



System Management with Cockpit

NYRHUG – September 2017

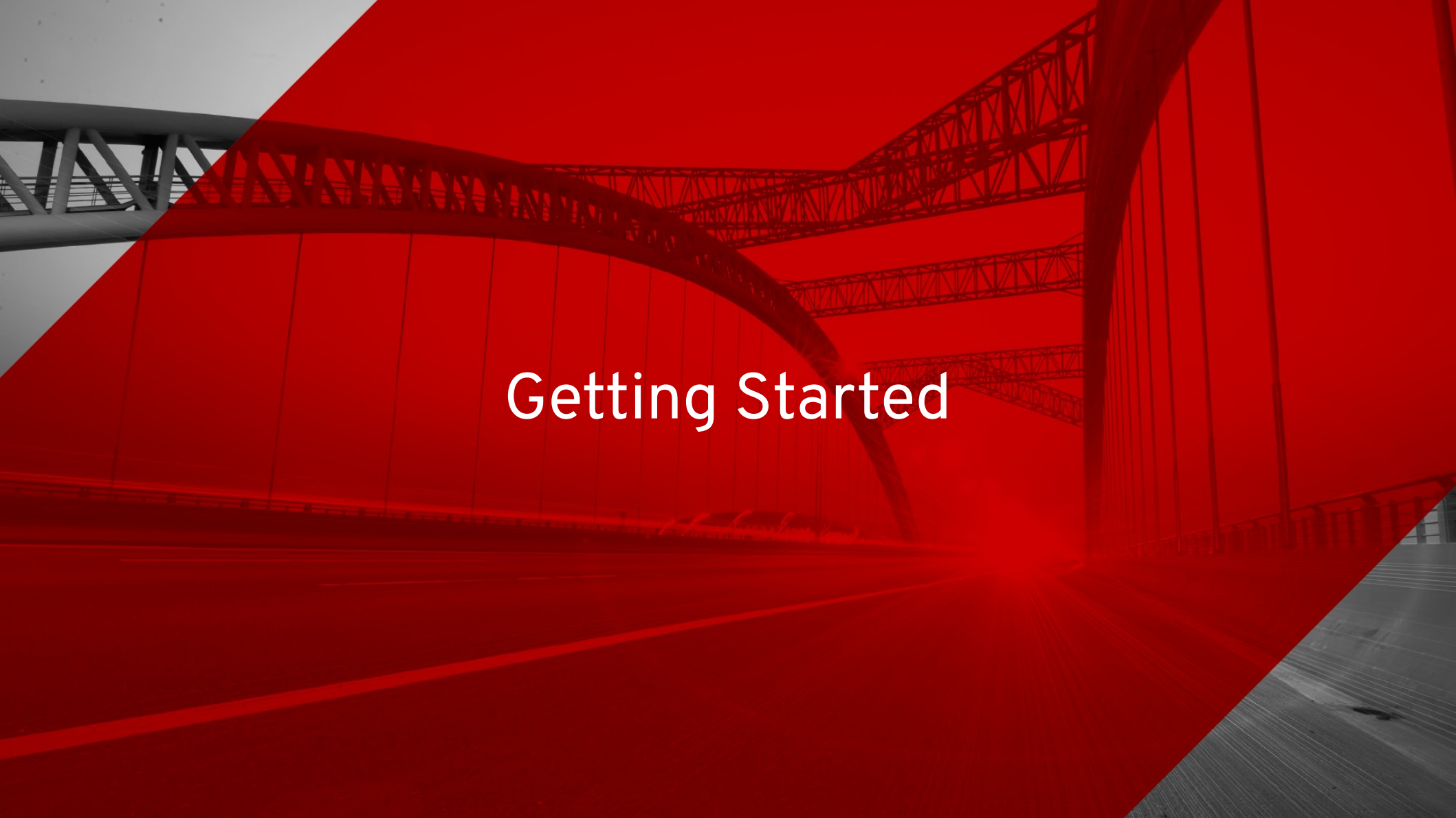
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September 13, 2017

presentation available at <http://people.redhat.com/pladd/>

A photograph of a large bridge, likely a suspension bridge, with a prominent red overlay. The bridge's steel truss structure and suspension cables are visible. The red overlay is a semi-transparent layer that covers most of the image, with some parts of the bridge structure visible through it. The text "Getting Started" is centered in white on the red background.

Getting Started

Installation

- Install Packages

```
yum install cockpit
```

- Enable Cockpit

```
systemctl enable cockpit.socket
```

```
systemctl start cockpit.socket
```

or

```
systemctl enable cockpit.service
```

```
systemctl start cockpit.service
```

- Open firewall

```
firewall-cmd --add-service=cockpit --permanent
```

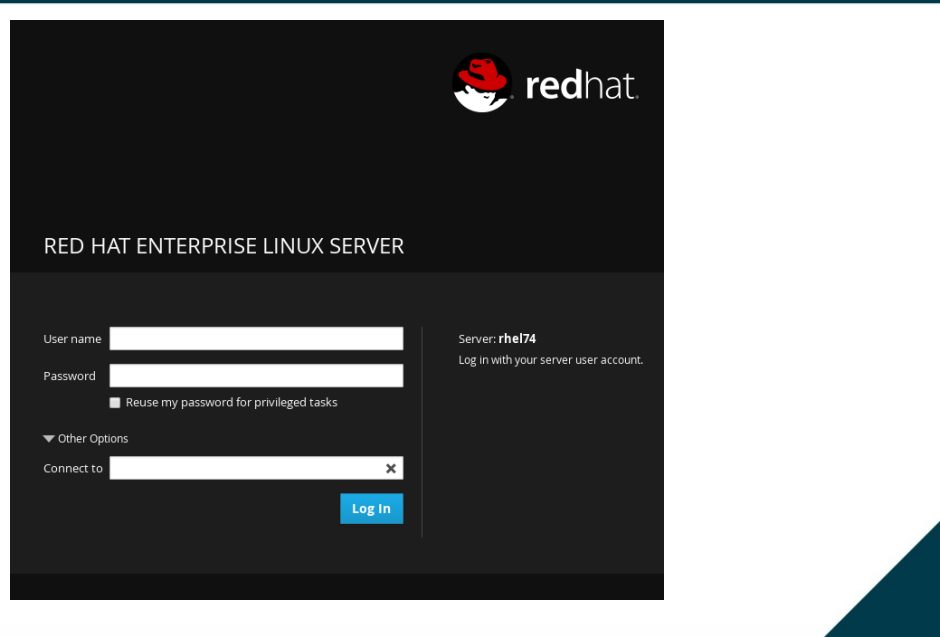
```
firewall-cmd --add-service=cockpit
```

