
Assignment
Online Books
Red Hat OpenShift I: Containers & Kubernetes 4.6
DO180 - July 20, 2021 - December 31, 2021
Launch
9%

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The major drawback to a traditionally deployed software application is that the application's dependencies are entangled with the runtime environment.

An application may break when any updates or patches are applied to the base operating system (OS).

For example, an OS update to the TLS shared library removes TLS 1.0 as a supported protocol. This breaks the deployed Python application because it is written to use the TLS 1.0 protocol for network requests. This forces the system administrator to roll back the OS update to keep the application running, preventing other applications from using the benefits of the updated package.

Therefore, a company developing traditional software applications may require a full set of tests to guarantee that an OS update does not affect applications running on the host.

Furthermore, a traditionally deployed application must be stopped before updating the associated dependencies. To minimize application downtime, organizations design and implement complex systems to provide high availability of their applications. Maintaining multiple applications on a single host often becomes cumbersome, and any deployment or update has the potential to break one of the organization's applications.

Figure 1.1: Container versus operating system differences describes the difference between applications running as containers and applications running on the host operating system.

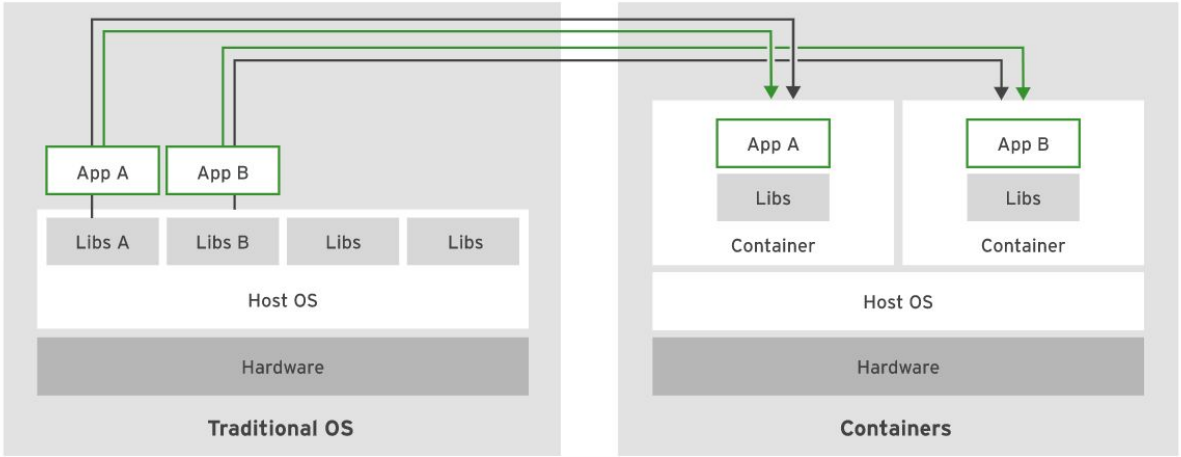
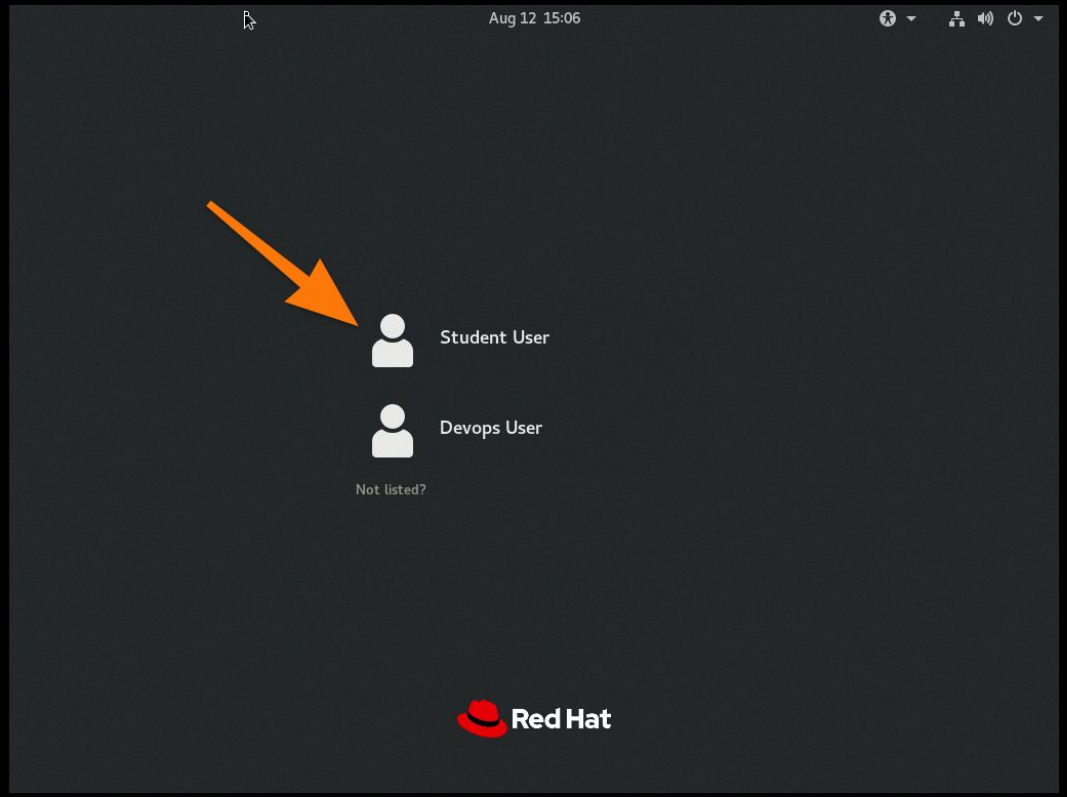


