

Tips and Tricks

RHUG Q1.2017 Marc Skinner Principal Solutions Architect 1/24/2017



- Red Hat Blogs
- Red Hat Reference Architectures
- Red Hat Container Catalog
- Red Hat Access Labs
- Into the Cockpit!



Red Hat BLOGS





- Cloudforms
- Management
- Middleware
- Mobile
- OpenStack
- RHEV
- RHEL
- Storage

- :: http://cloudforms.blog.redhat.com
- :: http://redhat.com/blog/management
- :: http://middlewareblog.redhat.com
- :: http://redhat.com/blog/mobile
- :: http://redhatstackblog.redhat.com
- :: http://rhelblog.redhat.com/tag/rhev
- :: http://rhelblog.redhat.com
- :: http://redhatstorage.redhat.com





- Security
- Developers
- Vertical Industries
- Shared Space
- Open Studio
- Events

- :: http://securityblog.redhat.com
- :: http://developers.redhat.com/blog
- :: http://redhat.com/blog/verticalindustries
- :: http://sharedspace.redhat.com
- :: http://openstudio.redhat.com
- :: http://eventsblog.redhat.com



Red Hat Reference Architectures





Log in to https://access.redhat.com with your RHN credentials



Reference Architecture

- Click on "Product Documentation"
- Way at the bottom!





CONTAINER

A Rec

Event

Listen to

WHAT'S NEW

Red Hat OpenShift Container Platform 3.4 is now available 18 Jan 2017, 4:08 PM GMT

Red Hat Summit 2017: Registration Now Open 11 Jan 2017, 2:42 PM GMT

Red Hat Cloudforms 4.2 is now available 04 Jan 2017, 2:49 PM GMT

View All

😓 redhat.

QUICK LINKS

Downloads

Subscriptions

Support Cases

Customer Service

Product Documentation

Reference Architecture

• Click on "Knowledgebase"



Red Hat Container Development Kit

.NET Core

9

Reference Architecture

- Select Reference Architecture
- Refine your search
- "Storage"



See More

🗌 wip

ARTICLE TYPE

Reference Architecture

Performance Brief

General

VERIFICATION STATE

2012 - Red Hat Storage Server 2.0 On-prer

🎤 Article – Jun 26, 2012

Red Hat Storage Server On-premise 2.0 builds upo open source storage solutions. It provides the abilit virt 2012

2015 - Monitoring Red Hat Gluster Storage

🎤 Article – May 26, 2015

This reference architecture demonstrates a solution management server with Red Hat Storage Console as focusing

2015 - Deploying Highly Available Red Hat

🎤 Article – Sep 8, 2016

technology using the Installer * Deploying Ceph Sto

10

Red Hat Container Catalog





Container Catalog

- Log in to https://access.redhat.com with your RHN credentials
- Go to https://access.redhat.com/containers



• View all containers

- Most popular
- Last updated
- Type
- Categories
- Search



Explore 205 available repositories:

Statistics	
٩	31
Most Pulled	Updated Last 30 Days

Image Type



Categories

SEA

• Filter on keyword

BETA **Red Hat Container Catalog** Keyword Images Storage • 🗆 Hide Beta imag 3 Results

Repository Name	Description	Lasi Opuale	Fulls U
rhceph/rhceph-1.3-rhel7 Red Hat, Inc.	Red Hat Ceph Storage 1.3 (selectable daemon single image)	2 months ago	. ⊥ 5k
rhgs3/rhgs-server-rhel7 Red Hat, Inc.	containerized Red Hat Gluster Storage image for serving out local and/or direct attached storage from host	5 days ago	⊥ 2k
rhgs3/rhgs- volmanager-rhel7 Red Hat, Inc.	Management Service Instance responsible for managing volumes on containerized Red Hat Gluster Storage Cluster	5 days ago	⊥ 960



SEARCH

- View history
- Download
- Tech Details
- Package List
- Documentation

Red Hat Container Catalog BETA

Red Hat Enterprise	Linux 7		
registry.access.redhat.com/rhgs3/rhgs-server-rhel7			
Mos View all tags 🕨	DATE UPDATED	SIZE	IMAGE ADVISORY 🔀
3.1.3-17	5 days ago	N/A	豪 RHEA-2017:0149

Overview

Red Hat Gluster Storage is software-defined file storage that is scalable, durable, and secure. It offers a rich feature set at a fraction of the cost of traditional, monolithic storage. Since Red Hat Gluster Storage deploys the same bits across on-premise, virtualized, cloud and container environments, moving applications across these boundaries is painless without expansive application rewrites. In addition, Red Hat Gluster Storage offers container-native storage that can be served out of containers running alongside application containers, all managed under a single control plane for greater ease of use and lower cost.