Installation

- Install Packages

```
yum install setroubleshoot-server sos
```

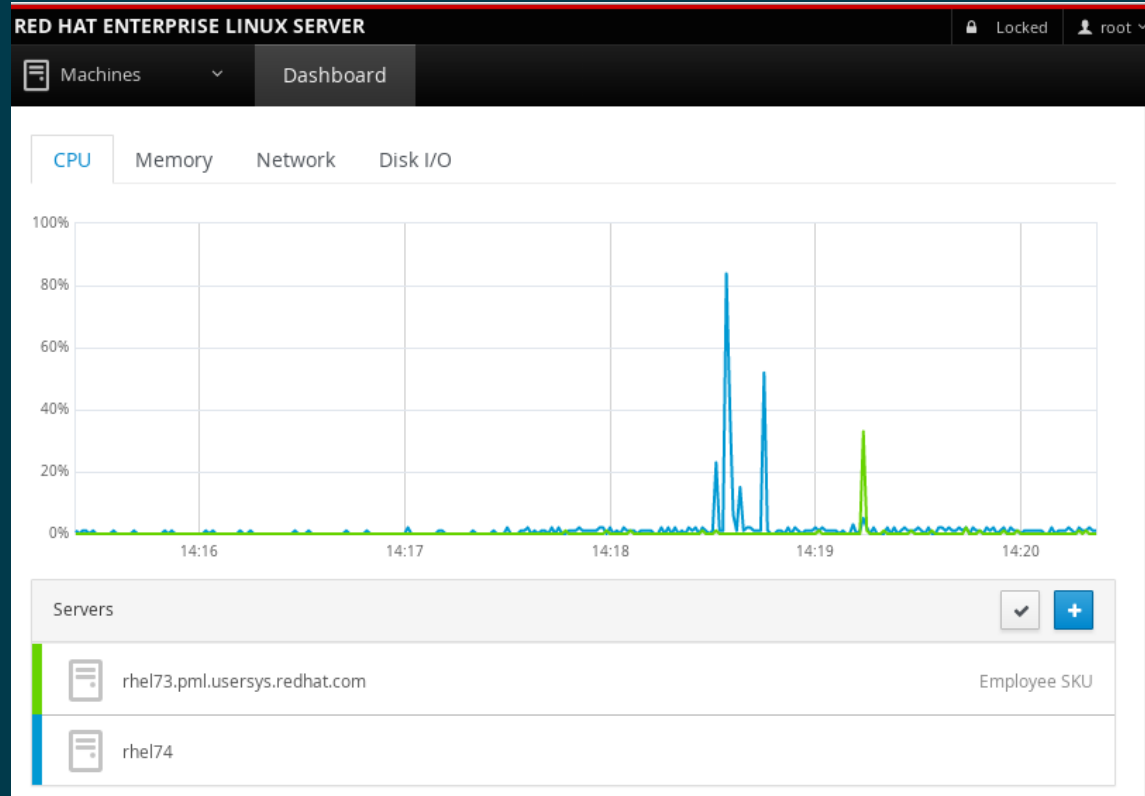
Connecting & Logging In



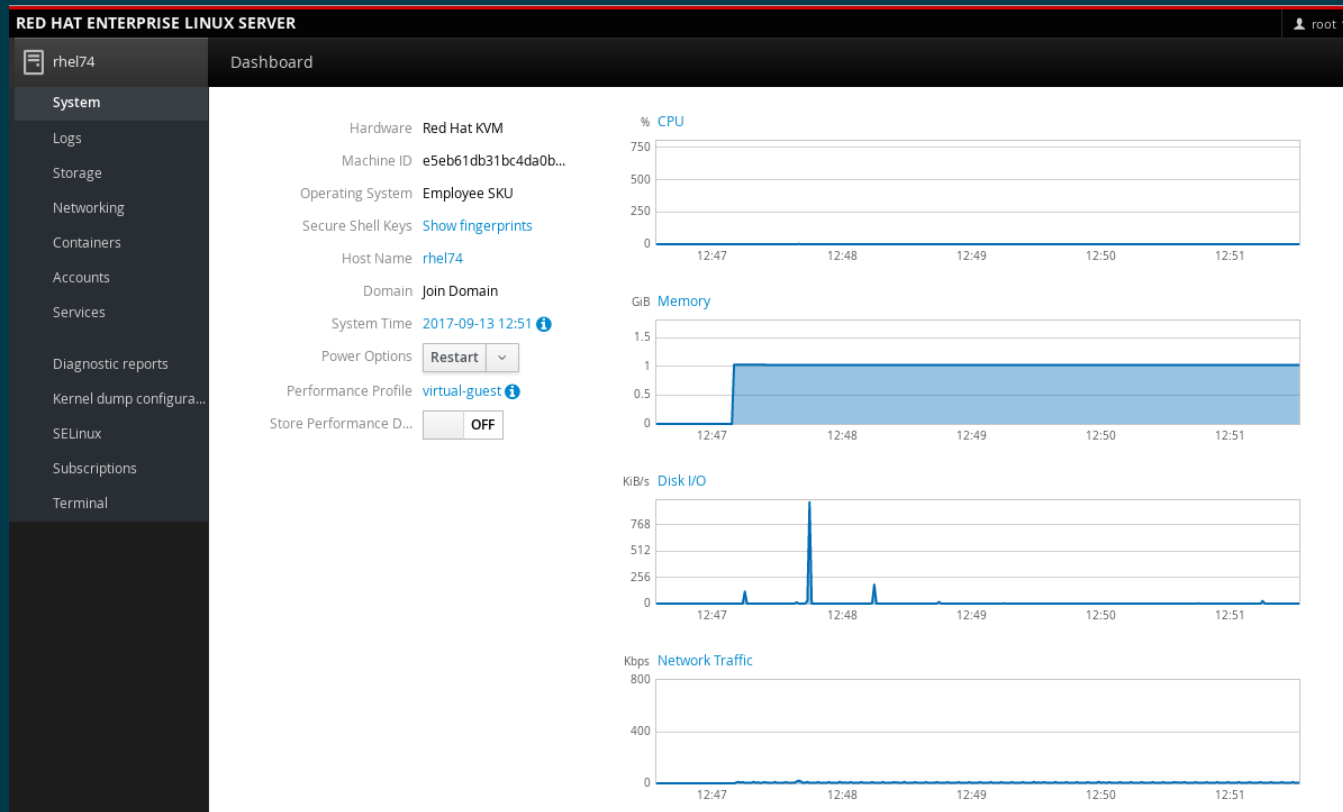
The image shows a screenshot of the Red Hat Enterprise Linux Server login interface. At the top right is the Red Hat logo. Below it, the text "RED HAT ENTERPRISE LINUX SERVER" is displayed. The login form includes fields for "User name" and "Password". Below the password field is a checkbox labeled "Reuse my password for privileged tasks". To the right of the password field, it says "Server: rhel74" and "Log in with your server user account." Below the password field is a section titled "Other Options" with a dropdown arrow. Under "Other Options" is a "Connect to" field with a clear button (X). At the bottom right of the form is a blue "Log In" button.