Figure 1.1: Container versus operating system differences

Username	RHT_OCP4_DEV_USER	test-student-041
Password	RHT_OCP4_DEV_PASSWORD	c54c8ba0f38b40ef8bb7
API Endpoint	RHT_OCP4_MASTER_API	https://api.eu46.prod.nextcle.com:6443
Console Web Application		https://console-openshift-console.apps.eu46.prod.nextcle.com
Cluster Id		fec7f36c-88dd-4b36-92f2-39ee0acf4d18

Auto-stop in an hour. +

Auto-destroy in 6 days. +


Aug 12 15:06
Student User
Devops User
Not listed?
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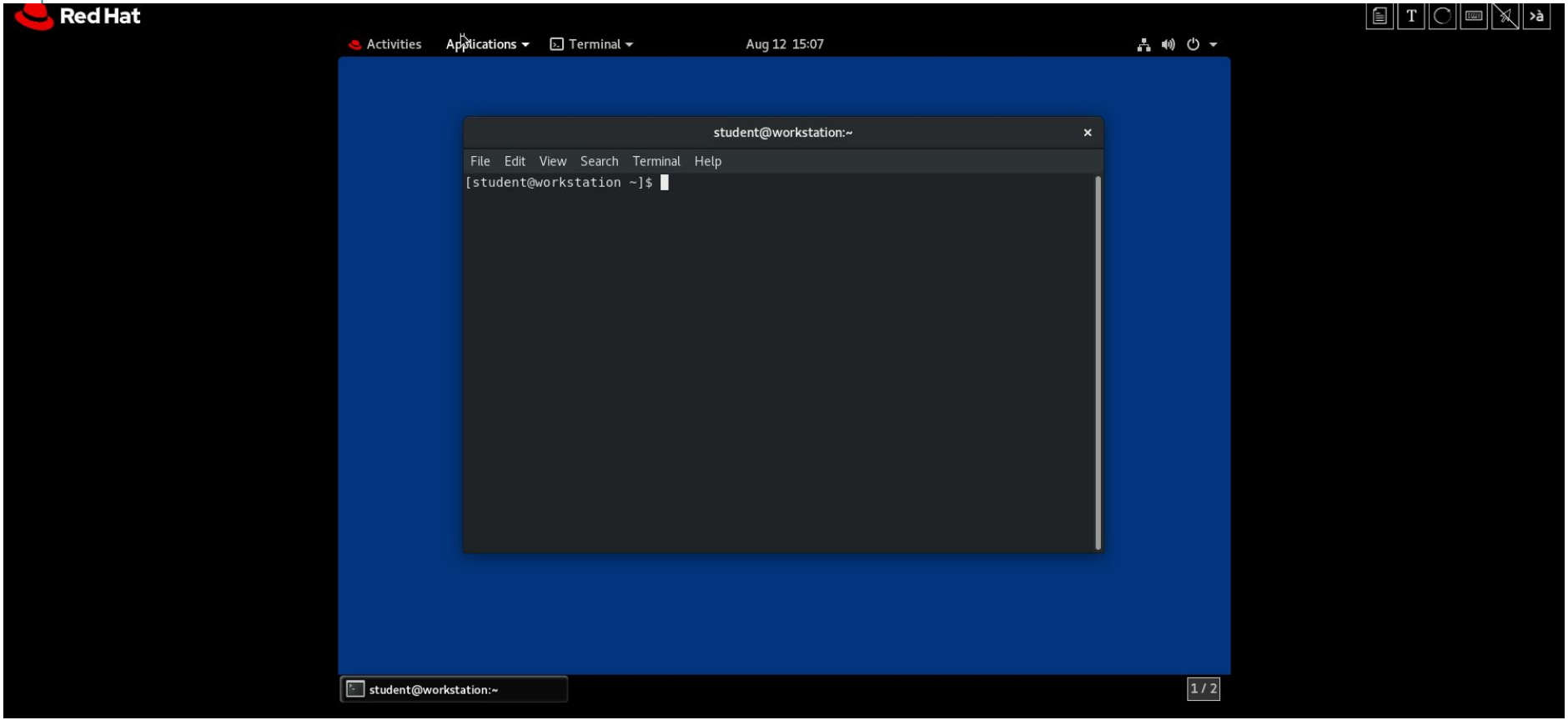