(Get this image	Tech Details	Package List	Documentation
	Product Page Red Hat Gluster Storage 			•





Get Image errata announcements/details

Red Hat Container Catalog BETA

Red Hat Enterprise Linux 7 > Tags

by Red Hat, Inc. in Product

registry.access.redhat.com/rhgs3/rhgs-server-rhel7 file

Tag Name	Last Updated	Image Advisory 🕖	Image Digest
🔍 latest	5 days ago	❀ RHEA-2017:0149	985f86bc
▶ 3.1.3-17	5 days ago	₩ RHEA-2017:0149	985f86bc
₲ 3.1.3-14	6 months ago	₩ RHEA-2016:1493	8478f137
₲ 3.1.2-11	a year ago		0b78a944



Red Hat Access Labs





- Log in to https://access.redhat.com with your RHN credentials
- Go to https://access.redhat.com/labs



• Think applets Wizard format

redhat. PORTAL

Products & Services

Tools

Security

Community

Q

amarc skinner

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Red Hat Access Labs

Developed by Red Hat engineers to help you improve performance, troubleshoot issues, identify security problems, and optimize configuration.

FEATURED APPS





- Today 54!
- Configuration
- Deployment
- Security
- Troubleshoot





NTP Lab Example Select CLIENT

Labs > NTP Configuration

NTP Configuration

Server/Client

 Instructions:

 Click the Client or Server button.

 This application steps you through a guide that generates a script for setting up NTP (Network Time Protocol) clients and servers.

 Dates:

 • When you enter an external/internal NTP server, this app synchronizes the clients to it.

 • If you are configuring an internal NTP server, it will be set up for clients in environments without access to external NTP servers.

 Image: CLIENT



Select Profile

NTP Configuration

Server/Client Profiles	Profiles
	If your configuration does not fall into any of the other O Basic NTP configuration wizard
	To configure your virtual machine as an NTP client, cho O Virtual Machine NTP configuration v
	If you have cluster environments that need synchronize option. O Cluster NTP configuration wizard
	If you want to configure your virtual machine as a node • Virtual Machine on cluster NTP conf
	◆ BACK

r categories, choose Basic NTP configuration.

noose this option.

wizard

zed nodes and are sensitive to time changes, choose this

le of the cluster, choose this option.

figuration wizard



Labs > NTP Configuration

 Fill in appropriate NTP Server

NTP	Configuration
	••••••••••••••••••••••••••••••••••••••

Server/Client Profiles	Servers
Servers	Enter the addresses for servers running NTP services. Click +Add to enter more server addresses. The client will be synchronized with these servers.
	Server: ntp-master.mydomain.myFQDN Need authentication
	✿ Add
	NTP traffic consists of UDP (User Datagram Protocol) packets on port 123. You must permit these packets through network and host-based firewalls, or NTP will not function. All firewalls must be configured to allow for incoming NTP traffic.
	◆ BACK NEXT >

• Enable NTP logging?

Labs > NTP Configuration

NTP Configuration

tions			
	Enable a historical log with ntpd behavior?	Yes	No
	 Choose Yes to enable a log with ntpd (Network Time Protocol daemon) behavior. The log: Provides continuous, long-term recording of both server and client timekeeping performance Captures these performance statistics for later analysis 	۲	0



• GENERATE!

Labs > NTP Configuration

NTP Configuration

Server/Client	
Profiles	Summary
Servers	
Options	
Summary	Virtual Machine on cluster NTP configuration
	SERVERS • ntp-master.mydomain.myFQDN OPTIONS • Enable a historical log with ntpd behavior MARK



- View, copy/paste
- Download as shell script

NTP Configuration

NTP Configuration

- This script configures only the ntp daemon. Chronyd (the default NTP user space daemon in Red Hat Enterprise Linux 7) will now be disabled.
- The NTP Configuration tool creates suggested configuration files, but you may need to make additional changes for your environment.

NTP configuration script for client

L NTPCONFIG_CLIENT.SH

chmod +x ntpconfig_client.sh
./ntpconfig_client.sh

#/bin/bash

rhel_version=`cat /etc/redhat-release`
rhel='Red Hat Enterprise Linux'
version7='release 7'
index=`awk -v a="\$rhel_version" -v b="\$rhel" 'BEGIN{print index(a,b)}'`
if [\$index -ne 0]; then
 index=`awk -v a="\$rhel_version" -v b="\$version7" 'BEGIN{print index(a,b)}'`
if [\$index -ne 0]; then
 echo "Disable chronyd deamon."
 systemctl disable chronyd
 echo "Install ntpd deamon."
 yum install ntp -y
 systemctl enable ntpd
 echo "Start ntpd deamon."
 systemctl start ntpd
 else

BACK

START OVER



Into the Cockpit!