- Your favorite web browser to:
 - `https://localhost:9090`
 - `https://hostname:9090`
- Login with appropriate credentials
 - Supports password, Kerberos, multi-factor
- Other options – Connect to:
 - Supports passthrough to other systems

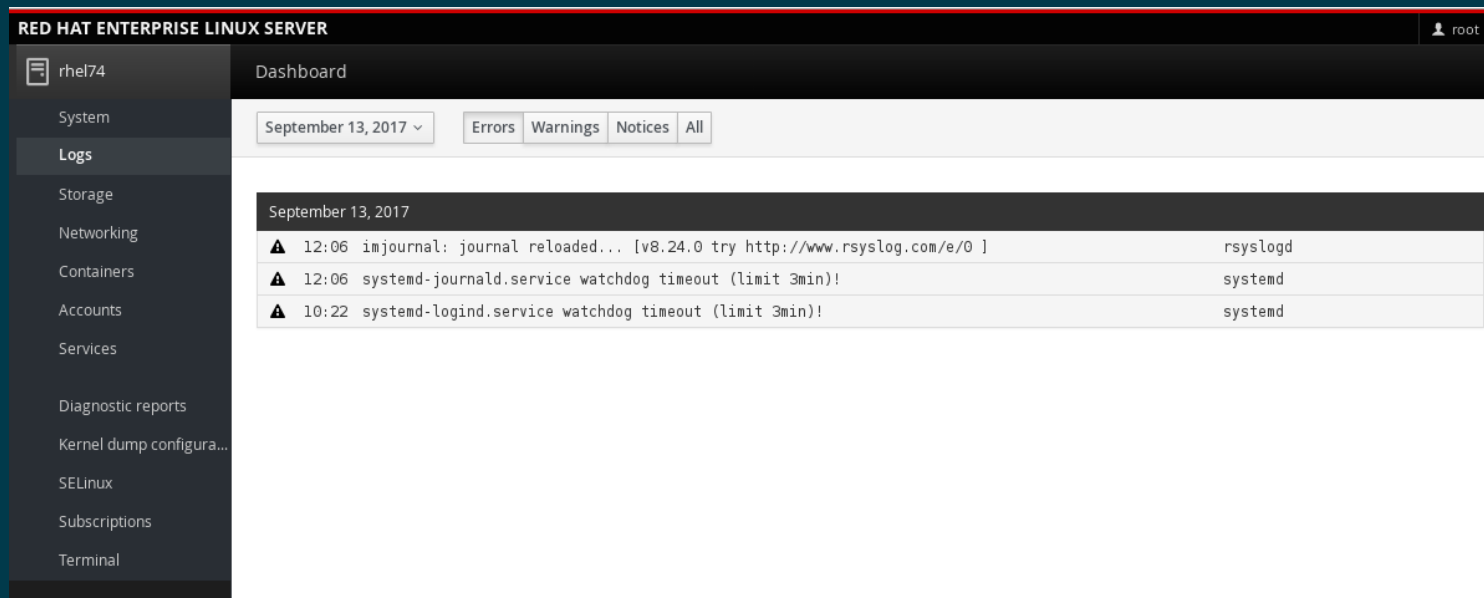
Dashboard



System View



Logs



The screenshot shows the Red Hat Enterprise Linux Server dashboard. The top bar displays "RED HAT ENTERPRISE LINUX SERVER" and the user "root". The left sidebar contains a menu with options: rhel74, System, Logs (selected), Storage, Networking, Containers, Accounts, Services, Diagnostic reports, Kernel dump configura..., SELinux, Subscriptions, and Terminal. The main content area is titled "Dashboard" and shows a date selector for "September 13, 2017" and tabs for "Errors", "Warnings", "Notices", and "All". The "Errors" tab is active, displaying a table of log entries for September 13, 2017.

September 13, 2017		
▲	12:06 imjournal: journal reloaded... [v8.24.0 try http://www.rsyslog.com/e/0]	rsyslogd
▲	12:06 systemd-journald.service watchdog timeout (limit 3min)!	systemd
▲	10:22 systemd-logind.service watchdog timeout (limit 3min)!	systemd

Log Detail

The screenshot displays the Red Hat Enterprise Linux Server dashboard. The top navigation bar shows the system is locked and the user is root. The left sidebar contains a menu with options: rhel74, System, Logs (selected), Storage, Networking, Containers, Accounts, Services, Diagnostic reports, Kernel dump configura..., SELinux, Subscriptions, and Terminal. The main content area is titled 'Dashboard' and shows a breadcrumb 'Logs » Entry'. A log entry for 'systemd' is displayed, dated 'Wed Sep 13 2017 10:22:06 GMT-0400 (EDT)'. The log entry details are as follows:

systemd	Wed Sep 13 2017 10:22:06 GMT-0400 (EDT)
systemd-logind.service watchdog timeout (limit 3min)!	
CODE_FILE	src/core/service.c
CODE_FUNCTION	service_dispatch_watchdog
CODE_LINE	2772
PRIORITY	3
SYSLOG_FACILITY	3
SYSLOG_IDENTIFIER	systemd
UNIT	systemd-logind.service
_BOOT_ID	c749502ae7564fd4b28db4eec07545e2
_CAP_EFFECTIVE	1ffffffff
_CMDLINE	/usr/lib/systemd/systemd --system --deserialize 15
_COMM	systemd
_EXE	/usr/lib/systemd/systemd
_GID	0
_HOSTNAME	rhel74
_MACHINE_ID	e5eb61db31bc4da0b9b9e9f9dca9c760

Storage

RED HAT ENTERPRISE LINUX SERVER

root

rhel74

System

Logs

Storage

Networking

Containers

Accounts

Services

Diagnostics reports

Kernel dump configura...