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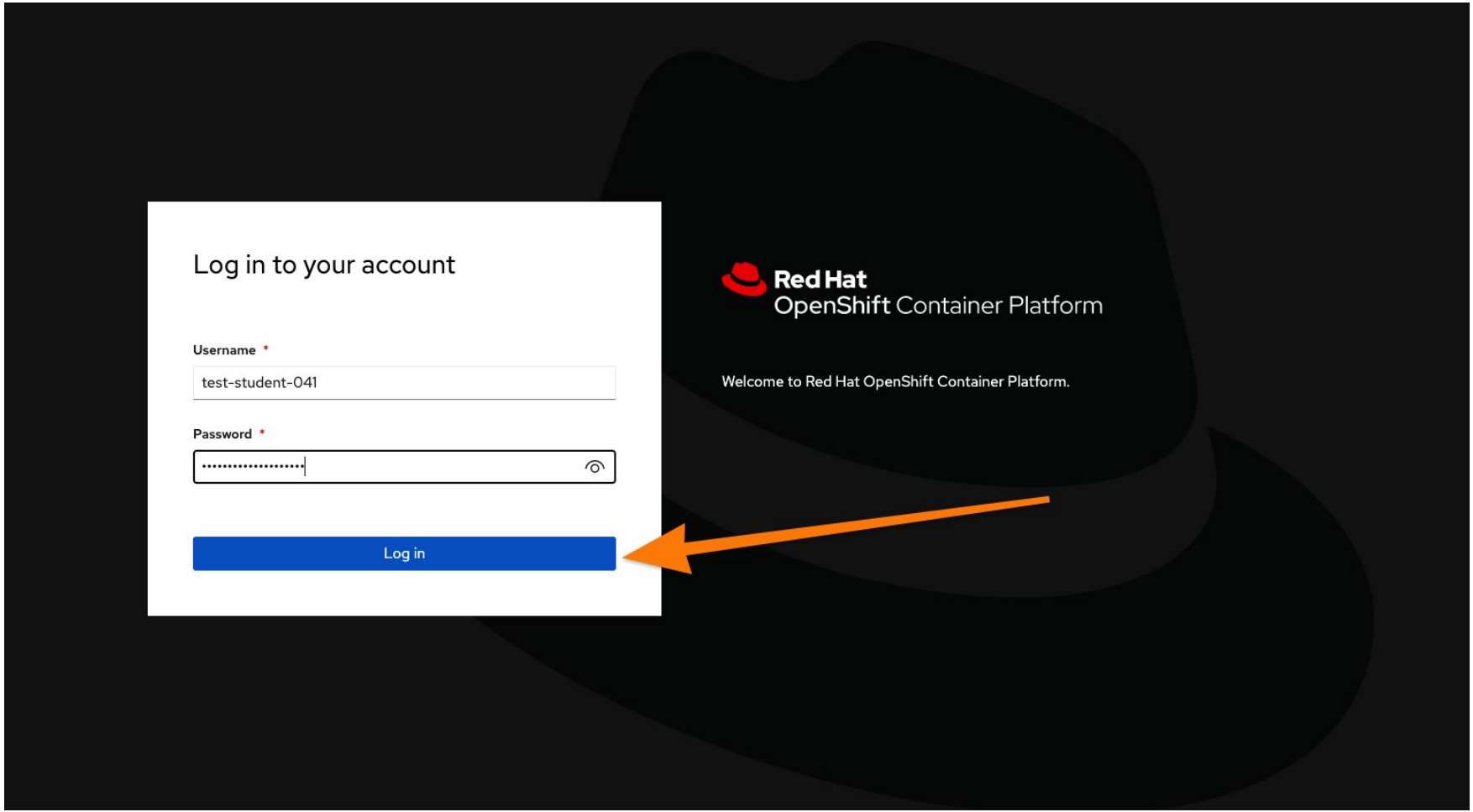
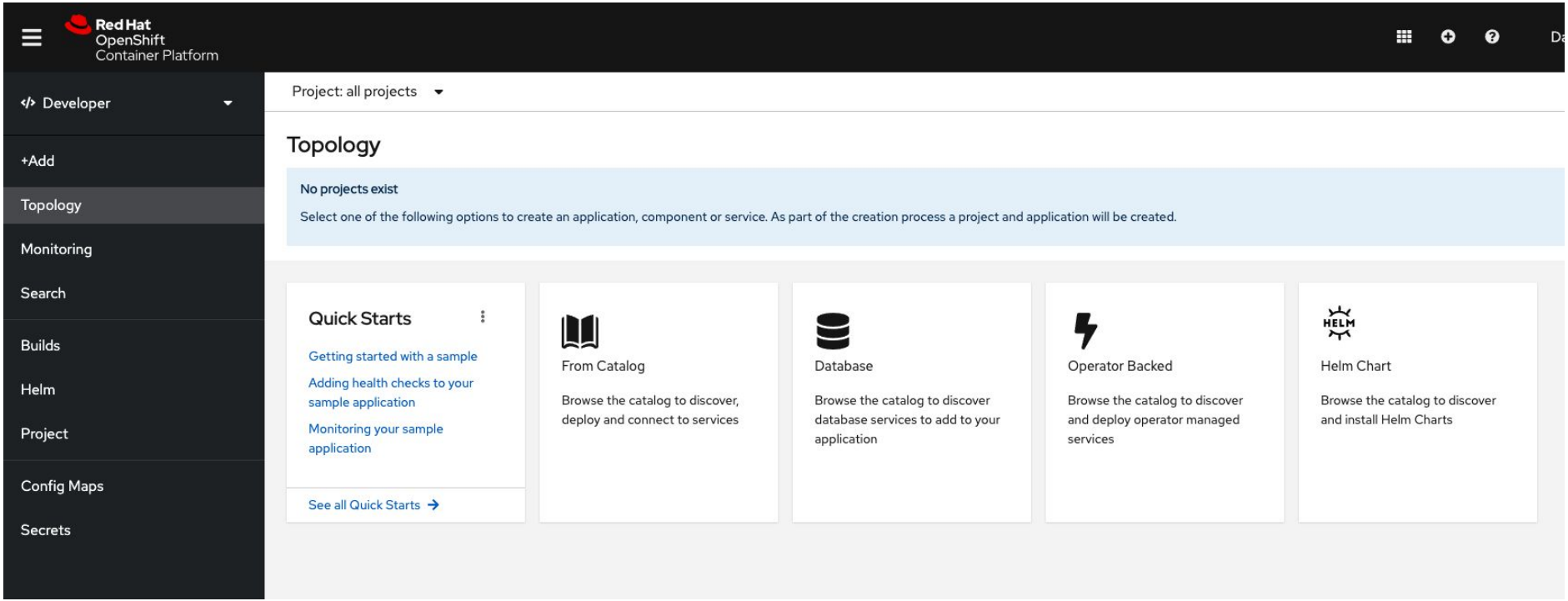
Activities
Applications
Terminal
Aug 12 15:07
student@workstation:~
File Edit View Search Terminal Help
[student@workstation ~]$
student@workstation:~
1 / 2