Cockpit

- Web enabled server interface
- 2 Main components
 - Web Daemon (service) : cockpit-ws
 - "Agent": cockpit-bridge
- Installation via RPM
 - # yum -y install cockpit
- Installation via container
 - # atomic run registry.access.redhat.com/rhel7/cockpit-ws



- Log in via browser
- Server URL https://myserver.FQDN:9090



User name			Server: cockpit.i.skinnerlabs.com
Password			Log in with your server user account.
	Other Options		
		Log In	



• Main Page

RED HAT ENTERPRISE LINUX SERVER

3 Dashboard

Hardware Red Hat RHEV Hypervisor Services Asset Tag 032B0290-0434-055A-C50... Containers Machine ID e3e14e9f0b2b4de7983a6... Logs Storage Operating System Employee SKU Networking Secure Shell Keys Show fingerprints > Tools Host Name cockpit.i.skinnerlabs.com Domain Join Domain System Time 2017-01-23 09:54 🚯 Power Options Restart ~ Performance Profile virtual-guest 🕄













RED HAT ENTERPRISE LINUX ATOMIC HOST				1 ro
🗐 Machines 🗠 Dashboard				
CPU Memory Network Disk I/O				
768 KIB/s				
0 B/s	09:52	09:53	09:54	09:55
Servers				✓ +
atomic1.rhlab.skinnerlabs.com				Red Hat Enterprise Linux Atomic Host 7.3
atomic2.rhlab.skinnerlabs.com				Red Hat Enterprise Linux Atomic Host 7.3
atomic3.rhlab.skinnerlabs.com				Red Hat Enterprise Linux Atomic Host 7.3
atomic4.rhlab.skinnerlabs.com				Red Hat Enterprise Linux Atomic Host 7.2
atomic5.rhlab.skinnerlabs.com				Red Hat Enterprise Linux Atomic Host 7.2
cockpit-atomic.rhlab.skinnerlabs.com				





RED HAT ENTERPRISE LINUX ATOMIC HOST

📑 atomic1.rhlab.... 👻 Dashboard

System > Services Containers Logs Networking Tools SELinux Troubleshoot Subscriptions Accounts

 Hardware
 Red Hat RHEV Hypervisor

 Asset Tag
 03DE0294-0480-056B-360...

 Machine ID
 547e12216f2941dfa0416a...

 Operating System
 Red Hat Enterprise Linux Atomic Host 7.3

 Secure Shell Keys
 Show fingerprints

 Version
 7.3.2

 Host Name
 atomic1.rhlab.skinnerlabs....

 Domain
 Join Domain

 System Time
 2017-01-23 09:56 €

 Power Options
 Restart

 Performance Profile
 atomic-guest €









Kbps Network Traffic





Diagnostic reports Terminal

Software Updates

32

Services

F

D HAT ENTERPRISE LINUX ATOMIC HOST				
📑 atomic1.rhlab 🗸	Dashboard			
System Services Containers Logs Networking	Targets System Services Sockets Timers Paths			
	Enabled			
	Description	Id	State	
Tools	Multi-User System	multi-user.target	active	
SELinux Troubleshoot Subscriptions	NFS client services	nfs-client.target	active	
Accounts	Remote File Systems	remote-fs.target	active	
Terminal Software Updates	Disabled			
	Description	Id	State	
	Halt	halt.target	inactive (dead)	
	Reboot via kexec	kexec.target	inactive (dead)	
	Containers	machines.target	inactive (dead)	
	Power-Off	poweroff.target	inactive (dead)	
	Reboot	reboot.target	inactive (dead)	
	Rescue Mode	rescue.target	inactive (dead)	
	Static			
	Description	Id	State	
	Basic System	basic.target	active	
	Bluetooth	bluetooth.target	inactive (dead)	
	Cloud-config availability	cloud-config.target	inactive (dead)	
	Encrypted Volumes (Pre)	cryptsetup-pre.target	inactive (dead)	
	Encrypted Volumes	cryptsetup.target	active	



