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Red Hat Enterprise Linux 8 Flourish:

The New Features of the Operating System Redesigned
for the Hybrid Cloud Era

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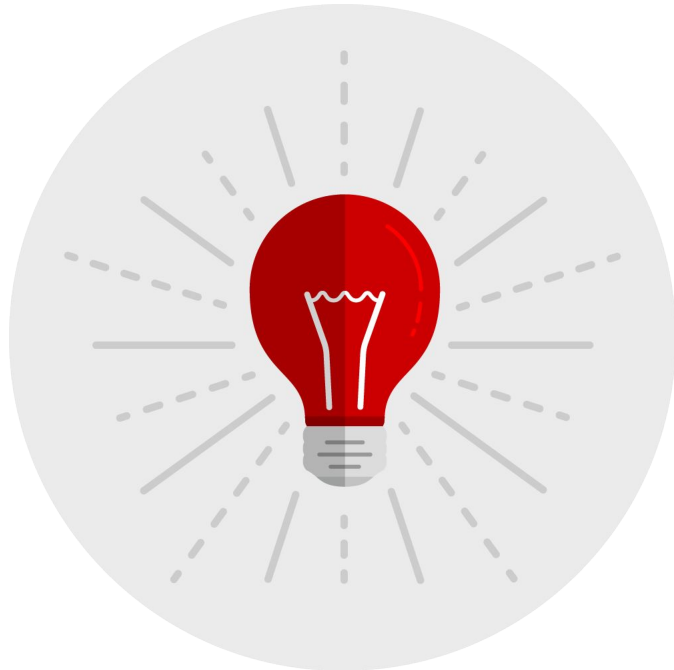
DevOps Curriculum Developer

Certification ID 100-001-999

Presentation Topics:

- Most talked about Red Hat Enterprise Linux 8 new features
- Software packaging reengineered
- Container integration with a fully redesigned set of runtime tools
- Enhanced administrator experience with web console utilities
- Image building for every format in your hybrid cloud environment
- Higher performance graphical environment with Wayland

Preview of the Most Talked About Red Hat Enterprise Linux 8 New Features



Additional Supported Processor Architectures

- ARMv8
- IBM Power Little Endian (ppc64le)

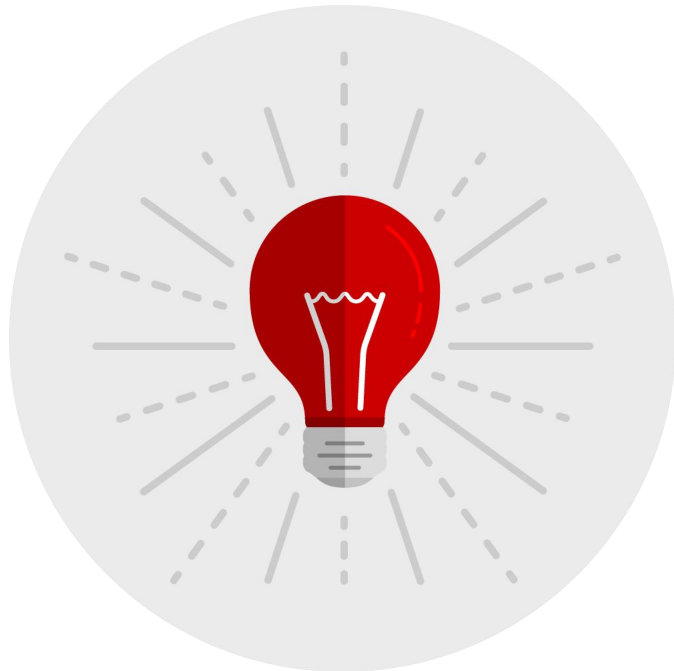
Installation

- Two channels (BaseOS & Appstream)
- System Purpose

Kernel, Memory, Kdump, etc.

- 52-bit physical addressing (ARM v8)
- 5-level paging
- Control Group v2 mechanism
- Early kdump
- Deadline process scheduler
- Configuration of separate time namespaces

Preview of the Most Talked About Red Hat Enterprise Linux 8 New Features (continued)



Firewall & NTP

- iptables & ebtables are replaced by nftables
- chronyd replaces ntpd

Stratis Storage Manager & Virtual Data Optimizer (VDO)

- Stratis can create pools of one or multiple block devices and can create dynamic and flexible file systems within those pools
- VDO reduces data footprint on storage in three phases

Security

- System-wide crypto policy for TLS/IPSec/SSH/DNSSEC/Kerberos
- Updated packages for audit, rsyslog, OpenSSH, OpenSCAP, and more