SELinux

Subscriptions

Terminal

Dashboard

KiB/s

Reading

KiB/s

Writing

Filesystems

Name	Mount Point	Size
/dev/vda1	/boot	170.7 / 1014 MiB
/dev/rhel/root	/	1.4 / 7.1 GiB

Storage Logs

September 13, 2017

12:55	Loading module libstoraged_lvm2.so...	storaged
12:55	Loading module libstoraged_iscsi.so...	storaged
12:55	Acquired the name org.storaged.Storaged on th...	storaged
12:55	storaged daemon version 2.5.2 starting	storaged

RAID Devices

No storage set up as RAID

Volume Groups

rhel
8.0 GiB

Drives

VirtIO Disk
9 GiB Hard Disk
R: 0 B/s W: 0 B/s

QEMU DVD-ROM (QM00001)
Optical Drive
R: 0 B/s W: 0 B/s

Storage Details

RED HAT ENTERPRISE LINUX SERVER

Dashboard

Storage > rhel

rhel Volume Group Rename

UUID WzLIG5-4vxi-FYdS-1CVM-RIPN-0ydl-11JAiu

Capacity 8.0 GiB, 8.6 GB, 8585740288 bytes

Physical Volumes +

Partition of [VirtIO Disk](#) -

8.0 GiB, 0 free

Logical Volumes + Create new Logical Volume

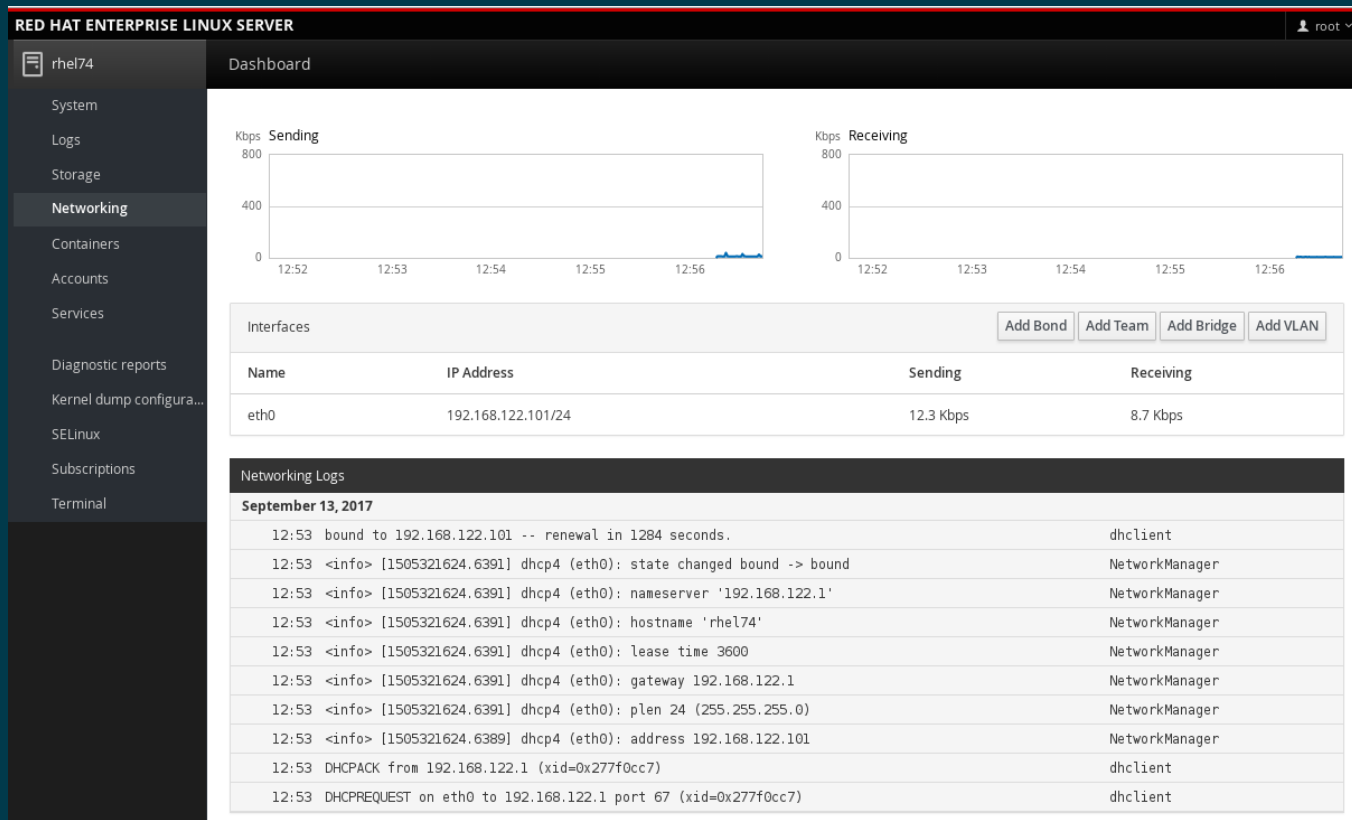
7.1 GiB xfs File System	/dev/rhel/root
924 MiB Swap Space	/dev/rhel/swap