• Containers

RED HAT ENTERPRISE LIN	UX ATOMIC HOST							👤 root
📑 atomic1.rhlab 🗸	Dashboard							
System Services	Images and running containers v	Type to filter						
Containers > Logs Networking Tools SELinux Troubleshoot Subscriptions Accounts Diamontic reports	% Combined CPU usage	09:57 09:58 00:54	1 memory usage	90.7 GIB Free Configure storage	0.9 / 91.6 GIB			
Terminal Software Updates	Name	Image	Command			CPU	Memory	State
	tender_wozniak	7174c4aabc6c	/bin/bash			0%	4.5 MIB	running
	sleepy_feynman	d5aed622c238	/bin/sh -c "/bin/bash /usr/local/bin/sta	rt-container-agent.sh"		1%	32.5 MiB	running
	Images							⊖ Get new image
	Name				Created	S	ize	
	registry.access.redhat.com/rhel7/s	sadc:latest			8 days ago	1	95.7 MiB	
	registry.access.redhat.com/rhev4/	rhevm-guest-agent:latest			6 months ago	4	20.1 MiB	



• Logs

RED HAT ENTERPRISE LIN	UX ATOMIC HOST		👤 roo
🗐 atomic1.rhlab 🗸	Dashboard		
System Services	January 22, 2017 ~ Errors Warnings Notices All		
Containers			
Logs >	January 22, 2017		
Networking	▲ 18:04 Failed to open directory /tmp: Too many levels of symbolic links	systemd-tmpfiles	
~ Tools	January 21, 2017		
SELinux Troubleshoot Subscriptions	▲ 18:04 Failed to open directory /tmp: Too many levels of symbolic links	systemd-tmpfiles	
Accounts	January 20, 2017		
Diagnostic reports	21:20 Scope libcontainer-15067-systemd-test-default-dependencies.scope has no PIDs. Refusing.	systemd	2 🕨
Terminal	▲ 21:20 Scope libcontainer-15015-systemd-test-default-dependencies.scope has no PIDs. Refusing.	systemd	2 🕨
Software Updates	▲ 21:17 pam_lastlog(sshd:session): unable to open /var/log/lastlog: No such file or directory	sshd	
	21:15 Scope libcontainer-14360-systemd-test-default-dependencies.scope has no PIDs. Refusing.	systemd	2 🕨
	21:15 Scope libcontainer-14354-systemd-test-default-dependencies.scope has no PIDs. Refusing.	systemd	2 🕨
	21:15 container_linux.go:247: starting container process caused "process_linux.go:359: container init caused \"rootfs_linux.go:54: mounting \\\"/etc/sysconfig/sysstat.ioconf\\\	dockerd-current	
	▲ 21:15 Scope libcontainer-14333-systemd-test-default-dependencies.scope has no PIDs. Refusing.	systemd	2 🕨
	21:10 Dummy-2::INF0::2017-01-20 22:10:27,028::0VirtAgentLogic::117::root::API Version updated from 0 to 2	dockerd-current	
	21:10 Dummy-2::INF0::2017-01-20 22:10:27,028::0VirtAgentLogic::307::root::Received an external command: api-version	dockerd-current	
	21:10 Dummy-2::INF0::2017-01-20 22:10:18,103::0VirtAgentLogic::307::root::Received an external command: lock-screen	dockerd-current	
	21:10 Dummy-2::INF0::2017-01-20 22:10:17,843::0VirtAgentLogic::307::root::Received an external command: refresh	dockerd-current	
	21:10 MainThread::INF0::2017-01-20 22:10:17,559::ovirt-guest-agent::59::root::Starting oVirt guest agent	dockerd-current	
	21:10 Scope libcontainer-14067-systemd-test-default-dependencies.scope has no PIDs. Refusing.	systemd	2 🕨
	21:10 Scope libcontainer-14046-systemd-test-default-dependencies.scope has no PIDs. Refusing.	systemd	2 🕨
	▲ 18:03 Failed to open directory /tmp: Too many levels of symbolic links	systemd-tmpfiles	
	▲ 17:48 pam_lastlog(sshd:session): unable to open /var/log/lastlog: No such file or directory	sshd	
	▲ 17:47 Error: Driver 'pcspkr' is already registered, aborting	kernel	
	▲ 17:47 can't open iscsid.safe_logout configuration file /etc/iscsi/iscsid.conf	iscsid	
	▲ 17:47 can't open InitiatorAlias configuration file /etc/iscsi/initiatorname.iscsi	iscsid	
	17:47 Warning: InitiatorName file /etc/iscsi/initiatorname.iscsi does not exist or does not contain a properly formated InitiatorName. If using software iscsi (iscsi_tcp or ib_m	iscsid	
	▲ 17:47 can't open InitiatorName configuration file /etc/iscsi/initiatorname.iscsi	iscsid	
	▲ 17:47 cannot save any registration	rpcbind	
	▲ 17:47 cannot open file = /run/rpcbind/portmap.xdr for writing	rpcbind	
	▲ 17:47 cannot save any registration	rpcbind	
	▲ 17:47 cannot open file = /run/rpcbind.rpcbind.xdr for writing	rpcbind	