Software Packaging Reengineered:

- Yum v4 uses DNF technology as its back end
- Supports modules that enable software AppStreams
- Understands weak and boolean dependencies
- Improves performance of Yum

Container Integration with a Fully Redesigned Set of Runtime Tools:



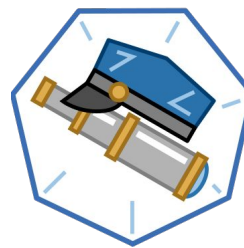
Podman

Replaces Docker and Moby and supports most of Docker's functionality



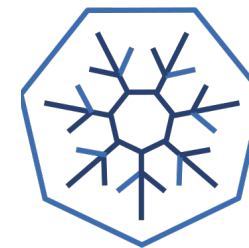
Buildah

Buildah is a tool that facilitates building OCI (Open Container Initiative) container images



Skopeo

Manages container images on registries, including inspecting, copying, deleting, tagging, and verifying signatures



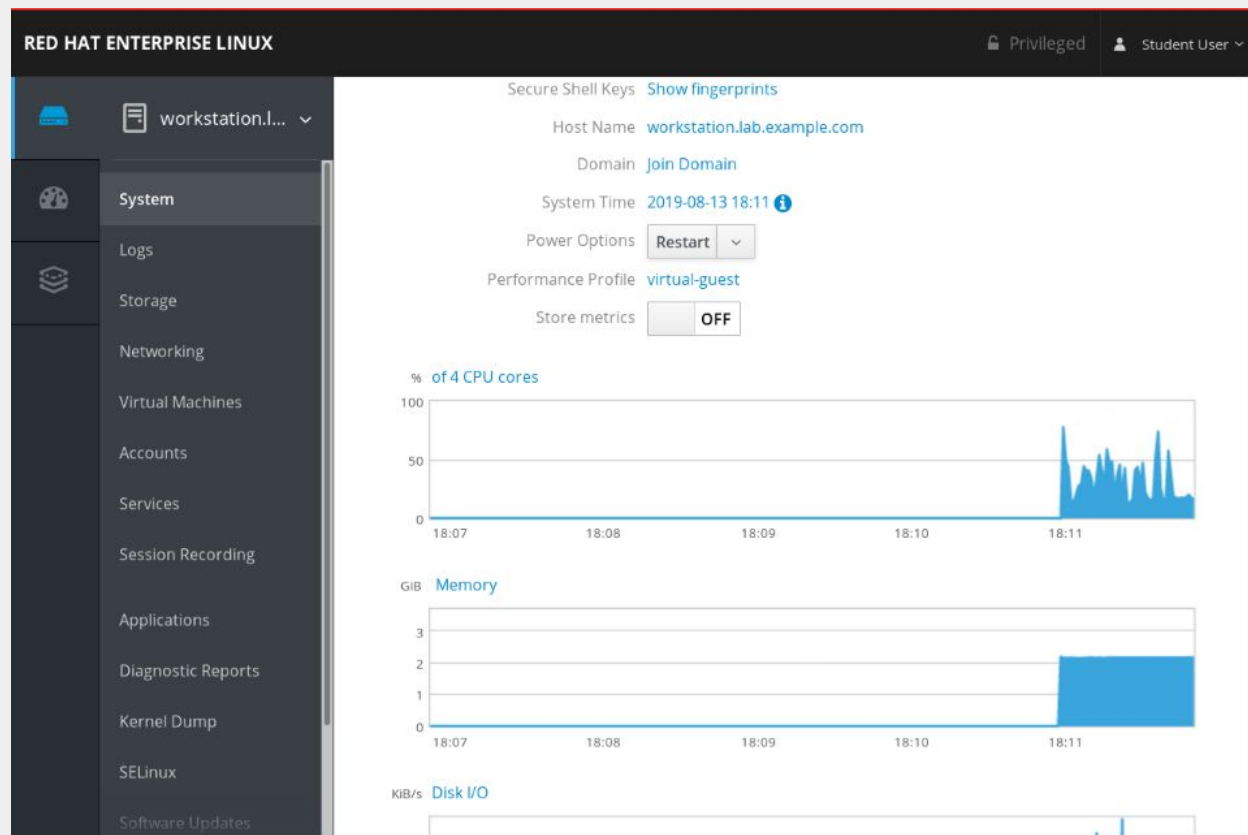
CRI-O

CRI-O is a lightweight alternative to using Docker as the runtime for Kubernetes

Red Hat Course Offerings for Containers & OpenShift:

- DO180: Introduction to Containers, Kubernetes, and Red Hat OpenShift
- DO276: Containerizing Software Applications
- DO280: Red Hat OpenShift Administration I
- DO288: Red Hat OpenShift Development I: Containerizing Applications
- DO290: OpenShift Enterprise Development
- DO292: Red Hat OpenShift Development II: Creating Microservices with Red Hat OpenShift Application Runtimes
- DO380: Red Hat OpenShift Administration II: High Availability
- DO425: Red Hat Security: Securing Containers and OpenShift

Web Console



Enable **cockpit.socket** to be able to access and administer the local machine or remote machines through a web browser.