Storage Log

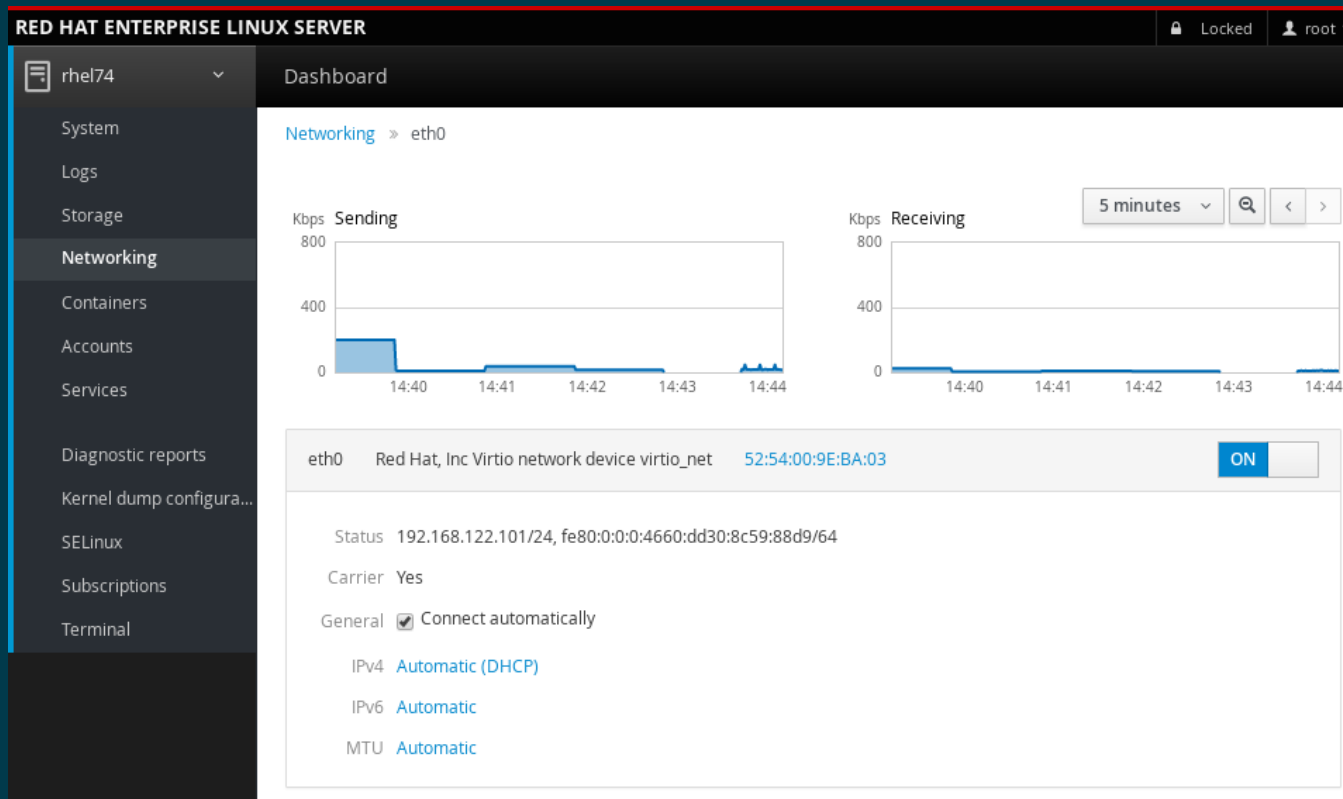
September 13, 2017

12:55	Loading module libstoraged_lvm2.so...	storaged
12:55	Loading module libstoraged_iscsi.so...	storaged
12:55	Acquired the name org.storaged.Storaged on the system message bus	storaged
12:55	storaged daemon version 2.5.2 starting	storaged

Network



Network Detail



Accounts

The screenshot shows the 'Accounts' page for the 'root' user in the Red Hat Enterprise Linux Server web console. The left sidebar contains a navigation menu with options: rhel74, System, Logs, Storage, Networking, Containers, Accounts (selected), Services, Diagnostic reports, Kernel dump configura..., SELinux, Subscriptions, and Terminal. The main content area displays the user's details and SSH keys.

RED HAT ENTERPRISE LINUX SERVER root

Dashboard

[Accounts](#) » root

root Terminate Session Delete

Full Name

User Name

Last Login **Logged In**

Password Set Password

Authorized Public SSH Keys +

pladd@pladd.remote.csb	SHA256:tO1IXfQDDOQeCgq8a9ttA6R6dur14TpcaBJPkQtFnc	-
------------------------	---	---

Services

RED HAT ENTERPRISE LINUX SERVER Locked root

rhel74 Dashboard

System Services Sockets Timers Paths

Enabled		
Description	Id	State
Security Auditing Service	auditd.service	active (running)
autovt@.service Template	autovt@.service	
NTP client/server	chronyd.service	active (running)
Command Scheduler	crond.service	active (running)
firewalld - dynamic firewall daemon	firewalld.service	active (running)
getty@.service Template	getty@.service	
The Apache HTTP Server	httpd.service	active (running)
irqbalance daemon	irqbalance.service	active (running)
Login and scanning of iSCSI devices	iscsi.service	inactive (dead)

Service Detail

RED HAT ENTERPRISE LINUX SERVER

Lockedroot

rhel74

System

Logs

Storage

Networking

Containers

Accounts

Services

Diagnostics reports

Kernel dump configura...

SELinux

Subscriptions

Terminal

Dashboard

Services » httpd.service

The Apache HTTP Server

active (running)

Since 9/12/2017, 3:47:13 PM

Stop

loaded (/usr/lib/systemd/system/httpd.service; enabled)

Disable

Service Logs

September 12, 2017

16:36	Reloaded The Apache HTTP Server.	systemd
16:36	AH00558: httpd: Could not reliably determine the server's ful...	httpd
15:47	Started The Apache HTTP Server.	systemd
15:47	AH00558: httpd: Could not reliably determine the server's ful...	httpd
15:47	Starting The Apache HTTP Server...	systemd

Diagnostic Reports

The screenshot displays the Red Hat Enterprise Linux Server web interface. The top navigation bar shows 'RED HAT ENTERPRISE LINUX SERVER' on the left, and 'Locked' and 'root' on the right. A sidebar on the left contains a menu with items: 'rhel74', 'System', 'Logs', 'Storage', 'Networking', 'Containers', 'Accounts', 'Services', 'Diagnostic reports' (highlighted), 'Kernel dump configura...', 'SELinux', 'Subscriptions', and 'Terminal'. The main content area is titled 'Dashboard' and features a modal dialog box titled 'Create diagnostic report'. Inside the dialog, an information icon is followed by the text: 'The generated archive contains data considered sensitive and its content should be reviewed by the originating organization before being passed to any third party.' Below this text, the word 'Done!' is centered, followed by a blue 'Download report' button. A 'Close' button is located in the bottom right corner of the dialog. The background of the dashboard is dimmed, showing the text 'This tool will c' and 'th the system.'

Diagnostic Reports

RED HAT ENTERPRISE LINUX SERVER

Lockedroot

rhel74Dashboard

System

Logs

Storage

Networking

Containers

Accounts

Services

Diagnostic reports

Kernel dump configura...