Networking

RED HAT ENTERPRISE LINUX ATOMIC HOST

atomic1.rhlab.... ~ System Mbps Sending Mbps Receiving Services 64 1200 Containers 48 800 Logs 32 400 16 ✓ Tools 0 0 09:57 09:58 09:59 09:57 09:58 09:59 10:00 10:01 10:01 SELinux Troubleshoot Subscriptions Add Bond Add Bridge Add VLAN Interfaces Accounts IP Address Sending Receiving Name Diagnostic reports Terminal docker0 172.17.0.1/16 0 bps 0 bps Software Updates eth0 192.168.40.105/24 21.0 Kbps 5.7 Kbps Unmanaged Interfaces Name IP Address Sending Receiving veth5362eb0

Networking Logs				
January 20, 2017				
21:20 <info> [1484968811.6257] device (docker0): link connected</info>	NetworkManager			
21:20 <info> [1484968811.5992] device (veth5362eb0): link connected</info>	NetworkManager			
21:20 <info> [1484968811.5989] device (vethdf4e023): driver 'veth' does not support carrier detection.</info>	NetworkManager			
21:20 <info> [1484968811.4398] manager: (veth5362eb0): new Veth device (/org/freedesktop/NetworkManager/Devices/4)</info>	NetworkManager			
21:20 <info> [1484968811.4384] manager: (vethdf4e023): new Veth device (/org/freedesktop/NetworkManager/Devices/3)</info>	NetworkManager			
17:48 <info> [1484956090.4099] device (docker0): Activation: successful, device activated.</info>	NetworkManager			
17:48 <info> [1484956090.3925] device (docker0): state change: secondaries -> activated (reason 'none') [90 100 0]</info>	NetworkManager			
17:48 <info> [1484956090.3924] device (docker0): state change: ip-check -> secondaries (reason 'none') [80 90 0]</info>	NetworkManager			
17:48 <info> [1484956090.3920] device (docker0): state change: ip-config -> ip-check (reason 'none') [70 80 0]</info>	NetworkManager			
17:48 <info> [1484956090.3872] device (docker0): state change: config -> ip-config (reason 'none') [50 70 0]</info>	NetworkManager			



👤 root

Subscriptions

📑 atomic1.rhlab 🗸	Dashboard		
System	Subscriptions		
Services			
Containers	Status, current Onregister		
Logs			
Networking	Installed products		
ōols	✓ Red Hat Enterprise Linux Atomic Host		
SELinux Troubleshoot	Detaile		
Subscriptions >	Details		
Accounts Diagnostic reports Terminal Software Updates	Product name Red Hat Enterprise Linux Atomic Host Product ID 271 Version 7 Architecture x86_64 Status Subscribed Starts 05/04/16 Ends 05/04/17 V Red Hat Enterprise Linux Server		
	Details		
	Product name Red Hat Enterprise Linux Server Product ID 69 Version 7.1 Architecture x86_64 Status Subscribed Starts 05/04/16 Ends 05/04/17		



atomic1.rhlab ~	Dashboard
System Services	Create New Account
Containers Logs Networking	root root
/ Tools	
SELinux Troubleshoot Subscriptions	
Accounts >	
Diagnostic reports	
Terminal	

Accounts

Create New Account						
Full Name	Marc Skinner					
User Name	mskinner					
Password	•••••					
Confirm	•••••					
Access	Lock Account					
	Cancel Create					



• Diagnostics

RED HAT ENTERPRISE LINUX ATOMIC HOST					
📑 atomic1.rhlab 🗸	Dashboard				
System Services Containers Logs Networking ~ Tools					
SELinux Troubleshoot	This tool will collect system configuration and diagnostic information from this system for use with diagnosing problems with the system.				
Subscriptions	The collected information will be stored locally on the system.				
Accounts	Create report				
Diagnostic reports >					
Terminal					
Software Updates					



• Diagnostics





Diagnostics









• Software Updates

RED HAT ENTERPRISE LIN	υχ Ατομις Η	IOST		
📑 atomic1.rhlab 🗸	Dashboard			
System Services	Operati	ing System Updates		
Containers Logs			Check for Updates	
~ Tools	Θ	rhel-atomic-host 7.3.2 Tree Packages Signature	⊘ Running	
SELinux Troubleshoot Subscriptions		Operating Syst rhel-atomic-host		
Accounts Diagnostic reports Terminal		Version 7.3.2 Released 7 days ago		
Software Updates >				





THANK YOU



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in

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