Image Building for Every Format In Your Hybrid Cloud Environment



Blueprint

Blueprints define customized system images by listing packages and customizations that will be part of the system. Customizations are specifications for the system, which are not packages.



Compose

Composes are individual builds of a system image, based on a particular version of a particular blueprint.



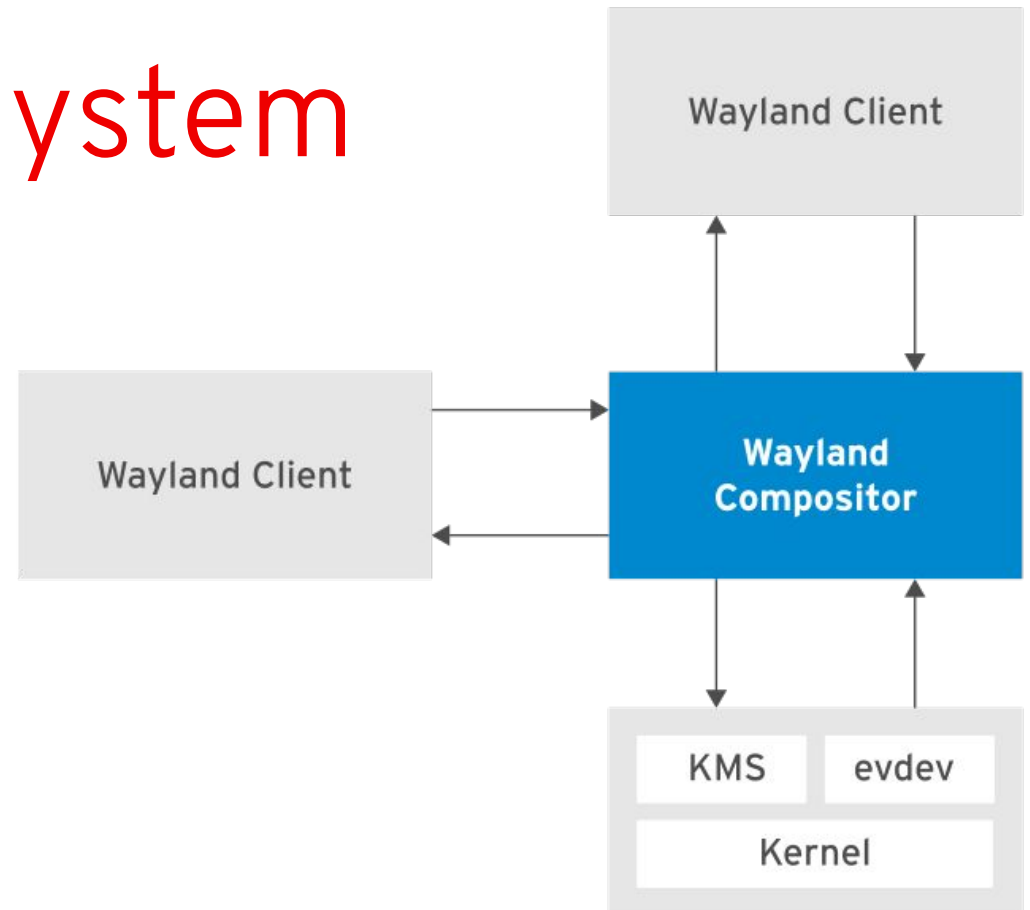
Output Formats

QEMU QCOW2 Image, Ext4 File System Image, Raw Partitioned Disk Image, Live Bootable ISO, TAR Archive, Amazon Machine Image Disk, Azure Disk Image, VMware Virtual Machine Disk, Openstack

Wayland Windowing System

Reasons to switch to Wayland:

- X retains legacy code to conform to the X11 protocol.
- The X display server has become a bottleneck.
- Wayland clients do the rendering rather than Wayland.
- XWayland allows Wayland to run X11 if needed.
- While Wayland replaces X11, users can still choose X11.



Thank you

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