SELinux

Subscriptions

Terminal



This tool will collect system configuration and diagnostic information from this system for use with diagnosing problems with the system.

The collected information will be stored locally on the system.

[Create report](#)

SELinux

The screenshot shows the SELinux Policy configuration page in the Red Hat Enterprise Linux Server interface. The top navigation bar includes the title 'RED HAT ENTERPRISE LINUX SERVER', a 'Locked' status indicator, and a user dropdown menu showing 'root'. A left sidebar contains a menu with items like 'System', 'Logs', 'Networking', 'Accounts', 'Services', 'Diagnostic reports', 'Kernel dump configura...', 'SELinux' (highlighted), 'Subscriptions', and 'Terminal'. The main content area is titled 'SELinux Policy' and features a toggle switch for 'Enforce policy' set to 'ON'. Below this is a section for 'SELinux Access Control Errors'. The first error entry is expanded, showing the message: 'SELinux is preventing /var/lib/pcp/pmdas/proc/pmdaproc from using the sys_ptrace capability.' with a count of 143. It includes tabs for 'Solutions' and 'Audit log', and a timestamp 'Occurred between 08/04/2017 and 08/04/2017'. The solution text suggests reporting the issue as a bug and provides a command to allow access temporarily: `# ausearch -c 'pmdaproc' --raw | audit2allow -M my-pmdaproc # semodule -i my-pmdaproc.pp`. Below this, two other error entries are visible: 'SELinux is preventing /usr/libexec/colord from read access on the file /etc/udev/hwdb.bin.' (count 15) and 'SELinux is preventing /usr/bin/ps from search access on the directory /var/log/gdm.'

RED HAT ENTERPRISE LINUX SERVER

Locked root

pladd.remote.c... Dashboard

SELinux Policy

Enforce policy: ☒ ON

SELinux Access Control Errors

✓ SELinux is preventing /var/lib/pcp/pmdas/proc/pmdaproc from using the sys_ptrace capability. 143

[Solutions](#) [Audit log](#) [Occurred between 08/04/2017 and 08/04/2017](#)

If you believe that pmdaproc should have the sys_ptrace capability by default. You should report this as a bug. You can generate a local policy module to allow this access. Unable to apply this solution automatically

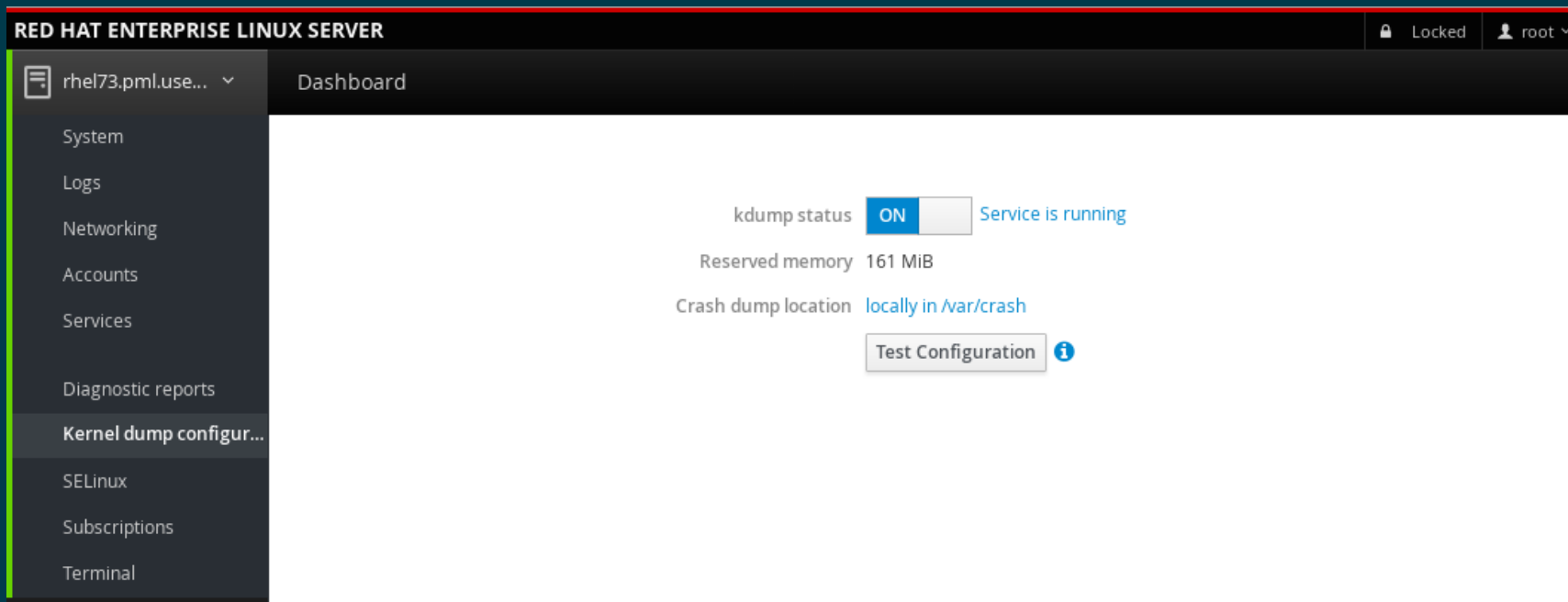
✓ [solution details](#)

Allow this access for now by executing: `# ausearch -c 'pmdaproc' --raw | audit2allow -M my-pmdaproc # semodule -i my-pmdaproc.pp`

SELinux is preventing /usr/libexec/colord from read access on the file /etc/udev/hwdb.bin. 15

SELinux is preventing /usr/bin/ps from search access on the directory /var/log/gdm.