Red Hat


Log in to your account
Username *
test-student-041
Password *
Log in
Red Hat
OpenShift Container Platform
Welcome to Red Hat OpenShift Container Platform.

Red Hat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OpenShift
Container Platform
Developer
+Add
Topology
Monitoring
Search
Builds
Helm
Project
Config Maps
Secrets
Project: all projects
Topology
No projects exist
Select one of the following options to create an application, component or service. As part of the creation process a project and application will be created.
Quick Starts
Getting started with a sample
Adding health checks to your sample application
Monitoring your sample application
See all Quick Starts
From Catalog
Browse the catalog to discover, deploy and connect to services
Database
Browse the catalog to discover database services to add to your application
Operator Backed
Browse the catalog to discover and deploy operator managed services
HELM
Helm Chart
Browse the catalog to discover and install Helm Charts

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Delivery Hints and Tips

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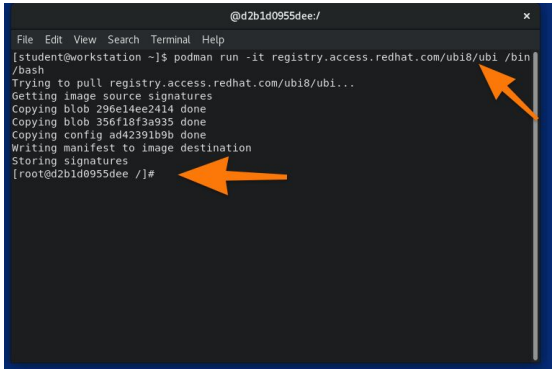
Relatable Demonstrations and Examples



- Demonstrate concepts during lecture
  - Create demonstration that closely follows the guided exercise, but ensure it is easier to perform and more relatable
- Explain exercises on a high-level and what is to be accomplished. Point out any areas that could cause problems

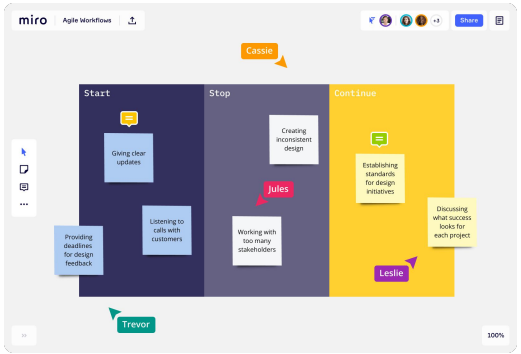
Github Repositories

- https://github.com/tmichett - Top-level repository with multiple items to be shared
- https://github.com/tmichett/do180_ocp45 - Instructor tips and demos for a DO180 delivery
- https://github.com/tmichett/AnsiblePlaybooks - General Ansible playbooks and examples

Delivery Tools for in-person and virtual

Google Classroom

Ability to post quizzes, assignments, surveys and group courses together.



Miro

Whiteboard and online collaboration

Video Telecon System

Method to communicate via voice and video as well as screen sharing and collaboration. Many tools exist for this, pick one!!

Google Classroom

- https://classroom.google.com/c/MjczNDg0NjQ2MzM4?cjc=ywqcvm4

Course Code: ywqcvm4

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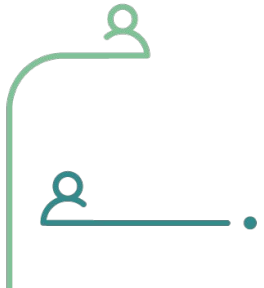
General Links

- Red Hat People Page - https://people.redhat.com/~tmichett/
- Red Hat Learning Community (RHLC) - https://learn.redhat.com/
- Red Hat Developer - https://developers.redhat.com/
- Kubernetes by Example - https://www.kubernetesbyexample.com/



Thank you!

Red Hat is the world's leading provider of enterprise open source software solutions. Award-winning support, training, and consulting services make
Red Hat a trusted adviser to the Fortune 500.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