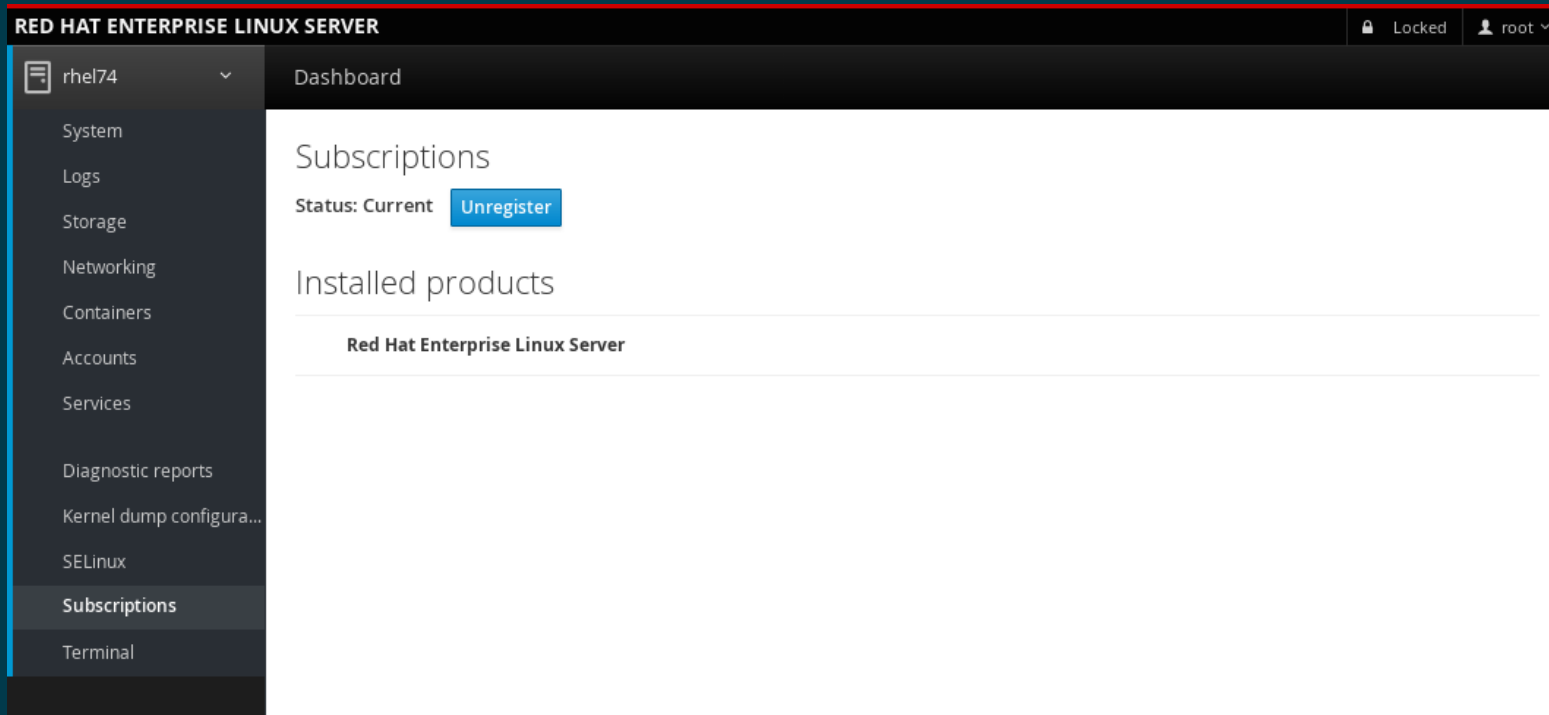
kdump



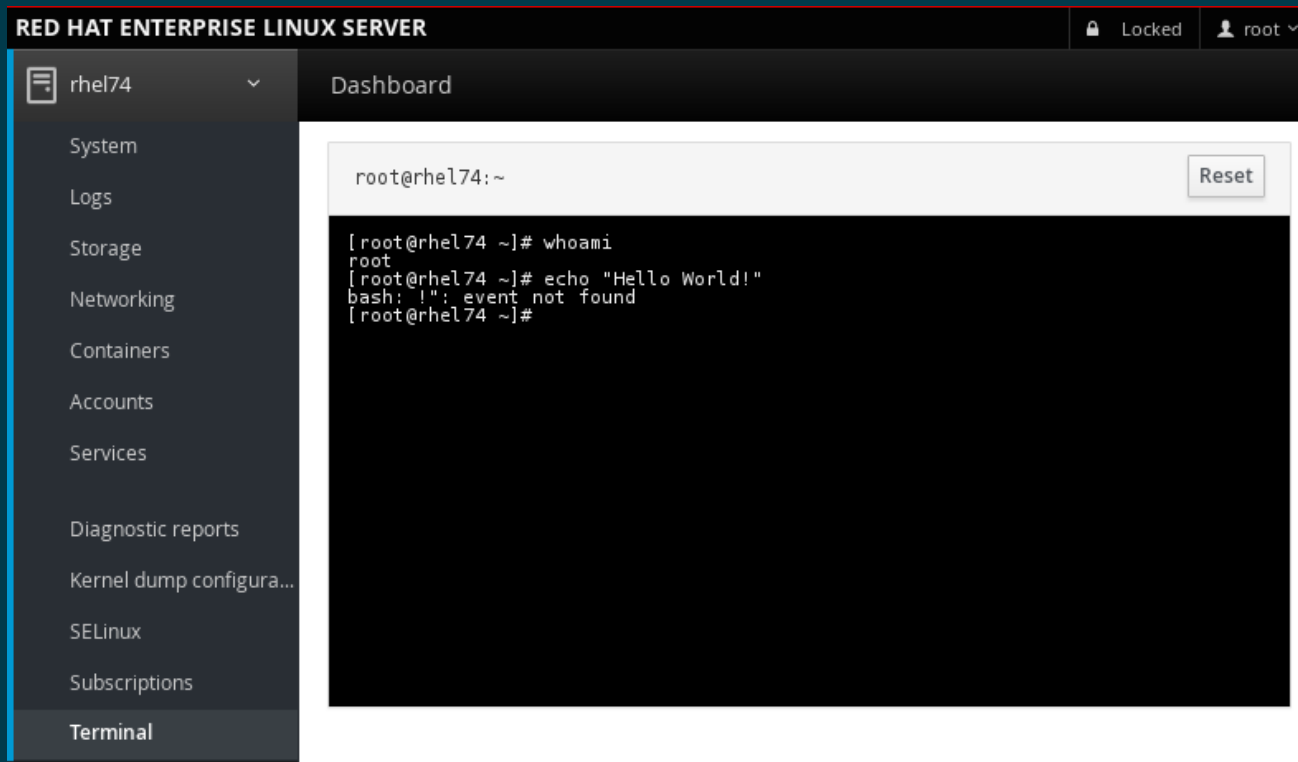
The screenshot shows the Red Hat Enterprise Linux Server dashboard. The top header bar is black with the text "RED HAT ENTERPRISE LINUX SERVER" on the left, and "Locked" and "root" on the right. Below the header is a dark sidebar with a menu. The "Kernel dump configur..." option is highlighted. The main content area is white and displays the following information:

- kdump status**: A toggle switch is set to "ON" (blue), and the text "Service is running" is displayed to its right.
- Reserved memory**: 161 MiB
- Crash dump location**: [locally in /var/crash](#)
- Test Configuration**: A button with an information icon (i) to its right.

Subscriptions



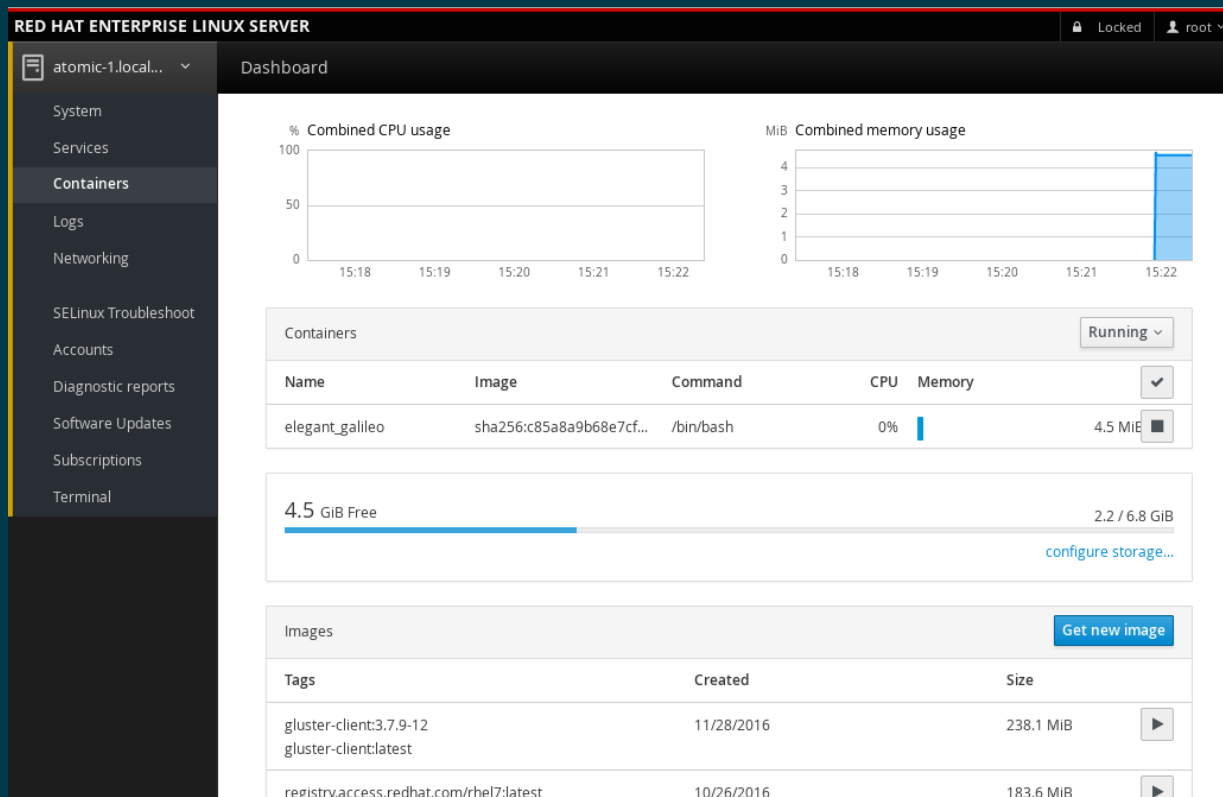
Terminal



The screenshot displays the Red Hat Enterprise Linux Server web interface. The top header bar is black with the text "RED HAT ENTERPRISE LINUX SERVER" on the left, and "Locked" and "root" on the right. Below the header, a sidebar on the left contains a list of navigation items: "rhel74" (selected), "System", "Logs", "Storage", "Networking", "Containers", "Accounts", "Services", "Diagnostic reports", "Kernel dump configura...", "SELinux", "Subscriptions", and "Terminal". The main content area is titled "Dashboard" and features a terminal window. The terminal window has a title bar "root@rhel74:~" and a "Reset" button. The terminal output shows the following commands and their results:

```
root@rhel74:~  
  
[root@rhel74 ~]# whoami  
root  
[root@rhel74 ~]# echo "Hello World!"  
bash: !": event not found  
[root@rhel74 ~]#
```

Containers



Container Detail

The screenshot displays the Red Hat Enterprise Linux Server web console interface. The top header shows 'RED HAT ENTERPRISE LINUX SERVER' and user status 'Locked root'. The left sidebar contains navigation links: System, Services, Containers (highlighted), Logs, Networking, SELinux Troubleshoot, Accounts, Diagnostic reports, Software Updates, Subscriptions, and Terminal. The main content area is titled 'Dashboard' and shows the path 'Containers > elegant_galileo'. Below this, there are controls for the container: 'Start', 'Stop', 'Restart', 'Delete' (in red), and 'Commit'. The container details are as follows:

- Container: elegant_galileo
- Id: fb7a8f877f1ca12ad9e14d3cc74b5c1fdc86ae217e4c5f25a4d1a21456784852
- Created: 2017-09-13T19:21:54.876708575Z
- Image: sha256:c85a8a9b68e7cfd234c54e5534fd614d05829a1dacac6ad5eae9a44f816cc9e
- Command: /bin/bash
- State: Up since 2017-09-13T19:30:16.834812183Z
- Restart Policy: No
- IP Address: 172.17.0.2
- IP Prefix Length: 16
- Gateway: 172.17.0.1
- MAC Address: 02:42:ac:11:00:02
- Memory usage: 736 KiB
- CPU usage: 0%
- 1024 shares

A 'Change resource limits' button is located below the usage statistics. At the bottom, a terminal window shows the prompt '[root@fb7a8f877f1c /]# '.

Documentation

- RHEL 7 Cockpit users guide:
https://access.redhat.com/documentation/en-us/red_hat_enterprise_linux/7/html/getting_started_with_cockpit/
- Cockpit upstream project:
<http://cockpit-project.org/>



COCKPIT



THANK YOU



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linkedin.com/company/red-hat



youtube.com/user/RedHatVideos



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